Village at Moreno Valley Project

Noise Study

prepared for

Salem Engineering Group
13355 Noel Road, Suite 1100
Dallas, Texas 75240

prepared by

Rincon Consultants, Inc.
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Los Angeles, California 90012

September 2023

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1 Project Description

1.1 Introduction

This study analyzes the potential noise and vibration impacts of the Village at Moreno Valley commercial development project proposed at the northwest corner of Nason Street and Fir Avenue in the City of Moreno Valley, California (Assessor's Parcel Numbers [APNs] 487-250-013, 487-250-010, 487-250-007, 487-250-006, 487-250-005). Rincon Consultants, Inc. (Rincon) prepared the study under contract to and for use by Salem Engineering Group, in support of environmental documentation being prepared pursuant to the California Environmental Quality Act (CEQA). The purpose of this report is to analyze the proposed short- and long-term noise and vibration impacts associated with the project.

1.2 Project Summary

The proposed project is a commercial development that would involve construction of a nine fuel dispenser fueling station (with 18 pumps), a 1,600 square foot (sf) drive-through car wash, a 5,450-sf convenience store, a 4,500-sf restaurant, four food-use buildings (Food A 3,000-sf, Food B 3,000-sf, Food C 1,500-sf, and Food D 2,500 SF), a 4,456-sf fast food building, three retail use buildings (Retail A 3,000-sf, Retail B 3,500-sf, and Retail C 4,500), and two retail anchor buildings (Anchor A 16,000-sf and Anchor B 6,000-sf). Gross acreage of the site is 9.63 acres, with a net acreage of 9.29 acres. Additionally, the project would provide a total of 422 parking spaces. Access to the project site would be provided via three driveways, one on Nason Street on the site's eastern border and two on Fir Avenue on the site's southern border. See Appendix A for the project site plan. The project site is zoned Community Commercial. One occupied single-family residence is located on the project site, and the property is zoned Community Commercial. Other surrounding land uses include undeveloped land zoned Community Commercial to the north, Fir Avenue to the south, and Nason Street to the east. Residential development is located adjacent to the west and across the roadway to the south and southeast. Commercial development is located to the east across Nason Street.

2 Background

2.1 Overview of Sound Measurement

Noise

Noise level (or volume) is generally measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels to be consistent with that of human hearing response, which is most sensitive to frequencies around 4,000 Hertz (about the highest note on a piano) and less sensitive to low frequencies (below 100 Hertz).

Sound pressure level is measured on a logarithmic scale with the 0 dBA level based on the lowest detectable sound pressure level that people can perceive (an audible sound that is not zero sound pressure level). Based on the logarithmic scale, a doubling of sound energy is equivalent to an increase of 3 dBA, and a sound that is 10 dBA less than the ambient sound level has no effect on ambient noise. Because of the nature of the human ear, a sound must be about 10 dBA greater than the ambient noise level to be judged as twice as loud. In general, a 3 dBA change in the ambient noise level is noticeable, while 1 to 2 dBA changes generally are not perceived. Quiet suburban areas typically have noise levels in the range of 40 to 50 dBA, while areas adjacent to arterial streets are typically in the 50 to 60+ dBA range. Normal conversational levels are usually in the 60 to 65 dBA range, and ambient noise levels greater than 65 dBA can interrupt conversations.

Noise levels from point sources, such as those from individual pieces of machinery, typically attenuate (or drop off) at a rate of 6 dBA per doubling of distance from the noise source. Noise levels from lightly traveled roads typically attenuate at a rate of about 4.5 dBA per doubling of distance. Noise levels from heavily traveled roads typically attenuate at about 3 dBA per doubling of distance. Noise levels may also be reduced by intervening structures; generally, a single row of buildings between the receptor and the noise source reduces noise levels by about 5 dBA, while a solid wall or berm reduces noise levels by 5 to 10 dBA (Federal Transit Administration [FTA] 2018). The manner in which homes in California are constructed generally provides a reduction of exterior-to-interior noise levels of approximately 20 to 25 dBA with closed windows (FTA 2018).

In addition to the instantaneous measurement of sound levels, the duration of sound is important because sounds that occur over a long period of time are more likely to be an annoyance or cause direct physical damage or environmental stress. One of the most frequently used noise metrics that considers both duration and sound power level is the equivalent noise level (Leq). The Leq is defined as the single steady A-weighted level that is equivalent to the same amount of energy as that contained in the actual fluctuating levels over a period of time (essentially, the average noise level). Typically, L_{eq} is summed over a one-hour period. L_{max} is the highest RMS (root mean squared) sound pressure level within the measurement period, and L_{min} is the lowest RMS sound pressure level within the measurement period.

The time period in which noise occurs is also important since nighttime noise tends to disturb people more than daytime noise. Community noise is usually measured using Day-Night Average Level (Ldn), which is the 24-hour average noise level with a 10 dBA penalty for noise occurring

during nighttime hours (10:00 p.m. to 7:00 a.m.), or Community Noise Equivalent Level (CNEL), which is the 24-hour average noise level with a 5 dBA penalty for noise occurring from 7:00 p.m. to 10:00 p.m. and a 10 dBA penalty for noise occurring from 10:00 p.m. to 7:00 a.m. Noise levels described by Ldn and CNEL typically do not differ by more than 1 dBA. In practice, CNEL and Ldn are often used interchangeably.

Vibration

Vibration is sound radiated through the ground. The rumbling sound caused by the vibration of room surfaces is called groundborne noise. Groundborne vibration is almost exclusively a concern inside buildings and is rarely perceived as a problem outdoors. Groundborne vibration related to human annoyance is generally related to root mean square (RMS) velocity levels expressed in vibration decibels (VdB). Based on the FTA's *Transit Noise and Vibration Impact Assessment* vibration levels decrease by 6 VdB with every doubling of distance.

2.1.1 Sensitive Receptors

Noise exposure goals for various types of land uses reflect the varying noise sensitivities associated with those uses. The City of Moreno Valley General Plan 2040 (2021a) considers sensitive land uses to include schools, hotels and motels, hospitals, nursing homes, natural areas, parks and outdoor recreation areas, and residential areas. Noise sensitive receptors nearest to the project site include single-family residences located immediately adjacent to the western boundary of the project site, along Lemon Tree Road. Additional single-family residences are located approximately 70 feet south and approximately 175 feet southeast of the project site. Valley View High School is located approximately 1,400 feet (0.3 mile) south of the project site. Commercial buildings, which are not typically considered noise-sensitive, are located east of the project site across Nason Street.

2.1.2 Existing Project Area Noise Levels

The primary sources of noise in the project vicinity are motor vehicles (e.g., automobiles, buses, and trucks) along Nason Street and Fir Avenue. Motor vehicle noise is characterized by a high number of individual events, which often create sustained noise levels. Ambient noise levels would be expected to be highest during the daytime and rush hour unless congestion slows speeds substantially. To determine ambient noise levels in the project site vicinity, two 15-minute noise measurements were recorded near the project site between 8:27 a.m. and 9:02 a.m. on April 2, 2018 using an ANSI Type II integrating sound level meter. Noise Measurement (NM) 1 was taken on the southern boundary of the project site and is representative of existing ambient noise levels along Fir Avenue. NM 2 was taken east of the project site across Nason Street and is representative of existing ambient noise levels along Nason Street. In addition, a 24-hour measurement (LT1) was taken on June 6 and 7, 2023, to capture ambient noise levels throughout the day. This was taken on the southern boundary of the project site near NM1. Figure 1 shows the noise measurement locations. Table 1 and Table 2 summarizes noise measurement activities and results of the short-term and long-term noise measurements, respectively.

Figure 1 Noise Measurement Locations

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Table 1 Project Site Noise Monitoring Results – Short-Term

Measurement Location	Measurement Location	Sample Times	Approximate Distance to Primary Noise Source	L_{eq}[15] (dBA)	L_{min} (dBA)	L_{max} (dBA)
1	Southern boundary of project site, along Fir Avenue	8:27 – 8:42 a.m.	35 feet[1]	61.6	40.3	81.5
2	East of project site, across Nason Street	8:47 – 9:02 a.m.	40 feet[2]	73.0	52.0	99.1

See Appendix B for noise monitoring data.

[1] Approximate distance to centerline of Fir Avenue.

[2] Approximately distance to centerline of Nason Street.

Source: Rincon Consultants, field measurements on April 2, 2018, using ANSI Type II integrating sound level meter

Table 2 Project Site Noise Monitoring Results – Long-Term

Sample Time	dBA L_{eq}	Sample Time	dBA L_{eq}
LT1 24-hour Measurement – Southeastern Area of Project Site Next to Drainage – June 6-7, 2023			
10:03 a.m.	67	10:03 p.m.	63
11:03 a.m.	68	11:03 p.m.	62
12:03 p.m.	67	12:03 a.m.	63
1:03 p.m.	65	1:03 a.m.	63
2:03 p.m.	64	2:03 a.m.	62
3:03 p.m.	65	3:03 a.m.	64
4:03 p.m.	65	4:03 a.m.	64
5:03 p.m.	64	5:03 a.m.	64
6:03 p.m.	63	6:03 a.m.	64
7:03 p.m.	64	7:03 a.m.	65
8:03 p.m.	65	8:03 a.m.	68
9:03 p.m.	65	9:03 a.m.	69
24-hour Noise Level (L_{eq})			**65**
24-hour Noise Level (CNEL)			**71**

L_{eq} = average noise level equivalent; dBA = A-weighted decibel; CNEL = Community Noise Equivalent Level

Measurement graph included in Appendix NOI

Source: Rincon Consultants, field measurements on June 6-7, 2023, using ANSI Type II integrating sound level meter

2.2 Regulatory Setting

2.2.1 City of Moreno Valley General Plan

The City of Moreno Valley General Plan 2040 (2021a) identifies sources of noise and provides objectives and policies designed to incorporate noise control in the planning process. The General Plan Noise Element establishes broad planning and design considerations to protect residential neighborhoods and other sensitive receptors from any actions, activities, conditions, or land uses that could create unacceptable levels of noise. The Noise Element includes specific goals, policies, and actions to reduce noise (City of Moreno Valley 2021a). Goals and policies that are relevant to the proposed project include:

Goal N-1: Design for a pleasant, healthy sound environmental conducive to living and working.

> **Policy N.1-1**: Protect occupants of existing and new buildings from exposure to excessive noise, particularly adjacent to freeways, major roadways, the railroad, and within areas of aircraft overflight.
>
> **Policy N-1.3**: Apply the community noise compatibility standards (Table N-1) to all new development and major redevelopment projects outside the noise and safety compatibility zones established in the March Air Reserve Base/ Inland Port Airport Land Use Compatibility (ALUC) Plan in order to protect against the adverse effects of noise exposure. Projects within the noise and safety compatibility zones are subject to the standards contained in the ALUC Plan.
>
> **Policy N.1-5**: Noise impacts should be controlled at the noise source where feasible, as opposed to at receptor end with measures to buffer, dampen, or actively cancel noise sources. Site design, building orientation, building design, hours of operation, and other techniques, for new developments deemed to be noise generators shall be used to control noise sources.
>
> **Policy N.1-6**: Require noise buffering, dampening, or active cancellation, on rooftop or other outdoor mechanical equipment located near residences, parks, and other noise sensitive land uses.

Goal N-2: Ensure that noise does not have a substantial, adverse effect on the quality of life in the community.

> **Policy N.2-3**: Limit the potential noise impacts of construction activities on surrounding land uses through noise regulations in the Municipal Code that address allowed days and hours of construction, types of work, construction equipment, and sound attenuation devices.

2.2.2 City of Moreno Valley Municipal Code

The City of Moreno Valley Municipal Code (MVMC) sets forth the City's standards, guidelines, and procedures concerning the regulation of operational noise. Specifically, Chapter 11.80, Noise Regulation, of the MVMC regulates noise levels in the City. These regulations are intended to ensure the public health, safety, welfare, and quality of life of the City and its residents, and to control excessive noise in the City.

The MVMC sets maximum continuous sound levels based on duration per day, shown in Table 3, and maximum impulsive sound levels based on the number of repetitions per 24-hour period,

shown in Table 4. An impulsive sound is defined as one of short duration, usually less than one second, with an abrupt onset and rapid decay (City of Moreno Valley 2017b).

Table 3 Maximum Continuous Sound Levels

Duration per Day (Continuous Hours)	Decibels (dBA)
8	90
6	92
4	95
3	97
2	100
1.5	102
1	105
0.5	110
0.25	115

Source: City of Moreno Valley Municipal Code Table 11.80.030-1

Note: When the daily sound exposure is composed of two or more periods of sound exposure at different levels, the combined effect of all such periods shall constitute a violation of this section if the sum of the percent of allowed period of sound exposure at each level exceeds 100 percent.

Table 4 Maximum Impulsive Sound Levels

Number of Repetitions per 24-Hour Period	Decibels (dBA)
1	145
10	135
100	125

Source: City of Moreno Valley Municipal Code Table 11.80.030-1A

The MVMC sets maximum sound levels for nonimpulsive sounds, shown in Table 5. Sounds may not exceed these levels when measured 200 feet or more from the sound's source if it occurs on the public right-of-way, public space or other publicly-owned property or from the real property line of the sound's source if it occurs on private property.

Table 5 Maximum Sound Levels (in dBA) for Source Land Uses

Residential		Commercial	
Daytime	Nighttime	Daytime	Nighttime
60	55	65	60

Source: City of Moreno Valley Municipal Code Table 11.80.030-2

Section 11.080.030.D(7) of the MVMC also states that construction and demolition work is prohibited between the hours of 8:00 p.m. and 7:00 a.m. Section 11.080.030.D(10) of the MVMC prohibits the operation of any pump, air conditioning, air-handling, or other continuously operating motorized equipment in a state of disrepair or in a manner which otherwise creates a noise disturbance distinguishable from normal operating sounds. Section 9.09.080 of the MVMC prohibits drive-through speakers at drive-in, drive-through, fast food and take-out restaurants from being located within 100 feet of any residential property. In addition, noise from drive-through speakers may not be detectable above daytime ambient noise levels when measured at the property

boundary. Section 9.09.200 of the MVMC prohibits service stations from being operated in a manner that produces damage or nuisance from noise. Section 9.11.080 of the MVMC requires parking areas to minimize auto noise using sound walls, screen walls, and landscaping. Section 9.10.140 of the MVMC sets performance standards for noise from all commercial and industrial uses, prohibiting any noise created by loudspeakers, bells, gongs, buzzers, or other noise attention or attracting devices from exceeding 55 dBA at any one time when measured beyond the property boundary.

2.2.3 Noise/Land Use Compatibility Criteria

Because the City of Moreno Valley does not have noise/land use compatibility criteria, this analysis utilizes noise/land use compatibility criteria published by the California Governor's Office of Planning and Research (OPR) in the *General Plan Guidelines: 2017 Update* (OPR 2017). OPR's noise/land use compatibility criteria are used to evaluate the proposed project's compatibility with the existing noise environment. Figure 2 of Appendix D of OPR's *General Plan Guidelines: 2017 Update* contains a noise/land use compatibility matrix, as shown in Table 6 (OPR 2017).

Table 6 Noise/Land Use Compatibility Criteria (dBA CNEL/Ldn)

Land Use Category	Normally Acceptable[1]	Conditionally Acceptable[2]	Normally Unacceptable[3]	Clearly Unacceptable[4]
Residential – Low Density Single-family, Duplex, Mobile Homes	50 – 60	55 – 70	70 – 75	75+
Residential – Multi-family	50 – 65	60 – 70	70 – 75	75 +
Transient Lodging – Motels, Hotels	50 – 65	60 – 70	70 – 80	80+
Schools, Libraries, Churches, Hospitals, Nursing Homes	50 – 70	60 – 70	70 – 80	80+
Auditoriums, Concert Halls, Amphitheaters	–	50 – 70	–	65+
Sports Arena, Outdoor Spectator Sports	–	50 – 75	–	70+
Playgrounds, Neighborhood Parks	50 – 70	–	67 – 75	73+
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50 – 75	–	70 – 80	80+
Office Buildings, Business, Commercial, and Professional	50 – 70	67 – 77	75+	–
Industrial, Manufacturing, Utilities, Agriculture	50 – 75	70 – 80	80+	–

[1] Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

[2] Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.

[3] Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

[4] Clearly Unacceptable: New construction or development should generally not be undertaken.

Note: Noise levels are provided in dBA CNEL/Ldn.

Source: OPR 2017

3 Impact Analysis

3.1.1 Methodology and Significance Thresholds

The analysis of noise and vibration impacts considers the effects of both temporary construction-related noise and vibration and long-term noise and vibration associated with operation of the project.

CEQA Significance Thresholds

Noise and vibration impacts would be significant if they would exceed the following thresholds of significance, based on Appendix G of the State CEQA Guidelines:

1. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
2. Generation of excessive groundborne vibration or groundborne noise levels;
3. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, exposure of people residing or working in the project area to excessive noise levels.

The project site is located over 4.5 miles northeast of the nearest airport or airstrip, the March Air Reserve Base, and lies outside of the airport land use plan; therefore, noise impacts related to airports (CEQA Threshold 3) and are not discussed further in this analysis (Riverside County Airport Land Use Commission 2014). Impacts related to CEQA Thresholds 1and 2 are discussed below.

Construction Noise

Construction noise would be considered significant if construction activities exceed the City of Moreno Valley's maximum continuous sound standards or maximum impulsive sound standards, shown in Table 3 and Table 4, or if construction occurs between 8:00 p.m. and 7:00 a.m., as set forth by Section 11.080.030.D of the MVMC.

Construction noise from equipment operating on-site was estimated using the Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM) (2006a). RCNM predicts construction noise levels for a variety of construction operations based on empirical data and the application of acoustical propagation formulas. Using RCNM, construction noise levels were estimated at the nearest noise-sensitive receptors, which are single family residences located 50 feet to the west, 70 feet south, and 175 feet southeast of the project site. The baseline ambient noise level for the western and southern residences was estimated using the measured ambient noise level for NM 1, which is representative of existing noise levels along Fir Avenue. Therefore, the ambient noise level at the western and southern residences is approximately 62 dBA L_{eq} (Table 1). The baseline ambient noise level for the southeastern residences was estimated using the measured ambient noise level for NM 2, which is representative of existing noise levels along Nason Street (Table 1). NM 2 was attenuated at a rate of 3 dBA per doubling of distance; therefore, the ambient noise level at the southeastern residences is approximately 71 dBA L_{eq}.

RCNM provides reference noise levels for standard construction equipment, with an attenuation of 6 dBA per doubling of distance for stationary equipment and 3 dBA per doubling of distance for mobile equipment. The model does not take into consideration topographic variation or staging locations of construction equipment; therefore, this analysis represents a conservative evaluation of anticipated construction noise levels.

Because a specific construction list is not yet available for the project, the construction equipment list used in RCNM was generated using conservative construction equipment assumptions for each phase of construction as shown in Table 8.

Construction Vibration

Groundborne vibration levels at nearby sensitive receptors were calculated using reference vibration levels for construction equipment provided in the FHWA *Highway Construction Noise Handbook* (2006b) and the distance to the nearest noise sensitive receptors. The vibration velocity level threshold of perception for humans is approximately 65 VdB. A vibration velocity of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels for many people. The City of Moreno Valley has not adopted any thresholds for construction or operational groundborne vibration impacts; therefore, vibration thresholds established by the FTA were applied to the project. Vibration during project construction would be significant it exceeds 72 VdB during normal sleep hours at residences and buildings where people normally sleep, including hotels, or 75 VdB at institutional land uses with primary daytime use (such as churches and schools) (FTA 2018).

On-Site Operational Noise

Noise levels from on-site operational noise sources were modeled using the algorithms from the SoundPLAN three-dimensional noise model (SoundPLAN), Version 8.2. Propagation of modeled stationary noise sources was based on ISO Standard 9613-2, "Attenuation of Sound during Propagation Outdoors, Part 2: General Method of Calculation." Because the project would operate 24 hours per day, sources of operational noise during nighttime hours would remain generally the same as during daytime hours. Therefore, for a conservative estimate of operational noise impacts, the following analysis assumes that daytime and nighttime operational noise sources would be the same. The existing 6-foot concrete block walls located at the residences to the west, south, and southeast were also included in the model.

Reference noise levels from previously published studies and field studies are used to characterize on-site operational sources of noise. Table 7 includes a list of reference noise level data with a description of its source. As noted in Table 7, some reference data are expressed as 10-minute noise equivalent levels (L_{eq}), while other data are expressed as maximum noise levels (L_{max}). When used to estimate project noise, L_{max} values represent a worst-case scenario. Additionally, reference noise levels are used to estimate noise at nearby sensitive receptors based on a standard noise attenuation rate of 6 dBA per doubling of distance (line-of-sight method of sound attenuation for point sources of noise). Operational noise level estimates do not account for terrain conditions, such as ground effects, atmospheric absorption, presence of intervening structures, or topography, which could reduce noise levels at receptor locations. Operational noise level estimates have been adjusted by -3 dBA to account for the noise reduction provided by existing residential property line sound walls. Therefore, the noise levels presented herein represent a conservative, reasonable worst-case estimate of actual operational noise.

Table 7 Reference Noise Levels

Noise Source	Reference Noise Level at Specific Distance	Data Source
Drive-through Speakers	66 dBA Leq at 4 feet	The project was assumed to use drive-thru speakers similar to a 3M XT-1 Intercom System. According to 3M's specifications for the system, the speaker would generate a noise level of 65 dBA at a distance of 4 feet (see Appendix C for specifications). This is equivalent to a sound power level of 74.7 dBA.
Car Wash	77.7 dBA L_{eq} at 40 feet	A 10-minute noise measurement was performed on March 2, 2017 at 7:00 p.m. using an ANSI Type 2 integrating sound level meter. The car wash was in operation during the entire 10-minute measurement and included two car wash cycles, both with car drying stages. The measurement also includes secondary sources of noise, including 120 passenger vehicle pass-bys and 1 heavy duty truck pass-by; therefore, it is considered a conservative estimate of car wash noise. See Appendix D for noise measurement data.
Commercial Mechanical Ventilation Equipment (HVACs)	84 dBA Sound Power Level	The gas station convenience store, drive-thru restaurants, and retail stores would each have rooftop HVAC units that would generate noise during equipment operation. The total amount of HVAC units was based upon one ton of HVAC per 600 sf (square footage) of building space and the use of a 5-ton York Predator HVAC unit Model ZJ061N07 would be used, which would generate a sound power level of 84 dBA (see Appendix E for specifications). The equipment was assumed to be placed on the approximate center of the rooftops.
Parking Lot Activity (car alarm signal, car alarm chirp car horns, door slams, talking, radios, tire squeals)	30 to 66 dBA (instantaneous) at 100 feet	Gordon Bricken & Associates. 1996. *Acoustical Analysis Addendum to the Adopted EIR Disneyland Resort City of Anaheim. Table 16: Reference Parking Lot Levels, p. 38.* February 26, 1996.
Vehicle Circulation (autos at 14 miles per hour)	44 dBA at 100 feet	

On-site operational noise would be significant if it exceeded the maximum noise levels of 65 dBA during the day and 60 dBA at night for commercial properties when measured 200 feet from the real property line of the sound's source (MVMC Chapter 11.80.030.C). In addition, operational noise would be significant if any of the following occurs:

- Drive-through speakers are located within 100 feet of any residential property (MVMC Section 9.09.080)
- Noise from drive-through restaurants is detectable above daytime ambient noise levels when measured at the property boundary (MVMC Section 9.09.080)
- The gas station is operated in a manner that produces damage or nuisance from noise (MVMC Section 9.09.200)
- Parking areas do not minimize auto noise using sound walls, screen walls, and landscaping (MVMC Section 9.11.080)

- Noise created by loudspeakers, bells, gongs, buzzers, or other noise attention or attracting devices exceeds 55 dBA at any one time when measured beyond the property boundary (MVMC Section 9.10.140)

Roadway Noise

The roadway noise analysis relies on existing and anticipated traffic counts provided in the Traffic Impact Analysis prepared by LSA in September 2021. For all intersections and roadway segments, existing traffic volumes are based on historical data and counts collected by Counts Unlimited in September 2021. The project is anticipated to generate 574 net trips in the a.m. peak hour, 381 net trips in the p.m. peak hour, and 6,191 net daily trips.

For the purposes of calculating roadway noise impacts, this analysis focuses on roadway segments adjacent to the nearest sensitive receptors. On Fir Avenue, between Project Driveway 1 and Nason Street, the project would generate approximately 2,770 daily trips. On Nason Street, between Fir Avenue and Eucalyptus Avenue, the project would generate approximately 1,840 daily trips. Roadway noise was modeled using the U.S. Department of Housing and Urban Development (HUD) Day Night average level (DNL), which utilizes the DNL method that adds 10 dBA to actual nighttime (10:00 p.m. to 7:00 a.m.) noise levels to account for greater sensitivity to noise during that time period. DNL was used to analyze project impacts from roadway noise on nearby sensitive receptors. The project would have a significant effect if it would increase roadway noise levels by 3 dBA, which is the perception level for noise increases.

According to the City General Plan 2040 Final Environmental Impact Report (City of Moreno Valley 2021b), the vehicle mix for Nason Street is 98 percent cars, 2 percent medium trucks, and 1 percent heavy trucks. Fir Avenue is not included in the traffic counts; therefore, the Nason Street values are also assumed for Fir Avenue. The night fraction of ADT for Nason Street was 18 percent (City of Moreno Valley 2021b). Other parameters include a 40 mile-per-hour speed limit on Nason Street, an effective distance of 70 feet to Nason Street, and a 2 percent road gradient. For Fir Avenue, other parameters include a 30 mile-per-hour speed limit on Fir Avenue, an effective distance of 25 feet to Fir Avenue, and a 2 percent road gradient.

3.1.2 Project Impacts

Temporary Construction Noise Impacts

Project construction would include the following phases: site preparation, grading, building construction, architectural coating, and paving. Peak noise levels associated with the use of individual pieces of heavy equipment can range from about 70 to 89 dBA L_{max} at 50 feet from the source, depending on the types of equipment in operation at any given time and phase of construction. See Appendix F for typical peak noise levels associated with common types of heavy construction equipment, based on the FHWA *Highway Construction Noise Handbook* (2006b).

Table 8 shows the maximum expected construction noise levels at the nearest sensitive receptors based on the combined construction equipment anticipated to be used concurrently during each phase of construction as modeled in RCNM.

Table 8 Construction Noise Levels by Phase

Construction Phase	Equipment	Estimated Noise at Western Residences at 50 Feet		Estimated Noise at Southern Residences at 70 Feet		Estimated Noise at Southeastern Residences at 175 Feet	
		dBA Leq	dBA Lmax	dBA Leq	dBA Lmax	dBA Leq	dBA Lmax
Site Preparation	Backhoes (4), Dozers (3)	84.3	81.7	81.4	78.7	73.4	70.8
Grading	Excavator, Dozer, Grader, Backhoes (3)	84.8	85.0	81.9	82.1	73.9	74.1
Building Construction	Crane, Forklifts (3), Generator Set, Backhoes (3), Welder	82.4	80.6	79.4	77.7	71.5	69.7
Architectural Coating	Air Compressor	77.7	73.7	70.8	74.7	62.8	66.8
Paving	Pavers (3), Rollers (2), Cement and Mortar Mixers (2), Backhoe	83.1	80.0	80.1	77.1	72.2	69.1

Source: Federal Highway Administration. Roadway Construction Noise Model 2006

See Appendix G for RCNM worksheets.

Additional factors to consider are that the estimated construction noise levels do not take into account that equipment would be dispersed in various areas of the site in both time and space. Due to spatial and equipment limitations, only a certain amount of equipment can operate near a given location at a particular time. Therefore, the noise levels presented in Table 8 represent a conservative estimate of construction noise.

As shown in Table 8, construction noise could be as high as approximately 85 dBA L_{eq} and 85 dBA L_{max} at the nearest sensitive receptors. As discussed above, construction noise would be considered significant if construction activities exceed the City of Moreno Valley's maximum continuous sound standards or maximum impulsive sound standards, shown Table 3 and Table 4, or if construction activities occur outside the allowed construction hours as set forth by the MVMC Section 11.080.030.D(7). Assuming that construction activities adhere to the allowed construction hours, construction activities with breaks would not occur continuously for more than ten hours each day. As such, construction noise would not exceed the City's most stringent maximum continuous sound standard of 90 dBA for sounds lasting for eight continuous hours. Construction noise would also not exceed the City's most stringent maximum impulsive sound standard of 125 dBA for sounds repeated 100 times over a 24-hour period. Therefore, construction noise would be less than significant.

Temporary Construction Vibration Impacts

Certain types of construction equipment can generate high levels of groundborne vibration. Construction of the proposed project would potentially utilize a large bulldozer during site preparation and/or grading, loaded trucks during most construction phases, and a vibratory roller during the paving phase. As shown in Table 9, at a distance of 50 feet (i.e., distance to the southern

residences), a large dozer would generate a vibration level of 78 VdB, a loaded truck would generate a vibration level of 77 VdB, and a vibratory roller would generate a vibration level of 85 VdB. Such vibration levels would exceed FTA's recommended threshold of 72 dBA for residences and buildings where people normally sleep. Per the MVMC, construction activities may not occur between the hours of 8:00 p.m. and 7:00 a.m.; therefore, construction vibration would not occur during normal sleep hours. Construction-related vibration impacts would be less than significant.

Table 9 Vibration Levels at Sensitive Receptors

Equipment	Vibration Level at Western Residences at 50 feet (VdB)	Vibration Level at Southern Residences at 70 feet (VdB)	Vibration Level at Southeastern Residences at 175 feet (VdB)
Large Dozer	78	74	62
Loaded Truck	72	72	60
Vibratory Roller	85	81	69

See Appendix H for vibration calculations.

Project Site Compatibility

Noise measurements collected by Rincon Consultants on June 6 and 7, 2023, determined that existing noise levels on-site range were approximately 65 dBA L_{eq}, with a CNEL value of 71 (see Table 1). Per OPR's standards, shown in Table 6, the project site would be considered normally acceptable if ambient noise levels are within the normally acceptable range of 50 to 70 dBA CNEL for business and commercial uses and conditionally acceptable if ambient noise levels are between 67 and 77 dBA CNEL for business and commercial uses. Existing noise levels on the project site are within the conditionally acceptable range; therefore, OPR recommends that new construction or development be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. This noise study meets the requirements of a detailed analysis of noise reduction requirements and includes recommendations for noise insulation features to include in project design. As such, impacts would be less than significant.

Long-Term Operational Noise and Vibration Impacts

The project would introduce new commercial land uses on the project site. Existing residences in the project vicinity may periodically be subjected to noise associated with off-site vehicle traffic, on-site vehicle traffic, and on-site operation of commercial uses. None of the proposed uses would generate high levels of vibration; therefore, impacts related to operational vibration would be less than significant.

On-site operational noise would include continuous noise sources such as noise from the car wash and HVAC equipment, as well as intermittent noise sources such as on-site vehicle circulation and parking lot noise, idling from cars at the drive-through restaurant and car wash, and the drive-through restaurant speakers. In addition, the project would generate new traffic on-site and off-site on Nason Street and Fir Avenue. Operational noise sources are discussed below.

Parking Lot Activities

The major noise sources associated with parking lot activities include moving cars, engine start-ups, door slams, radios, car alarms, and tire squeals (human conversations are generally dominated by other sources of vehicle noise in a parking lot). As shown in Table 7, parking lot activity would generate instantaneous noise levels up to 66 dBA L_{max} at 100 feet from the source. The closest on-site parking stall is located approximately 25 feet from the project site boundary. Therefore, parking lot noise at 200 feet from the property line (225 feet from the on-site parking stall) would be approximately 59 dBA L_{max}. Parking lot noise levels would not exceed the City's daytime and nighttime noise standards of 65 dBA and 60 dBA, respectively, for commercial uses. In addition, peak noise levels from parking lot noise would be intermittent over time. Section 9.11.080 of the MVMC requires parking areas to minimize auto noise using sound walls, screen walls, and landscaping. Because parking lot noise would not exceed the City's daytime and nighttime noise standards and there are existing walls along the residential uses to the west and south of the site that break line of sight to the project's parking lot additional screening is not necessary. Therefore, parking lot noise impacts would be less than significant.

Vehicle Circulation

Vehicle circulation noise would be intermediate, and the speed limit for vehicles moving throughout the project site would be regulated through site design. As shown in Table 7, on-site circulation noise for vehicles traveling 14 miles per hour is approximately 44 dBA at 100 feet from the source. Vehicle circulation areas on-site would be approximately 25 feet from the project site boundary. Therefore, vehicle circulation noise at 200 feet from the property line (225 feet from the vehicle circulation areas on-site) would be approximately 37 dBA. Vehicle circulation noise would not exceed the City's daytime and nighttime noise standards of 65 dBA and 60 dBA, respectively, for commercial uses. Therefore, vehicle circulation noise impacts would be less than significant.

Stationary Noise

The project would introduce new stationary noise sources that may be audible at nearby properties, which are developed mostly with residential uses. These receivers may periodically be subject to project stationary noise from HVAC units, car wash blowers, and drive-thru speakers. Assumptions for modeling these operational sources are provided in Section 3.1.1. Noise levels at adjacent properties are shown in Table 10 and displayed in Figure 2 as receivers R1 through R45. As shown in Table 10, noise levels from stationary sources would not exceed City noise limits during the daytime or nighttime hours. Impacts would be less than significant.

Table 10 Operational Noise Levels at Off-site Receivers

Receiver	Description	Project Noise Level (dBA L_{eq})[1]	Exceed Daytime Thresholds?[2]	Exceed Nighttime Thresholds?[2]
R1	Single-family Residence	28	No	No
R2	Single-family Residence	29	No	No
R3	Single-family Residence	30	No	No
R4	Single-family Residence	31	No	No
R5	Single-family Residence	32	No	No
R6	Single-family Residence	33	No	No
R7	Single-family Residence	35	No	No

Receiver	Description	Project Noise Level (dBA L_{eq})[1]	Exceed Daytime Thresholds?[2]	Exceed Nighttime Thresholds?[2]
R8	Single-family Residence	36	No	No
R9	Single-family Residence	37	No	No
R10	Single-family Residence	38	No	No
R11	Single-family Residence	39	No	No
R12	Single-family Residence	39	No	No
R13	Single-family Residence	39	No	No
R14	Single-family Residence	41	No	No
R15	Single-family Residence	38	No	No
R16	Single-family Residence	37	No	No
R17	Single-family Residence	36	No	No
R18	Single-family Residence	35	No	No
R19	Single-family Residence	34	No	No
R20	Single-family Residence	34	No	No
R21	Single-family Residence	35	No	No
R22	Single-family Residence	36	No	No
R23	Single-family Residence	37	No	No
R24	Single-family Residence	38	No	No
R25	Single-family Residence	40	No	No
R26	Single-family Residence	41	No	No
R27	Single-family Residence	43	No	No
R28	Single-family Residence	46	No	No
R29	Single-family Residence	50	No	No
R30	Single-family Residence	50	No	No
R31	Single-family Residence	42	No	No
R32	Single-family Residence	39	No	No
R33	Single-family Residence	35	No	No
R34	Single-family Residence	33	No	No
R35	Single-family Residence	30	No	No
R36	Single-family Residence	32	No	No
R37	Single-family Residence	32	No	No
R38	Single-family Residence	32	No	No
R39	Single-family Residence	32	No	No
R40	Single-family Residence	33	No	No
R42	Single-family Residence	31	No	No
R43	Commercial Use	36	No	No
R44	Commercial Use	33	No	No
R45	Commercial Use	32	No	No

[1] Project noise level includes HVAC units, drive-thru speakers, and car wash blowers. Operational noise contours are shown in Figure 2.

[2] Thresholds would be exceeded if exterior noise levels exceed 60 dBA from 7:00 a.m. to 10:00 p.m. or 55 dBA from 10:00 p.m. to 7:00 a.m.

Figure 2 Modeled Receivers and Noise Contours

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Section 9.09.080 of the MVMC states noise from drive-through speakers may not be detectable above daytime ambient noise levels when measured at the property boundary. As shown in Table 2, ambient noise levels during the daytime ranges from 63 to 68 dBA L_{eq}. The noise environment is relatively loud in the area, due to traffic noise from Nason Street, Fir Avenue, and State Route 60. As shown in Table 10, modeled noise levels from the project would reach approximately 50 dBA Leq, which would occur at the residences to the south as they are closest to the car wash. Noise levels at the western property line would reach 41 dBA L_{eq}. Further noise attenuation would occur due to the existing concrete block walls separating the project site from the nearby residences. Therefore, project noise levels would not exceed daytime ambient noise levels, and the project would be consistent with MVMC Section 9.09.080.

Off-site Roadway Noise Impacts

The project would generate new vehicle trips that would use area roadways. As discussed in Section 3.1.1, the project would generate approximately 6,191 net daily trips. On Fir Avenue, between Project Driveway 1 and Nason Street, the project would generate approximately 2,770 daily trips. On Nason Street, between Fir Avenue and Eucalyptus Avenue, the project would generate approximately 1,840 daily trips. When combined with existing traffic, the project would result in a total of 6,130 daily trips on this segment of Fir Avenue and 25, 300 daily trips on this segment of Nason St. Roadway noise levels were modeled using the HUD DNL Calculator for existing and existing plus project conditions.

Table 11 summarizes the roadway noise modeling results. Existing roadway noise on Nason Street is modeled to be approximately 69 dBA Ldn at the nearest sensitive receptor (residences located 175 feet southeast of the project site along Nason Street). Therefore, the project would increase roadway noise by 1 dBA Ldn as compared to existing conditions. Therefore, project impacts to roadway noise on Nason Street would not be perceptible. Existing roadway noise on Fir Avenue is approximately 67 dBA Ldn. The project would increase roadway noise by 1 dBA Ldn as compared to existing conditions. Therefore, project impacts to roadway noise on Fir Avenue would not be perceptible. Off-site roadway noise impacts would be less than significant.

Table 11 Existing Plus Project Roadway Noise Levels

	Estimated dBA Ldn				
Modeled Location	**Existing (2018) [1]**	**Existing Plus Project (2018) [2]**	**Project Change [2]-[1]**	**Impact Criteria[1]**	**Significant Impact?**
Residences east of Nason Street	69	70	1	3 dBA	No
Residences south of Fir Avenue	67	68	1	3 dBA	No

See Appendix I for noise model inputs and output results.

[1] Noise increases of 3 dBA or more are considered noticeable (FTA 2018).

Table 12 summarizes cumulative roadway noise modeling results. With implementation of cumulative projects between 2018 and 2023, existing roadway noise on Nason Street is modeled to increase by 1 dBA Ldn at the nearest sensitive receptor on Nason Street and less than 1 dBA Ldn at

the nearest sensitive receptor on Fir Avenue. Therefore, cumulative project impacts would not be perceptible. Cumulative off-site roadway noise impacts would be less than significant.

Table 12 Cumulative Project Roadway Noise Levels

	Estimated dBA Ldn				
Modeled Location	Cumulative (2023) [1]	Cumulative with Project (2023) [2]	Project Change [2]-[1]	Impact Criteria[1]	Significant Impact?
Residences east of Nason Street	69	70	1	3 dBA	No
Residences south of Fir Avenue	69	69	<1	3 dBA	No

See Appendix I for noise model inputs and output results.

[1] Noise increases of 3 dBA or more are considered noticeable (FTA 2018).

4 Conclusions and Recommendations

As discussed in Section 3.1.2, *Project Impacts*, construction of the project would not generate noise levels in excess of the City of Moreno Valley construction noise standards. Section 11.080.030.D(7) restricts construction activities to between the hours of 7:00 a.m. and 8:00 p.m.; therefore, construction-related vibration impacts would be less than significant. In addition, operation of the project would not result in noise generation that exceeds the City's daytime and nighttime noise standards. Therefore, no mitigation is required.

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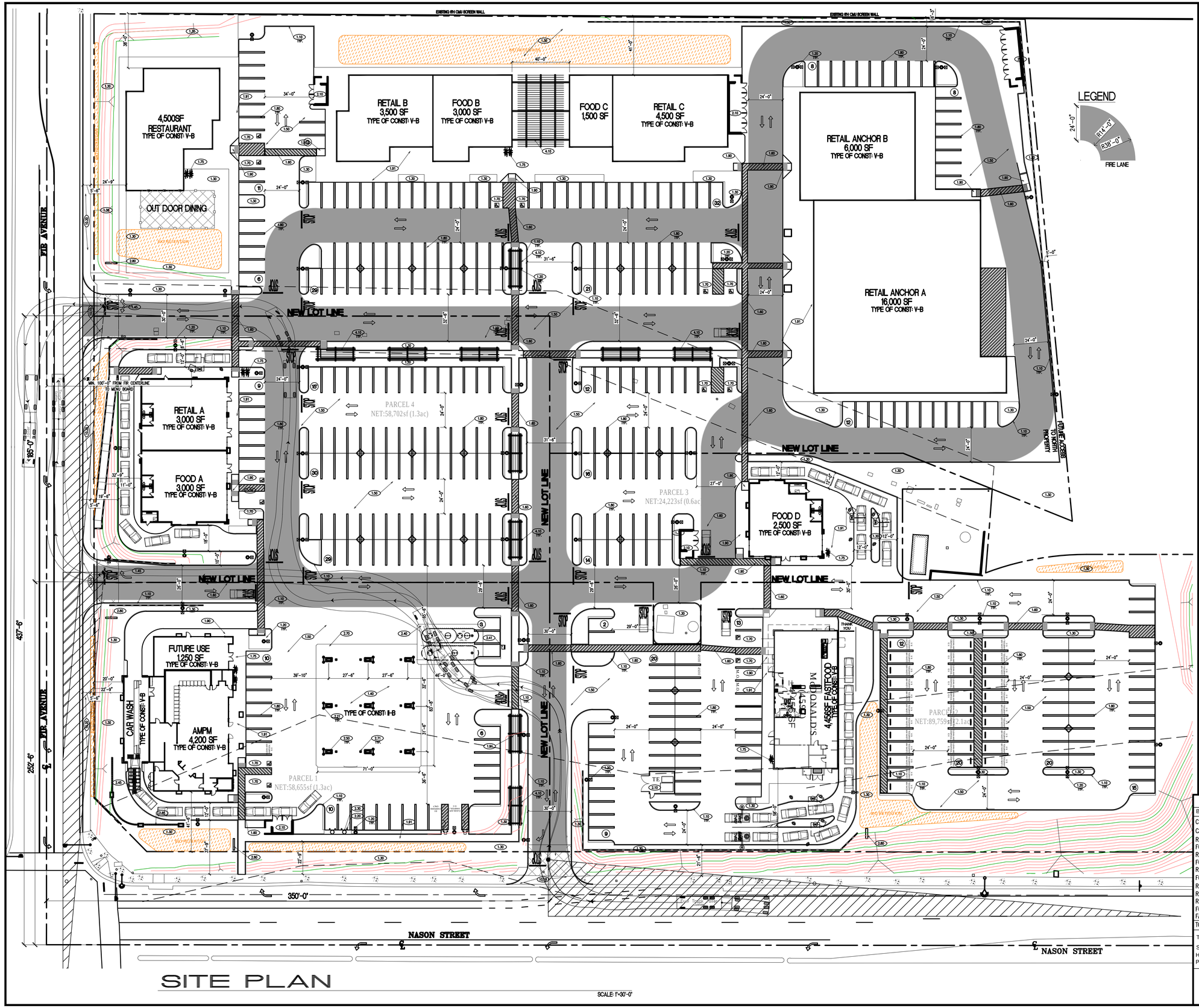
Appendix A

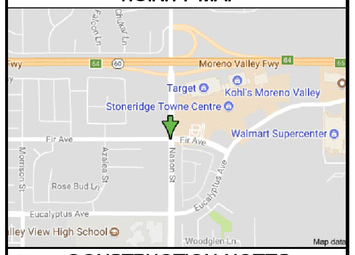
Site Plan



SITE PLAN

SCALE: 1"=30'-0"

VICINITY MAP



CONSTRUCTION NOTES

1.10	6" CONCRETE CURB
1.20	20'H LED AREA LIGHT WITH PHOTO-CELL AND TIME CLOCK SWITCHING PER "CALGREEN" AND TITLE 24 REQUIREMENTS. HOOD AND ARRANGE SO AS NOT TO CAUSE A NUISANCE TO ADJACENT STREET TRAFFIC OR TO LIVING ENVIRONMENT. THE AMOUNT OF LIGHT THAT SHALL BE PROVIDED DSHALL BE PER THE PUBLIC WORKS STANDARDS AND CALGREEN
1.30	LANDSCAPING WITH AUTOMATIC IRRIGATION
1.40	6" CONCRETE DRIVE SLAB WITH #3 BARS @ 18" O.C. OR AS SPECIFIED IN SOILS REPORT IF AVAILABLE.
1.45	COLORED CONCRETE WITH 8X8 SCORE LINES
1.50	6" OVER 4" A.B. ASPHALT PAVING OR AS SPECIFIED IN SOILS REPORT IF AVAILABLE.
1.60	HANDICAP PATH OF TRAVEL (MIN. 48" WIDE AND SLOPE NOT TO EXCEED 2% EACH WAY)
1.70	HANDICAP PARKING SPACE WITH ALL RELATED SIGNAGE (SLOPE NOT TO EXCEED 2% E.W.)
1.75	BICYCLE PARKING PER CAL GREEN CODE
1.80	9'X18' STANDARD PARKING SPACES
1.90	CONCRETE HANDICAP RAMP (SLOPE 8.33%)
1.91	CONCRETE SIDEWALK (MIN. 48" WIDE WITH 2% CROSS SLOPE WHERE HANDICAP PATH OF TRAVEL OCCURS)
2.10	TRASH ENCLOSURE PER CITY OF MORENO VALLEY PUBLIC WORKS STANDARD
2.20	6" CONCRETE FILLED STEEL GUARD POSTS
2.21	U-SHAPE STEEL GUARD POSTS
2.30	AIR/WATER AND VACUUM UNIT
2.35	ELECTRIC CHARGING STATION
2.40	UNDER GROUND STORAGE TANKS (2) 20,000 GALLON AND (1) 30,000 GALLON UNDER REINFORCED CONCRETE SLAB
2.41	TANK VENT RISERS CARBON CANISTER
2.45	3,000 GALLON CAR WASH CLARIFIER
2.50	CONCRETE ISLAND W/ (1) MULTI PRODUCT DISPENSER (6" MIN. & 8" MAX. HEIGHT)
2.70	FUELING CANOPY
2.71	FUELING CANOPY COLUMNS
2.80	ID SIGNAGE
2.85	36"H STUCCO FINISH SCREEN WALL
2.90	ELECTRICAL PANELS
3.10	ADA PARKING LOT ENTY SIGN PER CHAPTER 11B OF CBC
4.10	TRELLIS ROOF SHADE
10.10	CONCRETE DRIVEWAY PER CITY OF MORENO VALLEY PUBLIC WORKS STANDARD
10.20	CONCRETE SIDEWALK PER CITY OF MORENO VALLEY PUBLIC WORKS STANDARD

SITE PLAN & PARKING SUMMARY

BUILDING NO.	SIZE	USE	RATIO	REQUIRED	PROVIDED
C-STORE BUILDING	5,450 S.F.	RETAIL	1/225	25	25
CAR WASH	1,600 S.F.	SERVICE	1/BAY	1	4
RETAIL - A	3,000 S.F.	RETAIL	1/225	14	40
FOOD - A	3,000 S.F.	FOOD	1/100	30	43
RESTAURANT BLDG.	4,500 S.F.	FOOD	1/100	45	40
FOOD - B	3,000 S.F.	FOOD	1/100	30	27
RETAIL - B	3,500 S.F.	RETAIL	1/225	16	10
FOOD - C	1,500 S.F.	FOOD	1/100	15	12
RETAIL - C	4,500 S.F.	RETAIL	1/225	20	16
RETAIL ANCHOR - A	16,000S.F.	RETAIL	1/225	71	61
RETAIL ANCHOR - B	6,000 S.F.	RETAIL	1/225	27	24
FOOD - D	2,500 S.F.	FOOD	1/100	25	22
FASTFOOD BUILDING	4,456 S.F.	FOOD	1/100	45	95
TOTAL BUILDING S.F.	74,206 S.F.			364	422

TOTAL PARKING PROVIDED: 422 PARKING SPACES

SITE IS OVER PARKED BY: 56 PARKING SPACES

HANDICAPPED PARKING SPACES REQUIRED: 422 SPACES- 9 REQUIRED PER CODE. PROVIDED 14 SPACES

PE STAMP

REVISIONS

NO.:	DATE:	DESCRIPTION:	BY:	APP.:
5	12/16/21	REVISED PER CITY COMMENTS		
16	03/16/22	REV. LOCATION OF FOOD A MENU BRD		
17	07/02/22	REV. WESTERLY TO BMP		
18	07/07/22	REV. PER CITY COMMENTS		
19	08/16/22	REV. NASON GEOMETRIC PER EXHIBIT.		

CJC Design, Inc.
Design Planning Permitting
22485 La Palma Avenue, Suite 202, Yorba Linda, CA 92887
Tel: (714) 970-8545
Fax: (714) 970-8546
www.cjccorp.com

MORENO
Valley Center

PROJECT:
N.W. COR. NASON ST. @ FIR AVENUE
MORENO VALLEY, CA.

OVERALL SITE PLAN

DATE ISSUED: 02/04/2022

SCALE:

DRAWN BY: FCOHEN | CHECKED BY: F. COHEN

PROJECT NUMBER: 17098

STORE NUMBER: RIVERSIDE HOLDING

SHEET: C.1.0

Appendix B

Noise Measurement Data

Noise Measurement 1

- Freq Weight : A
- Time Weight : FAST
- Level Range : 40-100
- Max dB : 81.5 - 2018/04/02 07:37:36
- Level Range : 40-100
- SEL : 91.1
- Leq : 61.6
-

No.s	Date Time	(dB)
1	2018/04/02 07:25:19	72.2
2	2018/04/02 07:25:22	61.1
3	2018/04/02 07:25:25	57.6
4	2018/04/02 07:25:28	50.3
5	2018/04/02 07:25:31	46.4
6	2018/04/02 07:25:34	51.3
7	2018/04/02 07:25:37	70.4
8	2018/04/02 07:25:40	58.1
9	2018/04/02 07:25:43	55.2
10	2018/04/02 07:25:46	49.0
11	2018/04/02 07:25:49	48.0
12	2018/04/02 07:25:52	52.5
13	2018/04/02 07:25:55	66.2
14	2018/04/02 07:25:58	61.3
15	2018/04/02 07:26:01	58.0
16	2018/04/02 07:26:04	59.3
17	2018/04/02 07:26:07	60.0
18	2018/04/02 07:26:10	59.1
19	2018/04/02 07:26:13	70.0
20	2018/04/02 07:26:16	73.1
21	2018/04/02 07:26:19	56.6
22	2018/04/02 07:26:22	62.1
23	2018/04/02 07:26:25	68.1
24	2018/04/02 07:26:28	54.1
25	2018/04/02 07:26:31	49.0
26	2018/04/02 07:26:34	47.9
27	2018/04/02 07:26:37	46.9
28	2018/04/02 07:26:40	46.3
29	2018/04/02 07:26:43	46.4
30	2018/04/02 07:26:46	46.0
31	2018/04/02 07:26:49	45.7
32	2018/04/02 07:26:52	46.9
33	2018/04/02 07:26:55	44.4
34	2018/04/02 07:26:58	48.3
35	2018/04/02 07:27:01	46.7
36	2018/04/02 07:27:04	49.2
37	2018/04/02 07:27:07	53.9
38	2018/04/02 07:27:10	69.2
39	2018/04/02 07:27:13	53.6
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50	2018/04/02 07:27:46	62.3
51	2018/04/02 07:27:49	53.6
52	2018/04/02 07:27:52	58.0
53	2018/04/02 07:27:55	63.6
54	2018/04/02 07:27:58	57.1
55	2018/04/02 07:28:01	65.8
56	2018/04/02 07:28:04	53.0
57	2018/04/02 07:28:07	51.4
58	2018/04/02 07:28:10	62.5
59	2018/04/02 07:28:13	66.4
60	2018/04/02 07:28:16	60.9
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62	2018/04/02 07:28:22	57.7
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64	2018/04/02 07:28:28	56.6
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67	2018/04/02 07:28:37	54.3
68	2018/04/02 07:28:40	52.7
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90	2018/04/02	07:29:46	58.9
91	2018/04/02	07:29:49	55.9
92	2018/04/02	07:29:52	57.9
93	2018/04/02	07:29:55	60.2
94	2018/04/02	07:29:58	63.6
95	2018/04/02	07:30:01	66.8
96	2018/04/02	07:30:04	52.3
97	2018/04/02	07:30:07	49.9
98	2018/04/02	07:30:10	48.5
99	2018/04/02	07:30:13	45.7
100	2018/04/02	07:30:16	45.8
101	2018/04/02	07:30:19	47.4
102	2018/04/02	07:30:22	48.4
103	2018/04/02	07:30:25	47.6
104	2018/04/02	07:30:28	53.3
105	2018/04/02	07:30:31	59.5
106	2018/04/02	07:30:34	65.7
107	2018/04/02	07:30:37	59.4
108	2018/04/02	07:30:40	52.0
109	2018/04/02	07:30:43	48.4
110	2018/04/02	07:30:46	51.2
111	2018/04/02	07:30:49	57.7
112	2018/04/02	07:30:52	63.5
113	2018/04/02	07:30:55	53.5
114	2018/04/02	07:30:58	61.7
115	2018/04/02	07:31:01	55.4
116	2018/04/02	07:31:04	45.3
117	2018/04/02	07:31:07	44.8
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119	2018/04/02	07:31:13	48.7
120	2018/04/02	07:31:16	56.2
121	2018/04/02	07:31:19	61.8
122	2018/04/02	07:31:22	58.9
123	2018/04/02	07:31:25	56.3
124	2018/04/02	07:31:28	57.4
125	2018/04/02	07:31:31	50.4
126	2018/04/02	07:31:34	50.0
127	2018/04/02	07:31:37	52.1
128	2018/04/02	07:31:40	68.7
129	2018/04/02	07:31:43	57.6
130	2018/04/02	07:31:46	56.4
131	2018/04/02	07:31:49	54.3
132	2018/04/02	07:31:52	50.7
133	2018/04/02	07:31:55	49.5
134	2018/04/02	07:31:58	51.4
135	2018/04/02	07:32:01	56.0
136	2018/04/02	07:32:04	65.4
137	2018/04/02	07:32:07	50.5
138	2018/04/02	07:32:10	49.0
139	2018/04/02	07:32:13	46.8
140	2018/04/02	07:32:16	46.2
141	2018/04/02	07:32:19	47.4
142	2018/04/02	07:32:22	46.1
143	2018/04/02	07:32:25	45.8
144	2018/04/02	07:32:28	45.5
145	2018/04/02	07:32:31	46.3
146	2018/04/02	07:32:34	48.9
147	2018/04/02	07:32:37	48.2
148	2018/04/02	07:32:40	48.4
149	2018/04/02	07:32:43	51.1
150	2018/04/02	07:32:46	47.5
151	2018/04/02	07:32:49	50.7
152	2018/04/02	07:32:52	49.8
153	2018/04/02	07:32:55	47.0
154	2018/04/02	07:32:58	46.4
155	2018/04/02	07:33:01	46.0
156	2018/04/02	07:33:04	43.9
157	2018/04/02	07:33:07	44.0
158	2018/04/02	07:33:10	43.9
159	2018/04/02	07:33:13	43.7
160	2018/04/02	07:33:16	43.7
161	2018/04/02	07:33:19	43.5
162	2018/04/02	07:33:22	43.3
163	2018/04/02	07:33:25	44.4
164	2018/04/02	07:33:28	46.5
165	2018/04/02	07:33:31	45.6
166	2018/04/02	07:33:34	47.2
167	2018/04/02	07:33:37	51.5
168	2018/04/02	07:33:40	58.5
169	2018/04/02	07:33:43	67.8
170	2018/04/02	07:33:46	56.2
171	2018/04/02	07:33:49	61.8
172	2018/04/02	07:33:52	65.8
173	2018/04/02	07:33:55	70.3
174	2018/04/02	07:33:58	60.1
175	2018/04/02	07:34:01	57.1
176	2018/04/02	07:34:04	57.9
177	2018/04/02	07:34:07	56.9
178	2018/04/02	07:34:10	75.4
179	2018/04/02	07:34:13	63.2
180	2018/04/02	07:34:16	59.3
181	2018/04/02	07:34:19	57.9
182	2018/04/02	07:34:22	54.6
183	2018/04/02	07:34:25	51.6
184	2018/04/02	07:34:28	52.0

185	2018/04/02	07:34:31	56.1
186	2018/04/02	07:34:34	62.0
187	2018/04/02	07:34:37	60.3
188	2018/04/02	07:34:40	50.6
189	2018/04/02	07:34:43	47.9
190	2018/04/02	07:34:46	48.6
191	2018/04/02	07:34:49	51.5
192	2018/04/02	07:34:52	59.6
193	2018/04/02	07:34:55	59.7
194	2018/04/02	07:34:58	55.8
195	2018/04/02	07:35:01	60.8
196	2018/04/02	07:35:04	72.7
197	2018/04/02	07:35:07	68.1
198	2018/04/02	07:35:10	65.6
199	2018/04/02	07:35:13	63.9
200	2018/04/02	07:35:16	60.1
201	2018/04/02	07:35:19	54.4
202	2018/04/02	07:35:22	53.8
203	2018/04/02	07:35:25	52.7
204	2018/04/02	07:35:28	51.9
205	2018/04/02	07:35:31	60.2
206	2018/04/02	07:35:34	67.5
207	2018/04/02	07:35:37	51.2
208	2018/04/02	07:35:40	59.6
209	2018/04/02	07:35:43	67.0
210	2018/04/02	07:35:46	63.2
211	2018/04/02	07:35:49	64.5
212	2018/04/02	07:35:52	61.2
213	2018/04/02	07:35:55	52.4
214	2018/04/02	07:35:58	50.7
215	2018/04/02	07:36:01	52.6
216	2018/04/02	07:36:04	62.6
217	2018/04/02	07:36:07	65.2
218	2018/04/02	07:36:10	62.9
219	2018/04/02	07:36:13	71.4
220	2018/04/02	07:36:16	59.6
221	2018/04/02	07:36:19	61.1
222	2018/04/02	07:36:22	66.1
223	2018/04/02	07:36:25	58.0
224	2018/04/02	07:36:28	68.4
225	2018/04/02	07:36:31	67.6
226	2018/04/02	07:36:34	64.9
227	2018/04/02	07:36:37	61.3
228	2018/04/02	07:36:40	57.5
229	2018/04/02	07:36:43	53.0
230	2018/04/02	07:36:46	55.8
231	2018/04/02	07:36:49	51.6
232	2018/04/02	07:36:52	47.1
233	2018/04/02	07:36:55	47.3
234	2018/04/02	07:36:58	51.6
235	2018/04/02	07:37:01	46.0
236	2018/04/02	07:37:04	45.6
237	2018/04/02	07:37:07	47.0
238	2018/04/02	07:37:10	43.6
239	2018/04/02	07:37:13	44.3
240	2018/04/02	07:37:16	45.9
241	2018/04/02	07:37:19	46.4
242	2018/04/02	07:37:22	43.7
243	2018/04/02	07:37:25	46.3
244	2018/04/02	07:37:28	50.2
245	2018/04/02	07:37:31	60.0
246	2018/04/02	07:37:34	73.5
247	2018/04/02	07:37:37	65.9
248	2018/04/02	07:37:40	69.3
249	2018/04/02	07:37:43	72.8
250	2018/04/02	07:37:46	64.4
251	2018/04/02	07:37:49	62.0
252	2018/04/02	07:37:52	64.8
253	2018/04/02	07:37:55	60.1
254	2018/04/02	07:37:58	57.9
255	2018/04/02	07:38:01	56.5
256	2018/04/02	07:38:04	54.2
257	2018/04/02	07:38:07	51.6
258	2018/04/02	07:38:10	50.6
259	2018/04/02	07:38:13	48.4
260	2018/04/02	07:38:16	51.4
261	2018/04/02	07:38:19	54.6
262	2018/04/02	07:38:22	64.2
263	2018/04/02	07:38:25	65.3
264	2018/04/02	07:38:28	62.7
265	2018/04/02	07:38:31	59.2
266	2018/04/02	07:38:34	55.9
267	2018/04/02	07:38:37	54.5
268	2018/04/02	07:38:40	55.1
269	2018/04/02	07:38:43	72.0
270	2018/04/02	07:38:46	60.3
271	2018/04/02	07:38:49	57.1
272	2018/04/02	07:38:52	63.2
273	2018/04/02	07:38:55	60.2
274	2018/04/02	07:38:58	58.3
275	2018/04/02	07:39:01	55.3
276	2018/04/02	07:39:04	48.8
277	2018/04/02	07:39:07	49.9
278	2018/04/02	07:39:10	49.4
279	2018/04/02	07:39:13	49.8
280	2018/04/02	07:39:16	49.7
281	2018/04/02	07:39:19	48.8
282	2018/04/02	07:39:22	51.8
283	2018/04/02	07:39:25	62.2

284	2018/04/02	07:39:28	58.7
285	2018/04/02	07:39:31	44.5
286	2018/04/02	07:39:34	41.5
287	2018/04/02	07:39:37	42.2
288	2018/04/02	07:39:40	45.3
289	2018/04/02	07:39:43	47.8
290	2018/04/02	07:39:46	53.7
291	2018/04/02	07:39:49	68.2
292	2018/04/02	07:39:52	60.8
293	2018/04/02	07:39:55	70.9
294	2018/04/02	07:39:58	60.7
295	2018/04/02	07:40:01	57.4
296	2018/04/02	07:40:04	61.9
297	2018/04/02	07:40:07	62.5
298	2018/04/02	07:40:10	63.3
299	2018/04/02	07:40:13	58.4
300	2018/04/02	07:40:16	62.0

Noise Measurement 2

- Freq Weight : A
- Time Weight : FAST
- Level Range : 40-100
- Max dB : 99.1 - 2018/04/02 07:57:49
- Level Range : 40-100
- SEL : 102.5
- Leq : 73.0
-

No.s	Date Time	(dB)
1	2018/04/02 07:45:37	82.5
2	2018/04/02 07:45:40	78.2
3	2018/04/02 07:45:43	72.7
4	2018/04/02 07:45:46	71.6
5	2018/04/02 07:45:49	67.6
6	2018/04/02 07:45:52	59.0
7	2018/04/02 07:45:55	59.1
8	2018/04/02 07:45:58	63.7
9	2018/04/02 07:46:01	65.6
10	2018/04/02 07:46:04	63.2
11	2018/04/02 07:46:07	61.8
12	2018/04/02 07:46:10	69.6
13	2018/04/02 07:46:13	69.3
14	2018/04/02 07:46:16	72.4
15	2018/04/02 07:46:19	76.5
16	2018/04/02 07:46:22	74.6
17	2018/04/02 07:46:25	70.3
18	2018/04/02 07:46:28	67.4
19	2018/04/02 07:46:31	64.0
20	2018/04/02 07:46:34	57.9
21	2018/04/02 07:46:37	56.6
22	2018/04/02 07:46:40	65.6
23	2018/04/02 07:46:43	87.2
24	2018/04/02 07:46:46	73.5
25	2018/04/02 07:46:49	64.8
26	2018/04/02 07:46:52	65.0
27	2018/04/02 07:46:55	66.5
28	2018/04/02 07:46:58	64.6
29	2018/04/02 07:47:01	62.8
30	2018/04/02 07:47:04	63.2
31	2018/04/02 07:47:07	64.6
32	2018/04/02 07:47:10	67.2
33	2018/04/02 07:47:13	68.1
34	2018/04/02 07:47:16	62.5
35	2018/04/02 07:47:19	59.4
36	2018/04/02 07:47:22	65.0
37	2018/04/02 07:47:25	73.2
38	2018/04/02 07:47:28	79.9
39	2018/04/02 07:47:31	77.7
40	2018/04/02 07:47:34	75.9
41	2018/04/02 07:47:37	74.2
42	2018/04/02 07:47:40	65.8
43	2018/04/02 07:47:43	70.6
44	2018/04/02 07:47:46	73.7
45	2018/04/02 07:47:49	75.3
46	2018/04/02 07:47:52	72.7
47	2018/04/02 07:47:55	70.3
48	2018/04/02 07:47:58	68.3
49	2018/04/02 07:48:01	62.5
50	2018/04/02 07:48:04	62.5
51	2018/04/02 07:48:07	69.5
52	2018/04/02 07:48:10	67.2
53	2018/04/02 07:48:13	65.3
54	2018/04/02 07:48:16	61.6
55	2018/04/02 07:48:19	74.4
56	2018/04/02 07:48:22	71.9
57	2018/04/02 07:48:25	72.2
58	2018/04/02 07:48:28	58.9
59	2018/04/02 07:48:31	56.0
60	2018/04/02 07:48:34	63.6
61	2018/04/02 07:48:37	68.1
62	2018/04/02 07:48:40	66.4
63	2018/04/02 07:48:43	70.6
64	2018/04/02 07:48:46	65.3
65	2018/04/02 07:48:49	65.8
66	2018/04/02 07:48:52	69.4
67	2018/04/02 07:48:55	70.7
68	2018/04/02 07:48:58	75.6
69	2018/04/02 07:49:01	81.9
70	2018/04/02 07:49:04	82.2
71	2018/04/02 07:49:07	69.9
72	2018/04/02 07:49:10	63.2
73	2018/04/02 07:49:13	58.3
74	2018/04/02 07:49:16	55.6
75	2018/04/02 07:49:19	54.5
76	2018/04/02 07:49:22	60.9
77	2018/04/02 07:49:25	75.7
78	2018/04/02 07:49:28	71.1
79	2018/04/02 07:49:31	67.2
80	2018/04/02 07:49:34	62.5
81	2018/04/02 07:49:37	63.0
82	2018/04/02 07:49:40	60.0
83	2018/04/02 07:49:43	62.8
84	2018/04/02 07:49:46	62.3
85	2018/04/02 07:49:49	63.7

86	2018/04/02	07:49:52	69.7
87	2018/04/02	07:49:55	79.9
88	2018/04/02	07:49:58	62.3
89	2018/04/02	07:50:01	54.3
90	2018/04/02	07:50:04	54.5
91	2018/04/02	07:50:07	60.3
92	2018/04/02	07:50:10	59.3
93	2018/04/02	07:50:13	58.5
94	2018/04/02	07:50:16	68.3
95	2018/04/02	07:50:19	68.1
96	2018/04/02	07:50:22	68.3
97	2018/04/02	07:50:25	66.3
98	2018/04/02	07:50:28	68.8
99	2018/04/02	07:50:31	72.2
100	2018/04/02	07:50:34	75.0
101	2018/04/02	07:50:37	75.1
102	2018/04/02	07:50:40	75.3
103	2018/04/02	07:50:43	76.8
104	2018/04/02	07:50:46	75.6
105	2018/04/02	07:50:49	71.1
106	2018/04/02	07:50:52	65.2
107	2018/04/02	07:50:55	63.4
108	2018/04/02	07:50:58	62.0
109	2018/04/02	07:51:01	64.1
110	2018/04/02	07:51:04	65.4
111	2018/04/02	07:51:07	59.3
112	2018/04/02	07:51:10	60.0
113	2018/04/02	07:51:13	64.3
114	2018/04/02	07:51:16	62.0
115	2018/04/02	07:51:19	60.2
116	2018/04/02	07:51:22	60.2
117	2018/04/02	07:51:25	67.1
118	2018/04/02	07:51:28	61.7
119	2018/04/02	07:51:31	55.7
120	2018/04/02	07:51:34	53.0
121	2018/04/02	07:51:37	58.6
122	2018/04/02	07:51:40	69.7
123	2018/04/02	07:51:43	73.5
124	2018/04/02	07:51:46	71.7
125	2018/04/02	07:51:49	74.1
126	2018/04/02	07:51:52	63.7
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130	2018/04/02	07:52:04	66.3
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132	2018/04/02	07:52:10	68.0
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134	2018/04/02	07:52:16	67.9
135	2018/04/02	07:52:19	62.6
136	2018/04/02	07:52:22	60.9
137	2018/04/02	07:52:25	69.5
138	2018/04/02	07:52:28	68.9
139	2018/04/02	07:52:31	76.0
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142	2018/04/02	07:52:40	68.9
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166	2018/04/02	07:53:52	73.4
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169	2018/04/02	07:54:01	64.6
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171	2018/04/02	07:54:07	66.8
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173	2018/04/02	07:54:13	67.4
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184	2018/04/02	07:54:46	79.4

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245	2018/04/02	07:57:49	83.1
246	2018/04/02	07:57:52	78.2
247	2018/04/02	07:57:55	69.2
248	2018/04/02	07:57:58	65.8
249	2018/04/02	07:58:01	65.7
250	2018/04/02	07:58:04	61.4
251	2018/04/02	07:58:07	58.6
252	2018/04/02	07:58:10	59.1
253	2018/04/02	07:58:13	59.6
254	2018/04/02	07:58:16	68.9
255	2018/04/02	07:58:19	57.0
256	2018/04/02	07:58:22	62.5
257	2018/04/02	07:58:25	60.8
258	2018/04/02	07:58:28	58.0
259	2018/04/02	07:58:31	58.2
260	2018/04/02	07:58:34	63.9
261	2018/04/02	07:58:37	60.2
262	2018/04/02	07:58:40	67.4
263	2018/04/02	07:58:43	74.7
264	2018/04/02	07:58:46	77.3
265	2018/04/02	07:58:49	69.4
266	2018/04/02	07:58:52	66.2
267	2018/04/02	07:58:55	60.7
268	2018/04/02	07:58:58	58.3
269	2018/04/02	07:59:01	63.4
270	2018/04/02	07:59:04	70.6
271	2018/04/02	07:59:07	64.0
272	2018/04/02	07:59:10	61.7
273	2018/04/02	07:59:13	63.1
274	2018/04/02	07:59:16	62.9
275	2018/04/02	07:59:19	60.2
276	2018/04/02	07:59:22	64.0
277	2018/04/02	07:59:25	68.6
278	2018/04/02	07:59:28	63.7
279	2018/04/02	07:59:31	59.2
280	2018/04/02	07:59:34	65.9
281	2018/04/02	07:59:37	64.6
282	2018/04/02	07:59:40	65.3
283	2018/04/02	07:59:43	74.9

284	2018/04/02	07:59:46	73.1
285	2018/04/02	07:59:49	73.7
286	2018/04/02	07:59:52	64.5
287	2018/04/02	07:59:55	59.8
288	2018/04/02	07:59:58	58.6
289	2018/04/02	08:00:01	61.4
290	2018/04/02	08:00:04	66.1
291	2018/04/02	08:00:07	83.3
292	2018/04/02	08:00:10	71.9
293	2018/04/02	08:00:13	64.1
294	2018/04/02	08:00:16	60.5
295	2018/04/02	08:00:19	61.5
296	2018/04/02	08:00:22	74.6
297	2018/04/02	08:00:25	68.7
298	2018/04/02	08:00:28	66.4
299	2018/04/02	08:00:31	77.3
300	2018/04/02	08:00:34	63.5

- Freq Weight : A
- Time Weight : SLOW
- Level Range : 40-100
- Max dB : 95.3 - 2023/06/06 14:52:25
- Level Range : 40-100
- SEL : 119.3
- Leq : 70.0
-

No.s	Date Time	(dB)				
1	2023/06/06 10:03:59	67.5	66.2	67.7	65.5	64.3
6	2023/06/06 10:23:59	66.5	65.3	66.8	68.0	66.4
11	2023/06/06 10:43:59	67.0	66.7	68.2	67.5	67.8
16	2023/06/06 11:03:59	68.1	66.2	67.5	64.8	66.9
21	2023/06/06 11:23:59	66.6	66.9	68.9	68.4	68.5
26	2023/06/06 11:43:59	67.2	69.0	68.1	69.7	67.2
31	2023/06/06 12:03:59	70.1	68.2	67.5	67.7	66.1
36	2023/06/06 12:23:59	67.2	67.9	67.2	66.9	65.4
41	2023/06/06 12:43:59	63.5	65.7	63.6	67.1	64.6
46	2023/06/06 13:03:59	63.9	63.1	63.2	64.5	65.0
51	2023/06/06 13:23:59	64.4	64.3	66.6	62.9	64.4
56	2023/06/06 13:43:59	65.1	64.6	64.9	67.4	64.7
61	2023/06/06 14:03:59	64.3	62.2	65.1	62.7	68.3
66	2023/06/06 14:23:59	64.0	62.6	63.8	62.3	64.5
71	2023/06/06 14:43:59	61.6	63.5	62.6	62.8	63.7
76	2023/06/06 15:03:59	62.2	65.4	66.4	64.2	65.0
81	2023/06/06 15:23:59	62.5	62.7	65.6	66.9	66.1
86	2023/06/06 15:43:59	69.0	62.2	63.4	61.3	64.0
91	2023/06/06 16:03:59	66.7	64.6	64.2	61.0	62.4
96	2023/06/06 16:23:59	60.5	61.8	72.2	65.2	68.7
101	2023/06/06 16:43:59	62.2	64.1	63.3	61.4	60.9
106	2023/06/06 17:03:59	61.1	60.9	63.3	71.5	61.6
111	2023/06/06 17:23:59	65.0	63.0	64.5	65.3	60.1
116	2023/06/06 17:43:59	62.7	62.5	63.5	61.3	61.6
121	2023/06/06 18:03:59	63.4	62.7	63.5	60.0	62.9
126	2023/06/06 18:23:59	62.9	62.7	62.5	66.6	64.8
131	2023/06/06 18:43:59	61.5	61.0	62.1	63.1	62.7
136	2023/06/06 19:03:59	61.3	65.6	61.2	64.8	63.1
141	2023/06/06 19:23:59	61.0	61.6	63.9	70.0	62.1
146	2023/06/06 19:43:59	67.7	60.2	63.6	61.9	64.0
151	2023/06/06 20:03:59	64.1	62.5	63.1	62.3	65.5
156	2023/06/06 20:23:59	61.6	63.3	64.6	62.4	63.0
161	2023/06/06 20:43:59	61.1	62.9	63.2	62.3	72.0
166	2023/06/06 21:03:59	62.9	61.4	60.7	62.1	62.2
171	2023/06/06 21:23:59	60.7	63.5	66.3	61.3	73.6
176	2023/06/06 21:43:59	60.3	62.7	61.8	63.3	63.1
181	2023/06/06 22:03:59	62.1	62.7	62.0	62.3	64.7
186	2023/06/06 22:23:59	64.0	64.9	64.0	62.4	60.7
191	2023/06/06 22:43:59	62.4	61.3	65.8	61.5	62.9
196	2023/06/06 23:03:59	64.8	59.9	60.4	61.9	61.0
201	2023/06/06 23:23:59	61.4	59.3	67.3	58.9	60.3
206	2023/06/06 23:43:59	61.1	59.4	59.8	62.2	62.1
211	2023/06/07 00:03:59	61.0	61.1	60.4	63.4	62.5
216	2023/06/07 00:23:59	64.0	61.5	62.1	65.4	63.8
221	2023/06/07 00:43:59	64.8	62.1	62.7	60.5	61.8
226	2023/06/07 01:03:59	63.6	62.2	60.8	62.1	61.5
231	2023/06/07 01:23:59	62.1	61.7	61.9	62.3	62.6
236	2023/06/07 01:43:59	63.0	63.4	62.7	63.9	63.8
241	2023/06/07 02:03:59	63.8	62.8	61.1	62.3	59.8
246	2023/06/07 02:23:59	59.7	61.9	60.1	63.7	64.0
251	2023/06/07 02:43:59	61.7	64.5	62.5	62.2	61.1
256	2023/06/07 03:03:59	62.7	62.7	62.6	67.4	64.0
261	2023/06/07 03:23:59	64.4	63.0	66.7	64.6	64.3
266	2023/06/07 03:43:59	61.8	64.0	63.0	62.2	62.1
271	2023/06/07 04:03:59	61.7	67.2	61.9	61.4	64.1
276	2023/06/07 04:23:59	62.7	63.1	62.4	62.5	63.0
281	2023/06/07 04:43:59	68.3	62.9	63.6	63.2	62.9
286	2023/06/07 05:03:59	62.7	62.8	63.6	64.0	63.1
291	2023/06/07 05:23:59	62.9	63.1	63.2	63.9	62.9
296	2023/06/07 05:43:59	68.4	62.7	63.1	62.4	62.6
301	2023/06/07 06:03:59	63.2	63.9	64.6	62.6	63.9
306	2023/06/07 06:23:59	62.9	63.8	66.3	63.4	64.3
311	2023/06/07 06:43:59	62.9	63.7	63.8	66.2	64.2
316	2023/06/07 07:03:59	65.1	64.9	64.0	63.5	65.0
321	2023/06/07 07:23:59	64.5	63.0	64.8	65.5	67.6
326	2023/06/07 07:43:59	64.2	63.0	64.7	65.4	66.9
331	2023/06/07 08:03:59	65.6	65.0	68.9	72.0	66.0
336	2023/06/07 08:23:59	67.5	70.1	66.8	68.7	64.9
341	2023/06/07 08:43:59	69.2	69.1	68.2	69.2	67.8
346	2023/06/07 09:03:59	68.6	69.0	69.9	68.8	66.4
351	2023/06/07 09:23:59	68.4	69.1	68.9	69.6	68.3
356	2023/06/07 09:43:59	66.7	70.8	69.2	67.5	66.8

Appendix C

Drive-through Speaker Specifications

3M™ Wireless Communication System Model XT-1
Technical Data

3M Wireless Communications System Model XT-1's Night Volume feature to comply with City Decibel Level output ordinance.

With the concern over environmental noise today, many communities restrict the audio level of drive-thru intercom systems during normal day-time business hours and for business operations during night time. Usually, this audio level is specified to be below some number at the property line.

Audio levels are measured in terms of "Sound Pressure Level" with the unit of change being the "Decibel". For example, the city of South Plainfield, NJ requires that sound levels not exceed 65 decibels SPL (sound pressure level) in an industrial area. Taking this into consideration, 3M intercom systems provide an adjustable menu speaker volume to assure compliance with city sound ordinances.

The 3M XT-1 Intercom System can be adjusted at installation to produce an audio sound pressure level of 65 decibels (*) at a distance of 4 feet on axis to the center of the speaker. It is VERY easy for the installation company to verify this reading using an Audio dB meter (set to A weighing, slow response). Please note that sound diminishes at the rate of 6 decibels every time the distance from the sound source is doubled. So, at a distance of 8 feet, the level is 59 decibels, at 16 feet it is 53 decibels and so on.

The 3M XT-1 Intercom System also provides an AUTOMATIC reduction of sound volume for night time operation to maintain compliance with cities that require lower operating sound levels after normal business hours. This feature assures compliance 24 hours a day.

To give you a reference of comparative audio levels, please peruse the attached list of typical sound levels. Be aware that acoustic barriers (shrubbery, trees, fences, walls, etc) will reduce the distance faster than shown in the chart.

(* These level measurements assume the use of recommended 3M components.)

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Table of Sound Levels and Corresponding Sound Pressure and Sound Intensity

To get a feel for decibels, look at the table below which gives values for the sound pressure levels of common sounds in our environment. Also shown are the corresponding sound pressures and sound intensities.

From these, you can see that the decibel scale gives numbers in a much more manageable range.

Chart of sound levels *L* and corresponding sound pressure and sound intensity			
Examples	Sound Pressure Level dBSPL	Sound Pressure *p* $N/m^2 = Pa$	Sound Intensity *I* $watts/m^2$
Jet aircraft, 50 m away	140	200	100
Threshold of pain	130	63.2	10
Threshold of discomfort	120	20	1
Chainsaw 1m distance	110	6.3	0.1
Disco, 1 m from speaker	100	2	0.01
Diesel truck, 10 m away	90	0.63	0.001
Curbside of busy road, 5 m	80	0.2	0.0001
Vacuum cleaner, distance 1 m	70	0.063	0.00001
Conversational speech, 1m	60	0.02	0.000001
Average home	50	0.0063	1E-07
Quiet library	40	0.002	1E-08
Quiet bedroom at night	30	0.00063	1E-09
Background in TV studio	20	0.0002	1E-10
Rustling leaf	10	0.000063	1E-11
Threshold of hearing	0	0.00002	1E-12

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A given sound pressure level L_p in dBSPL without the distance of the measurement to the specific sound source is useless.

The reference for 0 dBSPL sound pressure level is p = 20 µPa = 2 * 10^{-5} pascal, the threshold of hearing.
The sound pressure level decreases in the free field with 6dB per distance doubling.
That is the 1/r law.

Often it is argued the sound pressure would decrease after the $1/r^2$ law (inverse square law).
That is wrong.

The sound pressure in a free field is inversely proportional to the distance from the mic to the source.
p ~ 1/r

Distance From Menu Post	3M Intercom SPL (dB)
4'	65
8'	59
16'	53
32'	47
64'	41
128'	35
256'	29
512'	23
1024'	17
2048'	11
4096'	5

Note: *20 dB is approximately the threshold of hearing. This occurs at approximately 700 feet from the speaker post in a very QUIET environment. In an environment of average traffic noise, a 35 dB limit is virtually inaudible and should be considered the practical limit. This occurs are approximately 125 feet from the speaker post.*

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Appendix D

Car Wash Reference Noise Level Measurement Data

Car Wash Reference Noise Level

Freq Weight: A
Time Weight: FAST
Level Range: 40-100
Max dB: 83.3
SEL: 105.4
Leq: 77.7

No.s	Date Time	dB
1	3/2/2017 7:03	70.1
2	3/2/2017 7:03	67.5
3	3/2/2017 7:03	65.4
4	3/2/2017 7:03	67.4
5	3/2/2017 7:03	65.9
6	3/2/2017 7:03	68.7
7	3/2/2017 7:03	66.2
8	3/2/2017 7:03	64.4
9	3/2/2017 7:03	64.6
10	3/2/2017 7:03	63.3
11	3/2/2017 7:03	63.3
12	3/2/2017 7:03	62.8
13	3/2/2017 7:03	65.4
14	3/2/2017 7:04	67.9
15	3/2/2017 7:04	72.2
16	3/2/2017 7:04	69.5
17	3/2/2017 7:04	69.7
18	3/2/2017 7:04	70.3
19	3/2/2017 7:04	71
20	3/2/2017 7:04	74.8
21	3/2/2017 7:04	73.5
22	3/2/2017 7:04	66
23	3/2/2017 7:04	65.6
24	3/2/2017 7:04	66.5
25	3/2/2017 7:04	65.9
26	3/2/2017 7:04	63.4
27	3/2/2017 7:04	62.7
28	3/2/2017 7:04	62.2
29	3/2/2017 7:04	62.9
30	3/2/2017 7:04	64.5
31	3/2/2017 7:04	66.5
32	3/2/2017 7:04	67.1
33	3/2/2017 7:04	68.2
34	3/2/2017 7:04	71
35	3/2/2017 7:04	72.6
36	3/2/2017 7:04	73
37	3/2/2017 7:04	68.1
38	3/2/2017 7:04	70

39	3/2/2017 7:04	71.6
40	3/2/2017 7:04	70
41	3/2/2017 7:04	67.7
42	3/2/2017 7:04	67.6
43	3/2/2017 7:04	66.1
44	3/2/2017 7:05	67.4
45	3/2/2017 7:05	66.1
46	3/2/2017 7:05	63.5
47	3/2/2017 7:05	63.9
48	3/2/2017 7:05	66.1
49	3/2/2017 7:05	69.3
50	3/2/2017 7:05	70.8
51	3/2/2017 7:05	70.1
52	3/2/2017 7:05	69.3
53	3/2/2017 7:05	70.5
54	3/2/2017 7:05	71.4
55	3/2/2017 7:05	71.9
56	3/2/2017 7:05	71.4
57	3/2/2017 7:05	71.1
58	3/2/2017 7:05	70.6
59	3/2/2017 7:05	67.3
60	3/2/2017 7:05	66.4
61	3/2/2017 7:05	65.7
62	3/2/2017 7:05	64.4
63	3/2/2017 7:05	65.5
64	3/2/2017 7:05	66.4
65	3/2/2017 7:05	69.4
66	3/2/2017 7:05	67.2
67	3/2/2017 7:05	66.1
68	3/2/2017 7:05	63.8
69	3/2/2017 7:05	63.9
70	3/2/2017 7:05	65.3
71	3/2/2017 7:05	67.4
72	3/2/2017 7:05	68.6
73	3/2/2017 7:05	65.2
74	3/2/2017 7:06	65.2
75	3/2/2017 7:06	68.6
76	3/2/2017 7:06	71
77	3/2/2017 7:06	72.2
78	3/2/2017 7:06	72.8
79	3/2/2017 7:06	68.8
80	3/2/2017 7:06	66.4
81	3/2/2017 7:06	66.1
82	3/2/2017 7:06	67.3
83	3/2/2017 7:06	69.4
84	3/2/2017 7:06	69.6
85	3/2/2017 7:06	68.1

86	3/2/2017 7:06	67
87	3/2/2017 7:06	67.4
88	3/2/2017 7:06	68.5
89	3/2/2017 7:06	71
90	3/2/2017 7:06	69.6
91	3/2/2017 7:06	70.5
92	3/2/2017 7:06	69.5
93	3/2/2017 7:06	68.9
94	3/2/2017 7:06	70.1
95	3/2/2017 7:06	66.2
96	3/2/2017 7:06	65
97	3/2/2017 7:06	62.3
98	3/2/2017 7:06	63.4
99	3/2/2017 7:06	67.5
100	3/2/2017 7:06	68.5
101	3/2/2017 7:06	66.6
102	3/2/2017 7:06	66.2
103	3/2/2017 7:06	70
104	3/2/2017 7:06	70.2
105	3/2/2017 7:07	68.9
106	3/2/2017 7:07	71.1
107	3/2/2017 7:07	73.5
108	3/2/2017 7:07	75.3
109	3/2/2017 7:07	75.1
110	3/2/2017 7:07	72.8
111	3/2/2017 7:07	71.4
112	3/2/2017 7:07	68.5
113	3/2/2017 7:07	69
114	3/2/2017 7:07	70.3
115	3/2/2017 7:07	73.5
116	3/2/2017 7:07	71.4
117	3/2/2017 7:07	68.4
118	3/2/2017 7:07	71.3
119	3/2/2017 7:07	64.9
120	3/2/2017 7:07	63.3
121	3/2/2017 7:07	63.5
122	3/2/2017 7:07	67.6
123	3/2/2017 7:07	68.1
124	3/2/2017 7:07	70.3
125	3/2/2017 7:07	69.7
126	3/2/2017 7:07	66.2
127	3/2/2017 7:07	64.8
128	3/2/2017 7:07	67.2
129	3/2/2017 7:07	71.7
130	3/2/2017 7:07	64.3
131	3/2/2017 7:07	61.8
132	3/2/2017 7:07	63.6

133	3/2/2017 7:07	65.5
134	3/2/2017 7:07	64.4
135	3/2/2017 7:08	62.4
136	3/2/2017 7:08	63
137	3/2/2017 7:08	66.8
138	3/2/2017 7:08	68.9
139	3/2/2017 7:08	77.4
140	3/2/2017 7:08	79.4
141	3/2/2017 7:08	78.1
142	3/2/2017 7:08	80.2
143	3/2/2017 7:08	79.1
144	3/2/2017 7:08	80.2
145	3/2/2017 7:08	79.6
146	3/2/2017 7:08	79.1
147	3/2/2017 7:08	80.3
148	3/2/2017 7:08	81.7
149	3/2/2017 7:08	80.4
150	3/2/2017 7:08	79.9
151	3/2/2017 7:08	81.3
152	3/2/2017 7:08	80.6
153	3/2/2017 7:08	80.3
154	3/2/2017 7:08	80.9
155	3/2/2017 7:08	80.8
156	3/2/2017 7:08	79.7
157	3/2/2017 7:08	80.6
158	3/2/2017 7:08	80.1
159	3/2/2017 7:08	80.9
160	3/2/2017 7:08	80.9
161	3/2/2017 7:08	80.8
162	3/2/2017 7:08	81.7
163	3/2/2017 7:08	80.8
164	3/2/2017 7:08	79.4
165	3/2/2017 7:09	80.2
166	3/2/2017 7:09	78
167	3/2/2017 7:09	79.1
168	3/2/2017 7:09	79.1
169	3/2/2017 7:09	79.1
170	3/2/2017 7:09	78.5
171	3/2/2017 7:09	79.2
172	3/2/2017 7:09	80.8
173	3/2/2017 7:09	80.8
174	3/2/2017 7:09	80.6
175	3/2/2017 7:09	80.8
176	3/2/2017 7:09	80.7
177	3/2/2017 7:09	79.7
178	3/2/2017 7:09	79.8
179	3/2/2017 7:09	81.4

180	3/2/2017 7:09	80.4
181	3/2/2017 7:09	80.2
182	3/2/2017 7:09	80.5
183	3/2/2017 7:09	80.9
184	3/2/2017 7:09	81
185	3/2/2017 7:09	81.3
186	3/2/2017 7:09	80.5
187	3/2/2017 7:09	81
188	3/2/2017 7:09	81.2
189	3/2/2017 7:09	80.2
190	3/2/2017 7:09	80.4
191	3/2/2017 7:09	80.5
192	3/2/2017 7:09	80.1
193	3/2/2017 7:09	80.1
194	3/2/2017 7:09	80.5
195	3/2/2017 7:10	81.2
196	3/2/2017 7:10	80.6
197	3/2/2017 7:10	80.5
198	3/2/2017 7:10	80.7
199	3/2/2017 7:10	80.7
200	3/2/2017 7:10	80.2
201	3/2/2017 7:10	80.2
202	3/2/2017 7:10	80
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298	3/2/2017 7:13	80.6
299	3/2/2017 7:13	80.6
300	3/2/2017 7:13	79.8

Appendix E

HVAC Specifications

TECHNICAL GUIDE
R-410A
ZH/ZJ/ZR SERIES
3 - 12.5 TON
60 Hertz

ZH/ZJ/ZR 3 THROUGH 10 TON

ZH/ZJ/ZR 12.5 TON

Description

ASHRAE 90.1 COMPLIANT

YORK® Predator® units are convertible single packages with a common footprint cabinet and common roof curb for all 3 through 12.5 ton models. All 6.5 through 12.5 ton units have two compressors with independent refrigeration circuits to provide 2 stages of cooling. The units were designed for light commercial applications and can be easily installed on a roof curb, slab, or frame.

All Predator® units are self-contained and assembled on rigid full perimeter base rails allowing for 3-way forklift access and overhead rigging. Every unit is completely charged, wired, piped, and tested at the factory to provide a quick and easy field installation.

Predator® units in all tonnage sizes are convertible between side airflow and down airflow, with corresponding economizer if economizer option is desired.

Predator® units are available in the following configurations: cooling only, cooling with electric heat, cooling with gas heat, reheat only, reheat with electric heat and reheat with gas heat. Electric heaters are available as factory-installed options or field-installed accessories.

All units provide constant supply air volume. A variable air volume (VAV) option, which features a variable frequency drive (VFD), is available on 6.5 through 12.5 ton ZH/ZJ models only.

Tested in accordance with:

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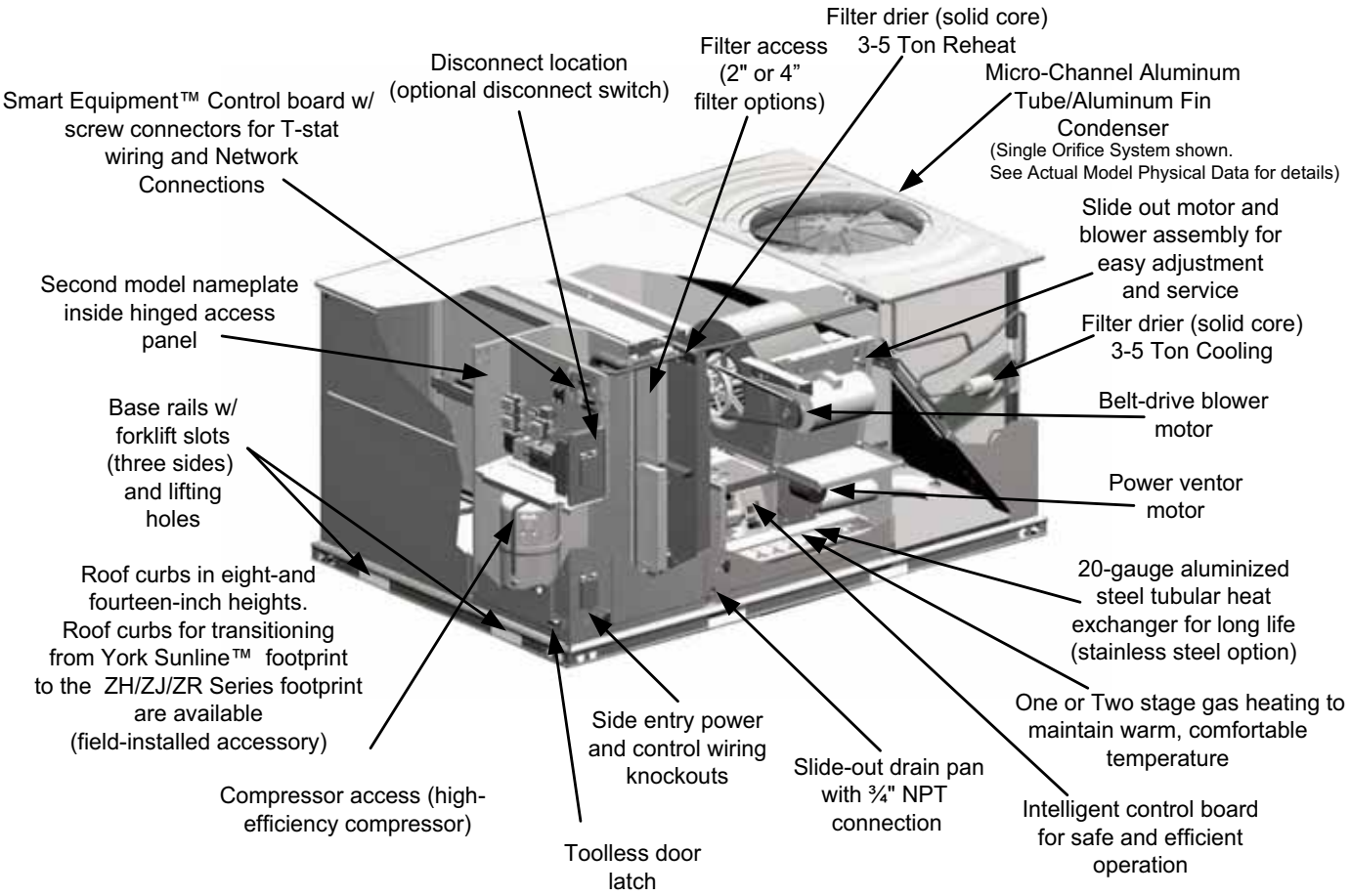
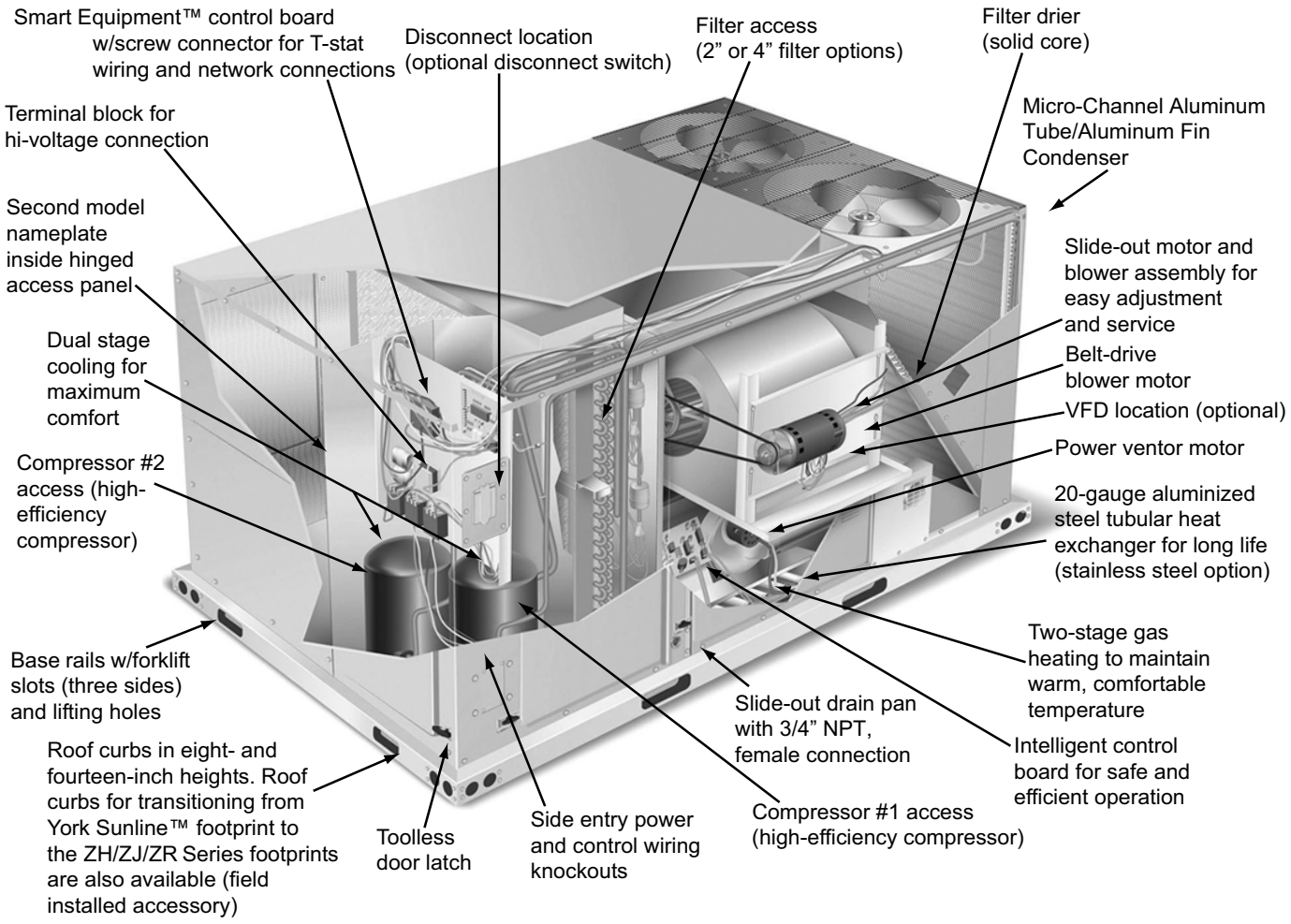
Component Location

Cooling With Gas Heat (3 Through 5 Ton)



Cooling With Gas Heat (6.5 Through 10 Tons)



Nomenclature

3-12.5 Ton York® Model Number Nomenclature

Z	H	090	C	00	A	2	A	1	A	A	A	1	A	1

Product Category
Z = A/C, Single Pkg., R-410A

Product Identifier
H = Pkg AC Mid Eff
J = Pkg AC High Eff
R = Pkg AC Reheat

Nominal Cooling Capacity
037 = 3 Ton
049 = 4 Ton
061 = 5 Ton
078 = 6.5 Ton
090 = 7.5 Ton
102 = 8.5 Ton
120 = 10.0 Ton
150 = 12.5 Ton

Heat Type
C = Cooling Only
E = Electric Heat

Single Stage Natural Gas Heat Options
H = 1 Stage Gas Aluminized Steel
J = 1 Stage Gas Stainless Steel
K = 1 Stage Low Nox Gas Aluminized Steel
L = 1 Stage Low Nox Gas Stainless Steel

Two Stage Natural Gas Heat Options
N = 2 Stage Gas Aluminized Steel
S = 2 Stage Gas Stainless Steel
P = 2 Stage Low Nox Gas Aluminized Steel
Q = 2 Stage Low Nox Gas Stainless Steel

Heat Capacity
00 = Cooling Only

Gas MBH Input (Unit Size Allowed)
06 = 60 MBH Input (037, 049)
08 = 80 MBH Input (037, 049, 061)
12 = 120 MBH Input (037, 049, 061, 078, 090, 102)
16 = 160 MBH Input (061)
18 = 180 MBH Input (078,090,102,120,150)
24 = 240 MBH Input (120,150)

Electric Heat (Unit Size Allowed)
03 = 3 KW (037)
06 = 6 KW (037,049,061)
09 = 9 KW (037,049,061,078,090,102)
15 = 15KW (037,049,061)
18 = 18 KW (078,090,102,120,150)
20 = 20 KW (049,061)
24 = 24 KW (061, 078,090,102,120,150)
36 = 36 KW (078,090,102,120,150)
54 = 54 KW (120,150)

Blower Option
B = Standard Static
D = High Static
E = VFD/VAV Std Static
G = VFD/VAV High Static
H = VFD/VAV w/Bypass Std Static
K = VFD/VAV w/Bypass High Static
L = VFD/VAV Customer Std Static
N = VFD/VAV Customer High Static
P = VFD IntelliSpeed Std Static
R = VFD IntelliSpeed High Static
S = VFD w/Byp IntelliSp Std Static
U = VFD w/Byp IntelliSp Hi Static
V = VFD Cust IntelliSp Std Static
X = VFD Cust IntelliSp Hi Static

Voltage
2 = 208/230-3-60
4 = 460-3-60
5 = 575-3-60

Outdoor Air Option
A = No Economizer
B = Economizer w/Barometric RLF
D = Economizer w/Power EXH
H = Motorized Damper

Service Options
1 = No Service Options
2 = DSC (Disconnect Switch)
3 = NCO (Non-PWR Conv. Outlet)
4 = PCO (Powered Conv. Outlet)
5 = DSC,NCO
6 = DSC,PCO

Sensors
A = No Sensors
B = PHM (Phase Monitor)
C = DFS (Dirty Filter Switch)
D = SSD (Supply Air Smoke DET)
E = RSD (Return Air Smoke DET)
F = PHM,DFS
G = PHM,SSD
H = PHM,RSD
J = DFS,SSD
K = DFS,RSD
L = SSD,RSD
M = PHM,DFS,SSD
N = PHM,DFS,RSD
P = PHM,SSD,RSD
Q = DFS,SSD,RSD
R = PHM,DFS,SSD,RSD

Controls Option
A = Stand Alone Smart Equipment™
C = BACnet MSTP,Mdbs,N2 COM Card
D = CPC Control, DFS, APS
F = Fault Detection Diagnostics
G = Novar UCM Ctrl, DFS, APS
H = Hnywll Excel 10 CTRL,DFS,APS
M = Verasys Single Zone
N = Verasys Change Over Bypass
P = Verasys VAV
Q = Verasys Single Zone W/FDD
R = Verasys COBP W/FDD
T = Verasys VAV W/FDD

Refrigeration
A = Standard Refrigeration
B = ECC (E-Coat Cond Coil)
C = EEC (E-Coat Evap Coil)
D = HGBP (Hot Gas Bypass)
F = ECC,EEC
G = ECC,EEC,HGBP
J = ECC,HGBP
M = EEC,HGBP

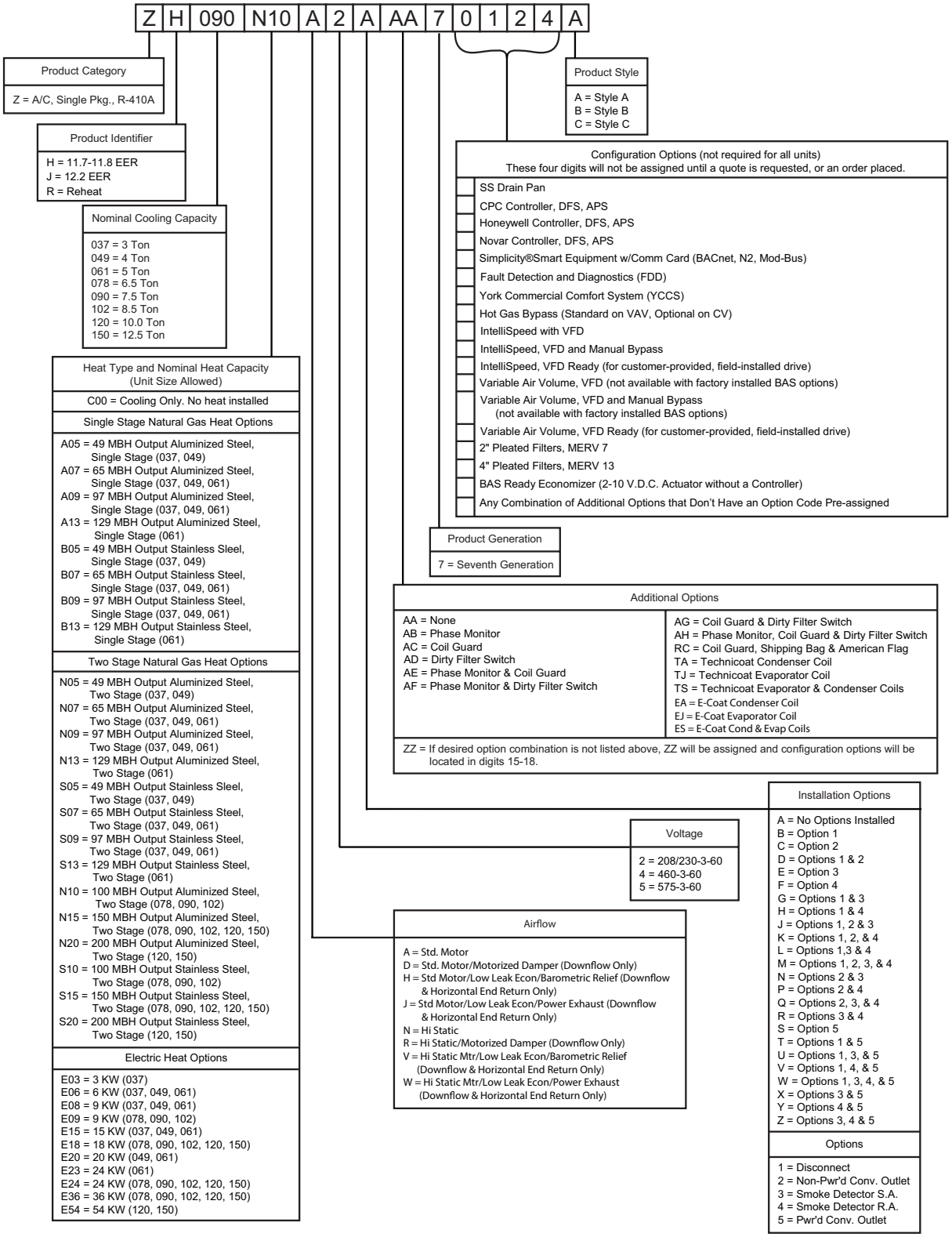
Additional Options
1 = STD Throwaway Filter
2 = 2" Pleated Filters (Merv 8)
3 = 4" Pleated Filters (Merv 13)
4 = Coil Guard (CG), STD Filter
5 = 2" Pleated Filter,CG
6 = 4" Pleated Filter,CG

Cabinet Options
A = Std Cabinet
E = SSD (SST Drain Pan)
R = Reverse Drain Pan

Product Generation
1 = First Generation

Prior Nomenclature

3-12.5 Ton York® Model Number Nomenclature
For Units Produced Before 2-01-2016



Features and Benefits

Standard Features

- **Service Friendly** - The Predator® incorporates a number of key features for ease of serviceability.

  The motor and blower slide out of the unit as a common assembly. This facilitates greater access to all the indoor airflow components, thus simplifying maintenance and adjustment.

  Service time is reduced through the use of hinged, toolless panels. Such panels provide access to frequently inspected components and areas, including the control box, compressors, filters, indoor motor & blower, and the heating section. The panels are screwed in place at the factory to prevent access by children or other unauthorized persons. It is recommended that the panels be secured with screws once service is complete.

  Service windows have been placed in both condenser section walls. Rotation of the cover allows easy access to the condenser coils for cleaning or inspection.

  The Smart Equipment™ control board provides alarm messages to help quickly identify any faults.

  All units use four filters of the same standard size. This standardization simplifies selections for filter replacement.

  The non-corrosive drain pan slides out of the unit to permit easy cleaning. The drain pan is accessed by removing the drain pan cover plate on the rear of the unit. Once the plate is removed, the drain pan slides out through the rear of the unit.

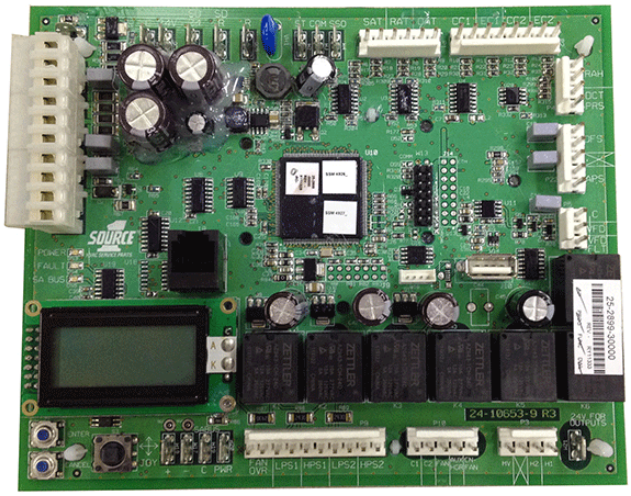
  All Predator® units have a second model nameplate located inside the control access door. This is to prevent deterioration of the nameplate through weathering.
- **Coil Technology** – All ZH/ZJ condensers utilize Micro-Channel “all-aluminum” condensers which provide improved heat transfer capabilities and reduced charge volumes. All evaporators utilize a conventional copper tube/aluminum fin design for proven reliability and performance. ZR037 thru 061 models utilize Micro-Channel condenser coils, ZR078 thru 150 models utilize copper tube/aluminum fin or Micro-Channel condenser coils. For specific unit model information see Physical Data Tables.
- **Environmentally Aware** - For improved Indoor Air Quality, a combination of aluminum foil faced and elastometric rubber insulations are used exclusively throughout the units.
- **Balanced Heating** - The Predator® two stage gas heating offers "Ultimate Heating Comfort" with a balance between 1st and 2nd stage gas heating to provide a well maintained desired temperature.

Unit Tonnage	1st. Stage	2nd. Stage
3-5 Ton	70 to 75% of Heating Capacity	100% of Heating Capacity
6.5 - 12.5 Ton	60% of Heating Capacity	100% of Heating Capacity

- **Convertible Airflow Design** – The side duct openings are covered when they leave the factory. If a side supply/return is desired, the installer simply removes the two side duct covers from the outside of the unit and installs them over the down shot openings. No panel cutting is required. Convertible airflow design allows maximum field flexibility and minimum inventory.
- **System Protection** - Suction line freezestats are supplied on all units to protect against loss of charge and coil frosting when the economizer operates at low outdoor air temperatures while the compressors are running. Every unit has solid-core liquid line filter-driers and high and low-pressure switches. Internal compressor protection is standard on all compressors. Phase Monitors are standard on units with Scroll compressors. This accessory monitors the incoming power to the unit and protects the unit from phase loss and reversed phase rotation.
- **Advanced Controls** - Smart Equipment™ control boards have standardized a number of features previously available only as options or by utilizing additional controls.

⚠ CAUTION

The Smart Equipment™ control board used in this product will effectively operate the cooling system down to 0°F when this product is applied in a comfort cooling application for people. An economizer is typically included in this type of application. When applying this product for process cooling applications (computer rooms, switchgear, etc.), please call the applications department for Unitary Products @ 1-877-UPG-SERV for guidance. Additional accessories may be needed for stable operation at temperatures below 30°F.



- **Units will come with the new state of the art Smart Equipment™ control system.** The new unit control incorporates the best of the already proven unitary controls and creates a more robust, intelligent control. The goal of this control is to utilize cutting edge technology making the equipment easier to install, operate, and service. All units are Factory commissioned, configured, and run tested.
- **Versatile -** The Smart Equipment™ control can be configured to use with a standard thermostat (easy to connect screw terminals), A zone sensor, or can be setup to communicate with multiple BAS communication protocols to integrate with building automation systems.
- **Reduce field installed complexity -** Each unit will comes equipped with factory installed supply air, return air, and outdoor air temperature sensors providing key temperature readings thus reduce field installed complexity.
- **On-board USB Port -** The new control comes with a long list of features including data logging, current and previous system faults and software update capabilities using the on board USB port and common flash drive. Energy use monitoring capabilities allow custom tailoring to allow a system to work more efficiently at all times and occupancy levels. Self test and start-up reports also available from the board VIA the USB port.
- **Embedded LCD Display -** The board has a easy to read, built-in LCD display and easy to use navigation joystick and buttons allowing the user to quickly navigate the menus displaying unit status, options, current function, supply, return and outdoor temperatures, fault codes and other information.
- **Safety Monitoring -** The control monitors the outdoor, supply, and return air temperatures and the high and low pressure switch status on the independent refrigerant circuits. On units with heating the gas valve and high temperature limit switches are monitored on gas and electric heating units. The control also monitors the voltage supplied to the unit and will protect the unit if low voltage due to a brown out, or other electrical issue occurs.
- **Low Ambient -** An integrated low-ambient control allows units to operate in the cooling mode down to 0°F outdoor ambient without additional components or intervention. Optionally, the control board can be programmed to lockout the compressors when the outdoor air temperature is low or when free cooling is available.
- **Anti-Short Cycle Protection -** To aid compressor life, an anti- short cycle delay is incorporated into the standard control. Compressor reliability is further ensured by programmable minimum run times. For testing, the anti-short cycle delay can be temporarily overridden with the push of a button.
- **Fan Delays -** Fan on and fan off delays are fully programmable. Furthermore, the heating and cooling fan delay times are independent of one another. All units are programmed with default values based upon their configuration of cooling and/or heating capacity.
- **Nuisance Trip Protection and Three Strikes -** To prevent nuisance calls, the control board uses a three times, you're out philosophy. The high, low-pressure switch, anti-freeze protection, low voltage or heating high limit must trip three times within two hours before the unit control board will lock out the associated compressor.An alarm message will be displayed on the LCD screen.
- **Lead-Lag** - An integrated Lead-Lag option allows equal run time hours on all compressors, thereby extending the life of all compressors. This option is selectable on the unit control board.
- **Low Limit Control (LLC)** - To prevent the supply air from dropping below a specified set point, when there is a demand for cooling during cold outside conditions. (Programmable Set point)
- **Reliable** - From the beginning - All units undergo computer automated testing before they leave the factory. Units are tested for refrigerant charge and pressure, unit amperage, and 100% functionality. For the long term - All units are painted with a long lasting, powder paint that stands up over the life of the unit. The paint used has been proven by a 1000 hour salt spray test.
- **Full Perimeter Base Rails** - The permanently attached base rails provide a solid foundation for the entire unit and protect the unit during shipment. The rails offer rigging holes so that an overhead crane can be used to place the units on a roof.
- **Easy Installation** - Gas and electric utility knockouts are supplied in the unit underside as well as the side of the unit. Utility connections can be made quickly and with a minimum amount of field labor. All units are shipped with 2" throw-away filters installed.
- **Wide Range of Indoor Airflows** - All supply air blowers are equipped with a belt drive that can be adjusted to meet the exact requirements of the job. A high static drive option is available for applications with a higher CFM and/or static pressure requirement.
- **Warranty** - All models include a 1-year limited warranty on the complete unit. Compressors and electric heater

elements each carry a 5-year warranty. Aluminized steel (10 yr.) and stainless steel tubular heat exchangers carry a 15- year warranty.

Factory Installed Options

YORK® offers several equipment options factory installed, for the Predator® line.

- **Optional Factory Installed Economizers** - Predator units offer a variety of optional factory installed economizers with low leak dampers. The outdoor air dry bulb sensor enables economizer operation if the outdoor air temperature is less than the set point of the economizer logic module. See economizer options section to determine the correct economizer for your application.
  - **Down flow / End Return Economizers (with barometric relief and fresh air hood)** - All units offer a variety of optional factory installed down flow economizers that are shipped, installed and wired with low leak dampers designed to meet ASHRAE 90.1-2010, AMCA 511 Class 1A damper, and the International Energy Conservation Code (IECC) certification requirements by achieving leakage rates of 3 cfm/sq. ft. at 1" of static pressure. Each economizer goes through a rigorous 60,000 cycle test. Dry bulb, single enthalpy, and dual enthalpy (with field installed kit) can be selected. The economizer has spring return, fully modulating damper actuators and is capable of introducing up to 100% outdoor air. As the outdoor air intake dampers open, the return air dampers close. The changeover from mechanical refrigeration to economizer operation is regulated by the outdoor air dry bulb temperature or the outdoor air enthalpy input. The optional (field installed) single or dual enthalpy kits provide additional inputs to monitor outdoor air/ or return air humidity and temperature for true enthalpy control. The installer needs only to assemble the outdoor air hood, attach the enthalpy control the hood and mount the hood to the unit (Hood and control are provided).
- **Power Exhaust** - This factory option allows down flow or horizontal end return economizer operation. **The power exhaust must be removed from the unit and mounted in the horizontal end return duct work when applying the product in the horizontal, end return configuration.**
- **Motorized Outdoor Air Damper** - The motorized outdoor air damper includes a slide-in/plug-in damper assembly with an outdoor air hood and filters. The outdoor air dampers open to the preset position when the indoor fan motor is energized. The damper has a range of 0% to 100% outdoor air entry.
- **Alternate Indoor Blower Motor** - For applications with high static restrictions, units are offered with optional indoor motors that provide higher static output and/or higher airflow, depending upon the installer's needs.
- **Variable Air Volume (VAV; 6.5 through 12.5 ton, only)** - A factory-installed variable frequency drive (VFD), mounted in the Blower Access compartment, is used to control the speed of the indoor blower motor in order to maintain a constant static pressure in the supply duct. A duct pressure transducer is provided with the unit. The drive comes completely wired and pre-programmed from the factory.

  An optional, factory-installed manual bypass switch available with factory-installed VFD can be found in the Blower Motor Access compartment. The switch can be used to either route power to the VFD for modulating control of the blower motor, to bypass the drive and operate the motor at full speed, or to power the drive (and not the motor) for diagnostic purposes.

  VAV is not available with the factory-installed 3rd. party BAS controllers. VAV is only factory installed with the Smart Equipment™ Controller.

  A 'VFD-ready' option provides the provisions for a customer-installed drive. The unit comes with a mounting bracket installed in the Blower Access compartment which may accommodate other vendor's drives depending on their size. In order to utilize the unit's mounting bracket, the maximum recommended drive dimensions are limited to approximately 9" H x 5" W x 7.5" D.

  If the drive will not fit in the allotted space, then it will have to be mounted elsewhere; either within the building on a perpendicular wall which is not subjected to excessive temperature, vibration, humidity, dust, corrosive gas, explosive gas, etc., or within an appropriate enclosure rated for outside installation to safeguard against moisture, dust and excessive heat. A terminal block located in the control box is provided for field connection of the VFD controls.
- ***IntelliSpeed*™ Supply Fan Control Option (ASHRAE 90.1 compliant) -** Units configured with the ***IntelliSpeed***™ Supply Fan Option will contain a VFD for multi-speed supply fan operation. This option allows the supply fan RPM to vary based on the number of compressors or heating stages energized. The economizer's minimum position will also be configurable to vary based on the supply fan VFD frequency output.
- **Aluminized Steel Gas Heat Exchanger** - For applications in non-corrosive environments.
- **Stainless Steel Gas Heat Exchanger** - For applications in corrosive environments, this option provides a full stainless steel heat exchanger assembly.
- **Low NOx Option** - For units with gas furnaces in locations where codes require that the Oxides of Nitrogen emissions from the furnace be below 40 Nano grams per joule.
- **Stainless Steel Drain Pan -** An optional rust-proof stainless steel drain pan is available to provide years of trouble-free operation in corrosive environments.
- **Electric Heaters** - The electric heaters range from 3kW to 54kW and are available in all the voltage options of the base units. All heaters are intended for single point power supply.
- **Disconnect Switch** - For gas heat units and cooling units with electric heat, a HACR breaker sized to the unit is provided. For cooling only units, a switch sized to the largest electric heat available for the particular unit is provided. Factory installed option only.

- **Convenience Outlet - (Non-Powered/Powered)** - This option locates a 120V single-phase GFCI outlet with cover, on the corner of the unit housing adjacent to the compressors. The “Non-powered” option requires the installer to provide the 120V single-phase power source and wiring. The “Powered” option is powered by a stepdown transformer in the unit. Factory installed option only.
- **Smoke Detectors** - The smoke detectors stop operation of the unit and provide a fault message to the control board. Smoke detectors are available for both the supply and/or return air configurations.
- **Filters -** 2” Pleated MERV 8 or 4” Pleated MERV 13 are available to meet LEED requirements. A 2” Throwaway is shipped as standard.

⚠WARNING

Factory-installed smoke detectors may be subjected to extreme temperatures during "off" times due to outside air infiltration. These smoke detectors have an operational limit of -4°F to 158°F. Smoke detectors installed in areas that could be outside this range will have to be relocated to prevent false alarms.

- **Phase Monitors** - Designed to prevent unit damage. The phase monitor will shut the unit down in an out-of phase condition. **(Standard on units with Scroll Compressors.)**
- **Coil Guard** - Customers can purchase a coil guard kit to protect the condenser coil from damage. Additionally, this kit stops animals and foreign objects from entering the space between the inner condenser coil and the main cabinet. This is not a hail guard kit.
- **Dirty Filter Switch** - This kit includes a differential pressure switch that energizes the fault light on the unit thermostat, indicating that there is an abnormally high pressure drop across the filters. Factory installed option or field installed accessory.
- **E-Coat Condenser Coils** - The condenser coils are coated with an epoxy polymer coating to protect against corrosion.
- **E-Coat Evaporator Coils** - The evaporator coils are coated with an epoxy polymer coating to protect against corrosion.
- **Hot Gas Bypass -** Allows operation during low load conditions while avoiding coil frosting and damage to compressor. When suction pressure falls below valve setpoint, the valve modulates hot gas to the inlet of the evaporator. HGBP is standard on all units with VAV and optional with constant-volume units.

Control Options

- **Smart Equipment™ with Communication Option Control** - The York® Smart Equipment™ with Communication Option Control is factory installed. It includes all the features of the Smart Equipment™ control with an additional gateway to BACnet MS/TP (programmable to Modbus or N2 protocols).
- **FDD (Fault Detection and Diagnostics) - Refrigerant side** A factory installed control system option on the commercial equipment that constantly monitors refrigerant circuit pressures, refrigerant circuit temperatures, as well as the environmental temperatures and humidity via multiple sensor inputs.
  - Provides a building owner, technician or contractor with the operational characteristics of the RTUs entire refrigerant circuit to ensure the unit is functioning at its specified performance level.
  - Provides alarms if the unit is not functioning optimally.
  - Remotely accessible via the Mobile Access Portal (MAP) gateway as well as scrolled on the UCB LCD screen.
- **Novar® BAS Control -** The Novar® building automation system controller is factory installed. Includes supply air sensor, return air sensor, dirty filter indicator switch, and air proving switch.
- **CPC BAS Control -** The Computer Process Controls Model 810-3060 ARTC Advanced Rooftop building automation system controller is factory installed. Includes supply air sensor, return air sensor, with optional dirty filter indicator switch and air proving switch.
- **Honeywell BAS Control -** The Honeywell W7750C building automation system controller is factory installed. Includes air supply sensor, return air sensor, with optional dirty filter indicator switch, and air proving switch.
- **Verasys** - Verasys provides a simple user experience with configurable self-recognizing controllers without the need for any additional tools. Verasys creates enhanced integration of HVACR equipment, zoning, and controls. Contractors are able to offer a complete bundled solution of equipment and controls to serve the light commercial market.

Field Installed Accessories

YORK® offers several equipment accessories for field installation, for the Predator® line.

- **Down flow and End Return Economizers (with fresh air hood and barometric relief) -** All units offer a variety of optional factory installed down flow economizers that are shipped, installed and wired with low leak dampers designed to meet ASHRAE 90.1-2010, AMCA 511 Class 1A damper, and the International Energy Conservation Code (IECC) certification requirements by achieving leakage rates of 3 cfm/sq. ft. at 1" of static pressure. Each economizer goes through a rigorous 60,000 cycle test. Dry bulb, single enthalpy, and dual enthalpy (with field installed kit) can be selected. The economizer has spring return, fully modulating damper actuators and is capable of introducing up to 100% outdoor air. As the outdoor air intake dampers open, the return air dampers close. The changeover from mechanical refrigeration to economizer operation is regulated by the outdoor air dry bulb temperature or the outdoor air enthalpy input. The dual enthalpy kit provides a second input used to monitor the return air (field installed). The installer needs only to assemble the outdoor air hood, attach the enthalpy control

the hood and mount the hood to the unit (Hood and control are provided).

- **Single or Dual Enthalpy Control, Accessories** - These kits contain the required components to convert a dry bulb economizer to a single enthalpy and/or dual enthalpy economizer.
- **Barometric Relief Damper** - Zero to 100% capacity barometric relief dampers for use with horizontal flow, or field installed economizers.
- **Power Exhaust** - This accessory installs in the unit with a down flow or horizontal end return economizer. Power exhaust plugs into the connector in the unit bulkhead. **User must purchase the 1EH0408 barometric relief and hood kit when applying the product in a horizontal flow application. The power exhaust must be mounted in the horizontal end return ductwork.**
- **Manual Outdoor Air Damper** - Like the motorized outdoor air damper, each manual outdoor air damper includes a slide-in damper assembly with an outdoor air hood and filters. Customers have a choice of dampers with ranges of 0% to 100% or 0% to 35% outdoor air entry.
- **Motorized Outdoor Air Damper** - The motorized outdoor air damper includes a slide-in/plug-in damper assembly with an outdoor air hood and filters. The outdoor air dampers open to the preset position when the indoor fan motor is energized. The damper has a range of 0% to 100% outdoor air entry. Factory installed option or field installed accessory.
- **Smoke Detectors** - The smoke detectors stop operation of the unit by interrupting power to the control board if smoke is detected within the air compartment.
- **CO_2 Sensor** - Senses CO_2 levels and automatically overrides the economizer when levels rise above the preset limits.
- **Dirty Filter Switch** - This kit includes a differential pressure switch that energizes the fault light on the unit thermostat, indicating that there is an abnormally high pressure drop across the filters.
- **Coil Guard -** Field installed decorative wire coil guard.
- **Hail Guard** - This kit includes a sloped hood which installs over the outside condenser coil and prevents damage to the coil fins from hail strikes. Field installed accessory only.
- **Flue Exhaust Extension Kit** - In locations with wind or weather conditions which may interfere with proper exhausting of furnace combustion products, this kit can be installed to prevent the flue exhaust from entering nearby fresh air intakes.
- **Gas Heat High Altitude Kit** - This kit converts a gas heat unit to operate at high altitudes, 2,000 to 6,000 feet. Conversion kits are available for natural gas and propane.
- **Low NOx Kit** - For units with gas furnaces in locations where codes require that the Oxides of Nitrogen emissions from the furnace be below 40 Nano grams per joule.
- **Gas Heat Propane Conversion Kit** - This kit converts a gas-fired heater from natural gas to propane. It contains the main burner orifices and gas valve replacement springs.
- **Gas Piping Kit** - Contains pipe nipples, fittings and gas cock required for gas supply connection with external shut off.
- **Electric Heaters** - The electric heaters range from 3kW to 54kW and are available in all the voltage options of the base units. The 54kW/208-240 volt, field-installed heater kit is not available with VAV units due to a lack of space to accommodate the heater's fuse block accessory.

  All heaters are dual staged. Cooling units include an adapter panel for easy installation of the electric heaters. Necessary hardware and connectors are included with the heaters. All heaters are intended for single point power supply.
- **Metal Frame Filter Kit -** Metal frame with polyester filter medium.
- **Permanent Filters** - Permanent filters are available.
- **Roof Curbs** - The roof curbs have insulated decks and are shipped disassembled The roof curbs are available in 8" and 14" heights. For applications with security concerns, burglar bars are available for the duct openings of the roof curbs.
- **Roof Curb Transition -** Single Piece Adapter (10" High) - Roof curbs for transitioning from Sunline™ units to Predator® units. Fits 7.5 to 12.5 Sunline™ roof curbs only.
- **Burglar Bars** - Mount in the supply and return openings to prevent entry into the duct work.
- **Thermostat** - The units are designed to operate with 24-volt electronic and electro-mechanical thermostats. All 6.5 thru 12.5 ton ZH,ZJ units and all 3 thru 12.5 ton ZR units (with or without an economizer) operate with two-stage heat/two-stage cool or two-stage cooling only thermostats, depending upon unit configuration.

Accessories

Field Installed Accessories - Non-Electrical

MODEL	VOLTAGE	DESCRIPTION	WHERE USED
1BD0408	All	Burglar Bars, Downflow	All Cabinets
1CG0419	All	Coil Guard	(Electric / Electric Models), 50” Tall Standard Cabinets
1CG0420	All	Coil Guard	(Gas / Electric Models), 50" Tall Standard Cabinets
1CG0427	All	Coil Guard	(Electric / Electric Models), 42” Tall Cabinets
1CG0428	All	Coil Guard	(Gas / Electric Models), 42" Tall Cabinets
1HG0411	All	Hail Guard Kit	All Tall (50") Standard Cabinets, (Excludes 12.5T "V" cabinets)
1HG0415	All	Hail Guard Kit	All Short (42") Standard Cabinets
1FE0412	All	Flue Exhaust Extension Kit	All Cabinets
1FF0414	All	2" only Metal Filter Frame Kit	All Tall 50" Cabinets
1FF0415	All	2" only Metal Filter Frame Kit	All Tall 42" Cabinets
1FL0402	All	Permanent 2" only Filter Kit Includes (4) Four Filters)	All Tall 50" Cabinets
1FL0423	All	Permanent 2" only Filter Kit (Includes (4) four Filters)	All Tall 42" Cabinets
1GP0405	All	Gas Piping Kit	All Cabinets
1HA0442	All	High Altitude Kit for Natural Gas	All 6 - 12T Cabinets
1HA0450	All	High Altitude Kit for Natural Gas	3 - 5T (80, 120 & 160 MBH Input)
1HA0451	All	High Altitude Kit for Natural Gas	3 - 4T (60 MBH Input)
1HA0443	All	High Altitude Kit for Propane	All 6 - 12T Cabinets
1HA0452	All	High Altitude Kit for Propane	3 - 5T (80, 120 & 160 MBH Input)
1HA0453	All	High Altitude Kit for Propane	3 - 4T (60 MBH Input)
1NP0442	All	Propane Conversion Kit	All 6 - 12T Cabinets
1NP0454	All	Propane Conversion Kit	3 - 5T (80, 120 & 160 MBH Input)
1NP0455	All	Propane Conversion Kit	3 - 4T (60 MBH Input)
1RC0470	All	Roof Curb, 8" Height	All Cabinets
1RC0471	All	Roof Curb, 14" Height	All Cabinets
1RC0472	All	Roof Curb, Transition (7.5 T thru 12.5T Sunline to Predator 3-12T)	All Cabinets
1WC0412	All	Wooden Crate for extra protection during shipping and handling	Standard Cabinets Only (not applicable to units 119" in length)
1LN0407	All	Low NOx Kit	3 - 5T (80, 120 & 160 MBH Input)
1LN0408	All	Low NOx Kit	3 - 5T (60 MBH Input)

Accessories (Continued)

Field Installed Accessories - Electric Heat

MODEL	VOLTAGE	DESCRIPTION	WHERE USED
2TP04520925	230	9kW Electric Heat	All 50" Cabinet 6.5 and 8.5 Ton Models
2TP04520946	460		
2TP04520958	575		
2TP04531825	230	18kW Electric Heat	All 50" Cabinet 6.5, 8.5, 10 and 12.5 Ton Models
2TP04531846	460		
2TP04521858	575		
2TP04532425	230	24kW Electric Heat	All 50" Cabinet 6.5, 8.5, 10 and 12.5 Ton Models
2TP04532446	460		
2TP04522458	575		
2TP04533625	230	36kW Electric Heat	All 50" Cabinet 6.5, 8.5, 10 and 12.5 Ton Models
2TP04533646	460		
2TP04523658	575		
2TP04525425	230	54kW Electric Heat	All 50" 10 and 12.5 Ton Models
2TP04525446	460		
2TP04525458	575		
2TP04540925	230	9kW Electric Heat	All 42" Cabinet 6.5, 7.5 and 8.5 Ton Models
2TP04540946	460		
2TP04540958	575		
2TP04541825	230	18kW Electric Heat	All 42" 6.5, 7.5 and 8.5 Ton Models
2TP04541846	460		
2TP04541858	575		
2TP04542425	230	24kW Electric Heat	All 42" Cabinet 6.5, 7.5 and 8.5 Ton Models
2TP04542446	460		
2TP04542458	575		
2TP04543625	230	36kW Electric Heat	All 42" Cabinet 6.5, 7.5 and 8.5 Ton Models
2TP04543646	460		
2TP04543658	575		
2TP04510325	230	3kW Electric Heat	All 42" Cabinet 3 Ton Models
2TP04510346	460		
2TP04510625	230	6kW Electric Heat	All 42" Cabinet 3, 4 and 5 Ton Models
2TP04510646	460		
2TP04510825	230	9kW Electric Heat	All 42" Cabinet 3, 4 and 5 Ton Models
2TP04510846	460		
2TP04510858	575		
2TP04511525	230	15kW Electric Heat	All 42" Cabinet 3, 4 and 5 Ton Models
2TP04511546	460		
2TP04511558	575		
2TP04512025	230	20kW Electric Heat	All 42" 4 and 5 Ton Models
2TP04512046	460		
2TP04512058	575		
2TP04512325	230	24kW Electric Heat	All 42" Cabinet 5 Ton Models
2TP04512346	460		
2TP04512358	575		

Accessories (Continued)

Field Installed Accessories - Fresh Air

MODEL	VOLTAGE	DESCRIPTION	WHERE USED
1FA0413	All	Manual Outside Air Damper 0-35%, Downflow	All Cabinets
1FA0414	All	Manual Outside Air Damper 0-100%, Downflow	All Cabinets
1EH0408	All	Barometric Relief Kit for Power Exhaust, Horizontal Application	All Cabinets
2EC0401	All	Single Enthalpy Control	All Cabinets
2EC0402	All	Dual Enthalpy Control (Includes 2 Sensors)	All Cabinets
2EE04707624	All	Economizer for Downflow, End Return Horizontal, or ERV Applications. Includes FA Hood, Exhaust Hood w/Baro Relief	All 50" Cabinets
2EE04707424	All	Economizer for Downflow, End Return Horizontal, or ERV Applications. Includes FA Hood, Exhaust Hood w/Baro Relief	All 42" Cabinets
2EE04706924	All	Horizontal Economizer without Barometric Relief	All Cabinets
2MD04703824	All	Motorized Damper, Downflow without Barometric Relief	All Cabinets
2MD04703924	All	Motorized Damper, Horizontal without Barometric Relief	All Cabinets
2PE04704706	230	Power Exhaust 230V Downflow or Horizontal	All Cabinets
2PE04704746	460	Power Exhaust 460V Downflow or Horizontal	All Cabinets
2PE04704758	575	Power Exhaust 575V Downflow or Horizontal	All Cabinets

Field Installed Accessories - Controls

MODEL	VOLTAGE	DESCRIPTION	WHERE USED
2AP0401	All	Air Proving Switch	All Units
2AQ04700324B	All	CO^2 Space Accessory	All Units
2AQ04700424C	All	CO^2 Unit Accessory	All Units
2DF0402	All	Dirty Air Switch	All Units
2SH0401	All	Wall Mounted humidity sensor-For use with MagnaDry Reheat or space humidity input to Smart Equipment™ board.	All Cabinets
2SD04700824	All	Smoke Detector for Supply	All Gen 5 units and greater with 2" & 4" Filters
2SD04700924	All	Smoke Detector for Return	All Gen 5 units and greater with 2" & 4" Filters
2SD04701024	All	Smoke Detector for Supply and Return	All Gen 5 units and greater with 2" & 4" Filters
S1-YK-MAP1810-0P	All	MAP (Mobile Access Portal) Gateway- For use with Smart Equipment™ Control.	All Units
S1-MP-PRTKIT-0P	All	MAP (Mobile Access Portal) Gateway Kit- Replacement MAP gateway protective case, lanyard and communication cable. Use only to replace worn or damaged components.	All Units

Field Installed Accessories - Electrical

MODEL	VOLTAGE	DESCRIPTION	WHERE USED
2LA04704632	All	Low Ambient Kit	All 3 - 10T units (excludes ZT Units)
2LA04704633	All	Low Ambient Kit	All 12.5T cabinets
2LA04704632	All	Low Ambient Kit	All 3 - 5T Reheat Units Only

Guide Specifications

GENERAL

Units shall be manufactured by Unitary Products in an ISO 9001 certified facility. YORK® Predator® units are convertible single packages with a common footprint cabinet and common roof curb for all 3 through 12.5 ton models. All 6.5 through 12.5 ton units have two compressors with independent R-410A refrigeration circuits to provide 2 stages of cooling. The units were designed for light commercial applications and can be easily installed on a roof curb, slab, or frame. All Predator® units are self-contained and assembled on rigid full perimeter base rails allowing for 3-way forklift access and overhead rigging. Every unit is completely charged with R-410A, wired, piped, and tested at the factory to provide a quick and easy field installation. All units are convertible between side and down airflow. Independent economizer designs are used on side and down discharge applications, as well as all tonnage sizes. Predator® units are available in the following configurations: cooling only, cooling with electric heat, cooling with gas heat, reheat only, reheat with electric heat and reheat with gas heat. Electric heaters are available as factory-installed options or field-installed accessories.

DESCRIPTION

Units shall be factory assembled, single package, (Elec/Elec, Gas/Elec), designed for outdoor installation. They shall have built in field convertible duct connections for down discharge supply/return or horizontal discharge supply/return and be available with factory installed options or field installed accessories. The units shall be factory wired, piped and charged with R-410A refrigerant and factory tested prior to shipment. All unit wiring shall be both numbered and color coded. The cooling performance shall be rated in accordance with DOE and AHRI test procedures. Units shall be CSA certified to ANSI Z21.47 and UL 1995/CAN/CSA No. 236-M90 standards.

UNIT CABINET

Unit cabinet shall be constructed of galvanized steel with exterior surfaces coated with a non-chalking, powder paint finish, certified at 1000 hour salt spray test per ASTM-B117 standards. Indoor blower sections shall be insulated with up to 1" thick insulation coated on the airside. Either aluminum foil faced or elastometric rubber insulation shall be used in the unit's compartments and be fastened to prevent insulation from entering the air stream. Cabinet doors shall be hinged with toolless access for easy servicing and maintenance. Full perimeter base rails shall be provided to assure reliable transit of equipment, overhead rigging, fork truck access and proper sealing on roof curb applications. Disposable 2" filters shall be furnished as standard and be accessible through hinged access door. Fan performance measuring ports shall be provided on the outside of the cabinet to allow accurate air measurements of evaporator fan performance without removing panels or creating bypass of the coils. Condensate pan shall be slide out design, constructed of a non corrosive material, internally sloped and conforming to ASHRAE 62-B9 standards. Condensate connection shall be a minimum of ¾" I.D. female and be rigid mount connection.

INDOOR (EVAPORATOR) FAN ASSEMBLY

Fan shall be a belt drive assembly and include an adjustable pitch motor pulley. Job site selected brake horsepower shall not exceed the motors nameplate horsepower rating plus the service factor. Units shall be designed to operate within the service factor. Fan wheel shall be double inlet type with forward curve blades, dynamically balanced to operate smoothly throughout the entire range of operation. Airflow design shall be constant volume. Bearings shall be sealed and permanently lubricated for longer life and no maintenance. Entire blower assembly and motor shall be slide out design.

OUTDOOR (CONDENSER) FAN ASSEMBLY

The outdoor fans shall be of the direct drive type, discharge air vertically, have aluminum blades riveted to corrosion resistant steel spider brackets and shall be dynamically balanced for smooth operation. The outdoor fan motors shall have permanently lubricated bearings internally protected against overload conditions and staged independently. A cleaning window shall be provided on two sides of the units for coil cleaning.

REFRIGERANT COMPONENTS

Compressors:

a. Shall be fully hermetic type, direct drive, internally protected with internal high-pressure relief and over temperature protection. The hermetic motor shall be suction gas cooled and have a voltage range of + or – 10% of the unit nameplate voltage.

b. Shall have internal spring isolation and sound muffling to minimize vibration and noise, and be externally isolated on a dedicated, independent mounting.

Coils:

a. Evaporator coils shall have aluminum plate fins mechanically bonded to seamless internally enhanced copper tubes with all joints brazed. Special Phenolic coating shall be available as a factory option.

b. Evaporator coils shall be of the direct expansion, draw-thru design.

c. Condenser coils shall have aluminum plate fins mechanically bonded to seamless internally enhanced copper tubes with all joints brazed or Micro-Channel aluminum tube, aluminum fins.

d. Condenser coils shall be of the draw-thru design.

Refrigerant Circuit and Refrigerant Safety Components shall include:

a. Independent fixed-orifice or thermally operated expansion devices.

b. Solid core filter drier/strainer to eliminate any moisture or foreign matter.

c. Accessible service gage connections on both suction and discharge lines to charge, evacuate, and measure refrigerant pressure during any necessary servicing or troubleshooting, without losing charge.

d. The 6.5 through 12.5 ton unit shall have two independent refrigerant circuits, equally split in 50% capacity increments.

Unit Controls:

a. Unit shall be complete with self-contained low-voltage control circuit protected by a resettable circuit breaker on the 24-volt transformer side.

b. Unit shall incorporate a lockout circuit which provides reset capability at the space thermostat or base unit, should any of the following standard safety devices trip and shut off compressor.

   1. Loss-of-charge/Low-pressure switch.
   2. High-pressure switch.
   3. Freeze condition sensor on evaporator coil. If any of these safety devices trip, the LCD screen will display the alarm message.

c. Unit shall incorporate "AUTO RESET" compressor over temperature, over current protection.

d. Unit shall operate with conventional thermostat designs and have a low voltage terminal strip for easy hook-up.

e. Unit control board shall have on-board diagnostics and fault message display.

f. Standard controls shall include anti-short cycle and low voltage protection, and permit cooling operation down to a selectable value as low as 0 °F.

g. Control board shall monitor each refrigerant safety switch independently.

GAS HEATING SECTION (IF EQUIPPED)

Heat exchanger and exhaust system shall be constructed of aluminized steel, and be designed with induced draft combustion with post purge logic, energy saving direct spark ignition, and redundant main gas valve. The heat exchanger shall be of the tubular type, constructed of T1-40 aluminized steel for corrosion resistance and allowing minimum mixed air entering temperature of 40 ºF. Burners shall be of the in-shot type, constructed of aluminum-coated steel. All gas piping shall enter the unit cabinet at a single location, through either the side or bottom, without any field modifications. An integrated control board shall provide timed control of evaporator fan functioning and burner ignition. Heating section shall be provided with the following minimum protection:

a. Primary and auxiliary high-temperature limit switches.

b. Induced draft pressure sensor.

c. Flame roll out switch (manual reset).

d. Flame proving controls.

e. All two stage gas units shall have two independent stages of capacity as shown on Page 5.

ELECTRIC HEATING SECTION (IF EQUIPPED)

An electric heating section, with nickel chromium elements, shall be provided in a range of 3 thru 54KW. The heating section shall have a primary limit control(s) (automatic reset) to prevent the heating element system from operating at an excessive temperature. The Heating Section assembly shall slide out of the unit for easy maintenance and service. Units with Electric Heating Sections shall be wired for a single point power supply with branch circuit fusing (where required).

UNIT OPERATING CHARACTERISTICS

Unit shall be capable of starting and running at 125 ºF outdoor temperature, exceeding maximum load criteria of AHRI Standard 340/360. The compressor, with standard controls, shall be capable of operation down to 0 ºF outdoor temperature. Unit shall be provided with fan time delay to prevent cold air delivery before heat exchanger warms up. (Gas heat only)

ELECTRICAL REQUIREMENTS - All unit power wiring shall enter unit cabinet at a single factory provided location and be capable of side or bottom entry to minimize roof penetrations and avoid unit field modifications. Separate side and bottom openings shall be provided for the control wiring.

STANDARD LIMITED WARRANTIES - Compressor – 5 Years, Heat Exchanger – 10 Years, Elect. Heat Elem. – 5 Years, Parts – 1 Year

OPTIONAL OUTDOOR AIR (Shall be made available by either/or):

- **DRY BULB AUTOMATIC ECONOMIZER -** Outdoor and return air dampers that are interlocked and positioned by a fully-modulating, spring-return damper actuator. The maximum leakage rate for the outdoor air intake dampers shall be designed to meet ASHRAE 90.1-2010, AMCA 511 Class 1A damper, and the International Energy Conservation Code (IECC) certification requirements by achieving leakage rates of 3 cfm/sq. ft. at 1" of static pressure. Changeover from compressor to economizer operation shall be provided by an integral electronic enthalpy control that feeds input into the basic module. The outdoor intake opening shall be covered with a rain hood that matches the exterior of the unit. Water eliminator/filters shall be provided.

  Simultaneous economizer/compressor operation is also possible. Dampers shall fully close on power loss. Available with barometric relief and power exhaust.
- **MOTORIZED OUTDOOR AIR DAMPERS -** Outdoor and return air dampers that are interlocked and positioned by a 2- position, spring-return damper actuator. A unit-mounted potentiometer shall be provided to adjust the outdoor and return air damper assembly to take in the design CFM of outdoor air to meet the ventilation requirements of the conditioned space during normal operation. Whenever the indoor fan motor is energized, the dampers open up to one of two pre-selected positions - regardless of the outdoor air enthalpy. Dampers return to the fully closed position when the indoor fan motor is de-energized. Dampers shall fully close on power loss.

ADDITIONAL FACTORY INSTALLED OPTIONS

- **ALTERNATE INDOOR BLOWER MOTOR** – For applications with high restrictions, units are available with optional indoor blower motors that provide higher static output and/or higher airflow.
- **VARIABLE AIR VOLUME (VAV)** - The VAV option using a variable frequency drive (VFD) shall be available on 6.5 through 12.5 ton models for applications requiring a constant supply-duct static pressure. Units equipped for VAV shall be controlled by a duct pressure transducer with a 0 - 5" WC pressure range. The pressure transducer shall provide a 0 - 5 VDC output signal to a VAV control board which, in turn shall provide a 2 - 10 VDC speed reference signal to the VFD. The control board shall operate using factory-installed Supply Air, Return Air and Outside Air Temperature Sensors with a nominal resistance of 10,000 Ohms. Units equipped with VFD's shall have factory-installed manual bypass as an option.
- **CONVENIENCE OUTLET (POWERED/NON-POWERED)**– Unit can be provided with an optional 120VAC GFCI outlet with cover on the corner of the unit housing the compressors.
- **ELECTRIC HEAT** - Electric Heaters range from 3kW to 54kW and are available in all the voltage options of the base unit.
- **PHASE MONITOR** - Designed to prevent damage in out-of-phase condition.
- **COIL GUARD** - Designed to prevent condenser coil damage.
- **BAS CONTROLS HARDWARE** - Include supply air sensor, return air sensor, dirty filter indicator and air proving switch.

- **DIRTY FILTER SWITCH** – This kit includes a differential pressure switch that energizes the fault light on the unit thermostat, indicating that there is an abnormally high-pressure drop across the filters.
- **BREAKER** – An HACR breaker can be factory installed on gas heat units or cooling units with electric heat.
- **DISCONNECT SWITCH** - A disconnect can be factory installed on a cooling only units sized for the largest electric heat available.
- **STAINLESS STEEL HEAT EXCHANGER** – For applications in a corrosive environment, this option provides a full stainless steel heat exchanger assembly.
- **SMOKE DETECTOR** – A smoke detector can be factory mounted and wired in the supply and/or return air compartments.

OTHER PRE-ENGINEERED ACCESSORIES AVAILABLE

- **ROOF CURB** - 14” and 8” high, full perimeter knockdown curb, with hinged design for quick assembly.
- **BAROMETRIC RELIEF DAMPER** – (Unit mounted – Downflow, Duct Mounted – Horizontal) – Contains a rain hood, air inlet screen, exhaust damper and mounting hardware. Used to relieve internal air pressure through the unit during economizer operation.
- **PROPANE CONVERSION KIT** – Contains new orifices and gas valve springs to convert from natural to L.P. gas.
- **ECONOMIZER** (Downflow and Horizontal flow)
- **POWER EXHAUST** – (Unit mount – Downflow, Duct mount – Horizontal flow)
- **DUAL ENTHALPY KIT** - Provides a second input to economizer to monitor return air.

Physical Data

ZH037-061 Single Stage Gas Physical Data

Component	Models								
	ZH037			ZH049			ZH061		
Nominal Tonnage	**3.0**			**4.0**			**5.0**		
AHRI COOLING PERFORMANCE									
Gross Capacity @ AHRI A point (MBh)	37000			50000			61000		
AHRI net capacity (MBh)	36000			48000			58000		
EER	11.8			11.8			11.8		
SEER	14			14			14		
IPLV	-			-			-		
CFM	1200			1600			2000		
System power (KW)	3.05			4.07			4.90		
Refrigerant type	R-410A			R-410A			R-410A		
Refrigerant charge (lb-oz)									
System 1	7-4			6-14			7-12		
System 2	-			-			-		
AHRI HEATING PERFORMANCE									
Heating model	H06	H08	H12	H06	H08	H12	H08	H12	H16
Heat input (K Btu)	60	80	120	60	80	120	80	120	160
Heat output (K Btu)	49	65	97	49	65	97	65	97	129
AFUE %	-		-	-		-	-		-
Steady state efficiency (%)	81.5	81	81	81.5	81	81	81	81	80.5
No. burners	4	4	6	4	4	6	4	6	8
No. stages	1	1	1	1	1	1	1	1	1
Temperature Rise Range (ºF)	20-50°F	25-65°F	50-80°F	20-50°F	25-65°F	40-70°F	25-65°F	35-65°F	45-75°F
Gas Limit Setting (ºF)	235°F	200°F	255°F	235°F	200°F	255°F	200°F	245°F	240°F
Gas piping connection (in.)	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
DIMENSIONS (inches)									
Length	89			89			89		
Width	59			59			59		
Height	42			42			42		
OPERATING WT. (lbs.)	723			763			864		
COMPRESSORS[1]									
Type	Recip			Recip			Recip		
Quantity	1			1			1		
Unit Capacity Steps (%)	100			100			100		
CONDENSER COIL DATA									
Face area (Sq. Ft.)	11.9			18.5			21.1		
Rows	1			1			1		
Fins per inch	23			23			23		
Tube diameter (in./MM)	1/25			.71/18			.71/18		
Circuitry Type	2-pass Microchannel			2-pass Microchannel			2-pass Microchannel		
EVAPORATOR COIL DATA									
Face area (Sq. Ft.)	8			8			10.6		
Rows	3			3			3		
Fins per inch	15			15			15		
Tube diameter	0.375			0.375			0.375		
Refrigerant control	TXV			TXV			TXV		

ZH037-061 Single Stage Gas Physical Data (Continued)

Component	Models								
	ZH037			ZH049			ZH061		
Nominal Tonnage	**3.0**			**4.0**			**5.0**		
CONDENSER FAN DATA									
Quantity of fans	1			1			2		
Fan diameter (Inch)	24			24			24		
Type	Prop			Prop			Prop		
Drive type	Direct			Direct			Direct		
Quantity of motors	1			1			2		
Motor HP each	1/3			1/3			1/3		
No. speeds	1			1			1		
RPM	850			850			850		
Total CFM	3300			3700			6700		
BELT DRIVE EVAP FAN DATA									
Quantity	1			1			1		
Fan Size (Inch)	12 x 9			12 x 9			12 x 9		
Type	Centrifugal			Centrifugal			Centrifugal		
Motor Sheave	1VM34		1VL44	1VM34		1VL44	1VL40		1VP56
Blower Sheave	AK69		AK69	AK56		AK56	AK61		AK74
Belt	A47		A47	A47		A47	A47		A51
Motor HP each	1-1/2		1-1/2	1-1/2		1-1/2	1-1/2		2
RPM	1725		1725	1725		1725	1725		1725
Frame size	56		56	56		56	56		56
FILTERS									
Quantity - Size	4 - (24 x 16 x 2)[2,3]			4 - (24 x 16 x 2)[2,3]			4 - (24 x 16 x 2)[2,3]		
	4 - (24 x 16 x 4)[4]			4 - (24 x 16 x 4)[4]			4 - (24 x 16 x 4)[4]		

1. ZH037, ZH049 (575V ONLY), ZH061 have crankcase heaters standard.
2. 2 In. Throwaway, Standard, MERV (Minimum Efficiency Reporting Value).
3. 2 In. Pleated, Optional, MERV 8.
4. 4 In. Pleated, Optional, MERV 13.

ZH037-061 Two Stage Gas Physical Data

Component	Models								
	ZH037			ZH049			ZH061		
Nominal Tonnage	**3.0**			**4.0**			**5.0**		
AHRI COOLING PERFORMANCE									
Gross Capacity @ AHRI A point (MBh)	37000			50000			61000		
AHRI net capacity (MBh)	36000			48000			58000		
EER	11.8			11.8			11.8		
SEER	14			14			14		
IPLV	-			-			-		
CFM	1200			1600			2000		
System power (KW)	3.05			4.07			4.90		
Refrigerant type	R-410A			R-410A			R-410A		
Refrigerant charge (lb-oz)									
System 1	7-4			6-14			7-12		
System 2	-			-			-		
AHRI HEATING PERFORMANCE									
Heating model	N06	N08	N12	N06	N08	N12	N08	N12	N16
Heat input (K Btu)	60	80	120	60	80	120	80	120	160
Heat output (K Btu)	49	65	97	49	65	97	65	97	129
AFUE %	-		-	-		-	-		-
Steady state efficiency (%)	81.5	81	81	81.5	81	81	81	81	80.5
No. burners	4	4	6	4	4	6	4	6	8
No. stages	2[1]	2[2]	2[2]	2[1]	2[2]	2[2]	2[2]	2[2]	2[2]
Temperature Rise Range (ºF)	20-50°F	25-65°F	50-80°F	20-50°F	25-65°F	40-70°F	25-65°F	35-65°F	45-75°F
Gas Limit Setting (ºF)	235°F	200°F	255°F	235°F	200°F	255°F	200°F	245°F	240°F
Gas piping connection (in.)	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
DIMENSIONS (inches)									
Length	89			89			89		
Width	59			59			59		
Height	42			42			42		
OPERATING WT. (lbs.)	723			763			864		
COMPRESSORS[3]									
Type	Recip			Recip			Recip		
Quantity	1			1			1		
Unit Capacity Steps (%)	100			100			100		
CONDENSER COIL DATA									
Face area (Sq. Ft.)	11.9			18.5			21.1		
Rows	1			1			1		
Fins per inch	23			23			23		
Tube diameter (in./MM)	1/25			.71/18			.71/18		
Circuitry Type	2-pass Microchannel			2-pass Microchannel			2-pass Microchannel		
EVAPORATOR COIL DATA									
Face area (Sq. Ft.)	8			8			10.6		
Rows	3			3			3		
Fins per inch	15			15			15		
Tube diameter	0.375			0.375			0.375		
Refrigerant control	TXV			TXV			TXV		

ZH037-061 Two Stage Gas Physical Data (Continued)

Component	Models								
	ZH037			ZH049			ZH061		
Nominal Tonnage	**3.0**			**4.0**			**5.0**		
CONDENSER FAN DATA									
Quantity of fans	1			1			2		
Fan diameter (Inch)	24			24			24		
Type	Prop			Prop			Prop		
Drive type	Direct			Direct			Direct		
Quantity of motors	1			1			2		
Motor HP each	1/3			1/3			1/3		
No. speeds	1			1			1		
RPM	850			850			850		
Total CFM	3300			3700			6700		
BELT DRIVE EVAP FAN DATA									
Quantity	1			1			1		
Fan Size (Inch)	12 x 9			12 x 9			12 x 9		
Type	Centrifugal			Centrifugal			Centrifugal		
Motor Sheave	1VM34		1VL44	1VM34		1VL44	1VL40		1VP56
Blower Sheave	AK69		AK69	AK56		AK56	AK61		AK74
Belt	A47		A47	A47		A47	A47		A51
Motor HP each	1-1/2		1-1/2	1-1/2		1-1/2	1-1/2		2
RPM	1725		1725	1725		1725	1725		1725
Frame size	56		56	56		56	56		56
FILTERS									
Quantity - Size	4 - (24 x 16 x 2)[4,5]			4 - (24 x 16 x 2)[4,5]			4 - (24 x 16 x 2)[4,5]		
	4 - (24 x 16 x 4)[6]			4 - (24 x 16 x 4)[6]			4 - (24 x 16 x 4)[6]		

1. 1st Stage Capacity is 75% of Full Capacity.
2. 1st Stage Capacity is 70% of Full Capacity.
3. ZH037, ZH049 (575V ONLY), ZH061 have crankcase heaters standard.
4. 2 In. Throwaway, Standard, MERV (Minimum Efficiency Reporting Value)
5. 2 In. Pleated, Optional, MERV 8.
6. 4 In. Pleated, Optional, MERV 13.

ZH078-150 Physical Data

Component	Models									
	ZH078		ZH090		ZH102		ZH120		ZH150	
Nominal Tonnage	**6.5**		**7.5**		**8.5**		**10**		**12.5**	
AHRI COOLING PERFORMANCE										
Gross Capacity @ AHRI A point (Btu)	81000		93000		107000		125000		156000	
AHRI net capacity (Btu)	77000		88000		100000		118000		150000	
EER	11.7[1]/11.5[2]		11.7[1]/11.5[2]		11.7[1]/11.5[2]		11.7[1]/11.5[2]		11.7[1]/11.5[2]	
IEER with Constant Volume	12.9[1]/12.7[2]		12.9[1]/12.7[2]		12.9[1]/12.7[2]		12		12.8[1]/12.6[2]	
IEER with Intellispeed	14.8[1]/14.6[2]		14.2[1]/14.0[2]		14.0[1]/13.8[2]		14.8[1]/14.6[2]		14.4[1]/14.2[2]	
IEER with VAV	12.9[1]/12.7[2]		12.9[1]/12.7[2]		12.9[1]/12.7[2]		12		12.8[1]/12.6[2]	
IPLV	13.7		13		13.5		12.9		14.1	
CFM	2600		2700		3400		4000		3750	
System power (KW)	6.69		7.70		9.0		10.40		12.80	
Refrigerant type	R-410A		R-410A		R-410A		R-410A		R-410A	
Refrigerant charge (lb-oz)										
System 1	6-8		6-0		7-6		8-6		8-2	
System 2	5-14		6-0		7-2		7-7		8-2	
AHRI HEATING PERFORMANCE										
Heating model	N12	N18	N12	N18	N12	N18	N18	N24	N18	N24
Heat input (K Btu)	120	180	120	180	120	180	180	240	180	240
Heat output (K Btu)	96	144	96	144	96	144	144	192	144	192
AFUE %	-	-	-	-	-	-	-	-	-	-
Steady state efficiency (%)	80	80	80	80	80	80	80	80	80	80
No. burners	4	6	4	6	4	6	6	8	6	8
No. stages	2[3]	2[3]	2[3]	2[3]	2[3]	2[3]	2[3]	2[3]	2[3]	2[3]
Temperature Rise Range (ºF)	20-50	35-65	15-45	30-60	10-40	25-55	20-50	35-65	10-40	25-55
Gas Limit Setting (ºF)	165	165	165	165	215	195	195	160	195	160
Gas piping connection (in.)	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
DIMENSIONS (inches)										
Length	89		89		89		89		119-1/2	
Width	59		59		59		59		59	
Height	42		42		50-3/4		50-3/4		50-3/4	
OPERATING WT. (lbs.)	910		910		1047		1090		1280	
COMPRESSORS[4]										
Type	Recip		Recip		Recip		Scroll		Scroll	
Quantity	2		2		2		2		2	
Unit Capacity Steps (%)	50 / 100		50 / 100		50 / 100		50 / 100		50 / 100	
CONDENSER COIL DATA										
Face area (Sq. Ft.)	23.8		23.8		29.0		29.0		47.5	
Rows	1		1		1		1		1	
Fins per inch	23		23		23		23		23	
Tube diameter (in./MM)	1/25		1/25		1/25		1/25		.71/18	
Circuitry Type	2-pass Microchannel		2-pass Microchannel		2-pass Microchannel		2-pass Microchannel		2-pass Microchannel	
EVAPORATOR COIL DATA										
Face area (Sq. Ft.)	10.6		10.6		13.2		13.2		13.2	
Rows	3		3		3		4		4	
Fins per inch	15		15		15		15		15	
Tube diameter	0.375		0.375		0.375		0.375		0.375	
Circuitry Type	Intertwined		Intertwined		Intertwined		Intertwined		Intertwined	
Refrigerant control	TXV		TXV		TXV		TXV		TXV	

ZH078-150 Physical Data (Continued)

Component	Models									
	ZH078		ZH090		ZH102		ZH120		ZH150	
Nominal Tonnage	**6.5**		**7.5**		**8.5**		**10**		**12.5**	
CONDENSER FAN DATA										
Quantity of fans	2		2		2		2		4	
Fan diameter (Inch)	24		24		24		24		24	
Type	Prop		Prop		Prop		Prop		Prop	
Drive type	Direct		Direct		Direct		Direct		Direct	
Quantity of motors	2		2		2		2		4	
Motor HP each	1/3		3/4		3/4		3/4		1/3	
No. speeds	1		1		1		1		1	
RPM	850		1110		1110		1110		850	
Total CFM	6700		8600		9400		9400		14000	
BELT DRIVE EVAP FAN DATA										
Quantity	1		1		1		1		1	
Fan Size (Inch)	12 x 12		12 x 12		15 x 15		15 x 15		15 x 15	
Type	Centrifugal		Centrifugal		Centrifugal		Centrifugal		Centrifugal	
Motor Sheave	1VM50	1VM50	1VM50	1VM50	1VM50	1VM50	1VM50	1VM50	1VM50	1VP56
Blower Sheave	AK74	AK64	AK74	AK61	AK94	AK74	AK84	AK74	AK74	BK77
Belt	A49	A49	A49	A49	A56	A54	A56	A54	A54	BX55
Motor HP each	1-1/2	2	1-1/2	3	2	3	2	3	3	5
RPM	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725
Frame size	56	56	56	56	56	56	56	56	56	184T
FILTERS										
Quantity - Size	4 - (24 x 16 x 2)[5,6]		4 - (24 x 16 x 2)[5,6]		4 - (24 x 20 x 2)[5,6]		4 - (24 x 20 x 2)[5,6]		4 - (24 x 20 x 2)[5,6]	
	4 - (24 x 16 x 4)[7]		4 - (24 x 16 x 4)[7]		4 - (24 x 20 x 4)[7]		4 - (24 x 20 x 4)[7]		4 - (24 x 20 x 4)[7]	

1. Cooling Only Unit or Cooling Unit with Electric Heat
2. Cooling Unit with Gas Heat
3. 1st Stage 60% of Full Capacity.
4. ZH90, ZH102 ZH120, ZH150, have crankcase heaters standard.
5. 2 In. Throwaway, Standard, MERV (Minimum Efficiency Reporting Value) 3.
6. 2 In. Pleated, Optional, MERV 8.
7. 4 In. Pleated, Optional, MERV 13.

ZJ037-061 Single Stage Gas Heat Physical Data

Component	Models								
	ZJ037			ZJ049			ZJ061		
Nominal Tonnage	**3.0**			**4.0**			**5.0**		
AHRI COOLING PERFORMANCE									
Gross Capacity @ AHRI A point (MBh)	37000			50000			62000		
AHRI net capacity (MBh)	36000			48000			60000		
EER	12.2			12.2			12.2		
SEER	14.5			15			15		
IPLV	-			-			-		
CFM	1300			1600			2000		
System power (KW)	2.95			3.95			4.90		
Refrigerant type	R-410A			R-410A			R-410A		
Refrigerant charge (lb-oz)									
System 1	6-12			7-8			8-4		
System 2	-			-			-		
AHRI HEATING PERFORMANCE									
Heating model	H06	H08	H12	H06	H08	H12	H08	H12	H16
Heat input (K Btu)	60	80	120	60	80	120	80	120	160
Heat output (K Btu)	49	65	97	49	65	97	65	97	129
AFUE %	-		-	-		-	-		-
Steady state efficiency (%)	81.5	81	81	81.5	81	81	81	81	80.5
No. burners	4	4	6	4	4	6	4	6	8
No. stages	1	1	1	1	1	1	1	1	1
Temperature Rise Range (ºF)	20-50°F	25-65°F	50-80°F	20-50°F	25-65°F	40-70°F	25-65°F	35-65°F	45-75°F
Gas Limit Setting (ºF)	235°F	200°F	255°F	235°F	200°F	255°F	200°F	245°F	240°F
Gas piping connection (in.)	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
DIMENSIONS (inches)									
Length	89			89			89		
Width	59			59			59		
Height	42			42			42		
OPERATING WT. (lbs.)	740			775			770		
COMPRESSORS[1]									
Type	Recip			Recip			Recip		
Quantity	1			1			1		
Unit Capacity Steps (%)	100			100			100		
CONDENSER COIL DATA									
Face area (Sq. Ft.)	18.5			23.8			23.8		
Rows	1			1			1		
Fins per inch	23			23			23		
Tube diameter (in./MM)	.71/18			.71/18			.71/18		
Circuitry Type	2-pass Microchannel			2-pass Microchannel			2-pass Microchannel		
EVAPORATOR COIL DATA									
Face area (Sq. Ft.)	7.9			10.5			10.5		
Rows	3			3			3		
Fins per inch	15			15			15		
Tube diameter	0.375			0.375			0.375		
Refrigerant control	TXV			TXV			TXV		

ZJ037-061 Single Stage Gas Heat Physical Data (Continued)

Component	Models								
	ZJ037			ZJ049			ZJ061		
Nominal Tonnage	**3.0**			**4.0**			**5.0**		
CONDENSER FAN DATA									
Quantity of fans	1			1			2		
Fan diameter (Inch)	24			24			24		
Type	Prop			Prop			Prop		
Drive type	Direct			Direct			Direct		
Quantity of motors	1			1			2		
Motor HP each	1/3			1/3			1/3		
No. speeds	1			1			1		
RPM	850			850			850		
Total CFM	3300			3700			6300		
BELT DRIVE EVAP FAN DATA									
Quantity	1			1			1		
Fan Size (Inch)	12 x 9			12 x 9			12 x 9		
Type	Centrifugal			Centrifugal			Centrifugal		
Motor Sheave	1VM34		1VL44	1VM34		1VL44	1VL40		1VP56
Blower Sheave	AK69		AK69	AK56		AK56	AK61		AK74
Belt	A47		A47	A47		A47	A47		A51
Motor HP each	1-1/2		1-1/2	1-1/2		1-1/2	1-1/2		2
RPM	1725		1725	1725		1725	1725		1725
Frame size	56		56	56		56	56		56
FILTERS									
Quantity - Size	4 - (24 x 16 x 2)[2,3]			4 - (24 x 16 x 2)[2,3]			4 - (24 x 16 x 2)[2,3]		
	4 - (24 x 16 x 4)[4]			4 - (24 x 16 x 4)[4]			4 - (24 x 16 x 4)[4]		

1. ZJ037, ZJ049 (575V ONLY), and ZJ061 have crankcase heaters standard.
2. 2 In. Throwaway, Standard, MERV (Minimum Efficiency Reporting Value)
3. 2 In. Pleated, Optional, MERV 8.
4. 4 In. Pleated, Optional, MERV 13.

ZJ037-061 Two Stage Gas Heat Physical Data

Component	Models								
	ZJ037			ZJ049			ZJ061		
Nominal Tonnage	**3.0**			**4.0**			**5.0**		
AHRI COOLING PERFORMANCE									
Gross Capacity @ AHRI A point (MBh)	37000			50000			62000		
AHRI net capacity (MBh)	36000			48000			60000		
EER	12.2			12.2			12.2		
SEER	14.5			15			15		
IPLV	-			-			-		
CFM	1300			1600			2000		
System power (KW)	2.95			3.95			4.90		
Refrigerant type	R-410A			R-410A			R-410A		
Refrigerant charge (lb-oz)									
System 1	6-12			7-8			8-4		
System 2	-			-			-		
AHRI HEATING PERFORMANCE									
Heating model	N06	N08	N12	N06	N08	N12	N08	N12	N16
Heat input (K Btu)	60	80	120	60	80	120	80	120	160
Heat output (K Btu)	49	65	97	49	65	97	65	97	129
AFUE %	-		-	-		-	-		-
Steady state efficiency (%)	81.5	81	81	81.5	81	81	81	81	80.5
No. burners	4	4	6	4	4	6	4	6	8
No. stages	2[1]	2[2]	2[2]	2[1]	2[2]	2[2]	2[2]	2[2]	2[2]
Temperature Rise Range (ºF)	20-50°F	25-65°F	50-80°F	20-50°F	25-65°F	40-70°F	25-65°F	35-65°F	45-75°F
Gas Limit Setting (ºF)	235°F	200°F	255°F	235°F	200°F	255°F	200°F	245°F	240°F
Gas piping connection (in.)	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
DIMENSIONS (inches)									
Length	89			89			89		
Width	59			59			59		
Height	42			42			42		
OPERATING WT. (lbs.)	740			775			770		
COMPRESSORS[3]									
Type	Recip			Recip			Recip		
Quantity	1			1			1		
Unit Capacity Steps (%)	100			100			100		
CONDENSER COIL DATA									
Face area (Sq. Ft.)	18.5			23.8			23.8		
Rows	1			1			1		
Fins per inch	23			23			23		
Tube diameter (in./MM)	.71/18			.71/18			.71/18		
Circuitry Type	2-pass Microchannel			2-pass Microchannel			2-pass Microchannel		
EVAPORATOR COIL DATA									
Face area (Sq. Ft.)	7.9			23.8			10.5		
Rows	3			3			3		
Fins per inch	15			15			15		
Tube diameter	0.375			0.375			0.375		
Refrigerant control	TXV			TXV			TXV		

ZJ037-061 Two Stage Gas Heat Physical Data (Continued)

Component	Models								
	ZJ037			ZJ049			ZJ061		
Nominal Tonnage	**3.0**			**4.0**			**5.0**		
CONDENSER FAN DATA									
Quantity of fans	1			1			2		
Fan diameter (Inch)	24			24			24		
Type	Prop			Prop			Prop		
Drive type	Direct			Direct			Direct		
Quantity of motors	1			1			2		
Motor HP each	1/3			1/3			1/3		
No. speeds	1			1			1		
RPM	850			850			850		
Total CFM	3300			3700			6300		
BELT DRIVE EVAP FAN DATA									
Quantity	1			1			1		
Fan Size (Inch)	12 x 9			12 x 9			12 x 9		
Type	Centrifugal			Centrifugal			Centrifugal		
Motor Sheave	1VM34		1VL44	1VM34		1VL44	1VL40		1VP56
Blower Sheave	AK69		AK69	AK56		AK56	AK61		AK74
Belt	A47		A47	A47		A47	A47		A51
Motor HP each	1-1/2		1-1/2	1-1/2		1-1/2	1-1/2		2
RPM	1725		1725	1725		1725	1725		1725
Frame size	56		56	56		56	56		56
FILTERS									
Quantity - Size	4 - (24 x 16 x 2)[4,5] 4 - (24 x 16 x 4)[6]			4 - (24 x 16 x 2)[3,4] 4 - (24 x 16 x 4)[5]			4 - (24 x 16 x 2)[3,4] 4 - (24 x 16 x 4)[5]		

1. 1st Stage Capacity is 75% of Full Capacity.
2. 1st Stage Capacity is 70% of Full Capacity.
3. ZH037, ZH049 (575V ONLY), ZJ061 have crankcase heaters standard.
4. 2 In. Throwaway, Standard, MERV (Minimum Efficiency Reporting Value)
5. 2 In. Pleated, Optional, MERV 8.
6. 4 In. Pleated, Optional, MERV 13.

ZJ078-150 Physical Data

Component	Models									
	ZJ078		ZJ090		ZJ102		ZJ120		ZJ150	
Nominal Tonnage	**6.5**		**7.5**		**8.5**		**10**		**12.5**	
AHRI COOLING PERFORMANCE										
Gross Capacity @ AHRI A point (Btu)	80000		93000		106000		124000		154000	
AHRI net capacity (Btu)	75000		90000		102000		120000		150000	
EER	12.2[1]/11.8[2]		12.2[1]/12.0[2]		12.2[1]/12.0[2]		12.0		12.1[1]/12[2]	
IEER with Constant Volume	14.0		13.2[1]/13.0[2]		13.0		12.9[1]/12.8[2]		13.7[1]/13.5[2]	
IEER with Intellispeed	14.8[1]/14.6[2]		14.8[1]/14.6[2]		14.0[1]/13.8[2]		14.8[1]/14.6[2]		15.2[1]/15.0[2]	
IEER with VAV	14.0		13.2[1]/13.0[2]		13.0		12.9[1]/12.8[2]		13.7[1]/13.5[2]	
IPLV	14.9		14.18		13.6		13.4		14.1	
CFM	2600		2400		2800		3400		3500	
System power (KW)	6.40		7.38		8.30		9.80		12.50	
Refrigerant type	R-410A		R-410A		R-410A		R-410A		R-410A	
Refrigerant charge (lb-oz)										
System 1	5-10		7-12		8-8		7-14		10-8	
System 2	5-12		7-10		8-12		7-14		9-12	
AHRI HEATING PERFORMANCE										
Heating model	N12	N18	N12	N18	N12	N18	N18	N24	N18	N24
Heat input (K Btu)	120	180	120	180	120	180	180	240	180	240
Heat output (K Btu)	96	144	96	144	96	144	144	192	144	192
AFUE %	-	-	-	-	-	-	-	-	-	-
Steady state efficiency (%)	80	80	80	80	80	80	80	80	80	80
No. burners	4	6	4	6	4	6	6	8	6	8
No. stages	2[3]	2[3]	2[3]	2[3]	2[3]	2[3]	2[3]	2[3]	2[3]	2[3]
Temperature Rise Range (ºF)	20-50	35-65	15-45	30-60	10-40	25-55	20-50	35-65	10-40	25-55
Gas Limit Setting (ºF)	165	165	165	165	215	195	195	160	195	160
Gas piping connection (in.)	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
DIMENSIONS (inches)										
Length	89		89		89		89		119-1/2	
Width	59		59		59		59		59	
Height	50-3/4		50-3/4		50-3/4		50-3/4		50-3/4	
OPERATING WT. (lbs.)	1030		1050		1060		1070		1280	
COMPRESSORS[4]										
Type	Recip		Recip		Recip		Scroll		Scroll	
Quantity	2		2		2		2		2	
Unit Capacity Steps (%)	50 / 100		50 / 100		50 / 100		50 / 100		50 / 100	
CONDENSER COIL DATA										
Face area (Sq. Ft.)	29.0		23.8		29.0		29.0		47.5	
Rows	1		1		1		1		1	
Fins per inch	23		23		23		23		23	
Tube diameter (in./MM)	.71/18		1/25		1/25		1/25		.71/18	
Circuitry Type	2-pass Microchannel		2-pass Microchannel		2-pass Microchannel		2-pass Microchannel		2-pass Microchannel	
EVAPORATOR COIL DATA										
Face area (Sq. Ft.)	13.2		13.2		13.2		13.2		13.2	
Rows	3		4		4		4		4	
Fins per inch	15		15		15		15		15	
Tube diameter	0.375		0.375		0.375		0.375		0.375	
Circuitry Type	Intertwined		Intertwined		Intertwined		Intertwined		Intertwined	
Refrigerant control	TXV		TXV		TXV		TXV		TXV	

ZJ078-150 Physical Data (Continued)

Component	Models									
	ZJ078		ZJ090		ZJ102		ZJ120		ZJ150	
Nominal Tonnage	**6.5**		**7.5**		**8.5**		**10**		**12.5**	
CONDENSER FAN DATA										
Quantity of fans	2		2		2		2		4	
Fan diameter (Inch)	24		24		24		24		24	
Type	Prop		Prop		Prop		Prop		Prop	
Drive type	Direct		Direct		Direct		Direct		Direct	
Quantity of motors	2		2		2		2		4	
Motor HP each	1/3		3/4		3/4		3/4		1/3	
No. speeds	1		1		1		1		1	
RPM	850		1110		1110		1110		850	
Total CFM	7400		8000		9000		9400		14000	
BELT DRIVE EVAP FAN DATA										
Quantity	1		1		1		1		1	
Fan Size (Inch)	15 x 15		15 x 15		15 x 15		15 x 15		15 x 15	
Type	Centrifugal		Centrifugal		Centrifugal		Centrifugal		Centrifugal	
Motor Sheave	1VL40	1VM50	1VL40	1VM50	1VM50	1VM50	1VM50	1VM50	1VM50	1VP56
Blower Sheave	AK74	AK74	AK69	AK69	AK89	AK74	AK84	AK74	AK74	BK77
Belt	A53	A54	A52	A54	A56	A54	A56	A54	A54	BX55
Motor HP each	1-1/2	2	1-1/2	3	2	3	2	3	3	5
RPM	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725
Frame size	56	56	56	56	56	56	56	56	56	184T
FILTERS										
Quantity - Size	4 - (24 x 20 x 2)[5,6]		4 - (24 x 20 x 2)[5,6]		4 - (24 x 20 x 2)[5,6]		4 - (24 x 20 x 2)[5,6]		4 - (24 x 20 x 2)[5,6]	
	4 - (24 x 20 x 4)[7]		4 - (24 x 20 x 4)[7]		4 - (24 x 20 x 4)[7]		4 - (24 x 20 x 4)[7]		4 - (24 x 20 x 4)[7]	

1. Cooling Only Unit or Cooling Unit with Electric Heat
2. Cooling Unit with Gas Heat
3. 1st Stage 60% of Full Capacity.
4. ZJ90, ZJ102, ZJ120, ZJ150, have crankcase heaters standard.
5. 2 In. Throwaway, Standard, MERV (Minimum Efficiency Reporting Value) 3.
6. 2 In. Pleated, Optional, MERV 8.
7. 4 In. Pleated, Optional, MERV 13.

ZR037-061 Single Stage Gas Heat Physical Data

Component	Models								
	ZR037			ZR049			ZR061		
Nominal Tonnage	**3**			**4**			**5**		
AHRI COOLING PERFORMANCE									
Gross Capacity @ AHRI A point (Btu)	36500			49000			62000		
AHRI net capacity (Btu)	35500			46900			58000		
EER	12.2			12.1			12.1		
SEER	14.7			14.5			14.25		
IPLV	-			-			-		
CFM	1200			1600			2000		
System power (KW)	2.88			3.32			4.83		
Refrigerant type	R-410A			R-410A			R-410A		
Refrigerant charge (lb-oz)									
System 1	11-8			11-0			11-0		
System 2	-			-			-		
AHRI HEATING PERFORMANCE									
Heating model	H06	H08	H12	H06	H08	H12	H08	H12	H16
Heat input (K Btu)	60	80	120	60	80	120	80	120	160
Heat output (K Btu)	49	65	97	49	65	97	65	97	129
AFUE %	-		-	-		-	-		-
Steady state efficiency (%)	81.5	81	81	81.5	81	81	81	81	80.5
No. burners	4	4	6	4	4	6	4	6	8
No. stages	1	1	1	1	1	1	1	1	1
Temperature Rise Range (ºF)	20-50°F	25-65°F	50-80°F	20-50°F	25-65°F	40-70°F	25-65°F	35-65°F	45-75°F
Gas Limit Setting (ºF)	235°F	200°F	255°F	235°F	200°F	255°F	200°F	245°F	240°F
Gas piping connection (in.)	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
DIMENSIONS (inches)									
Length	89			89			89		
Width	59			59			59		
Height	42			42			42		
OPERATING WT. (lbs.)	867			880			867		
COMPRESSORS[1]									
Type	Recip			Recip			Recip		
Quantity	1			1			1		
Unit Capacity Steps (%)	100			100			100		
CONDENSER COIL DATA									
Face area (Sq. Ft.)	11.9			11.9			11.9		
Rows	1			1			1		
Fins per inch	23			23			23		
Tube diameter (in./MM)	.98/25			.98/25			.71/18 - .98/25		
Circuitry Type	2-pass Microchannel			2-pass Microchannel			2-pass Microchannel		
EVAPORATOR COIL DATA									
Face area (Sq. Ft.)	10.56			10.56			10.56		
Rows	3			3			4		
Fins per inch	15			15			12		
Tube diameter	0.375			0.375			0.375		
Refrigerant control	TXV			TXV			TXV		
REHEAT COIL DATA									
Face area (Sq. Ft.)	8.9			8.9			8.9		
Rows	2			2			2		
Fins per inch	15			15			15		
Tube diameter	0.375			0.375			0.375		
Refrigerant control	Solenoid			Solenoid			Solenoid		

ZR037-061 Single Stage Gas Heat Physical Data (Continued)

Component	Models								
	ZR037			ZR049			ZR061		
Nominal Tonnage	**3**			**4**			**5**		
CONDENSER FAN DATA									
Quantity of fans	1			2			2		
Fan diameter (Inch)	24			24			24		
Type	Prop			Prop			Prop		
Drive type	Direct			Direct			Direct		
Quantity of motors	1			2			2		
Motor HP each	1/3			1/3			1/3		
No. speeds	Var.			Var.			Var.		
RPM (max.)	850			850			850		
Total CFM	3500			7000			7000		
BELT DRIVE EVAP FAN DATA									
Quantity	1			1			1		
Fan Size (Inch)	12 x 9			12 x 9			12 x 9		
Type	Centrifugal			Centrifugal			Centrifugal		
Motor Sheave	1VP34		1VL44	1VP34		1VL44	1VP34		1VL44
Blower Sheave	AK61		AK59	AK61		AK59	AK61		AK59
Belt	A47		A47	A47		A47	A47		A47
Motor HP each	1-1/2		1-1/2	1-1/2		1-1/2	1-1/2		2
RPM	1725		1725	1725		1725	1725		1725
Frame size	56		56	56		56	56		56
FILTERS									
Quantity - Size	4 - (24 x 16 x 2)[2, 3]			4 - (24 x 16 x 2) [2,3]			4 - (24 x 16 x 2) [2,3]		
	4 - (24 x 16 x 4) [4]			4 - (24 x 16 x 4) [4]			4 - (24 x 16 x 4) [4]		

1. ZR037, ZR049, (575V ONLY), ZR061 have crankcase heaters standard.
2. 2 In. Throwaway, Standard, MERV (Minimum Efficiency Reporting Value).
3. 2 In. Pleated, Optional, MERV 8.
4. 4 In. Pleated, Optional, MERV 13.

ZR037-061 Two Stage Gas Heat Physical Data

Component	Models								
	ZR037			ZR049			ZR061		
Nominal Tonnage	**3**			**4**			**5**		
AHRI COOLING PERFORMANCE									
Gross Capacity @ AHRI A point (Btu)	36500			49000			62000		
AHRI net capacity (Btu)	35600			47000			58000		
EER	12.2			12.1			12.1		
SEER	14.7			14.5			14.25		
IPLV	-			-			-		
CFM	1200			1600			2000		
System power (KW)	2.88			3.32			4.83		
Refrigerant type	R-410A			R-410A			R-410A		
Refrigerant charge (lb-oz)									
System 1	11-8			11-0			11-0		
System 2	-			-			-		
AHRI HEATING PERFORMANCE									
Heating model	N06	N08	N12	N06	N08	N12	N08	N12	N16
Heat input (K Btu)	60	80	120	60	80	120	80	120	160
Heat output (K Btu)	49	65	97	49	65	97	65	97	129
AFUE %	-		-	-		-	-		-
Steady state efficiency (%)	81.5	81	81	81.5	81	81	81	81	80.5
No. burners	4	4	6	4	4	6	4	6	8
No. stages	2[1]	2[2]	2[2]	2[1]	2[2]	2[2]	2[2]	2[2]	2[2]
Temperature Rise Range (ºF)	20-50°F	25-65°F	35-80°F	20-50°F	25-65°F	35-80°F	25-65°F	35-80°F	45-75°F
Gas Limit Setting (ºF)	200°F	235°F	290°F	200°F	235°F	290°F	235°F	290°F	240°F
Gas piping connection (in.)	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
DIMENSIONS (inches)									
Length	89			89			89		
Width	59			59			59		
Height	42			42			42		
OPERATING WT. (lbs.)	867			880			867		
COMPRESSORS[3]									
Type	Recip			Recip			Recip		
Quantity	1			1			1		
Unit Capacity Steps (%)	100			100			100		
CONDENSER COIL DATA									
Face area (Sq. Ft.)	11.9			11.9			11.9		
Rows	1			1			1		
Fins per inch	23			23			23		
Tube diameter (in./MM)	.98/25			.98/25			.71/18 - .98/25		
Circuitry Type	2-pass Microchannel			2-pass Microchannel			2-pass Microchannel		
EVAPORATOR COIL DATA									
Face area (Sq. Ft.)	10.56			10.56			10.56		
Rows	3			3			4		
Fins per inch	15			15			12		
Tube diameter	0.375			0.375			0.375		
Refrigerant control	TXV			TXV			TXV		
REHEAT COIL DATA									
Face area (Sq. Ft.)	8.9			8.9			8.9		
Rows	2			2			2		
Fins per inch	15			15			15		
Tube diameter	0.375			0.375			0.375		
Refrigerant control	Solenoid			Solenoid			Solenoid		

ZR037-061 Two Stage Gas Heat Physical Data (Continued)

Component	Models								
	ZR037			ZR049			ZR061		
Nominal Tonnage	**3**			**4**			**5**		
CONDENSER FAN DATA									
Quantity of fans	1			2			2		
Fan diameter (Inch)	24			24			24		
Type	Prop			Prop			Prop		
Drive type	Direct			Direct			Direct		
Quantity of motors	1			2			2		
Motor HP each	1/3			1/3			1/3		
No. speeds	Var.			Var.			Var.		
RPM	850			850			850		
Total CFM	3500			7000			7000		
BELT DRIVE EVAP FAN DATA									
Quantity	1			1			1		
Fan Size (Inch)	12 x 9			12 x 9			12 x 9		
Type	Centrifugal			Centrifugal			Centrifugal		
Motor Sheave	1VP34		1VL44	1VP34		1VL44	1VP34		1VL44
Blower Sheave	AK61		AK59	AK61		AK59	AK61		AK59
Belt	A47		A47	A47		A47	A47		A47
Motor HP each	1-1/2		1-1/2	1-1/2		1-1/2	1-1/2		2
RPM	1725		1725	1725		1725	1725		1725
Frame size	56		56	56		56	56		56
FILTERS									
Quantity - Size	4 - (24 x 16 x 2)[4,5]			4 - (24 x 16 x 2)[4,5]			4 - (24 x 16 x 2)[4,5]		
	4 - (24 x 16 x 4)[6]			4 - (24 x 16 x 4)[6]			4 - (24 x 16 x 4)[6]		

1. 1st Stage Capacity is 75% of Full Capacity.
2. 1st Stage Capacity is 70% of Full Capacity.
3. ZR037, ZR049, (575V ONLY), ZR061 have crankcase heaters standard.
4. 2 In. Throwaway, Standard, MERV (Minimum Efficiency Reporting Value).
5. 2 In. Pleated, Optional, MERV 8.
6. 4 In. Pleated, Optional, MERV 13.

ZR078-150 Physical Data

Component	Models									
	ZR078		ZR090		ZR102		ZR120		ZR150	
Nominal Tonnage	**6.5**		**7.5**		**8.5**		**10**		**12.5**	
AHRI COOLING PERFORMANCE										
Gross Capacity @ AHRI A point (Mbh)	80000		90000		105000		124000		157000	
AHRI net capacity (Mbh)	78000		88000		102000[1]/100000[2]		118000		150000	
EER	11.2		11.2		11.2		11.2		11.0	
IEER with Constant Volume	12.5		12.5		12.4[1]/12.2[2]		11.4		11.4	
IEER with Intellispeed	13		14.0[1]/13.8[2]		13.2[1]/13.0[2]		12.9[1]/12.7[2]		13.2[1]/13.0[2]	
IEER with VAV	12.5		12.5		12.4[1]/12.2[2]		11.4		11.4	
IPLV	13.0									
CFM	2200		2775		3350		3750		4450	
System power (KW)	6.96		7.77		9.11		10.71		13.39	
Refrigerant type	R-410A		R-410A		R-410A		R-410A		R-410A	
Refrigerant charge (lb-oz)										
System 1	9-0		6-12		11-10		8-11		20-0	
System 2	5-8		6-0		10-3		7-8		19-0	
AHRI HEATING PERFORMANCE										
Heating model	N12	N18	N12	N18	N12	N18	N18	N24	N18	N24
Heat input (K Btu)	120	180	120	180	120	180	180	240	180	240
Heat output (K Btu)	96	144	96	144	96	144	144	192	144	192
AFUE %	-	-	-	-	-	-	-	-	-	-
Steady state efficiency (%)	80	80	80	80	80	80	80	80	80	80
No. burners	4	6	4	6	4	6	6	8	6	8
No. stages	2[1]	2[3]	2[3]	2[3]	2[3]	2[3]	2[3]	2[3]	2[3]	2[3]
Temperature Rise Range (ºF)	20-50	35-65	15-45	30-60	10-40	25-55	20-50	35-65	10-40	25-55
Gas Limit Setting (ºF)	165	165	165	165	215	195	195	160	195	160
Gas piping connection (in.)	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
DIMENSIONS (inches)										
Length	89		89		89		89		119-7/16	
Width	59		59		59		59		59	
Height	42		42		50-3/4		50-3/4		50-3/4	
OPERATING WT. (lbs.)	957		965		1200		1200		1465	
COMPRESSORS[2]										
Type	Scroll		Scroll		Scroll		Scroll		Scroll	
Quantity	2		2		2		2		2	
Unit Capacity Steps (%)	50 / 100		50 / 100		50 / 100		50 / 100		50 / 100	
CONDENSER COIL DATA										
Face area (Sq. Ft.)	23.8		23.8		29.0		29.0		47.5	
Rows	2 / 1		1		2		1		2	
Fins per inch	20		23		20		23		15	
Tube diameter (in.)	3/8		-		3/8		-		3/8	
Tube diameter (in.)/MM	-		1/25		-		1/25		-	
Circuitry Type	Split-face		2-pass Microchannel		Split-face		2-pass Microchannel		Split-face	
EVAPORATOR COIL DATA										
Face area (Sq. Ft.)	10.6		10.6		13.2		13.2		13.2	
Rows	3		3		4		4		4	
Fins per inch	15		15		15		15		15	
Tube diameter	3/8		3/8		3/8		3/8		3/8	
Circuitry Type	Split-face		Split-face		Split-face		Split-face		Split-face	
Refrigerant control	TXV		TXV		TXV		TXV		TXV	

ZR078-150 Physical Data (Continued)

Component	Models									
	ZR078		ZR090		ZR102		ZR120		ZR150	
Nominal Tonnage	**6.5**		**7.5**		**8.5**		**10**		**12.5**	
REHEAT COIL DATA										
Face area (Sq. Ft.)	6.66		6.66		10		10		10	
Rows	2		2		2		2		2	
Fins per inch	13		13		13		13		13	
Tube diameter (in.)	3/8		3/8		3/8		3/8		3/8	
CONDENSER FAN DATA										
Quantity of Fans	2		2		2		2		4	
Fan diameter (Inch)	24		24		24		24		24	
Type	Prop		Prop		Prop		Prop		Prop	
Drive type	Direct		Direct		Direct		Direct		Direct	
Quantity of motors	2		2		2		2		4	
Motor HP each	1/3		1/3		1/3		3/4		1/3	
No. speeds	1		1		1		1		1	
RPM	850		850		850		1110		850	
Total CFM	6800		6800		6800		9500		14000	
BELT DRIVE EVAP FAN DATA										
Quantity	1		1		1		1		1	
Fan Size (Inch)	12 x 12		12 x 12		15 x 15		15 x 15		15 x 15	
Type	Centrifugal		Centrifugal		Centrifugal		Centrifugal		Centrifugal	
Motor Sheave	1VM50	1VM50	1VM50	1VM50	1VM50	1VM50	1VM50	1VM50	1VM50	1VP56
Blower Sheave	AK74	AK64	AK74	AK61	AK89	AK74	AK84	AK74	AK74	BK77
Belt	A49	A49	A49	A49	A56	A54	A56	A54	A54	BX55
Motor HP each	1-1/2	2	1-1/2	3	2	3	2	3	3	5
RPM	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725
Frame size	56	56	56	56	56	56	56	56	56	184T
FILTERS										
Quantity - Size	4 - (24 x 16 x 2)[3,4]		4 - (24 x 16 x 2)[3,4]		4 - (24 x 20 x 2)[3,4]		4 - (24 x 20 x 2)[3,4]		4 - (24 x 20 x 2)[3,4]	
	4 - (24 x 16 x 4)[5]		4 - (24 x 16 x 4)[5]		4 - (24 x 20 x 4)[5]		4 - (24 x 20 x 4)[5]		4 - (24 x 20 x 4)[5]	

1. 1st Stage 60% of 2nd Stage
2. ZR90, ZR102, ZR120, ZR150, have crankcase heaters standard.
3. 2 In. Throwaway, Standard, MERV (Minimum Efficiency Reporting Value) 3.
4. 2 In. Pleated, Optional, MERV 8.
5. 4 In. Pleated, Optional, MERV 13.

ZH/ZJ/ZR078-150 Unit Limitations

Size (Tons)	Model	Unit Voltage	Unit Limitations		
			Applied Voltage		Outdoor DB Temp
			Min	Max	Max (°F)
037 (3)	ZH/ZJ/ZR	208/230-3-60	187	252	125
		460-3-60	432	504	125
		575-3-60	540	630	125
049 (4)	ZH/ZJ/ZR	208/230-3-60	187	252	125
		460-3-60	432	504	125
		575-3-60	540	630	125
061 (5)	ZH/ZJ/ZR	208/230-3-60	187	252	125
		460-3-60	432	504	125
		575-3-60	540	630	125
078 (6.5)	ZH/ZJ/ZR	208/230-3-60	187	252	125
		460-3-60	432	504	125
		575-3-60	540	630	125
090 (7.5)	ZH/ZJ/ZR	208/230-3-60	187	252	125
		460-3-60	432	504	125
		575-3-60	540	630	125
102 (8.5)	ZH/ZJ/ZR	208/230-3-60	187	252	125
		460-3-60	432	504	125
		575-3-60	540	630	125
120 (10)	ZH/ZJ/ZR	208/230-3-60	187	252	125
		460-3-60	432	504	125
		575-3-60	540	630	125
150 (12.5)	ZH/ZJ/ZR	208/230-3-60	187	252	125
		460-3-60	432	504	125
		575-3-60	540	630	125

Capacity Performance

ZH037-150 Cooling Capacities

ZH037 (3.0 Ton)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)					
CFM	WB (°F)			Return Dry Bulb (°F)								Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		75°F								**85°F**							
750	77	49.1	2.3	20.2	16.8	13.4	-	-	-	46.5	2.5	19.1	15.7	12.4	-	-	-
	72	44.4	2.2	25.1	21.7	18.4	15.0	-	-	41.7	2.5	23.9	20.5	17.2	13.8	-	-
	67	39.6	2.2	30.0	26.6	23.3	19.9	16.5	-	36.9	2.5	28.7	25.3	22.0	18.6	15.2	-
	62	35.4	2.3	35.4	32.8	27.8	24.5	21.1	17.8	32.6	2.5	32.6	31.3	26.3	22.9	19.6	16.2
900	77	51.2	2.2	22.9	18.8	14.8	-	-	-	48.2	2.5	21.6	17.6	13.6	-	-	-
	72	46.2	2.2	28.2	24.2	20.2	16.1	-	-	43.2	2.5	26.8	22.8	18.9	14.9	-	-
	67	41.3	2.2	33.6	29.6	25.6	21.5	17.5	-	38.2	2.5	32.1	28.1	24.1	20.2	16.2	-
	62	36.9	2.3	36.9	35.1	30.6	26.5	22.5	18.5	33.7	2.5	33.7	32.9	28.9	24.9	20.9	17.0
	57	35.4	2.3	35.4	35.4	32.4	28.4	24.3	20.3	33.2	2.5	33.2	33.2	30.2	26.2	22.3	18.3
1050	77	53.3	2.2	25.5	20.8	16.1	-	-	-	49.9	2.5	24.0	19.4	14.8	-	-	-
	72	48.1	2.2	31.4	26.7	22.0	17.3	-	-	44.7	2.5	29.8	25.2	20.6	16.0	-	-
	67	43.0	2.2	37.3	32.6	27.9	23.2	18.5	-	39.5	2.5	35.5	30.9	26.3	21.7	17.1	-
	62	38.3	2.3	38.3	37.5	33.3	28.6	23.9	19.2	34.9	2.5	34.9	34.5	31.5	26.9	22.3	17.7
	57	36.8	2.3	36.8	36.8	35.3	30.6	25.9	21.2	34.3	2.5	34.3	34.3	32.9	28.3	23.7	19.2
1200	77	55.4	2.2	28.2	22.8	17.5	-	-	-	51.5	2.5	26.5	21.3	16.1	-	-	-
	72	50.0	2.2	34.6	29.2	23.8	18.4	-	-	46.2	2.5	32.7	27.5	22.3	17.1	-	-
	67	44.6	2.2	41.0	35.6	30.2	24.8	19.4	-	40.8	2.5	38.9	33.7	28.5	23.3	18.1	-
	62	39.8	2.3	39.8	39.8	36.1	30.7	25.3	19.9	36.1	2.5	36.1	36.1	34.1	28.9	23.7	18.5
	57	38.3	2.2	38.3	38.3	38.3	32.9	27.5	22.1	35.5	2.5	35.5	35.5	35.7	30.5	25.2	20.0
1350	72	50.1	2.2	37.2	31.3	25.4	19.5	-	-	46.5	2.5	35.4	29.6	23.8	18.1	-	-
	67	44.7	2.2	42.9	38.1	32.2	26.3	20.4	-	41.1	2.5	40.1	36.3	30.5	24.7	19.0	-
	62	39.9	2.3	39.9	39.9	38.0	32.1	26.3	20.4	36.3	2.5	36.3	36.3	35.3	29.6	23.8	18.0
	57	38.3	2.2	38.3	38.3	38.3	32.4	26.6	20.7	35.7	2.5	35.7	35.7	35.8	30.0	24.3	18.5
1500	72	50.1	2.2	39.7	33.4	27.0	20.6	-	-	46.8	2.5	38.0	31.7	25.4	19.1	-	-
	67	44.8	2.2	44.8	40.6	34.2	27.8	21.5	-	41.3	2.5	41.3	38.8	32.5	26.2	19.9	-
	62	39.9	2.3	39.9	39.9	39.9	33.6	27.2	20.8	36.5	2.5	36.5	36.5	36.5	30.2	23.9	17.6
	57	38.4	2.3	38.4	38.4	38.4	32.0	25.6	19.2	35.9	2.5	35.9	35.9	35.9	29.6	23.3	17.0
		95°F								**105°F**							
750	77	44.0	2.7	18.0	14.7	11.3	-	-	-	40.2	3.0	15.8	13.5	10.2	-	-	-
	72	39.0	2.7	22.7	19.3	16.0	12.6	-	-	35.5	2.9	21.2	18.0	14.7	11.4	-	-
	67	34.1	2.7	27.4	24.0	20.7	17.3	13.9	-	30.8	2.9	26.6	22.4	19.2	15.9	12.7	-
	62	29.8	2.6	29.8	29.8	24.7	21.4	18.0	14.7	27.0	2.8	27.0	27.0	23.2	20.0	16.7	13.5
900	77	45.2	2.7	20.3	16.3	12.4	-	-	-	41.2	3.0	18.9	15.0	11.2	-	-	-
	72	40.1	2.7	25.4	21.5	17.6	13.6	-	-	36.4	3.0	23.8	20.0	16.2	12.4	-	-
	67	35.1	2.7	30.5	26.6	22.7	18.8	14.9	-	31.5	2.9	28.7	24.9	21.1	17.3	13.5	-
	62	30.6	2.7	30.6	30.6	27.2	23.3	19.4	15.4	27.7	2.9	27.7	27.7	25.6	21.8	17.9	14.1
	57	30.9	2.7	30.9	30.9	28.0	24.1	20.2	16.2	28.2	2.9	28.2	28.2	26.0	22.2	18.4	14.6
1050	77	46.5	2.8	22.5	18.0	13.5	-	-	-	42.2	3.0	21.9	16.6	12.3	-	-	-
	72	41.2	2.7	28.1	23.6	19.1	14.7	-	-	37.2	3.0	26.4	22.0	17.6	13.3	-	-
	67	36.0	2.7	33.7	29.2	24.8	20.3	15.8	-	32.3	3.0	30.9	27.4	23.0	18.7	14.3	-
	62	31.5	2.7	31.5	31.5	29.7	25.2	20.7	16.2	28.3	2.9	28.3	28.3	27.9	23.5	19.2	14.8
	57	31.8	2.7	31.8	31.8	30.5	26.1	21.6	17.1	28.9	2.9	28.9	28.9	28.4	24.0	19.7	15.3
1200	77	47.7	2.8	24.7	19.7	14.7	-	-	-	43.2	3.1	24.9	18.2	13.3	-	-	-
	72	42.3	2.8	30.8	25.8	20.7	15.7	-	-	38.1	3.0	28.9	24.0	19.1	14.2	-	-
	67	37.0	2.8	36.9	31.8	26.8	21.8	16.7	-	33.1	3.0	33.0	29.9	25.0	20.1	15.1	-
	62	32.3	2.7	32.3	32.3	32.1	27.1	22.0	17.0	29.0	2.9	29.0	29.0	30.2	25.3	20.4	15.5
	57	32.6	2.7	32.6	32.6	33.1	28.0	23.0	17.9	29.6	2.9	29.6	29.6	30.7	25.8	20.9	16.0
1350	72	42.9	2.8	33.6	27.9	22.3	16.6	-	-	38.5	3.0	31.7	26.2	20.7	15.2	-	-
	67	37.5	2.7	37.4	34.4	28.8	23.2	17.5	-	33.4	3.0	33.4	31.6	27.0	21.5	16.0	-
	62	32.7	2.7	32.7	32.7	32.6	27.0	21.3	15.7	29.3	2.9	29.3	29.3	29.9	24.4	18.9	13.4
	57	33.0	2.7	33.0	33.0	33.3	27.6	22.0	16.4	29.9	2.9	29.9	29.9	30.5	25.0	19.5	14.0
1500	72	43.4	2.8	36.3	30.1	23.8	17.6	-	-	39.0	3.0	34.4	28.3	22.2	16.1	-	-
	67	37.9	2.7	37.9	37.1	30.8	24.6	18.4	-	33.8	3.0	33.8	33.4	29.0	22.9	16.8	-
	62	33.1	2.7	33.1	33.1	33.1	26.9	20.7	14.4	29.6	2.9	29.6	29.6	29.6	23.6	17.5	11.4
	57	33.5	2.7	33.5	33.5	33.5	27.2	21.0	14.8	30.2	2.9	30.2	30.2	30.2	24.1	18.0	11.9

ZH037 (3.0 Ton) (Continued)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)					
CFM	WB (°F)			Return Dry Bulb (°F)								Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		115°F								**125°F**							
750	77	36.4	3.3	13.7	12.3	9.1	-	-	-	32.6	3.5	12.4	10.7	8.1	-	-	-
	72	31.9	3.2	19.7	16.6	13.4	10.3	-	-	28.4	3.4	18.2	15.2	12.2	9.1	-	-
	67	27.4	3.1	25.8	20.9	17.7	14.6	11.4	-	24.1	3.4	24.1	19.3	16.3	13.2	10.2	-
	62	24.2	3.0	24.2	24.2	21.7	18.6	15.4	12.3	21.4	3.2	21.4	21.4	21.4	17.2	14.1	11.1
900	77	37.2	3.3	17.4	13.8	10.1	-	-	-	33.1	3.6	16.7	12.5	8.9	-	-	-
	72	32.6	3.2	22.2	18.5	14.8	11.1	-	-	28.8	3.5	20.6	17.0	13.4	9.8	-	-
	67	28.0	3.2	26.9	23.2	19.5	15.8	12.1	-	24.5	3.4	24.5	21.5	17.9	14.4	10.8	-
	62	24.7	3.1	24.7	24.7	23.9	20.2	16.5	12.8	21.7	3.3	21.7	21.7	21.7	18.7	15.1	11.5
	57	25.4	3.1	25.4	25.4	24.0	20.3	16.6	12.9	22.7	3.3	22.7	22.7	22.0	18.4	14.8	11.3
1050	77	37.9	3.3	21.2	15.2	11.0	-	-	-	33.7	3.6	20.9	14.2	9.7	-	-	-
	72	33.2	3.2	24.6	20.4	16.2	11.9	-	-	29.2	3.5	22.9	18.8	14.7	10.6	-	-
	67	28.6	3.2	28.0	25.6	21.3	17.1	12.9	-	24.8	3.4	24.8	23.7	19.6	15.5	11.4	-
	62	25.2	3.1	25.2	25.2	26.1	21.9	17.6	13.4	22.1	3.3	22.1	22.1	22.1	20.2	16.1	12.0
	57	26.0	3.1	26.0	26.0	26.2	22.0	17.7	13.5	23.0	3.3	23.0	23.0	23.0	19.9	15.8	11.7
1200	77	38.7	3.3	25.0	16.7	11.9	-	-	-	34.2	3.6	25.2	15.9	10.5	-	-	-
	72	33.9	3.3	27.1	22.3	17.5	12.7	-	-	29.7	3.5	25.2	20.6	15.9	11.3	-	-
	67	29.1	3.2	29.1	27.9	23.1	18.3	13.6	-	25.2	3.4	25.2	25.2	21.3	16.6	12.0	-
	62	25.7	3.1	25.7	25.7	28.3	23.5	18.8	14.0	22.4	3.3	22.4	22.4	22.4	21.8	17.1	12.5
	57	26.5	3.1	26.5	26.5	28.4	23.6	18.9	14.1	23.4	3.3	23.4	23.4	23.4	21.5	16.8	12.2
1350	72	34.2	3.3	29.8	24.4	19.1	13.7	-	-	29.9	3.6	27.9	22.7	17.4	12.2	-	-
	67	29.4	3.2	29.4	28.8	25.2	19.8	14.4	-	25.4	3.5	25.4	25.4	23.3	18.1	12.9	-
	62	25.9	3.1	25.9	25.9	27.2	21.9	16.5	11.2	22.5	3.3	22.5	22.5	22.5	19.3	14.1	8.9
	57	26.7	3.1	26.7	26.7	27.7	22.3	17.0	11.6	23.5	3.4	23.5	23.5	23.5	19.7	14.4	9.2
1500	72	34.5	3.3	32.5	26.5	20.6	14.7	-	-	30.1	3.6	30.1	24.8	19.0	13.2	-	-
	67	29.7	3.2	29.7	29.7	27.2	21.2	15.3	-	25.5	3.5	25.5	25.5	25.4	19.6	13.8	-
	62	26.2	3.2	26.2	26.2	26.2	20.2	14.3	8.3	22.7	3.4	22.7	22.7	22.7	16.9	11.1	5.3
	57	26.9	3.2	26.9	26.9	26.9	21.0	15.1	9.1	23.7	3.4	23.7	23.7	23.7	17.9	12.1	6.3

1. These capacities are gross ratings. For net capacity, deduct air blower motor, MBh = 3.415 x kW. Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.
2. These ratings include the condenser fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

ZH049 (4.0 Ton)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)					
CFM	WB (°F)			Return Dry Bulb (°F)								Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		75°F								**85°F**							
1000	77	65.4	3.0	28.0	23.5	19.1	-	-	-	60.3	3.3	25.1	20.8	16.4	-	-	-
	72	59.2	3.0	34.8	30.3	25.9	21.4	-	-	54.5	3.3	31.8	27.5	23.2	18.9	-	-
	67	53.0	2.9	41.6	37.1	32.7	28.3	23.8	-	48.8	3.2	38.6	34.2	29.9	25.6	21.3	-
	62	47.0	2.9	47.0	47.0	40.3	35.9	31.4	27.0	43.1	3.2	43.1	43.1	37.1	32.8	28.5	24.1
1200	77	68.3	3.0	30.8	25.6	20.4	-	-	-	62.9	3.3	27.9	22.9	17.8	-	-	-
	72	61.8	3.0	38.0	32.9	27.7	22.5	-	-	56.9	3.3	35.2	30.2	25.1	20.1	-	-
	67	55.3	2.9	45.3	40.1	35.0	29.8	24.6	-	50.9	3.2	42.5	37.5	32.4	27.4	22.3	-
	62	49.1	2.9	49.1	49.1	43.1	38.0	32.8	27.6	45.0	3.2	45.0	45.0	40.2	35.2	30.1	25.1
	57	48.9	2.9	48.9	48.9	47.1	42.0	36.8	31.6	44.8	3.2	44.8	44.8	42.3	37.2	32.2	27.1
1400	77	71.2	3.0	33.6	27.7	21.8	-	-	-	65.5	3.3	30.7	25.0	19.2	-	-	-
	72	64.4	3.0	41.3	35.4	29.5	23.6	-	-	59.2	3.3	38.6	32.9	27.1	21.3	-	-
	67	57.7	2.9	49.0	43.1	37.3	31.4	25.5	-	52.9	3.2	46.5	40.7	35.0	29.2	23.4	-
	62	51.1	2.9	51.1	51.1	46.0	40.1	34.2	28.3	46.8	3.2	46.8	46.8	43.3	37.6	31.8	26.0
	57	51.0	2.9	51.0	51.0	50.3	44.4	38.5	32.6	46.6	3.2	46.6	46.6	45.5	39.8	34.0	28.2
1600	77	74.1	3.0	36.4	29.8	23.2	-	-	-	68.1	3.4	33.6	27.1	20.6	-	-	-
	72	67.1	3.0	44.6	38.0	31.4	24.7	-	-	61.5	3.3	42.0	35.5	29.0	22.5	-	-
	67	60.0	2.9	52.8	46.1	39.5	32.9	26.3	-	55.0	3.3	50.5	44.0	37.5	31.0	24.5	-
	62	53.2	2.9	53.2	53.2	48.8	42.1	35.5	28.9	48.7	3.2	48.7	48.7	46.5	40.0	33.5	27.0
	57	53.1	2.9	53.1	53.1	53.4	46.8	40.2	33.5	48.4	3.2	48.4	48.4	48.8	42.3	35.8	29.3
1800	72	69.2	3.0	48.1	40.9	33.6	26.4	-	-	63.4	3.4	45.4	38.3	31.2	24.0	-	-
	67	62.0	3.0	58.3	49.6	42.4	35.2	28.0	-	56.7	3.3	54.4	47.4	40.2	33.1	26.0	-
	62	54.9	3.0	54.9	54.9	52.7	45.5	38.3	31.1	50.1	3.3	50.1	50.1	49.0	41.9	34.8	27.7
	57	54.8	2.9	54.8	54.8	54.9	47.7	40.5	33.3	49.9	3.2	49.9	49.9	50.1	43.0	35.8	28.7
2000	72	71.4	3.1	51.6	43.7	35.9	28.1	-	-	65.2	3.4	48.8	41.0	33.3	25.6	-	-
	67	63.9	3.0	63.9	53.1	45.3	37.5	29.7	-	58.3	3.3	58.3	50.7	43.0	35.2	27.5	-
	62	56.6	3.0	56.6	56.6	56.6	48.8	41.0	33.2	51.6	3.3	51.6	51.6	51.6	43.9	36.1	28.4
	57	56.5	3.0	56.5	56.5	56.5	48.6	40.8	33.0	51.4	3.3	51.4	51.4	51.4	43.6	35.9	28.1
		95°F								**105°F**							
1000	77	55.3	3.6	22.2	18.0	13.8	-	-	-	50.6	4.0	19.3	16.2	12.1	-	-	-
	72	49.9	3.6	28.9	24.7	20.5	16.3	-	-	45.4	3.9	26.7	22.7	18.6	14.5	-	-
	67	44.5	3.5	35.5	31.3	27.1	22.9	18.7	-	40.1	3.8	34.2	29.1	25.1	21.0	16.9	-
	62	39.3	3.4	39.3	39.3	33.9	29.7	25.5	21.3	36.2	3.7	36.2	36.2	30.9	26.9	22.8	18.7
1200	77	57.5	3.6	25.1	20.1	15.2	-	-	-	52.4	4.0	22.9	18.2	13.4	-	-	-
	72	51.9	3.6	32.4	27.5	22.6	17.6	-	-	47.0	3.9	30.1	25.3	20.5	15.7	-	-
	67	46.4	3.5	39.8	34.8	29.9	25.0	20.0	-	41.5	3.8	37.3	32.5	27.7	22.9	18.1	-
	62	40.9	3.4	40.9	40.9	37.3	32.4	27.4	22.5	37.5	3.7	37.5	37.5	34.2	29.4	24.6	19.8
	57	40.6	3.5	40.6	40.6	37.4	32.4	27.5	22.6	37.1	3.7	37.1	37.1	33.8	29.0	24.2	19.4
1400	77	59.8	3.7	27.9	22.3	16.6	-	-	-	54.3	4.0	26.6	20.1	14.6	-	-	-
	72	54.0	3.6	35.9	30.3	24.6	19.0	-	-	48.6	3.9	33.5	28.0	22.5	17.0	-	-
	67	48.2	3.6	44.0	38.3	32.6	27.0	21.3	-	43.0	3.8	40.4	35.8	30.3	24.8	19.3	-
	62	42.5	3.5	42.5	42.5	40.7	35.1	29.4	23.7	38.8	3.8	38.8	38.8	37.4	31.9	26.4	20.9
	57	42.2	3.5	42.2	42.2	40.8	35.1	29.5	23.8	38.4	3.8	38.4	38.4	37.0	31.4	25.9	20.4
1600	77	62.0	3.7	30.8	24.4	18.0	-	-	-	56.1	4.1	30.3	22.1	15.9	-	-	-
	72	56.0	3.6	39.5	33.1	26.7	20.3	-	-	50.2	4.0	36.9	30.6	24.4	18.2	-	-
	67	50.0	3.6	48.2	41.8	35.4	29.0	22.6	-	44.4	3.9	43.5	39.2	32.9	26.7	20.5	-
	62	44.1	3.5	44.1	44.1	44.1	37.8	31.4	25.0	40.1	3.8	40.1	40.1	40.7	34.4	28.2	22.0
	57	43.8	3.5	43.8	43.8	44.2	37.8	31.5	25.1	39.7	3.8	39.7	39.7	40.2	33.9	27.7	21.5
1800	72	57.6	3.7	42.7	35.7	28.7	21.7	-	-	51.6	4.0	40.1	33.2	26.3	19.5	-	-
	67	51.4	3.6	50.5	45.1	38.0	31.0	24.0	-	45.6	3.9	45.2	41.9	35.5	28.6	21.8	-
	62	45.3	3.5	45.3	45.3	45.3	38.3	31.3	24.3	41.2	3.8	41.2	41.2	41.5	34.6	27.7	20.8
	57	45.0	3.6	45.0	45.0	45.2	38.2	31.2	24.2	40.8	3.8	40.8	40.8	41.0	34.1	27.2	20.4
2000	72	59.1	3.7	46.0	38.3	30.7	23.0	-	-	53.0	4.1	43.3	35.8	28.3	20.7	-	-
	67	52.7	3.7	52.7	48.3	40.7	33.0	25.3	-	46.8	4.0	46.8	44.6	38.1	30.6	23.1	-
	62	46.5	3.6	46.5	46.5	46.5	38.9	31.2	23.6	42.2	3.9	42.2	42.2	42.2	34.7	27.2	19.6
	57	46.2	3.6	46.2	46.2	46.2	38.6	30.9	23.2	41.8	3.9	41.8	41.8	41.8	34.3	26.8	19.2

ZH049 (4.0 Ton) (Continued)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)					
CFM	WB (°F)			Return Dry Bulb (°F)								Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		115°F								**125°F**							
1000	77	46.0	4.3	16.4	14.3	10.4	-	-	-	41.4	4.7	13.7	12.1	8.7	-	-	-
	72	40.8	4.2	24.6	20.6	16.7	12.7	-	-	36.3	4.5	22.4	18.6	14.8	11.0	-	-
	67	35.6	4.1	32.8	26.9	23.0	19.0	15.1	-	31.2	4.3	31.2	24.7	20.9	17.1	13.2	-
	62	33.1	4.0	33.1	33.1	28.0	24.1	20.1	16.2	29.9	4.3	29.9	29.9	25.1	21.3	17.5	13.7
1200	77	47.4	4.4	20.8	16.2	11.5	-	-	-	42.3	4.7	19.1	14.2	9.7	-	-	-
	72	42.0	4.2	27.8	23.1	18.5	13.8	-	-	37.1	4.5	25.5	21.0	16.5	11.9	-	-
	67	36.7	4.1	34.8	30.1	25.5	20.8	16.2	-	31.9	4.4	31.9	27.8	23.3	18.7	14.2	-
	62	34.0	4.0	34.0	34.0	31.1	26.4	21.8	17.1	30.6	4.3	30.6	30.6	28.0	23.5	19.0	14.4
	57	33.6	4.0	33.6	33.6	30.2	25.5	20.8	16.2	30.1	4.3	30.1	30.1	26.6	22.0	17.5	13.0
1400	77	48.7	4.4	25.3	18.0	12.6	-	-	-	43.2	4.8	24.6	16.2	10.7	-	-	-
	72	43.2	4.3	31.0	25.7	20.3	14.9	-	-	37.9	4.6	28.6	23.4	18.1	12.9	-	-
	67	37.8	4.1	36.8	33.3	28.0	22.6	17.2	-	32.5	4.4	32.5	30.8	25.6	20.4	15.2	-
	62	35.0	4.1	35.0	35.0	34.1	28.8	23.4	18.0	31.3	4.3	31.3	31.3	30.9	25.6	20.4	15.2
	57	34.6	4.1	34.6	34.6	33.1	27.8	22.4	17.0	30.7	4.3	30.7	30.7	29.3	24.1	18.8	13.6
1600	77	50.1	4.4	29.7	19.9	13.8	-	-	-	44.1	4.8	30.1	18.3	11.7	-	-	-
	72	44.4	4.3	34.3	28.2	22.1	16.0	-	-	38.7	4.6	31.7	25.7	19.8	13.9	-	-
	67	38.8	4.2	38.8	36.5	30.5	24.4	18.3	-	33.2	4.4	33.2	33.2	28.0	22.1	16.2	-
	62	36.0	4.1	36.0	36.0	37.2	31.1	25.0	19.0	31.9	4.4	31.9	31.9	31.9	27.8	21.9	16.0
	57	35.5	4.1	35.5	35.5	36.1	30.0	23.9	17.9	31.4	4.4	31.4	31.4	31.4	26.1	20.2	14.2
1800	72	45.6	4.4	37.5	30.7	24.0	17.2	-	-	39.7	4.7	34.8	28.2	21.6	15.0	-	-
	67	39.9	4.2	39.9	38.7	33.0	26.3	19.6	-	34.1	4.5	34.1	34.1	30.5	23.9	17.3	-
	62	37.0	4.1	37.0	37.0	37.6	30.8	24.1	17.4	32.8	4.4	32.8	32.8	32.8	27.1	20.5	13.9
	57	36.5	4.1	36.5	36.5	36.8	30.0	23.3	16.5	32.2	4.4	32.2	32.2	32.2	25.9	19.3	12.7
2000	72	46.8	4.4	40.6	33.2	25.8	18.4	-	-	40.7	4.8	38.0	30.7	23.4	16.2	-	-
	67	40.9	4.3	40.9	40.9	35.6	28.2	20.8	-	35.0	4.6	35.0	35.0	33.0	25.8	18.5	-
	62	37.9	4.2	37.9	37.9	37.9	30.5	23.1	15.7	33.6	4.5	33.6	33.6	33.6	26.4	19.1	11.8
	57	37.4	4.2	37.4	37.4	37.4	30.0	22.6	15.2	33.1	4.5	33.1	33.1	33.1	25.8	18.5	11.2

1. These capacities are gross ratings. For net capacity, deduct air blower motor, MBh = 3.415 x kW. Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.
2. These ratings include the condenser fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

ZH061 (5.0 Ton)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F)					
CFM	WB (°F)			90	85	80	75	70	65			90	85	80	75	70	65
		75°F								**85°F**							
1250	77	82.5	3.4	36.6	30.6	25.1	-	-	-	75.9	3.9	32.9	27.4	21.9	-	-	-
	72	74.3	3.4	43.9	38.3	32.8	27.3	-	-	68.3	3.8	40.9	35.3	29.8	24.3	-	-
	67	66.2	3.4	51.1	46.0	40.5	35.0	29.4	-	60.7	3.8	48.8	43.3	37.8	32.3	26.8	-
	62	59.3	3.4	59.3	59.3	49.5	43.9	38.4	32.9	54.5	3.8	54.5	54.5	46.2	40.7	35.2	29.7
1500	77	84.7	3.4	40.0	33.6	27.1	-	-	-	78.2	3.9	36.6	30.2	23.8	-	-	-
	72	76.3	3.4	48.4	41.9	35.4	29.0	-	-	70.4	3.9	45.3	38.9	32.4	26.0	-	-
	67	68.0	3.4	56.7	50.2	43.8	37.3	30.8	-	62.5	3.8	54.0	47.5	41.1	34.6	28.2	-
	62	60.9	3.4	60.9	60.9	53.4	47.0	40.5	34.1	56.1	3.8	56.1	56.1	50.2	43.8	37.4	30.9
	57	61.6	3.4	61.6	61.6	54.9	48.4	41.9	35.5	55.2	3.8	55.2	55.2	50.6	44.1	37.7	31.2
1750	77	86.9	3.4	43.5	36.5	29.1	-	-	-	80.5	3.9	40.4	33.0	25.7	-	-	-
	72	78.4	3.4	52.8	45.5	38.1	30.7	-	-	72.4	3.9	49.8	42.4	35.0	27.6	-	-
	67	69.8	3.4	62.2	54.4	47.0	39.6	32.2	-	64.4	3.8	59.1	51.7	44.4	37.0	29.6	-
	62	62.5	3.4	62.5	62.5	57.4	50.0	42.6	35.2	57.8	3.8	57.8	57.8	54.3	46.9	39.5	32.1
	57	63.3	3.4	63.3	63.3	58.9	51.6	44.2	36.8	56.8	3.8	56.8	56.8	54.6	47.2	39.8	32.5
2000	77	89.2	3.4	47.0	39.5	31.2	-	-	-	82.7	3.9	44.2	35.9	27.6	-	-	-
	72	80.4	3.4	57.3	49.0	40.7	32.4	-	-	74.5	3.9	54.2	45.9	37.6	29.3	-	-
	67	71.6	3.4	67.7	58.6	50.3	41.9	33.6	-	66.2	3.8	64.3	56.0	47.7	39.3	31.0	-
	62	64.1	3.4	64.1	64.1	61.4	53.1	44.7	36.4	59.4	3.8	59.4	59.4	58.3	50.0	41.7	33.4
	57	64.9	3.4	64.9	64.9	63.0	54.7	46.4	38.1	58.5	3.8	58.5	58.5	58.6	50.3	42.0	33.7
2250	72	83.6	3.4	61.7	52.7	43.6	34.5	-	-	76.2	3.9	58.5	49.3	40.2	31.1	-	-
	67	74.5	3.4	72.5	62.9	53.8	44.7	35.7	-	67.7	3.8	66.8	60.1	51.0	41.9	32.7	-
	62	66.7	3.4	66.7	66.7	65.3	56.3	47.2	38.1	60.8	3.8	60.8	60.8	60.2	51.1	42.0	32.8
	57	67.5	3.4	67.5	67.5	66.5	57.5	48.4	39.3	59.8	3.8	59.8	59.8	59.9	50.8	41.7	32.5
2500	72	86.9	3.4	66.1	56.3	46.5	36.6	-	-	77.9	3.9	62.7	52.8	42.8	32.9	-	-
	67	77.3	3.4	77.3	67.3	57.3	47.5	37.7	-	69.3	3.8	69.3	64.2	54.3	44.4	34.4	-
	62	69.3	3.4	69.3	69.3	69.3	59.5	49.6	39.8	62.2	3.8	62.2	62.2	62.2	52.2	42.3	32.3
	57	70.0	3.4	70.0	70.0	70.0	60.2	50.4	40.5	61.2	3.8	61.2	61.2	61.2	51.2	41.3	31.3
		95°F								**105°F**							
1250	77	69.3	4.3	29.2	24.1	18.6	-	-	-	62.5	4.7	25.5	21.7	16.3	-	-	-
	72	62.3	4.3	37.9	32.4	26.9	21.4	-	-	55.9	4.6	35.3	29.9	24.5	19.0	-	-
	67	55.2	4.2	46.5	40.6	35.1	29.6	24.1	-	49.4	4.6	45.0	38.1	32.6	27.2	21.8	-
	62	49.7	4.1	49.7	49.7	43.0	37.5	32.0	26.5	44.7	4.5	44.7	44.7	40.1	34.7	29.3	23.8
1500	77	71.7	4.3	33.3	26.8	20.4	-	-	-	64.8	4.8	31.0	24.3	17.9	-	-	-
	72	64.4	4.3	42.3	35.8	29.4	23.0	-	-	58.0	4.7	39.6	33.3	26.9	20.5	-	-
	67	57.1	4.2	51.3	44.8	38.4	32.0	25.6	-	51.1	4.6	48.2	42.3	35.9	29.5	23.2	-
	62	51.4	4.2	51.4	51.4	47.1	40.6	34.2	27.8	46.3	4.5	46.3	46.3	44.2	37.8	31.4	25.1
	57	48.8	4.2	48.8	48.8	46.3	39.8	33.4	27.0	44.1	4.5	44.1	44.1	42.1	35.7	29.4	23.0
1750	77	74.0	4.3	37.3	29.5	22.2	-	-	-	67.1	4.8	36.5	26.8	19.5	-	-	-
	72	66.5	4.3	46.7	39.3	31.9	24.6	-	-	60.0	4.7	44.0	36.7	29.3	22.0	-	-
	67	58.9	4.2	56.0	49.1	41.7	34.4	27.0	-	52.9	4.6	51.5	46.5	39.2	31.8	24.5	-
	62	53.0	4.2	53.0	53.0	51.1	43.8	36.4	29.0	47.9	4.5	47.9	47.9	48.3	40.9	33.6	26.3
	57	50.4	4.2	50.4	50.4	50.2	42.9	35.5	28.2	45.7	4.5	45.7	45.7	45.9	38.6	31.3	23.9
2000	77	76.3	4.4	41.4	32.2	23.9	-	-	-	69.3	4.8	42.0	29.4	21.1	-	-	-
	72	68.6	4.3	51.1	42.8	34.5	26.2	-	-	62.0	4.7	48.4	40.1	31.8	23.5	-	-
	67	60.8	4.2	60.8	53.3	45.0	36.8	28.5	-	54.7	4.6	54.7	50.7	42.4	34.1	25.9	-
	62	54.7	4.2	54.7	54.7	55.2	46.9	38.6	30.3	49.6	4.5	49.6	49.6	52.4	44.1	35.8	27.5
	57	52.0	4.2	52.0	52.0	54.2	45.9	37.7	29.4	47.2	4.5	47.2	47.2	49.7	41.4	33.2	24.9
2250	72	68.8	4.3	55.2	46.0	36.9	27.7	-	-	62.0	4.7	52.4	43.2	34.0	24.9	-	-
	67	61.0	4.2	61.0	57.3	48.2	39.0	29.8	-	54.7	4.6	54.7	52.7	45.5	36.3	27.1	-
	62	54.9	4.2	54.9	54.9	55.1	45.9	36.7	27.6	49.5	4.5	49.5	49.5	50.9	41.8	32.6	23.4
	57	52.2	4.2	52.2	52.2	53.3	44.1	34.9	25.7	47.2	4.6	47.2	47.2	48.5	39.3	30.1	21.0
2500	72	69.0	4.3	59.4	49.3	39.2	29.2	-	-	62.0	4.7	56.4	46.4	36.3	26.3	-	-
	67	61.2	4.2	61.2	61.2	51.3	41.2	31.1	-	54.7	4.6	54.7	54.7	48.5	38.5	28.4	-
	62	55.0	4.2	55.0	55.0	55.0	45.0	34.9	24.8	49.5	4.5	49.5	49.5	49.5	39.5	29.4	19.4
	57	52.3	4.2	52.3	52.3	52.3	42.3	32.2	22.1	47.2	4.6	47.2	47.2	47.2	37.1	27.1	17.0

ZH061 (5.0 Ton) (Continued)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)					
CFM	WB (°F)			Return Dry Bulb (°F)								Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		115°F								**125°F**							
1250	77	55.7	5.2	21.9	19.2	13.9	-	-	-	48.9	5.6	22.6	15.3	11.5	-	-	-
	72	49.6	5.0	32.7	27.4	22.0	16.7	-	-	43.3	5.4	30.1	24.9	19.6	14.4	-	-
	67	43.5	4.9	43.5	35.5	30.2	24.9	19.5	-	37.6	5.3	37.6	33.4	27.7	22.5	17.3	-
	62	39.7	4.8	39.7	39.7	37.2	31.8	26.5	21.2	34.7	5.1	34.7	34.7	34.7	29.0	23.8	18.5
1500	77	57.9	5.2	28.8	21.7	15.4	-	-	-	51.1	5.6	29.5	19.1	12.9	-	-	-
	72	51.6	5.1	37.0	30.7	24.4	18.1	-	-	45.2	5.5	34.4	28.1	21.9	15.6	-	-
	67	45.2	4.9	45.2	39.7	33.4	27.1	20.8	-	39.2	5.3	39.2	37.1	30.9	24.6	18.4	-
	62	41.3	4.8	41.3	41.3	41.3	35.0	28.7	22.3	36.2	5.2	36.2	36.2	36.2	32.1	25.9	19.6
	57	39.4	4.9	39.4	39.4	37.9	31.6	25.3	19.0	34.7	5.2	34.7	34.7	33.8	27.5	21.3	15.0
1750	77	60.1	5.2	35.7	24.1	16.8	-	-	-	53.2	5.7	36.4	22.9	14.2	-	-	-
	72	53.5	5.1	41.3	34.0	26.7	19.4	-	-	47.1	5.5	38.6	31.4	24.1	16.9	-	-
	67	46.9	5.0	46.9	43.9	36.6	29.3	22.0	-	40.9	5.3	40.9	40.9	34.1	26.8	19.5	-
	62	42.8	4.9	42.8	42.8	45.4	38.1	30.8	23.5	37.8	5.2	37.8	37.8	37.8	35.3	28.0	20.7
	57	40.9	4.9	40.9	40.9	41.6	34.3	27.0	19.7	36.2	5.3	36.2	36.2	36.2	30.0	22.7	15.5
2000	77	62.3	5.3	42.7	26.6	18.3	-	-	-	55.4	5.7	43.3	26.7	15.5	-	-	-
	72	55.5	5.1	45.6	37.4	29.1	20.8	-	-	49.0	5.5	42.9	34.6	26.4	18.1	-	-
	67	48.6	5.0	48.6	48.1	39.8	31.5	23.3	-	42.5	5.4	42.5	42.5	37.2	28.9	20.7	-
	62	44.4	4.9	44.4	44.4	49.5	41.2	33.0	24.7	39.3	5.2	39.3	39.3	39.3	38.4	30.1	21.9
	57	42.4	4.9	42.4	42.4	45.2	36.9	28.7	20.4	37.6	5.3	37.6	37.6	37.6	32.4	24.2	15.9
2250	72	55.2	5.1	49.5	40.4	31.2	22.1	-	-	48.4	5.6	46.7	37.6	28.4	19.3	-	-
	67	48.4	5.0	48.4	48.1	42.8	33.6	24.5	-	42.1	5.4	42.1	42.1	40.1	31.0	21.8	-
	62	44.2	4.9	44.2	44.2	46.7	37.6	28.4	19.3	38.9	5.3	38.9	38.9	38.9	33.4	24.3	15.1
	57	42.2	4.9	42.2	42.2	43.6	34.5	25.3	16.2	37.2	5.3	37.2	37.2	37.2	29.6	20.5	11.4
2500	72	54.9	5.2	53.5	43.4	33.4	23.4	-	-	47.9	5.6	47.9	40.5	30.5	20.5	-	-
	67	48.2	5.0	48.2	48.2	45.7	35.7	25.7	-	41.6	5.4	41.6	41.6	41.6	33.0	23.0	-
	62	44.0	4.9	44.0	44.0	44.0	34.0	23.9	13.9	38.5	5.3	38.5	38.5	38.5	28.4	18.4	8.4
	57	42.0	5.0	42.0	42.0	42.0	32.0	22.0	11.9	36.9	5.4	36.9	36.9	36.9	26.8	16.8	6.8

1. These capacities are gross ratings. For net capacity, deduct air blower motor, MBh = 3.415 x kW. Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.
2. These ratings include the condenser fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

ZH078 (6.5 Ton)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)					
CFM	WB (°F)			Return Dry Bulb (°F)								Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		75°F								**85°F**							
1625	77	100.1	4.7	38.5	33.6	28.8	-	-	-	98.1	5.3	39.7	32.9	26.1	-	-	-
	72	92.7	4.7	49.4	44.5	39.7	34.9	-	-	89.4	5.3	50.8	44.0	37.2	30.4	-	-
	67	85.4	4.7	60.2	55.4	50.6	45.7	40.9	-	80.6	5.2	61.9	55.1	48.3	41.5	34.7	-
	62	74.8	4.7	74.8	69.6	61.2	56.4	51.6	46.7	72.6	5.2	72.6	68.6	58.8	52.1	45.3	38.5
1950	77	105.7	4.7	47.6	39.7	31.8	-	-	-	102.0	5.3	44.7	36.8	28.8	-	-	-
	72	97.9	4.7	59.7	51.8	43.9	35.9	-	-	92.9	5.3	57.0	49.0	41.0	33.1	-	-
	67	90.1	4.7	71.7	63.8	55.9	48.0	40.1	-	83.9	5.3	69.2	61.2	53.3	45.3	37.3	-
	62	79.0	4.7	79.0	75.6	67.6	59.7	51.8	43.9	75.5	5.2	75.5	72.8	64.9	56.9	48.9	41.0
	57	77.8	4.7	77.8	79.4	72.1	64.2	56.3	48.4	75.3	5.2	75.3	75.3	67.7	59.7	51.7	43.8
2275	77	111.4	4.7	56.8	45.8	34.8	-	-	-	105.9	5.3	49.8	40.6	31.5	-	-	-
	72	103.1	4.7	70.0	59.0	48.0	37.0	-	-	96.5	5.3	63.1	54.0	44.8	35.7	-	-
	67	94.8	4.8	83.2	72.2	61.2	50.2	39.2	-	87.1	5.3	76.5	67.3	58.2	49.1	39.9	-
	62	83.3	4.7	83.3	81.5	74.1	63.1	52.1	41.1	78.4	5.2	78.4	77.1	70.9	61.7	52.6	43.5
	57	82.0	4.7	82.0	82.8	78.9	67.9	56.9	46.0	78.2	5.2	78.2	78.2	74.0	64.8	55.7	46.5
2600	77	117.0	4.7	66.0	51.9	37.8	-	-	-	109.8	5.3	54.8	44.5	34.1	-	-	-
	72	108.3	4.7	80.3	66.2	52.2	38.1	-	-	100.1	5.3	69.3	58.9	48.6	38.3	-	-
	67	99.5	4.8	94.6	80.5	66.5	52.4	38.4	-	90.3	5.3	83.8	73.4	63.1	52.8	42.5	-
	62	87.5	4.7	87.5	87.5	80.5	66.4	52.4	38.3	81.3	5.2	81.3	81.3	76.9	66.6	56.3	45.9
	57	86.2	4.7	86.2	86.2	85.7	71.7	57.6	43.6	81.1	5.2	81.1	81.1	80.2	69.9	59.6	49.3
2925	72	110.3	4.7	82.3	69.0	55.6	42.3	-	-	102.7	5.3	74.5	63.2	51.8	40.5	-	-
	67	101.4	4.8	99.0	84.2	70.9	57.6	44.2	-	92.7	5.3	89.4	78.6	67.3	55.9	44.6	-
	62	89.1	4.7	89.1	89.1	85.6	72.3	58.9	45.6	83.4	5.3	83.4	83.4	81.2	69.9	58.5	47.2
	57	87.7	4.7	87.7	87.7	87.5	74.2	60.9	47.5	83.3	5.2	83.3	83.3	82.8	71.5	60.1	48.8
3250	72	112.3	4.7	84.4	71.7	59.1	46.5	-	-	105.4	5.3	79.8	67.4	55.0	42.7	-	-
	67	103.3	4.7	103.3	88.0	75.3	62.7	50.1	-	95.1	5.3	95.1	83.8	71.4	59.1	46.7	-
	62	90.7	4.7	90.7	90.7	90.7	78.1	65.5	52.8	85.6	5.3	85.6	85.6	85.6	73.2	60.8	48.4
	57	89.3	4.7	89.3	89.3	89.3	76.7	64.1	51.4	85.4	5.3	85.4	85.4	85.4	73.1	60.7	48.3
		95°F								**105°F**							
1625	77	96.1	5.9	41.0	32.2	23.5	-	-	-	87.2	6.5	36.1	29.5	21.5	-	-	-
	72	86.0	5.8	52.3	43.5	34.8	26.0	-	-	78.4	6.3	48.5	40.4	32.4	24.4	-	-
	67	75.9	5.8	63.6	54.8	46.1	37.3	28.6	-	69.5	6.2	60.8	51.4	43.4	35.4	27.4	-
	62	70.3	5.8	70.3	67.6	56.5	47.7	39.0	30.2	63.1	6.1	63.1	61.7	53.8	45.8	37.8	29.8
1950	77	98.3	6.0	41.8	33.8	25.8	-	-	-	89.3	6.5	39.9	31.7	23.6	-	-	-
	72	88.0	5.9	54.3	46.2	38.2	30.2	-	-	80.2	6.4	51.9	43.8	35.7	27.6	-	-
	67	77.7	5.8	66.7	58.7	50.6	42.6	34.6	-	71.2	6.3	64.0	55.9	47.8	39.7	31.5	-
	62	71.9	5.8	71.9	70.1	62.1	54.1	46.0	38.0	64.6	6.2	64.6	63.7	59.2	51.1	43.0	34.8
	57	72.8	5.7	72.8	71.3	63.3	55.3	47.2	39.2	67.1	6.2	67.1	66.3	58.2	50.1	41.9	33.8
2275	77	100.5	6.0	42.7	35.4	28.1	-	-	-	91.3	6.5	43.6	34.0	25.8	-	-	-
	72	89.9	5.9	56.3	49.0	41.7	34.4	-	-	82.1	6.4	55.4	47.2	38.9	30.7	-	-
	67	79.4	5.8	69.8	62.5	55.2	47.9	40.6	-	72.8	6.3	67.2	60.4	52.1	43.9	35.7	-
	62	73.5	5.8	73.5	72.6	67.7	60.4	53.1	45.8	66.1	6.2	66.1	65.6	64.6	56.4	48.1	39.9
	57	74.5	5.7	74.5	73.7	69.0	61.7	54.4	47.1	68.7	6.2	68.7	68.3	63.5	55.3	47.0	38.8
2600	77	102.6	6.0	43.6	37.0	30.4	-	-	-	93.4	6.5	47.4	36.3	27.9	-	-	-
	72	91.9	5.9	58.2	51.7	45.1	38.5	-	-	83.9	6.4	58.9	50.6	42.2	33.8	-	-
	67	81.1	5.8	72.9	66.3	59.8	53.2	46.6	-	74.5	6.3	70.4	64.8	56.5	48.1	39.8	-
	62	75.1	5.8	75.1	75.1	73.3	66.7	60.2	53.6	67.5	6.2	67.5	67.5	70.0	61.6	53.3	44.9
	57	76.1	5.8	76.1	76.1	74.7	68.1	61.6	55.0	70.2	6.2	70.2	70.2	68.8	60.5	52.1	43.7
2925	72	95.2	5.9	66.8	57.4	48.0	38.7	-	-	86.3	6.5	65.6	55.3	45.1	34.8	-	-
	67	84.0	5.8	79.9	73.0	63.7	54.3	45.0	-	76.6	6.3	74.5	69.9	60.4	50.1	39.9	-
	62	77.8	5.8	77.8	77.8	76.9	67.5	58.2	48.8	69.4	6.2	69.4	69.4	70.7	60.4	50.2	39.9
	57	78.8	5.8	78.8	78.8	78.1	68.8	59.4	50.1	72.2	6.3	72.2	72.2	71.5	61.2	51.0	40.7
3250	72	98.5	5.9	75.3	63.1	51.0	38.8	-	-	88.6	6.5	72.3	60.1	48.0	35.8	-	-
	67	87.0	5.9	87.0	79.7	67.6	55.4	43.3	-	78.6	6.4	78.6	75.0	64.2	52.1	40.0	-
	62	80.5	5.9	80.5	80.5	80.5	68.4	56.2	44.1	71.3	6.3	71.3	71.3	71.3	59.2	47.1	34.9
	57	81.6	5.8	81.6	81.6	81.6	69.4	57.3	45.1	74.1	6.3	74.1	74.1	74.1	62.0	49.9	37.7

ZH078 (6.5 Ton) (Continued)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)					
CFM	WB (°F)			Return Dry Bulb (°F)								Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		115°F								**125°F**							
1625	77	78.3	7.0	31.2	26.7	19.5	-	-	-	69.4	7.5	24.9	23.7	17.5	-	-	-
	72	70.7	6.8	44.7	37.4	30.1	22.9	-	-	63.1	7.3	40.9	34.3	27.8	21.3	-	-
	67	63.2	6.7	58.1	48.0	40.8	33.5	26.2	-	56.8	7.1	56.8	44.7	38.1	31.6	25.1	-
	62	55.8	6.5	55.8	55.8	51.1	43.9	36.6	29.3	48.6	6.9	48.6	48.6	48.6	41.9	35.4	28.9
1950	77	80.3	7.0	37.9	29.7	21.4	-	-	-	71.3	7.6	36.4	27.6	19.3	-	-	-
	72	72.5	6.9	49.6	41.4	33.2	24.9	-	-	64.8	7.4	47.3	39.0	30.7	22.3	-	-
	67	64.7	6.7	61.4	53.1	44.9	36.7	28.5	-	58.3	7.2	58.3	50.4	42.1	33.7	25.4	-
	62	57.2	6.6	57.2	57.2	56.3	48.1	39.9	31.6	49.9	6.9	49.9	49.9	49.9	45.1	36.8	28.5
	57	61.4	6.6	61.4	61.3	53.1	44.9	36.7	28.4	55.7	7.1	55.7	55.7	48.0	39.7	31.4	23.1
2275	77	82.2	7.1	44.6	32.6	23.4	-	-	-	73.1	7.6	47.8	31.5	21.1	-	-	-
	72	74.2	6.9	54.6	45.4	36.2	27.0	-	-	66.4	7.4	53.8	43.6	33.5	23.4	-	-
	67	66.3	6.8	64.6	58.2	49.1	39.9	30.7	-	59.7	7.3	59.7	56.1	46.0	35.9	25.7	-
	62	58.6	6.6	58.6	58.6	61.5	52.3	43.1	34.0	51.2	7.0	51.2	51.2	51.2	48.3	38.2	28.0
	57	62.9	6.7	62.9	62.9	58.0	48.8	39.6	30.5	57.1	7.1	57.1	57.1	52.5	42.4	32.3	22.1
2600	77	84.1	7.1	51.3	35.5	25.4	-	-	-	74.9	7.7	59.3	35.4	22.9	-	-	-
	72	76.0	7.0	59.6	49.4	39.3	29.1	-	-	68.1	7.5	60.2	48.3	36.4	24.5	-	-
	67	67.9	6.8	67.9	63.3	53.2	43.1	32.9	-	61.2	7.3	61.2	61.2	49.9	38.0	26.0	-
	62	60.0	6.6	60.0	60.0	66.7	56.6	46.4	36.3	52.4	7.1	52.4	52.4	52.4	51.5	39.6	27.6
	57	64.4	6.7	64.4	64.4	62.9	52.8	42.6	32.5	58.5	7.2	58.5	58.5	57.0	45.1	33.1	21.2
2925	72	77.4	7.0	64.4	53.3	42.1	31.0	-	-	68.5	7.5	63.2	51.2	39.2	27.2	-	-
	67	69.1	6.8	69.1	66.8	57.0	45.9	34.8	-	61.6	7.3	61.6	61.6	53.7	41.7	29.7	-
	62	61.1	6.7	61.1	61.1	64.4	53.3	42.2	31.0	52.7	7.1	52.7	52.7	52.7	46.2	34.2	22.1
	57	65.6	6.7	65.6	65.6	64.8	53.7	42.5	31.4	58.9	7.2	58.9	58.9	58.2	46.1	34.1	22.1
3250	72	78.8	7.0	69.2	57.1	45.0	32.9	-	-	68.9	7.6	66.2	54.1	42.0	29.9	-	-
	67	70.3	6.9	70.3	70.3	60.9	48.8	36.6	-	62.0	7.4	62.0	62.0	57.6	45.5	33.3	-
	62	62.2	6.7	62.2	62.2	62.2	50.0	37.9	25.8	53.0	7.1	53.0	53.0	53.0	40.9	28.8	16.7
	57	66.7	6.8	66.7	66.7	66.7	54.6	42.5	30.3	59.3	7.2	59.3	59.3	59.3	47.2	35.1	23.0

1. These capacities are gross ratings. For net capacity, deduct air blower motor, MBh = 3.415 x kW. Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.
2. These ratings include the condenser fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

ZH090 (7.5 Ton)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)					
CFM	WB (°F)			Return Dry Bulb (°F)								Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		75°F								**85°F**							
1875	77	113.8	5.8	49.0	41.0	33.1	-	-	-	112.1	6.5	46.6	38.6	30.6	-	-	-
	72	106.0	5.8	62.6	54.6	46.7	38.7	-	-	102.9	6.4	59.9	51.9	43.9	35.9	-	-
	67	98.1	5.8	76.2	68.3	60.3	52.3	44.4	-	93.8	6.4	73.2	65.2	57.2	49.2	41.2	-
	62	86.5	5.8	86.5	80.4	71.9	64.0	56.0	48.1	83.9	6.4	83.9	79.0	68.5	60.5	52.5	44.4
2250	77	121.4	5.8	54.8	45.5	36.3	-	-	-	116.8	6.5	51.9	42.7	33.5	-	-	-
	72	112.9	5.8	69.7	60.4	51.2	41.9	-	-	107.3	6.4	66.5	57.2	48.0	38.8	-	-
	67	104.5	5.8	84.6	75.3	66.1	56.8	47.5	-	97.7	6.4	81.0	71.8	62.6	53.3	44.1	-
	62	92.2	5.8	92.2	88.1	78.8	69.6	60.3	51.0	87.5	6.4	87.5	84.1	74.9	65.7	56.5	47.3
	57	90.4	5.8	90.4	91.7	85.4	76.2	66.9	57.6	87.7	6.4	87.7	87.7	80.0	70.7	61.5	52.3
2625	77	128.9	5.8	60.6	50.0	39.4	-	-	-	121.5	6.5	57.2	46.8	36.3	-	-	-
	72	119.9	5.8	76.8	66.2	55.6	45.0	-	-	111.6	6.5	73.0	62.6	52.1	41.7	-	-
	67	110.9	5.9	93.0	82.4	71.9	61.3	50.7	-	101.7	6.4	88.8	78.4	67.9	57.5	47.1	-
	62	97.9	5.9	97.9	95.8	85.7	75.1	64.5	54.0	91.0	6.4	91.0	89.3	81.4	70.9	60.5	50.1
	57	96.1	5.8	96.1	96.8	92.9	82.3	71.7	61.1	91.2	6.4	91.2	91.2	86.8	76.4	66.0	55.5
3000	77	136.5	5.8	66.4	54.5	42.6	-	-	-	126.2	6.5	62.5	50.8	39.2	-	-	-
	72	126.9	5.8	83.9	72.0	60.1	48.2	-	-	115.9	6.5	79.5	67.9	56.3	44.6	-	-
	67	117.3	5.9	101.4	89.5	77.6	65.7	53.8	-	105.6	6.5	96.6	85.0	73.3	61.7	50.0	-
	62	103.6	5.9	103.6	103.6	92.6	80.7	68.8	56.9	94.5	6.4	94.5	94.5	87.8	76.1	64.5	52.9
	57	101.8	5.9	101.8	101.8	100.4	88.5	76.6	64.6	94.8	6.4	94.8	94.8	93.7	82.1	70.4	58.8
3375	72	128.9	5.8	88.3	75.7	63.2	50.6	-	-	118.6	6.5	84.9	72.3	59.8	47.2	-	-
	67	119.1	5.8	110.1	94.1	81.6	69.0	56.4	-	108.1	6.5	103.0	90.4	77.9	65.3	52.8	-
	62	105.2	5.9	105.2	105.2	99.6	87.0	74.4	61.8	96.7	6.4	96.7	96.7	93.2	80.7	68.1	55.6
	57	103.4	5.8	103.4	103.4	102.6	90.1	77.5	64.9	96.9	6.4	96.9	96.9	96.4	83.9	71.3	58.8
3750	72	130.9	5.8	92.7	79.5	66.2	53.0	-	-	121.2	6.5	90.2	76.7	63.3	49.8	-	-
	67	121.0	5.8	118.7	98.7	85.5	72.2	59.0	-	110.5	6.5	109.4	95.9	82.4	69.0	55.5	-
	62	106.8	5.8	106.8	106.8	106.5	93.2	80.0	66.7	98.9	6.4	98.9	98.9	98.7	85.2	71.8	58.3
	57	104.9	5.8	104.9	104.9	104.9	91.7	78.4	65.2	99.1	6.4	99.1	99.1	99.1	85.7	72.2	58.7
		95°F								**105°F**							
1875	77	110.3	7.1	44.2	36.2	28.1	-	-	-	103.5	7.7	38.5	33.2	25.2	-	-	-
	72	99.9	7.0	57.2	49.2	41.1	33.0	-	-	93.1	7.6	54.2	46.2	38.2	30.3	-	-
	67	89.5	7.0	70.2	62.2	54.1	46.0	37.9	-	82.7	7.5	69.8	59.2	51.2	43.3	35.3	-
	62	81.3	6.9	81.3	77.5	65.0	57.0	48.9	40.8	78.3	7.4	78.3	75.8	62.2	54.2	46.2	38.3
2250	77	112.2	7.1	49.0	39.8	30.7	-	-	-	103.5	7.8	45.5	36.5	27.4	-	-	-
	72	101.6	7.1	63.2	54.0	44.9	35.7	-	-	93.1	7.7	59.6	50.6	41.5	32.5	-	-
	67	91.0	7.0	77.4	68.2	59.1	49.9	40.7	-	82.7	7.5	73.7	64.7	55.7	46.6	37.6	-
	62	82.7	6.9	82.7	80.2	71.0	61.8	52.7	43.5	78.2	7.4	78.2	76.6	67.5	58.5	49.5	40.4
	57	84.9	6.9	84.9	83.7	74.5	65.3	56.1	47.0	80.0	7.4	80.0	78.7	69.7	60.7	51.6	42.6
2625	77	114.1	7.2	53.8	43.5	33.2	-	-	-	103.5	7.8	52.4	39.7	29.6	-	-	-
	72	103.3	7.1	69.2	58.9	48.6	38.4	-	-	93.1	7.7	65.0	54.9	44.8	34.7	-	-
	67	92.5	7.0	84.6	74.3	64.0	53.8	43.5	-	82.7	7.6	77.6	70.2	60.1	50.0	39.9	-
	62	84.1	6.9	84.1	82.8	77.0	66.7	56.4	46.2	78.2	7.5	78.2	77.4	72.9	62.8	52.7	42.6
	57	86.3	6.9	86.3	85.7	80.8	70.5	60.2	49.9	79.9	7.5	79.9	79.3	75.2	65.1	55.0	44.9
3000	77	115.9	7.2	58.6	47.2	35.8	-	-	-	103.4	7.9	59.4	43.0	31.8	-	-	-
	72	105.0	7.1	75.2	63.8	52.4	41.0	-	-	93.1	7.7	70.5	59.3	48.1	37.0	-	-
	67	94.0	7.1	91.7	80.4	69.0	57.6	46.3	-	82.7	7.6	81.6	75.7	64.5	53.3	42.1	-
	62	85.5	7.0	85.5	85.5	83.0	71.6	60.2	48.8	78.1	7.5	78.1	78.1	78.2	67.1	55.9	44.7
	57	87.8	7.0	87.8	87.8	87.0	75.7	64.3	52.9	79.9	7.5	79.9	79.9	80.8	69.6	58.4	47.2
3375	72	108.3	7.1	81.4	68.9	56.4	43.8	-	-	97.2	7.8	76.7	64.4	52.1	39.8	-	-
	67	97.0	7.1	95.9	86.7	74.2	61.7	49.1	-	86.4	7.6	85.8	81.1	69.8	57.5	45.2	-
	62	88.2	7.0	88.2	88.2	86.9	74.4	61.9	49.3	81.6	7.5	81.6	81.6	81.7	69.4	57.1	44.8
	57	90.5	7.0	90.5	90.5	90.2	77.7	65.1	52.6	83.5	7.5	83.5	83.5	83.9	71.6	59.3	47.0
3750	72	111.6	7.2	87.7	74.0	60.3	46.6	-	-	101.3	7.8	82.8	69.4	56.0	42.6	-	-
	67	100.0	7.1	100.0	93.1	79.4	65.7	52.0	-	90.0	7.7	90.0	86.6	75.0	61.6	48.2	-
	62	90.9	7.0	90.9	90.9	90.9	77.2	63.5	49.9	85.1	7.5	85.1	85.1	85.1	71.7	58.3	44.9
	57	93.3	7.0	93.3	93.3	93.3	79.7	66.0	52.3	87.0	7.5	87.0	87.0	87.0	73.6	60.2	46.8

ZH090 (7.5 Ton) (Continued)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)					
CFM	WB (°F)			Return Dry Bulb (°F)								Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		115°F								**125°F**							
1875	77	96.7	8.4	32.9	30.3	22.4	-	-	-	89.9	9.0	27.0	24.2	19.6	-	-	-
	72	86.3	8.2	51.1	43.3	35.4	27.5	-	-	79.5	8.8	48.1	40.3	32.5	24.8	-	-
	67	75.9	8.0	69.4	56.2	48.4	40.5	32.6	-	69.1	8.5	69.1	53.3	45.5	37.8	30.0	-
	62	75.3	7.9	75.3	74.0	59.3	51.5	43.6	35.7	72.2	8.4	72.2	72.2	56.5	48.7	40.9	33.2
2250	77	94.8	8.4	42.0	33.1	24.2	-	-	-	86.1	9.1	38.7	29.7	20.9	-	-	-
	72	84.6	8.2	56.0	47.1	38.2	29.3	-	-	76.1	8.8	52.4	43.7	34.9	26.1	-	-
	67	74.4	8.1	70.0	61.1	52.2	43.3	34.4	-	66.1	8.6	66.1	57.6	48.8	40.1	31.3	-
	62	73.8	7.9	73.8	73.0	64.1	55.2	46.3	37.4	69.3	8.4	69.3	69.3	60.6	51.8	43.1	34.3
	57	75.0	7.9	75.0	73.8	64.9	56.0	47.1	38.2	70.1	8.5	70.1	68.9	60.1	51.3	42.6	33.8
2625	77	92.9	8.5	51.1	35.9	26.0	-	-	-	82.3	9.1	50.5	35.2	22.3	-	-	-
	72	82.9	8.3	60.9	51.0	41.0	31.1	-	-	72.7	8.9	56.8	47.0	37.2	27.5	-	-
	67	72.9	8.1	70.7	66.0	56.1	46.2	36.2	-	63.1	8.6	63.1	61.9	52.1	42.4	32.6	-
	62	72.3	8.0	72.3	71.9	68.8	58.9	48.9	39.0	66.4	8.5	66.4	66.4	64.7	54.9	45.2	35.4
	57	73.5	8.0	73.5	72.9	69.7	59.8	49.8	39.9	67.1	8.5	67.1	66.5	64.2	54.4	44.6	34.8
3000	77	91.0	8.5	60.2	38.7	27.8	-	-	-	78.5	9.2	62.2	40.6	23.7	-	-	-
	72	81.2	8.3	65.8	54.8	43.9	32.9	-	-	69.3	8.9	61.2	50.4	39.6	28.8	-	-
	67	71.4	8.2	71.4	70.9	60.0	49.0	38.0	-	60.1	8.7	60.1	60.1	55.5	44.7	33.9	-
	62	70.8	8.0	70.8	70.8	73.5	62.6	51.6	40.6	63.5	8.5	63.5	63.5	63.5	58.1	47.3	36.5
	57	72.0	8.0	72.0	72.0	74.5	63.5	52.5	41.6	64.1	8.6	64.1	64.1	64.1	57.5	46.7	35.9
3375	72	86.1	8.4	71.9	59.9	47.8	35.7	-	-	75.0	9.0	67.2	55.3	43.5	31.7	-	-
	67	75.7	8.2	75.7	75.5	65.3	53.3	41.2	-	65.1	8.7	65.1	65.1	60.9	49.1	37.2	-
	62	75.1	8.1	75.1	75.1	76.5	64.4	52.3	40.3	68.6	8.6	68.6	68.6	68.6	59.4	47.5	35.7
	57	76.4	8.1	76.4	76.4	77.6	65.5	53.5	41.4	69.3	8.6	69.3	69.3	69.3	59.5	47.6	35.8
3750	72	91.0	8.4	78.0	64.9	51.7	38.5	-	-	80.7	9.0	73.2	60.3	47.4	34.5	-	-
	67	80.1	8.2	80.1	80.1	70.7	57.5	44.4	-	70.1	8.8	70.1	70.1	66.3	53.4	40.5	-
	62	79.4	8.1	79.4	79.4	79.4	66.2	53.1	39.9	73.6	8.6	73.6	73.6	73.6	60.7	47.8	34.9
	57	80.7	8.1	80.7	80.7	80.7	67.6	54.4	41.2	74.4	8.6	74.4	74.4	74.4	61.5	48.6	35.7

1. These capacities are gross ratings. For net capacity, deduct air blower motor, MBh = 3.415 x kW. Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.
2. These ratings include the condenser fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

ZH102 (8.5 Ton)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F)					
CFM	WB (°F)			90	85	80	75	70	65			90	85	80	75	70	65
		75°F								**85°F**							
2125	77	136.4	6.4	58.7	49.1	39.5	-	-	-	134.8	7.0	57.4	47.9	38.4	-	-	-
	72	127.5	6.3	74.7	65.1	55.5	45.9	-	-	122.9	7.0	72.2	62.7	53.1	43.6	-	-
	67	118.6	6.3	90.7	81.1	71.5	61.9	52.3	-	111.0	6.9	86.9	77.4	67.9	58.4	48.9	-
	62	103.1	6.3	103.1	94.8	83.2	73.6	64.0	54.4	99.3	6.9	99.3	92.9	80.2	70.6	61.1	51.6
2550	77	142.1	6.4	65.3	54.2	43.1	-	-	-	138.4	7.1	63.5	52.6	41.6	-	-	-
	72	132.8	6.3	82.7	71.6	60.6	49.5	-	-	126.2	7.0	79.5	68.5	57.5	46.5	-	-
	67	123.4	6.3	100.2	89.1	78.0	66.9	55.8	-	114.0	6.9	95.5	84.5	73.5	62.5	51.5	-
	62	107.3	6.4	107.3	101.8	90.7	79.6	68.6	57.5	102.0	6.9	102.0	97.8	86.8	75.8	64.8	53.8
	57	103.7	6.3	103.7	103.7	95.2	84.1	73.1	62.0	98.6	6.9	98.6	98.6	89.8	78.8	67.8	56.8
2975	77	147.8	6.4	71.8	59.3	46.7	-	-	-	142.1	7.1	69.7	57.2	44.7	-	-	-
	72	138.0	6.4	90.7	78.1	65.6	53.0	-	-	129.5	7.0	86.9	74.4	61.9	49.4	-	-
	67	128.1	6.3	109.6	97.0	84.5	71.9	59.4	-	117.0	7.0	104.0	91.6	79.1	66.6	54.1	-
	62	111.6	6.4	111.6	108.8	98.3	85.7	73.2	60.6	104.7	7.0	104.7	102.6	93.4	80.9	68.4	55.9
	57	107.8	6.3	107.8	107.8	103.1	90.6	78.0	65.5	101.2	6.9	101.2	101.2	96.7	84.2	71.7	59.2
3400	77	153.6	6.4	78.4	64.3	50.3	-	-	-	145.7	7.1	75.8	61.8	47.9	-	-	-
	72	143.2	6.4	98.7	84.7	70.6	56.6	-	-	132.8	7.1	94.2	80.2	66.3	52.3	-	-
	67	132.9	6.3	119.0	105.0	91.0	76.9	62.9	-	120.0	7.0	112.6	98.6	84.7	70.7	56.8	-
	62	115.8	6.4	115.8	115.8	105.8	91.8	77.7	63.7	107.4	7.0	107.4	107.4	100.0	86.0	72.0	58.1
	57	111.9	6.3	111.9	111.9	111.0	97.0	83.0	68.9	103.8	7.0	103.8	103.8	103.5	89.5	75.6	61.6
3825	72	145.4	6.4	105.1	89.8	74.5	59.1	-	-	135.6	7.1	101.0	85.8	70.5	55.2	-	-
	67	135.0	6.3	128.0	111.2	95.9	80.6	65.3	-	122.5	7.0	118.8	105.3	90.1	74.8	59.6	-
	62	117.5	6.4	117.5	117.5	112.6	97.2	81.9	66.6	109.6	7.0	109.6	109.6	105.9	90.7	75.4	60.1
	57	113.5	6.3	113.5	113.5	113.1	97.8	82.5	67.2	106.0	7.0	106.0	106.0	105.8	90.6	75.3	60.0
4250	72	147.6	6.4	111.5	94.9	78.3	61.7	-	-	138.4	7.1	107.8	91.3	74.7	58.2	-	-
	67	137.0	6.3	137.0	117.5	100.9	84.2	67.6	-	124.9	7.0	124.9	112.0	95.5	78.9	62.4	-
	62	119.3	6.4	119.3	119.3	119.3	102.7	86.1	69.5	111.8	7.0	111.8	111.8	111.8	95.3	78.7	62.2
	57	115.2	6.3	115.2	115.2	115.2	98.6	82.0	65.4	108.1	7.0	108.1	108.1	108.1	91.6	75.0	58.5
		95°F								**105°F**							
2125	77	133.1	7.7	56.1	46.7	37.3	-	-	-	116.2	8.5	48.4	41.1	31.9	-	-	-
	72	118.2	7.6	69.6	60.2	50.8	41.4	-	-	104.5	8.3	63.9	54.7	45.5	36.2	-	-
	67	103.3	7.6	83.1	73.7	64.3	54.9	45.5	-	92.7	8.2	79.5	68.3	59.0	49.8	40.5	-
	62	95.6	7.4	95.6	91.1	77.1	67.7	58.3	48.9	84.7	8.0	84.7	82.5	69.4	60.1	50.9	41.6
2550	77	134.7	7.7	61.8	50.9	40.0	-	-	-	118.6	8.5	56.1	45.3	34.6	-	-	-
	72	119.6	7.7	76.3	65.4	54.5	43.6	-	-	106.6	8.4	70.9	60.1	49.3	38.5	-	-
	67	104.5	7.6	90.8	79.9	69.0	58.1	47.2	-	94.6	8.2	85.7	74.9	64.1	53.3	42.5	-
	62	96.7	7.5	96.7	93.7	82.8	71.9	61.0	50.1	86.5	8.1	86.5	85.0	75.3	64.5	53.7	42.9
	57	93.6	7.5	93.6	93.6	84.4	73.5	62.6	51.7	84.8	8.1	84.8	84.8	76.0	65.2	54.4	43.6
2975	77	136.3	7.8	67.5	55.1	42.7	-	-	-	121.0	8.6	63.9	49.6	37.3	-	-	-
	72	121.0	7.7	83.0	70.6	58.2	45.8	-	-	108.8	8.4	77.9	65.5	53.2	40.9	-	-
	67	105.8	7.7	98.5	86.1	73.7	61.3	48.9	-	96.5	8.3	91.9	81.5	69.2	56.8	44.5	-
	62	97.8	7.5	97.8	96.3	88.5	76.1	63.7	51.3	88.3	8.1	88.3	87.5	81.2	68.9	56.5	44.2
	57	94.7	7.6	94.7	94.7	90.2	77.8	65.4	53.0	86.5	8.2	86.5	86.5	82.0	69.6	57.3	45.0
3400	77	137.9	7.8	73.2	59.4	45.5	-	-	-	123.4	8.6	71.6	53.8	39.9	-	-	-
	72	122.4	7.8	89.7	75.8	62.0	48.1	-	-	110.9	8.5	84.8	71.0	57.1	43.2	-	-
	67	107.0	7.7	106.2	92.3	78.4	64.5	50.7	-	98.5	8.3	98.1	88.1	74.2	60.3	46.5	-
	62	99.0	7.6	99.0	99.0	94.1	80.2	66.4	52.5	90.0	8.2	90.0	90.0	87.1	73.2	59.4	45.5
	57	95.8	7.6	95.8	95.8	95.9	82.1	68.2	54.3	88.3	8.2	88.3	88.3	87.9	74.1	60.2	46.3
3825	72	125.8	7.8	96.9	81.7	66.6	51.4	-	-	112.9	8.5	91.2	76.2	61.1	46.1	-	-
	67	109.9	7.7	109.5	99.4	84.2	69.1	53.9	-	100.2	8.4	100.0	93.4	79.5	64.4	49.4	-
	62	101.7	7.6	101.7	101.7	99.3	84.1	68.9	53.7	91.6	8.2	91.6	91.6	90.1	75.1	60.0	45.0
	57	98.4	7.6	98.4	98.4	98.5	83.3	68.1	52.9	89.8	8.3	89.8	89.8	89.6	74.6	59.5	44.5
4250	72	129.2	7.8	104.1	87.6	71.2	54.7	-	-	114.8	8.6	97.6	81.4	65.2	49.0	-	-
	67	112.9	7.8	112.9	106.6	90.1	73.6	57.1	-	101.9	8.4	101.9	98.7	84.7	68.5	52.3	-
	62	104.4	7.6	104.4	104.4	104.4	87.9	71.4	54.9	93.1	8.3	93.1	93.1	93.1	76.9	60.7	44.5
	57	101.0	7.7	101.0	101.0	101.0	84.5	68.0	51.5	91.3	8.3	91.3	91.3	91.3	75.1	58.9	42.7

ZH102 (8.5 Ton) (Continued)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)					
CFM	WB (°F)			Return Dry Bulb (°F)								Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		115°F								**125°F**							
2125	77	99.3	9.3	40.7	35.5	26.4	-	-	-	82.4	10.1	33.8	29.9	21.0	-	-	-
	72	90.7	9.0	58.3	49.2	40.1	31.0	-	-	76.9	9.7	52.6	43.7	34.8	25.9	-	-
	67	82.0	8.8	75.8	62.9	53.8	44.7	35.6	-	71.4	9.4	71.4	57.5	48.5	39.6	30.7	-
	62	73.9	8.6	73.9	73.9	61.6	52.5	43.4	34.3	63.1	9.2	63.1	63.1	53.8	44.9	35.9	27.0
2550	77	102.5	9.4	50.5	39.8	29.1	-	-	-	86.4	10.2	45.4	34.2	23.7	-	-	-
	72	93.6	9.1	65.5	54.8	44.1	33.5	-	-	80.6	9.8	60.1	49.5	39.0	28.4	-	-
	67	84.7	8.8	80.5	69.9	59.2	48.5	37.8	-	74.8	9.4	74.8	64.9	54.3	43.7	33.2	-
	62	76.3	8.7	76.3	76.3	67.7	57.1	46.4	35.7	66.1	9.3	66.1	66.1	60.2	49.7	39.1	28.5
	57	76.1	8.7	76.1	76.1	67.6	56.9	46.2	35.6	67.3	9.3	67.3	67.3	59.2	48.6	38.0	27.5
2975	77	105.7	9.4	60.2	44.0	31.8	-	-	-	90.4	10.2	57.1	38.5	26.3	-	-	-
	72	96.5	9.1	72.7	60.5	48.2	35.9	-	-	84.3	9.8	67.6	55.4	43.2	30.9	-	-
	67	87.3	8.9	85.3	76.9	64.6	52.3	40.0	-	78.1	9.5	78.1	72.3	60.0	47.8	35.6	-
	62	78.7	8.7	78.7	78.7	73.9	61.7	49.4	37.1	69.1	9.3	69.1	69.1	66.7	54.4	42.2	30.0
	57	78.4	8.8	78.4	78.4	73.8	61.5	49.2	36.9	70.3	9.4	70.3	70.3	65.5	53.3	41.1	28.9
3400	77	108.9	9.5	69.9	48.3	34.4	-	-	-	94.4	10.3	68.7	42.8	28.9	-	-	-
	72	99.4	9.2	79.9	66.1	52.2	38.3	-	-	87.9	9.9	75.1	61.2	47.3	33.5	-	-
	67	90.0	8.9	90.0	83.9	70.0	56.1	42.3	-	81.5	9.5	81.5	79.6	65.8	51.9	38.1	-
	62	81.1	8.8	81.1	81.1	80.1	66.2	52.4	38.5	72.1	9.4	72.1	72.1	72.1	59.2	45.4	31.5
	57	80.8	8.8	80.8	80.8	79.9	66.0	52.2	38.3	73.3	9.4	73.3	73.3	71.9	58.0	44.2	30.3
3825	72	99.9	9.3	85.5	70.6	55.7	40.8	-	-	87.0	10.0	79.8	65.0	50.3	35.6	-	-
	67	90.4	9.0	90.4	87.4	74.7	59.8	44.9	-	80.6	9.6	80.6	80.6	69.9	55.2	40.5	-
	62	81.5	8.9	81.5	81.5	81.0	66.1	51.2	36.3	71.4	9.5	71.4	71.4	71.4	57.1	42.4	27.6
	57	81.2	8.9	81.2	81.2	80.8	65.9	51.0	36.1	72.6	9.6	72.6	72.6	71.9	57.2	42.4	27.7
4250	72	100.4	9.4	91.0	75.1	59.2	43.3	-	-	86.0	10.1	84.5	68.9	53.3	37.6	-	-
	67	90.8	9.1	90.8	90.8	79.4	63.5	47.6	-	79.8	9.8	79.8	79.8	74.1	58.5	42.9	-
	62	81.9	9.0	81.9	81.9	81.9	66.0	50.1	34.2	70.6	9.6	70.6	70.6	70.6	55.0	39.4	23.8
	57	81.6	9.0	81.6	81.6	81.6	65.7	49.8	33.9	71.9	9.7	71.9	71.9	71.9	56.3	40.7	25.1

1. These capacities are gross ratings. For net capacity, deduct air blower motor, MBh = 3.415 x kW. Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.
2. These ratings include the condenser fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

ZH120 (10 Ton)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F)					
CFM	WB (°F)			90	85	80	75	70	65			90	85	80	75	70	65
		75°F								85°F							
2500	77	148.4	7.2	37.9	39.0	40.1	-	-	-	145.3	7.9	35.2	36.6	38.0	-	-	-
	72	138.6	7.0	56.2	57.2	58.3	59.4	-	-	134.2	7.7	53.1	54.5	55.9	57.3	-	-
	67	128.8	6.7	74.4	75.5	76.5	77.6	78.7	-	123.2	7.6	70.9	72.3	73.7	75.1	76.5	-
	62	119.6	6.7	103.4	95.5	94.1	95.2	96.2	97.3	115.1	7.6	100.5	93.0	90.7	92.1	93.5	94.9
3000	77	155.1	7.2	54.6	49.4	44.1	-	-	-	150.7	7.9	51.9	46.8	41.8	-	-	-
	72	144.8	7.0	74.7	69.4	64.2	59.0	-	-	139.3	7.8	71.5	66.5	61.4	56.4	-	-
	67	134.6	6.7	94.8	89.5	84.3	79.0	73.8	-	127.8	7.6	91.1	86.1	81.0	76.0	71.0	-
	62	124.9	6.7	114.1	108.9	103.6	98.4	93.2	87.9	119.5	7.6	109.7	104.7	99.7	94.6	89.6	84.5
	57	122.1	6.7	116.9	111.7	106.4	101.2	95.9	90.7	116.7	7.6	111.4	106.3	101.3	96.3	91.2	86.2
3500	77	161.8	7.2	71.2	59.7	48.2	-	-	-	156.2	7.9	68.5	57.1	45.6	-	-	-
	72	151.1	6.9	93.2	81.6	70.1	58.6	-	-	144.3	7.8	89.9	78.5	67.0	55.5	-	-
	67	140.3	6.7	115.1	103.6	92.0	80.5	68.9	-	132.5	7.6	111.3	99.8	88.4	76.9	65.4	-
	62	130.3	6.7	124.9	122.3	113.2	101.6	90.1	78.6	123.8	7.6	118.9	116.4	108.7	97.2	85.7	74.2
	57	127.3	6.7	124.7	122.1	116.2	104.7	93.1	81.6	121.0	7.6	118.3	115.8	110.4	99.0	87.5	76.0
4000	77	168.5	7.2	87.9	70.1	52.2	-	-	-	161.7	7.9	85.2	67.3	49.4	-	-	-
	72	157.3	6.9	111.7	93.8	76.0	58.2	-	-	149.4	7.8	108.4	90.4	72.5	54.6	-	-
	67	146.1	6.7	135.4	117.6	99.8	81.9	64.1	-	137.1	7.7	131.5	113.6	95.7	77.8	59.9	-
	62	135.7	6.6	135.7	135.7	122.7	104.9	87.0	69.2	128.2	7.6	128.2	128.2	117.7	99.8	81.8	63.9
	57	132.6	6.6	132.6	132.6	126.0	108.1	90.3	72.5	125.2	7.6	125.2	125.2	119.6	101.7	83.8	65.8
4500	72	157.8	7.0	102.0	89.8	77.6	65.4	-	-	150.2	7.8	98.7	86.5	74.4	62.3	-	-
	67	146.6	6.8	126.3	114.1	101.9	89.7	77.5	-	137.9	7.7	122.4	110.3	98.2	86.0	73.9	-
	62	136.1	6.8	136.1	136.1	125.3	113.1	100.9	88.7	128.9	7.6	128.9	128.9	120.7	108.6	96.5	84.3
	57	133.0	6.8	133.0	133.0	128.9	116.7	104.5	92.3	125.9	7.6	125.9	125.9	122.7	110.6	98.4	86.3
5000	72	158.3	7.2	92.4	85.8	79.3	72.7	-	-	151.1	7.9	89.0	82.6	76.3	69.9	-	-
	67	147.1	6.9	117.2	110.6	104.1	97.5	91.0	-	138.6	7.8	113.3	107.0	100.6	94.3	87.9	-
	62	136.6	6.9	136.6	136.6	128.0	121.4	114.9	108.3	129.6	7.7	129.6	129.6	123.8	117.4	111.1	104.7
	57	133.4	6.9	133.4	133.4	131.8	125.2	118.6	112.1	126.6	7.7	126.6	126.6	125.8	119.4	113.1	106.7
		95°F								105°F							
2500	77	142.1	8.5	32.5	34.3	36.0	-	-	-	130.2	9.7	26.3	30.7	32.7	-	-	-
	72	129.8	8.5	50.0	51.7	53.4	55.2	-	-	120.3	9.7	46.3	48.4	50.4	52.5	-	-
	67	117.5	8.5	67.4	69.2	70.9	72.6	74.4	-	110.4	9.7	66.3	66.1	68.2	70.2	72.3	-
	62	110.7	8.4	97.7	90.5	87.2	88.9	90.7	92.4	104.5	9.6	92.5	85.6	82.2	84.3	86.3	88.4
3000	77	146.4	8.5	49.2	44.3	39.5	-	-	-	133.8	9.8	45.2	40.5	35.9	-	-	-
	72	133.7	8.5	68.3	63.5	58.7	53.8	-	-	123.6	9.7	64.6	59.9	55.3	50.6	-	-
	67	121.1	8.6	87.5	82.7	77.8	73.0	68.1	-	113.4	9.7	84.0	79.3	74.7	70.0	65.4	-
	62	114.0	8.5	105.4	100.5	95.7	90.8	86.0	81.2	107.3	9.6	99.4	94.7	90.1	85.4	80.8	76.1
	57	111.4	8.5	105.8	101.0	96.2	91.3	86.5	81.6	104.7	9.6	99.7	95.1	90.4	85.8	81.1	76.5
3500	77	150.6	8.5	65.8	54.4	43.0	-	-	-	137.3	9.8	64.0	50.3	39.0	-	-	-
	72	137.6	8.6	86.7	75.3	63.9	52.4	-	-	126.9	9.8	82.8	71.4	60.1	48.7	-	-
	67	124.6	8.6	107.6	96.1	84.7	73.3	61.9	-	116.5	9.7	101.6	92.5	81.2	69.8	58.5	-
	62	117.3	8.5	113.0	110.6	104.2	92.8	81.3	69.9	110.2	9.7	106.2	103.9	97.9	86.6	75.2	63.9
	57	114.6	8.5	111.9	109.4	104.7	93.3	81.9	70.4	107.4	9.6	105.0	102.6	98.3	87.0	75.6	64.3
4000	77	154.9	8.6	82.5	64.5	46.5	-	-	-	140.9	9.8	82.8	60.2	42.1	-	-	-
	72	141.5	8.6	105.1	87.1	69.1	51.1	-	-	130.2	9.8	101.0	83.0	64.9	46.8	-	-
	67	128.1	8.6	127.6	109.6	91.6	73.6	55.6	-	119.5	9.8	119.2	105.7	87.7	69.6	51.6	-
	62	120.7	8.5	120.7	120.7	112.7	94.7	76.7	58.7	113.0	9.7	113.0	113.0	105.8	87.7	69.7	51.6
	57	117.9	8.5	117.9	117.9	113.2	95.2	77.2	59.2	110.2	9.6	110.2	110.2	106.2	88.1	70.1	52.0
4500	72	142.7	8.6	95.3	83.2	71.2	59.1	-	-	131.2	9.8	91.1	79.1	67.1	55.1	-	-
	67	129.1	8.6	118.5	106.5	94.4	82.3	70.3	-	120.4	9.8	112.4	102.7	90.7	78.7	66.7	-
	62	121.6	8.5	121.6	121.6	116.1	104.0	92.0	79.9	113.9	9.7	113.9	113.9	109.4	97.4	85.4	73.5
	57	118.8	8.5	118.8	118.8	116.5	104.5	92.4	80.3	111.0	9.6	111.0	111.0	109.0	97.1	85.1	73.1
5000	72	143.8	8.6	85.5	79.4	73.3	67.1	-	-	132.2	9.8	81.2	75.3	69.4	63.4	-	-
	67	130.2	8.6	109.4	103.3	97.2	91.1	84.9	-	121.3	9.8	105.5	99.6	93.7	87.8	81.9	-
	62	122.6	8.5	122.6	122.6	119.5	113.4	107.3	101.1	114.8	9.7	114.8	114.8	113.0	107.1	101.2	95.3
	57	119.8	8.5	119.8	119.8	119.8	113.7	107.5	101.4	111.9	9.6	111.9	111.9	111.9	106.0	100.1	94.2

ZH120 (10 Ton) (Continued)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)					
CFM	WB (°F)			Return Dry Bulb (°F)								Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		115°F								125°F							
2500	77	118.3	11.0	20.1	27.1	29.5	-	-	-	106.4	12.3	13.8	23.5	26.2	-	-	-
	72	110.8	10.9	42.7	45.0	47.4	49.8	-	-	101.3	12.2	39.0	41.7	44.4	47.1	-	-
	67	103.3	10.9	65.2	63.0	65.4	67.8	70.2	-	96.2	12.0	64.1	59.9	62.6	65.4	68.1	-
	62	98.3	10.8	87.3	80.7	77.2	79.6	82.0	84.4	92.1	12.0	82.1	75.7	72.3	75.0	77.7	80.4
3000	77	121.2	11.0	41.1	36.7	32.2	-	-	-	108.6	12.3	37.1	32.8	28.6	-	-	-
	72	113.5	10.9	60.8	56.3	51.9	47.4	-	-	103.4	12.1	57.0	52.7	48.5	44.2	-	-
	67	105.8	10.9	80.4	76.0	71.5	67.1	62.6	-	98.2	12.0	76.9	72.6	68.4	64.1	59.8	-
	62	100.7	10.8	93.4	88.9	84.5	80.0	75.6	71.1	94.0	12.0	87.3	83.1	78.8	74.6	70.3	66.1
	57	97.9	10.7	93.6	89.1	84.7	80.2	75.8	71.3	91.2	11.8	87.5	83.2	79.0	74.7	70.4	66.2
3500	77	124.0	11.0	62.1	46.3	35.0	-	-	-	110.7	12.3	60.4	42.2	31.0	-	-	-
	72	116.2	10.9	78.9	67.6	56.3	45.0	-	-	105.5	12.1	75.0	63.7	52.5	41.3	-	-
	67	108.3	10.9	95.6	88.9	77.6	66.3	55.0	-	100.2	12.0	89.7	85.3	74.1	62.8	51.6	-
	62	103.0	10.8	99.4	97.2	91.7	80.4	69.1	57.8	95.9	12.0	92.6	90.4	85.4	74.2	63.0	51.8
	57	100.2	10.7	98.1	95.8	91.9	80.6	69.4	58.1	93.0	11.8	91.2	89.1	85.5	74.3	63.1	51.9
4000	77	126.9	11.0	83.1	55.8	37.7	-	-	-	112.9	12.3	83.6	51.5	33.3	-	-	-
	72	118.9	11.0	97.0	78.8	60.7	42.6	-	-	107.5	12.1	92.9	74.7	56.6	38.4	-	-
	67	110.8	10.9	110.8	101.8	83.7	65.6	47.5	-	102.2	12.0	102.2	98.0	79.8	61.6	43.4	-
	62	105.4	10.8	105.4	105.4	98.9	80.8	62.6	44.5	97.8	12.0	97.8	97.8	92.0	73.8	55.6	37.4
	57	102.5	10.7	102.5	102.5	99.2	81.0	62.9	44.8	94.9	11.8	94.9	94.9	92.1	73.9	55.8	37.6
4500	72	119.7	10.9	86.9	75.0	63.1	51.2	-	-	108.2	12.1	82.7	70.9	59.1	47.2	-	-
	67	111.6	10.9	106.2	98.9	87.0	75.1	63.2	-	102.8	12.0	100.1	95.1	83.3	71.4	59.6	-
	62	106.2	10.8	106.2	106.2	102.7	90.8	78.9	67.0	98.4	12.0	98.4	98.4	96.0	84.2	72.4	60.6
	57	103.3	10.7	103.3	103.3	101.6	89.7	77.8	65.9	95.5	11.8	95.5	95.5	94.1	82.3	70.5	58.6
5000	72	120.5	10.9	76.8	71.1	65.5	59.8	-	-	108.9	12.1	72.5	67.0	61.5	56.1	-	-
	67	112.4	10.9	101.6	95.9	90.2	84.6	78.9	-	103.5	12.0	97.7	92.2	86.8	81.3	75.8	-
	62	106.9	10.8	106.9	106.9	106.6	100.9	95.2	89.5	99.0	12.0	99.0	99.0	99.0	94.6	89.2	83.7
	57	104.0	10.7	104.0	104.0	104.0	98.3	92.6	86.9	96.1	11.8	96.1	96.1	96.1	90.6	85.2	79.7

1. These capacities are gross ratings. For net capacity, deduct air blower motor, MBh = 3.415 x kW. Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.
2. These ratings include the condenser fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

ZH150 (12.5 Ton)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
				Sensible Capacity (MBh)								Sensible Capacity (MBh)					
CFM	WB (°F)	Total Capacity[1] (MBh)	Total Input (kW)[2]	Return Dry Bulb (°F)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		75°F								**85°F**							
3125	77	204.4	9.6	82.4	68.5	54.6	-	-	-	192.2	10.6	77.2	63.6	50.0	-	-	-
	72	186.6	9.3	106.6	92.6	78.7	64.8	-	-	176.1	10.4	100.7	87.2	73.6	60.0	-	-
	67	168.8	9.1	130.7	116.8	102.9	88.9	75.0	-	159.9	10.2	124.3	110.7	97.1	83.6	70.0	-
	62	153.0	9.0	153.0	143.5	127.2	113.3	99.4	85.5	144.9	10.0	144.9	138.4	120.1	106.6	93.0	79.4
3750	77	210.2	9.7	89.0	73.6	58.1	-	-	-	197.5	10.7	84.3	69.1	53.9	-	-	-
	72	191.8	9.4	114.7	99.3	83.9	68.4	-	-	180.9	10.5	109.7	94.4	79.2	64.0	-	-
	67	173.5	9.1	140.4	125.0	109.6	94.2	78.7	-	164.3	10.2	135.0	119.8	104.6	89.4	74.2	-
	62	157.2	9.0	157.2	150.9	135.5	120.1	104.7	89.3	148.9	10.1	148.9	144.5	129.3	114.1	98.9	83.7
	57	152.9	8.9	152.9	152.9	144.1	128.7	113.3	97.8	146.9	10.0	146.9	146.9	135.2	120.0	104.8	89.6
4375	77	215.9	9.7	95.5	78.6	61.7	-	-	-	202.8	10.8	91.4	74.5	57.7	-	-	-
	72	197.1	9.4	122.8	105.9	89.0	72.1	-	-	185.7	10.5	118.6	101.7	84.9	68.0	-	-
	67	178.3	9.2	150.1	133.2	116.3	99.4	82.5	-	168.6	10.3	145.8	128.9	112.0	95.2	78.3	-
	62	161.5	9.1	161.5	158.4	143.8	126.9	110.0	93.1	152.8	10.1	152.8	150.7	138.5	121.7	104.8	88.0
	57	157.1	9.0	157.1	157.1	152.9	136.0	119.1	102.2	150.8	10.1	150.8	150.8	144.8	128.0	111.1	94.3
5000	77	221.6	9.8	102.1	83.7	65.3	-	-	-	208.0	10.8	98.5	80.0	61.5	-	-	-
	72	202.3	9.5	130.9	112.6	94.2	75.8	-	-	190.5	10.6	127.5	109.0	90.5	72.0	-	-
	67	183.0	9.2	159.8	141.4	123.0	104.6	86.2	-	173.0	10.4	156.5	138.0	119.5	101.0	82.5	-
	62	165.8	9.1	165.8	165.8	152.1	133.7	115.3	96.9	156.8	10.2	156.8	156.8	147.8	129.3	110.8	92.3
	57	161.2	9.0	161.2	161.2	161.8	143.4	125.0	106.6	154.8	10.1	154.8	154.8	154.5	136.0	117.5	99.0
5625	72	206.6	9.5	140.7	121.0	101.3	81.6	-	-	193.5	10.6	136.3	116.5	96.7	76.9	-	-
	67	186.9	9.2	174.9	152.0	132.3	112.6	92.9	-	175.7	10.4	167.3	147.5	127.7	107.9	88.1	-
	62	169.3	9.2	169.3	169.3	162.5	142.8	123.1	103.4	159.3	10.2	159.3	159.3	154.7	135.0	115.2	95.4
	57	164.7	9.0	164.7	164.7	165.0	145.3	125.6	105.8	157.2	10.1	157.2	157.2	157.0	137.2	117.5	97.7
6250	72	210.9	9.5	150.5	129.4	108.4	87.4	-	-	196.5	10.6	145.1	124.0	102.9	81.8	-	-
	67	190.8	9.3	190.0	162.7	141.6	120.6	99.6	-	178.4	10.4	178.0	157.0	135.9	114.8	93.7	-
	62	172.9	9.2	172.9	172.9	172.9	151.8	130.8	109.8	161.7	10.2	161.7	161.7	161.7	140.6	119.6	98.5
	57	168.1	9.0	168.1	168.1	168.1	147.1	126.1	105.0	159.6	10.2	159.6	159.6	159.6	138.5	117.4	96.4
		95°F								**105°F**							
3125	77	180.0	11.6	71.9	58.7	45.5	-	-	-	169.2	13.1	68.8	56.1	43.0	-	-	-
	72	165.5	11.4	94.9	81.7	68.5	55.2	-	-	155.1	13.0	91.6	78.5	65.5	52.4	-	-
	67	151.0	11.3	117.8	104.6	91.4	78.2	65.0	-	140.9	12.8	114.3	100.9	87.9	74.9	61.8	-
	62	136.9	11.0	136.9	133.3	113.0	99.8	86.6	73.4	128.7	12.5	128.7	126.9	108.9	95.8	82.8	69.8
3750	77	184.8	11.7	79.6	64.6	49.6	-	-	-	173.5	13.2	76.3	61.6	46.8	-	-	-
	72	169.9	11.5	104.6	89.6	74.6	59.6	-	-	159.0	13.0	100.7	86.0	71.2	56.5	-	-
	67	155.0	11.4	129.6	114.6	99.6	84.6	69.6	-	144.5	12.8	125.1	110.4	95.6	80.9	66.1	-
	62	140.5	11.1	140.5	138.1	123.1	108.1	93.1	78.1	131.9	12.6	131.9	130.7	118.4	103.7	88.9	74.1
	57	141.0	11.0	141.0	141.0	126.3	111.3	96.3	81.3	131.4	12.6	131.4	131.4	118.3	103.5	88.8	74.0
4375	77	189.6	11.8	87.3	70.5	53.7	-	-	-	177.8	13.2	83.9	67.1	50.6	-	-	-
	72	174.3	11.6	114.3	97.5	80.7	63.9	-	-	162.9	13.1	109.9	93.4	77.0	60.5	-	-
	67	159.0	11.5	141.4	124.6	107.8	91.0	74.2	-	148.1	12.9	135.9	119.8	103.3	86.9	70.4	-
	62	144.2	11.2	144.2	143.0	133.3	116.5	99.7	82.9	135.2	12.6	135.2	134.6	128.0	111.5	95.0	78.5
	57	144.6	11.1	144.6	144.6	136.7	119.9	103.1	86.3	134.6	12.6	134.6	134.6	127.8	111.4	94.9	78.4
5000	77	194.4	11.9	94.9	76.3	57.7	-	-	-	182.0	13.3	91.5	72.6	54.4	-	-	-
	72	178.7	11.7	124.1	105.5	86.9	68.3	-	-	166.8	13.1	119.1	100.9	82.7	64.5	-	-
	67	163.0	11.6	153.2	134.6	116.0	97.4	78.8	-	151.6	12.9	146.7	129.2	111.0	92.9	74.7	-
	62	147.8	11.3	147.8	147.8	143.4	124.8	106.2	87.6	138.4	12.7	138.4	138.4	137.5	119.3	101.1	82.9
	57	148.3	11.2	148.3	148.3	147.1	128.5	109.9	91.3	137.8	12.7	137.8	137.8	137.4	119.2	101.0	82.8
5625	72	180.4	11.7	131.9	112.0	92.2	72.3	-	-	168.0	13.2	127.6	107.9	88.2	68.6	-	-
	67	164.5	11.6	159.6	142.9	123.1	103.2	83.3	-	152.7	13.0	150.2	137.8	118.5	98.8	79.1	-
	62	149.2	11.3	149.2	149.2	147.0	127.1	107.3	87.4	139.4	12.7	139.4	139.4	138.9	119.3	99.6	80.0
	57	149.7	11.2	149.7	149.7	149.1	129.2	109.4	89.5	138.8	12.7	138.8	138.8	138.6	118.9	99.3	79.6
6250	72	182.1	11.8	139.7	118.6	97.4	76.3	-	-	169.2	13.2	136.0	114.9	93.8	72.6	-	-
	67	166.1	11.6	166.1	151.3	130.1	109.0	87.9	-	153.7	13.0	153.7	146.3	125.9	104.8	83.6	-
	62	150.6	11.3	150.6	150.6	150.6	129.5	108.3	87.2	140.4	12.7	140.4	140.4	140.4	119.2	98.1	77.0
	57	151.1	11.3	151.1	151.1	151.1	130.0	108.8	87.7	139.8	12.7	139.8	139.8	139.8	118.6	97.5	76.4

ZH150 (12.5 Ton) (Continued)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)					
CFM	WB (°F)			Return Dry Bulb (°F)								Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		115°F								**125°F**							
3125	77	158.4	14.6	65.6	53.5	40.6	-	-	-	147.6	16.1	60.0	50.8	38.1	-	-	-
	72	144.6	14.5	88.2	75.4	62.5	49.6	-	-	134.2	16.0	84.9	72.2	59.5	46.8	-	-
	67	130.9	14.3	110.9	97.3	84.4	71.5	58.7	-	120.9	15.8	107.4	93.6	80.9	68.2	55.5	-
	62	120.5	14.0	120.5	120.5	104.7	91.9	79.0	66.1	112.3	15.6	112.3	112.3	100.7	87.9	75.2	62.5
3750	77	162.2	14.7	73.1	58.6	44.1	-	-	-	150.8	16.1	69.9	55.6	41.3	-	-	-
	72	148.1	14.5	96.9	82.4	67.9	53.3	-	-	137.2	16.0	93.0	78.7	64.5	50.2	-	-
	67	134.0	14.3	120.6	106.1	91.6	77.1	62.6	-	123.5	15.8	116.2	101.9	87.6	73.4	59.1	-
	62	123.3	14.1	123.3	123.3	113.7	99.2	84.7	70.2	114.8	15.6	114.8	114.8	109.0	94.7	80.5	66.2
	57	121.8	14.1	121.8	121.8	110.3	95.8	81.2	66.7	112.1	15.6	112.1	112.1	102.2	88.0	73.7	59.4
4375	77	165.9	14.7	80.6	63.7	47.6	-	-	-	154.1	16.1	79.7	60.3	44.5	-	-	-
	72	151.5	14.5	105.5	89.4	73.2	57.1	-	-	140.1	15.9	101.1	85.3	69.5	53.6	-	-
	67	137.1	14.3	130.4	115.0	98.9	82.7	66.6	-	126.2	15.8	125.0	110.2	94.4	78.6	62.7	-
	62	126.2	14.1	126.2	126.2	122.7	106.5	90.4	74.2	117.2	15.5	117.2	117.2	117.2	101.6	85.7	69.9
	57	124.6	14.1	124.6	124.6	119.0	102.8	86.7	70.5	114.6	15.6	114.6	114.6	110.1	94.3	78.4	62.6
5000	77	169.7	14.7	88.1	68.8	51.0	-	-	-	157.3	16.1	89.6	65.1	47.7	-	-	-
	72	155.0	14.5	114.2	96.4	78.6	60.8	-	-	143.1	15.9	109.2	91.8	74.4	57.0	-	-
	67	140.2	14.3	140.2	123.9	106.1	88.3	70.5	-	128.9	15.7	128.9	118.6	101.1	83.7	66.3	-
	62	129.1	14.1	129.1	129.1	131.7	113.9	96.1	78.3	119.7	15.5	119.7	119.7	119.7	108.4	91.0	73.6
	57	127.4	14.2	127.4	127.4	127.7	109.9	92.1	74.3	117.0	15.6	117.0	117.0	117.0	100.6	83.2	65.7
5625	72	155.6	14.6	123.2	103.8	84.3	64.9	-	-	143.2	16.0	118.9	99.7	80.4	61.2	-	-
	67	140.8	14.4	140.8	132.6	113.9	94.4	74.9	-	128.9	15.8	128.9	127.5	109.3	90.0	70.8	-
	62	129.6	14.1	129.6	129.6	130.9	111.4	92.0	72.5	119.8	15.6	119.8	119.8	119.8	103.6	84.3	65.1
	57	127.9	14.2	127.9	127.9	128.1	108.6	89.1	69.7	117.0	15.6	117.0	117.0	117.0	98.3	79.0	59.8
6250	72	156.2	14.6	132.3	111.2	90.1	69.0	-	-	143.3	16.0	128.6	107.5	86.4	65.3	-	-
	67	141.4	14.4	141.4	141.4	121.6	100.5	79.4	-	129.0	15.8	129.0	129.0	117.4	96.3	75.2	-
	62	130.1	14.2	130.1	130.1	130.1	109.0	87.9	66.8	119.9	15.6	119.9	119.9	119.9	98.8	77.7	56.5
	57	128.4	14.2	128.4	128.4	128.4	107.3	86.2	65.1	117.1	15.7	117.1	117.1	117.1	96.0	74.9	53.8

1. These capacities are gross ratings. For net capacity, deduct air blower motor, MBh = 3.415 x kW. Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.
2. These ratings include the condenser fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

ZJ037-150 Cooling Capacities

ZJ037 (3.0 Ton)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
				Sensible Capacity (MBh)								Sensible Capacity (MBh)					
CFM	WB (°F)	Total Capacity[1] (MBh)	Total Input (kW)[2]	Return Dry Bulb (°F)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		75°F								**85°F**							
750	77	49.2	2.1	19.7	16.4	13.1	-	-	-	45.1	2.3	18.0	14.8	11.6	-	-	-
	72	43.8	2.0	24.5	21.2	17.9	14.6	-	-	40.2	2.3	22.8	19.6	16.4	13.2	-	-
	67	38.4	2.0	29.4	26.1	22.8	19.5	16.2	-	35.2	2.2	27.5	24.3	21.1	17.9	14.7	-
	62	33.2	2.0	33.2	33.2	27.2	23.9	20.6	17.3	30.4	2.2	30.4	30.4	25.3	22.0	18.8	15.6
900	77	51.6	2.0	22.2	18.3	14.5	-	-	-	47.4	2.3	20.6	16.8	13.0	-	-	-
	72	45.9	2.0	27.6	23.7	19.8	15.9	-	-	42.2	2.3	25.9	22.1	18.3	14.4	-	-
	67	40.3	2.0	33.0	29.1	25.2	21.3	17.4	-	37.0	2.2	31.1	27.3	23.5	19.7	15.9	-
	62	34.8	2.0	34.8	34.8	30.1	26.2	22.3	18.4	31.9	2.2	31.9	31.9	28.2	24.4	20.6	16.8
	57	29.4	2.0	29.4	29.4	31.7	27.8	23.9	20.0	28.9	2.2	28.9	28.9	28.9	25.1	21.3	17.5
1050	77	54.0	2.0	24.8	20.3	15.8	-	-	-	49.7	2.3	23.1	18.7	14.3	-	-	-
	72	48.1	2.0	30.7	26.2	21.7	17.3	-	-	44.2	2.3	28.9	24.5	20.1	15.7	-	-
	67	42.2	2.0	36.6	32.1	27.6	23.2	18.7	-	38.7	2.2	34.8	30.4	26.0	21.6	17.2	-
	62	36.4	2.0	36.4	36.4	33.0	28.5	24.0	19.5	33.5	2.2	33.5	33.5	31.1	26.7	22.3	17.9
	57	30.8	2.0	30.8	30.8	38.9	32.1	29.9	25.4	30.3	2.2	30.3	30.3	33.9	28.4	25.1	20.7
1200	77	56.4	2.0	27.4	22.3	17.2	-	-	-	52.0	2.3	25.6	20.6	15.6	-	-	-
	72	50.2	2.0	33.8	28.7	23.7	18.6	-	-	46.3	2.3	32.0	27.0	22.0	17.0	-	-
	67	44.1	2.0	40.2	35.2	30.1	25.0	19.9	-	40.5	2.2	38.4	33.4	28.4	23.4	18.4	-
	62	38.1	2.0	38.1	38.1	35.9	30.8	25.7	20.6	35.0	2.2	35.0	35.0	34.0	29.0	24.0	19.0
	57	32.2	2.0	32.2	32.2	46.0	36.4	35.8	30.7	31.7	2.2	31.7	31.7	38.9	31.7	28.9	23.9
1350	72	51.5	2.0	36.7	31.0	25.4	19.7	-	-	47.2	2.3	34.8	29.2	23.6	18.1	-	-
	67	45.1	2.0	43.2	37.9	32.3	26.6	20.9	-	41.3	2.2	40.3	36.1	30.5	24.9	19.4	-
	62	39.0	2.0	39.0	39.0	37.9	32.2	26.6	20.9	35.7	2.2	35.7	35.7	35.2	29.6	24.1	18.5
	57	33.0	2.0	33.0	33.0	39.9	31.9	28.6	22.9	32.3	2.2	32.3	32.3	35.9	29.3	24.8	19.3
1500	72	52.7	2.0	39.6	33.3	27.1	20.9	-	-	48.1	2.3	37.5	31.4	25.3	19.2	-	-
	67	46.2	2.0	46.2	40.7	34.4	28.2	22.0	-	42.2	2.2	42.2	38.7	32.6	26.5	20.4	-
	62	39.9	2.0	39.9	39.9	39.9	33.7	27.4	21.2	36.4	2.2	36.4	36.4	36.4	30.3	24.2	18.1
	57	33.8	2.0	33.8	33.8	33.8	27.5	21.3	15.0	32.9	2.2	32.9	32.9	32.9	26.8	20.7	14.6
		95°F								**105°F**							
750	77	41.1	2.6	16.4	13.3	10.2	-	-	-	36.8	2.8	13.8	11.6	8.6	-	-	-
	72	36.5	2.5	21.0	17.9	14.8	11.7	-	-	32.9	2.7	19.3	16.3	13.3	10.3	-	-
	67	31.9	2.4	25.6	22.5	19.4	16.3	13.2	-	28.9	2.7	24.9	21.0	18.0	15.0	12.0	-
	62	27.6	2.4	27.6	27.6	23.3	20.2	17.1	14.0	24.9	2.6	24.9	24.9	21.8	18.8	15.8	12.8
900	77	43.3	2.6	18.9	15.2	11.5	-	-	-	38.6	2.8	16.9	13.3	9.7	-	-	-
	72	38.5	2.5	24.1	20.4	16.7	13.0	-	-	34.5	2.7	22.2	18.6	15.0	11.4	-	-
	67	33.6	2.4	29.3	25.6	21.9	18.1	14.4	-	30.3	2.7	27.6	24.0	20.4	16.8	13.2	-
	62	29.0	2.4	29.0	29.0	26.2	22.5	18.8	15.1	26.1	2.6	26.1	26.1	24.6	21.0	17.4	13.8
	57	28.3	2.4	28.3	28.3	26.0	22.3	18.6	14.9	25.5	2.6	25.5	25.5	23.6	20.0	16.4	12.8
1050	77	45.4	2.6	21.4	17.1	12.7	-	-	-	40.4	2.8	20.0	15.0	10.8	-	-	-
	72	40.4	2.5	27.2	22.8	18.5	14.2	-	-	36.1	2.8	25.1	20.9	16.8	12.6	-	-
	67	35.3	2.5	32.9	28.6	24.3	20.0	15.7	-	31.7	2.7	30.2	26.9	22.7	18.5	14.3	-
	62	30.5	2.4	30.5	30.5	29.1	24.8	20.5	16.2	27.3	2.6	27.3	27.3	27.4	23.3	19.1	14.9
	57	29.7	2.4	29.7	29.7	29.0	24.6	20.3	16.0	26.7	2.6	26.7	26.7	26.4	22.2	18.0	13.8
1200	77	47.6	2.6	23.9	19.0	14.0	-	-	-	42.2	2.9	23.1	16.7	11.9	-	-	-
	72	42.3	2.5	30.2	25.3	20.4	15.5	-	-	37.7	2.8	28.0	23.3	18.5	13.7	-	-
	67	37.0	2.5	36.6	31.7	26.8	21.8	16.9	-	33.1	2.7	32.9	29.8	25.0	20.3	15.5	-
	62	32.0	2.4	32.0	32.0	32.1	27.2	22.2	17.3	28.5	2.6	28.5	28.5	30.3	25.5	20.7	15.9
	57	31.2	2.4	31.2	31.2	31.9	27.0	22.0	17.1	27.9	2.7	27.9	27.9	29.1	24.3	19.5	14.7
1350	72	43.0	2.5	32.8	27.4	21.9	16.5	-	-	38.2	2.8	30.5	25.2	19.9	14.6	-	-
	67	37.6	2.5	37.4	34.2	28.7	23.3	17.9	-	33.6	2.7	33.5	31.6	27.0	21.7	16.4	-
	62	32.4	2.4	32.4	32.4	32.5	27.1	21.6	16.2	28.9	2.7	28.9	28.9	29.8	24.5	19.2	13.9
	57	31.6	2.4	31.6	31.6	32.0	26.6	21.1	15.7	28.3	2.7	28.3	28.3	28.9	23.6	18.3	13.0
1500	72	43.6	2.5	35.4	29.4	23.4	17.5	-	-	38.7	2.8	32.9	27.1	21.3	15.5	-	-
	67	38.1	2.5	38.1	36.7	30.7	24.8	18.8	-	34.0	2.7	34.0	33.3	28.9	23.0	17.2	-
	62	32.9	2.4	32.9	32.9	32.9	27.0	21.0	15.1	29.3	2.7	29.3	29.3	29.3	23.5	17.6	11.8
	57	32.1	2.4	32.1	32.1	32.1	26.2	20.2	14.2	28.7	2.7	28.7	28.7	28.7	22.9	17.0	11.2

ZJ037 (3.0 Ton) (Continued)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)					
CFM	WB (°F)			Return Dry Bulb (°F)								Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		115°F								**125°F**							
750	77	32.6	3.1	11.2	9.9	7.0	-	-	-	28.3	3.3	9.2	7.9	5.4	-	-	-
	72	29.2	3.0	17.7	14.8	11.8	8.9	-	-	25.6	3.2	16.0	13.2	10.3	7.5	-	-
	67	25.9	2.9	24.2	19.6	16.6	13.7	10.8	-	22.9	3.1	22.9	18.1	15.3	12.4	9.6	-
	62	22.2	2.8	22.2	22.2	20.3	17.4	14.4	11.5	19.5	3.0	19.5	19.5	19.5	16.0	13.1	10.3
900	77	34.0	3.1	14.9	11.4	7.9	-	-	-	29.4	3.4	13.4	9.6	6.2	-	-	-
	72	30.5	3.0	20.4	16.9	13.4	9.9	-	-	26.5	3.2	18.6	15.2	11.8	8.4	-	-
	67	27.0	2.9	25.9	22.4	18.9	15.4	11.9	-	23.7	3.1	23.7	20.8	17.4	14.0	10.6	-
	62	23.1	2.8	23.1	23.1	23.0	19.5	16.0	12.5	20.2	3.0	20.2	20.2	20.2	18.0	14.7	11.3
	57	22.8	2.8	22.8	22.8	21.2	17.8	14.3	10.8	20.0	3.1	20.0	20.0	18.8	15.5	12.1	8.7
1050	77	35.4	3.1	18.7	12.9	8.9	-	-	-	30.4	3.4	17.6	11.3	7.0	-	-	-
	72	31.8	3.0	23.1	19.1	15.0	10.9	-	-	27.5	3.3	21.1	17.2	13.2	9.3	-	-
	67	28.1	2.9	27.5	25.2	21.1	17.0	13.0	-	24.5	3.1	24.5	23.4	19.5	15.6	11.7	-
	62	24.1	2.8	24.1	24.1	25.7	21.7	17.6	13.6	20.9	3.0	20.9	20.9	20.9	20.1	16.2	12.2
	57	23.7	2.9	23.7	23.7	23.8	19.7	15.6	11.6	20.7	3.1	20.7	20.7	20.7	17.2	13.3	9.4
1200	77	36.8	3.1	22.4	14.5	9.8	-	-	-	31.4	3.4	21.9	12.9	7.7	-	-	-
	72	33.0	3.0	25.8	21.2	16.6	12.0	-	-	28.4	3.3	23.6	19.1	14.7	10.2	-	-
	67	29.2	2.9	29.2	28.0	23.3	18.7	14.1	-	25.4	3.1	25.4	25.4	21.6	17.2	12.7	-
	62	25.0	2.8	25.0	25.0	28.5	23.8	19.2	14.6	21.6	3.0	21.6	21.6	21.6	21.6	17.7	13.2
	57	24.7	2.9	24.7	24.7	26.3	21.6	17.0	12.4	21.4	3.1	21.4	21.4	21.4	19.0	14.5	10.0
1350	72	33.4	3.0	28.2	23.0	17.9	12.7	-	-	28.6	3.3	25.9	20.9	15.9	10.9	-	-
	67	29.6	2.9	29.6	28.9	25.2	20.0	14.9	-	25.6	3.2	25.6	25.6	23.4	18.4	13.4	-
	62	25.3	2.9	25.3	25.3	27.0	21.9	16.7	11.6	21.8	3.1	21.8	21.8	21.8	19.3	14.3	9.3
	57	24.9	2.9	24.9	24.9	25.7	20.6	15.4	10.3	21.6	3.1	21.6	21.6	21.6	17.6	12.6	7.6
1500	72	33.8	3.1	30.5	24.8	19.2	13.5	-	-	28.9	3.3	28.1	22.6	17.0	11.5	-	-
	67	29.9	3.0	29.9	29.9	27.0	21.3	15.6	-	25.8	3.2	25.8	25.8	25.1	19.6	14.0	-
	62	25.6	2.9	25.6	25.6	25.6	19.9	14.3	8.6	22.0	3.1	22.0	22.0	22.0	16.4	10.9	5.4
	57	25.2	2.9	25.2	25.2	25.2	19.6	13.9	8.2	21.8	3.2	21.8	21.8	21.8	16.2	10.7	5.2

1. These capacities are gross ratings. For net capacity, deduct air blower motor, MBh = 3.415 x kW. Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.
2. These ratings include the condenser fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

ZJ049 (4.0 Ton)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)					
CFM	WB (°F)			Return Dry Bulb (°F)								Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		75°F								**85°F**							
1000	77	79.0	3.0	29.4	25.1	20.7	-	-	-	65.9	3.2	26.7	22.4	18.1	-	-	-
	72	68.7	2.9	35.7	31.3	27.0	22.6	-	-	58.0	3.2	32.8	28.5	24.2	20.0	-	-
	67	58.4	2.8	42.0	37.6	33.3	28.9	24.5	-	50.1	3.1	38.9	34.6	30.3	26.1	21.8	-
	62	54.5	2.9	54.5	51.1	39.9	35.5	31.2	26.8	45.3	3.1	45.3	43.6	36.8	32.6	28.3	24.0
1200	77	78.9	3.0	32.6	27.5	22.4	-	-	-	67.5	3.2	29.9	24.8	19.8	-	-	-
	72	68.5	2.9	39.4	34.3	29.2	24.1	-	-	59.5	3.2	36.6	31.5	26.5	21.4	-	-
	67	58.2	2.8	46.2	41.1	36.0	30.9	25.8	-	51.4	3.1	43.2	38.2	33.1	28.1	23.1	-
	62	54.4	2.9	54.4	52.2	43.1	38.0	32.9	27.8	46.4	3.1	46.4	45.3	40.3	35.2	30.2	25.1
	57	54.2	2.9	54.2	54.2	46.4	41.3	36.2	31.1	46.0	3.1	46.0	46.0	41.6	36.6	31.6	26.5
1400	77	78.8	2.9	35.8	29.9	24.1	-	-	-	69.2	3.2	33.1	27.3	21.5	-	-	-
	72	68.4	2.9	43.0	37.2	31.4	25.5	-	-	60.9	3.2	40.4	34.5	28.7	22.9	-	-
	67	58.0	2.8	50.3	44.5	38.7	32.8	27.0	-	52.6	3.1	47.6	41.8	36.0	30.2	24.3	-
	62	54.4	2.8	54.4	53.2	46.3	40.5	34.7	28.8	47.5	3.1	47.5	47.0	43.7	37.9	32.1	26.2
	57	54.2	2.8	54.2	54.2	50.0	44.1	38.3	32.4	47.1	3.1	47.1	47.1	45.2	39.4	33.6	27.8
1600	77	78.7	2.9	38.9	32.4	25.8	-	-	-	70.8	3.2	36.4	29.8	23.2	-	-	-
	72	68.2	2.9	46.7	40.1	33.6	27.0	-	-	62.3	3.2	44.2	37.6	31.0	24.4	-	-
	67	57.8	2.8	54.5	47.9	41.4	34.8	28.2	-	53.9	3.1	52.0	45.4	38.8	32.2	25.6	-
	62	54.3	2.8	54.3	54.3	49.6	43.0	36.4	29.8	48.7	3.1	48.7	48.7	47.1	40.5	33.9	27.4
	57	54.1	2.8	54.1	54.1	53.5	46.9	40.3	33.8	48.2	3.1	48.2	48.2	48.7	42.1	35.6	29.0
1800	72	62.0	3.2	44.6	37.0	29.5	22.0	-	-	59.3	3.4	44.7	37.3	29.9	22.5	-	-
	67	52.4	3.1	50.8	43.8	36.2	28.7	21.2	-	51.3	3.3	50.3	44.9	37.5	30.0	22.6	-
	62	49.5	3.2	49.5	49.5	47.0	39.5	32.0	24.5	46.3	3.3	46.3	46.3	45.5	38.1	30.7	23.3
	57	49.3	3.2	49.3	49.3	49.0	41.5	34.0	26.5	45.9	3.3	45.9	45.9	46.1	38.7	31.3	23.9
2000	72	55.8	3.5	42.4	33.9	25.5	17.0	-	-	56.3	3.5	45.3	37.1	28.9	20.6	-	-
	67	47.0	3.5	47.0	39.6	31.1	22.7	14.2	-	48.7	3.5	48.7	44.4	36.1	27.9	19.6	-
	62	44.6	3.5	44.6	44.6	44.4	36.0	27.5	19.1	44.0	3.5	44.0	44.0	43.9	35.6	27.4	19.1
	57	44.6	3.5	44.6	44.6	44.6	36.1	27.6	19.2	43.6	3.5	43.6	43.6	43.6	35.3	27.1	18.8
		95°F								**105°F**							
1000	77	52.8	3.4	23.9	19.7	15.5	-	-	-	49.1	3.8	19.3	16.9	13.0	-	-	-
	72	47.4	3.4	29.8	25.6	21.5	17.3	-	-	43.6	3.8	27.0	22.9	18.9	14.8	-	-
	67	41.9	3.4	35.7	31.6	27.4	23.2	19.0	-	38.1	3.7	34.7	28.9	24.7	20.7	16.6	-
	62	36.1	3.3	36.1	36.1	33.7	29.6	25.4	21.2	33.9	3.6	33.9	33.9	29.9	25.8	21.8	17.7
1200	77	56.2	3.5	27.2	22.2	17.2	-	-	-	51.6	3.9	24.5	19.5	14.6	-	-	-
	72	50.4	3.5	33.7	28.8	23.8	18.8	-	-	45.8	3.8	31.1	26.1	21.2	16.2	-	-
	67	44.6	3.4	40.3	35.3	30.3	25.4	20.4	-	40.0	3.7	37.7	32.7	27.8	22.8	17.9	-
	62	38.4	3.3	38.4	38.4	37.4	32.4	27.4	22.4	35.6	3.6	35.6	35.6	33.6	28.7	23.7	18.8
	57	37.7	3.3	37.7	37.7	36.8	31.9	26.9	21.9	35.2	3.6	35.2	35.2	33.2	28.3	23.3	18.4
1400	77	59.6	3.5	30.5	24.7	18.9	-	-	-	54.0	3.9	29.6	22.1	16.1	-	-	-
	72	53.4	3.5	37.7	31.9	26.1	20.3	-	-	48.0	3.8	35.1	29.3	23.5	17.7	-	-
	67	47.3	3.5	44.9	39.1	33.3	27.5	21.7	-	42.0	3.8	40.7	36.5	30.8	25.0	19.2	-
	62	40.7	3.4	40.7	40.7	41.0	35.2	29.4	23.7	37.3	3.7	37.3	37.3	37.3	31.5	25.6	19.8
	57	40.0	3.4	40.0	40.0	40.4	34.6	28.8	23.1	36.8	3.7	36.8	36.8	36.9	31.0	25.2	19.4
1600	77	63.0	3.6	33.8	27.2	20.6	-	-	-	56.5	3.9	34.7	24.7	17.7	-	-	-
	72	56.5	3.5	41.6	35.0	28.4	21.8	-	-	50.2	3.9	39.2	32.5	25.8	19.1	-	-
	67	50.0	3.5	49.4	42.8	36.2	29.6	23.0	-	43.9	3.8	43.6	40.3	33.9	27.2	20.5	-
	62	43.0	3.4	43.0	43.0	44.7	38.1	31.5	24.9	39.0	3.7	39.0	39.0	41.0	34.3	27.6	20.9
	57	42.3	3.4	42.3	42.3	44.0	37.4	30.8	24.2	38.5	3.7	38.5	38.5	40.5	33.8	27.1	20.4
1800	72	56.7	3.5	44.9	37.6	30.3	23.0	-	-	49.9	3.9	42.3	35.1	27.6	20.2	-	-
	67	50.1	3.5	49.9	46.0	38.7	31.4	24.0	-	43.7	3.8	43.5	41.6	36.3	28.9	21.5	-
	62	43.2	3.4	43.2	43.2	44.0	36.7	29.4	22.1	38.7	3.7	38.7	38.7	39.7	32.3	24.9	17.5
	57	42.4	3.4	42.4	42.4	43.3	36.0	28.7	21.3	38.3	3.7	38.3	38.3	39.3	31.9	24.4	17.0
2000	72	56.9	3.5	48.3	40.3	32.2	24.2	-	-	49.7	3.9	45.4	37.6	29.5	21.3	-	-
	67	50.3	3.5	50.3	49.1	41.1	33.1	25.1	-	43.4	3.8	43.4	42.8	38.7	30.6	22.4	-
	62	43.3	3.4	43.3	43.3	43.3	35.3	27.3	19.2	38.5	3.7	38.5	38.5	38.5	30.4	22.2	14.1
	57	42.6	3.4	42.6	42.6	42.6	34.5	26.5	18.5	38.1	3.7	38.1	38.1	38.1	29.9	21.8	13.6

ZJ049 (4.0 Ton) (Continued)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)					
CFM	WB (°F)			Return Dry Bulb (°F)								Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		115°F								**125°F**							
1000	77	45.4	4.2	14.8	14.2	10.4	-	-	-	41.7	4.6	12.4	9.6	7.9	-	-	-
	72	39.8	4.1	24.2	20.2	16.3	12.3	-	-	36.1	4.4	21.4	17.5	13.6	9.8	-	-
	67	34.3	4.0	33.7	26.3	22.1	18.1	14.1	-	30.5	4.3	30.5	23.8	19.4	15.5	11.6	-
	62	31.6	3.9	31.6	31.6	26.1	22.1	18.1	14.2	29.4	4.2	29.4	29.4	22.3	18.4	14.5	10.6
1200	77	46.9	4.3	21.7	16.8	11.9	-	-	-	42.3	4.6	20.6	14.1	9.3	-	-	-
	72	41.2	4.1	28.4	23.5	18.6	13.7	-	-	36.6	4.5	25.7	20.9	16.0	11.1	-	-
	67	35.5	4.0	35.1	30.1	25.2	20.3	15.4	-	30.9	4.3	30.9	27.6	22.7	17.8	12.9	-
	62	32.7	3.9	32.7	32.7	29.8	24.9	20.0	15.1	29.9	4.2	29.9	29.9	26.0	21.1	16.3	11.4
	57	32.6	3.9	32.6	32.6	29.6	24.7	19.8	14.9	30.0	4.2	30.0	30.0	26.0	21.1	16.2	11.3
1400	77	48.5	4.3	28.7	19.5	13.4	-	-	-	43.0	4.7	28.8	18.7	10.7	-	-	-
	72	42.6	4.2	32.6	26.7	20.9	15.0	-	-	37.1	4.5	30.1	24.2	18.3	12.4	-	-
	67	36.7	4.1	36.4	34.0	28.4	22.5	16.7	-	31.3	4.3	31.3	31.3	25.9	20.0	14.1	-
	62	33.8	4.0	33.8	33.8	33.5	27.7	21.8	16.0	30.3	4.3	30.3	30.3	29.8	23.9	18.0	12.1
	57	33.7	4.0	33.7	33.7	33.3	27.4	21.6	15.7	30.5	4.3	30.5	30.5	29.7	23.9	18.0	12.1
1600	77	50.1	4.3	35.7	22.1	14.9	-	-	-	43.6	4.7	37.0	23.2	12.0	-	-	-
	72	43.9	4.2	36.8	30.0	23.2	16.4	-	-	37.7	4.5	34.4	27.5	20.6	13.7	-	-
	67	37.8	4.1	37.8	37.8	31.5	24.7	17.9	-	31.8	4.4	31.8	31.8	29.2	22.3	15.4	-
	62	34.9	4.0	34.9	34.9	37.3	30.5	23.7	16.9	30.8	4.3	30.8	30.8	30.8	26.7	19.8	12.9
	57	34.8	4.0	34.8	34.8	37.0	30.2	23.4	16.6	31.0	4.3	31.0	31.0	31.0	26.6	19.7	12.8
1800	72	43.2	4.2	39.6	32.5	25.0	17.4	-	-	36.5	4.6	36.5	29.9	22.3	14.7	-	-
	67	37.2	4.1	37.2	37.2	33.9	26.4	18.9	-	30.7	4.4	30.7	30.7	30.7	23.9	16.3	-
	62	34.3	4.0	34.3	34.3	35.5	27.9	20.4	12.9	29.9	4.3	29.9	29.9	29.9	23.6	15.9	8.3
	57	34.2	4.0	34.2	34.2	35.3	27.8	20.2	12.7	30.1	4.3	30.1	30.1	30.1	23.7	16.0	8.4
2000	72	42.4	4.3	42.4	35.0	26.7	18.5	-	-	35.2	4.6	35.2	32.4	24.0	15.6	-	-
	67	36.5	4.1	36.5	36.5	36.3	28.1	19.8	-	29.7	4.4	29.7	29.7	29.7	25.5	17.1	-
	62	33.7	4.0	33.7	33.7	33.7	25.4	17.2	8.9	28.9	4.4	28.9	28.9	28.9	20.5	12.1	3.7
	57	33.6	4.0	33.6	33.6	33.6	25.3	17.0	8.8	29.1	4.4	29.1	29.1	29.1	20.7	12.3	3.9

1. These capacities are gross ratings. For net capacity, deduct air blower motor, MBh = 3.415 x kW. Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.
2. These ratings include the condenser fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

ZJ061 (5.0 Ton)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)					
CFM	WB (°F)			Return Dry Bulb (°F)								Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		75°F								**85°F**							
1250	77	79.8	3.1	35.0	28.5	22.5	-	-	-	74.2	3.6	32.0	26.2	20.4	-	-	-
	72	72.2	3.1	42.9	36.9	30.9	24.9	-	-	67.2	3.6	40.3	34.4	28.6	22.8	-	-
	67	64.6	3.2	50.8	45.3	39.3	33.2	27.2	-	60.1	3.6	48.5	42.7	36.9	31.1	25.3	-
	62	57.1	3.1	57.1	57.1	47.4	41.4	35.4	29.4	53.6	3.5	53.6	53.6	44.7	38.9	33.0	27.2
1500	77	83.4	3.1	38.6	31.7	24.8	-	-	-	77.3	3.6	36.0	29.3	22.5	-	-	-
	72	75.5	3.2	47.8	40.9	34.0	27.1	-	-	70.0	3.6	45.1	38.4	31.6	24.9	-	-
	67	67.5	3.2	57.1	50.1	43.2	36.3	29.3	-	62.7	3.6	54.3	47.5	40.8	34.0	27.3	-
	62	59.7	3.1	59.7	59.7	52.2	45.2	38.3	31.4	55.9	3.5	55.9	55.9	49.4	42.6	35.9	29.1
	57	59.9	3.2	59.9	59.9	55.9	49.0	42.0	35.1	54.8	3.6	54.8	54.8	50.3	43.6	36.9	30.1
1750	77	87.0	3.2	42.3	34.9	27.0	-	-	-	80.4	3.7	40.0	32.3	24.7	-	-	-
	72	78.8	3.2	52.8	44.9	37.1	29.2	-	-	72.8	3.7	50.0	42.3	34.7	27.0	-	-
	67	70.5	3.2	63.3	55.0	47.1	39.3	31.4	-	65.2	3.6	60.0	52.3	44.7	37.0	29.3	-
	62	62.3	3.1	62.3	62.3	56.9	49.1	41.2	33.4	58.1	3.6	58.1	58.1	54.1	46.4	38.7	31.0
	57	62.4	3.2	62.4	62.4	61.0	53.2	45.3	37.5	57.0	3.6	57.0	57.0	55.1	47.5	39.8	32.1
2000	77	90.6	3.2	45.9	38.0	29.3	-	-	-	83.5	3.7	44.0	35.4	26.8	-	-	-
	72	82.0	3.2	57.7	48.9	40.2	31.4	-	-	75.6	3.7	54.9	46.3	37.7	29.1	-	-
	67	73.4	3.2	69.5	59.8	51.1	42.3	33.6	-	67.7	3.7	65.7	57.1	48.5	39.9	31.3	-
	62	64.9	3.2	64.9	64.9	61.7	52.9	44.2	35.4	60.4	3.6	60.4	60.4	58.8	50.2	41.5	32.9
	57	65.0	3.2	65.0	65.0	66.1	57.4	48.6	39.9	59.2	3.6	59.2	59.2	59.9	51.3	42.7	34.1
2250	72	84.2	3.2	62.2	52.6	43.0	33.4	-	-	77.4	3.7	59.3	49.9	40.4	30.9	-	-
	67	75.4	3.2	73.4	64.3	54.7	45.1	35.5	-	69.3	3.7	68.3	61.5	52.0	42.6	33.1	-
	62	66.6	3.2	66.6	66.6	65.0	55.4	45.8	36.2	61.8	3.6	61.8	61.8	61.0	51.5	42.1	32.6
	57	66.8	3.2	66.8	66.8	67.3	57.7	48.1	38.5	60.7	3.6	60.7	60.7	61.0	51.5	42.1	32.6
2500	72	86.4	3.2	66.8	56.3	45.9	35.5	-	-	79.2	3.7	63.7	53.4	43.1	32.8	-	-
	67	77.3	3.2	77.3	68.8	58.3	47.9	37.5	-	70.9	3.7	70.9	65.9	55.6	45.2	34.9	-
	62	68.4	3.2	68.4	68.4	68.4	57.9	47.5	37.1	63.2	3.6	63.2	63.2	63.2	52.9	42.6	32.3
	57	68.5	3.2	68.5	68.5	68.5	58.1	47.6	37.2	62.1	3.6	62.1	62.1	62.1	51.8	41.5	31.1
		95°F								**105°F**							
1250	77	68.5	4.1	29.0	23.9	18.2	-	-	-	63.5	4.5	25.6	22.1	16.6	-	-	-
	72	62.1	4.1	37.6	32.0	26.4	20.8	-	-	57.3	4.4	35.7	30.1	24.6	19.1	-	-
	67	55.7	4.0	46.2	40.1	34.5	28.9	23.3	-	51.0	4.4	45.7	38.1	32.6	27.1	21.5	-
	62	50.1	4.0	50.1	50.1	41.9	36.3	30.7	25.1	46.7	4.3	46.7	46.7	38.4	32.8	27.3	21.8
1500	77	71.1	4.1	33.4	26.8	20.3	-	-	-	65.8	4.5	31.5	25.0	18.5	-	-	-
	72	64.5	4.1	42.4	35.9	29.3	22.7	-	-	59.3	4.5	40.4	33.9	27.4	20.9	-	-
	67	57.8	4.1	51.5	44.9	38.3	31.8	25.2	-	52.8	4.4	49.3	42.8	36.3	29.8	23.3	-
	62	52.0	4.0	52.0	52.0	46.6	40.0	33.4	26.9	48.4	4.3	48.4	48.4	42.7	36.2	29.7	23.2
	57	49.8	4.0	49.8	49.8	44.8	38.2	31.7	25.1	46.4	4.3	46.4	46.4	41.7	35.2	28.7	22.2
1750	77	73.7	4.2	37.8	29.8	22.3	-	-	-	68.1	4.6	37.3	27.8	20.4	-	-	-
	72	66.8	4.1	47.3	39.7	32.2	24.7	-	-	61.4	4.5	45.1	37.7	30.2	22.7	-	-
	67	59.9	4.1	56.7	49.7	42.2	34.7	27.2	-	54.7	4.5	52.9	47.5	40.0	32.5	25.1	-
	62	53.9	4.0	53.9	53.9	51.2	43.7	36.2	28.7	50.1	4.4	50.1	50.1	47.1	39.6	32.1	24.7
	57	51.6	4.0	51.6	51.6	49.3	41.8	34.2	26.7	48.1	4.4	48.1	48.1	45.9	38.5	31.0	23.5
2000	77	76.3	4.2	42.2	32.8	24.3	-	-	-	70.4	4.6	43.1	30.7	22.3	-	-	-
	72	69.2	4.1	52.1	43.6	35.2	26.7	-	-	63.5	4.5	49.8	41.4	33.0	24.6	-	-
	67	62.0	4.1	62.0	54.5	46.0	37.5	29.1	-	56.5	4.5	56.5	52.1	43.7	35.3	26.9	-
	62	55.8	4.0	55.8	55.8	55.9	47.4	38.9	30.5	51.8	4.4	51.8	51.8	51.4	43.0	34.6	26.2
	57	53.4	4.0	53.4	53.4	53.7	45.3	36.8	28.4	49.7	4.4	49.7	49.7	50.2	41.7	33.3	24.9
2250	72	70.6	4.2	56.4	47.1	37.7	28.4	-	-	64.6	4.6	54.1	44.8	35.5	26.2	-	-
	67	63.3	4.1	63.3	58.7	49.4	40.1	30.7	-	57.6	4.5	57.6	55.0	47.0	37.8	28.5	-
	62	57.0	4.0	57.0	57.0	57.0	47.7	38.3	29.0	52.8	4.4	52.8	52.8	52.6	43.3	34.0	24.7
	57	54.5	4.0	54.5	54.5	54.7	45.4	36.0	26.7	50.6	4.4	50.6	50.6	50.8	41.6	32.3	23.0
2500	72	72.0	4.2	60.7	50.5	40.3	30.1	-	-	65.8	4.6	58.3	48.2	38.0	27.9	-	-
	67	64.6	4.1	64.6	63.0	52.8	42.6	32.4	-	58.6	4.5	58.6	57.8	50.4	40.2	30.1	-
	62	58.1	4.0	58.1	58.1	58.1	48.0	37.8	27.6	53.7	4.4	53.7	53.7	53.7	43.6	33.4	23.3
	57	55.7	4.0	55.7	55.7	55.7	45.5	35.3	25.1	51.5	4.4	51.5	51.5	51.5	41.4	31.2	21.1

ZJ061 (5.0 Ton) (Continued)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)					
CFM	WB (°F)			Return Dry Bulb (°F)								Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		115°F								**125°F**							
1250	77	58.5	4.9	22.3	20.4	14.9	-	-	-	53.4	5.3	21.9	17.7	13.3	-	-	-
	72	52.4	4.8	33.7	28.3	22.8	17.4	-	-	47.6	5.2	31.8	26.4	21.0	15.6	-	-
	67	46.3	4.7	45.1	36.1	30.7	25.2	19.8	-	41.7	5.1	41.7	34.1	28.7	23.4	18.0	-
	62	43.3	4.7	43.3	43.3	34.8	29.3	23.9	18.4	40.0	5.0	40.0	40.0	31.2	25.8	20.5	15.1
1500	77	60.5	4.9	29.6	23.1	16.7	-	-	-	55.1	5.3	29.6	21.3	14.9	-	-	-
	72	54.2	4.9	38.3	31.9	25.5	19.0	-	-	49.1	5.3	36.3	29.9	23.6	17.2	-	-
	67	47.9	4.8	47.1	40.7	34.3	27.8	21.4	-	43.0	5.2	43.0	38.6	32.2	25.8	19.5	-
	62	44.8	4.7	44.8	44.8	38.9	32.4	26.0	19.6	41.2	5.1	41.2	41.2	35.0	28.6	22.3	15.9
	57	43.1	4.7	43.1	43.1	38.5	32.1	25.7	19.2	39.7	5.1	39.7	39.7	35.4	29.0	22.6	16.3
1750	77	62.5	5.0	36.8	25.9	18.4	-	-	-	56.8	5.4	37.4	24.8	16.5	-	-	-
	72	56.0	4.9	43.0	35.6	28.1	20.7	-	-	50.6	5.3	40.8	33.5	26.1	18.7	-	-
	67	49.5	4.8	49.1	45.3	37.8	30.4	23.0	-	44.3	5.2	44.3	43.0	35.7	28.3	20.9	-
	62	46.3	4.7	46.3	46.3	42.9	35.5	28.1	20.7	42.5	5.1	42.5	42.5	38.8	31.4	24.1	16.7
	57	44.5	4.7	44.5	44.5	42.6	35.1	27.7	20.3	40.9	5.1	40.9	40.9	39.2	31.8	24.5	17.1
2000	77	64.5	5.0	44.1	28.6	20.2	-	-	-	58.5	5.5	45.1	28.4	18.1	-	-	-
	72	57.8	5.0	47.6	39.2	30.8	22.4	-	-	52.1	5.4	45.4	37.0	28.6	20.3	-	-
	67	51.1	4.9	51.1	49.8	41.4	33.0	24.6	-	45.6	5.3	45.6	45.6	39.2	30.8	22.4	-
	62	47.8	4.8	47.8	47.8	47.0	38.6	30.2	21.8	43.8	5.2	43.8	43.8	42.6	34.2	25.9	17.5
	57	45.9	4.8	45.9	45.9	46.6	38.2	29.8	21.4	42.2	5.2	42.2	42.2	42.2	34.7	26.3	17.9
2250	72	58.7	5.0	51.8	42.5	33.3	24.0	-	-	52.7	5.4	49.5	40.2	31.0	21.8	-	-
	67	51.9	4.9	51.9	51.3	44.7	35.5	26.2	-	46.2	5.3	46.2	46.2	42.4	33.1	23.9	-
	62	48.6	4.8	48.6	48.6	48.2	38.9	29.6	20.4	44.3	5.2	44.3	44.3	43.7	34.5	25.3	16.1
	57	46.7	4.8	46.7	46.7	47.0	37.7	28.5	19.2	42.7	5.2	42.7	42.7	42.7	33.9	24.7	15.5
2500	72	59.6	5.0	55.9	45.8	35.7	25.6	-	-	53.4	5.4	53.4	43.4	33.4	23.3	-	-
	67	52.7	4.9	52.7	52.7	48.0	37.9	27.7	-	46.8	5.3	46.8	46.8	45.6	35.5	25.4	-
	62	49.3	4.8	49.3	49.3	49.3	39.2	29.1	19.0	44.9	5.2	44.9	44.9	44.9	34.8	24.7	14.6
	57	47.4	4.8	47.4	47.4	47.4	37.3	27.1	17.0	43.3	5.2	43.3	43.3	43.3	33.2	23.1	13.0

1. These capacities are gross ratings. For net capacity, deduct air blower motor, MBh = 3.415 x kW. Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.
2. These ratings include the condenser fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

ZJ078 (6.5 Ton)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)					
CFM	WB (°F)			Return Dry Bulb (°F)								Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		75°F								**85°F**							
1625	77	106.7	4.6	46.4	38.6	31.0	-	-	-	98.2	5.1	42.4	35.0	27.6	-	-	-
	72	97.0	4.5	57.0	49.4	41.7	34.1	-	-	89.3	5.0	53.2	45.8	38.4	31.0	-	-
	67	87.2	4.5	67.6	60.1	52.4	44.8	37.2	-	80.3	5.0	63.9	56.5	49.1	41.7	34.3	-
	62	78.3	4.6	78.3	71.0	62.1	54.4	46.8	39.1	72.1	5.0	72.1	67.6	57.7	50.3	42.9	35.5
1950	77	109.7	4.6	50.9	42.2	33.4	-	-	-	101.0	5.1	47.1	38.5	30.0	-	-	-
	72	99.7	4.6	62.4	53.7	45.0	36.2	-	-	91.8	5.1	58.7	50.2	41.7	33.2	-	-
	67	89.6	4.5	73.9	65.2	56.5	47.8	39.1	-	82.6	5.0	70.4	61.9	53.3	44.8	36.3	-
	62	80.4	4.6	80.4	75.6	66.9	58.1	49.4	40.7	74.1	5.0	74.1	71.1	62.6	54.1	45.6	37.1
	57	83.1	4.6	83.1	83.1	72.0	63.2	54.5	45.8	74.2	5.0	74.2	74.2	66.9	58.4	49.9	41.4
2275	77	112.6	4.6	55.3	45.7	35.9	-	-	-	103.8	5.1	51.7	42.0	32.4	-	-	-
	72	102.3	4.6	67.8	58.0	48.2	38.4	-	-	94.4	5.1	64.2	54.6	45.0	35.4	-	-
	67	92.1	4.5	80.3	70.4	60.6	50.8	41.0	-	84.9	5.0	76.8	67.2	57.6	47.9	38.3	-
	62	82.6	4.6	82.6	80.2	71.7	61.9	52.1	42.3	76.2	5.0	76.2	74.7	67.6	58.0	48.3	38.7
	57	85.3	4.6	85.3	85.3	77.1	67.3	57.5	47.7	76.3	5.0	76.3	76.3	72.2	62.6	53.0	43.4
2600	77	115.6	4.6	59.8	49.2	38.3	-	-	-	106.6	5.2	56.3	45.5	34.8	-	-	-
	72	105.0	4.6	73.2	62.3	51.4	40.6	-	-	96.9	5.1	69.8	59.0	48.3	37.6	-	-
	67	94.5	4.5	86.6	75.5	64.6	53.7	42.9	-	87.2	5.1	83.3	72.5	61.8	51.1	40.3	-
	62	84.8	4.6	84.8	84.8	76.5	65.6	54.7	43.8	78.2	5.1	78.2	78.2	72.6	61.8	51.1	40.3
	57	87.6	4.6	87.6	87.6	82.3	71.4	60.6	49.7	78.4	5.0	78.4	78.4	77.6	66.8	56.1	45.3
2925	72	107.5	4.6	78.5	66.6	54.8	43.0	-	-	99.1	5.1	74.7	63.0	51.4	39.7	-	-
	67	96.7	4.6	92.7	80.7	68.8	57.0	45.2	-	89.2	5.1	87.2	77.4	65.7	54.1	42.5	-
	62	86.7	4.6	86.7	86.7	82.6	70.8	58.9	47.1	80.0	5.1	80.0	80.0	77.2	65.5	53.9	42.2
	57	89.6	4.6	89.6	89.6	87.0	75.2	63.3	51.5	80.1	5.1	80.1	80.1	79.7	68.1	56.4	44.8
3250	72	109.9	4.6	83.7	70.9	58.2	45.4	-	-	101.3	5.1	79.5	67.0	54.5	41.9	-	-
	67	98.8	4.6	98.8	85.8	73.1	60.3	47.5	-	91.2	5.1	91.2	82.2	69.7	57.2	44.6	-
	62	88.7	4.6	88.7	88.7	88.7	75.9	63.2	50.4	81.8	5.1	81.8	81.8	81.8	69.2	56.7	44.1
	57	91.6	4.6	91.6	91.6	91.6	78.9	66.1	53.3	81.9	5.1	81.9	81.9	81.9	69.3	56.8	44.3
		95°F								**105°F**							
1625	77	89.6	5.6	38.5	31.4	24.3	-	-	-	80.9	6.2	33.0	28.4	21.5	-	-	-
	72	81.5	5.5	49.3	42.2	35.0	27.9	-	-	73.1	6.1	45.5	38.6	31.8	25.0	-	-
	67	73.4	5.5	60.2	52.9	45.8	38.6	31.5	-	65.3	6.0	57.9	48.9	42.1	35.2	28.4	-
	62	65.8	5.4	65.8	64.2	53.3	46.1	39.0	31.8	58.3	5.9	58.3	57.5	47.9	41.1	34.2	27.4
1950	77	92.3	5.6	43.2	34.9	26.6	-	-	-	83.8	6.2	40.0	31.9	23.9	-	-	-
	72	84.0	5.6	55.0	46.7	38.4	30.1	-	-	75.7	6.1	51.4	43.3	35.3	27.2	-	-
	67	75.6	5.5	66.8	58.5	50.2	41.9	33.6	-	67.7	6.0	62.8	54.7	46.7	38.6	30.5	-
	62	67.8	5.5	67.8	66.7	58.4	50.1	41.8	33.5	60.4	5.9	60.4	59.9	53.1	45.0	37.0	28.9
	57	65.4	5.4	65.4	65.4	61.9	53.6	45.3	37.0	61.0	5.9	61.0	61.0	55.7	47.7	39.6	31.6
2275	77	95.0	5.7	48.0	38.4	29.0	-	-	-	86.7	6.3	46.9	35.5	26.2	-	-	-
	72	86.4	5.6	60.7	51.2	41.8	32.3	-	-	78.4	6.1	57.2	48.0	38.7	29.4	-	-
	67	77.8	5.5	73.4	64.0	54.6	45.1	35.7	-	70.1	6.0	67.6	60.5	51.2	42.0	32.7	-
	62	69.8	5.5	69.8	69.2	63.5	54.1	44.6	35.2	62.5	5.9	62.5	62.2	58.3	49.0	39.7	30.5
	57	67.2	5.5	67.2	67.2	67.3	57.9	48.4	39.0	63.2	6.0	63.2	63.2	61.2	51.9	42.6	33.4
2600	77	97.6	5.7	52.7	41.9	31.3	-	-	-	89.7	6.3	53.8	39.0	28.5	-	-	-
	72	88.8	5.6	66.4	55.8	45.1	34.5	-	-	81.0	6.2	63.1	52.6	42.2	31.7	-	-
	67	80.0	5.6	80.0	69.6	59.0	48.4	37.8	-	72.4	6.1	72.4	66.3	55.8	45.3	34.8	-
	62	71.7	5.5	71.7	71.7	68.7	58.1	47.5	36.8	64.6	6.0	64.6	64.6	63.5	53.0	42.5	32.0
	57	69.1	5.5	69.1	69.1	72.8	62.2	51.6	40.9	65.3	6.0	65.3	65.3	66.6	56.1	45.7	35.2
2925	72	90.7	5.7	70.9	59.4	47.9	36.5	-	-	82.6	6.2	67.2	55.9	44.7	33.4	-	-
	67	81.7	5.6	81.7	74.1	62.7	51.2	39.7	-	73.8	6.1	73.8	69.5	59.1	47.8	36.6	-
	62	73.3	5.5	73.3	73.3	71.7	60.3	48.8	37.4	65.9	6.0	65.9	65.9	65.3	54.0	42.7	31.5
	57	70.6	5.5	70.6	70.6	72.5	61.0	49.5	38.1	66.6	6.0	66.6	66.6	67.2	55.9	44.7	33.4
3250	72	92.7	5.7	75.4	63.1	50.7	38.4	-	-	84.2	6.2	71.3	59.2	47.2	35.1	-	-
	67	83.5	5.6	83.5	78.6	66.3	54.0	41.7	-	75.2	6.1	75.2	72.8	62.4	50.4	38.3	-
	62	74.8	5.5	74.8	74.8	74.8	62.5	50.2	37.9	67.1	6.0	67.1	67.1	67.1	55.1	43.0	30.9
	57	72.1	5.5	72.1	72.1	72.1	59.8	47.5	35.2	67.8	6.0	67.8	67.8	67.8	55.7	43.7	31.6

ZJ078 (6.5 Ton) (Continued)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)					
CFM	WB (°F)			Return Dry Bulb (°F)								Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		115°F								**125°F**							
1625	77	72.1	6.8	27.6	25.3	18.8	-	-	-	63.3	7.3	26.5	21.1	16.1	-	-	-
	72	64.6	6.6	41.6	35.1	28.6	22.1	-	-	56.2	7.1	37.8	31.6	25.4	19.2	-	-
	67	57.2	6.4	55.6	44.9	38.4	31.9	25.4	-	49.1	6.9	49.1	40.9	34.7	28.5	22.3	-
	62	50.7	6.3	50.7	50.7	42.5	36.0	29.5	23.0	43.2	6.8	43.2	43.2	37.2	31.0	24.8	18.6
1950	77	75.3	6.8	36.7	28.9	21.1	-	-	-	66.8	7.4	36.3	25.9	18.4	-	-	-
	72	67.5	6.6	47.7	39.9	32.1	24.3	-	-	59.3	7.2	44.1	36.5	29.0	21.4	-	-
	67	59.8	6.5	58.7	50.9	43.1	35.3	27.5	-	51.8	7.0	51.8	47.1	39.6	32.1	24.5	-
	62	53.0	6.4	53.0	53.0	47.8	40.0	32.2	24.4	45.6	6.8	45.6	45.6	42.5	34.9	27.4	19.8
	57	56.6	6.4	56.6	56.6	49.6	41.8	34.0	26.2	52.3	6.9	52.3	52.3	43.4	35.9	28.4	20.8
2275	77	78.5	6.8	45.8	32.5	23.4	-	-	-	70.2	7.4	46.1	30.7	20.7	-	-	-
	72	70.4	6.7	53.8	44.7	35.6	26.6	-	-	62.4	7.2	50.3	41.5	32.6	23.7	-	-
	67	62.3	6.5	61.8	56.9	47.8	38.8	29.7	-	54.6	7.0	54.6	53.4	44.5	35.6	26.7	-
	62	55.3	6.4	55.3	55.3	53.0	43.9	34.9	25.8	48.0	6.8	48.0	48.0	47.8	38.9	30.0	21.1
	57	59.1	6.4	59.1	59.1	55.0	46.0	36.9	27.8	55.0	6.9	55.0	55.0	48.9	40.0	31.1	22.2
2600	77	81.7	6.9	54.9	36.1	25.7	-	-	-	73.7	7.5	56.0	35.5	23.0	-	-	-
	72	73.3	6.7	59.9	49.5	39.2	28.8	-	-	65.5	7.2	56.6	46.4	36.2	25.9	-	-
	67	64.9	6.6	64.9	62.9	52.6	42.2	31.9	-	57.3	7.0	57.3	57.3	49.4	39.1	28.9	-
	62	57.5	6.4	57.5	57.5	58.3	47.9	37.5	27.2	50.4	6.9	50.4	50.4	50.4	42.8	32.6	22.3
	57	61.5	6.5	61.5	61.5	60.5	50.1	39.7	29.4	57.6	7.0	57.6	57.6	54.3	44.1	33.8	23.6
2925	72	74.5	6.7	63.6	52.5	41.4	30.3	-	-	66.4	7.3	59.9	49.0	38.1	27.2	-	-
	67	65.9	6.6	65.9	65.0	55.6	44.5	33.4	-	58.0	7.1	58.0	58.0	52.0	41.1	30.2	-
	62	58.5	6.5	58.5	58.5	58.8	47.7	36.6	25.5	51.1	6.9	51.1	51.1	51.1	41.5	30.6	19.6
	57	62.5	6.5	62.5	62.5	62.0	50.9	39.8	28.7	58.4	7.0	58.4	58.4	56.8	45.8	34.9	24.0
3250	72	75.7	6.8	67.3	55.4	43.6	31.8	-	-	67.2	7.3	63.2	51.6	40.0	28.4	-	-
	67	67.0	6.6	67.0	67.0	58.5	46.7	34.9	-	58.8	7.1	58.8	58.8	54.7	43.1	31.5	-
	62	59.4	6.5	59.4	59.4	59.4	47.6	35.8	23.9	51.7	7.0	51.7	51.7	51.7	40.1	28.5	16.9
	57	63.5	6.5	63.5	63.5	63.5	51.7	39.8	28.0	59.2	7.1	59.2	59.2	59.2	47.6	36.0	24.4

1. These capacities are gross ratings. For net capacity, deduct air blower motor, MBh = 3.415 x kW. Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.
2. These ratings include the condenser fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

ZJ090 (7.5 Ton)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)					
CFM	WB (°F)			Return Dry Bulb (°F)								Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		75°F								**85°F**							
1875	77	125.0	5.7	53.1	44.4	35.6	-	-	-	116.4	6.3	49.2	40.5	31.7	-	-	-
	72	113.1	5.6	65.8	57.1	48.3	39.5	-	-	105.3	6.2	62.2	53.5	44.7	36.0	-	-
	67	101.1	5.6	78.5	69.8	61.0	52.2	43.5	-	94.3	6.1	75.2	66.5	57.7	49.0	40.3	-
	62	88.8	5.5	88.8	88.8	73.3	64.6	55.8	47.0	83.0	6.1	83.0	83.0	70.3	61.5	52.8	44.0
2250	77	131.0	5.7	59.5	49.2	39.0	-	-	-	121.4	6.4	55.1	45.0	34.8	-	-	-
	72	118.5	5.7	73.4	63.2	52.9	42.7	-	-	109.8	6.3	69.4	59.2	49.0	38.8	-	-
	67	106.0	5.6	87.3	77.1	66.8	56.6	46.4	-	98.3	6.2	83.6	73.4	63.3	53.1	42.9	-
	62	93.1	5.6	93.1	93.1	80.4	70.2	59.9	49.7	86.5	6.1	86.5	86.5	77.0	66.8	56.6	46.4
	57	93.6	5.5	93.6	93.6	87.2	77.0	66.8	56.5	87.3	6.1	87.3	87.3	79.8	69.6	59.4	49.2
2625	77	137.0	5.7	65.8	54.1	42.4	-	-	-	126.3	6.4	61.1	49.4	37.8	-	-	-
	72	123.9	5.7	80.9	69.3	57.6	45.9	-	-	114.3	6.3	76.5	64.9	53.3	41.7	-	-
	67	110.8	5.6	96.1	84.4	72.7	61.0	49.3	-	102.3	6.2	92.0	80.4	68.8	57.1	45.5	-
	62	97.3	5.6	97.3	97.3	87.5	75.8	64.1	52.4	90.0	6.1	90.0	90.0	83.7	72.0	60.4	48.8
	57	97.8	5.6	97.8	97.8	94.9	83.2	71.5	59.8	90.9	6.1	90.9	90.9	86.8	75.1	63.5	51.9
3000	77	142.9	5.8	72.1	59.0	45.8	-	-	-	131.3	6.5	67.0	53.9	40.8	-	-	-
	72	129.3	5.7	88.5	75.4	62.2	49.1	-	-	118.8	6.4	83.7	70.6	57.6	44.5	-	-
	67	115.7	5.7	104.9	91.7	78.6	65.4	52.3	-	106.3	6.3	100.4	87.4	74.3	61.2	48.1	-
	62	101.6	5.6	101.6	101.6	94.5	81.3	68.2	55.0	93.6	6.2	93.6	93.6	90.4	77.3	64.2	51.2
	57	102.1	5.6	102.1	102.1	102.5	89.4	76.2	63.1	94.5	6.2	94.5	94.5	93.7	80.6	67.6	54.5
3375	72	132.4	5.7	95.5	80.9	66.2	51.6	-	-	121.6	6.4	90.7	76.2	61.6	47.0	-	-
	67	118.4	5.7	113.0	98.3	83.7	69.0	54.4	-	108.8	6.3	105.8	94.1	79.5	65.0	50.4	-
	62	104.0	5.6	104.0	104.0	100.5	85.8	71.2	56.6	95.7	6.2	95.7	95.7	94.1	79.6	65.0	50.5
	57	104.6	5.6	104.6	104.6	104.8	90.1	75.5	60.9	96.7	6.2	96.7	96.7	96.3	81.7	67.2	52.6
3750	72	135.5	5.7	102.5	86.4	70.3	54.2	-	-	124.3	6.4	97.7	81.7	65.7	49.6	-	-
	67	121.2	5.7	121.2	104.8	88.7	72.7	56.6	-	111.2	6.3	111.2	100.8	84.7	68.7	52.7	-
	62	106.4	5.6	106.4	106.4	106.4	90.3	74.2	58.2	97.9	6.2	97.9	97.9	97.9	81.9	65.8	49.8
	57	107.0	5.6	107.0	107.0	107.0	90.9	74.8	58.7	98.8	6.2	98.8	98.8	98.8	82.8	66.8	50.7
		95°F								**105°F**							
1875	77	107.8	7.0	45.3	36.6	27.9	-	-	-	99.1	7.6	39.5	33.4	24.8	-	-	-
	72	97.6	6.9	58.6	49.9	41.2	32.5	-	-	89.4	7.5	55.1	46.5	37.9	29.3	-	-
	67	87.4	6.7	71.9	63.2	54.5	45.8	37.1	-	79.6	7.3	70.7	59.6	51.0	42.4	33.8	-
	62	77.1	6.6	77.1	77.1	67.2	58.4	49.7	41.0	70.5	7.1	70.5	70.5	63.1	54.5	45.9	37.3
2250	77	111.8	7.1	50.8	40.7	30.5	-	-	-	102.3	7.7	47.3	37.3	27.3	-	-	-
	72	101.2	6.9	65.4	55.2	45.1	35.0	-	-	92.2	7.5	61.7	51.7	41.7	31.6	-	-
	67	90.6	6.8	79.9	69.8	59.7	49.5	39.4	-	82.2	7.3	76.1	66.0	56.0	46.0	36.0	-
	62	79.9	6.7	79.9	79.9	73.5	63.4	53.2	43.1	72.7	7.2	72.7	72.7	69.3	59.3	49.3	39.3
	57	81.1	6.6	81.1	81.1	72.4	62.2	52.1	42.0	75.0	7.2	75.0	75.0	66.9	56.9	46.9	36.9
2625	77	115.7	7.1	56.3	44.7	33.2	-	-	-	105.4	7.8	55.1	41.1	29.7	-	-	-
	72	104.8	7.0	72.1	60.6	49.0	37.4	-	-	95.1	7.6	68.3	56.8	45.4	34.0	-	-
	67	93.8	6.8	88.0	76.4	64.8	53.3	41.7	-	84.7	7.4	81.4	72.5	61.1	49.6	38.2	-
	62	82.8	6.7	82.8	82.8	79.9	68.3	56.8	45.2	75.0	7.2	75.0	75.0	75.5	64.1	52.7	41.2
	57	84.0	6.7	84.0	84.0	78.6	67.1	55.5	43.9	77.3	7.2	77.3	77.3	72.9	61.5	50.1	38.6
3000	77	119.7	7.2	61.8	48.8	35.8	-	-	-	108.6	7.8	62.9	45.0	32.2	-	-	-
	72	108.3	7.0	78.9	65.9	52.9	39.9	-	-	97.9	7.6	74.8	62.0	49.1	36.3	-	-
	67	97.0	6.9	96.0	83.0	70.0	57.0	44.0	-	87.3	7.4	86.7	79.0	66.1	53.3	40.4	-
	62	85.6	6.8	85.6	85.6	86.3	73.3	60.3	47.3	77.2	7.3	77.2	77.2	81.8	68.9	56.0	43.2
	57	86.8	6.7	86.8	86.8	84.9	71.9	58.9	45.9	79.6	7.3	79.6	79.6	78.9	66.1	53.2	40.4
3375	72	110.7	7.0	86.0	71.5	57.0	42.5	-	-	99.7	7.7	81.7	67.4	53.0	38.6	-	-
	67	99.2	6.9	98.6	89.9	75.4	60.9	46.4	-	88.9	7.5	88.6	83.6	71.3	57.0	42.6	-
	62	87.5	6.8	87.5	87.5	87.8	73.3	58.8	44.3	78.7	7.3	78.7	78.7	80.9	66.6	52.2	37.9
	57	88.8	6.7	88.8	88.8	87.8	73.3	58.8	44.3	81.1	7.3	81.1	81.1	80.7	66.4	52.0	37.7
3750	72	113.1	7.0	93.0	77.0	61.0	45.0	-	-	101.6	7.7	88.6	72.8	56.9	41.0	-	-
	67	101.3	6.9	101.3	96.7	80.7	64.7	48.7	-	90.5	7.5	90.5	88.2	76.5	60.7	44.8	-
	62	89.4	6.8	89.4	89.4	89.4	73.4	57.4	41.4	80.1	7.3	80.1	80.1	80.1	64.3	48.4	32.5
	57	90.7	6.8	90.7	90.7	90.7	74.7	58.7	42.7	82.5	7.3	82.5	82.5	82.5	66.7	50.8	34.9

ZJ090 (7.5 Ton) (Continued)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)					
CFM	WB (°F)			Return Dry Bulb (°F)								Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		115°F								**125°F**							
1875	77	90.4	8.3	33.6	30.2	21.8	-	-	-	81.7	8.9	32.0	25.5	18.7	-	-	-
	72	81.1	8.0	51.6	43.1	34.6	26.2	-	-	72.9	8.6	48.1	39.7	31.4	23.0	-	-
	67	71.9	7.8	69.5	56.0	47.5	39.0	30.6	-	64.1	8.3	64.1	52.4	44.0	35.7	27.3	-
	62	63.9	7.6	63.9	63.9	59.0	50.5	42.0	33.6	57.3	8.1	57.3	57.3	57.3	46.5	38.2	29.8
2250	77	92.7	8.3	43.8	33.9	24.0	-	-	-	83.2	9.0	43.2	30.5	20.7	-	-	-
	72	83.2	8.1	58.0	48.1	38.2	28.3	-	-	74.3	8.7	54.3	44.5	34.8	25.0	-	-
	67	73.7	7.9	72.2	62.3	52.4	42.5	32.6	-	65.3	8.4	65.3	58.5	48.8	39.0	29.3	-
	62	65.6	7.7	65.6	65.6	65.1	55.2	45.3	35.4	58.4	8.2	58.4	58.4	58.4	51.1	41.3	31.6
	57	68.8	7.7	68.8	68.8	61.5	51.6	41.7	31.8	62.7	8.3	62.7	62.7	56.0	46.3	36.5	26.8
2625	77	95.1	8.4	53.9	37.5	26.3	-	-	-	84.8	9.1	54.4	35.5	22.8	-	-	-
	72	85.4	8.2	64.4	53.1	41.8	30.5	-	-	75.7	8.8	60.5	49.3	38.2	27.0	-	-
	67	75.6	7.9	74.8	68.6	57.3	46.0	34.7	-	66.5	8.5	66.5	64.7	53.5	42.4	31.2	-
	62	67.2	7.7	67.2	67.2	71.2	59.9	48.6	37.3	59.5	8.2	59.5	59.5	59.5	55.6	44.5	33.3
	57	70.6	7.8	70.6	70.6	67.2	55.9	44.6	33.3	63.9	8.4	63.9	63.9	61.5	50.4	39.2	28.0
3000	77	97.5	8.5	64.0	41.2	28.5	-	-	-	86.4	9.1	65.7	40.5	24.8	-	-	-
	72	87.5	8.2	70.8	58.1	45.4	32.6	-	-	77.1	8.8	66.7	54.1	41.6	29.0	-	-
	67	77.5	8.0	77.5	74.9	62.2	49.5	36.8	-	67.8	8.6	67.8	67.8	58.3	45.8	33.2	-
	62	68.9	7.8	68.9	68.9	77.2	64.5	51.8	39.1	60.6	8.3	60.6	60.6	60.6	60.2	47.6	35.0
	57	72.3	7.9	72.3	72.3	73.0	60.3	47.6	34.8	65.1	8.4	65.1	65.1	65.1	54.4	41.9	29.3
3375	72	88.7	8.3	77.5	63.3	49.1	34.8	-	-	77.7	8.9	73.3	59.2	45.1	31.0	-	-
	67	78.6	8.0	78.6	77.3	67.3	53.1	38.8	-	68.3	8.6	68.3	68.3	63.3	49.2	35.1	-
	62	69.9	7.8	69.9	69.9	74.1	59.8	45.6	31.4	61.1	8.4	61.1	61.1	61.1	53.1	39.0	24.9
	57	73.4	7.9	73.4	73.4	73.7	59.5	45.2	31.0	65.7	8.5	65.7	65.7	65.7	52.5	38.4	24.3
3750	72	90.0	8.3	84.3	68.5	52.8	37.0	-	-	78.4	8.9	78.4	64.3	48.6	33.0	-	-
	67	79.7	8.1	79.7	79.7	72.4	56.6	40.9	-	68.9	8.6	68.9	68.9	68.2	52.6	37.0	-
	62	70.9	7.9	70.9	70.9	70.9	55.1	39.4	23.6	61.6	8.4	61.6	61.6	61.6	46.0	30.4	14.8
	57	74.4	7.9	74.4	74.4	74.4	58.7	42.9	27.2	66.3	8.5	66.3	66.3	66.3	50.6	35.0	19.4

1. These capacities are gross ratings. For net capacity, deduct air blower motor, MBh = 3.415 x kW. Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.
2. These ratings include the condenser fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

ZJ102 (8.5 Ton)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F)					
CFM	WB (°F)			90	85	80	75	70	65			90	85	80	75	70	65
		75°F								**85°F**							
2125	77	136.0	6.1	61.5	49.5	38.6	-	-	-	127.6	6.8	56.3	45.7	35.0	-	-	-
	72	124.0	6.0	74.1	63.2	52.4	41.5	-	-	116.0	6.7	70.2	59.6	48.9	38.3	-	-
	67	112.1	5.9	86.7	77.0	66.1	55.3	44.4	-	104.3	6.6	84.1	73.5	62.8	52.2	41.5	-
	62	99.3	6.2	99.3	95.1	77.6	66.8	55.9	45.0	91.6	6.7	91.6	89.5	74.0	63.3	52.7	42.0
2550	77	141.0	6.1	67.2	54.7	42.3	-	-	-	132.1	6.8	63.0	50.7	38.4	-	-	-
	72	128.6	6.0	82.2	69.8	57.4	44.9	-	-	120.0	6.7	78.2	65.9	53.6	41.3	-	-
	67	116.2	5.9	97.3	84.9	72.5	60.0	47.6	-	107.9	6.6	93.5	81.2	68.9	56.6	44.3	-
	62	102.9	6.2	102.9	100.1	85.0	72.6	60.1	47.7	94.8	6.7	94.8	93.4	81.1	68.8	56.5	44.2
	57	99.4	8.7	99.4	99.4	91.2	78.7	66.3	53.8	93.6	6.5	93.6	93.6	85.3	73.0	60.7	48.4
2975	77	146.0	6.1	72.8	60.0	46.0	-	-	-	136.5	6.8	69.7	55.7	41.8	-	-	-
	72	133.1	6.0	90.4	76.4	62.4	48.4	-	-	124.0	6.7	86.3	72.3	58.4	44.4	-	-
	67	120.3	5.9	107.9	92.8	78.8	64.8	50.8	-	111.6	6.6	102.9	88.9	75.0	61.0	47.0	-
	62	106.5	6.1	106.5	105.1	92.4	78.4	64.4	50.4	98.0	6.7	98.0	97.3	88.3	74.3	60.4	46.4
	57	102.9	8.7	102.9	102.9	99.1	85.1	71.1	57.1	96.7	6.5	96.7	96.7	92.9	78.9	65.0	51.0
3400	77	151.0	6.0	78.5	65.2	49.7	-	-	-	141.0	6.8	76.4	60.8	45.2	-	-	-
	72	137.7	5.9	98.5	82.9	67.4	51.8	-	-	128.1	6.7	94.3	78.7	63.1	47.5	-	-
	67	124.4	5.8	118.5	100.6	85.1	69.5	53.9	-	115.2	6.6	112.3	96.6	81.0	65.4	49.8	-
	62	110.2	6.1	110.2	110.2	99.8	84.3	68.7	53.1	101.2	6.8	101.2	101.2	95.4	79.8	64.2	48.6
	57	106.5	8.7	106.5	106.5	107.0	91.5	75.9	60.3	99.9	6.5	99.9	99.9	100.4	84.8	69.2	53.6
3825	72	141.1	6.0	105.2	88.2	71.1	54.0	-	-	131.1	6.7	101.2	84.1	67.1	50.0	-	-
	67	127.5	5.9	124.6	106.8	89.8	72.7	55.6	-	117.9	6.6	116.4	103.2	86.1	69.1	52.0	-
	62	112.9	6.2	112.9	112.9	107.7	90.6	73.6	56.5	103.5	6.8	103.5	103.5	100.7	83.6	66.5	49.5
	57	109.1	8.7	109.1	109.1	109.4	92.3	75.2	58.2	102.2	6.6	102.2	102.2	102.4	85.4	68.3	51.3
4250	72	144.5	6.1	112.0	93.4	74.8	56.3	-	-	134.0	6.8	108.0	89.5	71.0	52.5	-	-
	67	130.6	6.0	130.6	113.0	94.5	75.9	57.3	-	120.6	6.7	120.6	109.7	91.2	72.7	54.2	-
	62	115.6	6.2	115.6	115.6	115.6	97.0	78.4	59.9	105.9	6.8	105.9	105.9	105.9	87.4	68.9	50.4
	57	111.7	8.8	111.7	111.7	111.7	93.2	74.6	56.0	104.5	6.6	104.5	104.5	104.5	86.0	67.5	49.0
		95°F								**105°F**							
2125	77	119.3	7.4	51.1	41.8	31.4	-	-	-	108.3	8.2	44.7	38.5	28.3	-	-	-
	72	107.9	7.3	66.3	55.9	45.4	35.0	-	-	97.7	8.0	62.2	52.0	41.8	31.6	-	-
	67	96.5	7.2	81.5	69.9	59.5	49.1	38.6	-	87.1	7.8	79.6	65.5	55.3	45.1	34.9	-
	62	84.0	7.3	84.0	84.0	70.3	59.9	49.5	39.1	77.3	7.9	77.3	77.3	65.1	54.9	44.7	34.5
2550	77	123.1	7.5	58.8	46.7	34.5	-	-	-	111.8	8.2	55.2	43.2	31.2	-	-	-
	72	111.4	7.4	74.2	62.1	49.9	37.7	-	-	100.9	8.1	70.1	58.1	46.2	34.2	-	-
	67	99.7	7.2	89.7	77.5	65.3	53.1	41.0	-	90.0	7.9	85.0	73.0	61.1	49.1	37.2	-
	62	86.7	7.3	86.7	86.7	77.2	65.1	52.9	40.7	79.8	7.9	79.8	79.8	71.9	60.0	48.0	36.1
	57	87.7	7.1	87.7	87.7	79.5	67.4	55.2	43.0	80.7	7.8	80.7	80.7	72.5	60.5	48.6	36.6
2975	77	127.0	7.5	66.6	51.5	37.6	-	-	-	115.3	8.3	65.6	47.9	34.2	-	-	-
	72	114.9	7.4	82.2	68.3	54.4	40.5	-	-	104.1	8.1	78.0	64.3	50.6	36.9	-	-
	67	102.8	7.3	97.8	85.1	71.2	57.2	43.3	-	92.8	7.9	90.3	80.6	66.9	53.2	39.5	-
	62	89.5	7.4	89.5	89.5	84.1	70.2	56.3	42.4	82.3	7.9	82.3	82.3	78.8	65.1	51.4	37.6
	57	90.5	7.2	90.5	90.5	86.6	72.7	58.8	44.9	83.2	7.8	83.2	83.2	79.4	65.7	51.9	38.2
3400	77	130.9	7.6	74.3	56.3	40.7	-	-	-	118.9	8.3	76.1	52.6	37.2	-	-	-
	72	118.5	7.4	90.2	74.5	58.8	43.2	-	-	107.3	8.1	85.9	70.4	55.0	39.5	-	-
	67	106.0	7.3	106.0	92.7	77.0	61.3	45.7	-	95.7	8.0	95.7	88.2	72.7	57.3	41.8	-
	62	92.2	7.4	92.2	92.2	91.0	75.4	59.7	44.1	84.8	8.0	84.8	84.8	85.6	70.2	54.7	39.2
	57	93.3	7.2	93.3	93.3	93.8	78.1	62.4	46.8	85.8	7.8	85.8	85.8	86.3	70.8	55.3	39.9
3825	72	121.0	7.5	97.1	80.1	63.0	46.0	-	-	109.5	8.2	92.8	75.9	59.0	42.1	-	-
	67	108.3	7.3	108.3	99.5	82.5	65.4	48.4	-	97.7	8.0	97.7	92.9	78.1	61.2	44.3	-
	62	94.2	7.4	94.2	94.2	93.6	76.5	59.5	42.5	86.6	8.0	86.6	86.6	87.0	70.1	53.2	36.3
	57	95.3	7.2	95.3	95.3	95.5	78.5	61.4	44.4	87.5	7.9	87.5	87.5	87.8	70.9	54.0	37.1
4250	72	123.5	7.5	104.1	85.6	67.2	48.8	-	-	111.7	8.2	99.6	81.3	63.0	44.7	-	-
	67	110.5	7.4	110.5	106.4	87.9	69.5	51.1	-	99.6	8.0	99.6	97.6	83.4	65.1	46.8	-
	62	96.2	7.5	96.2	96.2	96.2	77.7	59.3	40.8	88.4	8.0	88.4	88.4	88.4	70.1	51.7	33.4
	57	97.3	7.3	97.3	97.3	97.3	78.8	60.4	41.9	89.3	7.9	89.3	89.3	89.3	71.0	52.7	34.4

ZJ102 (8.5 Ton) (Continued)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)					
CFM	WB (°F)			Return Dry Bulb (°F)								Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		115°F								**125°F**							
2125	77	97.3	9.0	38.3	35.1	25.1	-	-	-	86.3	9.7	39.4	29.5	21.9	-	-	-
	72	87.5	8.7	58.0	48.0	38.1	28.1	-	-	77.4	9.4	53.9	44.1	34.4	24.6	-	-
	67	77.8	8.5	77.8	61.0	51.1	41.1	31.1	-	68.4	9.1	68.4	56.6	46.8	37.1	27.4	-
	62	70.6	8.4	70.6	70.6	59.8	49.8	39.8	29.9	63.9	9.0	63.9	63.9	54.5	44.8	35.0	25.3
2550	77	100.5	9.0	51.5	39.7	28.0	-	-	-	89.1	9.8	52.8	36.2	24.7	-	-	-
	72	90.4	8.8	65.9	54.1	42.4	30.7	-	-	79.9	9.5	61.7	50.2	38.7	27.1	-	-
	67	80.3	8.5	80.3	68.6	56.9	45.1	33.4	-	70.6	9.2	70.6	64.2	52.6	41.1	29.6	-
	62	72.9	8.4	72.9	72.9	66.6	54.9	43.1	31.4	66.0	9.0	66.0	66.0	61.3	49.8	38.2	26.7
	57	73.6	8.4	73.6	73.6	65.4	53.7	41.9	30.2	66.6	10.4	66.6	66.6	58.3	46.8	35.3	23.8
2975	77	103.6	9.1	64.7	44.3	30.8	-	-	-	91.9	9.8	66.2	42.9	27.4	-	-	-
	72	93.2	8.8	73.7	60.2	46.7	33.2	-	-	82.4	9.5	69.5	56.2	42.9	29.6	-	-
	67	82.8	8.6	82.8	76.2	62.7	49.2	35.7	-	72.8	9.2	72.8	71.7	58.4	45.2	31.9	-
	62	75.2	8.5	75.2	75.2	73.4	59.9	46.4	32.9	68.0	9.0	68.0	68.0	68.0	54.7	41.5	28.2
	57	75.9	8.4	75.9	75.9	72.1	58.6	45.1	31.6	68.7	10.4	68.7	68.7	64.8	51.5	38.2	24.9
3400	77	106.8	9.1	77.9	48.9	33.7	-	-	-	94.7	9.9	79.6	49.5	30.2	-	-	-
	72	96.1	8.9	81.6	66.3	51.1	35.8	-	-	84.9	9.6	77.3	62.3	47.2	32.1	-	-
	67	85.3	8.6	85.3	83.8	68.5	53.2	38.0	-	75.0	9.3	75.0	75.0	64.2	49.2	34.1	-
	62	77.5	8.5	77.5	77.5	80.2	64.9	49.7	34.4	70.1	9.1	70.1	70.1	70.1	59.7	44.7	29.6
	57	78.3	8.4	78.3	78.3	78.8	63.5	48.2	33.0	70.7	10.5	70.7	70.7	70.7	56.2	41.1	26.1
3825	72	98.0	8.9	88.4	71.7	55.0	38.2	-	-	86.5	9.6	84.0	67.5	50.9	34.4	-	-
	67	87.0	8.7	87.0	86.3	73.7	57.0	40.3	-	76.4	9.3	76.4	76.4	69.3	52.8	36.2	-
	62	79.0	8.6	79.0	79.0	80.4	63.7	46.9	30.2	71.4	9.1	71.4	71.4	71.4	57.2	40.7	24.1
	57	79.8	8.5	79.8	79.8	80.1	63.4	46.6	29.9	72.1	10.5	72.1	72.1	72.1	55.8	39.2	22.7
4250	72	99.9	8.9	95.2	77.0	58.8	40.7	-	-	88.1	9.7	88.1	72.7	54.7	36.6	-	-
	67	88.8	8.7	88.8	88.8	78.9	60.7	42.5	-	77.9	9.4	77.9	77.9	74.4	56.3	38.3	-
	62	80.6	8.6	80.6	80.6	80.6	62.4	44.2	26.0	72.8	9.2	72.8	72.8	72.8	54.7	36.7	18.6
	57	81.4	8.5	81.4	81.4	81.4	63.2	45.0	26.9	73.5	10.6	73.5	73.5	73.5	55.4	37.4	19.3

1. These capacities are gross ratings. For net capacity, deduct air blower motor, MBh = 3.415 x kW. Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.
2. These ratings include the condenser fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

ZJ120 (10 Ton)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)					
CFM	WB (°F)			Return Dry Bulb (°F)								Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		75°F								**85°F**							
2500	77	159.5	7.3	63.5	52.6	41.7	-	-	-	148.2	8.2	61.1	50.3	39.4	-	-	-
	72	145.9	7.2	83.1	72.2	61.3	50.4	-	-	136.1	8.1	80.2	69.3	58.4	47.6	-	-
	67	132.2	7.1	102.7	91.8	80.9	70.0	59.1	-	124.0	8.0	99.3	88.4	77.5	66.6	55.8	-
	62	123.1	7.0	123.1	118.4	99.0	88.1	77.2	66.3	114.8	7.9	114.8	112.5	95.6	84.8	73.9	63.0
3000	77	164.8	7.4	71.2	58.4	45.5	-	-	-	153.7	8.2	68.6	55.9	43.1	-	-	-
	72	150.7	7.2	92.6	79.8	67.0	54.2	-	-	141.1	8.1	89.5	76.7	64.0	51.3	-	-
	67	136.6	7.1	114.0	101.2	88.4	75.6	62.8	-	128.6	8.0	110.4	97.6	84.9	72.2	59.5	-
	62	127.2	7.0	127.2	124.1	108.2	95.4	82.6	69.8	119.0	7.9	119.0	117.5	104.8	92.1	79.3	66.6
	57	125.9	7.0	125.9	125.9	113.4	100.6	87.8	75.0	118.5	7.9	118.5	118.5	107.1	94.4	81.7	69.0
3500	77	170.1	7.4	78.9	64.2	49.4	-	-	-	159.1	8.2	76.0	61.5	46.9	-	-	-
	72	155.5	7.3	102.1	87.4	72.7	57.9	-	-	146.1	8.1	98.7	84.2	69.6	55.0	-	-
	67	140.9	7.1	125.4	110.6	95.9	81.2	66.5	-	133.1	8.1	121.5	106.9	92.3	77.7	63.2	-
	62	131.2	7.1	131.2	129.7	117.5	102.7	88.0	73.3	123.3	8.0	123.3	122.5	113.9	99.3	84.8	70.2
	57	129.9	7.0	129.9	129.9	123.1	108.3	93.6	78.9	122.7	7.9	122.7	122.7	116.5	101.9	87.3	72.8
4000	77	175.4	7.4	86.6	70.0	53.3	-	-	-	164.5	8.3	83.5	67.1	50.7	-	-	-
	72	160.3	7.3	111.7	95.0	78.4	61.7	-	-	151.1	8.2	108.0	91.6	75.2	58.8	-	-
	67	145.3	7.2	136.7	120.1	103.4	86.8	70.1	-	137.6	8.1	132.5	116.1	99.7	83.3	66.9	-
	62	135.3	7.1	135.3	135.3	126.7	110.0	93.4	76.7	127.5	8.0	127.5	127.5	123.0	106.6	90.2	73.8
	57	133.9	7.1	133.9	133.9	132.7	116.1	99.4	82.8	126.9	8.0	126.9	126.9	125.8	109.4	93.0	76.6
4500	72	164.1	7.4	118.0	100.1	82.2	64.4	-	-	154.0	8.2	115.6	97.7	79.8	61.9	-	-
	67	148.7	7.2	144.4	126.4	108.5	90.7	72.8	-	140.3	8.1	137.7	123.7	105.8	87.9	70.1	-
	62	138.4	7.1	138.4	138.4	134.1	116.3	98.4	80.5	129.9	8.0	129.9	129.9	127.7	109.8	91.9	74.0
	57	137.0	7.1	137.0	137.0	136.4	118.6	100.7	82.8	129.3	8.0	129.3	129.3	128.8	110.9	93.0	75.1
5000	72	167.8	7.4	124.3	105.2	86.1	67.0	-	-	156.8	8.2	123.1	103.7	84.4	65.0	-	-
	67	152.0	7.3	152.0	132.7	113.6	94.5	75.5	-	142.9	8.1	142.9	131.3	111.9	92.6	73.2	-
	62	141.6	7.2	141.6	141.6	141.6	122.5	103.4	84.3	132.3	8.0	132.3	132.3	132.3	112.9	93.6	74.2
	57	140.1	7.2	140.1	140.1	140.1	121.0	101.9	82.9	131.7	8.0	131.7	131.7	131.7	112.4	93.0	73.7
		95°F								**105°F**							
2500	77	136.9	9.0	58.8	47.9	37.1	-	-	-	125.0	10.0	52.9	44.3	33.5	-	-	-
	72	126.4	8.9	77.3	66.5	55.6	44.8	-	-	115.5	10.0	73.3	62.5	51.7	40.9	-	-
	67	115.8	8.9	95.9	85.0	74.1	63.3	52.4	-	105.9	10.0	93.6	80.7	69.9	59.1	48.3	-
	62	106.6	8.8	106.6	106.6	92.2	81.4	70.5	59.7	98.2	9.9	98.2	98.2	86.0	75.2	64.5	53.7
3000	77	142.5	9.0	66.0	53.4	40.7	-	-	-	131.1	10.1	62.3	49.7	37.2	-	-	-
	72	131.5	9.0	86.3	73.7	61.1	48.5	-	-	121.1	10.0	82.5	69.9	57.3	44.7	-	-
	67	120.5	8.9	106.7	94.1	81.4	68.8	56.2	-	111.1	10.0	102.6	90.0	77.5	64.9	52.3	-
	62	110.9	8.8	110.9	110.9	101.3	88.7	76.0	63.4	102.9	9.9	102.9	102.9	95.3	82.7	70.2	57.6
	57	111.2	8.8	111.2	111.2	100.9	88.2	75.6	63.0	103.1	9.9	103.1	103.1	93.2	80.6	68.0	55.5
3500	77	148.1	9.1	73.2	58.8	44.4	-	-	-	137.1	10.1	71.7	55.1	40.8	-	-	-
	72	136.7	9.0	95.4	80.9	66.5	52.1	-	-	126.7	10.1	91.6	77.3	62.9	48.5	-	-
	67	125.3	9.0	117.5	103.1	88.7	74.3	59.9	-	116.2	10.1	111.6	99.4	85.0	70.7	56.3	-
	62	115.3	8.9	115.3	115.3	110.4	96.0	81.6	67.2	107.7	10.0	107.7	107.7	104.6	90.3	75.9	61.5
	57	115.6	8.9	115.6	115.6	109.9	95.5	81.1	66.7	107.9	9.9	107.9	107.9	102.3	87.9	73.5	59.2
4000	77	153.7	9.1	80.4	64.2	48.0	-	-	-	143.2	10.2	81.1	60.5	44.4	-	-	-
	72	141.9	9.0	104.4	88.2	72.0	55.8	-	-	132.3	10.2	100.8	84.7	68.5	52.3	-	-
	67	130.0	9.0	128.3	112.2	96.0	79.8	63.7	-	121.4	10.1	120.5	108.8	92.6	76.4	60.3	-
	62	119.6	8.9	119.6	119.6	119.4	103.3	87.1	70.9	112.5	10.0	112.5	112.5	113.9	97.8	81.6	65.4
	57	120.0	8.9	120.0	120.0	118.9	102.7	86.6	70.4	112.6	10.0	112.6	112.6	111.3	95.2	79.0	62.8
4500	72	143.9	9.1	113.1	95.2	77.3	59.4	-	-	133.6	10.1	109.0	91.2	73.5	55.7	-	-
	67	131.8	9.0	131.0	121.0	103.1	85.2	67.3	-	122.6	10.1	122.2	115.3	99.4	81.6	63.8	-
	62	121.3	8.9	121.3	121.3	121.2	103.3	85.4	67.5	113.6	10.0	113.6	113.6	114.3	96.6	78.8	61.1
	57	121.7	8.9	121.7	121.7	121.1	103.2	85.3	67.5	113.8	10.0	113.8	113.8	113.1	95.4	77.6	59.8
5000	72	145.9	9.1	121.9	102.3	82.7	63.1	-	-	134.9	10.1	117.2	97.8	78.5	59.1	-	-
	67	133.7	9.0	133.7	129.8	110.2	90.6	71.0	-	123.8	10.1	123.8	121.9	106.1	86.8	67.4	-
	62	123.0	8.9	123.0	123.0	123.0	103.4	83.8	64.2	114.7	10.0	114.7	114.7	114.7	95.4	76.1	56.7
	57	123.4	8.9	123.4	123.4	123.4	103.7	84.1	64.5	114.9	10.0	114.9	114.9	114.9	95.5	76.2	56.8

ZJ120 (10 Ton) (Continued)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)					
CFM	WB (°F)			Return Dry Bulb (°F)								Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		115°F								**125°F**							
2500	77	113.0	11.0	47.0	40.7	30.0	-	-	-	101.1	12.1	44.1	37.0	26.4	-	-	-
	72	104.5	11.0	69.2	58.5	47.8	37.1	-	-	93.6	12.1	65.1	54.5	43.9	33.3	-	-
	67	96.0	11.0	91.4	76.3	65.6	55.0	44.3	-	86.1	12.1	86.1	72.0	61.4	50.8	40.2	-
	62	89.7	11.0	89.7	89.7	79.8	69.1	58.4	47.7	81.3	12.1	81.3	81.3	74.1	63.0	52.3	41.7
3000	77	119.6	11.1	58.6	46.1	33.6	-	-	-	108.1	12.1	57.2	42.5	30.0	-	-	-
	72	110.6	11.1	78.6	66.1	53.5	41.0	-	-	100.1	12.2	74.7	62.2	49.8	37.3	-	-
	67	101.6	11.1	98.5	86.0	73.5	61.0	48.5	-	92.1	12.2	92.1	82.0	69.5	57.1	44.6	-
	62	94.9	11.0	94.9	94.9	89.3	76.8	64.3	51.8	87.0	12.2	87.0	87.0	83.3	70.9	58.4	46.0
	57	94.9	11.0	94.9	94.9	85.5	73.0	60.5	47.9	86.7	12.0	86.7	86.7	77.8	65.3	52.9	40.4
3500	77	126.1	11.2	70.2	51.5	37.2	-	-	-	115.1	12.2	70.3	47.9	33.6	-	-	-
	72	116.6	11.2	87.9	73.6	59.3	44.9	-	-	106.6	12.3	84.2	69.9	55.6	41.3	-	-
	67	107.2	11.2	105.6	95.7	81.4	67.0	52.7	-	98.1	12.3	98.1	92.0	77.7	63.4	49.1	-
	62	100.1	11.1	100.1	100.1	98.9	84.6	70.2	55.9	92.6	12.3	92.6	92.6	92.6	78.8	64.6	50.3
	57	100.1	11.0	100.1	100.1	94.6	80.3	66.0	51.6	92.3	12.1	92.3	92.3	87.0	72.7	58.4	44.1
4000	77	132.7	11.3	81.8	56.9	40.8	-	-	-	122.2	12.3	83.4	53.3	37.1	-	-	-
	72	122.7	11.3	97.3	81.1	65.0	48.8	-	-	113.1	12.4	93.7	77.6	61.5	45.3	-	-
	67	112.7	11.3	112.7	105.4	89.2	73.1	56.9	-	104.1	12.4	104.1	102.0	85.8	69.7	53.6	-
	62	105.3	11.2	105.3	105.3	108.4	92.3	76.1	60.0	98.2	12.4	98.2	98.2	98.2	86.8	70.7	54.5
	57	105.3	11.1	105.3	105.3	103.7	87.6	71.5	55.3	98.0	12.2	98.0	98.0	96.2	80.0	63.9	47.8
4500	72	123.4	11.2	104.9	87.3	69.6	52.0	-	-	113.1	12.3	100.8	83.3	65.8	48.3	-	-
	67	113.3	11.2	113.3	109.7	95.6	78.0	60.4	-	104.1	12.3	104.1	104.0	91.9	74.4	56.9	-
	62	105.9	11.2	105.9	105.9	107.5	89.8	72.2	54.6	98.2	12.3	98.2	98.2	98.2	83.1	65.6	48.1
	57	105.9	11.1	105.9	105.9	105.1	87.5	69.9	52.2	98.0	12.2	98.0	98.0	97.1	79.6	62.1	44.6
5000	72	124.0	11.2	112.5	93.4	74.3	55.2	-	-	113.1	12.3	107.8	89.0	70.1	51.3	-	-
	67	113.9	11.2	113.9	113.9	102.0	82.9	63.8	-	104.1	12.3	104.1	104.1	97.9	79.1	60.3	-
	62	106.5	11.2	106.5	106.5	106.5	87.4	68.3	49.2	98.2	12.3	98.2	98.2	98.2	79.4	60.6	41.7
	57	106.4	11.1	106.4	106.4	106.4	87.3	68.3	49.2	98.0	12.1	98.0	98.0	98.0	79.1	60.3	41.5

1. These capacities are gross ratings. For net capacity, deduct air blower motor, MBh = 3.415 x kW. Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.
2. These ratings include the condenser fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

ZJ150 (12.5 Ton)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
				Sensible Capacity (MBh)								Sensible Capacity (MBh)					
CFM	WB (°F)	Total Capacity[1] (MBh)	Total Input (kW)[2]	Return Dry Bulb (°F)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		75°F								**85°F**							
3125	77	191.5	9.8	80.3	66.9	53.5	-	-	-	184.5	10.7	76.0	62.6	49.3	-	-	-
	72	178.7	9.5	103.3	89.9	76.4	63.0	-	-	171.3	10.5	99.0	85.7	72.3	59.0	-	-
	67	165.9	9.2	126.3	112.8	99.4	86.0	72.6	-	158.1	10.2	122.1	108.8	95.4	82.1	68.7	-
	62	149.9	9.1	149.9	139.5	122.9	109.5	96.1	82.7	143.1	10.1	143.1	135.8	117.5	104.2	90.8	77.5
3750	77	201.3	9.8	89.4	74.2	58.9	-	-	-	193.5	10.7	85.1	69.8	54.5	-	-	-
	72	187.9	9.5	114.7	99.5	84.2	69.0	-	-	179.6	10.5	110.6	95.3	80.0	64.6	-	-
	67	174.5	9.3	140.0	124.8	109.5	94.3	79.1	-	165.8	10.3	136.1	120.8	105.5	90.1	74.8	-
	62	157.6	9.1	157.6	150.7	135.4	120.2	105.0	89.7	150.1	10.1	150.1	145.2	129.9	114.6	99.3	83.9
	57	152.3	9.1	152.3	152.3	140.7	125.5	110.2	95.0	145.8	10.1	145.8	145.8	134.0	118.7	103.3	88.0
4375	77	211.1	9.8	98.5	81.5	64.4	-	-	-	202.4	10.8	94.2	76.9	59.6	-	-	-
	72	197.0	9.6	126.2	109.1	92.0	75.0	-	-	187.9	10.6	122.1	104.9	87.6	70.3	-	-
	67	183.0	9.3	153.8	136.7	119.7	102.6	85.5	-	173.5	10.3	150.1	132.8	115.5	98.2	80.9	-
	62	165.3	9.1	165.3	161.8	148.0	130.9	113.8	96.8	157.0	10.1	157.0	154.6	142.3	125.0	107.7	90.4
	57	159.7	9.1	159.7	159.7	153.7	136.6	119.6	102.5	152.6	10.2	152.6	152.6	146.7	129.4	112.2	94.9
5000	77	221.0	9.9	107.6	88.8	69.9	-	-	-	211.4	10.9	103.3	84.1	64.8	-	-	-
	72	206.2	9.6	137.6	118.7	99.8	80.9	-	-	196.3	10.6	133.7	114.4	95.2	75.9	-	-
	67	191.5	9.3	167.5	148.7	129.8	110.9	92.0	-	181.2	10.4	164.1	144.8	125.5	106.3	87.0	-
	62	173.0	9.1	173.0	173.0	160.5	141.6	122.7	103.8	164.0	10.2	164.0	164.0	154.6	135.4	116.1	96.9
	57	167.2	9.1	167.2	167.2	166.7	147.8	129.0	110.1	159.3	10.2	159.3	159.3	159.5	140.2	121.0	101.7
5625	72	215.4	9.6	150.0	129.1	108.3	87.5	-	-	204.6	10.7	146.0	124.7	103.5	82.2	-	-
	67	200.0	9.3	185.5	161.6	140.8	119.9	99.1	-	188.8	10.4	179.0	157.7	136.5	115.2	93.9	-
	62	180.7	9.2	180.7	180.7	174.4	153.6	132.8	111.9	170.9	10.2	170.9	170.9	166.3	145.0	123.7	102.4
	57	174.6	9.1	174.6	174.6	174.4	153.5	132.7	111.9	166.1	10.3	166.1	166.1	166.2	144.9	123.6	102.3
6250	72	224.6	9.6	162.3	139.5	116.7	94.0	-	-	212.9	10.7	158.4	135.1	111.7	88.4	-	-
	67	208.5	9.3	203.5	174.5	151.8	129.0	106.2	-	196.5	10.5	194.0	170.7	147.4	124.1	100.8	-
	62	188.4	9.2	188.4	188.4	188.4	165.6	142.8	120.0	177.9	10.3	177.9	177.9	177.9	154.6	131.3	108.0
	57	182.0	9.2	182.0	182.0	182.0	159.2	136.5	113.7	172.8	10.3	172.8	172.8	172.8	149.5	126.2	102.9
		95°F								**105°F**							
3125	77	177.5	11.6	71.6	58.3	45.1	-	-	-	168.0	12.8	67.5	55.1	42.0	-	-	-
	72	163.9	11.4	94.8	81.5	68.2	55.0	-	-	154.2	12.7	90.8	77.7	64.5	51.4	-	-
	67	150.3	11.2	118.0	104.7	91.4	78.1	64.9	-	140.3	12.6	114.2	100.2	87.1	73.9	60.8	-
	62	136.4	11.0	136.4	132.1	112.1	98.9	85.6	72.3	128.6	12.4	128.6	126.4	106.8	93.6	80.5	67.3
3750	77	185.6	11.7	80.8	65.4	50.0	-	-	-	175.2	12.9	77.1	61.9	46.7	-	-	-
	72	171.4	11.5	106.5	91.1	75.7	60.3	-	-	160.8	12.8	102.2	86.9	71.7	56.5	-	-
	67	157.2	11.3	132.2	116.8	101.4	86.0	70.6	-	146.4	12.7	127.2	112.0	96.8	81.6	66.4	-
	62	142.6	11.1	142.6	139.7	124.3	109.0	93.6	78.2	134.1	12.5	134.1	132.7	118.7	103.5	88.2	73.0
	57	139.4	11.1	139.4	139.4	127.2	111.8	96.5	81.1	131.5	12.5	131.5	131.5	118.9	103.7	88.5	73.3
4375	77	193.7	11.8	89.9	72.4	54.9	-	-	-	182.4	13.0	86.7	68.6	51.3	-	-	-
	72	178.9	11.6	118.1	100.6	83.1	65.6	-	-	167.4	12.9	113.5	96.2	78.9	61.6	-	-
	67	164.0	11.4	146.4	128.8	111.3	93.8	76.3	-	152.4	12.8	140.3	123.8	106.5	89.2	71.9	-
	62	148.8	11.2	148.8	147.4	136.6	119.1	101.5	84.0	139.6	12.6	139.6	138.9	130.6	113.3	96.0	78.7
	57	145.4	11.2	145.4	145.4	139.7	122.2	104.7	87.2	136.9	12.6	136.9	136.9	130.9	113.6	96.3	79.0
5000	77	201.8	11.9	99.1	79.4	59.8	-	-	-	189.6	13.1	96.3	75.4	56.0	-	-	-
	72	186.3	11.7	129.8	110.2	90.5	70.9	-	-	174.0	13.0	124.8	105.5	86.1	66.8	-	-
	67	170.8	11.5	160.6	140.9	121.3	101.7	82.0	-	158.5	12.9	153.3	135.6	116.2	96.9	77.5	-
	62	155.0	11.3	155.0	155.0	148.8	129.2	109.5	89.9	145.1	12.7	145.1	145.1	142.5	123.2	103.8	84.5
	57	151.5	11.3	151.5	151.5	152.2	132.6	113.0	93.4	142.3	12.7	142.3	142.3	142.8	123.4	104.1	84.7
5625	72	193.8	11.8	142.1	120.4	98.6	76.9	-	-	180.7	13.1	136.9	115.4	94.0	72.5	-	-
	67	177.7	11.6	172.5	153.9	132.1	110.4	88.7	-	164.5	13.0	161.9	148.3	126.8	105.3	83.9	-
	62	161.2	11.3	161.2	161.2	158.1	136.4	114.6	92.9	150.7	12.8	150.7	150.7	149.3	127.9	106.4	84.9
	57	157.6	11.4	157.6	157.6	157.9	136.2	114.5	92.7	147.8	12.8	147.8	147.8	148.0	126.5	105.0	83.6
6250	72	201.2	11.9	154.4	130.6	106.7	82.9	-	-	187.3	13.2	149.0	125.4	101.8	78.2	-	-
	67	184.5	11.7	184.5	166.8	143.0	119.2	95.3	-	170.5	13.1	170.5	161.0	137.4	113.8	90.2	-
	62	167.4	11.4	167.4	167.4	167.4	143.6	119.7	95.9	156.2	12.9	156.2	156.2	156.2	132.6	109.0	85.4
	57	163.6	11.5	163.6	163.6	163.6	139.8	116.0	92.1	153.2	12.9	153.2	153.2	153.2	129.6	106.0	82.4

ZJ150 (12.5 Ton) (Continued)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)					
CFM	WB (°F)			Return Dry Bulb (°F)								Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		115°F								**125°F**							
3125	77	158.4	14.0	63.3	51.9	38.9	-	-	-	148.8	15.3	56.6	48.7	35.8	-	-	-
	72	144.4	14.0	86.9	73.8	60.8	47.8	-	-	134.6	15.3	82.9	70.0	57.1	44.2	-	-
	67	130.4	14.0	110.4	95.8	82.7	69.7	56.7	-	120.4	15.4	106.6	91.3	78.4	65.5	52.6	-
	62	120.7	13.8	120.7	120.7	101.4	88.4	75.3	62.3	112.9	15.2	112.9	112.9	96.0	83.1	70.2	57.3
3750	77	164.8	14.1	73.4	58.4	43.3	-	-	-	154.3	15.4	69.8	54.9	40.0	-	-	-
	72	150.2	14.1	97.9	82.8	67.8	52.7	-	-	139.6	15.4	93.6	78.7	63.8	48.9	-	-
	67	135.6	14.1	122.3	107.3	92.2	77.2	62.1	-	124.8	15.5	117.4	102.5	87.6	72.7	57.9	-
	62	125.6	13.9	125.6	125.6	113.0	98.0	82.9	67.9	117.1	15.3	117.1	117.1	107.3	92.5	77.6	62.7
	57	123.7	13.9	123.7	123.7	110.6	95.6	80.5	65.5	115.8	15.3	115.8	115.8	102.3	87.4	72.5	57.7
4375	77	171.1	14.2	83.5	64.8	47.8	-	-	-	159.8	15.5	82.9	61.1	44.2	-	-	-
	72	156.0	14.2	108.8	91.8	74.7	57.7	-	-	144.5	15.5	104.2	87.4	70.5	53.7	-	-
	67	140.8	14.2	134.2	118.7	101.7	84.6	67.6	-	129.2	15.6	128.1	113.7	96.9	80.0	63.2	-
	62	130.4	14.0	130.4	130.4	124.6	107.6	90.5	73.4	121.2	15.4	121.2	121.2	118.6	101.8	85.0	68.1
	57	128.4	14.0	128.4	128.4	122.0	104.9	87.9	70.8	119.9	15.5	119.9	119.9	113.1	96.3	79.4	62.6
5000	77	177.5	14.4	93.6	71.3	52.2	-	-	-	165.3	15.6	96.0	67.2	48.5	-	-	-
	72	161.8	14.3	119.8	100.8	81.7	62.6	-	-	149.5	15.7	114.8	96.1	77.3	58.5	-	-
	67	146.1	14.3	146.1	130.2	111.2	92.1	73.0	-	133.7	15.7	133.7	124.9	106.1	87.3	68.5	-
	62	135.3	14.1	135.3	135.3	136.2	117.2	98.1	79.0	125.4	15.5	125.4	125.4	125.4	111.1	92.4	73.6
	57	133.2	14.1	133.2	133.2	133.3	114.3	95.2	76.1	124.1	15.6	124.1	124.1	123.9	105.1	86.3	67.5
5625	72	167.6	14.4	131.7	110.5	89.3	68.1	-	-	154.5	15.8	126.5	105.6	84.6	63.6	-	-
	67	151.3	14.4	151.3	142.7	121.5	100.3	79.0	-	138.1	15.8	138.1	137.1	116.1	95.2	74.2	-
	62	140.1	14.2	140.1	140.1	140.6	119.4	98.1	76.9	129.6	15.6	129.6	129.6	129.6	110.9	89.9	68.9
	57	138.0	14.2	138.0	138.0	138.0	116.8	95.6	74.4	128.2	15.7	128.2	128.2	128.1	107.1	86.1	65.2
6250	72	173.4	14.5	143.6	120.2	96.9	73.5	-	-	159.4	15.9	138.2	115.1	91.9	68.8	-	-
	67	156.5	14.5	156.5	155.2	131.8	108.4	85.0	-	142.5	15.9	142.5	142.5	126.2	103.0	79.9	-
	62	145.0	14.3	145.0	145.0	145.0	121.6	98.2	74.8	133.7	15.7	133.7	133.7	133.7	110.6	87.4	64.3
	57	142.7	14.3	142.7	142.7	142.7	119.4	96.0	72.6	132.3	15.8	132.3	132.3	132.3	109.1	86.0	62.8

1. These capacities are gross ratings. For net capacity, deduct air blower motor, MBh = 3.415 x kW. Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.
2. These ratings include the condenser fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

ZR037-150 Cooling and Reheat Capacities

ZR037 (3.0 Ton) Cooling

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F)					
CFM	WB (°F)			90	85	80	75	70	65			90	85	80	75	70	65
		75°F								**85°F**							
750	77	48.2	0.2	20.1	16.2	13.0	-	-	-	43.5	1.6	17.0	13.9	10.7	-	-	-
	72	43.9	0.8	24.6	21.3	18.1	14.9	-	-	39.8	1.8	22.2	19.1	16.0	12.8	-	-
	67	39.6	1.3	29.0	26.5	23.3	20.1	16.8	-	36.0	2.0	27.5	24.3	21.2	18.1	14.9	-
	62	35.5	1.1	35.5	32.6	28.4	25.1	21.9	18.7	31.4	1.9	31.4	29.6	24.7	21.6	18.4	15.3
900	77	50.4	0.5	22.1	18.2	14.3	-	-	-	45.5	1.7	19.7	15.9	12.1	-	-	-
	72	45.9	1.1	27.8	23.9	20.0	16.1	-	-	41.6	1.9	25.6	21.8	18.0	14.2	-	-
	67	41.4	1.6	33.4	29.5	25.6	21.7	17.8	-	37.6	2.1	31.5	27.7	23.9	20.1	16.3	-
	62	37.1	1.4	37.1	35.2	31.3	27.4	23.5	19.6	32.8	2.0	32.8	31.6	27.8	24.0	20.2	16.4
	57	33.3	1.3	33.3	33.4	30.5	26.6	22.7	18.8	29.7	1.9	29.7	29.7	26.4	22.6	18.8	15.0
1050	77	52.7	0.8	24.1	20.3	15.7	-	-	-	47.4	1.8	22.3	17.9	13.4	-	-	-
	72	47.9	1.3	31.0	26.4	21.8	17.2	-	-	43.3	2.0	28.9	24.4	20.0	15.5	-	-
	67	43.2	1.9	37.8	32.5	27.9	23.4	18.8	-	39.2	2.1	35.4	31.0	26.5	22.1	17.6	-
	62	38.7	1.7	38.7	37.8	34.2	29.6	25.0	20.5	34.2	2.1	34.2	33.6	30.9	26.4	21.9	17.5
	57	34.7	1.6	34.7	34.8	33.3	28.8	24.2	19.6	31.0	1.9	31.0	31.0	29.3	24.9	20.4	15.9
1200	77	54.9	1.0	26.1	22.3	17.0	-	-	-	49.4	1.9	25.0	19.9	14.8	-	-	-
	72	50.0	1.6	34.2	28.9	23.6	18.4	-	-	45.1	2.1	32.2	27.1	22.0	16.8	-	-
	67	45.1	2.2	42.2	35.5	30.3	25.0	19.8	-	40.9	2.2	39.4	34.3	29.2	24.0	18.9	-
	62	40.4	2.0	40.4	40.4	37.1	31.8	26.6	21.3	35.6	2.2	35.6	35.6	34.0	28.8	23.7	18.6
	57	36.2	1.8	36.2	36.2	36.2	30.9	25.7	20.4	32.3	2.0	32.3	32.3	32.3	27.1	22.0	16.9
1350	72	50.0	1.4	36.8	31.0	25.2	19.5	-	-	45.0	2.0	34.6	28.9	23.2	17.5	-	-
	67	45.0	2.0	43.6	38.2	32.3	26.6	20.8	-	40.8	2.1	40.1	36.5	30.8	25.1	19.4	-
	62	40.4	1.8	40.4	40.4	38.7	33.0	27.2	21.5	35.5	2.1	35.5	35.5	34.7	29.0	23.3	17.6
	57	36.2	1.6	36.2	36.2	36.2	30.4	24.7	18.9	32.2	1.9	32.2	32.2	32.2	26.5	20.8	15.1
1500	72	49.9	1.2	39.3	33.1	26.8	20.6	-	-	45.0	1.9	36.9	30.6	24.4	18.1	-	-
	67	45.0	1.8	45.0	40.9	34.4	28.2	21.9	-	40.7	2.1	40.7	38.6	32.4	26.1	19.9	-
	62	40.3	1.6	40.3	40.3	40.3	34.1	27.8	21.6	35.5	2.0	35.5	35.5	35.5	29.2	23.0	16.7
	57	36.2	1.5	36.2	36.2	36.2	29.9	23.7	17.4	32.1	1.9	32.1	32.1	32.1	25.9	19.6	13.4
		95°F								**105°F**							
750	77	38.8	3.1	13.9	11.6	8.5	-	-	-	36.4	2.7	12.7	11.2	8.3	-	-	-
	72	35.6	2.8	19.9	16.9	13.8	10.8	-	-	32.8	2.7	19.0	16.1	13.1	10.2	-	-
	67	32.5	2.6	25.9	22.2	19.1	16.1	13.0	-	29.2	2.6	25.3	20.9	17.9	15.0	12.1	-
	62	27.3	2.7	27.3	26.6	21.0	18.0	14.9	11.9	25.0	2.6	25.0	24.7	19.5	16.5	13.6	10.7
900	77	40.5	3.0	17.2	13.5	9.8	-	-	-	37.5	2.7	16.5	13.0	9.4	-	-	-
	72	37.2	2.7	23.4	19.7	16.0	12.3	-	-	33.8	2.7	22.0	18.4	14.9	11.3	-	-
	67	33.9	2.5	29.5	25.8	22.1	18.4	14.7	-	30.1	2.6	27.5	23.9	20.3	16.8	13.2	-
	62	28.5	2.7	28.5	28.0	24.3	20.6	16.9	13.2	25.8	2.6	25.8	25.5	22.1	18.5	14.9	11.4
	57	26.2	2.4	26.2	26.0	22.3	18.6	14.9	11.2	24.9	2.4	24.9	24.9	21.4	17.8	14.2	10.6
1050	77	42.2	2.8	20.6	15.5	11.2	-	-	-	38.6	2.7	20.4	14.7	10.5	-	-	-
	72	38.7	2.6	26.8	22.5	18.1	13.8	-	-	34.8	2.7	25.0	20.8	16.6	12.4	-	-
	67	35.3	2.4	33.1	29.4	25.1	20.7	16.4	-	31.0	2.6	29.7	26.9	22.7	18.5	14.3	-
	62	29.7	2.6	29.7	29.4	27.6	23.2	18.9	14.5	26.5	2.6	26.5	26.4	24.7	20.5	16.3	12.1
	57	27.2	2.3	27.2	27.2	25.3	21.0	16.6	12.3	25.6	2.5	25.6	25.6	23.9	19.6	15.4	11.2
1200	77	43.9	2.7	23.9	17.5	12.5	-	-	-	39.7	2.7	24.2	16.4	11.6	-	-	-
	72	40.3	2.5	30.3	25.3	20.3	15.3	-	-	35.8	2.7	28.0	23.2	18.4	13.5	-	-
	67	36.7	2.3	36.7	33.1	28.1	23.1	18.1	-	31.9	2.6	31.9	30.0	25.1	20.3	15.4	-
	62	30.8	2.5	30.8	30.8	30.8	25.8	20.8	15.8	27.3	2.6	27.3	27.3	27.3	22.5	17.6	12.8
	57	28.3	2.2	28.3	28.3	28.3	23.3	18.3	13.3	26.4	2.5	26.4	26.4	26.4	21.5	16.7	11.8
1350	72	40.1	2.5	32.4	26.7	21.1	15.5	-	-	35.8	2.6	30.4	24.9	19.5	14.0	-	-
	67	36.5	2.3	36.5	34.7	29.2	23.6	17.9	-	31.9	2.6	31.9	30.9	26.7	21.2	15.7	-
	62	30.7	2.5	30.7	30.7	30.7	25.1	19.5	13.8	27.3	2.5	27.3	27.3	27.3	21.9	16.4	10.9
	57	28.2	2.2	28.2	28.2	28.2	22.6	17.0	11.3	26.4	2.4	26.4	26.4	26.4	20.9	15.5	10.0
1500	72	40.0	2.5	34.4	28.2	21.9	15.6	-	-	35.8	2.6	32.7	26.7	20.6	14.5	-	-
	67	36.4	2.3	36.4	36.4	30.3	24.1	17.8	-	31.9	2.5	31.9	31.9	28.2	22.1	16.0	-
	62	30.6	2.5	30.6	30.6	30.6	24.3	18.1	11.8	27.3	2.5	27.3	27.3	27.3	21.2	15.2	9.1
	57	28.1	2.2	28.1	28.1	28.1	21.8	15.6	9.3	26.4	2.4	26.4	26.4	26.4	20.3	14.2	8.2

ZR037 (3.0 Ton) Cooling (Continued)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)					
CFM	WB (°F)			Return Dry Bulb (°F)								Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		115°F								**125°F**							
750	77	34.0	2.4	11.6	10.9	8.1	-	-	-	31.5	2.1	11.5	9.9	7.9	-	-	-
	72	30.0	2.5	18.1	15.3	12.4	9.6	-	-	27.2	2.3	17.2	14.5	11.7	9.0	-	-
	67	26.0	2.6	24.6	19.6	16.8	13.9	11.1	-	22.8	2.6	22.8	18.3	15.6	12.9	10.1	-
	62	22.8	2.4	22.8	22.8	18.0	15.1	12.3	9.5	20.5	2.2	20.5	20.5	16.5	13.7	11.0	8.3
900	77	34.5	2.5	15.9	12.4	9.0	-	-	-	31.4	2.3	15.9	11.8	8.5	-	-	-
	72	30.4	2.6	20.7	17.2	13.8	10.3	-	-	27.1	2.5	19.3	16.0	12.7	9.3	-	-
	67	26.4	2.7	25.5	22.0	18.6	15.1	11.7	-	22.7	2.8	22.7	20.1	16.8	13.5	10.2	-
	62	23.1	2.5	23.1	23.1	19.9	16.5	13.0	9.6	20.4	2.4	20.4	20.4	17.7	14.4	11.1	7.7
	57	23.7	2.5	23.7	23.7	20.4	17.0	13.5	10.1	22.5	2.5	22.5	22.5	19.5	16.2	12.8	9.5
1050	77	35.0	2.6	20.1	13.9	9.8	-	-	-	31.3	2.5	20.3	13.7	9.2	-	-	-
	72	30.9	2.7	23.2	19.2	15.1	11.0	-	-	26.9	2.8	21.4	17.5	13.6	9.7	-	-
	67	26.8	2.8	26.3	24.4	20.4	16.3	12.2	-	22.6	3.0	22.6	21.9	18.0	14.1	10.2	-
	62	23.4	2.6	23.4	23.4	21.8	17.8	13.7	9.6	20.3	2.6	20.3	20.3	19.0	15.0	11.1	7.2
	57	24.0	2.6	24.0	24.0	22.4	18.3	14.3	10.2	22.5	2.7	22.5	22.5	21.0	17.0	13.1	9.2
1200	77	35.4	2.7	24.4	15.4	10.7	-	-	-	31.2	2.7	24.7	15.6	9.8	-	-	-
	72	31.3	2.8	25.8	21.1	16.4	11.8	-	-	26.8	3.0	23.6	19.0	14.5	10.0	-	-
	67	27.2	2.9	27.2	26.9	22.2	17.5	12.8	-	22.4	3.3	22.4	22.4	19.2	14.7	10.2	-
	62	23.8	2.7	23.8	23.8	23.8	19.1	14.4	9.7	20.2	2.8	20.2	20.2	20.2	15.7	11.2	6.7
	57	24.4	2.7	24.4	24.4	24.4	19.7	15.0	10.3	22.4	2.9	22.4	22.4	22.4	17.9	13.4	8.9
1350	72	31.5	2.7	28.4	23.1	17.9	12.6	-	-	27.1	2.9	26.5	21.4	16.3	11.2	-	-
	67	27.3	2.9	27.3	27.1	24.1	18.8	13.6	-	22.7	3.1	22.7	22.7	21.6	16.5	11.4	-
	62	23.9	2.6	23.9	23.9	23.9	18.6	13.3	8.1	20.5	2.7	20.5	20.5	20.5	15.4	10.3	5.2
	57	24.5	2.6	24.5	24.5	24.5	19.2	14.0	8.7	22.7	2.8	22.7	22.7	22.7	17.6	12.5	7.4
1500	72	31.6	2.7	31.1	25.2	19.3	13.4	-	-	27.4	2.7	27.4	23.7	18.0	12.3	-	-
	67	27.4	2.8	27.4	27.4	26.0	20.2	14.3	-	23.0	3.0	23.0	23.0	23.0	18.2	12.6	-
	62	24.0	2.5	24.0	24.0	24.0	18.1	12.3	6.4	20.7	2.6	20.7	20.7	20.7	15.0	9.3	3.7
	57	24.6	2.5	24.6	24.6	24.6	18.8	12.9	7.0	22.9	2.7	22.9	22.9	22.9	17.2	11.5	5.9

1. These capacities are gross ratings. For net capacity, deduct air blower motor, MBh = 3.415 x kW. Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.
2. These ratings include the condenser fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

ZR037 (3.0 Ton) Reheat

Air on Evaporator Coil		Temperature of Air on Condenser Coil					
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) (- indicates heating)	Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) (- indicates heating)
CFM	WB (°F)			Return Dry Bulb (°F)			Return Dry Bulb (°F)
				75			75
		40 °F			**50 °F**		
1050	62.5	14.1	1.3	8.9	19.7	2.0	8.9
	64	15.3	1.3	8.1	21.3	2.0	7.5
	65.3	17.0	1.4	7.1	22.5	2.0	6.2
1200	62.5	14.9	1.3	9.7	20.3	2.0	9.8
	64	15.6	1.3	8.7	21.2	2.0	8.3
	65.3	16.1	1.3	7.8	23.1	2.0	7.1
1350	62.5	21.7	1.9	11.1	21.6	2.0	10.9
	64	22.3	1.9	9.3	23.1	2.0	9.7
	65.3	22.5	1.8	8.0	24.7	2.0	8.2
		60 °F			**70 °F**		
1050	62.5	18.5	2.0	8.1	17.0	2.1	6.8
	64	19.7	2.0	6.6	18.4	2.1	5.5
	65.3	20.9	2.0	5.4	19.6	2.1	4.4
1200	62.5	19.2	2.0	9.0	17.0	2.1	7.9
	64	20.3	2.0	7.6	18.5	2.1	6.6
	65.3	22.2	2.0	6.3	19.9	2.1	5.5
1350	62.5	19.8	2.0	9.8	16.1	2.1	8.4
	64	21.1	2.0	8.4	17.3	2.1	6.8
	62	22.3	2.0	7.2	18.8	2.1	5.7
		75 °F			**80 °F**		
1050	62.5	16.3	2.1	7.2	15.0	2.1	5.9
	64	17.6	2.1	5.5	16.2	2.1	4.5
	65.3	18.8	2.1	4.0	16.6	2.1	3.6
1200	62.5	16.6	2.1	7.4	14.9	2.1	6.7
	64	18.0	2.1	6.1	16.1	2.1	5.5
	65.3	18.9	2.1	5.0	17.2	2.1	3.9
1350	62.5	15.8	2.1	7.8	14.4	2.1	7.1
	64	17.3	2.1	6.7	15.6	2.1	5.8
	65.3	18.5	2.1	5.2	16.7	2.1	4.4
		85 °F			**95 °F**		
1050	62.5	12.0	2.2	4.5	7.5	2.3	1.7
	64	12.5	2.2	3.1	8.5	2.3	0.5
	65.3	13.4	2.2	1.9	9.3	2.4	-0.9
1200	62.5	11.8	2.2	5.0	8.8	2.3	-0.6
	64	12.9	2.2	3.7	8.0	2.3	0.6
	65.3	13.9	2.2	2.3	8.2	2.4	-0.9
1350	62.5	11.7	2.2	5.6	6.0	2.3	1.9
	64	12.6	2.2	4.0	6.7	2.3	0.6
	62	13.6	2.2	2.7	7.7	2.3	-0.7

1. These capacities are gross ratings. For net capacity, deduct air blower motor, MBh = 3.415 x kW. Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.
2. These ratings include the condenser fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

ZR049 (4.0 Ton) Cooling

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)					
CFM	WB (°F)			Return Dry Bulb (°F)								Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		75°F								**85°F**							
1000	77	70.8	1.6	27.3	22.8	18.2	-	-	-	61.5	3.0	26.1	21.6	17.2	-	-	-
	72	62.1	2.0	34.1	29.5	24.9	20.3	-	-	55.0	3.0	32.3	27.8	23.4	18.9	-	-
	67	53.5	2.4	40.8	36.2	31.6	27.0	22.4	-	48.5	2.9	38.5	34.1	29.6	25.2	20.7	-
	62	48.3	2.0	48.3	46.8	37.7	33.1	28.5	23.9	43.1	2.9	43.1	42.3	35.8	31.3	26.9	22.4
1200	77	73.1	1.8	30.4	25.1	19.9	-	-	-	63.8	3.0	29.0	23.9	18.7	-	-	-
	72	64.2	2.2	37.7	32.5	27.3	22.0	-	-	57.1	3.0	35.8	30.7	25.5	20.4	-	-
	67	55.3	2.6	45.1	39.9	34.6	29.4	24.2	-	50.3	2.9	42.6	37.5	32.3	27.2	22.0	-
	62	50.0	2.2	50.0	48.9	41.3	36.1	30.9	25.6	44.7	2.9	44.7	44.2	39.1	33.9	28.8	23.6
	57	48.7	2.2	48.7	48.7	44.1	38.9	33.7	28.4	44.1	2.9	44.1	44.1	40.5	35.4	30.2	25.1
1400	77	75.5	2.1	33.4	27.5	21.6	-	-	-	66.1	3.0	32.0	26.1	20.3	-	-	-
	72	66.3	2.4	41.4	35.5	29.6	23.8	-	-	59.1	3.0	39.3	33.5	27.7	21.8	-	-
	67	57.1	2.8	49.4	43.5	37.6	31.8	25.9	-	52.2	2.9	46.7	40.9	35.0	29.2	23.3	-
	62	51.6	2.4	51.6	51.1	44.9	39.0	33.1	27.3	46.3	2.9	46.3	46.1	42.3	36.5	30.6	24.8
	57	50.2	2.4	50.2	50.2	48.0	42.1	36.2	30.3	45.7	2.9	45.7	45.7	43.9	38.1	32.2	26.4
1600	77	77.9	2.3	36.5	29.9	23.4	-	-	-	68.4	3.0	34.9	28.4	21.9	-	-	-
	72	68.4	2.6	45.1	38.6	32.0	25.5	-	-	61.2	3.0	42.9	36.3	29.8	23.3	-	-
	67	58.9	3.0	53.7	47.2	40.7	34.1	27.6	-	54.0	2.9	50.8	44.3	37.7	31.2	24.7	-
	62	53.2	2.6	53.2	53.2	48.5	42.0	35.4	28.9	47.9	2.9	47.9	47.9	45.6	39.1	32.5	26.0
	57	51.8	2.6	51.8	51.8	51.8	45.3	38.7	32.2	47.3	2.9	47.3	47.3	47.3	40.7	34.2	27.7
1800	72	70.3	2.4	48.1	40.9	33.7	26.6	-	-	62.2	3.0	46.1	38.9	31.7	24.5	-	-
	67	60.5	2.8	57.9	50.0	42.8	35.7	28.5	-	54.8	2.9	53.3	47.3	40.2	33.0	25.8	-
	62	54.7	2.4	54.7	54.7	52.3	45.1	38.0	30.8	48.7	2.9	48.7	48.7	47.5	40.3	33.2	26.0
	57	53.2	2.4	53.2	53.2	53.2	46.1	38.9	31.7	48.0	2.9	48.0	48.0	48.0	40.9	33.7	26.5
2000	72	72.1	2.2	51.0	43.2	35.4	27.7	-	-	63.1	3.0	49.3	41.5	33.6	25.8	-	-
	67	62.1	2.6	62.1	52.8	45.0	37.2	29.4	-	55.7	2.9	55.7	50.4	42.6	34.8	27.0	-
	62	56.1	2.2	56.1	56.1	56.1	48.3	40.5	32.7	49.5	2.9	49.5	49.5	49.5	41.6	33.8	26.0
	57	54.7	2.2	54.7	54.7	54.7	46.9	39.1	31.3	48.8	2.9	48.8	48.8	48.8	41.0	33.1	25.3
		95°F								**105°F**							
1000	77	52.2	4.4	24.8	20.5	16.1	-	-	-	51.3	4.2	21.3	18.4	14.1	-	-	-
	72	47.9	3.9	30.5	26.2	21.9	17.6	-	-	45.4	3.9	28.4	24.1	19.9	15.6	-	-
	67	43.6	3.4	36.3	31.9	27.6	23.3	19.0	-	39.6	3.6	35.5	29.8	25.6	21.3	17.1	-
	62	37.9	3.9	37.9	37.9	33.9	29.5	25.2	20.9	34.1	3.8	34.1	34.1	29.2	25.0	20.7	16.5
1200	77	54.4	4.2	27.7	22.6	17.5	-	-	-	52.8	4.1	25.3	20.4	15.4	-	-	-
	72	49.9	3.7	33.9	28.8	23.8	18.7	-	-	46.8	3.8	31.6	26.6	21.7	16.7	-	-
	67	45.4	3.2	40.1	35.1	30.0	25.0	19.9	-	40.8	3.5	37.8	32.9	27.9	22.9	18.0	-
	62	39.5	3.6	39.5	39.5	36.8	31.7	26.7	21.6	35.1	3.7	35.1	35.1	31.9	26.9	22.0	17.0
	57	39.6	3.6	39.6	39.6	36.9	31.8	26.8	21.7	35.7	3.7	35.7	35.7	32.4	27.5	22.5	17.6
1400	77	56.6	4.0	30.5	24.7	18.9	-	-	-	54.3	4.0	29.4	22.4	16.7	-	-	-
	72	51.9	3.5	37.3	31.5	25.7	19.9	-	-	48.2	3.7	34.8	29.1	23.5	17.8	-	-
	67	47.3	3.0	44.0	38.2	32.4	26.6	20.8	-	42.0	3.4	40.2	35.9	30.2	24.6	18.9	-
	62	41.1	3.4	41.1	41.1	39.7	33.9	28.1	22.3	36.2	3.6	36.2	36.2	34.6	28.9	23.2	17.5
	57	41.2	3.4	41.2	41.2	39.8	34.0	28.2	22.4	36.8	3.6	36.8	36.8	35.1	29.5	23.8	18.1
1600	77	58.8	3.7	33.4	26.9	20.3	-	-	-	55.8	3.9	33.5	24.4	18.0	-	-	-
	72	54.0	3.3	40.7	34.1	27.6	21.0	-	-	49.5	3.6	38.0	31.7	25.3	18.9	-	-
	67	49.1	2.9	47.9	41.3	34.8	28.3	21.7	-	43.2	3.4	42.6	39.0	32.6	26.2	19.8	-
	62	42.7	3.2	42.7	42.7	42.7	36.1	29.6	23.1	37.2	3.5	37.2	37.2	37.2	30.8	24.5	18.1
	57	42.8	3.2	42.8	42.8	42.8	36.2	29.7	23.1	37.9	3.5	37.9	37.9	37.9	31.5	25.1	18.7
1800	72	54.1	3.5	44.1	36.9	29.7	22.5	-	-	49.9	3.7	41.5	34.4	27.3	20.3	-	-
	67	49.2	3.1	48.6	44.7	37.5	30.3	23.1	-	43.5	3.5	43.2	41.1	35.2	28.1	21.1	-
	62	42.7	3.4	42.7	42.7	42.7	35.5	28.4	21.2	37.5	3.6	37.5	37.5	37.5	30.4	23.4	16.3
	57	42.8	3.4	42.8	42.8	42.8	35.6	28.4	21.3	38.1	3.6	38.1	38.1	38.1	31.1	24.0	16.9
2000	72	54.2	3.7	47.5	39.7	31.8	24.0	-	-	50.3	3.9	44.9	37.1	29.4	21.6	-	-
	67	49.3	3.3	49.3	48.0	40.2	32.3	24.5	-	43.8	3.6	43.8	43.2	37.9	30.1	22.4	-
	62	42.8	3.7	42.8	42.8	42.8	35.0	27.1	19.3	37.8	3.7	37.8	37.8	37.8	30.0	22.3	14.5
	57	42.9	3.7	42.9	42.9	42.9	35.1	27.2	19.4	38.4	3.7	38.4	38.4	38.4	30.7	22.9	15.2

ZR049 (4.0 Ton) Cooling (Continued)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)					
CFM	WB (°F)			Return Dry Bulb (°F)								Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		115°F								**125°F**							
1000	77	50.4	4.0	17.7	16.3	12.1	-	-	-	49.5	3.7	16.5	12.8	10.1	-	-	-
	72	43.0	3.9	26.2	22.0	17.8	13.6	-	-	40.5	3.9	24.0	19.9	15.8	11.7	-	-
	67	35.6	3.8	34.6	27.7	23.5	19.3	15.2	-	31.5	4.0	31.5	25.6	21.5	17.4	13.3	-
	62	30.3	3.7	30.3	30.3	24.6	20.5	16.3	12.1	26.5	3.6	26.5	26.5	20.0	15.9	11.8	7.7
1200	77	51.2	4.0	23.0	18.1	13.3	-	-	-	49.6	3.9	22.4	15.9	11.2	-	-	-
	72	43.7	3.9	29.3	24.4	19.5	14.7	-	-	40.6	4.0	26.9	22.2	17.4	12.7	-	-
	67	36.1	3.8	35.5	30.7	25.8	20.9	16.1	-	31.5	4.1	31.5	28.4	23.7	18.9	14.2	-
	62	30.8	3.7	30.8	30.8	27.0	22.1	17.3	12.4	26.5	3.8	26.5	26.5	22.1	17.4	12.6	7.8
	57	31.9	3.8	31.9	31.9	28.0	23.2	18.3	13.4	28.1	3.8	28.1	28.1	23.6	18.8	14.1	9.3
1400	77	52.0	4.0	28.3	20.0	14.5	-	-	-	49.7	4.0	28.4	19.0	12.2	-	-	-
	72	44.4	3.9	32.3	26.8	21.3	15.7	-	-	40.6	4.1	29.9	24.5	19.0	13.6	-	-
	67	36.7	3.8	36.4	33.6	28.1	22.5	17.0	-	31.4	4.2	31.4	31.3	25.9	20.5	15.1	-
	62	31.3	3.7	31.3	31.3	29.4	23.8	18.3	12.8	26.4	3.9	26.4	26.4	24.2	18.8	13.4	8.0
	57	32.4	3.8	32.4	32.4	30.5	24.9	19.4	13.8	28.1	3.9	28.1	28.1	25.8	20.4	15.0	9.6
1600	77	52.9	4.0	33.6	21.9	15.6	-	-	-	49.9	4.2	34.3	22.2	13.3	-	-	-
	72	45.1	3.9	35.4	29.2	23.0	16.8	-	-	40.6	4.3	32.8	26.8	20.7	14.6	-	-
	67	37.3	3.8	37.3	36.6	30.3	24.1	17.9	-	31.3	4.3	31.3	31.3	28.1	22.0	15.9	-
	62	31.8	3.8	31.8	31.8	31.8	25.5	19.3	13.1	26.3	4.0	26.3	26.3	26.3	20.2	14.2	8.1
	57	32.9	3.8	32.9	32.9	32.9	26.7	20.5	14.3	28.0	4.1	28.0	28.0	28.0	22.0	15.9	9.8
1800	72	45.7	3.9	38.8	31.9	24.9	18.0	-	-	41.6	4.2	36.2	29.4	22.6	15.7	-	-
	67	37.8	3.9	37.8	37.5	32.9	26.0	19.0	-	32.2	4.3	32.2	32.2	30.6	23.8	17.0	-
	62	32.2	3.8	32.2	32.2	32.2	25.3	18.4	11.4	27.0	3.9	27.0	27.0	27.0	20.2	13.4	6.6
	57	33.5	3.8	33.5	33.5	33.5	26.5	19.6	12.6	28.8	4.0	28.8	28.8	28.8	21.9	15.1	8.3
2000	72	46.4	4.0	42.2	34.6	26.9	19.3	-	-	42.6	4.1	39.5	32.0	24.4	16.9	-	-
	67	38.4	3.9	38.4	38.4	35.5	27.9	20.2	-	33.0	4.2	33.0	33.0	33.0	25.6	18.1	-
	62	32.7	3.8	32.7	32.7	32.7	25.1	17.4	9.8	27.7	3.8	27.7	27.7	27.7	20.1	12.6	5.0
	57	34.0	3.8	34.0	34.0	34.0	26.3	18.6	11.0	29.5	3.9	29.5	29.5	29.5	21.9	14.4	6.8

1. These capacities are gross ratings. For net capacity, deduct air blower motor, MBh = 3.415 x kW. Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.
2. These ratings include the condenser fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

ZR049 (4.0 Ton) Reheat

Air on Evaporator Coil		Temperature of Air on Condenser Coil					
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) (- indicates heating)	Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) (- indicates heating)
CFM	WB (°F)			Return Dry Bulb (°F)			Return Dry Bulb (°F)
				75			75
		40 °F			**50 °F**		
	62.5	24.5	2.5	9.1	22.9	2.6	8.0
1200	64	25.7	2.5	7.4	26.9	2.7	7.2
	65.3	26.6	2.5	6.1	27.1	2.6	5.5
	62.5	24.0	2.5	12.4	24.5	2.6	11.2
1600	64	25.8	2.5	10.0	26.7	2.6	9.2
	65.3	27.1	2.5	8.3	28.5	2.6	7.7
	62.5	24.3	2.5	12.9	22.7	2.6	11.6
2000	64	26.2	2.5	11.1	24.7	2.6	10.0
	65.3	27.1	2.5	9.2	26.5	2.6	8.5
		60 °F			**70 °F**		
	62.5	21.8	2.6	7.1	19.8	2.7	6.2
1200	64	25.3	2.7	6.3	23.0	2.8	0.0
	65.3	26.9	2.7	4.8	23.5	2.7	2.9
	62.5	22.7	2.7	9.9	20.6	2.7	8.8
1600	64	25.4	2.7	8.8	22.4	2.8	6.8
	65.3	26.9	2.7	7.5	24.4	2.8	5.9
	62.5	20.1	2.6	10.2	18.2	2.7	8.9
2000	64	22.3	2.6	8.6	20.5	2.7	7.7
	62	23.7	2.6	6.9	21.4	2.7	5.3
		75 °F			**80 °F**		
	62.5	19.0	2.7	5.5	17.6	2.8	4.7
1200	64	21.5	2.8	5.1	20.9	2.9	3.7
	65.3	22.2	2.8	2.8	21.5	2.9	2.3
	62.5	19.3	2.8	8.1	17.9	2.9	7.5
1600	64	21.3	2.8	6.3	19.9	2.9	5.7
	65.3	22.6	2.8	4.7	21.1	2.9	4.1
	62.5	16.9	2.7	7.9	15.1	2.8	7.1
2000	64	18.2	2.7	6.3	16.7	2.8	5.6
	65.3	19.9	2.8	4.8	18.3	2.8	4.0
		85 °F			**95 °F**		
	62.5	17.7	2.9	5.0	12.8	3.1	3.5
1200	64	19.0	2.9	3.4	13.8	3.2	-0.2
	65.3	20.4	2.9	2.1	14.0	3.1	-1.5
	62.5	16.2	2.9	6.4	9.7	3.1	2.4
1600	64	18.2	3.0	5.0	10.8	3.2	1.0
	65.3	19.6	3.0	3.1	12.2	3.2	-0.7
	62.5	13.3	2.9	6.6	6.2	3.0	1.4
2000	64	14.8	2.9	4.7	7.2	3.0	-0.1
	62	15.8	2.9	3.1	8.0	3.0	-1.5

1. These capacities are gross ratings. For net capacity, deduct air blower motor, MBh = 3.415 x kW. Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.
2. These ratings include the condenser fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

ZR061 (5.0 Ton) Cooling

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F)					
CFM	WB (°F)			90	85	80	75	70	65			90	85	80	75	70	65
		75°F								**85°F**							
1250	77	81.7	5.9	33.6	27.7	21.9	-	-	-	76.2	4.8	32.2	26.5	20.8	-	-	-
	72	72.8	5.0	41.9	36.1	30.2	24.3	-	-	67.8	4.3	40.1	34.3	28.6	22.9	-	-
	67	64.0	4.0	50.2	44.4	38.5	32.6	26.7	-	59.4	3.8	47.9	42.1	36.4	30.7	25.0	-
	62	57.0	3.6	57.0	57.0	45.7	39.9	33.9	28.1	52.5	3.8	52.5	52.5	43.6	37.8	32.1	26.4
1500	77	85.0	5.4	37.9	31.1	24.3	-	-	-	79.0	4.6	36.2	29.6	23.0	-	-	-
	72	75.8	4.5	47.1	40.4	33.6	26.8	-	-	70.3	4.1	44.8	38.2	31.6	25.0	-	-
	67	66.6	3.6	56.4	49.6	42.9	36.1	29.3	-	61.6	3.7	53.4	46.8	40.2	33.6	27.0	-
	62	59.3	3.2	59.3	59.3	50.9	44.1	37.4	30.6	54.5	3.6	54.5	54.5	48.1	41.4	34.8	28.2
	57	58.1	4.1	58.1	58.1	52.1	45.3	38.6	31.8	53.9	4.1	53.9	53.9	48.7	42.1	35.4	28.8
1750	77	88.3	4.9	42.1	34.4	26.8	-	-	-	81.9	4.3	40.1	32.6	25.1	-	-	-
	72	78.7	4.1	52.3	44.6	37.0	29.4	-	-	72.9	3.9	49.5	42.0	34.5	27.0	-	-
	67	69.2	3.2	62.5	54.8	47.2	39.5	31.9	-	63.9	3.5	59.0	51.5	43.9	36.4	28.9	-
	62	61.6	2.8	61.6	61.6	56.0	48.4	40.7	33.1	56.4	3.4	56.4	56.4	52.5	45.0	37.5	30.0
	57	60.4	3.7	60.4	60.4	57.3	49.7	42.1	34.4	55.8	3.9	55.8	55.8	53.2	45.7	38.2	30.7
2000	77	91.6	4.4	46.3	37.8	29.3	-	-	-	84.7	4.1	44.0	35.6	27.2	-	-	-
	72	81.7	3.6	57.5	48.9	40.4	31.9	-	-	75.4	3.7	54.3	45.9	37.5	29.1	-	-
	67	71.8	2.8	68.6	60.1	51.5	43.0	34.5	-	66.1	3.3	64.5	56.1	47.7	39.3	30.9	-
	62	63.9	2.5	63.9	63.9	61.2	52.7	44.1	35.6	58.4	3.2	58.4	58.4	57.0	48.6	40.2	31.8
	57	62.6	3.2	62.6	62.6	62.6	54.1	45.6	37.0	57.8	3.6	57.8	57.8	57.8	49.4	41.0	32.6
2250	72	82.5	3.9	60.8	51.6	42.4	33.2	-	-	75.9	3.9	57.9	48.8	39.7	30.6	-	-
	67	72.5	3.0	70.9	63.3	54.1	44.9	35.8	-	66.5	3.5	65.7	59.6	50.5	41.4	32.3	-
	62	64.5	2.6	64.5	64.5	63.2	54.0	44.8	35.6	58.8	3.5	58.8	58.8	58.1	49.0	39.9	30.8
	57	63.3	3.5	63.3	63.3	63.3	54.1	44.9	35.7	58.2	3.9	58.2	58.2	58.2	49.1	39.9	30.8
2500	72	83.4	4.2	64.2	54.3	44.5	34.6	-	-	76.4	4.1	61.6	51.7	41.9	32.1	-	-
	67	73.2	3.3	73.2	66.6	56.7	46.9	37.1	-	66.9	3.7	66.9	63.2	53.4	43.5	33.7	-
	62	65.2	2.8	65.2	65.2	65.2	55.3	45.5	35.6	59.2	3.7	59.2	59.2	59.2	49.3	39.5	29.7
	57	63.9	3.7	63.9	63.9	63.9	54.0	44.2	34.4	58.5	4.1	58.5	58.5	58.5	48.7	38.9	29.1
		95°F								**105°F**							
1250	77	70.7	3.7	30.8	25.3	19.7	-	-	-	65.8	4.9	25.3	21.7	16.5	-	-	-
	72	62.8	3.7	38.2	32.6	27.0	21.5	-	-	57.8	4.6	35.2	29.7	24.3	18.9	-	-
	67	54.8	3.7	45.5	39.9	34.3	28.8	23.2	-	49.8	4.3	45.1	37.8	32.1	26.6	21.2	-
	62	48.1	4.0	48.1	48.1	41.4	35.8	30.3	24.7	43.0	4.6	43.0	43.0	35.7	30.3	24.8	19.4
1500	77	73.1	3.8	34.5	28.0	21.6	-	-	-	67.2	4.8	31.0	24.5	18.1	-	-	-
	72	64.9	3.7	42.5	36.0	29.5	23.1	-	-	59.0	4.5	39.4	33.0	26.6	20.2	-	-
	67	56.7	3.7	50.5	44.0	37.5	31.1	24.6	-	50.8	4.3	47.7	41.5	35.1	28.7	22.3	-
	62	49.7	4.0	49.7	49.7	45.2	38.8	32.3	25.8	43.9	4.6	43.9	43.9	39.1	32.7	26.3	19.9
	57	49.7	4.0	49.7	49.7	45.3	38.8	32.3	25.9	44.9	4.6	44.9	44.9	39.9	33.5	27.1	20.8
1750	77	75.5	3.8	38.2	30.8	23.4	-	-	-	68.6	4.7	36.8	27.3	19.7	-	-	-
	72	67.0	3.7	46.8	39.4	32.1	24.7	-	-	60.3	4.5	43.6	36.2	28.9	21.6	-	-
	67	58.5	3.7	55.4	48.1	40.7	33.3	26.0	-	51.9	4.2	50.4	45.2	38.1	30.8	23.5	-
	62	51.3	4.0	51.3	51.3	49.1	41.7	34.3	27.0	44.9	4.5	44.9	44.9	42.5	35.1	27.8	20.4
	57	51.3	4.0	51.3	51.3	49.1	41.7	34.4	27.0	45.9	4.5	45.9	45.9	43.4	36.0	28.7	21.4
2000	77	77.9	3.8	41.8	33.5	25.2	-	-	-	70.0	4.7	42.5	30.0	21.2	-	-	-
	72	69.1	3.8	51.1	42.8	34.6	26.3	-	-	61.5	4.4	47.8	39.5	31.2	22.9	-	-
	67	60.4	3.7	60.4	52.2	43.9	35.6	27.3	-	53.0	4.1	53.0	48.9	41.2	32.9	24.6	-
	62	52.9	4.0	52.9	52.9	52.9	44.6	36.4	28.1	45.8	4.4	45.8	45.8	45.8	37.5	29.2	21.0
	57	52.9	4.1	52.9	52.9	52.9	44.7	36.4	28.1	46.8	4.4	46.8	46.8	46.8	38.5	30.3	22.0
2250	72	69.3	3.9	55.0	46.0	37.0	27.9	-	-	61.6	4.6	51.5	42.5	33.4	24.3	-	-
	67	60.5	3.9	60.5	56.0	46.9	37.9	28.9	-	53.1	4.3	53.1	50.8	44.1	35.0	26.0	-
	62	53.0	4.3	53.0	53.0	53.0	44.0	35.0	25.9	45.9	4.6	45.9	45.9	45.9	36.8	27.7	18.7
	57	53.1	4.3	53.1	53.1	53.1	44.0	35.0	26.0	46.9	4.7	46.9	46.9	46.9	37.8	28.7	19.7
2500	72	69.4	4.1	58.9	49.1	39.4	29.6	-	-	61.6	4.8	55.3	45.5	35.6	25.8	-	-
	67	60.7	4.1	60.7	59.8	50.0	40.2	30.4	-	53.1	4.5	53.1	52.7	47.0	37.2	27.3	-
	62	53.2	4.5	53.2	53.2	53.2	43.4	33.6	23.8	45.9	4.8	45.9	45.9	45.9	36.1	26.2	16.4
	57	53.2	4.5	53.2	53.2	53.2	43.4	33.6	23.8	46.9	4.9	46.9	46.9	46.9	37.1	27.2	17.4

ZR061 (5.0 Ton) Cooling (Continued)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)					
CFM	WB (°F)			Return Dry Bulb (°F)								Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		115°F								**125°F**							
1250	77	60.8	6.1	19.8	18.1	13.3	-	-	-	55.9	7.3	18.9	12.5	10.1	-	-	-
	72	52.8	5.6	32.2	26.9	21.6	16.2	-	-	47.8	6.5	29.2	24.0	18.8	13.6	-	-
	67	44.7	5.0	44.7	35.7	29.8	24.5	19.1	-	39.6	5.7	39.6	34.3	27.5	22.3	17.1	-
	62	37.9	5.3	37.9	37.9	30.0	24.7	19.4	14.0	32.9	5.9	32.9	32.9	24.3	19.1	13.9	8.7
1500	77	61.3	5.9	27.6	20.9	14.6	-	-	-	55.4	7.0	27.2	17.4	11.1	-	-	-
	72	53.2	5.4	36.3	30.0	23.6	17.3	-	-	47.3	6.2	33.2	27.0	20.7	14.4	-	-
	67	45.0	4.8	45.0	39.0	32.7	26.4	20.0	-	39.2	5.4	39.2	36.5	30.3	24.0	17.8	-
	62	38.2	5.1	38.2	38.2	32.9	26.6	20.3	14.0	32.5	5.7	32.5	32.5	26.8	20.5	14.3	8.0
	57	40.1	5.2	40.1	40.1	34.6	28.3	22.0	15.6	35.4	5.8	35.4	35.4	29.3	23.0	16.8	10.5
1750	77	61.7	5.7	35.4	23.8	15.9	-	-	-	54.8	6.7	35.6	22.3	12.2	-	-	-
	72	53.5	5.2	40.4	33.1	25.7	18.4	-	-	46.8	5.9	37.2	29.9	22.6	15.3	-	-
	67	45.3	4.7	45.3	42.3	35.6	28.3	20.9	-	38.8	5.2	38.8	38.8	33.0	25.7	18.4	-
	62	38.5	4.9	38.5	38.5	35.8	28.5	21.2	13.9	32.1	5.4	32.1	32.1	29.2	21.9	14.7	7.4
	57	40.4	5.0	40.4	40.4	37.7	30.3	23.0	15.7	35.0	5.5	35.0	35.0	31.9	24.7	17.4	10.1
2000	77	62.2	5.5	43.2	26.6	17.2	-	-	-	54.3	6.4	43.9	27.2	13.2	-	-	-
	72	53.9	5.0	44.4	36.1	27.8	19.5	-	-	46.3	5.7	41.1	32.8	24.5	16.1	-	-
	67	45.7	4.5	45.7	45.7	38.5	30.1	21.8	-	38.3	4.9	38.3	38.3	35.7	27.4	19.1	-
	62	38.8	4.8	38.8	38.8	38.8	30.4	22.1	13.8	31.7	5.1	31.7	31.7	31.7	23.4	15.0	6.7
	57	40.7	4.8	40.7	40.7	40.7	32.4	24.1	15.8	34.6	5.2	34.6	34.6	34.6	26.3	18.0	9.6
2250	72	53.9	5.2	48.1	38.9	29.8	20.7	-	-	46.2	5.9	44.6	35.4	26.3	17.1	-	-
	67	45.6	4.7	45.6	45.6	41.2	32.1	23.0	-	38.2	5.1	38.2	38.2	38.2	29.3	20.1	-
	62	38.7	5.0	38.7	38.7	38.7	29.6	20.5	11.4	31.6	5.4	31.6	31.6	31.6	22.4	13.3	4.1
	57	40.7	5.1	40.7	40.7	40.7	31.6	22.5	13.4	34.5	5.5	34.5	34.5	34.5	25.3	16.2	7.1
2500	72	53.8	5.5	51.7	41.8	31.9	22.0	-	-	46.0	6.1	46.0	38.1	28.1	18.2	-	-
	67	45.6	4.9	45.6	45.6	44.0	34.1	24.2	-	38.1	5.3	38.1	38.1	38.1	31.1	21.2	-
	62	38.7	5.2	38.7	38.7	38.7	28.8	18.9	9.0	31.5	5.6	31.5	31.5	31.5	21.5	11.5	1.6
	57	40.6	5.3	40.6	40.6	40.6	30.7	20.8	10.9	34.4	5.7	34.4	34.4	34.4	24.4	14.5	4.5

1. These capacities are gross ratings. For net capacity, deduct air blower motor, MBh = 3.415 x kW. Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.
2. These ratings include the condenser fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

ZR061 (5.0 Ton) Reheat

Air on Evaporator Coil		Temperature of Air on Condenser Coil					
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) (- indicates heating)	Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) (- indicates heating)
CFM	WB (°F)			Return Dry Bulb (°F)			Return Dry Bulb (°F)
				75			75
		40 °F			**50 °F**		
	62.5	26.8	3.1	8.4	29.3	3.2	10.7
1750	64	28.9	3.1	6.4	32.4	3.2	9.2
	65.3	30.0	3.1	4.8	34.7	3.2	7.3
	62.5	29.2	3.1	11.0	30.3	3.2	11.9
2000	64	30.8	3.1	8.6	32.3	3.2	9.9
	65.3	31.4	3.1	5.8	35.3	3.2	8.4
	62.5	29.8	3.1	10.5	29.6	3.2	11.1
2250	64	31.2	3.1	7.6	32.1	3.2	8.5
	65.3	31.4	3.1	6.0	34.5	3.2	6.2
		60 °F			**70 °F**		
	62.5	26.7	3.3	9.2	24.5	3.4	8.0
1750	64	28.9	3.3	6.9	27.0	3.4	6.4
	65.3	31.6	3.3	5.4	28.7	3.4	4.3
	62.5	27.9	3.3	10.9	25.0	3.4	9.0
2000	64	31.0	3.3	8.4	27.3	3.4	6.9
	65.3	32.9	3.3	6.7	29.6	3.4	4.9
	62.5	26.8	3.3	9.5	23.6	3.4	7.3
2250	64	29.5	3.3	6.9	26.1	3.4	4.7
	62	31.7	3.3	4.5	28.2	3.4	2.7
		75 °F			**80 °F**		
	62.5	22.8	3.5	7.1	21.3	3.5	6.3
1750	64	25.5	3.5	5.1	23.9	3.5	4.6
	65.3	27.8	3.5	3.3	25.8	3.5	2.7
	62.5	23.2	3.5	8.0	21.3	3.5	7.3
2000	64	25.7	3.5	5.9	23.7	3.5	5.3
	65.3	27.8	3.5	4.3	25.7	3.5	3.6
	62.5	21.6	3.4	6.8	19.5	3.5	5.6
2250	64	23.8	3.5	4.5	22.0	3.5	3.1
	65.3	26.1	3.5	1.9	24.1	3.5	1.0
		85 °F			**95 °F**		
	62.5	17.4	3.5	3.9	8.3	3.8	-1.8
1750	64	19.7	3.6	2.0	9.8	3.8	-3.9
	65.3	21.6	3.6	-0.3	11.2	3.9	-5.3
	62.5	17.3	3.6	5.0	7.1	3.8	-0.9
2000	64	19.4	3.6	2.5	8.8	3.8	-3.0
	65.3	20.9	3.6	0.5	10.3	3.9	-5.2
	62.5	16.0	3.5	3.5	5.0	3.8	-3.3
2250	64	18.0	3.6	0.4	6.1	3.8	-6.2
	62	19.4	3.6	-1.7	8.3	3.9	-8.0

1. These capacities are gross ratings. For net capacity, deduct air blower motor, MBh = 3.415 x kW. Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.
2. These ratings include the condenser fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

ZR078 (6.5 Ton) Cooling

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F)					
CFM	WB (°F)			90	85	80	75	70	65			90	85	80	75	70	65
		75°F								**85°F**							
1625	77	99.9	5.1	39.3	33.2	27.1	-	-	-	90.5	5.8	36.9	30.8	24.7	-	-	-
	72	91.5	5.0	50.3	44.2	38.1	32.1	-	-	83.7	5.7	48.0	41.8	35.7	29.6	-	-
	67	83.0	5.0	61.3	55.2	49.2	43.1	37.0	-	76.9	5.7	59.0	52.9	46.8	40.7	34.5	-
	62	72.4	4.9	72.4	70.1	60.9	54.9	48.8	42.7	68.7	5.7	68.7	66.7	57.6	51.5	45.4	39.3
1950	77	106.5	5.1	45.5	37.9	30.3	-	-	-	96.8	5.9	42.8	35.2	27.7	-	-	-
	72	97.5	5.1	57.8	50.2	42.6	35.1	-	-	89.5	5.8	55.1	47.6	40.0	32.5	-	-
	67	88.5	5.1	70.1	62.5	54.9	47.4	39.8	-	82.2	5.8	67.5	60.0	52.4	44.9	37.3	-
	62	77.2	5.0	77.2	75.6	68.1	60.5	52.9	45.4	73.4	5.7	73.4	72.1	64.6	57.0	49.5	41.9
	57	78.2	5.0	78.2	78.2	72.6	65.0	57.5	49.9	70.6	5.7	70.6	70.6	65.6	58.0	50.5	43.0
2275	77	113.1	5.2	51.6	42.6	33.5	-	-	-	103.0	5.9	48.6	39.6	30.7	-	-	-
	72	103.5	5.2	65.2	56.2	47.1	38.0	-	-	95.2	5.9	62.3	53.3	44.4	35.4	-	-
	67	93.9	5.1	78.8	69.8	60.7	51.6	42.6	-	87.5	5.8	76.0	67.0	58.1	49.1	40.1	-
	62	81.9	5.1	81.9	81.2	75.2	66.2	57.1	48.0	78.1	5.8	78.1	77.5	71.5	62.6	53.6	44.6
	57	83.1	5.1	83.1	83.1	80.3	71.2	62.1	53.1	75.2	5.8	75.2	75.2	72.7	63.7	54.7	45.8
2600	77	119.7	5.3	57.8	47.3	36.7	-	-	-	109.3	6.0	54.4	44.0	33.6	-	-	-
	72	109.5	5.2	72.7	62.2	51.6	41.0	-	-	101.0	6.0	69.5	59.1	48.7	38.3	-	-
	67	99.4	5.2	87.6	77.0	66.5	55.9	45.3	-	92.8	5.9	84.5	74.1	63.7	53.3	42.9	-
	62	86.7	5.1	86.7	86.7	82.4	71.8	61.3	50.7	82.9	5.9	82.9	82.9	78.5	68.1	57.7	47.3
	57	87.9	5.2	87.9	87.9	87.9	77.4	66.8	56.2	79.7	5.9	79.7	79.7	79.7	69.3	59.0	48.6
2925	72	109.6	5.2	74.8	64.0	53.1	42.2	-	-	100.2	5.9	71.6	60.8	50.0	39.3	-	-
	67	99.5	5.1	91.9	79.3	68.4	57.5	46.7	-	92.0	5.9	87.0	76.3	65.5	54.7	44.0	-
	62	86.8	5.1	86.8	86.8	84.6	73.8	62.9	52.0	82.2	5.8	82.2	82.2	80.0	69.3	58.5	47.7
	57	88.0	5.1	88.0	88.0	88.0	77.1	66.2	55.3	79.1	5.8	79.1	79.1	79.1	68.3	57.6	46.8
3250	72	109.7	5.1	76.9	65.7	54.6	43.4	-	-	99.4	5.8	73.7	62.5	51.4	40.3	-	-
	67	99.6	5.1	96.1	81.5	70.3	59.1	48.0	-	91.3	5.8	89.5	78.4	67.3	56.1	45.0	-
	62	86.9	5.0	86.9	86.9	86.9	75.7	64.5	53.4	81.5	5.8	81.5	81.5	81.5	70.4	59.3	48.1
	57	88.0	5.0	88.0	88.0	88.0	76.8	65.6	54.4	78.5	5.8	78.5	78.5	78.5	67.3	56.2	45.1
		95°F								**105°F**							
1625	77	81.2	6.5	34.6	28.4	22.3	-	-	-	76.9	7.3	31.0	26.2	20.1	-	-	-
	72	75.9	6.5	45.6	39.5	33.3	27.2	-	-	70.8	7.3	43.2	37.1	31.0	24.8	-	-
	67	70.7	6.4	56.7	50.5	44.4	38.2	32.1	-	64.7	7.2	55.3	47.9	41.8	35.7	29.6	-
	62	64.9	6.4	64.9	63.3	54.3	48.1	42.0	35.8	59.4	7.2	59.4	58.5	49.9	43.8	37.7	31.6
1950	77	87.0	6.6	40.1	32.5	25.0	-	-	-	81.8	7.4	37.4	30.0	22.6	-	-	-
	72	81.4	6.5	52.5	45.0	37.5	30.0	-	-	75.3	7.4	49.6	42.2	34.8	27.4	-	-
	67	75.8	6.5	64.9	57.4	49.9	42.4	34.9	-	68.8	7.3	61.8	54.4	47.0	39.6	32.1	-
	62	69.7	6.4	69.7	68.6	61.0	53.5	46.0	38.5	63.2	7.3	63.2	62.6	56.1	48.7	41.3	33.9
	57	63.0	6.5	63.0	63.0	58.6	51.1	43.5	36.0	61.6	7.3	61.6	61.4	55.5	48.1	40.6	33.2
2275	77	92.9	6.7	45.5	36.7	27.8	-	-	-	86.7	7.5	43.8	33.8	25.1	-	-	-
	72	87.0	6.6	59.3	50.5	41.6	32.8	-	-	79.8	7.5	56.0	47.3	38.6	29.9	-	-
	67	81.0	6.6	73.2	64.3	55.4	46.6	37.7	-	73.0	7.4	68.3	60.9	52.2	43.5	34.7	-
	62	74.4	6.5	74.4	73.8	67.8	59.0	50.1	41.2	67.0	7.3	67.0	66.7	62.3	53.6	44.9	36.2
	57	67.3	6.5	67.3	67.3	65.1	56.2	47.3	38.5	65.2	7.4	65.2	65.1	61.6	52.9	44.2	35.5
2600	77	98.8	6.7	51.0	40.8	30.6	-	-	-	91.6	7.6	50.2	37.6	27.6	-	-	-
	72	92.5	6.7	66.2	56.0	45.8	35.6	-	-	84.3	7.6	62.5	52.5	42.5	32.5	-	-
	67	86.1	6.6	81.4	71.2	61.0	50.8	40.5	-	77.1	7.5	74.7	67.3	57.3	47.3	37.3	-
	62	79.1	6.6	79.1	79.1	74.6	64.4	54.2	43.9	70.8	7.4	70.8	70.8	68.5	58.5	48.5	38.5
	57	71.5	6.6	71.5	71.5	71.5	61.3	51.1	40.9	68.9	7.4	68.9	68.9	67.7	57.7	47.7	37.7
2925	72	90.8	6.6	68.3	57.6	47.0	36.3	-	-	83.1	7.5	64.7	54.2	43.8	33.3	-	-
	67	84.5	6.6	82.2	73.2	62.6	51.9	41.3	-	75.9	7.4	74.8	69.1	59.1	48.7	38.2	-
	62	77.6	6.5	77.6	77.6	75.4	64.7	54.1	43.4	69.7	7.4	69.7	69.7	68.6	58.1	47.7	37.2
	57	70.2	6.6	70.2	70.2	70.2	59.6	48.9	38.3	67.9	7.4	67.9	67.9	67.3	56.8	46.4	35.9
3250	72	89.1	6.6	70.4	59.3	48.2	37.1	-	-	81.8	7.4	66.9	56.0	45.1	34.2	-	-
	67	83.0	6.5	83.0	75.3	64.2	53.1	42.0	-	74.8	7.4	74.8	70.9	60.9	50.0	39.1	-
	62	76.2	6.5	76.2	76.2	76.2	65.1	54.0	42.9	68.6	7.3	68.6	68.6	68.6	57.7	46.8	35.9
	57	68.9	6.5	68.9	68.9	68.9	57.8	46.8	35.7	66.9	7.3	66.9	66.9	66.9	56.0	45.1	34.2

ZR078 (6.5 Ton) Cooling (Continued)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)					
CFM	WB (°F)			Return Dry Bulb (°F)								Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		115°F								**125°F**							
1625	77	72.6	8.1	27.5	24.0	18.0	-	-	-	68.3	9.0	24.0	21.5	15.8	-	-	-
	72	65.6	8.1	40.7	34.7	28.6	22.5	-	-	60.4	8.9	38.3	32.2	26.2	20.2	-	-
	67	58.6	8.1	54.0	45.3	39.2	33.1	27.1	-	52.6	8.9	52.6	42.6	36.6	30.6	24.6	-
	62	53.8	8.0	53.8	53.8	45.6	39.5	33.4	27.4	48.2	8.8	48.2	48.2	41.2	35.2	29.2	23.1
1950	77	76.5	8.2	34.8	27.5	20.2	-	-	-	71.2	9.1	33.0	25.0	17.8	-	-	-
	72	69.1	8.2	46.7	39.4	32.1	24.8	-	-	63.0	9.0	43.9	36.6	29.4	22.2	-	-
	67	61.8	8.2	58.7	51.4	44.0	36.7	29.4	-	54.7	9.0	54.7	48.3	41.1	33.9	26.7	-
	62	56.7	8.1	56.7	56.7	51.2	43.9	36.6	29.3	50.2	8.9	50.2	50.2	46.3	39.1	31.9	24.7
	57	60.1	8.1	60.1	59.7	52.4	45.1	37.7	30.4	58.7	8.9	58.7	58.0	49.3	42.1	34.8	27.6
2275	77	80.4	8.4	42.1	31.0	22.4	-	-	-	74.1	9.2	42.0	28.4	19.7	-	-	-
	72	72.7	8.3	52.7	44.2	35.6	27.1	-	-	65.5	9.2	49.4	41.0	32.6	24.2	-	-
	67	64.9	8.3	63.4	57.4	48.9	40.3	31.8	-	56.9	9.1	56.9	54.0	45.6	37.2	28.8	-
	62	59.6	8.2	59.6	59.6	56.8	48.3	39.7	31.2	52.2	9.0	52.2	52.2	51.4	43.0	34.6	26.2
	57	63.2	8.2	63.2	63.0	58.1	49.6	41.0	32.5	61.2	9.0	61.2	60.8	54.7	46.3	37.9	29.5
2600	77	84.3	8.5	49.4	34.4	24.6	-	-	-	77.1	9.3	51.0	31.8	21.6	-	-	-
	72	76.2	8.4	58.8	49.0	39.2	29.4	-	-	68.1	9.3	55.0	45.4	35.9	26.3	-	-
	67	68.1	8.4	68.1	63.5	53.7	43.9	34.1	-	59.1	9.2	59.1	59.1	50.1	40.5	30.9	-
	62	62.5	8.3	62.5	62.5	62.5	52.7	42.9	33.1	54.2	9.1	54.2	54.2	54.2	46.8	37.2	27.7
	57	66.3	8.3	66.3	66.3	63.9	54.1	44.3	34.5	63.6	9.1	63.6	63.6	60.0	50.5	40.9	31.3
2925	72	75.4	8.3	61.1	50.8	40.6	30.3	-	-	67.6	9.2	57.5	47.4	37.4	27.3	-	-
	67	67.3	8.3	67.3	65.0	55.7	45.4	35.1	-	58.7	9.2	58.7	58.7	52.2	42.1	32.1	-
	62	61.8	8.2	61.8	61.8	61.8	51.5	41.3	31.0	53.8	9.0	53.8	53.8	53.8	44.9	34.9	24.8
	57	65.5	8.2	65.5	65.5	64.3	54.1	43.8	33.6	63.2	9.0	63.2	63.2	61.4	51.3	41.3	31.2
3250	72	74.5	8.3	63.4	52.7	42.0	31.3	-	-	67.2	9.1	59.9	49.4	38.9	28.3	-	-
	67	66.6	8.2	66.6	66.6	57.6	46.9	36.2	-	58.4	9.1	58.4	58.4	54.3	43.7	33.2	-
	62	61.1	8.1	61.1	61.1	61.1	50.4	39.7	28.9	53.5	8.9	53.5	53.5	53.5	43.0	32.5	22.0
	57	64.8	8.1	64.8	64.8	64.8	54.1	43.4	32.7	62.7	9.0	62.7	62.7	62.7	52.2	41.7	31.2

1. These capacities are gross ratings. For net capacity, deduct air blower motor, MBh = 3.415 x kW. Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.
2. These ratings include the condenser fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

ZR078 (6.5 Ton) Reheat

Air on Evaporator Coil		Temperature of Air on Condenser Coil														
CFM	WB (°F)	Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F) 85	80	75	70	65	Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F) 85	80	75	70	65
		35°F							**45°F**						
1625	72	31.6	4.5	1.6	1.5	1.5	-	-	34.9	5.1	-	-	-	-	-
	67	32.2	4.6	1.5	1.5	1.4	1.4	-	35.2	4.9	2.5	2.2	1.9	1.7	-
	62	28.5	4.4	1.6	1.6	1.5	1.5	1.4	32.0	4.9	5.2	4.9	4.6	4.4	4.1
1950	72	36.1	4.3	2.2	1.6	0.9	-	-	37.2	4.9	-	-	-	-	-
	67	36.7	4.5	6.6	5.9	5.3	4.6	-	37.6	4.7	6.2	5.6	4.9	4.2	-
	62	32.6	4.3	10.8	10.1	9.4	8.8	8.1	34.2	4.7	13.0	12.4	11.7	11.1	10.4
	57	34.2	4.4	17.1	16.4	15.8	15.1	14.5	34.5	4.7	18.2	17.6	16.9	16.3	15.6
2275	72	40.5	4.2	2.9	1.7	0.4	-	-	39.6	4.7	-	-	-	-	-
	67	41.2	4.3	11.6	10.4	9.1	7.8	-	39.9	4.5	9.9	8.9	7.9	6.8	-
	62	36.7	4.2	19.9	18.6	17.4	16.1	14.8	36.3	4.5	20.9	19.8	18.8	17.8	16.7
	57	38.3	4.2	29.8	29.5	28.2	26.9	25.7	36.6	4.5	28.5	28.2	27.2	26.1	25.1
2600	72	45.0	4.1	3.6	1.7	-0.1	-	-	41.9	4.5	-	-	-	-	-
	67	45.7	4.2	16.7	14.8	12.9	11.1	-	42.3	4.3	13.7	12.3	10.8	9.4	-
	62	40.8	4.0	29.0	27.1	25.3	23.4	21.6	38.4	4.3	28.7	27.3	25.9	24.5	23.1
	57	42.5	4.1	42.5	42.5	40.6	38.7	36.9	38.8	4.4	38.8	38.8	37.4	36.0	34.5
2925	72	42.5	4.0	4.6	2.8	1.0	-	-	40.8	4.6	-	-	-	-	-
	67	43.2	4.1	17.5	15.7	13.9	12.1	-	41.1	4.4	15.2	13.7	12.2	10.8	-
	62	38.5	4.0	31.6	29.1	27.3	25.5	23.7	37.4	4.4	32.0	30.5	29.1	27.6	26.1
	57	40.2	4.0	40.2	40.2	38.3	36.5	34.7	37.7	4.4	37.7	37.7	36.2	34.8	33.3
3250	72	40.0	3.9	5.7	3.9	2.1	-	-	39.6	4.6	-	-	-	-	-
	67	40.6	4.0	18.4	16.6	14.8	13.0	-	40.0	4.4	16.7	15.2	13.6	12.1	-
	62	36.2	3.9	34.2	31.1	29.3	27.5	25.8	36.3	4.4	35.3	33.8	32.3	30.7	29.2
	57	37.9	4.0	37.9	37.9	36.1	34.3	32.5	36.7	4.5	36.7	36.7	35.1	33.6	32.0
		55°F							**65°F**						
1625	72	38.2	5.7	-	-	-	-	-	36.3	5.7	-	-	-	-	-
	67	38.2	5.1	3.4	2.9	2.4	1.9	-	36.2	5.3	2.4	2.1	1.8	1.5	-
	62	35.5	5.3	8.8	8.3	7.8	7.3	6.7	33.1	5.2	6.5	6.2	5.9	5.6	5.3
1950	72	38.4	5.5	-	-	-	-	-	36.8	5.6	-	-	-	-	-
	67	38.4	4.9	5.8	5.2	4.5	3.9	-	36.7	5.2	4.9	4.3	3.8	3.2	-
	62	35.7	5.1	15.3	14.7	14.0	13.3	12.7	33.5	5.0	13.9	13.3	12.7	12.2	11.6
	57	34.7	5.1	19.4	18.7	18.1	17.4	16.8	32.9	5.0	17.0	16.5	15.9	15.3	14.8
2275	72	38.6	5.2	-	-	-	-	-	37.3	5.4	-	-	-	-	-
	67	38.6	4.7	8.3	7.5	6.6	5.8	-	37.2	5.0	7.4	6.6	5.8	5.0	-
	62	35.9	4.9	21.9	21.0	20.2	19.4	18.6	34.0	4.9	21.2	20.4	19.6	18.8	18.0
	57	34.9	4.8	27.2	26.9	26.1	25.3	24.5	33.4	4.9	25.4	25.2	24.3	23.5	22.7
2600	72	38.8	5.0	-	-	-	-	-	37.8	5.3	-	-	-	-	-
	67	38.9	4.4	10.7	9.7	8.8	7.8	-	37.7	4.9	9.9	8.9	7.8	6.8	-
	62	36.1	4.6	28.4	27.4	26.5	25.5	24.6	34.4	4.8	28.5	27.5	26.4	25.3	24.3
	57	35.1	4.6	35.1	35.1	34.1	33.2	32.2	33.8	4.8	33.8	33.8	32.8	31.7	30.7
2925	72	39.0	5.2	-	-	-	-	-	38.0	5.4	-	-	-	-	-
	67	39.1	4.6	12.9	11.7	10.6	9.5	-	38.0	5.0	12.2	10.9	9.7	8.4	-
	62	36.3	4.8	32.4	32.0	30.8	29.7	28.6	34.6	4.9	31.7	31.2	29.9	28.7	27.4
	57	35.3	4.8	35.3	35.3	34.2	33.0	31.9	34.1	4.9	34.1	34.1	32.8	31.6	30.3
3250	72	39.2	5.3	-	-	-	-	-	38.2	5.5	-	-	-	-	-
	67	39.3	4.8	15.0	13.7	12.5	11.2	-	38.2	5.0	14.4	13.0	11.6	10.1	-
	62	36.5	5.0	36.5	36.5	35.2	33.9	32.6	34.8	4.9	34.8	34.8	33.4	32.0	30.5
	57	35.5	5.0	35.5	35.5	34.2	32.9	31.6	34.3	4.9	34.3	34.3	32.8	31.4	29.9

ZR078 (6.5 Ton) Reheat (Continued)

Air on Evaporator Coil		Temperature of Air on Condenser Coil													
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F)					Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F)				
CFM	WB (°F)			85	80	75	70	65			85	80	75	70	65
		75°F							**85°F**						
1625	72	34.3	5.7	-	-	-	-	-	32.4	5.6	-	-	-	-	-
	67	34.2	5.4	1.3	1.2	1.1	1.0	-	32.2	5.6	0.3	0.4	0.5	0.6	-
	62	30.6	5.0	4.3	4.2	4.1	4.0	3.9	28.2	4.8	2.1	2.2	2.2	2.3	2.4
1950	72	35.1	5.7	-	-	-	-	-	33.5	5.8	-	-	-	-	-
	67	35.0	5.4	4.0	3.5	3.0	2.6	-	33.3	5.7	3.0	2.7	2.3	1.9	-
	62	31.3	5.0	12.4	12.0	11.5	11.0	10.6	29.1	4.9	11.0	10.6	10.3	9.9	9.5
	57	31.2	5.0	14.6	14.2	13.7	13.3	12.8	29.4	4.9	12.2	11.9	11.5	11.2	10.8
2275	72	35.9	5.7	-	-	-	-	-	34.5	5.9	-	-	-	-	-
	67	35.8	5.4	6.6	5.8	5.0	4.2	-	34.4	5.8	5.7	4.9	4.1	3.3	-
	62	32.0	5.0	20.5	19.7	18.9	18.1	17.3	30.1	5.1	19.9	19.1	18.3	17.4	16.6
	57	31.9	5.0	23.6	23.4	22.6	21.8	21.0	30.4	5.0	21.8	21.6	20.8	20.0	19.2
2600	72	36.7	5.7	-	-	-	-	-	35.6	6.0	-	-	-	-	-
	67	36.6	5.4	9.2	8.1	6.9	5.7	-	35.5	5.9	8.5	7.2	6.0	4.7	-
	62	32.7	5.0	28.7	27.5	26.3	25.2	24.0	31.0	5.2	28.8	27.5	26.3	25.0	23.8
	57	32.6	5.0	32.6	32.6	31.4	30.3	29.1	31.3	5.2	31.3	31.3	30.1	28.8	27.6
2925	72	37.0	5.6	-	-	-	-	-	35.9	5.8	-	-	-	-	-
	67	36.9	5.4	11.5	10.2	8.8	7.4	-	35.8	5.8	10.9	9.4	7.9	6.4	-
	62	33.0	4.9	30.9	30.4	29.0	27.6	26.2	31.3	5.0	30.2	29.6	28.0	26.5	25.0
	57	32.8	4.9	32.8	32.8	31.5	30.1	28.7	31.6	5.0	31.6	31.6	30.1	28.6	27.1
3250	72	37.2	5.6	-	-	-	-	-	36.2	5.7	-	-	-	-	-
	67	37.1	5.3	13.9	12.3	10.7	9.1	-	36.1	5.6	13.3	11.5	9.8	8.0	-
	62	33.2	4.9	33.2	33.2	31.6	30.0	28.4	31.6	4.9	31.6	31.6	29.8	28.1	26.3
	57	33.1	4.9	33.1	33.1	31.5	29.9	28.3	31.9	4.9	31.9	31.9	30.1	28.4	26.6

1. These capacities are gross ratings. For net capacity, deduct air blower motor, MBh = 3.415 x kW. Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.
2. These ratings include the condenser fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

ZR090 (7.5 Ton) Cooling

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)					
CFM	WB (°F)			Return Dry Bulb (°F)								Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		75°F								85°F							
1875	77	95.3	5.1	41.7	33.4	25.0	-	-	-	98.4	5.8	42.5	34.5	26.4	-	-	-
	72	88.9	5.0	49.7	41.3	33.0	24.6	-	-	91.0	5.8	52.7	44.7	36.7	28.6	-	-
	67	82.4	4.9	57.7	49.3	41.0	32.6	24.2	-	83.6	5.7	63.0	54.9	46.9	38.9	30.8	-
	62	72.3	4.9	72.3	63.4	49.7	41.3	32.9	24.6	74.5	5.7	74.5	70.1	57.5	49.5	41.5	33.4
2250	77	104.3	5.1	50.1	40.6	31.2	-	-	-	104.3	5.9	49.0	39.9	30.7	-	-	-
	72	97.2	5.0	60.3	50.9	41.4	32.0	-	-	96.4	5.8	60.9	51.8	42.6	33.5	-	-
	67	90.1	5.0	70.6	61.1	51.7	42.2	32.8	-	88.5	5.8	72.8	63.7	54.5	45.4	36.3	-
	62	79.1	4.9	79.1	73.2	62.8	53.3	43.9	34.4	79.0	5.7	79.0	76.0	66.9	57.8	48.6	39.5
	57	76.9	4.9	76.9	74.8	63.8	54.3	44.9	35.4	77.6	5.7	77.6	76.5	67.4	58.3	49.1	40.0
2625	77	113.3	5.2	58.4	47.9	37.4	-	-	-	110.2	5.9	55.5	45.3	35.0	-	-	-
	72	105.5	5.1	70.9	60.4	49.9	39.4	-	-	101.9	5.8	69.1	58.9	48.6	38.4	-	-
	67	97.8	5.0	83.4	72.9	62.4	51.9	41.3	-	93.5	5.8	82.7	72.4	62.2	52.0	41.7	-
	62	85.9	5.0	85.9	82.9	75.8	65.3	54.8	44.3	83.4	5.7	83.4	82.0	76.3	66.1	55.8	45.6
	57	83.6	5.0	83.6	82.5	77.0	66.5	55.9	45.4	82.0	5.7	82.0	81.4	76.9	66.6	56.4	46.2
3000	77	122.2	5.2	66.8	55.2	43.6	-	-	-	116.0	5.9	62.0	50.7	39.4	-	-	-
	72	113.8	5.1	81.6	69.9	58.3	46.7	-	-	107.3	5.9	77.3	65.9	54.6	43.3	-	-
	67	105.4	5.1	96.3	84.7	73.1	61.5	49.9	-	98.5	5.8	92.5	81.2	69.9	58.5	47.2	-
	62	92.7	5.0	92.7	92.7	88.9	77.3	65.7	54.1	87.9	5.8	87.9	87.9	85.7	74.3	63.0	51.7
	57	90.2	5.0	90.2	90.2	90.2	78.6	67.0	55.4	86.3	5.8	86.3	86.3	86.3	75.0	63.7	52.3
3375	72	116.9	5.2	86.8	74.3	61.8	49.4	-	-	109.2	5.9	82.5	70.2	58.0	45.8	-	-
	67	108.2	5.1	103.7	89.9	77.5	65.0	52.5	-	100.3	5.8	97.3	86.4	74.2	62.0	49.7	-
	62	95.1	5.1	95.1	95.1	93.3	80.8	68.4	55.9	89.4	5.8	89.4	89.4	88.3	76.1	63.9	51.6
	57	92.7	5.1	92.7	92.7	92.7	80.2	67.7	55.3	87.9	5.8	87.9	87.9	87.9	75.6	63.4	51.2
3750	72	119.9	5.2	92.0	78.7	65.3	52.0	-	-	111.1	5.9	87.7	74.5	61.4	48.3	-	-
	67	111.0	5.1	111.0	95.2	81.9	68.5	55.2	-	102.0	5.8	102.0	91.7	78.5	65.4	52.3	-
	62	97.6	5.1	97.6	97.6	97.6	84.3	71.0	57.7	91.0	5.8	91.0	91.0	91.0	77.9	64.7	51.6
	57	95.1	5.1	95.1	95.1	95.1	81.8	68.4	55.1	89.4	5.8	89.4	89.4	89.4	76.3	63.1	50.0
		95°F								105°F							
1875	77	101.5	6.6	43.2	35.6	27.9	-	-	-	94.5	7.5	39.4	33.0	25.5	-	-	-
	72	93.1	6.6	55.7	48.0	40.3	32.7	-	-	86.4	7.5	52.8	45.3	37.7	30.2	-	-
	67	84.7	6.5	68.2	60.5	52.8	45.1	37.4	-	78.3	7.5	66.2	57.5	50.0	42.5	34.9	-
	62	76.8	6.5	76.8	76.8	65.4	57.7	50.0	42.3	71.2	7.4	71.2	71.2	60.6	53.1	45.5	38.0
2250	77	104.3	6.6	47.9	39.1	30.3	-	-	-	96.9	7.5	45.1	36.4	27.7	-	-	-
	72	95.7	6.6	61.5	52.7	43.9	35.0	-	-	88.5	7.5	58.4	49.7	41.0	32.3	-	-
	67	87.0	6.5	75.0	66.2	57.4	48.6	39.8	-	80.2	7.4	71.7	63.0	54.3	45.6	36.9	-
	62	78.9	6.5	78.9	78.9	71.0	62.2	53.4	44.6	73.0	7.4	73.0	73.0	65.8	57.1	48.4	39.7
	57	78.3	6.5	78.3	78.3	71.1	62.2	53.4	44.6	73.0	7.4	73.0	73.0	66.1	57.4	48.7	40.0
2625	77	107.1	6.6	52.6	42.6	32.7	-	-	-	99.2	7.5	50.7	39.7	29.8	-	-	-
	72	98.2	6.6	67.2	57.3	47.4	37.4	-	-	90.6	7.5	63.9	54.1	44.2	34.3	-	-
	67	89.3	6.5	81.9	72.0	62.0	52.1	42.1	-	82.1	7.4	77.1	68.4	58.6	48.7	38.8	-
	62	81.0	6.5	81.0	81.0	76.7	66.8	56.9	46.9	74.7	7.4	74.7	74.7	70.9	61.1	51.2	41.4
	57	80.4	6.5	80.4	80.4	76.7	66.8	56.9	46.9	74.8	7.4	74.8	74.8	71.3	61.4	51.6	41.7
3000	77	109.9	6.6	57.3	46.2	35.1	-	-	-	101.5	7.5	56.4	43.0	32.0	-	-	-
	72	100.7	6.6	73.0	61.9	50.9	39.8	-	-	92.7	7.5	69.5	58.5	47.4	36.4	-	-
	67	91.6	6.5	88.7	77.7	66.6	55.6	44.5	-	84.0	7.4	82.6	73.9	62.8	51.8	40.8	-
	62	83.1	6.5	83.1	83.1	82.4	71.4	60.3	49.2	76.5	7.4	76.5	76.5	76.1	65.1	54.1	43.0
	57	82.4	6.5	82.4	82.4	82.4	71.4	60.3	49.3	76.5	7.4	76.5	76.5	76.5	65.5	54.4	43.4
3375	72	101.5	6.6	78.2	66.2	54.2	42.2	-	-	93.0	7.4	74.7	62.7	50.8	38.8	-	-
	67	92.3	6.5	90.9	82.9	70.9	58.9	46.9	-	84.3	7.4	83.5	78.0	67.3	55.3	43.4	-
	62	83.7	6.5	83.7	83.7	83.4	71.4	59.4	47.4	76.7	7.4	76.7	76.7	76.5	64.6	52.6	40.6
	57	83.1	6.5	83.1	83.1	83.1	71.1	59.1	47.1	76.7	7.4	76.7	76.7	76.7	64.8	52.8	40.8
3750	72	102.3	6.6	83.3	70.4	57.5	44.5	-	-	93.3	7.4	79.9	67.0	54.1	41.2	-	-
	67	93.0	6.6	93.0	88.2	75.2	62.3	49.4	-	84.5	7.4	84.5	82.1	71.7	58.8	46.0	-
	62	84.3	6.5	84.3	84.3	84.3	71.4	58.5	45.5	76.9	7.4	76.9	76.9	76.9	64.0	51.1	38.2
	57	83.7	6.5	83.7	83.7	83.7	70.7	57.8	44.9	76.9	7.4	76.9	76.9	76.9	64.0	51.1	38.3

ZR090 (7.5 Ton) Cooling (Continued)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)					
CFM	WB (°F)			Return Dry Bulb (°F)								Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		115°F								125°F							
1875	77	87.6	8.4	35.5	30.5	23.1	-	-	-	80.6	9.2	30.9	27.9	20.7	-	-	-
	72	79.7	8.4	49.9	42.5	35.1	27.8	-	-	73.0	9.2	47.0	39.8	32.5	25.3	-	-
	67	71.9	8.4	64.3	54.6	47.2	39.8	32.4	-	65.5	9.3	62.3	51.6	44.4	37.2	29.9	-
	62	65.7	8.3	65.7	65.7	55.8	48.4	41.1	33.7	60.2	9.3	60.2	60.2	51.0	43.8	36.6	29.4
2250	77	89.4	8.3	42.2	33.6	25.0	-	-	-	82.0	9.2	39.3	30.9	22.4	-	-	-
	72	81.4	8.3	55.2	46.7	38.1	29.5	-	-	74.3	9.2	52.1	43.7	35.2	26.7	-	-
	67	73.4	8.4	68.3	59.7	51.1	42.6	34.0	-	66.6	9.3	64.9	56.5	48.0	39.5	31.1	-
	62	67.1	8.3	67.1	67.1	60.5	51.9	43.3	34.7	61.2	9.2	61.2	61.2	55.2	46.7	38.3	29.8
	57	67.8	8.3	67.8	67.8	61.1	52.5	43.9	35.4	62.5	9.2	62.5	62.5	56.1	47.7	39.2	30.7
2625	77	91.2	8.3	48.9	36.8	27.0	-	-	-	83.3	9.2	47.7	33.8	24.1	-	-	-
	72	83.1	8.3	60.6	50.8	41.0	31.2	-	-	75.5	9.2	57.3	47.6	37.9	28.2	-	-
	67	74.9	8.3	72.3	64.9	55.1	45.3	35.5	-	67.7	9.2	67.6	61.3	51.6	41.9	32.2	-
	62	68.5	8.3	68.5	68.5	65.2	55.4	45.6	35.8	62.2	9.2	62.2	62.2	59.4	49.7	40.0	30.2
	57	69.2	8.3	69.2	69.2	65.8	56.0	46.3	36.5	63.6	9.2	63.6	63.6	60.4	50.7	40.9	31.2
3000	77	93.1	8.3	55.5	39.9	28.9	-	-	-	84.7	9.2	56.1	36.7	25.8	-	-	-
	72	84.7	8.3	66.0	55.0	44.0	33.0	-	-	76.7	9.2	62.4	51.5	40.5	29.6	-	-
	67	76.4	8.3	76.4	70.0	59.1	48.1	37.1	-	68.8	9.2	68.8	66.2	55.3	44.3	33.4	-
	62	69.8	8.3	69.8	69.8	69.8	58.8	47.9	36.9	63.2	9.2	63.2	63.2	63.2	52.6	41.6	30.7
	57	70.6	8.3	70.6	70.6	70.6	59.6	48.6	37.6	64.6	9.2	64.6	64.6	64.6	53.6	42.7	31.7
3375	72	84.5	8.3	71.2	59.3	47.4	35.5	-	-	76.0	9.2	67.8	55.9	44.0	32.1	-	-
	67	76.2	8.3	76.2	73.0	63.6	51.7	39.8	-	68.1	9.2	68.1	68.1	60.0	48.1	36.2	-
	62	69.6	8.3	69.6	69.6	69.6	57.7	45.8	33.9	62.6	9.2	62.6	62.6	62.6	50.9	39.0	27.1
	57	70.4	8.3	70.4	70.4	70.4	58.4	46.5	34.6	64.0	9.1	64.0	64.0	64.0	52.1	40.3	28.4
3750	72	84.3	8.3	76.5	63.7	50.8	38.0	-	-	75.3	9.1	73.1	60.3	47.5	34.7	-	-
	67	76.0	8.3	76.0	76.0	68.2	55.4	42.5	-	67.5	9.2	67.5	67.5	64.7	51.9	39.1	-
	62	69.5	8.3	69.5	69.5	69.5	56.6	43.8	30.9	62.0	9.2	62.0	62.0	62.0	49.2	36.4	23.6
	57	70.2	8.2	70.2	70.2	70.2	57.3	44.5	31.6	63.4	9.1	63.4	63.4	63.4	50.6	37.8	25.0

1. These capacities are gross ratings. For net capacity, deduct air blower motor, MBh = 3.415 x kW. Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.
2. These ratings include the condenser fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

ZR090 (7.5 Ton) Reheat

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F)					
CFM	WB (°F)			90	85	80	75	70	65			90	85	80	75	70	65
		35°F								45°F							
1875	77	57.4	4.6	-	-	-	-	-	-	58.7	4.9	-	-	-	-	-	-
	72	54.9	4.4	7.7	6.3	4.9	3.5	-	-	54.6	4.7	5.8	4.5	3.2	1.9	-	-
	67	52.4	4.3	14.9	13.5	12.1	10.7	9.3	-	50.5	4.5	13.7	12.4	11.1	9.9	8.6	-
	62	48.7	4.1	21.7	20.3	18.9	17.5	16.1	14.7	46.6	4.3	21.9	20.7	19.4	18.1	16.8	15.5
2250	77	62.8	4.5	-	-	-	-	-	-	62.7	4.8	-	-	-	-	-	-
	72	60.0	4.4	11.2	9.1	7.0	4.9	-	-	58.3	4.6	8.3	6.4	4.6	2.7	-	-
	67	57.2	4.2	22.2	20.1	18.0	15.9	13.8	-	53.9	4.4	19.6	17.7	15.9	14.0	12.1	-
	62	53.0	4.0	32.6	30.5	28.4	26.3	24.2	22.1	49.8	4.2	31.3	29.4	27.6	25.7	23.8	22.0
	57	49.6	4.0	37.1	35.0	32.9	30.8	28.7	26.6	47.9	4.2	36.2	34.3	32.5	30.6	28.8	26.9
2625	77	68.1	4.5	-	-	-	-	-	-	66.6	4.8	-	-	-	-	-	-
	72	65.0	4.3	14.8	12.0	9.2	6.4	-	-	62.0	4.6	10.8	8.4	5.9	3.5	-	-
	67	61.9	4.2	29.5	26.7	23.9	21.1	18.3	-	57.3	4.4	25.4	23.0	20.6	18.1	15.7	-
	62	57.4	4.0	43.6	40.8	38.0	35.2	32.4	29.6	53.0	4.2	40.6	38.2	35.8	33.3	30.9	28.5
	57	53.7	3.9	47.5	46.4	44.0	41.2	38.4	35.6	50.9	4.1	45.1	44.1	42.1	39.7	37.3	34.8
3000	77	73.4	4.5	-	-	-	-	-	-	70.6	4.8	-	-	-	-	-	-
	72	70.0	4.3	18.4	14.9	11.4	7.9	-	-	65.7	4.6	13.3	10.3	7.3	4.3	-	-
	67	66.6	4.2	36.8	33.3	29.8	26.3	22.8	-	60.8	4.4	31.3	28.3	25.3	22.3	19.3	-
	62	61.8	4.0	54.5	51.0	47.5	44.0	40.5	37.0	56.1	4.2	50.0	47.0	44.0	40.9	37.9	34.9
	57	57.8	3.9	57.8	57.8	55.1	51.6	48.1	44.6	54.0	4.1	54.0	54.0	51.8	48.8	45.8	42.8
3375	72	71.8	4.3	18.9	15.5	12.1	8.6	-	-	67.4	4.6	14.3	11.1	7.9	4.7	-	-
	67	68.3	4.2	37.5	34.0	30.6	27.2	23.8	-	62.3	4.4	33.7	30.5	27.3	24.1	20.9	-
	62	63.3	4.0	58.3	53.2	48.3	44.9	41.4	38.0	57.6	4.2	53.8	50.6	47.4	44.2	41.0	37.8
	57	59.3	3.9	59.3	59.3	57.9	54.5	51.1	47.6	55.3	4.1	55.3	55.3	54.3	51.1	47.9	44.7
3750	72	73.5	4.3	19.4	16.1	12.7	9.4	-	-	69.1	4.6	15.2	11.8	8.4	5.1	-	-
	67	69.9	4.2	38.2	34.8	31.4	28.1	24.7	-	63.9	4.4	36.0	32.6	29.3	25.9	22.5	-
	62	64.9	4.0	62.1	55.3	49.1	45.7	42.4	39.0	59.0	4.2	57.6	54.3	50.9	47.5	44.1	40.7
	57	60.7	3.9	60.7	60.7	60.7	57.4	54.0	50.6	56.7	4.1	56.7	56.7	56.7	53.3	50.0	46.6
		55°F								65°F							
1875	77	59.9	5.1	-	-	-	-	-	-	57.9	5.4	-	-	-	-	-	-
	72	54.2	4.9	3.9	2.7	1.6	-	-	-	51.6	5.2	1.5	-	-	-	-	-
	67	48.5	4.7	12.6	11.4	10.2	9.0	7.9	-	45.3	5.0	11.0	10.0	9.0	7.9	6.9	-
	62	44.6	4.5	22.2	21.0	19.9	18.7	17.5	16.4	42.1	4.8	22.4	21.4	20.4	19.3	18.3	17.3
2250	77	62.6	5.1	-	-	-	-	-	-	59.7	5.4	-	-	-	-	-	-
	72	56.6	4.9	5.4	3.7	2.1	-	-	-	53.2	5.2	2.2	-	-	-	-	-
	67	50.7	4.7	17.0	15.4	13.7	12.1	10.5	-	46.6	4.9	14.3	12.9	11.6	10.2	8.9	-
	62	46.6	4.5	29.9	28.3	26.7	25.1	23.5	21.8	43.4	4.7	28.8	27.5	26.1	24.7	23.4	22.0
	57	46.2	4.4	35.3	33.7	32.1	30.4	28.8	27.2	42.7	4.7	33.5	32.2	30.8	29.4	28.1	26.7
2625	77	65.2	5.1	-	-	-	-	-	-	61.4	5.4	-	-	-	-	-	-
	72	59.0	4.9	6.8	4.7	2.7	-	-	-	54.7	5.1	2.9	1.2	-	-	-	-
	67	52.8	4.6	21.4	19.3	17.3	15.2	13.1	-	48.0	4.9	17.6	15.9	14.2	12.5	10.8	-
	62	48.5	4.4	37.7	35.6	33.6	31.5	29.4	27.3	44.7	4.7	35.2	33.5	31.8	30.1	28.4	26.7
	57	48.1	4.4	42.7	41.9	40.3	38.2	36.1	34.1	43.9	4.6	39.3	38.7	37.6	35.9	34.2	32.5
3000	77	67.8	5.1	-	-	-	-	-	-	63.1	5.3	-	-	-	-	-	-
	72	61.4	4.8	8.2	5.7	3.2	-	-	-	56.2	5.1	3.6	1.5	-	-	-	-
	67	54.9	4.6	25.8	23.3	20.8	18.3	15.7	-	49.4	4.9	20.9	18.9	16.8	14.7	12.7	-
	62	50.5	4.4	45.4	42.9	40.4	37.9	35.4	32.8	45.9	4.7	41.7	39.6	37.6	35.5	33.5	31.4
	57	50.1	4.3	50.1	50.1	48.5	46.0	43.4	40.9	45.2	4.6	45.2	45.2	44.4	42.3	40.3	38.2
3375	72	63.0	4.8	9.6	6.6	3.7	-	-	-	57.9	5.1	4.1	1.5	-	-	-	-
	67	56.4	4.6	29.8	26.9	23.9	21.0	18.0	-	50.8	4.9	25.7	23.2	20.6	18.0	15.5	-
	62	51.8	4.4	49.3	48.0	46.5	43.6	40.6	37.6	47.3	4.7	45.2	44.1	43.0	40.4	37.9	35.3
	57	51.4	4.3	51.4	51.4	50.6	47.6	44.7	41.7	46.5	4.6	46.5	46.5	46.1	43.6	41.0	38.4
3750	72	64.6	4.8	11.0	7.6	4.2	-	-	-	59.6	5.1	4.6	1.5	-	-	-	-
	67	57.9	4.6	33.9	30.5	27.1	23.7	20.3	-	52.3	4.9	30.5	27.5	24.4	21.3	18.2	-
	62	53.2	4.4	53.2	53.2	52.7	49.3	45.9	42.5	48.7	4.7	48.7	48.7	48.4	45.3	42.2	39.2
	57	52.7	4.3	52.7	52.7	52.7	49.3	45.9	42.5	47.9	4.6	47.9	47.9	47.9	44.8	41.7	38.6

ZR090 (7.5 Ton) Reheat (Continued)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)					
CFM	WB (°F)			Return Dry Bulb (°F)								Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		75°F								85°F							
1875	77	56.0	5.7	-	-	-	-	-	-	54.0	6.0	-	-	-	-	-	-
	72	49.0	5.5	-	-	-	-	-	-	46.3	5.8	-	-	-	-	-	-
	67	42.0	5.2	9.4	8.6	7.7	6.8	6.0	-	38.7	5.5	7.8	7.1	6.4	5.8	5.1	-
	62	39.6	5.0	22.6	21.7	20.9	20.0	19.1	18.3	37.2	5.3	22.7	22.0	21.3	20.7	20.0	19.3
2250	77	56.8	5.7	-	-	-	-	-	-	53.9	6.0	-	-	-	-	-	-
	72	49.7	5.5	-	-	-	-	-	-	46.2	5.7	-	-	-	-	-	-
	67	42.6	5.2	11.6	10.5	9.4	8.3	7.2	-	38.6	5.5	8.9	8.1	7.3	6.4	5.6	-
	62	40.2	5.0	27.7	26.6	25.5	24.4	23.3	22.2	37.0	5.3	26.5	25.7	24.9	24.0	23.2	22.4
	57	39.2	4.9	31.7	30.6	29.5	28.4	27.3	26.2	35.6	5.2	30.0	29.1	28.3	27.4	26.6	25.8
2625	77	57.6	5.7	-	-	-	-	-	-	53.8	5.9	-	-	-	-	-	-
	72	50.4	5.4	-	-	-	-	-	-	46.1	5.7	-	-	-	-	-	-
	67	43.2	5.2	13.8	12.5	11.1	9.8	8.4	-	38.4	5.5	10.0	9.0	8.1	7.1	6.1	-
	62	40.8	5.0	32.8	31.5	30.1	28.8	27.4	26.1	36.9	5.3	30.4	29.4	28.4	27.4	26.4	25.5
	57	39.7	4.9	36.0	35.5	34.9	33.6	32.2	30.9	35.5	5.2	32.7	32.2	32.2	31.2	30.3	29.3
3000	77	58.4	5.6	-	-	-	-	-	-	53.6	5.9	-	-	-	-	-	-
	72	51.1	5.4	-	-	-	-	-	-	45.9	5.7	-	-	-	-	-	-
	67	43.8	5.2	16.0	14.4	12.8	11.2	9.7	-	38.2	5.4	11.1	10.0	8.9	7.7	6.6	-
	62	41.4	5.0	37.9	36.3	34.7	33.2	31.6	30.0	36.8	5.3	34.2	33.0	31.9	30.8	29.7	28.5
	57	40.3	4.9	40.3	40.3	40.3	38.7	37.1	35.5	35.4	5.2	35.4	35.4	35.4	35.0	33.9	32.8
3375	72	52.8	5.4	-	-	-	-	-	-	47.7	5.7	-	-	-	-	-	-
	67	45.3	5.2	21.6	19.4	17.3	15.1	12.9	-	39.7	5.4	17.5	15.7	13.9	12.2	10.4	-
	62	42.8	5.0	41.0	40.2	39.4	37.3	35.1	32.9	38.2	5.2	36.9	36.3	35.9	34.1	32.4	30.6
	57	41.6	4.9	41.6	41.6	41.6	39.5	37.3	35.1	36.7	5.2	36.7	36.7	36.7	35.4	33.6	31.8
3750	72	54.5	5.4	-	-	-	-	-	-	49.5	5.6	-	-	-	-	-	-
	67	46.8	5.1	27.2	24.4	21.7	18.9	16.2	-	41.2	5.4	23.9	21.4	19.0	16.6	14.1	-
	62	44.1	4.9	44.1	44.1	44.1	41.4	38.6	35.9	39.6	5.2	39.6	39.6	39.6	37.5	35.0	32.6
	57	43.0	4.9	43.0	43.0	43.0	40.2	37.5	34.7	38.1	5.1	38.1	38.1	38.1	35.7	33.3	30.8

1. These capacities are gross ratings. For net capacity, deduct air blower motor, MBh = 3.415 x kW. Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.
2. These ratings include the condenser fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

ZR102 (8.5 Ton) Cooling

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F)					
CFM	WB (°F)			90	85	80	75	70	65			90	85	80	75	70	65
		75°F								**85°F**							
2125	77	121.9	6.4	54.3	43.2	32.9	-	-	-	118.7	7.4	52.3	42.1	32.0	-	-	-
	72	118.1	6.4	71.1	60.8	50.5	40.2	-	-	112.8	7.3	69.0	58.8	48.6	38.5	-	-
	67	114.3	6.3	87.8	78.4	68.1	57.8	47.5	-	106.9	7.2	85.6	75.4	65.3	55.1	45.0	-
	62	105.8	6.2	105.8	98.7	83.7	73.4	63.1	52.8	98.9	7.0	98.9	95.3	80.2	70.1	59.9	49.8
2550	77	126.3	6.5	59.7	47.9	36.1	-	-	-	122.9	7.4	58.7	46.9	35.2	-	-	-
	72	122.4	6.4	79.1	67.3	55.5	43.7	-	-	116.8	7.3	77.0	65.3	53.5	41.8	-	-
	67	118.4	6.4	98.4	86.6	74.8	63.0	51.2	-	110.7	7.2	95.3	83.6	71.9	60.1	48.4	-
	62	109.7	6.2	109.7	104.9	92.0	80.2	68.4	56.6	102.4	7.1	102.4	100.1	88.3	76.6	64.9	53.1
	57	107.0	6.3	107.0	107.0	97.1	85.3	73.5	61.7	99.6	7.1	99.6	99.6	90.0	78.3	66.5	54.8
2975	77	130.7	6.5	65.1	52.7	39.4	-	-	-	127.2	7.4	65.0	51.7	38.4	-	-	-
	72	126.6	6.4	87.0	73.7	60.5	47.2	-	-	120.9	7.3	85.0	71.7	58.4	45.1	-	-
	67	122.6	6.4	108.9	94.8	81.5	68.2	54.9	-	114.6	7.2	105.1	91.7	78.4	65.1	51.8	-
	62	113.5	6.3	113.5	111.1	100.2	86.9	73.6	60.3	106.0	7.1	106.0	104.8	96.4	83.1	69.8	56.5
	57	110.8	6.3	110.8	110.8	105.8	92.5	79.2	65.9	103.0	7.2	103.0	103.0	98.2	84.9	71.6	58.3
3400	77	135.1	6.5	70.6	57.4	42.6	-	-	-	131.4	7.4	71.4	56.5	41.7	-	-	-
	72	130.9	6.5	95.0	80.2	65.4	50.6	-	-	124.9	7.3	93.1	78.2	63.3	48.4	-	-
	67	126.7	6.4	119.5	103.0	88.2	73.4	58.6	-	118.4	7.2	114.8	99.9	85.0	70.1	55.2	-
	62	117.3	6.3	117.3	117.3	108.5	93.7	78.9	64.1	109.5	7.1	109.5	109.5	104.5	89.6	74.7	59.8
	57	114.5	6.4	114.5	114.5	114.5	99.7	84.9	70.1	106.5	7.2	106.5	106.5	106.5	91.6	76.7	61.8
3825	72	130.9	6.5	99.4	84.1	68.8	53.5	-	-	125.4	7.4	98.3	82.6	66.9	51.2	-	-
	67	126.8	6.4	123.1	108.1	92.8	77.5	62.2	-	118.8	7.3	117.0	105.4	89.7	74.0	58.4	-
	62	117.4	6.3	117.4	117.4	112.9	97.6	82.3	67.0	109.9	7.1	109.9	109.9	107.4	91.7	76.0	60.3
	57	114.5	6.4	114.5	114.5	114.5	99.2	83.9	68.6	106.9	7.2	106.9	106.9	106.9	91.2	75.5	59.8
4250	72	131.0	6.5	103.7	87.9	72.1	56.3	-	-	125.9	7.4	103.4	86.9	70.4	53.9	-	-
	67	126.8	6.5	126.8	113.1	97.3	81.5	65.7	-	119.3	7.3	119.3	111.0	94.5	78.0	61.5	-
	62	117.4	6.3	117.4	117.4	117.4	101.6	85.8	70.0	110.4	7.2	110.4	110.4	110.4	93.8	77.3	60.8
	57	114.6	6.4	114.6	114.6	114.6	98.8	83.0	67.2	107.3	7.2	107.3	107.3	107.3	90.7	74.2	57.7
		95°F								**105°F**							
2125	77	115.5	8.3	50.3	41.1	31.1	-	-	-	108.8	9.3	44.7	38.2	28.2	-	-	-
	72	107.5	8.1	66.9	56.8	46.8	36.8	-	-	100.5	9.1	63.5	53.6	43.7	33.8	-	-
	67	99.5	8.0	83.4	72.5	62.5	52.5	42.4	-	92.1	9.0	82.4	69.0	59.1	49.2	39.3	-
	62	91.9	7.9	91.9	91.9	76.8	66.8	56.7	46.7	85.2	8.9	85.2	85.2	70.3	60.4	50.5	40.6
2550	77	119.5	8.3	57.6	46.0	34.3	-	-	-	112.4	9.3	54.4	42.9	31.3	-	-	-
	72	111.3	8.2	75.0	63.3	51.6	39.9	-	-	103.8	9.2	71.5	60.0	48.4	36.8	-	-
	67	103.0	8.0	92.3	80.6	68.9	57.2	45.6	-	95.1	9.0	88.6	77.1	65.5	53.9	42.3	-
	62	95.2	7.9	95.2	95.2	84.7	73.0	61.3	49.7	88.0	8.9	88.0	88.0	77.9	66.3	54.7	43.1
	57	92.1	7.9	92.1	92.1	82.9	71.2	59.6	47.9	85.8	9.0	85.8	85.8	76.4	64.9	53.3	41.7
2975	77	123.6	8.3	64.9	50.8	37.5	-	-	-	115.9	9.4	64.2	47.5	34.3	-	-	-
	72	115.1	8.2	83.1	69.7	56.4	43.1	-	-	107.0	9.2	79.5	66.3	53.1	39.8	-	-
	67	106.5	8.0	101.2	88.7	75.3	62.0	48.7	-	98.1	9.0	94.9	85.1	71.8	58.6	45.4	-
	62	98.5	7.9	98.5	98.5	92.6	79.3	65.9	52.6	90.8	8.9	90.8	90.8	85.4	72.2	58.9	45.7
	57	95.2	8.0	95.2	95.2	90.7	77.3	64.0	50.7	88.5	9.0	88.5	88.5	83.8	70.6	57.4	44.1
3400	77	127.7	8.4	72.3	55.6	40.7	-	-	-	119.5	9.4	74.0	52.2	37.3	-	-	-
	72	118.9	8.2	91.2	76.2	61.2	46.3	-	-	110.3	9.2	87.6	72.7	57.8	42.9	-	-
	67	110.1	8.1	110.1	96.7	81.8	66.8	51.8	-	101.2	9.1	101.2	93.1	78.2	63.3	48.4	-
	62	101.7	8.0	101.7	101.7	100.5	85.5	70.6	55.6	93.6	8.9	93.6	93.6	93.0	78.1	63.2	48.3
	57	98.4	8.0	98.4	98.4	98.4	83.4	68.5	53.5	91.2	9.0	91.2	91.2	91.2	76.4	61.5	46.6
3825	72	119.8	8.3	97.1	81.0	64.9	48.8	-	-	111.2	9.3	93.4	77.4	61.3	45.3	-	-
	67	110.9	8.1	110.9	102.8	86.7	70.6	54.5	-	102.0	9.1	102.0	97.2	83.0	67.0	51.0	-
	62	102.5	8.0	102.5	102.5	101.9	85.8	69.7	53.6	94.3	9.0	94.3	94.3	94.0	78.0	61.9	45.9
	57	99.2	8.0	99.2	99.2	99.2	83.1	67.0	50.9	92.0	9.1	92.0	92.0	92.0	75.9	59.9	43.9
4250	72	120.8	8.3	103.1	85.9	68.6	51.4	-	-	112.1	9.3	99.2	82.1	64.9	47.7	-	-
	67	111.8	8.1	111.8	108.9	91.7	74.4	57.2	-	102.8	9.1	102.8	101.3	87.8	70.7	53.5	-
	62	103.3	8.0	103.3	103.3	103.3	86.1	68.9	51.6	95.1	9.0	95.1	95.1	95.1	77.9	60.7	43.5
	57	99.9	8.1	99.9	99.9	99.9	82.7	65.5	48.3	92.7	9.1	92.7	92.7	92.7	75.5	58.4	41.2

ZR102 (8.5 Ton) Cooling (Continued)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
CFM	WB (°F)	Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F) 90	85	80	75	70	65	Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F) 90	85	80	75	70	65
		115°F								**125°F**							
2125	77	102.2	10.3	39.0	35.2	25.4	-	-	-	95.6	11.4	36.2	31.0	22.6	-	-	-
	72	93.5	10.1	60.2	50.4	40.6	30.8	-	-	86.5	11.1	56.8	47.1	37.5	27.8	-	-
	67	84.8	10.0	81.3	65.5	55.8	46.0	36.2	-	77.4	10.9	77.4	62.1	52.4	42.7	33.1	-
	62	78.5	9.9	78.5	78.5	63.8	54.0	44.2	34.4	71.8	10.8	71.8	71.8	57.3	47.7	38.0	28.3
2550	77	105.2	10.4	51.2	39.7	28.3	-	-	-	98.0	11.4	49.9	36.6	25.3	-	-	-
	72	96.2	10.2	68.1	56.6	45.2	33.7	-	-	88.7	11.2	64.7	53.3	41.9	30.6	-	-
	67	87.3	10.0	85.0	73.5	62.0	50.6	39.1	-	79.4	11.0	79.4	70.0	58.6	47.3	35.9	-
	62	80.8	9.9	80.8	80.8	71.0	59.6	48.1	36.6	73.6	10.9	73.6	73.6	64.2	52.8	41.5	30.1
	57	79.6	10.0	79.6	79.6	69.9	58.5	47.0	35.5	73.3	11.0	73.3	73.3	63.4	52.1	40.7	29.3
2975	77	108.2	10.4	63.4	44.3	31.1	-	-	-	100.5	11.4	63.7	42.3	28.0	-	-	-
	72	99.0	10.2	76.0	62.9	49.7	36.6	-	-	90.9	11.2	72.5	59.5	46.4	33.4	-	-
	67	89.8	10.0	88.6	81.5	68.3	55.2	42.1	-	81.4	11.0	81.4	77.9	64.8	51.8	38.7	-
	62	83.1	9.9	83.1	83.1	78.2	65.1	51.9	38.8	75.4	10.9	75.4	75.4	71.0	58.0	44.9	31.9
	57	81.8	10.0	81.8	81.8	77.0	63.9	50.7	37.6	75.1	11.0	75.1	75.1	70.2	57.1	44.1	31.0
3400	77	111.2	10.4	75.7	48.8	34.0	-	-	-	102.9	11.4	77.4	47.9	30.7	-	-	-
	72	101.7	10.2	84.0	69.1	54.3	39.5	-	-	93.1	11.2	80.4	65.6	50.9	36.1	-	-
	67	92.3	10.0	92.3	89.5	74.6	59.8	45.0	-	83.3	11.0	83.3	83.3	71.1	56.3	41.6	-
	62	85.4	9.9	85.4	85.4	85.4	70.6	55.8	41.0	77.3	10.9	77.3	77.3	77.3	63.1	48.4	33.6
	57	84.1	10.0	84.1	84.1	84.1	69.3	54.5	39.6	77.0	11.0	77.0	77.0	77.0	62.2	47.5	32.7
3825	72	102.6	10.3	89.7	73.7	57.7	41.8	-	-	93.9	11.3	86.0	70.1	54.1	38.2	-	-
	67	93.0	10.1	93.0	91.6	79.3	63.3	47.4	-	84.0	11.1	84.0	84.0	75.6	59.7	43.8	-
	62	86.1	10.0	86.1	86.1	86.1	70.1	54.2	38.2	77.9	11.0	77.9	77.9	77.9	62.3	46.4	30.5
	57	84.8	10.1	84.8	84.8	84.8	68.8	52.8	36.9	77.6	11.1	77.6	77.6	77.6	61.7	45.8	29.8
4250	72	103.4	10.3	95.4	78.3	61.1	44.0	-	-	94.7	11.4	91.6	74.5	57.4	40.3	-	-
	67	93.8	10.1	93.8	93.8	84.0	66.9	49.7	-	84.7	11.1	84.7	84.7	80.2	63.1	46.0	-
	62	86.8	10.0	86.8	86.8	86.8	69.7	52.6	35.4	78.6	11.1	78.6	78.6	78.6	61.5	44.4	27.3
	57	85.5	10.1	85.5	85.5	85.5	68.3	51.2	34.1	78.2	11.2	78.2	78.2	78.2	61.2	44.1	27.0

1. These capacities are gross ratings. For net capacity, deduct air blower motor, MBh = 3.415 x kW. Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.
2. These ratings include the condenser fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

ZR102 (8.5 Ton) Reheat

Air on Evaporator Coil		Temperature of Air on Condenser Coil													
CFM	WB (°F)	Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F) 85	80	75	70	65	Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F) 85	80	75	70	65
		35°F							**45°F**						
2125	72	72.0	5.0	8.5	7.1	5.7	-	-	62.7	5.5	3.5	2.4	1.3	-	-
	67	74.0	4.9	11.6	10.2	8.8	7.3	-	61.5	5.3	9.5	8.4	7.2	6.1	-
	62	61.6	5.1	21.8	20.4	18.9	17.5	16.1	53.9	5.3	18.2	17.1	16.0	14.9	13.8
2550	72	73.3	4.9	13.4	11.3	9.2	-	-	64.8	5.5	5.6	3.8	2.1	-	-
	67	75.3	4.8	17.9	15.8	13.7	11.6	-	63.6	5.3	14.9	13.2	11.4	9.7	-
	62	62.6	5.0	33.6	31.5	29.4	27.3	25.2	55.8	5.2	28.7	26.9	25.2	23.4	21.7
	57	58.2	4.7	37.4	35.3	33.2	31.2	29.1	50.7	5.0	33.0	31.2	29.5	27.7	26.0
2975	72	74.5	4.8	18.2	15.5	12.7	-	-	66.9	5.4	7.6	5.2	2.8	-	-
	67	76.7	4.7	24.1	21.4	18.7	15.9	-	65.7	5.2	20.4	18.0	15.6	13.2	-
	62	63.6	5.0	45.3	42.6	39.9	37.1	34.4	57.6	5.2	39.2	36.8	34.4	32.0	29.6
	57	59.2	4.7	48.8	47.8	45.0	42.3	39.6	52.4	5.0	43.5	42.6	40.2	37.8	35.4
3400	72	75.7	4.7	23.0	19.6	16.2	-	-	69.1	5.3	9.7	6.6	3.6	-	-
	67	78.1	4.6	30.4	27.0	23.6	20.2	-	67.8	5.1	25.8	22.8	19.7	16.7	-
	62	64.7	4.9	57.1	53.7	50.4	47.0	43.6	59.5	5.1	49.7	46.6	43.6	40.5	37.5
	57	60.2	4.6	60.2	60.2	56.8	53.5	50.1	54.0	4.9	54.0	54.0	51.0	47.9	44.9
3825	72	73.9	4.7	25.8	22.4	18.9	-	-	70.1	5.3	10.9	7.5	4.2	-	-
	67	76.5	4.6	33.7	30.2	26.8	23.3	-	68.7	5.1	29.2	25.8	22.5	19.1	-
	62	63.0	4.9	62.0	60.1	56.7	53.2	49.8	60.3	5.1	55.4	52.9	49.5	46.1	42.8
	57	58.8	4.6	58.8	58.8	55.4	51.9	48.4	54.8	4.9	54.8	54.8	51.4	48.1	44.7
4250	72	72.0	4.7	28.7	25.1	21.6	-	-	71.0	5.3	12.1	8.4	4.7	-	-
	67	75.0	4.6	37.0	33.5	29.9	26.4	-	69.7	5.1	32.5	28.9	25.2	21.5	-
	62	61.4	4.9	61.4	61.4	61.4	59.5	55.9	61.2	5.1	61.2	59.1	55.4	51.7	48.0
	57	57.4	4.6	57.4	57.4	53.9	50.4	46.8	55.6	4.9	55.6	55.6	51.9	48.2	44.5
		55°F							**65°F**						
2125	72	53.3	6.1	-	-	-	-	-	48.0	6.2	-	-	-	-	-
	67	49.0	5.8	7.3	6.5	5.7	4.9	-	42.2	6.1	4.4	4.0	3.5	3.1	-
	62	46.3	5.4	14.6	13.9	13.1	12.3	11.5	39.1	5.8	9.5	9.1	8.6	8.2	7.7
2550	72	56.3	6.0	-	-	-	-	-	53.6	6.1	-	-	-	-	-
	67	51.8	5.7	11.9	10.5	9.1	7.7	-	47.0	6.1	9.1	8.0	6.9	5.8	-
	62	49.0	5.4	23.8	22.4	21.0	19.6	18.1	43.5	5.7	20.2	19.1	18.0	16.9	15.8
	57	43.2	5.3	28.6	27.1	25.7	24.3	22.9	36.3	5.7	22.6	21.5	20.4	19.3	18.2
2975	72	59.4	6.0	-	-	-	-	-	59.2	6.1	-	-	-	-	-
	67	54.6	5.7	16.6	14.5	12.5	10.4	-	51.7	6.0	13.7	12.0	10.2	8.5	-
	62	51.6	5.4	33.0	31.0	28.9	26.8	24.8	47.8	5.7	30.9	29.1	27.4	25.7	23.9
	57	45.5	5.3	38.2	37.5	35.4	33.4	31.3	39.8	5.6	33.0	32.4	30.7	28.9	27.2
3400	72	62.4	6.0	-	-	-	-	-	64.8	6.1	-	-	-	-	-
	67	57.4	5.7	21.3	18.5	15.8	13.1	-	56.5	6.0	18.3	15.9	13.6	11.2	-
	62	54.3	5.3	42.2	39.5	36.8	34.1	31.4	52.2	5.7	41.6	39.2	36.8	34.4	32.0
	57	47.9	5.2	47.9	47.9	45.2	42.4	39.7	43.3	5.6	43.3	43.3	41.0	38.6	36.2
3825	72	66.2	5.9	-	-	-	-	-	67.4	6.0	-	-	-	-	-
	67	60.9	5.6	24.7	21.4	18.1	14.9	-	58.8	6.0	22.2	19.2	16.3	13.3	-
	62	57.6	5.3	48.8	45.6	42.3	39.0	35.8	54.4	5.6	47.7	45.5	42.6	39.6	36.6
	57	50.8	5.2	50.8	50.8	47.5	44.3	41.0	45.2	5.6	45.2	45.2	42.2	39.3	36.3
4250	72	70.1	5.9	-	-	-	-	-	70.0	6.0	-	-	-	-	-
	67	64.5	5.6	28.1	24.2	20.4	16.6	-	61.1	5.9	26.0	22.5	19.0	15.4	-
	62	60.9	5.3	55.5	51.6	47.8	44.0	40.2	56.5	5.6	53.8	51.9	48.3	44.8	41.2
	57	53.7	5.2	53.7	53.7	49.9	46.1	42.3	47.1	5.5	47.1	47.1	43.5	40.0	36.4

ZR102 (8.5 Ton) Reheat (Continued)

Air on Evaporator Coil		Temperature of Air on Condenser Coil													
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F)					Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F)				
CFM	WB (°F)			85	80	75	70	65			85	80	75	70	65
		75°F							85°F						
2125	72	42.8	6.3	-	-	-	-	-	37.6	6.4	-	-	-	-	-
	67	35.4	6.5	1.6	1.5	1.4	1.2	-	28.6	6.8	-	-	-	-	-
	62	31.9	6.2	4.4	4.3	4.2	4.1	4.0	24.7	6.5	-	-	-	-	-
2550	72	50.9	6.2	-	-	-	-	-	48.3	6.4	-	-	-	-	-
	67	42.1	6.4	6.2	5.4	4.7	3.9	-	37.3	6.8	3.3	2.9	2.5	2.0	-
	62	38.0	6.1	16.6	15.8	15.0	14.3	13.5	32.5	6.5	13.0	12.5	12.1	11.6	11.2
	57	29.4	6.1	16.6	15.8	15.0	14.3	13.5	22.5	6.4	10.6	10.1	9.7	9.3	8.8
2975	72	59.1	6.2	-	-	-	-	-	58.9	6.3	-	-	-	-	-
	67	48.9	6.4	10.8	9.4	8.0	6.6	-	46.0	6.7	7.9	6.8	5.7	4.6	-
	62	44.0	6.1	28.7	27.3	25.9	24.5	23.1	40.2	6.4	26.6	25.5	24.4	23.3	22.2
	57	34.1	6.0	27.7	27.3	25.9	24.5	23.1	28.4	6.4	22.4	22.2	21.1	20.0	19.0
3400	72	67.2	6.2	-	-	-	-	-	69.6	6.3	-	-	-	-	-
	67	55.6	6.3	15.4	13.3	11.3	9.2	-	54.7	6.7	12.5	10.7	9.0	7.3	-
	62	50.1	6.0	40.9	38.8	36.8	34.7	32.6	48.0	6.4	40.2	38.5	36.7	35.0	33.3
	57	38.8	6.0	38.8	38.8	36.8	34.7	32.6	34.3	6.3	34.3	34.3	32.6	30.8	29.1
3825	72	68.6	6.1	-	-	-	-	-	69.7	6.2	-	-	-	-	-
	67	56.7	6.3	19.7	17.0	14.4	11.7	-	54.6	6.6	17.2	14.9	12.5	10.2	-
	62	51.1	6.0	46.5	45.5	42.8	40.1	37.5	47.9	6.3	45.3	45.4	43.1	40.7	38.3
	57	39.6	5.9	39.6	39.6	36.9	34.3	31.6	34.0	6.3	34.0	34.0	31.6	29.3	26.9
4250	72	69.9	6.1	-	-	-	-	-	69.8	6.2	-	-	-	-	-
	67	57.8	6.3	24.0	20.8	17.5	14.2	-	54.5	6.6	22.0	19.0	16.0	13.1	-
	62	52.1	5.9	52.1	52.1	48.8	45.6	42.3	47.7	6.3	47.7	47.7	47.7	46.4	43.4
	57	40.4	5.9	40.4	40.4	37.1	33.9	30.6	33.7	6.2	33.7	33.7	30.7	27.8	24.8

1. These capacities are gross ratings. For net capacity, deduct air blower motor, MBh = 3.415 x kW. Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.
2. These ratings include the condenser fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

ZR120 (10 Ton) Cooling

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)					
CFM	WB (°F)			Return Dry Bulb (°F)								Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		75°F								85°F							
2500	77	137.8	7.3	67.5	55.5	43.9	-	-	-	132.5	8.2	62.6	51.3	40.0	-	-	-
	72	131.8	7.1	85.5	73.9	62.3	50.6	-	-	125.8	8.1	80.7	69.5	58.2	46.9	-	-
	67	125.8	7.0	103.5	92.3	80.6	69.0	57.4	-	119.1	8.0	98.9	87.6	76.4	65.1	53.9	-
	62	113.9	6.9	113.9	112.8	97.5	85.8	74.2	62.6	108.5	7.9	108.5	107.0	91.1	79.8	68.6	57.3
3000	77	143.9	7.4	73.5	60.4	47.3	-	-	-	138.1	8.3	69.4	56.5	43.6	-	-	-
	72	137.6	7.2	93.3	80.2	67.1	54.0	-	-	131.1	8.2	89.1	76.3	63.4	50.5	-	-
	67	131.3	7.0	113.1	100.0	86.9	73.8	60.7	-	124.1	8.0	108.9	96.0	83.1	70.2	57.4	-
	62	118.9	6.9	118.9	118.2	105.1	92.0	78.9	65.8	113.1	8.0	113.1	112.1	99.2	86.3	73.4	60.5
	57	114.8	6.9	114.8	114.8	108.3	95.2	82.2	69.1	110.6	7.9	110.6	110.6	102.2	89.3	76.4	63.5
3500	77	150.0	7.4	79.5	65.3	50.8	-	-	-	143.7	8.3	76.2	61.7	47.1	-	-	-
	72	143.4	7.2	101.1	86.5	72.0	57.4	-	-	136.4	8.2	97.6	83.0	68.5	54.0	-	-
	67	136.9	7.1	122.7	107.7	93.2	78.6	64.0	-	129.1	8.1	119.0	104.4	89.9	75.4	60.9	-
	62	123.9	7.0	123.9	123.6	112.7	98.1	83.5	69.0	117.7	8.0	117.7	117.1	107.2	92.7	78.2	63.7
	57	119.6	7.0	119.6	119.6	116.2	101.6	87.0	72.5	115.1	8.0	115.1	115.1	110.5	96.0	81.5	67.0
4000	77	156.1	7.4	85.5	70.2	54.2	-	-	-	149.3	8.4	83.0	66.8	50.7	-	-	-
	72	149.3	7.3	108.9	92.8	76.8	60.8	-	-	141.7	8.2	106.0	89.8	73.7	57.5	-	-
	67	142.5	7.1	132.2	115.4	99.4	83.4	67.4	-	134.1	8.1	129.0	112.8	96.7	80.5	64.4	-
	62	129.0	7.0	129.0	129.0	120.2	104.2	88.2	72.2	122.2	8.0	122.2	122.2	115.3	99.2	83.0	66.8
	57	124.5	7.0	124.5	124.5	124.0	108.0	91.9	75.9	119.6	8.0	119.6	119.6	118.9	102.7	86.5	70.4
4500	72	151.7	7.3	116.7	99.1	81.6	64.0	-	-	143.8	8.2	113.4	95.8	78.1	60.5	-	-
	67	144.8	7.1	139.7	123.1	105.6	88.0	70.5	-	136.2	8.1	133.6	120.2	102.5	84.9	67.2	-
	62	131.1	7.0	131.1	131.1	126.7	109.2	91.6	74.1	124.1	8.0	124.1	124.1	120.6	103.0	85.3	67.6
	57	126.6	7.0	126.6	126.6	126.3	108.8	91.2	73.7	121.4	8.0	121.4	121.4	121.0	103.4	85.7	68.1
5000	72	154.2	7.3	124.5	105.4	86.4	67.3	-	-	146.0	8.3	120.9	101.7	82.6	63.4	-	-
	67	147.2	7.2	147.2	130.9	111.8	92.7	73.6	-	138.2	8.1	138.2	127.5	108.3	89.2	70.0	-
	62	133.3	7.1	133.3	133.3	133.3	114.2	95.1	76.0	125.9	8.1	125.9	125.9	125.9	106.8	87.6	68.5
	57	128.6	7.1	128.6	128.6	128.6	109.6	90.5	71.4	123.2	8.0	123.2	123.2	123.2	104.1	84.9	65.7
		95°F								105°F							
2500	77	127.3	9.2	57.6	47.1	36.2	-	-	-	117.5	10.5	52.8	44.2	33.5	-	-	-
	72	119.8	9.1	75.9	65.0	54.1	43.3	-	-	110.8	10.4	72.3	61.6	50.9	40.3	-	-
	67	112.4	9.0	94.3	83.0	72.1	61.2	50.3	-	104.0	10.3	91.8	79.1	68.4	57.7	47.0	-
	62	103.2	9.0	103.2	101.2	84.7	73.8	62.9	52.0	96.1	10.2	96.1	95.1	80.3	69.6	58.9	48.2
3000	77	132.4	9.2	65.2	52.5	39.8	-	-	-	122.4	10.5	61.8	49.3	36.9	-	-	-
	72	124.6	9.1	85.0	72.3	59.6	46.9	-	-	115.4	10.4	81.0	68.5	56.1	43.7	-	-
	67	116.9	9.0	104.8	92.1	79.4	66.7	54.0	-	108.3	10.3	100.2	87.8	75.3	62.9	50.5	-
	62	107.3	9.0	107.3	106.0	93.3	80.6	67.9	55.2	100.1	10.2	100.1	99.4	88.5	76.0	63.6	51.2
	57	106.5	8.9	106.5	106.5	96.1	83.4	70.7	58.0	99.2	10.2	99.2	99.2	89.5	77.0	64.6	52.2
3500	77	137.4	9.2	72.9	58.0	43.5	-	-	-	127.3	10.5	70.7	54.5	40.3	-	-	-
	72	129.4	9.2	94.1	79.6	65.1	50.6	-	-	120.0	10.4	89.6	75.5	61.3	47.2	-	-
	67	121.3	9.1	115.3	101.2	86.7	72.2	57.7	-	112.6	10.3	108.6	96.5	82.3	68.1	54.0	-
	62	111.4	9.0	111.4	110.7	101.8	87.3	72.8	58.3	104.0	10.2	104.0	103.7	96.6	82.5	68.3	54.2
	57	110.6	9.0	110.6	110.6	104.9	90.4	75.9	61.4	103.2	10.2	103.2	103.2	97.7	83.6	69.4	55.3
4000	77	142.5	9.3	80.5	63.5	47.2	-	-	-	132.1	10.5	79.6	59.6	43.7	-	-	-
	72	134.1	9.2	103.1	86.8	70.5	54.3	-	-	124.6	10.4	98.3	82.4	66.5	50.6	-	-
	67	125.8	9.1	125.8	110.2	93.9	77.6	61.3	-	117.0	10.3	117.0	105.2	89.3	73.4	57.5	-
	62	115.5	9.0	115.5	115.5	110.4	94.1	77.8	61.5	108.0	10.2	108.0	108.0	104.8	88.9	73.0	57.1
	57	114.7	9.0	114.7	114.7	113.7	97.4	81.1	64.8	107.1	10.2	107.1	107.1	106.0	90.1	74.2	58.3
4500	72	136.0	9.2	110.2	92.4	74.7	56.9	-	-	126.1	10.4	105.2	87.8	70.5	53.1	-	-
	67	127.5	9.1	127.5	117.2	99.4	81.7	63.9	-	118.4	10.3	118.4	111.2	94.6	77.2	59.9	-
	62	117.1	9.0	117.1	117.1	114.5	96.7	79.0	61.2	109.4	10.2	109.4	109.4	107.8	90.4	73.1	55.7
	57	116.2	9.0	116.2	116.2	115.8	98.0	80.2	62.5	108.4	10.2	108.4	108.4	107.9	90.5	73.2	55.8
5000	72	137.8	9.2	117.3	98.0	78.8	59.5	-	-	127.6	10.4	112.0	93.2	74.4	55.6	-	-
	67	129.2	9.1	129.2	124.2	104.9	85.7	66.4	-	119.8	10.3	119.8	117.3	99.9	81.1	62.2	-
	62	118.6	9.0	118.6	118.6	118.6	99.4	80.2	60.9	110.7	10.2	110.7	110.7	110.7	91.9	73.1	54.3
	57	117.8	9.0	117.8	117.8	117.8	98.6	79.3	60.1	109.8	10.2	109.8	109.8	109.8	91.0	72.1	53.3

ZR120 (10 Ton) Cooling (Continued)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)					
				Return Dry Bulb (°F)								Return Dry Bulb (°F)					
CFM	WB (°F)			90	85	80	75	70	65			90	85	80	75	70	65
		115°F								125°F							
2500	77	107.7	11.9	48.1	41.3	30.8	-	-	-	98.0	13.2	43.3	38.4	28.1	-	-	-
	72	101.7	11.7	68.7	58.2	47.7	37.3	-	-	92.6	13.0	65.1	54.8	44.5	34.3	-	-
	67	95.6	11.6	89.3	75.1	64.6	54.2	43.7	-	87.3	12.8	86.8	71.2	60.9	50.6	40.4	-
	62	89.0	11.4	89.0	89.0	75.9	65.4	54.9	44.4	81.8	12.6	81.8	81.8	71.4	61.2	50.9	40.6
3000	77	112.4	11.8	58.3	46.1	34.0	-	-	-	102.5	13.1	54.8	42.9	31.1	-	-	-
	72	106.1	11.7	76.9	64.8	52.6	40.5	-	-	96.9	13.0	72.9	61.0	49.2	37.3	-	-
	67	99.8	11.5	95.6	83.4	71.3	59.1	47.0	-	91.3	12.8	91.0	79.1	67.2	55.4	43.5	-
	62	92.8	11.3	92.8	92.8	83.7	71.5	59.4	47.2	85.6	12.5	85.6	85.6	78.9	67.0	55.1	43.2
	57	91.9	11.4	91.9	91.9	82.8	70.7	58.5	46.4	84.6	12.7	84.6	84.6	76.2	64.3	52.4	40.5
3500	77	117.1	11.8	68.5	51.0	37.2	-	-	-	107.0	13.1	66.3	47.5	34.0	-	-	-
	72	110.6	11.7	85.2	71.4	57.5	43.7	-	-	101.2	12.9	80.8	67.3	53.8	40.3	-	-
	67	104.0	11.5	101.9	91.8	77.9	64.1	50.3	-	95.3	12.7	95.2	87.1	73.6	60.1	46.6	-
	62	96.7	11.3	96.7	96.7	91.5	77.6	63.8	50.0	89.4	12.5	89.4	89.4	86.3	72.8	59.3	45.8
	57	95.7	11.4	95.7	95.7	90.5	76.7	62.9	49.1	88.3	12.6	88.3	88.3	83.4	69.9	56.4	42.9
4000	77	121.8	11.8	78.7	55.8	40.3	-	-	-	111.5	13.0	77.8	52.0	36.9	-	-	-
	72	115.0	11.6	93.4	77.9	62.5	47.0	-	-	105.4	12.8	88.6	73.5	58.4	43.3	-	-
	67	108.2	11.5	108.2	100.1	84.6	69.1	53.6	-	99.3	12.7	99.3	95.0	79.9	64.8	49.7	-
	62	100.6	11.3	100.6	100.6	99.3	83.8	68.3	52.8	93.1	12.4	93.1	93.1	93.1	78.6	63.5	48.4
	57	99.6	11.4	99.6	99.6	98.3	82.8	67.3	51.8	92.0	12.6	92.0	92.0	90.5	75.4	60.3	45.3
4500	72	116.2	11.6	100.1	83.2	66.2	49.3	-	-	106.4	12.9	95.1	78.5	62.0	45.5	-	-
	67	109.3	11.5	109.3	105.3	89.7	72.8	55.8	-	100.2	12.7	100.2	99.3	84.8	68.3	51.8	-
	62	101.7	11.3	101.7	101.7	101.0	84.1	67.1	50.2	94.0	12.4	94.0	94.0	94.0	77.7	61.2	44.7
	57	100.6	11.4	100.6	100.6	100.0	83.1	66.1	49.2	92.9	12.6	92.9	92.9	92.1	75.6	59.1	42.5
5000	72	117.5	11.7	106.8	88.4	70.0	51.6	-	-	107.3	12.9	101.5	83.6	65.6	47.7	-	-
	67	110.5	11.5	110.5	110.5	94.8	76.4	58.1	-	101.1	12.7	101.1	101.1	89.8	71.8	53.9	-
	62	102.7	11.3	102.7	102.7	102.7	84.4	66.0	47.6	94.8	12.5	94.8	94.8	94.8	76.8	58.9	40.9
	57	101.7	11.4	101.7	101.7	101.7	83.3	65.0	46.6	93.7	12.7	93.7	93.7	93.7	75.7	57.8	39.8

1. These capacities are gross ratings. For net capacity, deduct air blower motor, MBh = 3.415 x kW. Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.
2. These ratings include the condenser fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

ZR120 (10 Ton) Reheat

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)					
CFM	WB (°F)			Return Dry Bulb (°F)								Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		35°F								45°F							
2500	77	81.3	6.2	-	-	-	-	-	-	66.7	6.8	-	-	-	-	-	-
	72	75.9	6.1	12.0	9.6	7.1	4.7	-	-	65.6	6.5	6.6	4.6	2.7	-	-	-
	67	70.6	6.0	26.3	23.9	21.5	19.1	16.6	-	64.5	6.2	21.3	19.3	17.3	15.4	13.4	-
	62	72.8	5.8	42.2	39.7	37.3	34.9	32.5	30.0	62.5	6.0	35.2	33.2	31.3	29.3	27.4	25.4
3000	77	82.4	6.2	-	-	-	-	-	-	69.4	6.8	-	-	-	-	-	-
	72	76.7	6.0	15.1	12.1	9.2	6.2	-	-	68.3	6.5	8.5	6.0	3.4	-	-	-
	67	71.0	5.9	31.5	28.6	25.6	22.7	19.7	-	67.1	6.2	27.0	24.4	21.8	19.3	16.7	-
	62	73.6	5.7	50.1	47.2	44.2	41.3	38.3	35.4	65.0	6.0	44.6	42.0	39.4	36.8	34.2	31.6
	57	65.6	5.7	56.8	53.9	50.9	48.0	45.0	42.1	60.6	5.9	51.5	48.9	46.3	43.7	41.1	38.6
3500	77	83.5	6.1	-	-	-	-	-	-	72.1	6.7	-	-	-	-	-	-
	72	77.5	6.0	18.1	14.7	11.2	7.8	-	-	70.9	6.5	10.5	7.3	4.1	-	-	-
	67	71.5	5.9	36.6	33.2	29.7	26.3	22.8	-	69.7	6.2	32.8	29.6	26.3	23.1	19.9	-
	62	74.3	5.7	58.0	54.6	51.1	47.7	44.2	40.8	67.6	6.0	53.9	50.7	47.5	44.3	41.1	37.8
	57	66.1	5.6	61.7	60.2	58.7	55.3	51.8	48.4	63.0	5.9	58.4	57.1	55.9	52.6	49.4	46.2
4000	77	84.7	6.1	-	-	-	-	-	-	74.9	6.7	-	-	-	-	-	-
	72	78.3	6.0	21.2	17.2	13.3	9.3	-	-	73.6	6.4	12.5	8.6	4.8	-	-	-
	67	71.9	5.9	41.8	37.8	33.9	29.9	25.9	-	72.4	6.2	38.5	34.7	30.8	27.0	23.1	-
	62	75.1	5.7	66.0	62.0	58.0	54.1	50.1	46.1	70.1	5.9	63.3	59.4	55.6	51.7	47.9	44.1
	57	66.6	5.6	66.6	66.6	66.6	62.6	58.6	54.7	65.4	5.9	65.4	65.4	65.4	61.5	57.7	53.8
4500	72	79.5	6.0	22.5	18.3	14.1	9.9	-	-	73.1	6.5	13.3	9.2	5.1	-	-	-
	67	73.3	5.9	44.3	40.1	35.9	31.7	27.5	-	71.9	6.2	41.1	36.9	32.8	28.7	24.6	-
	62	76.3	5.7	71.7	67.7	61.5	57.3	53.1	49.0	69.7	6.0	66.2	63.3	59.2	55.1	50.9	46.8
	57	67.8	5.6	67.8	67.8	67.8	63.6	59.4	55.2	64.9	5.9	64.9	64.9	64.9	60.8	56.7	52.6
5000	72	80.8	6.0	23.8	19.4	15.0	10.6	-	-	72.6	6.5	14.1	9.8	5.4	-	-	-
	67	74.7	5.9	46.7	42.3	38.0	33.6	29.2	-	71.4	6.2	43.6	39.2	34.8	30.4	26.0	-
	62	77.5	5.7	77.5	73.5	65.0	60.6	56.2	51.8	69.2	6.0	69.2	67.2	62.8	58.4	54.0	49.6
	57	69.0	5.6	69.0	69.0	69.0	64.6	60.2	55.8	64.5	5.9	64.5	64.5	64.5	60.1	55.7	51.3
		55°F								65°F							
2500	77	52.1	7.4	-	-	-	-	-	-	46.4	7.7	-	-	-	-	-	-
	72	55.3	6.9	1.2	-	-	-	-	-	49.0	7.3	-	-	-	-	-	-
	67	58.4	6.5	16.2	14.7	13.2	11.7	10.2	-	51.6	6.9	13.0	11.8	10.6	9.4	8.2	-
	62	52.2	6.2	28.2	26.7	25.2	23.7	22.3	20.8	46.1	6.5	23.7	22.5	21.3	20.0	18.8	17.6
3000	77	56.5	7.4	-	-	-	-	-	-	51.3	7.7	-	-	-	-	-	-
	72	59.8	6.9	2.0	-	-	-	-	-	54.1	7.3	-	-	-	-	-	-
	67	63.2	6.5	22.5	20.3	18.1	15.8	13.6	-	57.0	6.8	19.4	17.4	15.4	13.5	11.5	-
	62	56.5	6.2	39.0	36.8	34.5	32.3	30.1	27.8	50.8	6.5	34.9	33.0	31.0	29.0	27.1	25.1
	57	55.7	6.1	46.2	44.0	41.7	39.5	37.3	35.0	50.2	6.5	40.6	38.6	36.6	34.7	32.7	30.7
3500	77	60.8	7.3	-	-	-	-	-	-	56.1	7.7	-	-	-	-	-	-
	72	64.4	6.9	2.9	-	-	-	-	-	59.2	7.3	-	-	-	-	-	-
	67	68.0	6.5	28.9	25.9	22.9	20.0	17.0	-	62.3	6.8	25.7	23.0	20.2	17.5	14.8	-
	62	60.8	6.2	49.8	46.8	43.9	40.9	37.9	34.9	55.6	6.5	46.2	43.5	40.7	38.0	35.3	32.5
	57	60.0	6.1	55.2	54.1	53.0	50.0	47.0	44.0	54.9	6.5	50.1	49.1	48.1	45.4	42.6	39.9
4000	77	65.1	7.3	-	-	-	-	-	-	60.9	7.7	-	-	-	-	-	-
	72	69.0	6.9	3.7	-	-	-	-	-	64.3	7.2	-	-	-	-	-	-
	67	72.8	6.5	35.3	31.5	27.8	24.1	20.4	-	67.6	6.8	32.0	28.5	25.1	21.6	18.1	-
	62	65.2	6.2	60.6	56.9	53.2	49.4	45.7	42.0	60.4	6.5	57.5	54.0	50.5	47.0	43.5	40.0
	57	64.2	6.1	64.2	64.2	64.2	60.5	56.8	53.0	59.6	6.5	59.6	59.6	59.6	56.1	52.6	49.1
4500	72	66.7	7.0	4.1	-	-	-	-	-	63.3	7.3	-	-	-	-	-	-
	67	70.4	6.6	37.8	33.8	29.7	25.7	21.6	-	66.7	6.9	36.0	32.0	28.0	24.0	20.0	-
	62	63.0	6.3	60.7	58.9	56.8	52.8	48.7	44.7	59.5	6.6	58.0	56.3	54.5	50.5	46.5	42.5
	57	62.1	6.2	62.1	62.1	62.1	58.0	54.0	49.9	58.8	6.5	58.8	58.8	58.7	54.7	50.7	46.7
5000	72	64.4	7.0	4.5	-	-	-	-	-	62.4	7.3	-	-	-	-	-	-
	67	68.0	6.6	40.4	36.0	31.7	27.3	22.9	-	65.7	6.9	40.0	35.5	31.0	26.5	22.0	-
	62	60.9	6.3	60.9	60.9	60.5	56.2	51.8	47.4	58.6	6.6	58.6	58.6	58.5	53.9	49.4	44.9
	57	60.0	6.2	60.0	60.0	60.0	55.6	51.2	46.8	57.9	6.5	57.9	57.9	57.9	53.4	48.9	44.4

ZR120 (10 Ton) Reheat (Continued)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F)					
CFM	WB (°F)			90	85	80	75	70	65			90	85	80	75	70	65
		75°F								85°F							
2500	77	40.8	8.0	-	-	-	-	-	-	35.1	8.4	-	-	-	-	-	-
	72	42.8	7.6	-	-	-	-	-	-	36.6	8.0	-	-	-	-	-	-
	67	44.9	7.2	9.9	9.0	8.1	7.1	6.2	-	38.1	7.5	6.8	6.1	5.5	4.8	4.2	-
	62	39.9	6.9	19.1	18.2	17.3	16.3	15.4	14.5	33.8	7.2	14.6	13.9	13.3	12.6	12.0	11.3
3000	77	46.1	8.0	-	-	-	-	-	-	40.9	8.4	-	-	-	-	-	-
	72	48.4	7.6	-	-	-	-	-	-	42.7	7.9	-	-	-	-	-	-
	67	50.7	7.2	16.2	14.5	12.8	11.1	9.4	-	44.5	7.5	13.0	11.6	10.2	8.7	7.3	-
	62	45.2	6.8	30.9	29.2	27.5	25.7	24.0	22.3	39.5	7.2	26.8	25.3	23.9	22.5	21.0	19.6
	57	44.8	6.8	34.9	33.2	31.5	29.8	28.1	26.4	39.3	7.1	29.3	27.9	26.4	25.0	23.6	22.1
3500	77	51.4	8.0	-	-	-	-	-	-	46.7	8.3	-	-	-	-	-	-
	72	54.0	7.6	-	-	-	-	-	-	48.8	7.9	-	-	-	-	-	-
	67	56.6	7.1	22.5	20.0	17.5	15.1	12.6	-	50.9	7.5	19.3	17.1	14.8	12.6	10.4	-
	62	50.4	6.8	42.6	40.1	37.6	35.1	32.7	30.2	45.1	7.1	39.0	36.8	34.5	32.3	30.0	27.8
	57	49.9	6.8	45.0	44.2	43.2	40.7	38.3	35.8	44.9	7.1	39.9	39.2	38.4	36.1	33.9	31.6
4000	77	56.7	8.0	-	-	-	-	-	-	52.5	8.3	-	-	-	-	-	-
	72	59.6	7.6	-	-	-	-	-	-	54.9	7.9	-	-	-	-	-	-
	67	62.4	7.1	28.8	25.6	22.3	19.0	15.8	-	57.3	7.4	25.6	22.6	19.5	16.5	13.4	-
	62	55.6	6.8	54.3	51.1	47.8	44.6	41.3	38.0	50.8	7.1	50.8	48.2	45.1	42.1	39.1	36.0
	57	55.1	6.8	55.1	55.1	54.9	51.7	48.4	45.1	50.5	7.1	50.5	50.5	50.3	47.2	44.2	41.2
4500	72	60.0	7.6	-	-	-	-	-	-	56.7	7.9	-	-	-	-	-	-
	67	62.9	7.2	34.2	30.3	26.3	22.4	18.4	-	59.2	7.5	32.4	28.5	24.6	20.7	16.8	-
	62	56.0	6.9	55.4	53.7	52.1	48.1	44.2	40.2	52.5	7.2	52.5	51.2	49.7	45.8	41.9	38.0
	57	55.5	6.8	55.5	55.5	55.4	51.4	47.5	43.5	52.2	7.1	52.2	52.2	52.1	48.2	44.2	40.3
5000	72	60.5	7.7	-	-	-	-	-	-	58.5	8.0	-	-	-	-	-	-
	67	63.4	7.2	39.7	35.0	30.4	25.7	21.0	-	61.0	7.5	39.3	34.5	29.7	24.9	20.1	-
	62	56.4	6.9	56.4	56.4	56.4	51.7	47.1	42.4	54.2	7.2	54.2	54.2	54.2	49.5	44.7	39.9
	57	55.9	6.9	55.9	55.9	55.9	51.2	46.6	41.9	53.9	7.2	53.9	53.9	53.9	49.1	44.3	39.5

1. These capacities are gross ratings. For net capacity, deduct air blower motor, MBh = 3.415 x kW. Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.
2. These ratings include the condenser fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

ZR150 (12.5 Ton) Cooling

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F)					
CFM	WB (°F)			90	85	80	75	70	65			90	85	80	75	70	65
		75°F								**85°F**							
3125	77	190.5	9.0	87.6	73.4	59.1	-	-	-	185.2	10.5	81.6	67.3	53.0	-	-	-
	72	180.7	9.2	111.5	97.2	83.0	68.8	-	-	172.9	10.5	105.4	91.1	76.8	62.5	-	-
	67	171.0	9.3	135.4	121.1	106.9	92.7	78.4	-	160.6	10.5	129.2	114.9	100.6	86.3	72.0	-
	62	158.6	9.1	158.6	158.6	158.6	150.5	136.2	122.0	148.0	10.3	148.0	148.0	139.6	125.3	111.1	96.8
3750	77	199.8	9.2	94.7	78.6	62.4	-	-	-	194.0	10.6	89.0	72.9	56.8	-	-	-
	72	189.6	9.3	119.8	103.7	87.5	71.3	-	-	181.1	10.6	114.4	98.3	82.2	66.1	-	-
	67	179.4	9.4	145.0	128.8	112.6	96.4	80.3	-	168.3	10.6	139.9	123.8	107.7	91.6	75.5	-
	62	166.3	9.2	166.3	166.3	166.3	157.9	141.8	125.6	155.1	10.4	155.1	155.1	149.5	133.4	117.3	101.2
	57	154.4	9.2	154.4	154.4	148.9	132.7	116.6	100.4	146.9	10.4	146.9	146.9	137.3	121.2	105.2	89.1
4375	77	209.1	9.3	101.9	83.8	65.7	-	-	-	202.8	10.7	96.3	78.4	60.5	-	-	-
	72	198.4	9.4	128.2	110.1	92.0	73.9	-	-	189.3	10.7	123.4	105.5	87.6	69.7	-	-
	67	187.7	9.6	154.5	136.4	118.3	100.2	82.1	-	175.9	10.7	150.6	132.7	114.8	96.9	79.0	-
	62	174.1	9.4	174.1	174.1	174.1	165.4	147.3	129.2	162.1	10.5	162.1	162.1	159.3	141.4	123.5	105.6
	57	161.6	9.3	161.6	161.6	156.6	138.5	120.4	102.3	153.5	10.5	153.5	153.5	146.4	128.5	110.6	92.7
5000	77	218.4	9.4	109.0	89.0	68.9	-	-	-	211.6	10.8	103.6	83.9	64.2	-	-	-
	72	207.3	9.6	136.6	116.5	96.5	76.5	-	-	197.5	10.8	132.4	112.7	93.0	73.3	-	-
	67	196.1	9.7	164.1	144.1	124.1	104.0	84.0	-	183.5	10.8	161.2	141.5	121.8	102.1	82.4	-
	62	181.8	9.5	181.8	181.8	181.8	172.9	152.9	132.8	169.1	10.6	169.1	169.1	169.1	149.4	129.7	110.0
	57	168.8	9.5	168.8	168.8	164.4	144.3	124.3	104.2	160.2	10.6	160.2	160.2	155.4	135.7	116.0	96.3
5625	72	211.2	9.6	148.0	126.6	105.3	83.9	-	-	202.2	10.8	143.3	122.0	100.8	79.5	-	-
	67	199.9	9.7	179.4	156.7	135.4	114.0	92.7	-	187.8	10.8	174.5	153.2	131.9	110.7	89.4	-
	62	185.3	9.5	185.3	185.3	185.3	169.5	148.2	126.8	173.1	10.6	173.1	173.1	173.1	151.9	130.6	109.3
	57	172.0	9.5	172.0	172.0	169.8	148.5	127.1	105.8	164.0	10.6	164.0	164.0	161.6	140.3	119.1	97.8
6250	72	215.2	9.5	159.4	136.7	114.0	91.4	-	-	206.9	10.8	154.1	131.3	108.5	85.6	-	-
	67	203.6	9.7	194.6	169.4	146.7	124.0	101.4	-	192.2	10.8	187.7	164.9	142.0	119.2	96.4	-
	62	188.8	9.5	188.8	188.8	188.8	166.2	143.5	120.9	177.1	10.6	177.1	177.1	177.1	154.3	131.5	108.6
	57	175.3	9.4	175.3	175.3	175.3	152.6	130.0	107.3	167.8	10.6	167.8	167.8	167.8	145.0	122.1	99.3
		95°F								**105°F**							
3125	77	180.0	11.9	75.6	61.3	46.9	-	-	-	168.2	13.3	71.8	58.0	43.9	-	-	-
	72	165.1	11.8	99.3	85.0	70.6	56.3	-	-	153.8	13.2	95.1	81.0	66.9	52.8	-	-
	67	150.2	11.7	123.0	108.6	94.3	80.0	65.6	-	139.5	13.0	118.4	103.9	89.8	75.7	61.6	-
	62	137.5	11.5	137.5	133.0	114.6	100.2	85.9	71.5	127.9	12.9	127.9	125.7	110.1	96.0	81.9	67.8
3750	77	188.2	12.0	83.2	67.2	51.2	-	-	-	175.5	13.3	79.5	63.7	47.8	-	-	-
	72	172.7	11.9	109.0	93.0	77.0	60.9	-	-	160.6	13.2	104.5	88.6	72.8	56.9	-	-
	67	157.1	11.7	134.8	118.8	102.8	86.7	70.7	-	145.6	13.1	129.4	113.6	97.7	81.9	66.0	-
	62	143.8	11.6	143.8	140.8	124.8	108.8	92.8	76.8	133.5	12.9	133.5	132.1	119.8	104.0	88.1	72.2
	57	139.4	11.6	139.4	139.4	125.8	109.8	93.8	77.7	130.3	13.0	130.3	130.3	117.1	101.2	85.4	69.5
4375	77	196.5	12.0	90.7	73.0	55.4	-	-	-	182.9	13.4	87.3	69.3	51.7	-	-	-
	72	180.3	11.9	118.6	101.0	83.3	65.6	-	-	167.3	13.3	113.9	96.3	78.7	61.0	-	-
	67	164.0	11.8	146.6	128.9	111.2	93.5	75.8	-	151.8	13.1	140.5	123.3	105.6	88.0	70.4	-
	62	150.1	11.6	150.1	148.6	135.1	117.4	99.7	82.0	139.2	13.0	139.2	138.4	129.5	111.9	94.3	76.6
	57	145.5	11.7	145.5	145.5	136.1	118.4	100.7	83.1	135.7	13.0	135.7	135.7	126.6	109.0	91.3	73.7
5000	77	204.8	12.1	98.3	78.9	59.6	-	-	-	190.3	13.4	95.1	75.0	55.6	-	-	-
	72	187.8	12.0	128.3	109.0	89.6	70.2	-	-	174.1	13.3	123.3	104.0	84.6	65.2	-	-
	67	170.9	11.9	158.4	139.0	119.6	100.3	80.9	-	157.9	13.2	151.6	132.9	113.6	94.2	74.8	-
	62	156.4	11.7	156.4	156.4	145.3	126.0	106.6	87.2	144.8	13.0	144.8	144.8	139.2	119.8	100.4	81.1
	57	151.6	11.7	151.6	151.6	146.4	127.1	107.7	88.4	141.2	13.1	141.2	141.2	136.1	116.7	97.3	77.9
5625	72	193.2	12.0	138.6	117.4	96.2	75.1	-	-	178.5	13.3	133.3	112.3	91.2	70.2	-	-
	67	175.8	11.9	169.6	149.7	128.5	107.3	86.1	-	161.8	13.2	158.7	143.5	122.5	101.5	80.4	-
	62	160.9	11.7	160.9	160.9	155.4	134.2	113.0	91.8	148.4	13.0	148.4	148.4	145.6	124.6	103.5	82.5
	57	156.0	11.7	156.0	156.0	153.4	132.2	111.0	89.8	144.7	13.1	144.7	144.7	142.2	121.1	100.1	79.1
6250	72	198.6	12.0	148.9	125.9	102.9	79.9	-	-	182.8	13.3	143.3	120.6	97.9	75.2	-	-
	67	180.7	11.9	180.7	160.4	137.4	114.4	91.4	-	165.8	13.2	165.8	154.1	131.4	108.7	86.1	-
	62	165.4	11.7	165.4	165.4	165.4	142.4	119.4	96.4	152.0	13.0	152.0	152.0	152.0	129.3	106.6	84.0
	57	160.3	11.8	160.3	160.3	160.3	137.3	114.3	91.3	148.3	13.1	148.3	148.3	148.3	125.6	102.9	80.2

ZR150 (12.5 Ton) Cooling (Continued)

Air on Evaporator Coil		Temperature of Air on Condenser Coil															
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)						Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh)					
CFM	WB (°F)			Return Dry Bulb (°F)								Return Dry Bulb (°F)					
				90	85	80	75	70	65			90	85	80	75	70	65
		115°F								**125°F**							
3125	77	156.3	14.6	67.9	54.8	40.9	-	-	-	144.5	16.0	60.9	51.5	37.9	-	-	-
	72	142.6	14.5	90.8	77.0	63.1	49.3	-	-	131.3	15.9	86.6	73.0	59.4	45.8	-	-
	67	128.8	14.4	113.7	99.1	85.3	71.5	57.6	-	118.1	15.7	110.3	94.4	80.8	67.2	53.6	-
	62	118.4	14.2	118.4	118.4	105.7	91.8	78.0	64.1	108.8	15.6	108.8	108.8	102.4	87.6	74.0	60.4
3750	77	162.8	14.7	75.9	60.2	44.5	-	-	-	150.2	16.0	72.3	56.7	41.2	-	-	-
	72	148.5	14.6	100.0	84.3	68.6	52.9	-	-	136.4	15.9	95.5	80.0	64.4	48.9	-	-
	67	134.1	14.4	124.1	108.4	92.7	77.0	61.3	-	122.7	15.8	118.8	103.2	87.7	72.1	56.6	-
	62	123.3	14.3	123.3	123.3	114.8	99.1	83.4	67.7	113.0	15.6	113.0	113.0	109.8	94.3	78.7	63.2
	57	121.1	14.3	121.1	121.1	108.4	92.7	77.0	61.3	112.0	15.7	112.0	112.0	99.7	84.2	68.6	53.1
4375	77	169.3	14.7	83.9	65.6	48.0	-	-	-	155.8	16.1	83.6	61.9	44.4	-	-	-
	72	154.4	14.6	109.2	91.6	74.1	56.5	-	-	141.5	16.0	104.5	87.0	69.5	52.0	-	-
	67	139.5	14.5	134.5	117.6	100.1	82.5	65.0	-	127.2	15.8	127.2	112.0	94.5	77.0	59.5	-
	62	128.2	14.3	128.2	128.2	124.0	106.4	88.8	71.3	117.3	15.7	117.3	117.3	117.3	100.9	83.4	65.9
	57	126.0	14.4	126.0	126.0	117.1	99.5	81.9	64.4	116.2	15.7	116.2	116.2	107.5	90.0	72.6	55.1
5000	77	175.8	14.8	91.9	71.0	51.6	-	-	-	161.4	16.2	95.0	67.0	47.6	-	-	-
	72	160.3	14.7	118.4	98.9	79.5	60.1	-	-	146.6	16.0	113.4	93.9	74.5	55.1	-	-
	67	144.9	14.5	144.9	126.9	107.5	88.1	68.6	-	131.8	15.9	131.8	120.8	101.4	82.0	62.5	-
	62	133.1	14.4	133.1	133.1	133.1	113.7	94.3	74.9	121.5	15.7	121.5	121.5	121.5	107.6	88.1	68.7
	57	130.8	14.4	130.8	130.8	125.7	106.3	86.9	67.5	120.4	15.8	120.4	120.4	115.4	95.9	76.5	57.0
5625	72	163.7	14.7	128.0	107.1	86.2	65.3	-	-	148.9	16.0	122.7	102.0	81.2	60.4	-	-
	67	147.9	14.5	147.9	137.4	116.5	95.6	74.7	-	133.9	15.9	133.9	131.3	110.5	89.7	69.0	-
	62	135.9	14.4	135.9	135.9	135.9	115.0	94.1	73.2	123.4	15.7	123.4	123.4	123.4	105.4	84.6	63.9
	57	133.5	14.4	133.5	133.5	131.0	110.1	89.2	68.3	122.3	15.8	122.3	122.3	119.8	99.0	78.3	57.5
6250	72	167.0	14.7	137.7	115.3	92.9	70.5	-	-	151.2	16.0	132.0	110.0	87.9	65.8	-	-
	67	150.9	14.5	150.9	147.9	125.5	103.1	80.7	-	135.9	15.8	135.9	135.9	119.6	97.5	75.4	-
	62	138.6	14.4	138.6	138.6	138.6	116.3	93.9	71.5	125.3	15.7	125.3	125.3	125.3	103.2	81.1	59.0
	57	136.2	14.4	136.2	136.2	136.2	113.9	91.5	69.1	124.2	15.7	124.2	124.2	124.2	102.1	80.0	58.0

1. These capacities are gross ratings. For net capacity, deduct air blower motor, MBh = 3.415 x kW. Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.
2. These ratings include the condenser fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

ZR150 (12.5 Ton) Reheat

Air on Evaporator Coil		Temperature of Air on Condenser Coil													
CFM	WB (°F)	Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F)					Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F)				
				85	80	75	70	65			85	80	75	70	65
		35°F							**45°F**						
3125	72	87.0	7.7	6.6	4.8	3.1	-	-	85.9	8.3	5.6	3.9	2.2	-	-
	67	84.6	7.3	14.4	12.7	11.0	9.2	-	83.3	8.0	11.8	10.1	8.4	6.7	-
	62	82.9	7.3	20.3	18.6	16.9	15.2	13.5	80.8	7.7	17.7	16.0	14.3	12.6	10.9
3750	72	89.0	7.4	11.5	9.2	6.9	-	-	88.9	8.0	10.7	8.3	5.9	-	-
	67	86.5	7.1	26.3	24.0	21.7	19.5	-	86.2	7.7	24.1	21.7	19.3	17.0	-
	62	84.8	7.1	36.7	34.4	32.1	29.8	27.5	83.6	7.4	36.6	34.2	31.9	29.5	27.1
	57	82.2	7.7	43.1	40.9	38.6	36.3	34.0	79.1	8.2	40.8	38.4	36.0	33.7	31.3
4375	72	90.9	7.2	16.4	13.5	10.7	-	-	91.8	7.7	15.8	12.7	9.7	-	-
	67	88.4	6.9	38.3	35.4	32.5	29.7	-	89.1	7.4	36.3	33.3	30.2	27.2	-
	62	86.6	6.8	53.1	50.2	47.4	44.5	41.6	86.4	7.2	55.5	52.5	49.4	46.4	43.3
	57	84.0	7.4	63.2	60.0	57.1	54.2	51.4	81.8	7.9	61.9	58.9	55.8	52.8	49.7
5000	72	92.8	6.9	21.3	17.9	14.4	-	-	94.8	7.4	20.9	17.2	13.4	-	-
	67	90.3	6.6	50.2	46.8	43.3	39.9	-	91.9	7.1	48.6	44.9	41.1	37.4	-
	62	88.5	6.6	69.5	66.0	62.6	59.1	55.7	89.2	6.9	74.5	70.7	67.0	63.3	59.5
	57	85.9	7.1	83.2	79.1	75.6	72.2	68.7	84.4	7.6	83.1	79.4	75.6	71.9	68.2
5625	72	94.1	7.5	15.2	12.5	9.9	-	-	96.7	7.8	16.3	13.1	9.9	-	-
	67	91.5	7.1	35.5	32.8	30.2	27.5	-	93.8	7.6	37.4	34.2	31.0	27.8	-
	62	89.7	7.1	48.0	45.4	42.7	40.1	37.4	91.0	7.3	57.1	53.9	50.7	47.5	44.3
	57	87.1	7.7	58.0	55.0	52.4	49.7	47.1	86.1	8.0	63.7	60.5	57.3	54.1	50.8
6250	72	95.4	8.0	9.1	7.2	5.4	-	-	98.6	8.3	11.7	9.0	6.3	-	-
	67	92.8	7.7	20.7	18.9	17.0	15.2	-	95.6	8.0	26.2	23.5	20.8	18.1	-
	62	91.0	7.6	26.6	24.7	22.9	21.0	19.2	92.8	7.8	39.8	37.1	34.4	31.7	29.0
	57	88.3	8.3	32.9	31.0	29.2	27.3	25.5	87.8	8.5	44.3	41.6	38.9	36.2	33.5
		55°F							**65°F**						
3125	72	84.8	8.9	4.6	2.9	1.2	-	-	84.2	9.3	-	-	-	-	-
	67	81.9	8.7	9.3	7.6	5.9	4.2	-	79.1	8.9	10.4	8.9	7.3	5.8	-
	62	78.7	8.2	15.1	13.4	11.7	10.0	8.3	74.6	8.4	24.9	23.4	21.8	20.3	18.7
3750	72	88.8	8.6	9.9	7.4	5.0	-	-	87.3	9.2	-	-	-	-	-
	67	85.8	8.3	21.9	19.4	16.9	14.5	-	82.0	8.8	18.2	16.0	13.9	11.8	-
	62	82.5	7.8	36.5	34.1	31.6	29.1	26.7	77.4	8.3	40.0	37.9	35.8	33.7	31.5
	57	76.1	8.7	38.4	36.0	33.5	31.0	28.6	72.6	9.0	44.1	42.0	39.9	37.8	35.6
4375	72	92.8	8.2	15.2	11.9	8.7	-	-	90.4	9.1	-	-	-	-	-
	67	89.7	8.0	34.4	31.2	27.9	24.7	-	85.0	8.7	25.9	23.2	20.5	17.8	-
	62	86.2	7.5	58.0	54.7	51.5	48.3	45.0	80.2	8.2	55.1	52.4	49.8	47.1	44.4
	57	79.5	8.3	60.7	57.8	54.6	51.3	48.1	75.2	8.9	60.3	57.7	55.1	52.4	49.7
5000	72	96.8	7.8	20.5	16.5	12.4	-	-	93.5	9.0	1.1	-	-	-	-
	67	93.6	7.6	47.0	42.9	38.9	34.9	-	87.9	8.6	33.6	30.4	27.1	23.8	-
	62	89.9	7.1	79.4	75.4	71.4	67.4	63.4	83.0	8.1	70.3	67.0	63.7	60.4	57.2
	57	83.0	8.0	83.0	79.6	75.6	71.6	67.6	77.8	8.8	76.4	73.5	70.2	66.9	63.7
5625	72	99.3	8.2	17.4	13.6	9.8	-	-	97.7	9.2	-	-	-	-	-
	67	96.0	8.0	39.3	35.5	31.8	28.0	-	91.8	8.8	31.7	28.3	25.0	21.6	-
	62	92.2	7.5	66.2	62.4	58.7	54.9	51.1	86.6	8.3	69.4	66.0	62.6	59.3	55.9
	57	85.1	8.4	69.3	65.9	62.1	58.4	54.6	81.2	9.0	72.7	70.3	66.9	63.6	60.2
6250	72	101.8	8.6	14.3	10.8	7.3	-	-	101.9	9.5	-	-	-	-	-
	67	98.4	8.4	31.7	28.1	24.6	21.1	-	95.7	9.1	29.8	26.3	22.8	19.4	-
	62	94.6	7.9	53.0	49.4	45.9	42.4	38.8	90.3	8.6	68.5	65.0	61.6	58.1	54.6
	57	87.2	8.8	55.7	52.2	48.7	45.1	41.6	84.7	9.3	68.9	67.1	63.7	60.2	56.8

ZR150 (12.5 Ton) Reheat (Continued)

Air on Evaporator Coil		Temperature of Air on Condenser Coil													
		Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F)					Total Capacity[1] (MBh)	Total Input (kW)[2]	Sensible Capacity (MBh) Return Dry Bulb (°F)				
CFM	WB (°F)			85	80	75	70	65			85	80	75	70	65
		75°F							85°F						
3125	72	83.6	9.7	-	-	-	-	-	83.0	10.2	-	-	-	-	-
	67	76.2	9.2	11.5	10.1	8.7	7.3	-	73.4	9.4	12.6	11.4	10.1	8.8	-
	62	70.5	8.7	34.8	33.4	32.0	30.6	29.2	66.4	8.9	44.7	43.4	42.1	40.9	39.6
3750	72	85.8	9.9	-	-	-	-	-	84.3	10.5	-	-	-	-	-
	67	78.2	9.3	14.5	12.7	10.9	9.1	-	74.4	9.7	10.8	9.3	7.9	6.4	-
	62	72.3	8.8	43.6	41.8	40.0	38.2	36.4	67.3	9.3	47.1	45.6	44.2	42.7	41.3
	57	69.0	9.3	49.8	48.1	46.3	44.5	42.7	65.5	9.7	55.5	54.1	52.7	51.2	49.8
4375	72	88.0	10.0	-	-	-	-	-	85.5	10.9	-	-	-	-	-
	67	80.2	9.4	17.4	15.2	13.1	10.9	-	75.5	10.1	8.9	7.2	5.6	4.0	-
	62	74.2	8.9	52.3	50.2	48.0	45.8	43.7	68.2	9.6	49.5	47.9	46.2	44.6	43.0
	57	70.8	9.5	59.9	57.7	55.5	53.4	51.2	66.4	10.0	59.4	57.6	56.0	54.4	52.8
5000	72	90.1	10.1	-	-	-	-	-	86.8	11.3	-	-	-	-	-
	67	82.2	9.5	20.3	17.8	15.2	12.7	-	76.5	10.5	7.0	5.2	3.4	1.6	-
	62	76.0	9.0	61.1	58.5	56.0	53.5	50.9	69.1	10.0	51.9	50.1	48.3	46.5	44.7
	57	72.6	9.6	69.9	67.3	64.8	62.3	59.7	67.4	10.4	63.3	61.2	59.4	57.6	55.8
5625	72	96.1	10.3	-	-	-	-	-	94.4	11.3	-	-	-	-	-
	67	87.6	9.6	24.1	21.1	18.1	15.2	-	83.4	10.5	16.4	13.9	11.3	8.8	-
	62	81.0	9.1	72.5	69.6	66.6	63.7	60.7	75.4	9.9	75.4	73.1	70.6	68.0	65.5
	57	77.3	9.7	76.0	74.7	71.8	68.8	65.8	73.4	10.4	73.4	73.4	73.4	73.4	71.5
6250	72	102.0	10.4	-	-	-	-	-	102.0	11.3	-	-	-	-	-
	67	93.0	9.8	27.8	24.5	21.1	17.7	-	90.3	10.4	25.9	22.6	19.3	16.0	-
	62	86.0	9.2	84.0	80.6	77.2	73.8	70.5	81.7	9.9	81.7	81.7	81.7	81.7	81.7
	57	82.1	9.8	82.1	82.1	78.7	75.3	71.9	79.5	10.3	79.5	79.5	79.5	79.5	79.5

1. These capacities are gross ratings. For net capacity, deduct air blower motor, MBh = 3.415 x kW. Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.
2. These ratings include the condenser fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

Drive Selection

1. Determine side or bottom supply duct Application.
2. Determine desired airflow.
3. Calculate or measure the amount of external static pressure.
   - Add or deduct any additional static resistance from “Additional Static Resistance Table”.
4. Using the operating point determined from steps 1, 2 & 3, locate this point on the appropriate supply air blower performance table. (Linear interpolation may be necessary.)
5. Noting the RPM and BHP from step 4, locate the appropriate motor and, or drive on the RPM selection table.
6. Review the BHP compared to the motor options available. Select the appropriate motor and, or drive.
7. Review the RPM range for the motor options available. Select the appropriate drive if multiple drives are available for the chosen motor.
8. Determine turns open to obtain the desired operation point.

Example

1. 2600 CFM
2. 1.6 iwg
3. Using the supply air blower performance table below, the following data point was located: 1268 RPM & 1.95 BHP.
4. Using the RPM selection table below, Size X and Model Y is found.
5. 1.95 BHP exceeds the maximum continuous BHP rating of the 1.5 HP motor. The 2 HP motor is required.
6. 1268 RPM is within the range of the 2 HP drives.
7. Using the 2 HP motor and drive, .5 turns open will achieve 1268 RPM.

Airflow Performance

Example Supply Air Blower Performance

Air Flow (CFM)	Available External Static Pressure - IWG																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	1.5 HP & Field Supplied Drive								Standard 1.5 HP & Drive						Alternate 2 HP & Drive					
2200	804	0.50	866	0.71	925	0.90	982	1.06	1038	1.21	1092	1.35	1147	1.48	1203	1.61	1259	1.73	1317	1.87
2400	835	0.66	897	0.87	956	1.06	1013	1.22	1069	1.37	1124	1.51	1178	1.64	1234	1.77	1290	1.90	1348	2.03
2600	869	0.84	931	1.05	990	1.24	1047	1.40	1103	1.55	1158	1.69	1212	1.82	1268	1.95	1324	2.07	1382	2.21
2800	906	1.03	968	1.25	1027	1.43	1084	1.60	1139	1.75	1194	1.89	1249	2.02	1304	2.14	1361	2.27	-	-

Example RPM Selection

Size (Tons)	Model	Airflow Option	HP	Max BHP	Motor Sheave	Blower Sheave	6 Turns Open	5 Turns Open	4 Turns Open	3 Turns Open	2 Turns Open	1 Turn Open	Fully Closed
X	Y	Std.	1.5	1.73	1VM50	AK74	N/A	897	945	991	1035	1079	1126
		H. Static	2	2.30	1VM50	AK64	N/A	1039	1094	1150	1207	1256	1308

Example Additional Static Resistance

Size (Tons)	Model	CFM	Cooling Only	Economizer	4” Pleated Filter	Electric Heat kW					
						3	6	9	15	20	24
X	Y	900	0.05	-0.05	0.01	0.00	0.00	0.00	0.01	0.01	0.01
		1000	0.05	-0.03	0.02	0.00	0.00	0.00	0.02	0.02	0.02
		1100	0.04	-0.02	0.03	0.01	0.01	0.01	0.02	0.02	0.02
		1200	0.04	0.00	0.04	0.01	0.01	0.01	0.02	0.02	0.02
		1300	0.03	0.01	0.05	0.01	0.01	0.01	0.03	0.03	0.03

Altitude and Temperature Correction for CFM, Static Pressure and Power.

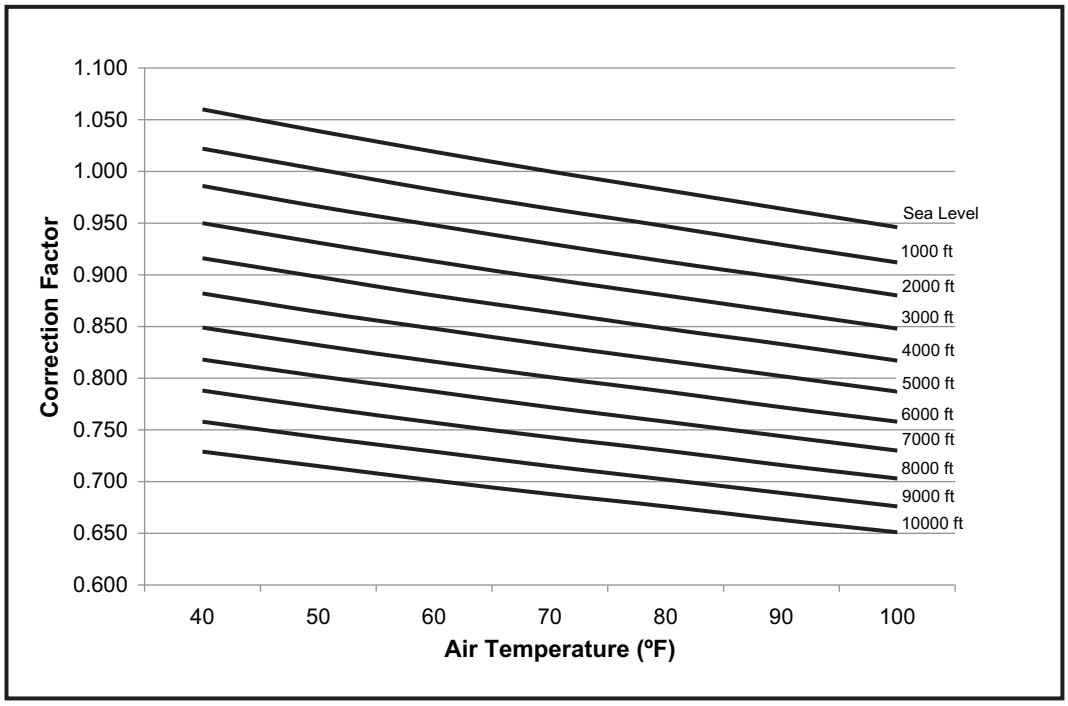
The information below should be used to assist in application of product when being applied at altitudes at or exceeding 1000 feet above sea level.

The air flow rates listed in the standard blower performance tables are based on standard air at sea level. As the altitude or temperature increases, the density of air decreases. In order to use the indoor blower tables for high altitude applications, certain corrections are necessary.

A centrifugal fan is a "constant volume" device. This means that, if the rpm remains constant, the CFM delivered is the same regardless of the density of the air. However, since the air at high altitude is less dense, less static pressure will be generated and less power will be required than a similar application at sea level. Air density correction factors are shown in Table **Altitude/ Temperature Correction Factors** and following Figure.

Altitude/Temperature Correction Factors

Air Temp.	Altitude (Ft.)										
	0	1000	2000	3000	4000	5000	6000	7000	8000	9000	10000
40	1.060	1.022	0.986	0.950	0.916	0.882	0.849	0.818	0.788	0.758	0.729
50	1.039	1.002	0.966	0.931	0.898	0.864	0.832	0.802	0.772	0.743	0.715
60	1.019	0.982	0.948	0.913	0.880	0.848	0.816	0.787	0.757	0.729	0.701
70	1.000	0.964	0.930	0.896	0.864	0.832	0.801	0.772	0.743	0.715	0.688
80	0.982	0.947	0.913	0.880	0.848	0.817	0.787	0.758	0.730	0.702	0.676
90	0.964	0.929	0.897	0.864	0.833	0.802	0.772	0.744	0.716	0.689	0.663
100	0.946	0.912	0.880	0.848	0.817	0.787	0.758	0.730	0.703	0.676	0.651



The examples below will assist in determining the airflow performance of the product at altitude.

Example 1: What are the corrected CFM, static pressure, and BHP at an elevation of 5,000 ft. if the blower performance data is 6,000 CFM, 1.5 IWC and 4.0 BHP?

Solution: At an elevation of 5,000 ft. the indoor blower will still deliver 6,000 CFM if the rpm is unchanged. However, **Airflow Performance Table** must be used to determine the static pressure and BHP. Since no temperature data is given, we will assume an air temperature of 70°F. **Altitude/Temperature Correction Factors Table** shows the correction factor to be 0.832.

Corrected static pressure = 1.5 x 0.832 = 1.248 IWC
Corrected BHP = 4.0 x 0.832 = 3.328

Example 2: A system, located at 5,000 feet of elevation, is to deliver 6,000 CFM at a static pressure of 1.5". Use the unit blower tables to select the blower speed and the BHP requirement.

Solution: As in the example above, no temperature information is given so 70°F is assumed.

The 1.5" static pressure given is at an elevation of 5,000 ft. The first step is to convert this static pressure to equivalent sea level conditions.

Sea level static pressure = 1.5 / .832 = 1.80"

Enter the blower table at 6000 CFM and static pressure of 1.8". The rpm listed will be the same rpm needed at 5,000 ft.

Suppose that the corresponding BHP listed in the table is 3.2. This value must be corrected for elevation.

BHP at 5,000 ft. = 3.2 x .832 = 2.66

Indoor Blower Specifications

Size (Tons)	Model	Airflow Option	Motor					Motor Sheave			Blower Sheave			Belt
			HP	RPM	Eff.	SF	Frame	Datum Dia. (in.)	Bore (in.)	Model	Datum Dia. (in.)	Bore (in.)	Model	
037 (3)	ZH	Std.	1-1/2	1725	0.8	1.15	56	2.0 - 3.0	7/8	1VM34	6.5	1	AK69	A47
		H. Static	1-1/2	1725	0.8	1.15	56	3.0 - 4.0	7/8	1VL44	6.5	1	AK69	A47
049 (4)	ZH	Std.	1-1/2	1725	0.8	1.15	56	2.0 - 3.0	7/8	1VM34	5.2	1	AK56	A47
		H. Static	1-1/2	1725	0.8	1.15	56	3.0 - 4.0	7/8	1VL44	5.2	1	AK56	A47
061 (5)	ZH	Std.	1-1/2	1725	0.8	1.15	56	2.6 - 3.6	7/8	1VL40	5.7	1	AK61	A47
		H. Static	2	1725	0.8	1.15	56	4.2 - 5.2	7/8	1VP56	7.0	1	AK74	A51
078 (6.5)	ZH	Std.	1-1/2	1725	0.8	1.15	56	3.4 - 4.4	7/8	1VM50	7.0	1	AK74	A49
		H. Static	2	1725	0.8	1.15	56	3.4 - 4.4	7/8	1VM50	6.0	1	AK64	A49
090 (7.5)	ZH	Std.	1-1/2	1725	0.8	1.15	56	3.4 - 4.4	7/8	1VM50	7.0	1	AK74	A49
		H. Static	3	1725	0.8	1.15	56	3.4 - 4.4	7/8	1VM50	5.7	1	AK61	A49
102 (8.5)	ZH	Std.	2	1725	0.8	1.15	56	3.4 - 4.4	7/8	1VM50	9.0	1	AK94	A56
		H. Static	3	1725	0.8	1.15	56	3.4 - 4.4	7/8	1VM50	7.0	1	AK74	A54
120 (10)	ZH	Std.	2	1725	0.8	1.15	56	3.4 - 4.4	7/8	1VM50	8.0	1	AK84	A56
		H. Static	3	1725	0.8	1.15	56	3.4 - 4.4	7/8	1VM50	7.0	1	AK74	A54
150 (12.5)	ZH	Std.	3	1725	0.8	1.15	56	3.4 - 4.4	7/8	1VM50	7.0	1	AK74	A54
		H. Static	5	1725	0.87	1.15	184T	4.3 - 5.3	1-1/8	1VP56	6.7	1	BK77	BX55
037 (3)	ZJ	Std.	1-1/2	1725	0.8	1.15	56	2.0 - 3.0	7/8	1VM34	6.5	1	AK69	A47
		H. Static	1-1/2	1725	0.8	1.15	56	3.0 - 4.0	7/8	1VL44	6.5	1	AK69	A47
049 (4)	ZJ	Std.	1-1/2	1725	0.8	1.15	56	2.0 - 3.0	7/8	1VM34	5.2	1	AK56	A47
		H. Static	1-1/2	1725	0.8	1.15	56	3.0 - 4.0	7/8	1VL44	5.2	1	AK56	A47
061 (5)	ZJ	Std.	1-1/2	1725	0.8	1.15	56	2.6 - 3.6	7/8	1VL40	5.7	1	AK61	A47
		H. Static	2	1725	0.8	1.15	56	4.2 - 5.2	7/8	1VP56	7.0	1	AK74	A51
078 (6.5)	ZJ	Std.	1-1/2	1725	0.8	1.15	56	2.6 - 3.6	7/8	1VL40	7.0	1	AK74	A53
		H. Static	2	1725	0.8	1.15	56	3.6 - 4.6	7/8	1VM50	7.0	1	AK74	A54
090 (7.5)	ZJ	Std.	1-1/2	1725	0.8	1.15	56	2.6 - 3.6	7/8	1VL40	6.5	1	AK69	A52
		H. Static	3	1725	0.8	1.15	56	3.6 - 4.6	7/8	1VM50	6.5	1	AK69	A54
102 (8.5)	ZJ	Std.	2	1725	0.8	1.15	56	3.4 - 4.4	7/8	1VM50	8.5	1	AK89	A56
		H. Static	3	1725	0.8	1.15	56	3.4 - 4.4	7/8	1VM50	7.0	1	AK74	A54
120 (10)	ZJ	Std.	2	1725	0.8	1.15	56	3.4 - 4.4	7/8	1VM50	8.0	1	AK84	A56
		H. Static	3	1725	0.8	1.15	56	3.4 - 4.4	7/8	1VM50	7.0	1	AK74	A54
150 (12.5)	ZJ	Std.	3	1725	0.8	1.15	56	3.4 - 4.4	7/8	1VM50	7.0	1	AK74	A54
		H. Static	5	1725	0.87	1.15	184T	4.3 - 5.3	1-1/8	1VP56	6.7	1	BK77	BX55
037 (3)	ZR	Std.	1-1/2	1725	0.8	1.15	56	1.2 - 2.9	7/8	1VP34	5.7	1	AK61	A47
		H. Static	1-1/2	1725	0.8	1.15	56	3.0 - 4.0	7/8	1VL44	5.5	1	AK59	A47
049 (4)	ZR	Std.	1-1/2	1725	0.8	1.15	56	1.2 - 2.9	7/8	1VP34	5.7	1	AK61	A47
		H. Static	1-1/2	1725	0.8	1.15	56	3.0 - 4.0	7/8	1VL44	5.5	1	AK59	A47
061 (5)	ZR	Std.	1-1/2	1725	0.8	1.15	56	1.2 - 2.9	7/8	1VP34	5.7	1	AK61	A47
		H. Static	2	1725	0.8	1.15	56	3.0 - 4.0	7/8	1VL44	5.5	1	AK59	A47
078 (6.5)	ZR	Std.	1-1/2	1725	0.8	1.15	56	3.4 - 4.4	7/8	1VM50	7.0	1	AK74	A49
		H. Static	2	1725	0.8	1.15	56	3.4 - 4.4	7/8	1VM50	6.0	1	AK64	A49
090 (7.5)	ZR	Std.	1-1/2	1725	0.8	1.15	56	3.4 - 4.4	7/8	1VM50	7.0	1	AK74	A49
		H. Static	3	1725	0.8	1.15	56	3.4 - 4.4	7/8	1VM50	5.7	1	AK61	A49
102 (8.5)	ZR	Std.	2	1725	0.8	1.15	56	3.4 - 4.4	7/8	1VM50	8.5	1	AK89	A56
		H. Static	3	1725	0.8	1.15	56	3.4 - 4.4	7/8	1VM50	7.0	1	AK74	A54
120 (10)	ZR	Std.	2	1725	0.8	1.15	56	3.4 - 4.4	7/8	1VM50	8.0	1	AK84	A56
		H. Static	3	1725	0.8	1.15	56	3.4 - 4.4	7/8	1VM50	7.0	1	AK74	A54
150 (12.5)	ZR	Std.	3	1725	0.8	1.15	56	3.4 - 4.4	7/8	1VM50	7.0	1	AK74	A54
		H. Static	5	1725	0.87	1.15	184T	4.3 - 5.3	1-1/8	1VP56	6.7	1	BK77	BX55

Power Exhaust Specifications

Model	Voltage	Motor			Motor			Fuse Size	CFM @ 0.1 ESP
		HP	RPM[1]	QTY	LRA	FLA	MCA		
2PE04703225	208/230-1-60	3/4	1075	1	7.8	5	6.3	10	3800
2PE04703246	460-1-60	3/4	1075	1	3.4	2.2	2.8	5	3800
2PE04703258	575-1-60	3/4	1050	1	2.9	1.5	1.9	4	3800

1. Motors are multi-tapped and factory wired for high speed.

RPM Selection

Size (Tons)	Model	Airflow Option	HP	Max BHP	Motor Sheave	Blower Sheave	6 Turns Open	5 Turns Open	4 Turns Open	3 Turns Open	2 Turns Open	1 Turn Open	Fully Closed
037 (3)	ZH	Std.	1.5	1.5	1VM34	AK69	N/A	531	584	637	690	743	796
		H. Static	1.5	1.5	1VL44	AK69	N/A	796	849	902	955	1008	1062
049 (4)	ZH	Std.	1.5	1.5	1VM34	AK56	N/A	663	730	796	863	929	995
		H. Static	1.5	1.5	1VL44	AK56	N/A	995	1062	1128	1194	1261	1327
061 (5)	ZH	Std.	1.5	1.5	1VL40	AK61	N/A	787	847	908	968	1029	1089
		H. Static	2	2	1VP56	AK74	N/A	1035	1084	1134	1183	1232	1281
078 (6.5)	ZH	Std.	1.5	1.73	1VM50	AK74	N/A	887	936	986	1035	1084	1134
		H. Static	2	2.30	1VM50	AK64	N/A	1039	1094	1150	1207	1256	1308
090 (7.5)	ZH	Std.	1.5	1.73	1VM50	AK74	N/A	887	936	986	1035	1084	1134
		H. Static	3	3.45	1VM50	AK61	N/A	1088	1147	1205	1265	1312	1365
102 (8.5)	ZH	Std.	2	2.30	1VM50	AK94	N/A	690	728	767	805	843	882
		H. Static	3	3.45	1VM50	AK74	N/A	887	936	986	1035	1084	1134
120 (10)	ZH	Std.	2	2.30	1VM50	AK84	N/A	776	819	863	906	949	992
		H. Static	3	3.45	1VM50	AK74	N/A	887	936	986	1035	1084	1134
150 (12.5)	ZH	Std.	3	3.45	1VM50	AK74	N/A	887	936	986	1035	1084	1134
		H. Static	5	5.75	1VP56	BK77	1052	1095	1136	1175	1216	1272	N/A
037 (3)	ZJ	Std.	1.5	1.5	1VM34	AK69	N/A	531	584	637	690	743	796
		H. Static	1.5	1.5	1VL44	AK69	N/A	796	849	902	955	1008	1062
049 (4)	ZJ	Std.	1.5	1.5	1VM34	AK56	N/A	663	730	796	863	929	995
		H. Static	1.5	1.5	1VL44	AK56	N/A	995	1062	1128	1194	1261	1327
061 (5)	ZJ	Std.	1.5	1.5	1VL40	AK61	N/A	787	847	908	968	1029	1089
		H. Static	2	2	1VP56	AK74	N/A	1035	1084	1134	1183	1232	1281
078 (6.5)	ZJ	Std.	1.5	1.73	1VL40	AK74	N/A	641	690	739	789	838	887
		H. Static	2	2.30	1VM50	AK74	N/A	887	936	986	1035	1084	1134
090 (7.5)	ZJ	Std.	1.5	1.73	1VL40	AK69	N/A	690	743	796	849	902	955
		H. Static	3	3.45	1VM50	AK69	N/A	955	1008	1062	1115	1168	1221
102 (8.5)	ZJ	Std.	2	2.30	1VM50	AK89	N/A	731	771	812	852	893	934
		H. Static	3	3.45	1VM50	AK74	N/A	887	936	986	1035	1084	1134
120 (10)	ZJ	Std.	2	2.30	1VM50	AK84	N/A	776	819	863	906	949	992
		H. Static	3	3.45	1VM50	AK74	N/A	887	936	986	1035	1084	1134
150 (12.5)	ZJ	Std.	3	3.45	1VM50	AK74	N/A	887	936	986	1035	1084	1134
		H. Static	5	5.75	1VP56	BK77	1052	1095	1136	1175	1216	1272	N/A
037 (3.0)	ZR	Std.	1.5	1.5	1VP34	AK61	N/A	575	636	696	757	817	878
		H. Static	1.5	1.5	1VL44	AK59	N/A	878	941	1004	1066	1129	1192
049 (4.0)	ZR	Std.	1.5	1.5	1VP34	AK61	N/A	575	636	696	757	817	878
		H. Static	1.5	1.5	1VL44	AK59	N/A	878	941	1004	1066	1129	1192
061 (5.0)	ZR	Std.	1.5	1.5	1VP34	AK61	N/A	575	636	696	757	817	878
		H. Static	2	2	1VL44	AK59	N/A	878	941	1004	1066	1129	1192
078 (6.5)	ZR	Std.	1.5	1.73	1VM50	AK74	N/A	897	945	991	1035	1079	1126
		H. Static	2	2.30	1VM50	AK64	N/A	1039	1094	1150	1207	1256	1308
090 (7.5)	ZR	Std.	1.5	1.73	1VM50	AK74	N/A	897	945	991	1035	1079	1126
		H. Static	3	3.45	1VM50	AK61	N/A	1088	1147	1205	1265	1312	1365
102 (8.5)	ZR	Std.	2	2.30	1VM50	AK89	N/A	735	775	815	851	889	930
		H. Static	3	3.45	1VM50	AK74	N/A	880	928	972	1016	1067	1110
120 (10)	ZR	Std.	2	2.30	1VM50	AK84	N/A	785	821	858	901	940	980
		H. Static	3	3.45	1VM50	AK74	N/A	880	928	972	1016	1067	1110
150 (12.5)	ZR	Std.	3	3.45	1VM50	AK74	N/A	880	928	972	1016	1067	1110
		H. Static	5	5.75	1VP56	BK77	1052	1095	1136	1175	1216	1272	N/A

Additional Static Resistance - ZH037 thru 061

Size (Tons)	Model	CFM	Cooling Only[1]	Economizer[2 3]	4" Pleated Filter[2]	Electric Heat kW[2]					
						3	6	9	15	20	24
037 (3) 049 (4)	ZH	900	0.05	-0.05	0.01	0.00	0.00	0.00	0.01	0.01	0.01
		1000	0.05	-0.03	0.02	0.00	0.00	0.00	0.02	0.02	0.02
		1100	0.04	-0.02	0.03	0.01	0.01	0.01	0.02	0.02	0.02
		1200	0.04	0.00	0.04	0.01	0.01	0.01	0.02	0.02	0.02
		1300	0.03	0.01	0.05	0.01	0.01	0.01	0.03	0.03	0.03
		1400	0.03	0.03	0.07	0.02	0.02	0.02	0.03	0.03	0.03
		1500	0.03	0.04	0.08	0.02	0.02	0.02	0.04	0.04	0.04
		1600	0.02	0.06	0.09	0.02	0.02	0.02	0.04	0.04	0.04
		1700	0.02	0.07	0.10	0.03	0.03	0.03	0.05	0.05	0.05
		1800	0.01	0.08	0.11	0.03	0.03	0.03	0.05	0.05	0.05
		1900	0.01	0.10	0.13	0.04	0.04	0.04	0.06	0.06	0.06
		2000	0.00	0.11	0.14	0.04	0.04	0.04	0.07	0.07	0.07
061 (5)	ZH	1500	-0.01	0.13	0.07	0.02	0.02	0.02	0.04	0.04	0.04
		1600	-0.01	0.14	0.08	0.02	0.02	0.02	0.04	0.04	0.04
		1700	-0.01	0.15	0.08	0.03	0.03	0.03	0.05	0.05	0.05
		1800	-0.02	0.16	0.09	0.03	0.03	0.03	0.05	0.05	0.05
		1900	-0.02	0.17	0.10	0.04	0.04	0.04	0.06	0.06	0.06
		2000	-0.02	0.18	0.10	0.04	0.04	0.04	0.07	0.07	0.07
		2100	-0.03	0.19	0.11	0.05	0.05	0.05	0.07	0.07	0.07
		2200	-0.03	0.20	0.12	0.06	0.06	0.06	0.08	0.08	0.08
		2300	-0.04	0.21	0.12	0.06	0.06	0.06	0.09	0.09	0.09
		2400	-0.04	0.22	0.13	0.07	0.07	0.07	0.10	0.10	0.10
		2500	-0.05	0.23	0.14	0.08	0.08	0.08	0.11	0.11	0.11

1. Add these values to the available static resistance in the respective Blower Performance Tables.
2. Deduct these values from the available external static pressure shown in the respective Blower Performance Tables.
3. The pressure drop through the economizer is greater for 100% outdoor air than for 100% return air. If the resistance of the return air duct is less than 0.25 IWG, the unit will deliver less CFM during full economizer operation.

Additional Static Resistance - ZJ/ZR037 thru 061

Size (Tons)	Model	CFM	Cooling Only[1]	Economizer[2 3]	4" Pleated Filter[2]	Electric Heat kW[2]					
						3	6	9	15	20	24
037 (3)	ZJ/ZR	900	0.05	-0.05	0.01	0.00	0.00	0.00	0.01	0.01	0.01
		1000	0.05	-0.03	0.02	0.00	0.00	0.00	0.02	0.02	0.02
		1100	0.04	-0.02	0.03	0.01	0.01	0.01	0.02	0.02	0.02
		1200	0.04	0.00	0.04	0.01	0.01	0.01	0.02	0.02	0.02
		1300	0.03	0.01	0.05	0.01	0.01	0.01	0.03	0.03	0.03
		1400	0.03	0.03	0.07	0.02	0.02	0.02	0.03	0.03	0.03
		1500	0.03	0.04	0.08	0.02	0.02	0.02	0.04	0.04	0.04
049 (4) 061 (5)	ZJ/ZR	1200	-0.01	0.10	0.05	0.01	0.01	0.01	0.02	0.02	0.02
		1300	-0.01	0.11	0.06	0.01	0.01	0.01	0.03	0.03	0.03
		1400	-0.01	0.12	0.06	0.02	0.02	0.02	0.03	0.03	0.03
		1500	-0.01	0.13	0.07	0.02	0.02	0.02	0.04	0.04	0.04
		1600	-0.01	0.14	0.08	0.02	0.02	0.02	0.04	0.04	0.04
		1700	-0.01	0.15	0.08	0.03	0.03	0.03	0.05	0.05	0.05
		1800	-0.02	0.16	0.09	0.03	0.03	0.03	0.05	0.05	0.05
		1900	-0.02	0.17	0.10	0.04	0.04	0.04	0.06	0.06	0.06
		2000	-0.02	0.18	0.10	0.04	0.04	0.04	0.07	0.07	0.07
		2100	-0.03	0.19	0.11	0.05	0.05	0.05	0.07	0.07	0.07
		2200	-0.03	0.20	0.12	0.06	0.06	0.06	0.08	0.08	0.08
		2300	-0.04	0.21	0.12	0.06	0.06	0.06	0.09	0.09	0.09
		2400	-0.04	0.22	0.13	0.07	0.07	0.07	0.10	0.10	0.10
		2500	-0.05	0.23	0.14	0.08	0.08	0.08	0.11	0.11	0.11

1. Add these values to the available static resistance in the respective Blower Performance Tables.
2. Deduct these values from the available external static pressure shown in the respective Blower Performance Tables.
3. The pressure drop through the economizer is greater for 100% outdoor air than for 100% return air. If the resistance of the return air duct is less than 0.25 IWG, the unit will deliver less CFM during full economizer operation.

Additional Static Resistance - ZH/ZR078 thru 150

Size (Tons)	Model	CFM	Cooling Only[1]	Economizer[2 3]	4" Filter[2]	Electric Heat kW[2]				
						09	18	24	36	54
078 (6.5) 090 (7.5)	ZHZR	1900	0.00	0.07	0.10	0.05	0.06	0.07	0.08	0.10
		2100	-0.01	0.09	0.11	0.06	0.07	0.08	0.09	0.11
		2300	-0.01	0.11	0.12	0.07	0.08	0.09	0.10	0.13
		2500	-0.02	0.13	0.14	0.08	0.09	0.10	0.11	0.14
		2700	-0.03	0.16	0.15	0.09	0.10	0.12	0.13	0.16
		2900	-0.04	0.18	0.16	0.10	0.11	0.13	0.14	0.18
		3100	-0.05	0.20	0.18	0.12	0.13	0.15	0.16	0.20
		3300	-0.06	0.22	0.19	0.13	0.14	0.17	0.18	0.22
		3500	-0.07	0.24	0.20	0.15	0.16	0.19	0.20	0.24
		3700	-0.08	0.27	0.21	0.17	0.18	0.21	0.22	0.26
		3900	-0.09	0.29	0.23	0.19	0.20	0.23	0.24	0.28
		4100	-0.09	0.31	0.24	0.21	0.22	0.25	0.26	0.31
		4300	-0.10	0.30	0.25	0.23	0.24	0.28	0.29	0.34
		4500	-0.11	0.35	0.26	0.25	0.26	0.30	0.31	0.37
102 (8.5) 120 (10) 150 (12.5)	ZH/ZR	1900	0.06	0.02	0.12	0.05	0.06	0.07	0.08	0.10
		2100	0.07	0.02	0.13	0.06	0.07	0.08	0.09	0.11
		2300	0.08	0.04	0.14	0.07	0.08	0.09	0.10	0.13
		2500	0.09	0.11	0.16	0.08	0.09	0.10	0.11	0.14
		2700	0.11	0.18	0.17	0.09	0.10	0.12	0.13	0.16
		2900	0.12	0.25	0.19	0.10	0.11	0.13	0.14	0.18
		3100	0.14	0.31	0.20	0.12	0.13	0.15	0.16	0.20
		3300	0.16	0.37	0.22	0.13	0.14	0.17	0.18	0.22
		3500	0.18	0.43	0.25	0.15	0.16	0.19	0.20	0.24
		3700	0.20	0.49	0.27	0.17	0.18	0.21	0.22	0.26
		3900	0.23	0.54	0.29	0.19	0.20	0.23	0.24	0.28
		4100	0.25	0.58	0.32	0.21	0.22	0.25	0.26	0.31
		4300	0.28	0.65	0.35	0.23	0.24	0.28	0.29	0.34
		4500	0.30	0.69	0.38	0.25	0.26	0.30	0.31	0.37
		4700	0.33	0.74	0.41	0.28	0.29	0.33	0.34	0.40
		4900	0.36	0.78	0.44	0.30	0.31	0.35	0.37	0.43
		5100	0.39	0.82	0.47	0.33	0.34	0.38	0.40	0.46
		5300	0.42	0.86	0.51	0.35	0.37	0.41	0.43	0.49
		5500	0.45	0.89	0.56	0.38	0.40	0.44	0.46	0.53
		5700	0.48	0.93	0.58	0.41	0.43	0.47	0.49	0.56
		5900	0.52	0.96	0.62	0.44	0.46	0.50	0.53	0.59
		6100	0.56	0.98	0.67	0.47	0.49	0.53	0.56	0.62
		6300	0.60	1.01	0.71	0.50	0.53	0.56	0.59	0.65

1. Add these values to the available static resistance in the respective Blower Performance Tables.
2. Deduct these values from the available external static pressure shown in the respective Blower Performance Tables.
3. The pressure drop through the economizer is greater for 100% outdoor air than for 100% return air. If the resistance of the return air duct is less than 0.25 IWG, the unit will deliver less CFM during full economizer operation.

Additional Static Resistance - ZJ078-150

Size (Tons)	Model	CFM	Cooling Only[1]	Economizer[2,3]	4" Filter[2]	Electric Heat kW[2]				
						9	18	24	36	54
078 (6.5) 090 (7.5) 102 (8.5) 120 (10) 150 (12.5)	ZJ	1900	0.06	0.02	0.12	0.05	0.06	0.07	0.08	0.10
		2100	0.07	0.02	0.13	0.06	0.07	0.08	0.09	0.11
		2300	0.08	0.04	0.14	0.07	0.08	0.09	0.10	0.13
		2500	0.09	0.11	0.16	0.08	0.09	0.10	0.11	0.14
		2700	0.11	0.18	0.17	0.09	0.10	0.12	0.13	0.16
		2900	0.12	0.25	0.19	0.10	0.11	0.13	0.14	0.18
		3100	0.14	0.31	0.20	0.12	0.13	0.15	0.16	0.20
		3300	0.16	0.37	0.22	0.13	0.14	0.17	0.18	0.22
		3500	0.18	0.43	0.26	0.15	0.16	0.19	0.20	0.24
		3700	0.20	0.49	0.27	0.17	0.18	0.21	0.22	0.26
		3900	0.23	0.54	0.29	0.19	0.20	0.23	0.24	0.28
		4100	0.25	0.58	0.32	0.21	0.22	0.25	0.26	0.31
		4300	0.28	0.65	0.35	0.23	0.24	0.28	0.29	0.34
		4500	0.30	0.69	0.38	0.25	0.26	0.30	0.31	0.37
		4700	0.33	0.74	0.41	0.28	0.29	0.33	0.34	0.40
		4900	0.36	0.78	0.44	0.30	0.31	0.35	0.37	0.43
		5100	0.39	0.82	0.47	0.33	0.34	0.38	0.40	0.46
		5300	0.42	0.86	0.51	0.35	0.37	0.41	0.43	0.49
		5500	0.45	0.89	0.55	0.38	0.40	0.44	0.46	0.53
		5700	0.48	0.93	0.58	0.41	0.43	0.47	0.49	0.56
		5900	0.52	0.96	0.62	0.44	0.46	0.50	0.53	0.59
		6100	0.56	0.98	0.67	0.47	0.49	0.53	0.56	0.62
		6300	0.60	1.01	0.71	0.50	0.53	0.56	0.59	0.65

1. Add these values to the available static resistance in the respective Blower Performance Tables.
2. Deduct these values from the available external static pressure shown in the respective Blower Performance Tables.
3. The pressure drop through the economizer is greater for 100% outdoor air than for 100% return air. If the resistance of the return air duct is less than 0.25 IWG, the unit will deliver less CFM during full economizer operation.

Gas Heat Minimum Supply Air

Size (Tons)	Model	Heat Size	Supply Air (CFM)	
			Heating	
			Min	Max
037 (3)	ZH/ZJ/ZR	H06 / N06	890	2220
		H08 / N08	915	2370
		H12 / N12	1130	1800
049 (4)	ZH/ZJ/ZR	H06 / N06	890	2220
		H08 / N08	915	2370
		H12 / N12	1290	2250
061 (5)	ZH/ZJ/ZR	H08 / N08	915	2370
		H12 / N12	1380	2570
		H16 / N16	1580	2630
078 (6.5)	ZH/ZJ/ZR	N12	1950	3250
		N18	1950	3250
090 (7.5)	ZH/ZJ/ZR	N12	2250	3750
		N18	2250	3750
102 (8.5)	ZH/ZJ/ZR	N12	2550	4250
		N18	2550	4250
120 (10)	ZH/ZJ/ZR	N18	3000	5000
		N24	3000	5000
150 (12.5)	ZH/ZJ/ZR	N18	3750	6250
		N24	3750	6250

Electric Heat Minimum Supply Air

3 thru 5 Tons

Size (Tons)	Model	Voltage	Minimum Supply Air (CFM)					
			Heater kW					
			3	6	9	15	20	24
037 (3)	ZH/ZJ/ZR	208/230-3-60	960	960	1020	1020	-	-
		460-3-60	980	960	960	960	-	-
		600-3-60	-	-	960	960	-	-
049 (4)	ZH/ZJ/ZR	208/230-3-60	-	1280	1420	1420	1420	-
		460-3-60	-	1400	1400	1400	1400	-
		600-3-60	-	-	1400	1400	1400	-
061 (5)	ZH/ZJ/ZR	208/230-3-60	-	1600	1600	1600	1600	1600
		460-3-60	-	1600	1600	1600	1600	1600
		600-3-60	-	-	1600	1600	1600	1600

6-1/2 thru 12-1/5 Tons

Size (Tons)	Model	Voltage	Minimum Supply Air (CFM)				
			Heater kW				
			9	18	24	36	54
078 (6.5)	ZH/ZJ/ZR	208/230-3-60	1950	1950	1950	1950	-
		460-3-60	1950	1950	1950	1950	-
		600-3-60	1950	1950	1950	1950	-
090 (7.5)	ZH/ZJ/ZR	208/230-3-60	2250	2250	2250	2250	-
		460-3-60	2250	2250	2250	2250	-
		600-3-60	2250	2250	2250	2250	-
102 (8.5)	ZH/ZJ/ZR	208/230-3-60	2550	2550	2550	2550	-
		460-3-60	2550	2550	2550	2550	-
		600-3-60	2550	2550	2550	2550	-
120 (10)	ZH/ZJ/ZR	208/230-3-60	-	3000	3000	3000	3500
		460-3-60	-	3000	3000	3000	3000
		600-3-60	-	3000	3000	3000	3500
150 (12.5)	ZH/ZJ/ZR	208/230-3-60	-	3750	3750	3750	4000
		460-3-60	-	3750	3750	3750	3750
		600-3-60	-	3750	3750	3750	3750

Airflow Performance

ZH037-150 Side Duct Application

ZH037 (3.0 Ton) Side Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	Standard 1.5 HP & Drive								Hi Static 1.5 HP & Drive											
900	560	0.29	628	0.35	695	0.42	760	0.51	823	0.61	886	0.72	949	0.82	1011	0.92	1073	1.01	1136	1.09
1000	582	0.29	650	0.34	716	0.42	781	0.51	845	0.61	908	0.71	970	0.82	1032	0.92	1095	1.01	1158	1.08
1100	601	0.30	670	0.35	736	0.43	801	0.52	864	0.62	927	0.72	990	0.83	1052	0.93	1114	1.02	1177	1.09
1200	620	0.32	688	0.37	754	0.45	819	0.54	883	0.64	946	0.74	1008	0.85	1070	0.95	1133	1.04	1196	1.11
1300	638	0.35	706	0.40	772	0.48	837	0.57	901	0.67	964	0.77	1026	0.88	1088	0.98	1151	1.06	1214	1.14
1400	655	0.39	724	0.44	790	0.51	855	0.60	918	0.70	981	0.81	1044	0.91	1106	1.01	1168	1.10	1231	1.18
1500	673	0.43	741	0.48	807	0.56	872	0.65	936	0.75	999	0.85	1061	0.96	1124	1.06	1186	1.15	1249	1.22
															1.5 HP & Field Supplied Drive					

1. Blower performance includes gas heat exchangers and 2" filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.

ZH049 (4.0 Ton) Side Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	FS[4]		Standard 1.5 HP & Drive										Hi Static 1.5 HP & Drive							
1200	620	0.32	688	0.37	754	0.45	819	0.54	883	0.64	946	0.74	1008	0.85	1070	0.95	1133	1.04	1196	1.11
1300	638	0.35	706	0.40	772	0.48	837	0.57	901	0.67	964	0.77	1026	0.88	1088	0.98	1151	1.06	1214	1.14
1400	655	0.39	724	0.44	790	0.51	855	0.60	918	0.70	981	0.81	1044	0.91	1106	1.01	1168	1.10	1231	1.18
1500	673	0.43	741	0.48	807	0.56	872	0.65	936	0.75	999	0.85	1061	0.96	1124	1.06	1186	1.15	1249	1.22
1600	691	0.48	759	0.54	825	0.61	890	0.70	954	0.80	1017	0.90	1079	1.01	1141	1.11	1204	1.20	1267	1.27
1700	709	0.54	777	0.59	843	0.67	908	0.76	972	0.86	1035	0.96	1097	1.07	1160	1.17	1222	1.26	1285	1.33
1800	728	0.60	796	0.66	862	0.73	927	0.82	991	0.92	1053	1.03	1116	1.13	1178	1.23	1241	1.32	1303	1.39
1900	747	0.67	815	0.73	881	0.80	946	0.89	1010	0.99	1073	1.09	1135	1.20	1197	1.30	1260	1.39	1323	1.46
2000	766	0.75	834	0.80	901	0.87	966	0.96	1029	1.06	1092	1.17	1155	1.27	1217	1.37	1279	1.46	-	-

1. Blower performance includes gas heat exchangers and 2" filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.
4. Field Supplied Drive.

ZH061 (5.0 Ton) Side Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	1.5 HP & Field Supplied Drive						Standard 1.5 HP & Drive										Hi Static 2 HP & Drive			
1500	659	0.35	719	0.46	780	0.57	843	0.67	905	0.77	964	0.87	1020	0.97	1071	1.07	1116	1.17	1154	1.28
1600	675	0.38	735	0.50	796	0.60	859	0.71	920	0.81	980	0.91	1036	1.01	1087	1.11	1132	1.21	1170	1.32
1700	691	0.42	751	0.54	812	0.64	875	0.75	936	0.85	996	0.95	1052	1.05	1103	1.15	1148	1.25	1186	1.36
1800	707	0.47	767	0.58	829	0.69	891	0.79	953	0.90	1012	0.99	1069	1.09	1120	1.20	1165	1.30	1202	1.41
1900	724	0.53	784	0.64	846	0.75	908	0.85	970	0.95	1029	1.05	1085	1.15	1137	1.25	1182	1.35	1219	1.46
2000	741	0.59	801	0.70	863	0.81	925	0.91	987	1.01	1047	1.11	1103	1.21	1154	1.31	1199	1.41	1236	1.52
2100	759	0.65	819	0.77	881	0.87	943	0.98	1005	1.08	1065	1.18	1121	1.28	1172	1.38	1217	1.48	1254	1.59
2200	778	0.73	838	0.84	900	0.95	962	1.05	1024	1.15	1083	1.25	1139	1.35	1191	1.45	1236	1.56	1273	1.66
2300	797	0.81	857	0.92	919	1.03	981	1.13	1043	1.23	1103	1.33	1159	1.43	1210	1.53	1255	1.64	1292	1.74
2400	817	0.90	877	1.01	939	1.12	1002	1.22	1063	1.32	1123	1.42	1179	1.52	1230	1.62	1275	1.73	1312	1.83
2500	838	1.00	898	1.11	960	1.22	1022	1.32	1084	1.42	1144	1.52	1200	1.62	1251	1.72	1296	1.82	1333	1.93
																		FS[4]		

1. Blower performance includes gas heat exchangers and 2" filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.
4. Field Supplied Drive.

ZH078 (6.5 Ton) Side Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	Field Supplied Drive						Standard 1.5 HP & Drive								Hi Static 2 HP & Drive					
1800	751	0.22	813	0.43	872	0.62	929	0.78	985	0.93	1040	1.07	1095	1.20	1150	1.33	1206	1.46	1265	1.59
2000	776	0.35	838	0.56	897	0.75	954	0.92	1010	1.07	1064	1.20	1119	1.33	1175	1.46	1231	1.59	1289	1.72
2200	804	0.50	866	0.71	925	0.90	982	1.06	1038	1.21	1092	1.35	1147	1.48	1203	1.61	1259	1.73	1317	1.87
2400	835	0.66	897	0.87	956	1.06	1013	1.22	1069	1.37	1124	1.51	1178	1.64	1234	1.77	1290	1.90	1348	2.03
2600	869	0.84	931	1.05	990	1.24	1047	1.40	1103	1.55	1158	1.69	1212	1.82	1268	1.95	1324	2.07	1382	2.21
2800	906	1.03	968	1.25	1027	1.43	1084	1.60	1139	1.75	1194	1.89	1249	2.02	1304	2.14	1361	2.27	-	-
3000	945	1.25	1007	1.46	1066	1.65	1123	1.81	1179	1.96	1234	2.10	1288	2.23	-	-	-	-	-	-
3200	987	1.48	1048	1.69	1107	1.88	1165	2.04	1220	2.19	-	-	-	-	-	-	-	-	-	-
3400	1030	1.73	1092	1.94	1151	2.12	1208	2.29	-	-	-	-	-	-	-	-	-	-	-	-
															2 HP & Field Supplied Drive					

1. Blower performance includes gas heat exchangers and 2” filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.

ZH090 (7.5 Ton) Side Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	Field Supplied Drive				Standard 1.5 HP & Drive										Hi Static 3 HP & Drive					
2000	776	0.35	838	0.56	897	0.75	954	0.92	1010	1.07	1064	1.20	1119	1.33	1175	1.46	1231	1.59	1289	1.72
2200	804	0.50	866	0.71	925	0.90	982	1.06	1038	1.21	1092	1.35	1147	1.48	1203	1.61	1259	1.73	1317	1.87
2400	835	0.66	897	0.87	956	1.06	1013	1.22	1069	1.37	1124	1.51	1178	1.64	1234	1.77	1290	1.90	1348	2.03
2600	869	0.84	931	1.05	990	1.24	1047	1.40	1103	1.55	1158	1.69	1212	1.82	1268	1.95	1324	2.07	1382	2.21
2800	906	1.03	968	1.25	1027	1.43	1084	1.60	1139	1.75	1194	1.89	1249	2.02	1304	2.14	1361	2.27	1419	2.40
3000	945	1.25	1007	1.46	1066	1.65	1123	1.81	1179	1.96	1234	2.10	1288	2.23	1344	2.36	1400	2.48	1458	2.62
3200	987	1.48	1048	1.69	1107	1.88	1165	2.04	1220	2.19	1275	2.33	1330	2.46	1385	2.59	1442	2.71	1500	2.85
3400	1030	1.73	1092	1.94	1151	2.12	1208	2.29	1264	2.44	1319	2.58	1374	2.71	1429	2.84	1485	2.96	1544	3.10
3600	1076	1.99	1138	2.20	1197	2.39	1254	2.56	1310	2.71	1364	2.84	1419	2.97	1475	3.10	1531	3.23	1589	3.36
3800	1124	2.27	1185	2.48	1245	2.67	1302	2.84	1357	2.99	1412	3.12	1467	3.25	1522	3.38	-	-	-	-
															3 HP & Field Supplied Drive					

1. Blower performance includes gas heat exchangers and 2” filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.

ZH102 (8.5 Ton) Side Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	Field Supplied Drive				Standard 2 HP & Drive						Hi Static 3 HP & Drive									
2600	628	0.56	678	0.76	730	0.93	781	1.09	833	1.25	883	1.41	933	1.59	980	1.80	1025	2.05	1068	2.35
2800	648	0.67	698	0.87	750	1.04	801	1.20	853	1.36	903	1.52	953	1.70	1000	1.91	1046	2.16	1088	2.46
3000	666	0.80	717	1.00	768	1.17	820	1.33	871	1.49	922	1.65	971	1.83	1019	2.04	1064	2.29	1106	2.59
3200	684	0.95	735	1.15	786	1.32	838	1.48	889	1.63	940	1.80	989	1.98	1037	2.19	1082	2.44	1124	2.74
3400	702	1.11	753	1.31	804	1.48	856	1.64	907	1.79	958	1.96	1007	2.14	1055	2.35	1100	2.60	1142	2.90
3600	721	1.28	772	1.48	824	1.65	875	1.81	927	1.97	977	2.13	1027	2.31	1074	2.52	1119	2.77	-	-
3800	742	1.47	793	1.67	844	1.84	896	2.00	947	2.15	998	2.32	1047	2.50	1095	2.71	1140	2.96	-	-
4000	765	1.67	815	1.86	867	2.04	918	2.19	970	2.35	1020	2.51	1070	2.70	1117	2.91	-	-	-	-
4200	789	1.87	840	2.07	891	2.24	943	2.40	995	2.56	1045	2.72	1094	2.90	-	-	-	-	-	-
															3 HP & Field Supplied Drive					

1. Blower performance includes gas heat exchangers and 2” filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.

ZH120 (10 Ton) Side Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	Field Supplied Drive				Standard 2 HP & Drive										Hi Static 3 HP & Drive					
2600	675	0.53	726	0.74	776	0.94	824	1.12	870	1.30	914	1.48	957	1.65	1000	1.82	1041	1.99	1082	2.17
2800	686	0.63	738	0.84	787	1.04	835	1.23	881	1.41	925	1.58	969	1.76	1011	1.93	1052	2.10	1093	2.27
3000	699	0.75	750	0.96	800	1.16	847	1.34	893	1.52	938	1.70	981	1.87	1024	2.04	1065	2.21	1106	2.39
3200	713	0.88	764	1.09	814	1.28	861	1.47	907	1.65	952	1.83	995	2.00	1037	2.17	1079	2.34	1119	2.52
3400	728	1.02	779	1.23	829	1.43	877	1.61	923	1.79	967	1.97	1010	2.14	1053	2.31	1094	2.48	1135	2.66
3600	745	1.18	796	1.39	846	1.59	893	1.77	939	1.95	984	2.13	1027	2.30	1069	2.47	1111	2.64	1152	2.82
3800	763	1.36	815	1.57	864	1.76	912	1.95	958	2.13	1002	2.31	1046	2.48	1088	2.65	1129	2.82	1170	3.00
4000	783	1.55	835	1.76	884	1.96	932	2.15	978	2.33	1022	2.50	1066	2.67	1108	2.84	1149	3.02	1190	3.19
4200	805	1.77	856	1.98	906	2.17	953	2.36	999	2.54	1044	2.72	1087	2.89	1129	3.06	1171	3.23	1211	3.41
4400	828	2.00	879	2.21	929	2.41	976	2.59	1022	2.77	1067	2.95	1110	3.12	1152	3.29	-	-	-	-
4600	852	2.25	904	2.46	953	2.66	1001	2.85	1047	3.03	1092	3.20	1135	3.37	-	-	-	-	-	-
4800	879	2.52	930	2.73	980	2.93	1027	3.12	1073	3.30	-	-	-	-	-	-	-	-	-	-
5000	906	2.81	958	3.02	1007	3.22	1055	3.41	-	-	-	-	-	-	-	-	-	-	-	-
									3 HP & Field Supplied Drive											

1. Blower performance includes gas heat exchangers and 2" filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.

ZH150 (12.5 Ton) Side Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	Field Supplied Drive								Standard 3 HP & Drive											
3200	713	0.88	764	1.09	814	1.28	861	1.47	907	1.65	952	1.83	995	2.00	1037	2.17	1079	2.34	1119	2.52
3400	728	1.02	779	1.23	829	1.43	877	1.61	923	1.79	967	1.97	1010	2.14	1053	2.31	1094	2.48	1135	2.66
3600	745	1.18	796	1.39	846	1.59	893	1.77	939	1.95	984	2.13	1027	2.30	1069	2.47	1111	2.64	1152	2.82
3800	763	1.36	815	1.57	864	1.76	912	1.95	958	2.13	1002	2.31	1046	2.48	1088	2.65	1129	2.82	1170	3.00
4000	783	1.55	835	1.76	884	1.96	932	2.15	978	2.33	1022	2.50	1066	2.67	1108	2.84	1149	3.02	1190	3.19
4200	805	1.77	856	1.98	906	2.17	953	2.36	999	2.54	1044	2.72	1087	2.89	1129	3.06	1171	3.23	1211	3.41
4400	828	2.00	879	2.21	929	2.41	976	2.59	1022	2.77	1067	2.95	1110	3.12	1152	3.29	1194	3.46	1235	3.64
4600	852	2.25	904	2.46	953	2.66	1001	2.85	1047	3.03	1092	3.20	1135	3.37	1177	3.54	1219	3.72	1259	3.89
4800	879	2.52	930	2.73	980	2.93	1027	3.12	1073	3.30	1118	3.47	1161	3.65	1203	3.82	1245	3.99	1285	4.16
5000	906	2.81	958	3.02	1007	3.22	1055	3.41	1101	3.59	1146	3.76	1189	3.94	1231	4.11	1273	4.28	1313	4.45
5200	936	3.12	987	3.33	1037	3.53	1084	3.72	1130	3.90	1175	4.07	1218	4.24	1260	4.42	1302	4.59	1343	4.76
5400	966	3.45	1018	3.66	1067	3.86	1115	4.05	1161	4.23	1206	4.40	1249	4.57	1291	4.74	1333	4.91	1373	5.09
5600	999	3.80	1050	4.01	1100	4.20	1147	4.39	1193	4.57	1238	4.75	1281	4.92	1323	5.09	1365	5.26	1405	5.44
5800	1032	4.16	1084	4.37	1133	4.57	1181	4.75	1227	4.93	1271	5.11	1315	5.28	1357	5.45	1398	5.62	-	-
6000	1067	4.54	1119	4.75	1168	4.95	1216	5.13	1262	5.31	1306	5.49	1350	5.66	-	-	-	-	-	-
6200	1103	4.94	1155	5.15	1204	5.34	1252	5.53	1298	5.71	-	-	-	-	-	-	-	-	-	-
	Hi Static 5 HP & Drive								5 HP & Field Supplied Drive											

1. Blower performance includes gas heat exchangers and 2" filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.

ZH037-150 Bottom Duct Application

ZH037 (3.0 Ton) Bottom Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	Standard 1.5 HP & Drive						Hi Static 1.5 HP & Drive													
900	605	0.23	671	0.33	738	0.42	804	0.52	869	0.62	933	0.71	995	0.80	1054	0.89	1111	0.98	1164	1.07
1000	621	0.25	688	0.34	754	0.44	820	0.53	885	0.63	949	0.72	1011	0.82	1071	0.91	1127	1.00	1180	1.09
1100	637	0.27	703	0.36	769	0.46	835	0.56	900	0.65	964	0.74	1026	0.84	1086	0.93	1142	1.02	1195	1.11
1200	651	0.30	717	0.39	784	0.49	850	0.58	915	0.68	979	0.77	1041	0.87	1100	0.96	1157	1.05	1210	1.13
1300	666	0.33	732	0.43	799	0.52	865	0.62	930	0.71	994	0.81	1056	0.90	1115	0.99	1172	1.08	1225	1.17
1400	681	0.37	747	0.47	814	0.56	880	0.66	945	0.75	1009	0.85	1071	0.94	1130	1.03	1187	1.12	1240	1.21
1500	697	0.42	763	0.51	830	0.61	896	0.71	961	0.80	1025	0.90	1087	0.99	1146	1.08	1203	1.17	1256	1.26
															1.5 HP & Field Supplied Drive					

1. Blower performance includes gas heat exchangers and 2” filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.

ZH049 (4.0 Ton) Bottom Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	FS[4]		Standard 1.5 HP & Drive										Hi Static 1.5 HP & Drive							
1200	651	0.30	717	0.39	784	0.49	850	0.58	915	0.68	979	0.77	1041	0.87	1100	0.96	1157	1.05	1210	1.13
1300	666	0.33	732	0.43	799	0.52	865	0.62	930	0.71	994	0.81	1056	0.90	1115	0.99	1172	1.08	1225	1.17
1400	681	0.37	747	0.47	814	0.56	880	0.66	945	0.75	1009	0.85	1071	0.94	1130	1.03	1187	1.12	1240	1.21
1500	697	0.42	763	0.51	830	0.61	896	0.71	961	0.80	1025	0.90	1087	0.99	1146	1.08	1203	1.17	1256	1.26
1600	714	0.47	780	0.57	846	0.66	913	0.76	978	0.86	1042	0.95	1103	1.04	1163	1.14	1220	1.22	1273	1.31
1700	732	0.53	798	0.63	864	0.73	930	0.82	996	0.92	1059	1.01	1121	1.10	1181	1.20	1237	1.29	1291	1.37
1800	751	0.60	817	0.70	883	0.79	950	0.89	1015	0.98	1079	1.08	1140	1.17	1200	1.26	1257	1.35	1310	1.44
1900	771	0.68	837	0.77	904	0.87	970	0.96	1035	1.06	1099	1.15	1161	1.25	1220	1.34	1277	1.43	-	-
2000	793	0.75	859	0.85	925	0.95	991	1.04	1056	1.14	1120	1.23	1182	1.32	1242	1.42	1298	1.51	-	-

1. Blower performance includes gas heat exchangers and 2” filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.
4. Field Supplied Drive.

ZH061 (5.0 Ton) Bottom Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	1.5 HP & Field Supplied Drive				Standard 1.5 HP & Drive										Hi Static 2 HP & Drive					
1500	673	0.47	736	0.54	797	0.63	855	0.72	910	0.82	964	0.92	1016	1.03	1067	1.14	1117	1.25	1166	1.36
1600	693	0.49	756	0.57	817	0.65	874	0.75	930	0.85	984	0.95	1036	1.06	1087	1.17	1137	1.28	1186	1.39
1700	713	0.53	777	0.60	837	0.69	895	0.78	951	0.88	1004	0.98	1057	1.09	1107	1.20	1157	1.31	1207	1.42
1800	734	0.57	797	0.65	858	0.73	916	0.83	971	0.92	1025	1.03	1077	1.14	1128	1.25	1178	1.36	1228	1.47
1900	755	0.62	819	0.70	879	0.79	937	0.88	992	0.98	1046	1.08	1098	1.19	1149	1.30	1199	1.41	1249	1.52
2000	776	0.69	840	0.76	900	0.85	958	0.94	1014	1.04	1067	1.14	1120	1.25	1171	1.36	1221	1.47	1270	1.59
2100	798	0.76	861	0.84	921	0.92	979	1.02	1035	1.11	1089	1.22	1141	1.32	1192	1.44	1242	1.55	1291	1.66
2200	819	0.84	882	0.92	943	1.00	1001	1.10	1056	1.20	1110	1.30	1162	1.41	1213	1.52	1263	1.63	1312	1.74
2300	840	0.93	903	1.01	964	1.10	1022	1.19	1077	1.29	1131	1.39	1183	1.50	1234	1.61	1284	1.72	1334	1.83
2400	861	1.03	925	1.11	985	1.20	1043	1.29	1099	1.39	1152	1.49	1204	1.60	1255	1.71	1305	1.82	1355	1.93
2500	882	1.14	946	1.22	1006	1.30	1064	1.40	1120	1.50	1173	1.60	1226	1.71	1276	1.82	1326	1.93	1376	2.04
															3 HP & Field Supplied Drive					

1. Blower performance includes gas heat exchangers and 2” filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.

ZH078 (6.5 Ton) Bottom Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	Field Supplied Drive				Standard 1.5 HP & Drive						Hi Static 2 HP & Drive									
1800	775	0.31	850	0.53	924	0.72	998	0.89	1072	1.05	1147	1.20	1224	1.35	1303	1.51	1384	1.69	1469	1.89
2000	803	0.45	878	0.67	952	0.86	1026	1.03	1100	1.19	1175	1.34	1252	1.49	1331	1.65	1412	1.83	1497	2.03
2200	838	0.60	913	0.82	986	1.01	1060	1.19	1134	1.34	1210	1.49	1286	1.65	1365	1.81	1447	1.98	1532	2.18
2400	878	0.78	953	1.00	1027	1.19	1100	1.36	1174	1.52	1250	1.67	1327	1.82	1405	1.98	1487	2.16	-	-
2600	923	0.98	997	1.20	1071	1.39	1145	1.56	1219	1.72	1294	1.87	1371	2.02	1450	2.18	-	-	-	-
2800	971	1.20	1046	1.42	1119	1.61	1193	1.78	1267	1.94	1343	2.09	1419	2.24	-	-	-	-	-	-
3000	1023	1.44	1097	1.66	1171	1.85	1245	2.03	1319	2.18	-	-	-	-	-	-	-	-	-	-
3200	1077	1.71	1151	1.93	1225	2.12	1299	2.29	-	-	-	-	-	-	-	-	-	-	-	-
3400	1133	1.99	1208	2.21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
									2 HP & Field Supplied Drive											

1. Blower performance includes gas heat exchangers and 2” filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.

ZH090 (7.5 Ton) Bottom Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	Field Supplied Drive				Standard 1.5 HP & Drive						Hi Static 3 HP & Drive									
2000	803	0.45	878	0.67	952	0.86	1026	1.03	1100	1.19	1175	1.34	1252	1.49	1331	1.65	1412	1.83	1497	2.03
2200	838	0.60	913	0.82	986	1.01	1060	1.19	1134	1.34	1210	1.49	1286	1.65	1365	1.81	1447	1.98	1532	2.18
2400	878	0.78	953	1.00	1027	1.19	1100	1.36	1174	1.52	1250	1.67	1327	1.82	1405	1.98	1487	2.16	1572	2.36
2600	923	0.98	997	1.20	1071	1.39	1145	1.56	1219	1.72	1294	1.87	1371	2.02	1450	2.18	1532	2.36	1617	2.56
2800	971	1.20	1046	1.42	1119	1.61	1193	1.78	1267	1.94	1343	2.09	1419	2.24	1498	2.40	1580	2.58	1665	2.78
3000	1023	1.44	1097	1.66	1171	1.85	1245	2.03	1319	2.18	1394	2.33	1471	2.49	1550	2.65	1632	2.82	1717	3.02
3200	1077	1.71	1151	1.93	1225	2.12	1299	2.29	1373	2.45	1448	2.60	1525	2.75	1604	2.91	1686	3.09	1771	3.29
3400	1133	1.99	1208	2.21	1282	2.41	1356	2.58	1430	2.73	1505	2.88	1582	3.04	1661	3.20	1742	3.37	-	-
3600	1192	2.30	1267	2.52	1341	2.71	1414	2.88	1489	3.04	1564	3.19	1641	3.34	-	-	-	-	-	-
3800	1253	2.63	1327	2.85	1401	3.04	1475	3.21	1549	3.37	-	-	-	-	-	-	-	-	-	-
											3 HP & Field Supplied Drive									

1. Blower performance includes gas heat exchangers and 2” filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.

ZH102 (8.5 Ton) Bottom Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	FS[4]		Standard 2 HP & Drive						Hi Static 3 HP & Drive											
2600	674	0.71	731	0.88	786	1.05	838	1.24	887	1.42	933	1.59	974	1.74	1010	1.87	1040	1.97	1064	2.03
2800	689	0.86	746	1.02	801	1.20	854	1.38	903	1.56	948	1.73	989	1.88	1025	2.01	1056	2.11	1080	2.17
3000	707	1.01	764	1.17	819	1.35	872	1.53	921	1.71	966	1.88	1007	2.03	1043	2.16	1074	2.26	1098	2.32
3200	728	1.17	785	1.33	840	1.51	892	1.69	941	1.87	987	2.04	1028	2.20	1064	2.33	1094	2.42	1118	2.48
3400	751	1.34	808	1.51	863	1.68	915	1.87	964	2.05	1010	2.22	1051	2.37	1087	2.50	1117	2.60	1141	2.66
3600	776	1.53	833	1.70	888	1.87	941	2.06	990	2.24	1035	2.41	1076	2.56	1112	2.69	1142	2.79	1167	2.85
3800	804	1.74	861	1.90	916	2.08	969	2.26	1018	2.44	1063	2.61	1104	2.77	1140	2.90	1170	2.99	-	-
4000	835	1.97	892	2.13	947	2.31	999	2.49	1048	2.67	1094	2.84	1135	2.99	-	-	-	-	-	-
4200	867	2.21	924	2.37	979	2.55	1032	2.73	1081	2.91	1127	3.08	-	-	-	-	-	-	-	-
													3 HP & Field Supplied Drive							

1. Blower performance includes gas heat exchangers and 2” filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.
4. Field Supplied Drive.

ZH120 (10 Ton) Bottom Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	Field Supplied Drive		Standard 2 HP & Drive										Hi Static 3 HP & Drive							
2600	722	0.83	776	0.97	828	1.11	878	1.25	926	1.37	973	1.50	1018	1.62	1063	1.74	1106	1.86	1149	1.99
2800	744	0.97	798	1.12	850	1.26	900	1.39	949	1.52	995	1.64	1041	1.76	1085	1.88	1128	2.00	1171	2.13
3000	769	1.13	823	1.28	875	1.42	925	1.55	974	1.68	1020	1.80	1066	1.92	1110	2.05	1153	2.17	1196	2.29
3200	797	1.32	851	1.46	903	1.60	953	1.74	1001	1.86	1048	1.99	1093	2.11	1138	2.23	1181	2.35	1224	2.48
3400	828	1.52	882	1.67	934	1.81	983	1.94	1032	2.07	1078	2.19	1124	2.32	1168	2.44	1212	2.56	1254	2.68
3600	861	1.75	915	1.90	967	2.04	1017	2.17	1065	2.30	1112	2.42	1157	2.54	1201	2.67	1245	2.79	1287	2.91
3800	897	2.00	951	2.15	1002	2.29	1052	2.42	1101	2.55	1147	2.67	1193	2.80	1237	2.92	1280	3.04	1323	3.16
4000	935	2.27	989	2.42	1041	2.56	1091	2.69	1139	2.82	1186	2.95	1231	3.07	1275	3.19	1319	3.31	1362	3.43
4200	976	2.57	1030	2.72	1082	2.86	1132	2.99	1180	3.12	1227	3.24	1272	3.36	-	-	-	-	-	-
4400	1019	2.88	1073	3.03	1125	3.17	1175	3.30	1223	3.43	-	-	-	-	-	-	-	-	-	-
4600	1065	3.22	1119	3.36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			3 HP & Field Supplied Drive																	

1. Blower performance includes gas heat exchangers and 2” filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.

ZH150 (12.5 Ton) Bottom Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	Field Supplied Drive				Standard 3 HP & Drive										Hi Static 5 HP & Drive					
3200	797	1.32	851	1.46	903	1.60	953	1.74	1001	1.86	1048	1.99	1093	2.11	1138	2.23	1181	2.35	1224	2.48
3400	828	1.52	882	1.67	934	1.81	983	1.94	1032	2.07	1078	2.19	1124	2.32	1168	2.44	1212	2.56	1254	2.68
3600	861	1.75	915	1.90	967	2.04	1017	2.17	1065	2.30	1112	2.42	1157	2.54	1201	2.67	1245	2.79	1287	2.91
3800	897	2.00	951	2.15	1002	2.29	1052	2.42	1101	2.55	1147	2.67	1193	2.80	1237	2.92	1280	3.04	1323	3.16
4000	935	2.27	989	2.42	1041	2.56	1091	2.69	1139	2.82	1186	2.95	1231	3.07	1275	3.19	1319	3.31	1362	3.43
4200	976	2.57	1030	2.72	1082	2.86	1132	2.99	1180	3.12	1227	3.24	1272	3.36	1316	3.48	1360	3.60	1402	3.73
4400	1019	2.88	1073	3.03	1125	3.17	1175	3.30	1223	3.43	1270	3.55	1315	3.67	1360	3.80	1403	3.92	1446	4.04
4600	1065	3.22	1119	3.36	1171	3.50	1221	3.64	1269	3.76	1316	3.89	1361	4.01	1405	4.13	1449	4.25	1491	4.38
4800	1113	3.57	1167	3.72	1219	3.86	1269	3.99	1317	4.12	1364	4.24	1409	4.36	1453	4.48	1497	4.61	1540	4.73
5000	1163	3.94	1217	4.09	1269	4.23	1319	4.36	1367	4.49	1414	4.62	1459	4.74	1504	4.86	1547	4.98	1590	5.10
5200	1216	4.34	1270	4.48	1321	4.62	1371	4.76	1420	4.88	1466	5.01	1512	5.13	1556	5.25	1600	5.37	1642	5.50
5400	1270	4.75	1324	4.89	1376	5.03	1426	5.17	1474	5.29	1521	5.42	1566	5.54	1611	5.66	-	-	-	-
5600	1327	5.17	1381	5.32	1433	5.46	1483	5.59	1531	5.72	-	-	-	-	-	-	-	-	-	-
5800	1385	5.62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5 HP & Field Supplied Drive																			

1. Blower performance includes gas heat exchangers and 2” filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.

ZJ037-150 Side Duct Application

ZJ037 (3.0 Ton) Side Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	Standard 1.5 HP & Drive								Hi Static 1.5 HP & Drive											
900	560	0.29	628	0.35	695	0.42	760	0.51	823	0.61	886	0.72	949	0.82	1011	0.92	1073	1.01	1136	1.09
1000	582	0.29	650	0.34	716	0.42	781	0.51	845	0.61	908	0.71	970	0.82	1032	0.92	1095	1.01	1158	1.08
1100	601	0.30	670	0.35	736	0.43	801	0.52	864	0.62	927	0.72	990	0.83	1052	0.93	1114	1.02	1177	1.09
1200	620	0.32	688	0.37	754	0.45	819	0.54	883	0.64	946	0.74	1008	0.85	1070	0.95	1133	1.04	1196	1.11
1300	638	0.35	706	0.40	772	0.48	837	0.57	901	0.67	964	0.77	1026	0.88	1088	0.98	1151	1.06	1214	1.14
1400	655	0.39	724	0.44	790	0.51	855	0.60	918	0.70	981	0.81	1044	0.91	1106	1.01	1168	1.10	1231	1.18
1500	673	0.43	741	0.48	807	0.56	872	0.65	936	0.75	999	0.85	1061	0.96	1124	1.06	1186	1.15	1249	1.22
															1.5 HP & Field Supplied Drive					

1. Blower performance includes gas heat exchangers and 2" filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.

ZJ049 (4.0 Ton) Side Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	FS[4]		Standard 1.5 HP & Drive												Hi Static 1.5 HP & Drive					
1200	608	0.25	677	0.34	744	0.44	807	0.54	868	0.64	927	0.74	986	0.84	1043	0.93	1101	1.02	1160	1.10
1300	623	0.28	692	0.37	758	0.47	822	0.57	883	0.67	942	0.77	1001	0.86	1058	0.96	1116	1.04	1175	1.13
1400	637	0.31	706	0.40	772	0.50	836	0.60	897	0.70	956	0.80	1015	0.90	1072	0.99	1130	1.08	1189	1.16
1500	650	0.35	720	0.44	786	0.54	849	0.64	911	0.74	970	0.84	1028	0.93	1086	1.03	1144	1.12	1202	1.20
1600	664	0.39	734	0.49	800	0.58	863	0.68	924	0.78	984	0.88	1042	0.98	1100	1.07	1158	1.16	1216	1.24
1700	678	0.44	748	0.54	814	0.63	877	0.73	938	0.83	998	0.93	1056	1.03	1114	1.12	1172	1.21	1230	1.29
1800	693	0.50	763	0.59	829	0.69	892	0.79	953	0.89	1013	0.99	1071	1.08	1129	1.18	1186	1.26	1245	1.35
1900	708	0.56	778	0.65	844	0.75	907	0.85	968	0.95	1028	1.05	1086	1.15	1144	1.24	1202	1.33	1260	1.41
2000	725	0.62	794	0.72	860	0.82	924	0.92	985	1.02	1044	1.12	1102	1.21	1160	1.30	1218	1.39	1277	1.47

1. Blower performance includes gas heat exchangers and 2" filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.
4. Field Supplied Drive

ZJ061 (5.0 Ton) Side Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	1.5 HP & Field Suplied Drive						Standard 1.5 HP & Drive										Hi Static 2 HP & Drive			
1500	659	0.35	719	0.46	780	0.57	843	0.67	905	0.77	964	0.87	1020	0.97	1071	1.07	1116	1.17	1154	1.28
1600	675	0.38	735	0.50	796	0.60	859	0.71	920	0.81	980	0.91	1036	1.01	1087	1.11	1132	1.21	1170	1.32
1700	691	0.42	751	0.54	812	0.64	875	0.75	936	0.85	996	0.95	1052	1.05	1103	1.15	1148	1.25	1186	1.36
1800	707	0.47	767	0.58	829	0.69	891	0.79	953	0.90	1012	0.99	1069	1.09	1120	1.20	1165	1.30	1202	1.41
1900	724	0.53	784	0.64	846	0.75	908	0.85	970	0.95	1029	1.05	1085	1.15	1137	1.25	1182	1.35	1219	1.46
2000	741	0.59	801	0.70	863	0.81	925	0.91	987	1.01	1047	1.11	1103	1.21	1154	1.31	1199	1.41	1236	1.52
2100	759	0.65	819	0.77	881	0.87	943	0.98	1005	1.08	1065	1.18	1121	1.28	1172	1.38	1217	1.48	1254	1.59
2200	778	0.73	838	0.84	900	0.95	962	1.05	1024	1.15	1083	1.25	1139	1.35	1191	1.45	1236	1.56	1273	1.66
2300	797	0.81	857	0.92	919	1.03	981	1.13	1043	1.23	1103	1.33	1159	1.43	1210	1.53	1255	1.64	1292	1.74
2400	817	0.90	877	1.01	939	1.12	1002	1.22	1063	1.32	1123	1.42	1179	1.52	1230	1.62	1275	1.73	1312	1.83
2500	838	1.00	898	1.11	960	1.22	1022	1.32	1084	1.42	1144	1.52	1200	1.62	1251	1.72	1296	1.82	1333	1.93
																	FS[4]			

1. Blower performance includes gas heat exchangers and 2" filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.
4. Field Supplied Drive.

ZJ078 (6.5 Ton) Side Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	FS[4]				Standard 1.5 HP & Drive										Hi Static 2 HP & Drive					
1800	514	0.15	586	0.33	657	0.52	727	0.71	794	0.89	857	1.07	917	1.23	972	1.38	1021	1.50	1064	1.59
2000	529	0.23	601	0.41	672	0.60	741	0.79	808	0.97	872	1.15	931	1.31	986	1.46	1036	1.58	1079	1.67
2200	544	0.33	616	0.51	687	0.69	756	0.88	823	1.07	886	1.24	946	1.41	1001	1.55	1051	1.67	1094	1.77
2400	559	0.43	631	0.61	702	0.80	771	0.98	838	1.17	902	1.35	961	1.51	1016	1.65	1066	1.78	1109	1.87
2600	574	0.54	646	0.72	717	0.91	787	1.10	853	1.28	917	1.46	977	1.62	1032	1.77	1081	1.89	1124	1.98
2800	590	0.67	662	0.85	733	1.03	802	1.22	869	1.41	933	1.59	993	1.75	1047	1.89	1097	2.02	1140	2.11
3000	607	0.80	679	0.98	750	1.17	819	1.36	886	1.54	949	1.72	1009	1.88	1064	2.03	1113	2.15	1157	2.24
3200	624	0.95	695	1.13	766	1.31	836	1.50	903	1.69	966	1.86	1026	2.03	1081	2.17	1130	2.29	-	-
3400	641	1.10	713	1.28	784	1.47	853	1.66	920	1.84	984	2.02	1043	2.18	1098	2.33	-	-	-	-
																	FS[4]			

1. Blower performance includes gas heat exchangers and 2” filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.
4. Field Supplied Drive.

ZJ090 (7.5 Ton) Side Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	FS[4]				Standard 1.5 HP & Drive										Hi Static 3 HP & Drive					
2000	-	-	656	0.24	711	0.48	768	0.73	826	0.96	886	1.19	945	1.41	1003	1.61	1058	1.79	1110	1.95
2200	619	0.07	670	0.32	724	0.57	781	0.81	840	1.04	899	1.27	959	1.49	1016	1.69	1072	1.87	1124	2.04
2400	631	0.16	682	0.41	736	0.66	793	0.90	852	1.14	911	1.36	970	1.58	1028	1.78	1084	1.97	1136	2.13
2600	642	0.27	692	0.52	747	0.76	804	1.01	862	1.24	922	1.47	981	1.69	1039	1.89	1094	2.07	1146	2.24
2800	652	0.39	703	0.64	757	0.88	814	1.13	873	1.36	932	1.59	992	1.81	1049	2.01	1105	2.19	1157	2.36
3000	663	0.53	714	0.77	768	1.02	825	1.26	884	1.50	943	1.73	1003	1.94	1060	2.14	1116	2.33	1168	2.49
3200	675	0.68	726	0.92	780	1.17	837	1.41	896	1.65	955	1.88	1014	2.09	1072	2.29	1128	2.48	1180	2.64
3400	688	0.84	739	1.09	793	1.34	850	1.58	909	1.82	968	2.04	1027	2.26	1085	2.46	1141	2.65	1193	2.81
3600	703	1.03	753	1.28	807	1.52	864	1.76	923	2.00	983	2.23	1042	2.44	1100	2.64	1155	2.83	-	-
3800	718	1.23	769	1.47	823	1.72	880	1.96	939	2.20	998	2.43	1058	2.64	1115	2.84	1171	3.03	-	-

1. Blower performance includes gas heat exchangers and 2” filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.
4. Field Supplied Drive.

ZJ102 (8.5 Ton) Side Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	Field Supplied Drive				Standard 2 HP & Drive								Hi Static 3 HP & Drive							
2200	654	0.32	706	0.53	755	0.73	803	0.92	849	1.10	893	1.27	937	1.44	979	1.62	1020	1.79	1061	1.96
2400	664	0.43	716	0.64	765	0.83	813	1.02	859	1.20	904	1.38	947	1.55	989	1.72	1030	1.89	1071	2.07
2600	675	0.53	726	0.74	776	0.94	824	1.12	870	1.30	914	1.48	957	1.65	1000	1.82	1041	1.99	1082	2.17
2800	686	0.63	738	0.84	787	1.04	835	1.23	881	1.41	925	1.58	969	1.76	1011	1.93	1052	2.10	1093	2.27
3000	699	0.75	750	0.96	800	1.16	847	1.34	893	1.52	938	1.70	981	1.87	1024	2.04	1065	2.21	1106	2.39
3200	713	0.88	764	1.09	814	1.28	861	1.47	907	1.65	952	1.83	995	2.00	1037	2.17	1079	2.34	1119	2.52
3400	728	1.02	779	1.23	829	1.43	877	1.61	923	1.79	967	1.97	1010	2.14	1053	2.31	1094	2.48	1135	2.66
3600	745	1.18	796	1.39	846	1.59	893	1.77	939	1.95	984	2.13	1027	2.30	1069	2.47	1111	2.64	1152	2.82
3800	763	1.36	815	1.57	864	1.76	912	1.95	958	2.13	1002	2.31	1046	2.48	1088	2.65	1129	2.82	1170	3.00
4000	783	1.55	835	1.76	884	1.96	932	2.15	978	2.33	1022	2.50	1066	2.67	1108	2.84	1149	3.02	1190	3.19
4200	805	1.77	856	1.98	906	2.17	953	2.36	999	2.54	1044	2.72	1087	2.89	1129	3.06	1171	3.23	1211	3.41
																	3 HP & Field Supplied Drive			

1. Blower performance includes gas heat exchangers and 2” filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.

ZJ120 (10 Ton) Side Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	Field Supplied Drive				Standard 2 HP & Drive										Hi Static 3 HP & Drive					
2600	675	0.53	726	0.74	776	0.94	824	1.12	870	1.30	914	1.48	957	1.65	1000	1.82	1041	1.99	1082	2.17
2800	686	0.63	738	0.84	787	1.04	835	1.23	881	1.41	925	1.58	969	1.76	1011	1.93	1052	2.10	1093	2.27
3000	699	0.75	750	0.96	800	1.16	847	1.34	893	1.52	938	1.70	981	1.87	1024	2.04	1065	2.21	1106	2.39
3200	713	0.88	764	1.09	814	1.28	861	1.47	907	1.65	952	1.83	995	2.00	1037	2.17	1079	2.34	1119	2.52
3400	728	1.02	779	1.23	829	1.43	877	1.61	923	1.79	967	1.97	1010	2.14	1053	2.31	1094	2.48	1135	2.66
3600	745	1.18	796	1.39	846	1.59	893	1.77	939	1.95	984	2.13	1027	2.30	1069	2.47	1111	2.64	1152	2.82
3800	763	1.36	815	1.57	864	1.76	912	1.95	958	2.13	1002	2.31	1046	2.48	1088	2.65	1129	2.82	1170	3.00
4000	783	1.55	835	1.76	884	1.96	932	2.15	978	2.33	1022	2.50	1066	2.67	1108	2.84	1149	3.02	1190	3.19
4200	805	1.77	856	1.98	906	2.17	953	2.36	999	2.54	1044	2.72	1087	2.89	1129	3.06	1171	3.23	1211	3.41
4400	828	2.00	879	2.21	929	2.41	976	2.59	1022	2.77	1067	2.95	1110	3.12	1152	3.29	-	-	-	-
4600	852	2.25	904	2.46	953	2.66	1001	2.85	1047	3.03	1092	3.20	1135	3.37	-	-	-	-	-	-
4800	879	2.52	930	2.73	980	2.93	1027	3.12	1073	3.30	-	-	-	-	-	-	-	-	-	-
5000	906	2.81	958	3.02	1007	3.22	1055	3.41	-	-	-	-	-	-	-	-	-	-	-	-
											3 HP & Field Supplied Drive									

1. Blower performance includes gas heat exchangers and 2" filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.

ZJ150 (12.5 Ton) Side Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	Field Supplied Drive								Standard 3 HP & Drive											
3200	713	0.88	764	1.09	814	1.28	861	1.47	907	1.65	952	1.83	995	2.00	1037	2.17	1079	2.34	1119	2.52
3400	728	1.02	779	1.23	829	1.43	877	1.61	923	1.79	967	1.97	1010	2.14	1053	2.31	1094	2.48	1135	2.66
3600	745	1.18	796	1.39	846	1.59	893	1.77	939	1.95	984	2.13	1027	2.30	1069	2.47	1111	2.64	1152	2.82
3800	763	1.36	815	1.57	864	1.76	912	1.95	958	2.13	1002	2.31	1046	2.48	1088	2.65	1129	2.82	1170	3.00
4000	783	1.55	835	1.76	884	1.96	932	2.15	978	2.33	1022	2.50	1066	2.67	1108	2.84	1149	3.02	1190	3.19
4200	805	1.77	856	1.98	906	2.17	953	2.36	999	2.54	1044	2.72	1087	2.89	1129	3.06	1171	3.23	1211	3.41
4400	828	2.00	879	2.21	929	2.41	976	2.59	1022	2.77	1067	2.95	1110	3.12	1152	3.29	1194	3.46	1235	3.64
4600	852	2.25	904	2.46	953	2.66	1001	2.85	1047	3.03	1092	3.20	1135	3.37	1177	3.54	1219	3.72	1259	3.89
4800	879	2.52	930	2.73	980	2.93	1027	3.12	1073	3.30	1118	3.47	1161	3.65	1203	3.82	1245	3.99	1285	4.16
5000	906	2.81	958	3.02	1007	3.22	1055	3.41	1101	3.59	1146	3.76	1189	3.94	1231	4.11	1273	4.28	1313	4.45
5200	936	3.12	987	3.33	1037	3.53	1084	3.72	1130	3.90	1175	4.07	1218	4.24	1260	4.42	1302	4.59	1343	4.76
5400	966	3.45	1018	3.66	1067	3.86	1115	4.05	1161	4.23	1206	4.40	1249	4.57	1291	4.74	1333	4.91	1373	5.09
5600	999	3.80	1050	4.01	1100	4.20	1147	4.39	1193	4.57	1238	4.75	1281	4.92	1323	5.09	1365	5.26	1405	5.44
5800	1032	4.16	1084	4.37	1133	4.57	1181	4.75	1227	4.93	1271	5.11	1315	5.28	1357	5.45	1398	5.62	-	-
6000	1067	4.54	1119	4.75	1168	4.95	1216	5.13	1262	5.31	1306	5.49	1350	5.66	-	-	-	-	-	-
6200	1103	4.94	1155	5.15	1204	5.34	1252	5.53	1298	5.71	-	-	-	-	-	-	-	-	-	-
	Hi Static 5 HP & Drive								5 HP & Field Supplied Drive											

1. Blower performance includes gas heat exchangers and 2" filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.

ZJ037-150 Bottom Duct Application

ZJ037 (3.0 Ton) Bottom Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	Standard 1.5 HP & Drive						Hi Static 1.5 HP & Drive													
900	605	0.23	671	0.33	738	0.42	804	0.52	869	0.62	933	0.71	995	0.80	1054	0.89	1111	0.98	1164	1.07
1000	621	0.25	688	0.34	754	0.44	820	0.53	885	0.63	949	0.72	1011	0.82	1071	0.91	1127	1.00	1180	1.09
1100	637	0.27	703	0.36	769	0.46	835	0.56	900	0.65	964	0.74	1026	0.84	1086	0.93	1142	1.02	1195	1.11
1200	651	0.30	717	0.39	784	0.49	850	0.58	915	0.68	979	0.77	1041	0.87	1100	0.96	1157	1.05	1210	1.13
1300	666	0.33	732	0.43	799	0.52	865	0.62	930	0.71	994	0.81	1056	0.90	1115	0.99	1172	1.08	1225	1.17
1400	681	0.37	747	0.47	814	0.56	880	0.66	945	0.75	1009	0.85	1071	0.94	1130	1.03	1187	1.12	1240	1.21
1500	697	0.42	763	0.51	830	0.61	896	0.71	961	0.80	1025	0.90	1087	0.99	1146	1.08	1203	1.17	1256	1.26
													1.5 HP & Field Supplied Drive							

1. Blower performance includes gas heat exchangers and 2” filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.

ZJ049 (4.0 Ton) Bottom Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	FS[4]		Standard 1.5 HP & Drive										Hi Static 1.5 HP & Drive							
1200	635	0.25	704	0.34	770	0.44	832	0.54	893	0.65	953	0.75	1013	0.85	1073	0.94	1134	1.02	1197	1.08
1300	648	0.28	717	0.38	782	0.47	845	0.58	906	0.68	966	0.78	1025	0.88	1085	0.97	1147	1.05	1210	1.12
1400	661	0.32	730	0.42	796	0.51	858	0.62	919	0.72	979	0.82	1039	0.92	1099	1.01	1160	1.09	1223	1.16
1500	675	0.37	744	0.46	810	0.56	872	0.66	933	0.77	993	0.87	1053	0.96	1113	1.05	1174	1.14	1237	1.20
1600	690	0.42	759	0.51	825	0.61	887	0.72	948	0.82	1008	0.92	1068	1.02	1128	1.11	1189	1.19	1252	1.26
1700	706	0.48	775	0.57	841	0.67	903	0.77	964	0.88	1024	0.98	1084	1.08	1144	1.17	1205	1.25	1268	1.31
1800	723	0.55	792	0.64	857	0.74	920	0.84	981	0.94	1041	1.04	1101	1.14	1161	1.23	1222	1.31	1285	1.38
1900	741	0.62	810	0.71	875	0.81	938	0.91	999	1.01	1059	1.11	1118	1.21	1178	1.30	1240	1.38	1303	1.45
2000	760	0.69	829	0.79	894	0.88	957	0.99	1018	1.09	1078	1.19	1137	1.29	1197	1.38	1258	1.46	1322	1.53

1. Blower performance includes gas heat exchangers and 2” filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.
4. Field Supplied Drive.

ZJ061 (5.0 Ton) Bottom Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	1.5 HP & Field Supplied Drive				Standard 1.5 HP & Drive												Hi Static 2 HP & Drive			
1500	673	0.47	736	0.54	797	0.63	855	0.72	910	0.82	964	0.92	1016	1.03	1067	1.14	1117	1.25	1166	1.36
1600	693	0.49	756	0.57	817	0.65	874	0.75	930	0.85	984	0.95	1036	1.06	1087	1.17	1137	1.28	1186	1.39
1700	713	0.53	777	0.60	837	0.69	895	0.78	951	0.88	1004	0.98	1057	1.09	1107	1.20	1157	1.31	1207	1.42
1800	734	0.57	797	0.65	858	0.73	916	0.83	971	0.92	1025	1.03	1077	1.14	1128	1.25	1178	1.36	1228	1.47
1900	755	0.62	819	0.70	879	0.79	937	0.88	992	0.98	1046	1.08	1098	1.19	1149	1.30	1199	1.41	1249	1.52
2000	776	0.69	840	0.76	900	0.85	958	0.94	1014	1.04	1067	1.14	1120	1.25	1171	1.36	1221	1.47	1270	1.59
2100	798	0.76	861	0.84	921	0.92	979	1.02	1035	1.11	1089	1.22	1141	1.32	1192	1.44	1242	1.55	1291	1.66
2200	819	0.84	882	0.92	943	1.00	1001	1.10	1056	1.20	1110	1.30	1162	1.41	1213	1.52	1263	1.63	1312	1.74
2300	840	0.93	903	1.01	964	1.10	1022	1.19	1077	1.29	1131	1.39	1183	1.50	1234	1.61	1284	1.72	1334	1.83
2400	861	1.03	925	1.11	985	1.20	1043	1.29	1099	1.39	1152	1.49	1204	1.60	1255	1.71	1305	1.82	1355	1.93
2500	882	1.14	946	1.22	1006	1.30	1064	1.40	1120	1.50	1173	1.60	1226	1.71	1276	1.82	1326	1.93	1376	2.04
																	2 HP & Field Supplied Drive			

1. Blower performance includes gas heat exchangers and 2” filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.

ZJ078 (6.5 Ton) Bottom Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	FS[4]		Standard 1.5 HP & Drive								Hi Static 2 HP & Drive									
1800	603	0.13	656	0.36	718	0.58	784	0.79	851	0.98	914	1.16	968	1.31	1010	1.43	1035	1.53	1039	1.59
2000	627	0.26	680	0.49	742	0.71	808	0.92	875	1.12	937	1.29	992	1.44	1034	1.57	1059	1.66	1063	1.72
2200	650	0.40	703	0.63	765	0.85	831	1.06	898	1.25	961	1.43	1015	1.58	1057	1.71	1082	1.80	1086	1.86
2400	673	0.55	726	0.78	788	1.00	854	1.21	921	1.40	984	1.58	1038	1.73	1080	1.85	1105	1.95	1109	2.01
2600	696	0.71	749	0.94	811	1.16	878	1.37	944	1.56	1007	1.73	1061	1.89	1103	2.01	1128	2.10	1133	2.16
2800	720	0.87	773	1.10	835	1.32	902	1.53	968	1.73	1031	1.90	1085	2.05	1127	2.18	1152	2.27	1157	2.33
3000	745	1.05	798	1.28	860	1.50	926	1.71	993	1.91	1056	2.08	1110	2.23	1152	2.36	1177	2.45	1181	2.51
3200	771	1.24	824	1.47	886	1.69	952	1.90	1019	2.09	1081	2.27	1136	2.42	1178	2.54	1203	2.64	1207	2.70
3400	797	1.44	850	1.67	912	1.89	979	2.10	1045	2.29	1108	2.47	1162	2.62	1204	2.74	1229	2.84	1234	2.90
															3 HP & Field Supplied Drive					

1. Blower performance includes gas heat exchangers and 2” filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.
4. Field Supplied Drive.

ZJ090 (7.5 Ton) Bottom Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	FS[4]		Standard 1.5 HP & Drive										Hi Static 3 HP & Drive							
2000	644	0.11	698	0.38	755	0.62	814	0.85	874	1.06	933	1.26	990	1.46	1043	1.66	1090	1.87	1131	2.09
2200	666	0.26	720	0.53	777	0.77	836	1.00	896	1.21	956	1.41	1012	1.61	1065	1.81	1113	2.02	1153	2.24
2400	689	0.42	743	0.69	800	0.93	859	1.16	919	1.37	978	1.57	1035	1.77	1088	1.97	1135	2.18	1176	2.40
2600	712	0.60	766	0.87	823	1.11	882	1.34	942	1.55	1002	1.75	1058	1.95	1111	2.15	1159	2.36	1199	2.58
2800	736	0.80	790	1.06	847	1.31	906	1.53	967	1.74	1026	1.94	1082	2.14	1135	2.34	1183	2.55	1223	2.78
3000	761	1.00	815	1.27	872	1.52	931	1.74	991	1.95	1051	2.15	1107	2.35	1160	2.55	1208	2.76	1248	2.98
3200	787	1.22	840	1.49	898	1.74	957	1.96	1017	2.17	1076	2.37	1133	2.57	1186	2.77	1233	2.98	1274	3.20
3400	813	1.46	867	1.73	924	1.97	984	2.19	1044	2.40	1103	2.61	1160	2.80	1212	3.01	1260	3.21	-	-
3600	841	1.70	894	1.97	952	2.21	1011	2.44	1071	2.65	1130	2.85	1187	3.05	-	-	-	-	-	-
3800	869	1.96	923	2.22	980	2.47	1039	2.69	1099	2.90	1158	3.10	1215	3.30	-	-	-	-	-	-
															3 HP & Field Supplied Drive					

1. Blower performance includes gas heat exchangers and 2” filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.
4. Field Supplied Drive.

ZJ102 (8.5 Ton) Bottom Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	FS[4]		Standard 2 HP & Drive								Hi Static 3 HP & Drive									
2200	685	0.59	739	0.74	791	0.88	841	1.01	889	1.14	936	1.27	981	1.39	1025	1.51	1069	1.63	1111	1.75
2400	702	0.70	756	0.85	808	0.99	858	1.12	906	1.25	953	1.37	999	1.49	1043	1.62	1086	1.74	1129	1.86
2600	722	0.83	776	0.97	828	1.11	878	1.25	926	1.37	973	1.50	1018	1.62	1063	1.74	1106	1.86	1149	1.99
2800	744	0.97	798	1.12	850	1.26	900	1.39	949	1.52	995	1.64	1041	1.76	1085	1.88	1128	2.00	1171	2.13
3000	769	1.13	823	1.28	875	1.42	925	1.55	974	1.68	1020	1.80	1066	1.92	1110	2.05	1153	2.17	1196	2.29
3200	797	1.32	851	1.46	903	1.60	953	1.74	1001	1.86	1048	1.99	1093	2.11	1138	2.23	1181	2.35	1224	2.48
3400	828	1.52	882	1.67	934	1.81	983	1.94	1032	2.07	1078	2.19	1124	2.32	1168	2.44	1212	2.56	1254	2.68
3600	861	1.75	915	1.90	967	2.04	1017	2.17	1065	2.30	1112	2.42	1157	2.54	1201	2.67	1245	2.79	1287	2.91
3800	897	2.00	951	2.15	1002	2.29	1052	2.42	1101	2.55	1147	2.67	1193	2.80	1237	2.92	1280	3.04	1323	3.16
4000	935	2.27	989	2.42	1041	2.56	1091	2.69	1139	2.82	1186	2.95	1231	3.07	1275	3.19	1319	3.31	1362	3.43
4200	976	2.57	1030	2.72	1082	2.86	1132	2.99	1180	3.12	1227	3.24	1272	3.36	-	-	-	-	-	-
															3 HP & Field Supplied Drive					

1. Blower performance includes gas heat exchangers and 2” filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.
4. Field Supplied Drive.

ZJ120 (10 Ton) Bottom Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	Field Supplied Drive		Standard 2 HP & Drive										Hi Static 3 HP & Drive							
2600	722	0.83	776	0.97	828	1.11	878	1.25	926	1.37	973	1.50	1018	1.62	1063	1.74	1106	1.86	1149	1.99
2800	744	0.97	798	1.12	850	1.26	900	1.39	949	1.52	995	1.64	1041	1.76	1085	1.88	1128	2.00	1171	2.13
3000	769	1.13	823	1.28	875	1.42	925	1.55	974	1.68	1020	1.80	1066	1.92	1110	2.05	1153	2.17	1196	2.29
3200	797	1.32	851	1.46	903	1.60	953	1.74	1001	1.86	1048	1.99	1093	2.11	1138	2.23	1181	2.35	1224	2.48
3400	828	1.52	882	1.67	934	1.81	983	1.94	1032	2.07	1078	2.19	1124	2.32	1168	2.44	1212	2.56	1254	2.68
3600	861	1.75	915	1.90	967	2.04	1017	2.17	1065	2.30	1112	2.42	1157	2.54	1201	2.67	1245	2.79	1287	2.91
3800	897	2.00	951	2.15	1002	2.29	1052	2.42	1101	2.55	1147	2.67	1193	2.80	1237	2.92	1280	3.04	1323	3.16
4000	935	2.27	989	2.42	1041	2.56	1091	2.69	1139	2.82	1186	2.95	1231	3.07	1275	3.19	1319	3.31	1362	3.43
4200	976	2.57	1030	2.72	1082	2.86	1132	2.99	1180	3.12	1227	3.24	1272	3.36	-	-	-	-	-	-
4400	1019	2.88	1073	3.03	1125	3.17	1175	3.30	1223	3.43	-	-	-	-	-	-	-	-	-	-
4600	1065	3.22	1119	3.36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			3 HP & Field Supplied Drive																	

1. Blower performance includes gas heat exchangers and 2” filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.

ZJ150 (12.5 Ton) Bottom Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	Field Supplied Drive				Standard 3 HP & Drive										Hi Static 5 HP & Drive					
3200	797	1.32	851	1.46	903	1.60	953	1.74	1001	1.86	1048	1.99	1093	2.11	1138	2.23	1181	2.35	1224	2.48
3400	828	1.52	882	1.67	934	1.81	983	1.94	1032	2.07	1078	2.19	1124	2.32	1168	2.44	1212	2.56	1254	2.68
3600	861	1.75	915	1.90	967	2.04	1017	2.17	1065	2.30	1112	2.42	1157	2.54	1201	2.67	1245	2.79	1287	2.91
3800	897	2.00	951	2.15	1002	2.29	1052	2.42	1101	2.55	1147	2.67	1193	2.80	1237	2.92	1280	3.04	1323	3.16
4000	935	2.27	989	2.42	1041	2.56	1091	2.69	1139	2.82	1186	2.95	1231	3.07	1275	3.19	1319	3.31	1362	3.43
4200	976	2.57	1030	2.72	1082	2.86	1132	2.99	1180	3.12	1227	3.24	1272	3.36	1316	3.48	1360	3.60	1402	3.73
4400	1019	2.88	1073	3.03	1125	3.17	1175	3.30	1223	3.43	1270	3.55	1315	3.67	1360	3.80	1403	3.92	1446	4.04
4600	1065	3.22	1119	3.36	1171	3.50	1221	3.64	1269	3.76	1316	3.89	1361	4.01	1405	4.13	1449	4.25	1491	4.38
4800	1113	3.57	1167	3.72	1219	3.86	1269	3.99	1317	4.12	1364	4.24	1409	4.36	1453	4.48	1497	4.61	1540	4.73
5000	1163	3.94	1217	4.09	1269	4.23	1319	4.36	1367	4.49	1414	4.62	1459	4.74	1504	4.86	1547	4.98	1590	5.10
5200	1216	4.34	1270	4.48	1321	4.62	1371	4.76	1420	4.88	1466	5.01	1512	5.13	1556	5.25	1600	5.37	1642	5.50
5400	1270	4.75	1324	4.89	1376	5.03	1426	5.17	1474	5.29	1521	5.42	1566	5.54	1611	5.66	-	-	-	-
5600	1327	5.17	1381	5.32	1433	5.46	1483	5.59	1531	5.72	-	-	-	-	-	-	-	-	-	-
5800	1385	5.62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			5 HP & Field Supplied Drive																	

1. Blower performance includes gas heat exchangers and 2” filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.

ZR037-150 Side Duct Application

ZR037 (3.0 Ton) Side Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	FS[4]		Standard 1.5 HP & Drive								Hi Static 1.5 HP & Drive									
900	480	0.4	582	0.4	673	0.5	756	0.5	830	0.6	898	0.7	960	0.8	1018	0.9	1072	1.0	1124	1.1
1000	489	0.4	591	0.4	682	0.5	764	0.6	839	0.6	907	0.7	969	0.8	1026	0.9	1080	1.0	1132	1.1
1100	500	0.4	602	0.4	693	0.5	776	0.6	850	0.6	918	0.7	980	0.8	1038	0.9	1092	1.0	1144	1.1
1200	513	0.4	614	0.5	706	0.5	788	0.6	863	0.7	931	0.8	993	0.8	1050	0.9	1104	1.0	1156	1.1
1300	525	0.4	627	0.5	719	0.6	801	0.6	876	0.7	943	0.8	1005	0.9	1063	1.0	1117	1.1	1169	1.2
1400	537	0.5	639	0.5	731	0.6	813	0.7	888	0.7	955	0.8	1017	0.9	1075	1.0	1129	1.1	1181	1.2
1500	549	0.5	650	0.6	742	0.6	824	0.7	899	0.8	966	0.9	1028	0.9	1086	1.0	1140	1.1	1192	1.2

1. Blower performance includes gas heat exchangers and 2” filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.
4. Field Supplied Drive.

ZR049 (4.0 Ton) Side Duct

Air Flow (CFM	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	1.5 HP & Field Supplied Drive		Standard 1.5 HP & Drive								Hi Static 1.5 HP & Drive									
1200	513	0.4	614	0.5	706	0.5	788	0.6	863	0.7	931	0.8	993	0.8	1050	0.9	1104	1.0	1156	1.1
1300	525	0.4	627	0.5	719	0.6	801	0.6	876	0.7	943	0.8	1005	0.9	1063	1.0	1117	1.1	1169	1.2
1400	537	0.5	639	0.5	731	0.6	813	0.7	888	0.7	955	0.8	1017	0.9	1075	1.0	1129	1.1	1181	1.2
1500	549	0.5	650	0.6	742	0.6	824	0.7	899	0.8	966	0.9	1028	0.9	1086	1.0	1140	1.1	1192	1.2
1600	558	0.6	660	0.6	752	0.7	834	0.8	909	0.8	976	0.9	1038	1.0	1096	1.1	1150	1.2	1202	1.3
1700	566	0.6	668	0.7	760	0.7	842	0.8	917	0.9	984	1.0	1046	1.1	1104	1.1	1158	1.2	1210	1.4
1800	573	0.7	675	0.7	766	0.8	849	0.9	923	1.0	991	1.0	1053	1.1	1110	1.2	1164	1.3	1216	1.4
1900	577	0.8	679	0.8	771	0.9	853	1.0	928	1.0	995	1.1	1057	1.2	1115	1.3	1169	1.4	1221	1.5
2000	580	0.8	682	0.9	773	1.0	856	1.0	930	1.1	998	1.2	1060	1.3	1117	1.4	1172	1.5	1224	1.6
																			FS[4]	

1. Blower performance includes gas heat exchangers and 2” filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.
4. Field Supplied Drive.

ZR061 (5.0 Ton) Side Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	Standard 1.5 HP & Drive								Hi Static 2 HP & Drive											
1500	616	0.5	685	0.6	766	0.7	833	0.8	905	0.9	975	1.0	1035	1.0	1101	1.1	1163	1.2	1229	1.3
1600	638	0.6	707	0.7	781	0.7	848	0.8	920	0.9	990	1.0	1050	1.1	1104	1.1	1166	1.2	1232	1.3
1700	655	0.6	724	0.7	796	0.8	863	0.9	935	1.0	1005	1.1	1064	1.1	1109	1.2	1172	1.3	1238	1.4
1800	670	0.7	739	0.8	810	0.8	877	0.9	949	1.0	1018	1.1	1078	1.2	1117	1.2	1179	1.3	1245	1.5
1900	686	0.7	755	0.8	823	0.9	890	1.0	962	1.1	1032	1.2	1091	1.2	1125	1.3	1187	1.4	1253	1.5
2000	702	0.8	772	0.9	836	1.0	903	1.1	975	1.2	1045	1.3	1078	1.3	1135	1.4	1197	1.5	1263	1.6
2100	722	0.9	791	1.0	849	1.0	916	1.1	988	1.2	1058	1.3	1089	1.4	1147	1.5	1209	1.6	1275	1.7
2200	745	0.9	814	1.0	861	1.1	928	1.2	1000	1.3	1050	1.4	1102	1.5	1159	1.6	1221	1.7	1287	1.8
2300	772	1.0	841	1.1	874	1.2	941	1.3	1013	1.4	1064	1.5	1115	1.6	1173	1.7	1235	1.8	-	-
2400	804	1.1	832	1.2	886	1.3	953	1.4	1033	1.4	1078	1.6	1130	1.7	1188	1.8	-	-	-	-
2500	841	1.2	844	1.3	898	1.4	965	1.5	1049	1.5	1094	1.7	-	-	-	-	2 HP & Field Supplied Drive			

1. Blower performance includes gas heat exchangers and 2” filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.

ZR078-150 Side Duct Application

ZR078 (6.5 Ton) Side Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	1.5 HP & Field Supplied Drive						Standard 1.5 HP & Drive								Hi Static 2 HP & Drive					
1800	778	0.37	838	0.56	895	0.73	951	0.88	1005	1.01	1059	1.13	1112	1.25	1166	1.36	1221	1.47	1278	1.59
2000	803	0.50	864	0.69	921	0.85	977	1.00	1031	1.14	1085	1.26	1138	1.37	1192	1.49	1247	1.60	1304	1.72
2200	833	0.64	893	0.83	951	1.00	1006	1.14	1061	1.28	1114	1.40	1168	1.51	1221	1.63	1276	1.74	1333	1.86
2400	866	0.80	926	0.99	984	1.15	1039	1.30	1094	1.43	1147	1.56	1201	1.67	1254	1.78	1309	1.90	1366	2.02
2600	902	0.97	962	1.16	1020	1.33	1076	1.47	1130	1.61	1183	1.73	1237	1.85	1291	1.96	1346	2.07	1402	2.19
2800	941	1.16	1002	1.35	1059	1.52	1115	1.67	1169	1.80	1222	1.92	1276	2.04	1330	2.15	1385	2.26	-	-
3000	983	1.37	1043	1.56	1101	1.73	1157	1.88	1211	2.01	1264	2.13	1318	2.25	-	-	-	-	-	-
3200	1028	1.60	1088	1.79	1145	1.95	1201	2.10	1255	2.24	-	-	-	-	-	-	-	-	-	-
3400	1074	1.84	1134	2.03	1192	2.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-
											2 HP & Field Supplied Drive									

1. Blower performance includes gas heat exchangers and 2” filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.

ZR090 (7.5 Ton) Side Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	1.5 HP & Field Supplied Drive						Standard 1.5 HP & Drive						Hi Static 3 HP & Drive							
2000	803	0.50	864	0.69	921	0.85	977	1.00	1031	1.14	1085	1.26	1138	1.37	1192	1.49	1247	1.60	1304	1.72
2200	833	0.64	893	0.83	951	1.00	1006	1.14	1061	1.28	1114	1.40	1168	1.51	1221	1.63	1276	1.74	1333	1.86
2400	866	0.80	926	0.99	984	1.15	1039	1.30	1094	1.43	1147	1.56	1201	1.67	1254	1.78	1309	1.90	1366	2.02
2600	902	0.97	962	1.16	1020	1.33	1076	1.47	1130	1.61	1183	1.73	1237	1.85	1291	1.96	1346	2.07	1402	2.19
2800	941	1.16	1002	1.35	1059	1.52	1115	1.67	1169	1.80	1222	1.92	1276	2.04	1330	2.15	1385	2.26	1442	2.38
3000	983	1.37	1043	1.56	1101	1.73	1157	1.88	1211	2.01	1264	2.13	1318	2.25	1372	2.36	1427	2.47	1483	2.59
3200	1028	1.60	1088	1.79	1145	1.95	1201	2.10	1255	2.24	1309	2.36	1362	2.47	1416	2.59	1471	2.70	1528	2.82
3400	1074	1.84	1134	2.03	1192	2.20	1248	2.35	1302	2.48	1355	2.60	1409	2.72	1463	2.83	1518	2.94	1574	3.06
3600	1123	2.10	1183	2.29	1241	2.46	1297	2.61	1351	2.74	1404	2.86	1458	2.98	1512	3.09	1567	3.21	1623	3.32
3800	1174	2.38	1234	2.57	1292	2.74	1348	2.88	1402	3.02	1455	3.14	1509	3.26	1562	3.37	-	-	-	-
									3 HP & Field Supplied Drive											

1. Blower performance includes gas heat exchangers and 2” filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.

ZR102 (8.5 Ton) Side Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	2 HP & Field Supplied Drive		Standard 2 HP & Drive										Hi Static 3 HP & Drive							
2200	684	0.48	735	0.67	783	0.84	829	1.01	874	1.17	918	1.32	960	1.48	1001	1.63	1041	1.78	1081	1.94
2400	695	0.58	745	0.76	793	0.94	840	1.11	885	1.27	928	1.42	970	1.57	1011	1.73	1052	1.88	1091	2.04
2600	706	0.67	756	0.86	805	1.04	851	1.20	896	1.36	939	1.52	981	1.67	1023	1.82	1063	1.98	1103	2.13
2800	719	0.78	769	0.96	817	1.14	863	1.31	908	1.47	952	1.62	994	1.78	1035	1.93	1075	2.08	1115	2.24
3000	732	0.89	782	1.08	831	1.25	877	1.42	922	1.58	965	1.74	1007	1.89	1049	2.04	1089	2.19	1128	2.35
3200	747	1.02	797	1.21	846	1.38	892	1.55	937	1.71	980	1.86	1023	2.02	1064	2.17	1104	2.32	1144	2.48
3400	764	1.16	814	1.35	862	1.53	909	1.69	954	1.85	997	2.01	1039	2.16	1080	2.31	1121	2.47	1160	2.62
3600	783	1.33	833	1.51	881	1.69	927	1.86	972	2.02	1016	2.17	1058	2.32	1099	2.48	1139	2.63	1179	2.79
3800	803	1.51	853	1.69	901	1.87	948	2.04	992	2.20	1036	2.35	1078	2.50	1119	2.66	1159	2.81	1199	2.97
4000	825	1.71	875	1.89	923	2.07	970	2.23	1014	2.39	1058	2.55	1100	2.70	1141	2.86	1181	3.01	1221	3.16
4200	849	1.92	899	2.11	947	2.29	993	2.45	1038	2.61	1082	2.77	1124	2.92	1165	3.07	1205	3.23	1245	3.38
													3 HP & Field Supplied Drive							

1. Blower performance includes gas heat exchangers and 2” filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.

ZR120 (10 Ton) Side Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	2 HP & Field Supplied Drive				Standard 2 HP & Drive								Hi Static 3 HP & Drive							
2600	706	0.67	756	0.86	805	1.04	851	1.20	896	1.36	939	1.52	981	1.67	1023	1.82	1063	1.98	1103	2.13
2800	719	0.78	769	0.96	817	1.14	863	1.31	908	1.47	952	1.62	994	1.78	1035	1.93	1075	2.08	1115	2.24
3000	732	0.89	782	1.08	831	1.25	877	1.42	922	1.58	965	1.74	1007	1.89	1049	2.04	1089	2.19	1128	2.35
3200	747	1.02	797	1.21	846	1.38	892	1.55	937	1.71	980	1.86	1023	2.02	1064	2.17	1104	2.32	1144	2.48
3400	764	1.16	814	1.35	862	1.53	909	1.69	954	1.85	997	2.01	1039	2.16	1080	2.31	1121	2.47	1160	2.62
3600	783	1.33	833	1.51	881	1.69	927	1.86	972	2.02	1016	2.17	1058	2.32	1099	2.48	1139	2.63	1179	2.79
3800	803	1.51	853	1.69	901	1.87	948	2.04	992	2.20	1036	2.35	1078	2.50	1119	2.66	1159	2.81	1199	2.97
4000	825	1.71	875	1.89	923	2.07	970	2.23	1014	2.39	1058	2.55	1100	2.70	1141	2.86	1181	3.01	1221	3.16
4200	849	1.92	899	2.11	947	2.29	993	2.45	1038	2.61	1082	2.77	1124	2.92	1165	3.07	1205	3.23	1245	3.38
4400	874	2.16	924	2.35	972	2.52	1019	2.69	1064	2.85	1107	3.01	1149	3.16	1190	3.31	-	-	-	-
4600	901	2.42	952	2.61	1000	2.78	1046	2.95	1091	3.11	1134	3.26	1177	3.42	-	-	-	-	-	-
4800	930	2.70	981	2.88	1029	3.06	1075	3.23	1120	3.39	-	-	-	-	-	-	-	-	-	-
5000	961	2.99	1011	3.18	1059	3.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-
									3 HP & Field Supplied Drive											

1. Blower performance includes gas heat exchangers and 2" filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.

ZR150 (12.5 Ton) Side Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	3 HP & Field Supplied Drive						Standard 3 HP & Drive													
3200	747	1.02	797	1.21	846	1.38	892	1.55	937	1.71	980	1.86	1023	2.02	1064	2.17	1104	2.32	1144	2.48
3400	764	1.16	814	1.35	862	1.53	909	1.69	954	1.85	997	2.01	1039	2.16	1080	2.31	1121	2.47	1160	2.62
3600	783	1.33	833	1.51	881	1.69	927	1.86	972	2.02	1016	2.17	1058	2.32	1099	2.48	1139	2.63	1179	2.79
3800	803	1.51	853	1.69	901	1.87	948	2.04	992	2.20	1036	2.35	1078	2.50	1119	2.66	1159	2.81	1199	2.97
4000	825	1.71	875	1.89	923	2.07	970	2.23	1014	2.39	1058	2.55	1100	2.70	1141	2.86	1181	3.01	1221	3.16
4200	849	1.92	899	2.11	947	2.29	993	2.45	1038	2.61	1082	2.77	1124	2.92	1165	3.07	1205	3.23	1245	3.38
4400	874	2.16	924	2.35	972	2.52	1019	2.69	1064	2.85	1107	3.01	1149	3.16	1190	3.31	1231	3.47	1270	3.62
4600	901	2.42	952	2.61	1000	2.78	1046	2.95	1091	3.11	1134	3.26	1177	3.42	1218	3.57	1258	3.72	1298	3.88
4800	930	2.70	981	2.88	1029	3.06	1075	3.23	1120	3.39	1163	3.54	1206	3.69	1247	3.85	1287	4.00	1327	4.16
5000	961	2.99	1011	3.18	1059	3.35	1106	3.52	1151	3.68	1194	3.84	1236	3.99	1277	4.14	1318	4.29	1357	4.45
5200	993	3.31	1043	3.49	1092	3.67	1138	3.84	1183	4.00	1226	4.15	1269	4.30	1310	4.46	1350	4.61	1390	4.77
5400	1027	3.64	1077	3.83	1126	4.00	1172	4.17	1217	4.33	1260	4.48	1302	4.64	1344	4.79	1384	4.94	1424	5.10
5600	1063	3.99	1113	4.18	1161	4.35	1207	4.52	1252	4.68	1296	4.84	1338	4.99	1379	5.14	1419	5.29	1459	5.45
5800	1100	4.36	1150	4.55	1198	4.72	1244	4.89	1289	5.05	1333	5.20	1375	5.36	1416	5.51	1456	5.66	-	-
6000	1138	4.75	1188	4.93	1237	5.11	1283	5.28	1328	5.44	1371	5.59	1413	5.74	-	-	-	-	-	-
6200	1178	5.15	1228	5.34	1277	5.51	1323	5.68	-	-	-	-	-	-	-	-	-	-	-	-
	Hi Static 5 HP & Drive				5 HP & Field Supplied Drive															

1. Blower performance includes gas heat exchangers and 2" filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.

ZR037-150 Bottom Duct Application

ZR037 (3.0 Ton) Bottom Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	FS[4]		Standard 1.5 HP & Drive								Hi Static 1.5 HP & Drive									
900	544	0.4	632	0.5	708	0.5	774	0.6	834	0.7	889	0.8	941	0.9	993	1.0	1047	1.1	1104	1.2
1000	549	0.4	637	0.5	713	0.5	779	0.6	839	0.7	894	0.8	946	0.9	998	1.0	1052	1.1	1109	1.2
1100	562	0.4	649	0.5	725	0.6	792	0.6	852	0.7	906	0.8	959	0.9	1010	1.0	1064	1.1	1121	1.2
1200	579	0.5	666	0.5	742	0.6	809	0.6	868	0.7	923	0.8	975	0.9	1027	1.0	1081	1.1	1138	1.2
1300	598	0.5	685	0.5	761	0.6	828	0.7	887	0.8	942	0.8	994	0.9	1046	1.0	1100	1.2	1157	1.3
1400	617	0.5	705	0.6	781	0.6	847	0.7	907	0.8	962	0.9	1014	1.0	1066	1.1	1119	1.2	1177	1.3
1500	637	0.6	724	0.6	800	0.7	867	0.8	927	0.8	981	0.9	1034	1.0	1085	1.1	1139	1.2	1196	1.4
																			FS[4]	

1. Blower performance includes gas heat exchangers and 2” filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.
4. Field Supplied Drive.

ZR049 (4.0 Ton) Bottom Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	Standard 1.5 HP & Drive										Hi Static 1.5 HP & Drive									
1200	579	0.5	666	0.5	742	0.6	809	0.6	868	0.7	923	0.8	975	0.9	1027	1.0	1081	1.1	1138	1.2
1300	598	0.5	685	0.5	761	0.6	828	0.7	887	0.8	942	0.8	994	0.9	1046	1.0	1100	1.2	1157	1.3
1400	617	0.5	705	0.6	781	0.6	847	0.7	907	0.8	962	0.9	1014	1.0	1066	1.1	1119	1.2	1177	1.3
1500	637	0.6	724	0.6	800	0.7	867	0.8	927	0.8	981	0.9	1034	1.0	1085	1.1	1139	1.2	1196	1.4
1600	655	0.6	743	0.7	819	0.7	885	0.8	945	0.9	1000	1.0	1052	1.1	1104	1.2	1158	1.3	1215	1.4
1700	672	0.7	760	0.7	836	0.8	902	0.9	962	1.0	1017	1.0	1069	1.1	1121	1.2	1175	1.3	1232	1.5
1800	687	0.7	775	0.8	851	0.9	918	0.9	977	1.0	1032	1.1	1084	1.2	1136	1.3	1190	1.4	1247	1.5
1900	700	0.8	788	0.9	864	0.9	930	1.0	990	1.1	1045	1.2	1097	1.3	1149	1.4	1202	1.5	1260	1.6
2000	711	0.9	798	0.9	874	1.0	941	1.1	1000	1.2	1055	1.2	1107	1.3	1159	1.4	1213	1.6	1270	1.7
																			FS[4]	

1. Blower performance includes gas heat exchangers and 2” filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.
4. Field Supplied Drive.

ZR061 (5.0 Ton) Bottom Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	Standard 1.5 HP & Drive								Hi Static 2 HP & Drive											
1500	613	0.5	684	0.6	759	0.7	831	0.7	928	0.8	984	0.9	1042	1.0	1093	1.1	1149	1.2	1201	1.3
1600	629	0.6	700	0.6	775	0.7	847	0.8	929	0.8	985	0.9	1043	1.0	1098	1.1	1154	1.2	1206	1.3
1700	646	0.6	717	0.7	793	0.8	864	0.8	934	0.9	990	1.0	1048	1.1	1106	1.2	1161	1.3	1214	1.4
1800	666	0.7	737	0.7	812	0.8	884	0.9	943	1.0	999	1.1	1057	1.2	1116	1.3	1172	1.4	1224	1.5
1900	687	0.7	758	0.8	833	0.9	905	0.9	954	1.0	1010	1.1	1068	1.2	1128	1.3	1184	1.4	1236	1.5
2000	710	0.8	781	0.9	856	0.9	927	1.0	968	1.1	1024	1.2	1082	1.3	1142	1.4	1198	1.5	1250	1.6
2100	733	0.8	804	0.9	879	1.0	951	1.1	983	1.2	1039	1.3	1097	1.4	1157	1.5	1213	1.6	1265	1.7
2200	758	0.9	828	1.0	904	1.1	947	1.2	1000	1.3	1056	1.4	1116	1.5	1174	1.6	1229	1.7	1281	1.8
2300	783	1.0	854	1.1	929	1.1	964	1.3	1018	1.4	1075	1.5	1133	1.6	1191	1.7	1246	1.8	-	-
2400	809	1.1	879	1.2	932	1.3	983	1.4	1037	1.5	1094	1.6	1152	1.7	1209	1.8	-	-	-	-
2500	835	1.1	906	1.2	951	1.4	1001	1.5	1055	1.6	1112	1.7	1170	1.8	2 HP & Field Supplied Drive					

1. Blower performance includes gas heat exchangers and 2” filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.

ZR078-150 Bottom Duct Application

ZR078 (6.5 Ton) Bottom Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	1.5 HP & Field Supplied Drive				Standard 1.5 HP & Drive						Hi Static 2 HP & Drive									
1800	801	0.45	874	0.65	946	0.82	1018	0.97	1090	1.11	1163	1.25	1238	1.38	1315	1.52	1395	1.68	1477	1.86
2000	831	0.59	903	0.78	975	0.95	1047	1.10	1119	1.24	1193	1.38	1267	1.51	1344	1.66	1424	1.81	1507	1.99
2200	867	0.74	940	0.93	1012	1.10	1084	1.25	1156	1.39	1229	1.53	1304	1.66	1381	1.81	1461	1.96	1543	2.14
2400	910	0.91	983	1.10	1055	1.27	1126	1.43	1199	1.57	1272	1.70	1347	1.84	1424	1.98	1503	2.14	-	-
2600	957	1.10	1030	1.30	1102	1.47	1174	1.62	1246	1.76	1320	1.89	1394	2.03	1471	2.17	-	-	-	-
2800	1009	1.32	1082	1.51	1154	1.69	1225	1.84	1298	1.98	1371	2.11	1446	2.25	-	-	-	-	-	-
3000	1064	1.56	1137	1.75	1208	1.92	1280	2.08	1353	2.22	-	-	-	-	-	-	-	-	-	-
3200	1122	1.82	1194	2.02	1266	2.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3400	1182	2.10	1254	2.30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
					2 HP & Field Supplied Drive															

1. Blower performance includes gas heat exchangers and 2" filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.

ZR090 (7.5 Ton) Bottom Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	1.5 HP & Field Supplied Drive		Standard 1.5 HP & Drive								Hi Static 3 HP & Drive									
2000	831	0.59	903	0.78	975	0.95	1047	1.10	1119	1.24	1193	1.38	1267	1.51	1344	1.66	1424	1.81	1507	1.99
2200	867	0.74	940	0.93	1012	1.10	1084	1.25	1156	1.39	1229	1.53	1304	1.66	1381	1.81	1461	1.96	1543	2.14
2400	910	0.91	983	1.10	1055	1.27	1126	1.43	1199	1.57	1272	1.70	1347	1.84	1424	1.98	1503	2.14	1586	2.31
2600	957	1.10	1030	1.30	1102	1.47	1174	1.62	1246	1.76	1320	1.89	1394	2.03	1471	2.17	1551	2.33	1634	2.51
2800	1009	1.32	1082	1.51	1154	1.69	1225	1.84	1298	1.98	1371	2.11	1446	2.25	1523	2.39	1602	2.55	1685	2.73
3000	1064	1.56	1137	1.75	1208	1.92	1280	2.08	1353	2.22	1426	2.35	1501	2.49	1578	2.63	1657	2.79	1740	2.96
3200	1122	1.82	1194	2.02	1266	2.19	1338	2.34	1410	2.48	1484	2.61	1559	2.75	1636	2.89	1715	3.05	1798	3.23
3400	1182	2.10	1254	2.30	1326	2.47	1398	2.62	1471	2.76	1544	2.90	1619	3.03	1696	3.17	1775	3.33	-	-
3600	1244	2.41	1317	2.60	1389	2.77	1461	2.93	1533	3.07	1606	3.20	1681	3.33	-	-	-	-	-	-
3800	1308	2.73	1381	2.93	1453	3.10	1525	3.25	1597	3.39	-	-	-	-	-	-	-	-	-	-
			3 HP & Field Supplied Drive																	

1. Blower performance includes gas heat exchangers and 2" filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.

ZR102 (8.5 Ton) Bottom Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	2 HP & Field Supplied Drive		Standard 2 HP & Drive								Hi Static 3 HP & Drive									
2200	715	0.72	768	0.85	818	0.98	867	1.09	914	1.21	960	1.32	1004	1.43	1047	1.53	1089	1.64	1131	1.75
2400	734	0.83	786	0.96	837	1.08	886	1.20	933	1.31	978	1.42	1022	1.53	1066	1.64	1108	1.75	1150	1.86
2600	755	0.95	808	1.08	858	1.20	907	1.32	954	1.44	1000	1.55	1044	1.65	1087	1.76	1129	1.87	1171	1.98
2800	779	1.09	832	1.22	882	1.35	931	1.46	978	1.58	1024	1.69	1068	1.80	1111	1.90	1153	2.01	1195	2.12
3000	806	1.25	859	1.38	910	1.51	958	1.63	1005	1.74	1051	1.85	1095	1.96	1138	2.07	1181	2.17	1222	2.28
3200	837	1.44	889	1.57	940	1.69	989	1.81	1036	1.93	1081	2.04	1125	2.14	1168	2.25	1211	2.36	1252	2.47
3400	870	1.65	922	1.78	973	1.90	1022	2.02	1069	2.13	1114	2.24	1158	2.35	1202	2.46	1244	2.57	1286	2.68
3600	906	1.88	959	2.01	1009	2.13	1058	2.25	1105	2.36	1150	2.47	1195	2.58	1238	2.69	1280	2.80	1322	2.91
3800	945	2.13	998	2.26	1048	2.38	1097	2.50	1144	2.61	1190	2.72	1234	2.83	1277	2.94	1319	3.05	1361	3.16
4000	987	2.40	1040	2.53	1090	2.66	1139	2.78	1186	2.89	1231	3.00	1276	3.11	1319	3.21	1361	3.32	1403	3.43
4200	1032	2.70	1084	2.83	1135	2.95	1184	3.07	1231	3.18	1276	3.29	1320	3.40	-	-	-	-	-	-
											3 HP & Field Supplied Drive									

1. Blower performance includes gas heat exchangers and 2" filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.

ZR120 (10 Ton) Bottom Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	2 HP & Field Supplied Drive		Standard 2 HP & Drive								Hi Static 3 HP & Drive									
2600	755	0.95	808	1.08	858	1.20	907	1.32	954	1.44	1000	1.55	1044	1.65	1087	1.76	1129	1.87	1171	1.98
2800	779	1.09	832	1.22	882	1.35	931	1.46	978	1.58	1024	1.69	1068	1.80	1111	1.90	1153	2.01	1195	2.12
3000	806	1.25	859	1.38	910	1.51	958	1.63	1005	1.74	1051	1.85	1095	1.96	1138	2.07	1181	2.17	1222	2.28
3200	837	1.44	889	1.57	940	1.69	989	1.81	1036	1.93	1081	2.04	1125	2.14	1168	2.25	1211	2.36	1252	2.47
3400	870	1.65	922	1.78	973	1.90	1022	2.02	1069	2.13	1114	2.24	1158	2.35	1202	2.46	1244	2.57	1286	2.68
3600	906	1.88	959	2.01	1009	2.13	1058	2.25	1105	2.36	1150	2.47	1195	2.58	1238	2.69	1280	2.80	1322	2.91
3800	945	2.13	998	2.26	1048	2.38	1097	2.50	1144	2.61	1190	2.72	1234	2.83	1277	2.94	1319	3.05	1361	3.16
4000	987	2.40	1040	2.53	1090	2.66	1139	2.78	1186	2.89	1231	3.00	1276	3.11	1319	3.21	1361	3.32	1403	3.43
4200	1032	2.70	1084	2.83	1135	2.95	1184	3.07	1231	3.18	1276	3.29	1320	3.40	-	-	-	-	-	-
4400	1079	3.01	1132	3.15	1182	3.27	1231	3.39	-	-	-	-	-	-	-	-	-	-	-	-
4600	1129	3.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3 HP & Field Supplied Drive																			

1. Blower performance includes gas heat exchangers and 2” filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.

ZR150 (12.5 Ton) Bottom Duct

Air Flow (CFM)	Available External Static Pressure - IWG[1]																			
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	3 HP & Field Supplied Drive		Standard 3 HP & Drive										Hi Static 5 HP & Drive							
3200	837	1.44	889	1.57	940	1.69	989	1.81	1036	1.93	1081	2.04	1125	2.14	1168	2.25	1211	2.36	1252	2.47
3400	870	1.65	922	1.78	973	1.90	1022	2.02	1069	2.13	1114	2.24	1158	2.35	1202	2.46	1244	2.57	1286	2.68
3600	906	1.88	959	2.01	1009	2.13	1058	2.25	1105	2.36	1150	2.47	1195	2.58	1238	2.69	1280	2.80	1322	2.91
3800	945	2.13	998	2.26	1048	2.38	1097	2.50	1144	2.61	1190	2.72	1234	2.83	1277	2.94	1319	3.05	1361	3.16
4000	987	2.40	1040	2.53	1090	2.66	1139	2.78	1186	2.89	1231	3.00	1276	3.11	1319	3.21	1361	3.32	1403	3.43
4200	1032	2.70	1084	2.83	1135	2.95	1184	3.07	1231	3.18	1276	3.29	1320	3.40	1364	3.51	1406	3.62	1447	3.73
4400	1079	3.01	1132	3.15	1182	3.27	1231	3.39	1278	3.50	1324	3.61	1368	3.72	1411	3.83	1453	3.93	1495	4.05
4600	1129	3.35	1182	3.48	1232	3.61	1281	3.72	1328	3.84	1374	3.95	1418	4.06	1461	4.16	1503	4.27	1545	4.38
4800	1182	3.71	1235	3.84	1285	3.96	1334	4.08	1381	4.20	1426	4.31	1471	4.41	1514	4.52	1556	4.63	1598	4.74
5000	1237	4.08	1290	4.22	1340	4.34	1389	4.46	1436	4.57	1481	4.68	1526	4.79	1569	4.90	1611	5.01	1653	5.12
5200	1294	4.48	1347	4.61	1398	4.74	1446	4.85	1493	4.97	1539	5.08	1583	5.19	1626	5.29	1669	5.40	1710	5.51
5400	1354	4.89	1407	5.03	1457	5.15	1506	5.27	1553	5.38	1599	5.49	1643	5.60	1686	5.71	-	-	-	-
5600	1416	5.33	1469	5.46	1519	5.58	1568	5.70	-	-	-	-	-	-	-	-	-	-	-	-
5800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5 HP & Field Supplied Drive																			

1. Blower performance includes gas heat exchangers and 2” filters. See STATIC RESISTANCE table for additional applications.
2. See RPM SELECTION table to determine desired motor sheave setting and to determine the maximum continuous BHP.
3. kW = BHP x 0.932.

Sound Performance

Indoor Sound Power Levels (3 thru 5 Ton)

Indoor Sound Power Levels (Horizontal Ducted Inlet, Standard Static Belt Drive)

UNIT DESCRIPTION / MODEL	ZH/ZJ/ZR037 / 3 Ton / Standard Static Belt Drive			
TEST CONFIGURATION	Horizontal (Side Return) Ducted Inlet			
Indoor Blower Speed (RPM)	612 - 3 Turns Open Equivalent		709 - 1 Turn Open Equivalent	
External Static Pressure (IWG)	0.5		0.4	
Airflow (CFM)	850		1300	
Blower Motor BHP	0.37		0.40	
Octave Center Freq. Hz	ID Blower Only (dB)	Cooling Operation[1] (dB)	ID Blower Only (dB)	Cooling Operation[1] (dB)
63	73	77	73	77
125	61	70	66	71
250	56	63	60	64
500	51	56	55	57
1000	44	48	51	52
2000	41	44	48	49
4000	44	47	47	48
8000	42	44	43	44

1. Cooling Operation – ID blower, compressor and outdoor fan operating at 230 VAC.

- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

UNIT DESCRIPTION / MODEL	ZH/ZJ/ZR049 / 4 Ton / Standard Static Belt Drive			
TEST CONFIGURATION	Horizontal (Side Return) Ducted Inlet			
Indoor Blower Speed (RPM)	612 - 3 Turns Open Equivalent		709 - 1 Turn Open Equivalent	
External Static Pressure (IWG)	0.5		0.4	
Airflow (CFM)	850		1300	
Blower Motor BHP	0.37		0.40	
Octave Center Freq. Hz	ID Blower Only (dB)	Cooling Operation[1] (dB)	ID Blower Only (dB)	Cooling Operation[1] (dB)
63	73	77	73	77
125	61	70	66	71
250	56	63	60	64
500	51	56	55	57
1000	44	48	51	52
2000	41	44	48	49
4000	44	47	47	48
8000	42	44	43	44

1. Cooling Operation – ID blower, compressor and outdoor fan operating at 230 VAC.

- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

UNIT DESCRIPTION / MODEL	ZH/ZJ/ZR061 / 5 Ton / Standard Static Belt Drive			
TEST CONFIGURATION	Horizontal (Side Return) Ducted Inlet			
Indoor Blower Speed (RPM)	814 - 3 Turns Open Equivalent		918 - 1 Turn Open Equivalent	
External Static Pressure (IWG)	0.6		0.8	
Airflow (CFM)	1700		1950	
Blower Motor BHP	0.42		0.88	
Octave Center Freq. Hz	ID Blower Only (dB)	Cooling Operation[1] (dB)	ID Blower Only (dB)	Cooling Operation[1] (dB)
63	77	81	85	82
125	71	80	68	81
250	63	67	64	68
500	58	60	60	61
1000	56	57	58	59
2000	52	53	55	55
4000	51	51	54	54
8000	47	47	48	48

1. Cooling Operation – ID blower, compressor and outdoor fan operating at 230 VAC.

- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

Indoor Sound Power Levels (Horizontal Ducted Discharge, Standard Static Belt Drive)

UNIT DESCRIPTION / MODEL	ZH/ZJ/ZR037 / 3 Ton / Standard Static Belt Drive			
TEST CONFIGURATION	Horizontal (Side Supply) Ducted Discharge			
Indoor Blower Speed (RPM)	610 - 3 Turns Open Equivalent		710 - 1 Turn Open Equivalent	
External Static Pressure (IWG)	0.5		0.6	
Airflow (CFM)	850		950	
Blower Motor BHP	0.37		0.42	
Octave Center Freq. Hz	ID Blower Only (dB)	Cooling Operation[1] (dB)	ID Blower Only (dB)	Cooling Operation[1] (dB)
63	77	78	79	79
125	74	75	75	76
250	66	68	70	70
500	61	61	65	64
1000	60	62	65	66
2000	52	52	58	58
4000	52	52	59	60
8000	44	44	50	50

1. Cooling Operation – ID blower, compressor and outdoor fan operating at 230 VAC.

- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

UNIT DESCRIPTION / MODEL	ZH/ZJ/ZR049 / 4 Ton / Standard Static Belt Drive			
TEST CONFIGURATION	Horizontal (Side Supply) Ducted Discharge			
Indoor Blower Speed (RPM)	610 - 3 Turns Open Equivalent		710 - 1 Turn Open Equivalent	
External Static Pressure (IWG)	0.5		0.6	
Airflow (CFM)	850		950	
Blower Motor BHP	0.37		0.42	
Octave Center Freq. Hz	ID Blower Only (dB)	Cooling Operation[1] (dB)	ID Blower Only (dB)	Cooling Operation[1] (dB)
63	77	78	79	79
125	74	75	75	76
250	66	68	70	70
500	61	61	65	64
1000	60	62	65	66
2000	52	52	58	58
4000	52	52	59	60
8000	44	44	50	50

1. Cooling Operation – ID blower, compressor and outdoor fan operating at 230 VAC.
- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

UNIT DESCRIPTION / MODEL	ZH/ZJ/ZR061 / 5 Ton / Standard Static Belt Drive			
TEST CONFIGURATION	Horizontal (Side Supply) Ducted Discharge			
Indoor Blower Speed (RPM)	810 - 3 Turns Open Equivalent		918 - 1 Turn Open Equivalent	
External Static Pressure (IWG)	0.4		0.8	
Airflow (CFM)	2050		1950	
Blower Motor BHP	0.73		0.88	
Octave Center Freq. Hz	ID Blower Only (dB)	Cooling Operation[1] (dB)	ID Blower Only (dB)	Cooling Operation[1] (dB)
63	85	83	83	83
125	78	79	76	79
250	69	70	69	70
500	68	68	68	68
1000	64	64	65	65
2000	63	63	64	64
4000	64	64	64	64
8000	59	59	59	60

1. Cooling Operation – ID blower, compressor and outdoor fan operating at 230 VAC.
- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

Indoor Sound Power Levels (Vertical Ducted Inlet, Standard Static Belt Drive)

UNIT DESCRIPTION / MODEL	ZH/ZJ/ZR037 / 3 Ton / Standard Static Belt Drive			
TEST CONFIGURATION	Vertical (Bottom Return) Ducted Inlet			
Indoor Blower Speed (RPM)	609 - 3 Turns Open Equivalent		708 - 1 Turn Open Equivalent	
External Static Pressure (IWG)	0.4		0.4	
Airflow (CFM)	850		1150	
Blower Motor BHP	0.32		0.38	
Octave Center Freq. Hz	ID Blower Only (dB)	Cooling Operation[1] (dB)	ID Blower Only (dB)	Cooling Operation[1] (dB)
63	76	76	74	76
125	63	70	66	70
250	55	62	59	62
500	54	55	58	59
1000	48	48	53	53
2000	44	44	48	48
4000	41	44	45	46
8000	42	43	43	44

1. Differentials for Cooling Operation (IDB, COMP, & ODF) are logarithmically calculated from the horizontal flow sound test.

- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

UNIT DESCRIPTION / MODEL	ZH/ZJ/ZR049 / 4 Ton / Standard Static Belt Drive			
TEST CONFIGURATION	Vertical (Bottom Return) Ducted Inlet			
Indoor Blower Speed (RPM)	609 - 3 Turns Open Equivalent		708 - 1 Turn Open Equivalent	
External Static Pressure (IWG)	0.4		0.4	
Airflow (CFM)	850		1150	
Blower Motor BHP	0.32		0.38	
Octave Center Freq. Hz	ID Blower Only (dB)	Cooling Operation[1] (dB)	ID Blower Only (dB)	Cooling Operation[1] (dB)
63	76	76	74	76
125	63	70	66	70
250	55	62	59	62
500	54	55	58	59
1000	48	48	53	53
2000	44	44	48	48
4000	41	44	45	46
8000	42	43	43	44

1. Differentials for Cooling Operation (IDB, COMP, & ODF) are logarithmically calculated from the horizontal flow sound test.

- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

UNIT DESCRIPTION / MODEL	ZH/ZJ/ZR061 / 5 Ton / Standard Static Belt Drive			
TEST CONFIGURATION	Vertical (Bottom Return) Ducted Inlet			
Indoor Blower Speed (RPM)	812 - 3 Turns Open Equivalent		915- 1 Turn Open Equivalent	
External Static Pressure (IWG)	0.6		0.8	
Airflow (CFM)	1575		1800	
Blower Motor BHP	0.64		0.83	
Octave Center Freq. Hz	ID Blower Only (dB)	Cooling Operation[1] (dB)	ID Blower Only (dB)	Cooling Operation[1] (dB)
63	75	78	80	80
125	66	80	69	81
250	59	66	62	65
500	60	60	63	63
1000	57	57	60	60
2000	52	53	55	55
4000	49	50	53	53
8000	44	45	47	47

1. Differentials for Cooling Operation (IDB, COMP, & ODF) are logarithmically calculated from the horizontal flow sound test.

- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

Indoor Sound Power Levels (Vertical Ducted Discharge, Standard Static Belt Drive)

UNIT DESCRIPTION / MODEL	ZH/ZJ/ZR037 / 3 Ton / Standard Static Belt Drive			
TEST CONFIGURATION	Vertical (Bottom Supply) Ducted Discharge			
Indoor Blower Speed (RPM)	609 - 3 Turns Open Equivalent		712 - 1 Turn Open Equivalent	
External Static Pressure (IWG)	0.4		0.6	
Airflow (CFM)	850		950	
Blower Motor BHP	0.32		0.42	
Octave Center Freq. Hz	ID Blower Only (dB)	Cooling Operation[1] (dB)	ID Blower Only (dB)	Cooling Operation[1] (dB)
63	76	77	81	81
125	68	68	72	72
250	55	65	57	57
500	56	57	57	57
1000	51	57	52	56
2000	49	49	50	50
4000	48	48	49	51
8000	46	46	47	48

1. Differentials for Cooling Operation (IDB, COMP, & ODF) are logarithmically calculated from the horizontal flow sound test.

- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

UNIT DESCRIPTION / MODEL	ZH/ZJ/ZR049 / 4 Ton / Standard Static Belt Drive			
TEST CONFIGURATION	Vertical (Bottom Supply) Ducted Discharge			
Indoor Blower Speed (RPM)	609 - 3 Turns Open Equivalent		712 - 1 Turn Open Equivalent	
External Static Pressure (IWG)	0.4		0.6	
Airflow (CFM)	850		950	
Blower Motor BHP	0.32		0.42	
Octave Center Freq. Hz	ID Blower Only (dB)	Cooling Operation[1] (dB)	ID Blower Only (dB)	Cooling Operation[1] (dB)
63	76	77	81	81
125	68	68	72	72
250	55	65	57	57
500	56	57	57	57
1000	51	57	52	56
2000	49	49	50	50
4000	48	48	49	51
8000	46	46	47	48

1. Differentials for Cooling Operation (IDB, COMP, & ODF) are logarithmically calculated from the horizontal flow sound test.
- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

UNIT DESCRIPTION / MODEL	ZH/ZJ/ZR061 / 5 Ton / Standard Static Belt Drive			
TEST CONFIGURATION	Vertical (Bottom Supply) Ducted Discharge			
Indoor Blower Speed (RPM)	809 - 3 Turns Open Equivalent		914 - 1 Turn Open Equivalent	
External Static Pressure (IWG)	0.5		0.8	
Airflow (CFM)	1700		1800	
Blower Motor BHP	0.64		0.83	
Octave Center Freq. Hz	ID Blower Only (dB)	Cooling Operation[1] (dB)	ID Blower Only (dB)	Cooling Operation[1] (dB)
63	81	81	79	79
125	75	75	75	76
250	65	65	63	63
500	67	67	67	67
1000	63	63	63	63
2000	61	62	61	61
4000	62	62	61	61
8000	57	57	56	56

1. Differentials for Cooling Operation (IDB, COMP, & ODF) are logarithmically calculated from the horizontal flow sound test.
- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

Indoor Sound Power Levels (Horizontal Ducted Inlet, High Static Belt Drive)

UNIT DESCRIPTION / MODEL	ZH/ZJ/ZR037 / 3 Ton / High Static Belt Drive					
TEST CONFIGURATION	Horizontal (Side Return) Ducted Inlet					
Indoor Blower Speed (RPM)	876 - 4 Turns Open Equivalent		1,064 - 1/2 Turn Open Equivalent		1,190 - 2.5 Turns Open Equivalent[1]	
External Static Pressure (IWG)	1.0		1.6		2.0 [1]	
Nominal Airflow (CFM)	1,200		1,100		1,000	
Blower Motor BHP	0.64		0.93		1.08	
Octave Center Freq. Hz	ID Blower Only (dB)	Cooling Operation[2] (dB)	ID Blower Only (dB)	Cooling Operation[2] (dB)	ID Blower Only (dB)	Cooling Operation[2] (dB)
63	75	80	81	81	81	83
125	69	71	71	73	73	75
250	62	68	66	71	68	70
500	54	56	57	59	59	60
1000	52	56	56	58	58	60
2000	47	49	52	52	54	56
4000	43	45	48	49	51	53
8000	43	45	45	46	47	48

1. Requires driven pulley #AK-56, normal high static pulley is an #AK-69.
2. Cooling Operation – ID blower, compressor and outdoor fan operating at 230 VAC.

- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

UNIT DESCRIPTION / MODEL	ZH/ZJ/ZR049 / 4 Ton / High Static Belt Drive					
TEST CONFIGURATION	Horizontal (Side Return) Ducted Inlet					
Indoor Blower Speed (RPM)	965 - 5.5 Turns Open Equivalent		1,088 - 4 Turns Open Equivalent		1,186 - 2.5 Turns Open Equivalent	
External Static Pressure (IWG)	1.0		1.6		2.0	
Nominal Airflow (CFM)	1,600		1,400		1,200	
Blower Motor BHP	0.86		1.03		1.13	
Octave Center Freq. Hz	ID Blower Only (dB)	Cooling Operation[1] (dB)	ID Blower Only (dB)	Cooling Operation[1] (dB)	ID Blower Only (dB)	Cooling Operation[1] (dB)
63	74	80	77	80	81	81
125	69	74	72	75	75	76
250	68	68	68	69	70	71
500	62	62	60	61	61	63
1000	60	61	58	58	59	60
2000	57	57	53	54	55	56
4000	56	56	49	50	51	52
8000	54	54	45	47	47	48

1. Cooling Operation – ID blower, compressor and outdoor fan operating at 230 VAC.

- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

UNIT DESCRIPTION / MODEL	ZH/ZJ/ZR061 / 5 Ton / High Static Belt Drive					
TEST CONFIGURATION	Horizontal (Side Return) Ducted Inlet					
Indoor Blower Speed (RPM)	1,012- 5.5 Turns Open Equivalent		1,134 - 3 Turns Open Equivalent		1,174 - 2 Turns Open Equivalent	
External Static Pressure (IWG)	1.0		1.6		2.0	
Nominal Airflow (CFM)	2,000		1,800		1,600	
Blower Motor BHP	1.04		1.25		1.39	
Octave Center Freq. Hz	ID Blower Only (dB)	Cooling Operation[1] (dB)	ID Blower Only (dB)	Cooling Operation[1] (dB)	ID Blower Only (dB)	Cooling Operation[1] (dB)
63	76	78	78	79	79	81
125	70	73	73	76	74	77
250	68	70	68	69	69	70
500	61	62	61	62	60	62
1000	61	62	61	62	58	60
2000	57	58	57	58	54	56
4000	56	56	55	56	52	53
8000	50	50	50	50	47	48

1. Cooling Operation – ID blower, compressor and outdoor fan operating at 230 VAC.

- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

Indoor Sound Power Levels (Horizontal Ducted Discharge, High Static Belt Drive)

UNIT DESCRIPTION / MODEL	ZH/ZJ/ZR037 / 3 Ton / High Static Belt Drive					
TEST CONFIGURATION	Horizontal (Side Supply) Ducted Discharge					
Indoor Blower Speed (RPM)	896 - 3.5 Turns Open Equivalent		1,072 - Fully Closed Equivalent		1,170 - 2.5 Turns Open Equivalent[1]	
External Static Pressure (IWG)	1.0		1.6		2.0 [1]	
Nominal Airflow (CFM)	1,200		1,100		1,000	
Blower Motor BHP	0.64		0.93		1.08	
Octave Center Freq. Hz	ID Blower Only (dB)	Cooling Operation[2] (dB)	ID Blower Only (dB)	Cooling Operation[2] (dB)	ID Blower Only (dB)	Cooling Operation[2] (dB)
63	77	81	83	84	83	84
125	74	76	76	77	80	80
250	67	68	70	70	72	73
500	65	66	67	67	67	68
1000	61	62	67	67	66	69
2000	58	60	63	63	63	64
4000	57	59	62	62	62	63
8000	51	53	56	57	56	58

1. Requires driven pulley #AK-56, normal high static pulley is an #AK-69.
2. Cooling Operation – ID blower, compressor and outdoor fan operating at 230 VAC.

- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

UNIT DESCRIPTION / MODEL	ZH/ZJ/ZR049 / 4 Ton / High Static Belt Drive					
TEST CONFIGURATION	Horizontal (Side Supply) Ducted Discharge					
Indoor Blower Speed (RPM)	922 - 6 Turns Open Equivalent		1,069 - 4 Turns Open Equivalent		1,165 - 2.5 Turns Open Equivalent	
External Static Pressure (IWG)	1.0		1.6		2.0	
Nominal Airflow (CFM)	1,600		1,400		1,200	
Blower Motor BHP	0.86		1.03		1.13	
Octave Center Freq. Hz	ID Blower Only (dB)	Cooling Operation[1] (dB)	ID Blower Only (dB)	Cooling Operation[1] (dB)	ID Blower Only (dB)	Cooling Operation[1] (dB)
63	80	82	82	83	84	84
125	76	77	76	77	78	79
250	71	72	72	72	74	74
500	69	69	69	69	70	70
1000	65	65	69	69	70	70
2000	64	64	64	64	65	65
4000	63	63	63	63	64	64
8000	58	58	58	58	59	59

1. Cooling Operation – ID blower, compressor and outdoor fan operating at 230 VAC.

- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

UNIT DESCRIPTION / MODEL	ZH/ZJ/ZR061 / 5 Ton / High Static Belt Drive					
TEST CONFIGURATION	Horizontal (Side Supply) Ducted Discharge					
Indoor Blower Speed (RPM)	1,009- 5.5 Turns Open Equivalent		1,131 - 3 Turns Open Equivalent		1,184 - 2 Turns Open Equivalent	
External Static Pressure (IWG)	1.0		1.6		2.0	
Nominal Airflow (CFM)	2,000		1,800		1,600	
Blower Motor BHP	1.04		1.25		1.39	
Octave Center Freq. Hz	ID Blower Only (dB)	Cooling Operation[1] (dB)	ID Blower Only (dB)	Cooling Operation[1] (dB)	ID Blower Only (dB)	Cooling Operation[1] (dB)
63	84	85	82	83	82	83
125	78	79	79	79	78	79
250	75	75	74	75	73	73
500	71	71	70	71	69	69
1000	69	69	71	71	71	72
2000	66	67	67	67	66	66
4000	66	66	66	67	66	66
8000	61	62	61	62	60	60

1. Cooling Operation – ID blower, compressor and outdoor fan operating at 230 VAC.

- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

Indoor Sound Power Levels (Vertical Ducted Inlet, High Static Belt Drive)

UNIT DESCRIPTION / MODEL	ZH/ZJ/ZR037 / 3 Ton / High Static Belt Drive					
TEST CONFIGURATION	Vertical (Bottom Return) Ducted Inlet					
Indoor Blower Speed (RPM)	927 - 3 Turns Open Equivalent		1,085 - 1/2 Turn Open Equivalent		1,190 - 2.5 Turns Open Equivalent[1]	
External Static Pressure (IWG)	1.0		1.6		2.0[1]	
Nominal Airflow (CFM)	1,200		1,100		1,000	
Blower Motor BHP	0.68		0.93		1.09	
Octave Center Freq. Hz	ID Blower Only (dB)	Cooling Operation[2] (dB)	ID Blower Only (dB)	Cooling Operation[2] (dB)	ID Blower Only (dB)	Cooling Operation[2] (dB)
63	77	79	82	83	79	81
125	68	69	70	71	72	73
250	60	67	62	69	64	67
500	58	58	63	63	62	63
1000	54	55	60	60	60	60
2000	48	49	56	56	55	55
4000	43	44	48	49	51	51
8000	44	44	45	46	47	47

1. Requires driven pulley #AK-56, normal high static pulley is an #AK-69.
2. Differentials for Cooling Operation (IDB, COMP, & ODF) are logarithmically calculated from the horizontal flow sound test.

- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

UNIT DESCRIPTION / MODEL	ZH/ZJ/ZR049 / 4 Ton / High Static Belt Drive					
TEST CONFIGURATION	Vertical (Bottom Return) Ducted Inlet					
Indoor Blower Speed (RPM)	968 - 5.5 Turns Open Equivalent		1,120 - 3.5 Turns Open Equivalent		1,218 - 2.0 Turns Open Equivalent	
External Static Pressure (IWG)	1.0		1.6		2.0	
Nominal Airflow (CFM)	1,600		1,400		1,200	
Blower Motor BHP	0.86		1.03		1.13	
Octave Center Freq. Hz	ID Blower Only (dB)	Cooling Operation[1] (dB)	ID Blower Only (dB)	Cooling Operation[1] (dB)	ID Blower Only (dB)	Cooling Operation[1] (dB)
63	77	79	78	78	81	81
125	69	73	71	73	73	74
250	63	63	63	64	66	66
500	63	64	62	63	64	64
1000	59	59	59	59	61	61
2000	54	54	53	54	56	56
4000	49	49	48	48	50	51
8000	45	46	45	46	47	47

1. Differentials for Cooling Operation (IDB, COMP, & ODF) are logarithmically calculated from the horizontal flow sound test.

- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

UNIT DESCRIPTION / MODEL	ZH/ZJ/ZR061 / 5 Ton / High Static Belt Drive					
TEST CONFIGURATION	Vertical (Bottom Return) Ducted Inlet					
Indoor Blower Speed (RPM)	1,039 - 5 Turns Open Equivalent		1,143 - 3 Turns Open Equivalent		1,201 - 2 Turns Open Equivalent	
External Static Pressure (IWG)	1.0		1.6		2.0	
Nominal Airflow (CFM)	2,000		1,800		1,600	
Blower Motor BHP	1.11		1.25		1.39	
Octave Center Freq. Hz	ID Blower Only (dB)	Cooling Operation[1] (dB)	ID Blower Only (dB)	Cooling Operation[1] (dB)	ID Blower Only (dB)	Cooling Operation[1] (dB)
63	79	80	77	77	81	81
125	74	75	71	73	73	74
250	63	65	63	64	63	65
500	62	63	64	64	62	62
1000	61	61	61	61	59	59
2000	55	56	55	56	54	55
4000	52	52	50	51	50	50
8000	47	47	46	46	46	46

1. Differentials for Cooling Operation (IDB, COMP, & ODF) are logarithmically calculated from the horizontal flow sound test.

- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

Indoor Sound Power Levels (Vertical Ducted Discharge, High Static Belt Drive)

UNIT DESCRIPTION / MODEL	ZH/ZJ/ZR037 / 3 Ton / High Static Belt Drive					
TEST CONFIGURATION	Vertical (Bottom Supply) Ducted Discharge					
Indoor Blower Speed (RPM)	920 - 3.0 Turns Open Equivalent		1,074 - Fully Closed Equivalent		1,189 - 2.0 Turns Open Equivalent[1]	
External Static Pressure (IWG)	1.0		1.6		2.0[1]	
Nominal Airflow (CFM)	1,200		1,100		1,000	
Blower Motor BHP	0.68		0.93		1.09	
Octave Center Freq. Hz	ID Blower Only (dB)	Cooling Operation[2] (dB)	ID Blower Only (dB)	Cooling Operation[2] (dB)	ID Blower Only (dB)	Cooling Operation[2] (dB)
63	81	82	81	81	82	82
125	78	78	78	78	81	81
250	69	70	70	71	74	74
500	67	68	68	69	71	71
1000	62	63	67	68	70	71
2000	60	61	62	63	65	66
4000	61	61	63	63	66	66
8000	54	55	57	57	60	61

1. Requires driven pulley #AK-56, normal high static pulley is an #AK-69.
2. Differentials for Cooling Operation (IDB, COMP, & ODF) are logarithmically calculated from the horizontal flow sound test.

- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

UNIT DESCRIPTION / MODEL	ZH/ZJ/ZR049 / 4 Ton / High Static Belt Drive					
TEST CONFIGURATION	Vertical (Bottom Supply) Ducted Discharge					
Indoor Blower Speed (RPM)	962 - 5.5 Turns Open Equivalent		1,092 - 3.5 Turns Open Equivalent		1,190 - 2.0 Turns Open Equivalent	
External Static Pressure (IWG)	1.0		1.6		2.0	
Nominal Airflow (CFM)	1,600		1,400		1,200	
Blower Motor BHP	0.86		1.03		1.13	
Octave Center Freq. Hz	ID Blower Only (dB)	Cooling Operation[1] (dB)	ID Blower Only (dB)	Cooling Operation[1] (dB)	ID Blower Only (dB)	Cooling Operation[1] (dB)
63	83	84	82	82	83	83
125	80	81	79	80	80	81
250	75	75	74	75	75	75
500	71	72	70	71	71	72
1000	66	67	70	71	72	72
2000	63	64	64	64	65	65
4000	64	64	64	64	65	66
8000	58	59	59	59	60	60

1. Differentials for Cooling Operation (IDB, COMP, & ODF) are logarithmically calculated from the horizontal flow sound test.
- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

UNIT DESCRIPTION / MODEL	ZH/ZJ/ZR061 / 5 Ton / High Static Belt Drive					
TEST CONFIGURATION	Vertical (Bottom Supply) Ducted Discharge					
Indoor Blower Speed (RPM)	1,033 - 5.5 Turns Open Equivalent		1,135 - 3 turns Open Equivalent		1,175 - 2.5 Turns Open Equivalent	
External Static Pressure (IWG)	1.0		1.6		2.0	
Nominal Airflow (CFM)	2,000		1,135		1,175	
Blower Motor BHP	1.11		1.25		1.39	
Octave Center Freq. Hz	ID Blower Only (dB)	Cooling Operation[1] (dB)	ID Blower Only (dB)	Cooling Operation[1] (dB)	ID Blower Only (dB)	Cooling Operation[1] (dB)
63	83	83	83	83	85	86
125	84	84	82	82	79	81
250	79	80	77	78	66	66
500	73	73	70	71	65	66
1000	69	70	69	70	61	65
2000	67	67	65	66	60	61
4000	67	68	66	67	61	62
8000	62	63	60	61	54	54

1. Differentials for Cooling Operation (IDB, COMP, & ODF) are logarithmically calculated from the horizontal flow sound test.
- Tested in accordance with AHRI Standard 260-2001. Refer to 2001 Standard for Sound Rating of Ducted Air Moving and Conditioning Equipment.
- Testing datum includes effect of standard inlet air filters.
- Test duct dimension: 18 in. wide x 28 in. high x 8 ft. long, no elbows.
- Test duct termination is flush with reverberant room wall.
- Duct end (sound reflection) corrections included: (7.2, 3.4, 1.2, 0.4, 0.1, 0, 0, 0) dB at (63, 125, 250, 500, 1k, 2k, 4k, 8k) Hz respectively.

Indoor Sound Power Levels (6.5 thru 12.5 Ton)

Size (Tons)	Model	CFM	ESP (IWG)	Blower		Sound Power, dB (10^{-12}) Watts								
						Sound Rating[1] dB (A)	Octave Band Centerline Frequency (Hz)							
				RPM	BHP		63	125	250	500	1000	2000	4000	8000
078 (6.5)	ZH/ZJ/ZR	2600	0.6	812	1.14	74	71	73	73	71	69	65	65	60
090 (7.5)	ZH/ZJ/ZR	3000	0.6	854	1.47	77	74	76	76	74	72	68	68	63
102 (8.5)	ZH/ZJ/ZR	3400	0.6	872	1.65	80	77	79	79	77	75	71	71	66
120 (10)	ZH/ZJ/ZR	4000	0.6	959	2.29	83	80	82	82	80	78	74	74	69
150 (12.5)	ZH/ZJ/ZR	5000	0.6	1132	3.74	87	84	86	86	84	82	78	78	73

1. These values have been accessed using a model of sound propagation from a point source into the hemispheric/free field. The dBA values provided are to be used for reference only. Calculation of dBA values cover matters of system design and the fan manufacture has no way of knowing the details of each system. This constitutes an exception to any specification or guarantee requiring a dBA value of sound data in any other form than sound power level ratings.

Outdoor Sound Power Levels
ZH/ZJ/ZR037-150

Size (Tons)	Model	Sound Rating[1] dB (A)	Octave Band Centerline Frequency (Hz)							
			63	125	250	500	1000	2000	4000	8000
037 (3)	ZH	81	82.5	86.5	78.0	75.5	76.5	68.5	63.0	56.5
049 (4)	ZH	78	82.0	86.0	78.5	75.5	73.0	68.0	63.0	56.0
061 (5)	ZH	84	81.0	91.0	82.5	80.5	79.0	73.5	69.5	64.5
078 (6.5)	ZH	87	89.0	88.5	84.5	84.5	82.0	76.5	72.0	66.5
090 (7.5)	ZH	92	93.0	92.0	90.5	88.0	86.5	83.0	77.5	73.5
102 (8.5)	ZH	92	97.0	94.0	93.5	90.5	87.0	81.5	76.0	69.0
120 (10)	ZH	91	99.5	91.5	91.5	89.0	86.0	80.5	76.5	71.0
150 (12.5)	ZH	86	89.5	91.0	85.5	84.0	81.0	76.5	71.0	62.5
037 (3)	ZJ	77	82.0	83.5	80.0	73.0	70.0	65.5	60.5	55.5
049 (4)	ZJ	80	80.0	87.0	77.0	75.5	75.0	70.5	65.5	62.0
061 (5)	ZJ	84	86.5	87.0	86.0	79.0	76.5	71.5	68.0	64.0
078 (6.5)	ZJ	85	87.5	85.0	84.0	82.0	80.0	75.5	71.5	67.0
090 (7.5)	ZJ	90	90.0	93.0	90.5	86.0	83.5	81.5	78.0	75.0
102 (8.5)	ZJ	92	97.0	94.0	93.5	90.5	87.0	81.5	76.0	69.0
120 (10)	ZJ	91	99.5	91.5	91.5	89.0	86.0	80.5	76.5	71.0
150 (12.5)	ZJ	85	89.0	88.0	83.5	83.5	78.5	74.0	69.5	64.5
037 (3)	ZR	77	82.0	83.5	80.0	73.0	70.0	65.5	60.5	55.5
049 (4)	ZR	81	87.5	88.5	83.0	77.5	73.5	70.5	67.0	62.0
61 (5)	ZR	84	86.5	87.0	86.0	79.0	76.5	71.5	68.0	64.0
078 (6.5)	ZR	83	~	88.0	82.5	81.5	78.0	73.0	69.0	62.0
090 (7.5)	ZR	83	~	89.5	83.5	82.0	78.0	72.5	68.0	60.5
102 (8.5)	ZR	83	~	89.0	84.5	81.5	78.0	72.5	68.5	70.5
120 (10)	ZR	83	~	89.5	83.5	81.0	78.0	72.0	68.5	70.5
150 (12.5)	ZR	84	~	90.0	84.5	81.5	77.5	72.0	68.5	61.5

1. Rated in accordance with AHRI 270 standard.

Electrical Data

ZH037-061 Standard Indoor Blower - Without Powered Convenience Outlet

Size (Tons)	Volt	Compressors (each)			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Option				MCA[1] (Amps)	MCA[1] w/Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)
		RLA	LRA	MCC	FLA	FLA	FLA	FLA	Model	kW	Stages	Amps				
037 (3)	208	9.1	68.0	14.2	2.1	5.2	5.5	0.0	None	-	-	-	18.7	24.2	25	30
									E03	2.3	1	6.4	18.7	24.2	25	30
									E06	4.5	1	12.5	22.1	29.0	25	30
									E09	6.8	1	18.9	30.1	37.0	35	40
									E15	11.3	2	31.4	45.7	52.6	50	60
	230	9.1	68.0	14.2	2.1	5.2	5.5	0.0	None	-	-	-	18.7	24.2	25	30
									E03	3.0	1	7.2	18.7	24.2	25	30
									E06	6.0	1	14.4	24.5	31.4	25	35
									E09	9.0	1	21.7	33.6	40.4	35	45
									E15	15.0	2	36.1	51.6	58.5	60	60
	460	4.5	34.0	7.0	1.3	2.6	2.2	0.0	None	-	-	-	9.5	11.7	15	15
									E03	3.0	1	3.6	9.5	11.7	15	15
									E06	6.0	1	7.2	12.3	15.0	15	15
									E09	9.0	1	10.8	16.8	19.5	20	20
									E15	15.0	2	18.0	25.8	28.6	30	30
	575	3.8	28.0	6.0	0.7	2.0	1.8	0.0	None	-	-	-	7.4	9.2	15	15
									E09	9.0	1	8.7	13.3	15.6	15	20
									E15	15.0	2	14.4	20.5	22.8	25	25
049 (4)	208	11.6	88.0	17.5	2.1	5.2	5.5	0.0	None	-	-	-	21.8	27.3	30	35
									E06	4.5	1	12.5	22.1	29.0	30	35
									E09	6.8	1	18.9	30.1	37.0	35	40
									E15	11.3	2	31.4	45.7	52.6	50	60
									E20	15.0	2	41.6	58.5	65.4	60	70
	230	11.6	88.0	17.5	2.1	5.2	5.5	0.0	None	-	-	-	21.8	27.3	30	35
									E06	6.0	1	14.4	24.5	31.4	30	35
									E09	9.0	1	21.7	33.6	40.4	35	45
									E15	15.0	2	36.1	51.6	58.5	60	60
									E20	20.0	2	48.1	66.6	73.5	70	80
	460	5.6	44.0	8.0	1.3	2.6	2.2	0.0	None	-	-	-	10.9	13.1	15	15
									E06	6.0	1	7.2	12.3	15.0	15	15
									E09	9.0	1	10.8	16.8	19.5	20	20
									E15	15.0	2	18.0	25.8	28.6	30	30
									E20	20.0	2	24.1	33.3	36.1	35	40
	575	4.5	36.0	7.0	0.7	2.0	1.8	0.0	None	-	-	-	8.3	10.1	15	15
									E09	9.0	1	8.7	13.3	15.6	15	20
									E15	15.0	2	14.4	20.5	22.8	25	25
									E20	20.0	2	19.2	26.6	28.8	30	30
061 (5)	208	14.1	88.0	22.0	2.1	5.2	5.5	0.0	None	-	-	-	27.0	32.5	35	45
									E06	4.5	1	12.5	27.0	32.5	35	45
									E09	6.8	1	18.9	30.1	37.0	40	45
									E15	11.3	2	31.4	45.7	52.6	50	60
									E20	15.0	2	41.6	58.5	65.4	60	70
									E24	18.0	2	50.0	69.0	75.8	70	80
	230	14.1	88.0	22.0	2.1	5.2	5.5	0.0	None	-	-	-	27.0	32.5	35	45
									E06	6.0	1	14.4	27.0	32.5	35	45
									E09	9.0	1	21.7	33.6	40.4	40	45
									E15	15.0	2	36.1	51.6	58.5	60	60
									E20	20.0	2	48.1	66.6	73.5	70	80
									E24	24.0	2	57.7	78.7	85.5	80	90
	460	7.7	55.0	12.0	1.3	2.6	2.2	0.0	None	-	-	-	14.7	16.9	20	20
									E06	6.0	1	7.2	14.7	16.9	20	20
									E09	9.0	1	10.8	16.8	19.5	20	20
									E15	15.0	2	18.0	25.8	28.6	30	30
									E20	20.0	2	24.1	33.3	36.1	35	40
									E24	24.0	2	28.9	39.3	42.1	40	45
	575	5.1	36.0	7.5	0.7	2.0	1.8	0.0	None	-	-	-	9.7	11.5	15	15
									E09	9.0	1	8.7	13.3	15.6	15	20
									E15	15.0	2	14.4	20.5	22.8	25	25
									E20	20.0	2	19.2	26.6	28.8	30	30
									E24	24.0	2	23.1	31.4	33.6	35	35

1. Minimum Circuit Ampacity.
2. Dual Element, Time Delay Type.
3. HACR type per NEC.

ZH078-150 Standard Motor - Without Powered Convenience Outlet

Size (Tons)	Volt	Compressors (each)			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Option				MCA[1] (Amps)	MCA[1] w/Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)
		RLA	LRA	MCC	FLA	FLA	FLA	FLA	Model	kW	Stages	Amps				
078 (6.5)	208	9.6	68.0	14.5	2.1	5.2	5.5	0.0	None	-	-	-	31.0	36.5	40	45
									E09	6.8	1	18.9	31.0	37.0	40	45
									E18	13.5	2	37.5	53.3	60.2	60	70
									E24	18.0	2	50.0	69.0	75.8	70	80
									E36	25.5	2	70.8	95.0	101.9	100	110
	230	9.6	68.0	14.5	2.1	5.2	5.5	0.0	None	-	-	-	31.0	36.5	40	45
									E09	9.0	1	21.7	33.6	40.4	40	45
									E18	18.0	2	43.3	60.6	67.5	70	70
									E24	24.0	2	57.7	78.7	85.5	80	90
									E36	34.0	2	81.8	108.7	115.6	110	125
	460	4.9	34.0	7.7	1.3	2.6	2.2	0.0	None	-	-	-	16.1	18.3	20	20
									E09	9.0	1	10.8	16.8	19.5	20	20
									E18	18.0	2	21.7	30.3	33.1	35	35
									E24	24.0	2	28.9	39.3	42.1	40	45
									E36	34.0	2	40.9	54.4	57.1	60	60
	575	3.8	28.0	6.0	0.7	2.0	1.8	0.0	None	-	-	-	11.9	13.7	15	15
									E09	9.0	1	8.7	13.3	15.6	15	20
									E18	18.0	2	17.3	24.2	26.4	25	30
									E24	24.0	2	23.1	31.4	33.6	35	35
									E36	34.0	2	32.7	43.4	45.6	45	50
090 (7.5)	208	11.9	88.0	18.5	3.0	5.2	5.5	0.0	None	-	-	-	38.0	43.5	45	50
									E09	6.8	1	18.9	38.0	43.5	45	50
									E18	13.5	2	37.5	53.3	60.2	60	70
									E24	18.0	2	50.0	69.0	75.8	70	80
									E36	25.5	2	70.8	95.0	101.9	100	110
	230	11.9	88.0	18.5	3.0	5.2	5.5	0.0	None	-	-	-	38.0	43.5	45	50
									E09	9.0	1	21.7	38.0	43.5	45	50
									E18	18.0	2	43.3	60.6	67.5	70	70
									E24	24.0	2	57.7	78.7	85.5	80	90
									E36	34.0	2	81.8	108.7	115.6	110	125
	460	5.2	44.0	8.1	1.6	2.6	2.2	0.0	None	-	-	-	17.5	19.7	20	20
									E09	9.0	1	10.8	17.5	19.7	20	20
									E18	18.0	2	21.7	30.3	33.1	35	35
									E24	24.0	2	28.9	39.3	42.1	40	45
									E36	34.0	2	40.9	54.4	57.1	60	60
	575	4.8	36.0	7.5	1.4	2.0	1.8	0.0	None	-	-	-	15.5	17.3	20	20
									E09	9.0	1	8.7	15.5	17.3	20	20
									E18	18.0	2	17.3	24.2	26.4	25	30
									E24	24.0	2	23.1	31.4	33.6	35	35
									E36	34.0	2	32.7	43.4	45.6	45	50
102 (8.5)	208	12.2	88.0	19.0	3.0	6.8	5.5	0.0	None	-	-	-	40.3	45.8	50	50
									E09	6.8	1	18.9	40.3	45.8	50	50
									E18	13.5	2	37.5	55.3	62.2	60	70
									E24	18.0	2	50.0	71.0	77.8	80	80
									E36	25.5	2	70.8	97.0	103.9	100	110
	230	12.2	88.0	19.0	3.0	6.8	5.5	0.0	None	-	-	-	40.3	45.8	50	50
									E09	9.0	1	21.7	40.3	45.8	50	50
									E18	18.0	2	43.3	62.6	69.5	70	70
									E24	24.0	2	57.7	80.7	87.5	90	90
									E36	34.0	2	81.8	110.7	117.6	125	125
	460	5.8	44.0	9.0	1.6	3.4	2.2	0.0	None	-	-	-	19.7	21.9	25	25
									E09	9.0	1	10.8	19.7	21.9	25	25
									E18	18.0	2	21.7	31.3	34.1	35	35
									E24	24.0	2	28.9	40.3	43.1	45	45
									E36	34.0	2	40.9	55.4	58.1	60	60
	575	4.4	36.0	5.5	1.4	2.4	1.8	0.0	None	-	-	-	15.0	16.8	15	20
									E09	9.0	1	8.7	15.0	16.8	15	20
									E18	18.0	2	17.3	24.7	26.9	25	30
									E24	24.0	2	23.1	31.9	34.1	35	35
									E36	34.0	2	32.7	43.9	46.1	45	50

ZH078-150 Standard Motor - Without Powered Convenience Outlet (Continued)

Size (Tons)	Volt	Compressors (each)			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Option				MCA[1] (Amps)	MCA[1] w/Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)
		RLA	LRA	MCC	FLA	FLA	FLA	FLA	Model	kW	Stages	Amps				
120 (10)	208	16.0	110.0	24.9	3.0	6.8	5.5	0.0	None	-	-	-	48.9	54.4	60	70
									E18	13.5	2	37.5	55.3	62.2	60	70
									E24	18.0	2	50.0	71.0	77.8	80	80
									E36	25.5	2	70.8	97.0	103.9	100	110
									E54	40.6	2	112.7	149.4	156.2	150	175
	230	16.0	110.0	24.9	3.0	6.8	5.5	0.0	None	-	-	-	48.9	54.4	60	70
									E18	18.0	2	43.3	62.6	69.5	70	70
									E24	24.0	2	57.7	80.7	87.5	90	90
									E36	34.0	2	81.8	110.7	117.6	125	125
									E54	54.0	2	129.9	138.4	145.3	150	175
	460	7.8	52.0	12.1	1.6	3.4	2.2	0.0	None	-	-	-	24.2	26.4	30	30
									E18	18.0	2	21.7	31.3	34.1	35	35
									E24	24.0	2	28.9	40.3	43.1	45	45
									E36	34.0	2	40.9	55.4	58.1	60	60
									E54	54.0	2	65.0	69.2	72.0	80	80
	575	5.7	38.9	8.9	1.4	2.4	1.8	0.0	None	-	-	-	17.9	19.7	20	25
									E18	18.0	2	17.3	24.7	26.9	25	30
									E24	24.0	2	23.1	31.9	34.1	35	35
									E36	34.0	2	32.7	43.9	46.1	45	50
									E54	54.0	2	52.0	55.0	57.2	60	60
150 (12.5)	208	23.1	160.0	36.0	2.1	9.6	5.5	0.0	None	-	-	-	70.0	75.5	90	90
									E18	13.5	2	37.5	70.0	75.5	90	90
									E24	18.0	2	50.0	74.5	81.3	90	90
									E36	25.5	2	70.8	100.5	107.4	110	110
									E54	40.6	2	112.7	152.9	159.7	175	175
	230	23.1	160.0	36.0	2.1	9.6	5.5	0.0	None	-	-	-	70.0	75.5	90	90
									E18	18.0	2	43.3	70.0	75.5	90	90
									E24	24.0	2	57.7	84.2	91.0	90	100
									E36	34.0	2	81.8	114.2	121.1	125	125
									E54	54.0	2	129.9	141.9	148.8	175	175
	460	12.2	87.0	19.0	1.3	4.7	2.2	0.0	None	-	-	-	37.2	39.4	45	50
									E18	18.0	2	21.7	37.2	39.4	45	50
									E24	24.0	2	28.9	42.0	44.7	45	50
									E36	34.0	2	40.9	57.0	59.7	60	60
									E54	54.0	2	65.0	70.8	73.6	80	80
	575	8.7	62.0	13.5	0.7	3.6	1.8	0.0	None	-	-	-	25.8	27.6	30	35
									E18	18.0	2	17.3	26.2	28.4	30	35
									E24	24.0	2	23.1	33.4	35.6	35	40
									E36	34.0	2	32.7	45.4	47.6	50	50
									E54	54.0	2	52.0	56.5	58.7	70	70

1. Minimum Circuit Ampacity.
2. Dual Element, Time Delay Type.
3. HACR type per NEC.

ZH037-061 Hi Static Indoor Blower - Without Powered Convenience Outlet

Size (Tons)	Volt	Compressors (each)			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Option				MCA[1] (Amps)	MCA[1] w/Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)
		RLA	LRA	MCC	FLA	FLA	FLA	FLA	Model	kW	Stages	Amps				
037 (3)	208	9.1	68.0	14.2	2.1	5.2	5.5	0.0	None	-	-	-	18.7	24.2	25	30
									E03	2.3	1	6.4	18.7	24.2	25	30
									E06	4.5	1	12.5	22.1	29.0	25	30
									E09	6.8	1	18.9	30.1	37.0	35	40
									E15	11.3	2	31.4	45.7	52.6	50	60
	230	9.1	68.0	14.2	2.1	5.2	5.5	0.0	None	-	-	-	18.7	24.2	25	30
									E03	3.0	1	7.2	18.7	24.2	25	30
									E06	6.0	1	14.4	24.5	31.4	25	35
									E09	9.0	1	21.7	33.6	40.4	35	45
									E15	15.0	2	36.1	51.6	58.5	60	60
	460	4.5	34.0	7.0	1.3	2.6	2.2	0.0	None	-	-	-	9.5	11.7	15	15
									E03	3.0	1	3.6	9.5	11.7	15	15
									E06	6.0	1	7.2	12.3	15.0	15	15
									E09	9.0	1	10.8	16.8	19.5	20	20
									E15	15.0	2	18.0	25.8	28.6	30	30
	575	3.8	28.0	6.0	0.7	2.0	1.8	0.0	None	-	-	-	7.4	9.2	15	15
									E09	9.0	1	8.7	13.3	15.6	15	20
									E15	15.0	2	14.4	20.5	22.8	25	25
049 (4)	208	11.6	88.0	17.5	2.1	5.2	5.5	0.0	None	-	-	-	21.8	27.3	30	35
									E06	4.5	1	12.5	22.1	29.0	30	35
									E09	6.8	1	18.9	30.1	37.0	35	40
									E15	11.3	2	31.4	45.7	52.6	50	60
									E20	15.0	2	41.6	58.5	65.4	60	70
	230	11.6	88.0	17.5	2.1	5.2	5.5	0.0	None	-	-	-	21.8	27.3	30	35
									E06	6.0	1	14.4	24.5	31.4	30	35
									E09	9.0	1	21.7	33.6	40.4	35	45
									E15	15.0	2	36.1	51.6	58.5	60	60
									E20	20.0	2	48.1	66.6	73.5	70	80
	460	5.6	44.0	8.0	1.3	2.6	2.2	0.0	None	-	-	-	10.9	13.1	15	15
									E06	6.0	1	7.2	12.3	15.0	15	15
									E09	9.0	1	10.8	16.8	19.5	20	20
									E15	15.0	2	18.0	25.8	28.6	30	30
									E20	20.0	2	24.1	33.3	36.1	35	40
	575	4.5	36.0	7.0	0.7	2.0	1.8	0.0	None	-	-	-	8.3	10.1	15	15
									E09	9.0	1	8.7	13.3	15.6	15	20
									E15	15.0	2	14.4	20.5	22.8	25	25
									E20	20.0	2	19.2	26.6	28.8	30	30
061 (5)	208	14.1	88.0	22.0	2.1	6.8	5.5	0.0	None	-	-	-	28.6	34.1	40	45
									E06	4.5	1	12.5	28.6	34.1	40	45
									E09	6.8	1	18.9	32.1	39.0	40	45
									E15	11.3	2	31.4	47.7	54.6	50	60
									E20	15.0	2	41.6	60.5	67.4	70	70
									E24	18.0	2	50.0	71.0	77.8	80	80
	230	14.1	88.0	22.0	2.1	6.8	5.5	0.0	None	-	-	-	28.6	34.1	40	45
									E06	6.0	1	14.4	28.6	34.1	40	45
									E09	9.0	1	21.7	35.6	42.4	40	45
									E15	15.0	2	36.1	53.6	60.5	60	70
									E20	20.0	2	48.1	68.6	75.5	70	80
									E24	24.0	2	57.7	80.7	87.5	90	90
	460	7.7	55.0	12.0	1.3	3.4	2.2	0.0	None	-	-	-	15.5	17.7	20	25
									E06	6.0	1	7.2	15.5	17.7	20	25
									E09	9.0	1	10.8	17.8	20.5	20	25
									E15	15.0	2	18.0	26.8	29.6	30	30
									E20	20.0	2	24.1	34.3	37.1	35	40
									E24	24.0	2	28.9	40.3	43.1	45	45
	575	5.1	36.0	7.5	0.7	2.4	1.8	0.0	None	-	-	-	10.1	11.9	15	15
									E09	9.0	1	8.7	13.8	16.1	15	20
									E15	15.0	2	14.4	21.0	23.3	25	25
									E20	20.0	2	19.2	27.1	29.3	30	30
									E24	24.0	2	23.1	31.9	34.1	35	35

1. Minimum Circuit Ampacity.
2. Dual Element, Time Delay Type.
3. HACR type per NEC.

ZH078-150 Hi Static Motor - Without Powered Convenience Outlet

Size (Tons)	Volt	Compressors (each)			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Option				MCA[1] (Amps)	MCA[1] w/Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)
		RLA	LRA	MCC	FLA	FLA	FLA	FLA	Model	kW	Stages	Amps				
078 (6.5)	208	9.6	68.0	14.5	2.1	6.8	5.5	0.0	None	-	-	-	32.6	38.1	40	45
									E09	6.8	1	18.9	32.6	39.0	40	45
									E18	13.5	2	37.5	55.3	62.2	60	70
									E24	18.0	2	50.0	71.0	77.8	80	80
									E36	25.5	2	70.8	97.0	103.9	100	110
	230	9.6	68.0	14.5	2.1	6.8	5.5	0.0	None	-	-	-	32.6	38.1	40	45
									E09	9.0	1	21.7	35.6	42.4	40	45
									E18	18.0	2	43.3	62.6	69.5	70	70
									E24	24.0	2	57.7	80.7	87.5	90	90
									E36	34.0	2	81.8	110.7	117.6	125	125
	460	4.9	34.0	7.7	1.3	3.4	2.2	0.0	None	-	-	-	16.9	19.1	20	20
									E09	9.0	1	10.8	17.8	20.5	20	25
									E18	18.0	2	21.7	31.3	34.1	35	35
									E24	24.0	2	28.9	40.3	43.1	45	45
									E36	34.0	2	40.9	55.4	58.1	60	60
	575	3.8	28.0	6.0	0.7	2.4	1.8	0.0	None	-	-	-	12.3	14.1	15	15
									E09	9.0	1	8.7	13.8	16.1	15	20
									E18	18.0	2	17.3	24.7	26.9	25	30
									E24	24.0	2	23.1	31.9	34.1	35	35
									E36	34.0	2	32.7	43.9	46.1	45	50
090 (7.5)	208	11.9	88.0	18.5	3.0	9.6	5.5	0.0	None	-	-	-	42.4	47.9	50	50
									E09	6.8	1	18.9	42.4	47.9	50	50
									E18	13.5	2	37.5	58.8	65.7	60	70
									E24	18.0	2	50.0	74.5	81.3	80	90
									E36	25.5	2	70.8	100.5	107.4	110	110
	230	11.9	88.0	18.5	3.0	9.6	5.5	0.0	None	-	-	-	42.4	47.9	50	50
									E09	9.0	1	21.7	42.4	47.9	50	50
									E18	18.0	2	43.3	66.1	73.0	70	80
									E24	24.0	2	57.7	84.2	91.0	90	100
									E36	34.0	2	81.8	114.2	121.1	125	125
	460	5.2	44.0	8.1	1.6	4.7	2.2	0.0	None	-	-	-	19.6	21.8	20	25
									E09	9.0	1	10.8	19.6	22.2	20	25
									E18	18.0	2	21.7	32.9	35.7	35	40
									E24	24.0	2	28.9	42.0	44.7	45	45
									E36	34.0	2	40.9	57.0	59.7	60	60
	575	4.8	36.0	7.5	1.4	3.6	1.8	0.0	None	-	-	-	17.1	18.9	20	20
									E09	9.0	1	8.7	17.1	18.9	20	20
									E18	18.0	2	17.3	26.2	28.4	30	30
									E24	24.0	2	23.1	33.4	35.6	35	40
									E36	34.0	2	32.7	45.4	47.6	50	50
102 (8.5)	208	12.2	88.0	19.0	3.0	9.6	5.5	0.0	None	-	-	-	43.1	48.6	50	60
									E09	6.8	1	18.9	43.1	48.6	50	60
									E18	13.5	2	37.5	58.8	65.7	60	70
									E24	18.0	2	50.0	74.5	81.3	80	90
									E36	25.5	2	70.8	100.5	107.4	110	110
	230	12.2	88.0	19.0	3.0	9.6	5.5	0.0	None	-	-	-	43.1	48.6	50	60
									E09	9.0	1	21.7	43.1	48.6	50	60
									E18	18.0	2	43.3	66.1	73.0	70	80
									E24	24.0	2	57.7	84.2	91.0	90	100
									E36	34.0	2	81.8	114.2	121.1	125	125
	460	5.8	44.0	9.0	1.6	4.7	2.2	0.0	None	-	-	-	21.0	23.2	25	25
									E09	9.0	1	10.8	21.0	23.2	25	25
									E18	18.0	2	21.7	32.9	35.7	35	40
									E24	24.0	2	28.9	42.0	44.7	45	45
									E36	34.0	2	40.9	57.0	59.7	60	60
	575	4.4	36.0	5.5	1.4	3.6	1.8	0.0	None	-	-	-	16.2	18.0	20	20
									E09	9.0	1	8.7	16.2	18.0	20	20
									E18	18.0	2	17.3	26.2	28.4	30	30
									E24	24.0	2	23.1	33.4	35.6	35	40
									E36	34.0	2	32.7	45.4	47.6	50	50

ZH078-150 Hi Static Motor - Without Powered Convenience Outlet (Continued)

Size (Tons)	Volt	Compressors (each)			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Option				MCA[1] (Amps)	MCA[1] w/Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)
		RLA	LRA	MCC	FLA	FLA	FLA	FLA	Model	kW	Stages	Amps				
120 (10)	208	16.0	110.0	24.9	3.0	9.6	5.5	0.0	None	-	-	-	51.7	57.2	60	70
									E18	13.5	2	37.5	58.8	65.7	60	70
									E24	18.0	2	50.0	74.5	81.3	80	90
									E36	25.5	2	70.8	100.5	107.4	110	110
									E54	40.6	2	112.7	152.9	159.7	175	175
	230	16.0	110.0	24.9	3.0	9.6	5.5	0.0	None	-	-	-	51.7	57.2	60	70
									E18	18.0	2	43.3	66.1	73.0	70	80
									E24	24.0	2	57.7	84.2	91.0	90	100
									E36	34.0	2	81.8	114.2	121.1	125	125
									E54	54.0	2	129.9	141.9	148.8	175	175
	460	7.8	52.0	12.1	1.6	4.7	2.2	0.0	None	-	-	-	25.5	27.7	30	35
									E18	18.0	2	21.7	32.9	35.7	35	40
									E24	24.0	2	28.9	42.0	44.7	45	45
									E36	34.0	2	40.9	57.0	59.7	60	60
									E54	54.0	2	65.0	70.8	73.6	80	80
	575	5.7	38.9	8.9	1.4	3.6	1.8	0.0	None	-	-	-	19.1	20.9	20	25
									E18	18.0	2	17.3	26.2	28.4	30	30
									E24	24.0	2	23.1	33.4	35.6	35	40
									E36	34.0	2	32.7	45.4	47.6	50	50
									E54	54.0	2	52.0	56.5	58.7	70	70
150 (12.5)	208	23.1	160.0	36.0	2.1	14.0	5.5	0.0	None	-	-	-	74.4	79.9	90	100
									E18	13.5	2	37.5	74.4	79.9	90	100
									E24	18.0	2	50.0	80.0	86.8	90	100
									E36	25.5	2	70.8	106.0	112.9	110	125
									E54	40.6	2	112.7	158.4	165.2	175	175
	230	23.1	160.0	36.0	2.1	14.0	5.5	0.0	None	-	-	-	74.4	79.9	90	100
									E18	18.0	2	43.3	74.4	79.9	90	100
									E24	24.0	2	57.7	89.7	96.5	90	100
									E36	34.0	2	81.8	119.7	126.6	125	150
									E54	54.0	2	129.9	147.4	154.3	175	175
	460	12.2	87.0	19.0	1.3	6.6	2.2	0.0	None	-	-	-	39.1	41.3	50	50
									E18	18.0	2	21.7	39.1	41.3	50	50
									E24	24.0	2	28.9	44.3	47.1	50	50
									E36	34.0	2	40.9	59.4	62.1	60	70
									E54	54.0	2	65.0	73.2	76.0	80	90
	575	8.7	62.0	13.5	0.7	5.2	1.8	0.0	None	-	-	-	27.4	29.2	35	35
									E18	18.0	2	17.3	28.2	30.4	35	35
									E24	24.0	2	23.1	35.4	37.6	40	40
									E36	34.0	2	32.7	47.4	49.6	50	50
									E54	54.0	2	52.0	58.5	60.7	70	70

1. Minimum Circuit Ampacity.
2. Dual Element, Time Delay Type.
3. HACR type per NEC.

ZH037-061 Standard Indoor Blower - With Powered Convenience Outlet

Size (Tons)	Volt	Compressors (each)			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Option				MCA[1] (Amps)	MCA[1] w/Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)
		RLA	LRA	MCC	FLA	FLA	FLA	FLA	Model	kW	Stages	Amps				
037 (3)	208	9.1	68.0	14.2	2.1	5.2	5.5	10.0	None	-	-	-	28.9	34.4	35	40
									E03	2.3	1	6.4	28.9	34.4	35	40
									E06	4.5	1	12.5	34.6	41.5	40	45
									E09	6.8	1	18.9	42.6	49.5	45	50
									E15	11.3	2	31.4	58.2	65.1	60	70
	230	9.1	68.0	14.2	2.1	5.2	5.5	10.0	None	-	-	-	28.9	34.4	35	40
									E03	3.0	1	7.2	28.9	34.9	35	40
									E06	6.0	1	14.4	37.0	43.9	40	45
									E09	9.0	1	21.7	46.1	52.9	50	60
									E15	15.0	2	36.1	64.1	71.0	70	80
	460	4.5	34.0	7.0	1.3	2.6	2.2	5.0	None	-	-	-	14.6	16.8	15	20
									E03	3.0	1	3.6	14.6	16.8	15	20
									E06	6.0	1	7.2	18.5	21.3	20	25
									E09	9.0	1	10.8	23.0	25.8	25	30
									E15	15.0	2	18.0	32.1	34.8	35	35
	575	3.8	28.0	6.0	0.7	2.0	1.8	4.0	None	-	-	-	11.5	13.3	15	15
									E09	9.0	1	8.7	18.3	20.6	20	25
									E15	15.0	2	14.4	25.5	27.8	30	30
049 (4)	208	11.6	88.0	17.5	2.1	5.2	5.5	10.0	None	-	-	-	31.8	37.3	40	45
									E06	4.5	1	12.5	34.6	41.5	40	45
									E09	6.8	1	18.9	42.6	49.5	45	50
									E15	11.3	2	31.4	58.2	65.1	60	70
									E20	15.0	2	41.6	71.0	77.9	80	80
	230	11.6	88.0	17.5	2.1	5.2	5.5	10.0	None	-	-	-	31.8	37.3	40	45
									E06	6.0	1	14.4	37.0	43.9	40	45
									E09	9.0	1	21.7	46.1	52.9	50	60
									E15	15.0	2	36.1	64.1	71.0	70	80
									E20	20.0	2	48.1	79.1	86.0	80	90
	460	5.6	44.0	8.0	1.3	2.6	2.2	5.0	None	-	-	-	15.9	18.1	20	20
									E06	6.0	1	7.2	18.5	21.3	20	25
									E09	9.0	1	10.8	23.0	25.8	25	30
									E15	15.0	2	18.0	32.1	34.8	35	35
									E20	20.0	2	24.1	39.6	42.3	40	45
	575	4.5	36.0	7.0	0.7	2.0	1.8	4.0	None	-	-	-	12.3	14.1	15	15
									E09	9.0	1	8.7	18.3	20.6	20	25
									E15	15.0	2	14.4	25.5	27.8	30	30
									E20	20.0	2	19.2	31.6	33.8	35	35
061 (5)	208	14.1	88.0	22.0	2.1	5.2	5.5	10.0	None	-	-	-	37.0	42.5	50	50
									E06	4.5	1	12.5	37.0	42.5	50	50
									E09	6.8	1	18.9	42.6	49.5	50	50
									E15	11.3	2	31.4	58.2	65.1	60	70
									E20	15.0	2	41.6	71.0	77.9	80	80
									E24	18.0	2	50.0	81.5	88.3	90	90
	230	14.1	88.0	22.0	2.1	5.2	5.5	10.0	None	-	-	-	37.0	42.5	50	50
									E06	6.0	1	14.4	37.0	43.9	50	50
									E09	9.0	1	21.7	46.1	52.9	50	60
									E15	15.0	2	36.1	64.1	71.0	70	80
									E20	20.0	2	48.1	79.1	86.0	80	90
									E24	24.0	2	57.7	91.2	98.0	100	100
	460	7.7	55.0	12.0	1.3	2.6	2.2	5.0	None	-	-	-	19.7	21.9	25	25
									E06	6.0	1	7.2	19.7	21.9	25	25
									E09	9.0	1	10.8	23.0	25.8	25	30
									E15	15.0	2	18.0	32.1	34.8	35	35
									E20	20.0	2	24.1	39.6	42.3	40	45
									E24	24.0	2	28.9	45.6	48.3	50	50
	575	5.1	36.0	7.5	0.7	2.0	1.8	4.0	None	-	-	-	13.7	15.5	15	20
									E09	9.0	1	8.7	18.3	20.6	20	25
									E15	15.0	2	14.4	25.5	27.8	30	30
									E20	20.0	2	19.2	31.6	33.8	35	35
									E24	24.0	2	23.1	36.4	38.6	40	40

1. Minimum Circuit Ampacity.
2. Dual Element, Time Delay Type.
3. HACR type per NEC.

ZH078-150 Standard Motor - With Powered Convenience Outlet

Size (Tons)	Volt	Compressors (each)			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Option				MCA[1] (Amps)	MCA[1] w/Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)
		RLA	LRA	MCC	FLA	FLA	FLA	FLA	Model	kW	Stages	Amps				
078 (6.5)	208	9.6	68.0	14.5	2.1	5.2	5.5	10.0	None	-	-	-	41.1	46.6	50	50
									E09	6.8	1	18.9	42.6	49.5	50	50
									E18	13.5	2	37.5	65.8	72.7	70	80
									E24	18.0	2	50.0	81.5	88.3	90	90
									E36	25.5	2	70.8	107.5	114.4	110	125
	230	9.6	68.0	14.5	2.1	5.2	5.5	10.0	None	-	-	-	41.1	46.6	50	50
									E09	9.0	1	21.7	46.1	52.9	50	60
									E18	18.0	2	43.3	73.1	80.0	80	80
									E24	24.0	2	57.7	91.2	98.0	100	100
									E36	34.0	2	81.8	121.2	128.1	125	150
	460	4.9	34.0	7.7	1.3	2.6	2.2	5.0	None	-	-	-	21.2	23.4	25	25
									E09	9.0	1	10.8	23.0	25.8	25	30
									E18	18.0	2	21.7	36.6	39.3	40	40
									E24	24.0	2	28.9	45.6	48.3	50	50
									E36	34.0	2	40.9	60.6	63.4	70	70
	575	3.8	28.0	6.0	0.7	2.0	1.8	4.0	None	-	-	-	15.9	17.7	20	20
									E09	9.0	1	8.7	18.3	20.6	20	25
									E18	18.0	2	17.3	29.2	31.4	30	35
									E24	24.0	2	23.1	36.4	38.6	40	40
									E36	34.0	2	32.7	48.4	50.6	50	60
090 (7.5)	208	11.9	88.0	18.5	3.0	5.2	5.5	10.0	None	-	-	-	48.0	53.5	50	60
									E09	6.8	1	18.9	48.0	53.5	50	60
									E18	13.5	2	37.5	65.8	72.7	70	80
									E24	18.0	2	50.0	81.5	88.3	90	90
									E36	25.5	2	70.8	107.5	114.4	110	125
	230	11.9	88.0	18.5	3.0	5.2	5.5	10.0	None	-	-	-	48.0	53.5	50	60
									E09	9.0	1	21.7	48.0	53.5	50	60
									E18	18.0	2	43.3	73.1	80.0	80	80
									E24	24.0	2	57.7	91.2	98.0	100	100
									E36	34.0	2	81.8	121.2	128.1	125	150
	460	5.2	44.0	8.1	1.6	2.6	2.2	5.0	None	-	-	-	22.5	24.7	25	25
									E09	9.0	1	10.8	23.0	25.8	25	30
									E18	18.0	2	21.7	36.6	39.3	40	40
									E24	24.0	2	28.9	45.6	48.3	50	50
									E36	34.0	2	40.9	60.6	63.4	70	70
	575	4.8	36.0	7.5	1.4	2.0	1.8	4.0	None	-	-	-	19.5	21.3	20	25
									E09	9.0	1	8.7	19.5	21.3	20	25
									E18	18.0	2	17.3	29.2	31.4	30	35
									E24	24.0	2	23.1	36.4	38.6	40	40
									E36	34.0	2	32.7	48.4	50.6	50	60
102 (8.5)	208	12.2	88.0	19.0	3.0	6.8	5.5	10.0	None	-	-	-	50.3	55.8	60	60
									E09	6.8	1	18.9	50.3	55.8	60	60
									E18	13.5	2	37.5	67.8	74.7	70	80
									E24	18.0	2	50.0	83.5	90.3	90	100
									E36	25.5	2	70.8	109.5	116.4	110	125
	230	12.2	88.0	19.0	3.0	6.8	5.5	10.0	None	-	-	-	50.3	55.8	60	60
									E09	9.0	1	21.7	50.3	55.8	60	60
									E18	18.0	2	43.3	75.1	82.0	80	90
									E24	24.0	2	57.7	93.2	100.0	100	100
									E36	34.0	2	81.8	123.2	130.1	125	150
	460	5.8	44.0	9.0	1.6	3.4	2.2	5.0	None	-	-	-	24.7	26.9	30	30
									E09	9.0	1	10.8	24.7	26.9	30	30
									E18	18.0	2	21.7	37.6	40.3	40	45
									E24	24.0	2	28.9	46.6	49.3	50	50
									E36	34.0	2	40.9	61.6	64.4	70	70
	575	4.4	36.0	5.5	1.4	2.4	1.8	4.0	None	-	-	-	19.0	20.8	20	25
									E09	9.0	1	8.7	19.0	21.1	20	25
									E18	18.0	2	17.3	29.7	31.9	30	35
									E24	24.0	2	23.1	36.9	39.1	40	40
									E36	34.0	2	32.7	48.9	51.1	50	60

ZH078-150 Standard Motor - With Powered Convenience Outlet (Continued)

Size (Tons)	Volt	Compressors (each)			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Option				MCA[1] (Amps)	MCA[1] w/Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)
		RLA	LRA	MCC	FLA	FLA	FLA	FLA	Model	kW	Stages	Amps				
120 (10)	208	16.0	110.0	24.9	3.0	6.8	5.5	10.0	None	-	-	-	58.9	64.4	70	80
									E18	13.5	2	37.5	67.8	74.7	70	80
									E24	18.0	2	50.0	83.5	90.3	90	100
									E36	25.5	2	70.8	109.5	116.4	110	125
									E54	40.6	2	112.7	161.9	168.7	175	175
	230	16.0	110.0	24.9	3.0	6.8	5.5	10.0	None	-	-	-	58.9	64.4	70	80
									E18	18.0	2	43.3	75.1	82.0	80	90
									E24	24.0	2	57.7	93.2	100.0	100	100
									E36	34.0	2	81.8	123.2	130.1	125	150
									E54	54.0	2	129.9	150.9	157.8	175	175
	460	7.8	52.0	12.1	1.6	3.4	2.2	5.0	None	-	-	-	29.2	31.4	35	35
									E18	18.0	2	21.7	37.6	40.3	40	45
									E24	24.0	2	28.9	46.6	49.3	50	50
									E36	34.0	2	40.9	61.6	64.4	70	70
									E54	54.0	2	65.0	75.5	78.2	80	90
	575	5.7	38.9	8.9	1.4	2.4	1.8	4.0	None	-	-	-	21.9	23.7	25	25
									E18	18.0	2	17.3	29.7	31.9	30	35
									E24	24.0	2	23.1	36.9	39.1	40	40
									E36	34.0	2	32.7	48.9	51.1	50	60
									E54	54.0	2	52.0	60.0	62.2	70	70
150 (12.5)	208	23.1	160.0	36.0	2.1	9.6	5.5	10.0	None	-	-	-	80.0	85.5	100	100
									E18	13.5	2	37.5	80.0	85.5	100	100
									E24	18.0	2	50.0	87.0	93.8	100	100
									E36	25.5	2	70.8	113.0	119.9	125	125
									E54	40.6	2	112.7	165.4	172.2	175	175
	230	23.1	160.0	36.0	2.1	9.6	5.5	10.0	None	-	-	-	80.0	85.5	100	100
									E18	18.0	2	43.3	80.0	85.5	100	100
									E24	24.0	2	57.7	96.7	103.5	100	110
									E36	34.0	2	81.8	126.7	133.6	150	150
									E54	54.0	2	129.9	154.4	161.3	175	175
	460	12.2	87.0	19.0	1.3	4.7	2.2	5.0	None	-	-	-	42.2	44.4	50	50
									E18	18.0	2	21.7	42.2	44.4	50	50
									E24	24.0	2	28.9	48.2	51.0	50	60
									E36	34.0	2	40.9	63.2	66.0	70	70
									E54	54.0	2	65.0	77.1	79.8	90	90
	575	8.7	62.0	13.5	0.7	3.6	1.8	4.0	None	-	-	-	29.8	31.6	35	40
									E18	18.0	2	17.3	31.2	33.4	35	40
									E24	24.0	2	23.1	38.4	40.6	40	45
									E36	34.0	2	32.7	50.4	52.6	60	60
									E54	54.0	2	52.0	61.5	63.7	70	70

1. Minimum Circuit Ampacity.
2. Dual Element, Time Delay Type.
3. HACR type per NEC.

ZH037-061 Hi Static Indoor Blower - With Powered Convenience Outlet

Size (Tons)	Volt	Compressors (each)			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Option				MCA[1] (Amps)	MCA[1] w/Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)
		RLA	LRA	MCC	FLA	FLA	FLA	FLA	Model	kW	Stages	Amps				
037 (3)	208	9.1	68.0	14.2	2.1	5.2	5.5	10.0	None	-	-	-	28.9	34.4	35	40
									E03	2.3	1	6.4	28.9	34.4	35	40
									E06	4.5	1	12.5	34.6	41.5	40	45
									E09	6.8	1	18.9	42.6	49.5	45	50
									E15	11.3	2	31.4	58.2	65.1	60	70
	230	9.1	68.0	14.2	2.1	5.2	5.5	10.0	None	-	-	-	28.9	34.4	35	40
									E03	3.0	1	7.2	28.9	34.9	35	40
									E06	6.0	1	14.4	37.0	43.9	40	45
									E09	9.0	1	21.7	46.1	52.9	50	60
									E15	15.0	2	36.1	64.1	71.0	70	80
	460	4.5	34.0	7.0	1.3	2.6	2.2	5.0	None	-	-	-	14.6	16.8	15	20
									E03	3.0	1	3.6	14.6	16.8	15	20
									E06	6.0	1	7.2	18.5	21.3	20	25
									E09	9.0	1	10.8	23.0	25.8	25	30
									E15	15.0	2	18.0	32.1	34.8	35	35
	575	3.8	28.0	6.0	0.7	2.0	1.8	4.0	None	-	-	-	11.5	13.3	15	15
									E09	9.0	1	8.7	18.3	20.6	20	25
									E15	15.0	2	14.4	25.5	27.8	30	30
049 (4)	208	11.6	88.0	17.5	2.1	5.2	5.5	10.0	None	-	-	-	31.8	37.3	40	45
									E06	4.5	1	12.5	34.6	41.5	40	45
									E09	6.8	1	18.9	42.6	49.5	45	50
									E15	11.3	2	31.4	58.2	65.1	60	70
									E20	15.0	2	41.6	71.0	77.9	80	80
	230	11.6	88.0	17.5	2.1	5.2	5.5	10.0	None	-	-	-	31.8	37.3	40	45
									E06	6.0	1	14.4	37.0	43.9	40	45
									E09	9.0	1	21.7	46.1	52.9	50	60
									E15	15.0	2	36.1	64.1	71.0	70	80
									E20	20.0	2	48.1	79.1	86.0	80	90
	460	5.6	44.0	8.0	1.3	2.6	2.2	5.0	None	-	-	-	15.9	18.1	20	20
									E06	6.0	1	7.2	18.5	21.3	20	25
									E09	9.0	1	10.8	23.0	25.8	25	30
									E15	15.0	2	18.0	32.1	34.8	35	35
									E20	20.0	2	24.1	39.6	42.3	40	45
	575	4.5	36.0	7.0	0.7	2.0	1.8	4.0	None	-	-	-	12.3	14.1	15	15
									E09	9.0	1	8.7	18.3	20.6	20	25
									E15	15.0	2	14.4	25.5	27.8	30	30
									E20	20.0	2	19.2	31.6	33.8	35	35
061 (5)	208	14.1	88.0	22.0	2.1	6.8	5.5	10.0	None	-	-	-	38.6	44.1	50	50
									E06	4.5	1	12.5	38.6	44.1	50	50
									E09	6.8	1	18.9	44.6	51.5	50	60
									E15	11.3	2	31.4	60.2	67.1	70	70
									E20	15.0	2	41.6	73.0	79.9	80	80
									E24	18.0	2	50.0	83.5	90.3	90	100
	230	14.1	88.0	22.0	2.1	6.8	5.5	10.0	None	-	-	-	38.6	44.1	50	50
									E06	6.0	1	14.4	39.0	45.9	50	50
									E09	9.0	1	21.7	48.1	54.9	50	60
									E15	15.0	2	36.1	66.1	73.0	70	80
									E20	20.0	2	48.1	81.1	88.0	90	90
									E24	24.0	2	57.7	93.2	100.0	100	100
	460	7.7	55.0	12.0	1.3	3.4	2.2	5.0	None	-	-	-	20.5	22.7	25	30
									E06	6.0	1	7.2	20.5	22.7	25	30
									E09	9.0	1	10.8	24.0	26.8	25	30
									E15	15.0	2	18.0	33.1	35.8	35	40
									E20	20.0	2	24.1	40.6	43.3	45	45
									E24	24.0	2	28.9	46.6	49.3	50	50
	575	5.1	36.0	7.5	0.7	2.4	1.8	4.0	None	-	-	-	14.1	15.9	15	20
									E09	9.0	1	8.7	18.8	21.1	20	25
									E15	15.0	2	14.4	26.0	28.3	30	30
									E20	20.0	2	19.2	32.1	34.3	35	35
									E24	24.0	2	23.1	36.9	39.1	40	40

1. Minimum Circuit Ampacity.
2. Dual Element, Time Delay Type.
3. HACR type per NEC.

ZH078-150 Hi Static Motor - With Powered Convenience Outlet

Size (Tons)	Volt	Compressors (each)			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Option				MCA[1] (Amps)	MCA[1] w/Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)
		RLA	LRA	MCC	FLA	FLA	FLA	FLA	Model	kW	Stages	Amps				
078 (6.5)	208	9.6	68.0	14.5	2.1	6.8	5.5	10.0	None	-	-	-	42.7	48.2	50	50
									E09	6.8	1	18.9	44.6	51.5	50	60
									E18	13.5	2	37.5	67.8	74.7	70	80
									E24	18.0	2	50.0	83.5	90.3	90	100
									E36	25.5	2	70.8	109.5	116.4	110	125
	230	9.6	68.0	14.5	2.1	6.8	5.5	10.0	None	-	-	-	42.7	48.2	50	50
									E09	9.0	1	21.7	48.1	54.9	50	60
									E18	18.0	2	43.3	75.1	82.0	80	90
									E24	24.0	2	57.7	93.2	100.0	100	100
									E36	34.0	2	81.8	123.2	130.1	125	150
	460	4.9	34.0	7.7	1.3	3.4	2.2	5.0	None	-	-	-	22.0	24.2	25	25
									E09	9.0	1	10.8	24.0	26.8	25	30
									E18	18.0	2	21.7	37.6	40.3	40	45
									E24	24.0	2	28.9	46.6	49.3	50	50
									E36	34.0	2	40.9	61.6	64.4	70	70
	575	3.8	28.0	6.0	0.7	2.4	1.8	4.0	None	-	-	-	16.3	18.1	20	20
									E09	9.0	1	8.7	18.8	21.1	20	25
									E18	18.0	2	17.3	29.7	31.9	30	35
									E24	24.0	2	23.1	36.9	39.1	40	40
									E36	34.0	2	32.7	48.9	51.1	50	60
090 (7.5)	208	11.9	88.0	18.5	3.0	9.6	5.5	10.0	None	-	-	-	52.4	57.9	60	60
									E09	6.8	1	18.9	52.4	57.9	60	60
									E18	13.5	2	37.5	71.3	78.2	80	80
									E24	18.0	2	50.0	87.0	93.8	90	100
									E36	25.5	2	70.8	113.0	119.9	125	125
	230	11.9	88.0	18.5	3.0	9.6	5.5	10.0	None	-	-	-	52.4	57.9	60	60
									E09	9.0	1	21.7	52.4	58.4	60	60
									E18	18.0	2	43.3	78.6	85.5	80	90
									E24	24.0	2	57.7	96.7	103.5	100	110
									E36	34.0	2	81.8	126.7	133.6	150	150
	460	5.2	44.0	8.1	1.6	4.7	2.2	5.0	None	-	-	-	24.6	26.8	25	30
									E09	9.0	1	10.8	25.7	28.4	30	30
									E18	18.0	2	21.7	39.2	41.9	40	45
									E24	24.0	2	28.9	48.2	51.0	50	60
									E36	34.0	2	40.9	63.2	66.0	70	70
	575	4.8	36.0	7.5	1.4	3.6	1.8	4.0	None	-	-	-	21.1	22.9	25	25
									E09	9.0	1	8.7	21.1	22.9	25	25
									E18	18.0	2	17.3	31.2	33.4	35	35
									E24	24.0	2	23.1	38.4	40.6	40	45
									E36	34.0	2	32.7	50.4	52.6	60	60
102 (8.5)	208	12.2	88.0	19.0	3.0	9.6	5.5	10.0	None	-	-	-	53.1	58.6	60	70
									E09	6.8	1	18.9	53.1	58.6	60	70
									E18	13.5	2	37.5	71.3	78.2	80	80
									E24	18.0	2	50.0	87.0	93.8	90	100
									E36	25.5	2	70.8	113.0	119.9	125	125
	230	12.2	88.0	19.0	3.0	9.6	5.5	10.0	None	-	-	-	53.1	58.6	60	70
									E09	9.0	1	21.7	53.1	58.6	60	70
									E18	18.0	2	43.3	78.6	85.5	80	90
									E24	24.0	2	57.7	96.7	103.5	100	110
									E36	34.0	2	81.8	126.7	133.6	150	150
	460	5.8	44.0	9.0	1.6	4.7	2.2	5.0	None	-	-	-	26.0	28.2	30	30
									E09	9.0	1	10.8	26.0	28.4	30	30
									E18	18.0	2	21.7	39.2	41.9	40	45
									E24	24.0	2	28.9	48.2	51.0	50	60
									E36	34.0	2	40.9	63.2	66.0	70	70
	575	4.4	36.0	5.5	1.4	3.6	1.8	4.0	None	-	-	-	20.2	22.0	25	25
									E09	9.0	1	8.7	20.3	22.6	25	25
									E18	18.0	2	17.3	31.2	33.4	35	35
									E24	24.0	2	23.1	38.4	40.6	40	45
									E36	34.0	2	32.7	50.4	52.6	60	60

ZH078-150 Hi Static Motor - With Powered Convenience Outlet (Continued)

Size (Tons)	Volt	Compressors (each)			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Option				MCA[1] (Amps)	MCA[1] w/Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)
		RLA	LRA	MCC	FLA	FLA	FLA	FLA	Model	kW	Stages	Amps				
120 (10)	208	16.0	110.0	24.9	3.0	9.6	5.5	10.0	None	-	-	-	61.7	67.2	70	80
									E18	13.5	2	37.5	71.3	78.2	80	80
									E24	18.0	2	50.0	87.0	93.8	90	100
									E36	25.5	2	70.8	113.0	119.9	125	125
									E54	40.6	2	112.7	165.4	172.2	175	175
	230	16.0	110.0	24.9	3.0	9.6	5.5	10.0	None	-	-	-	61.7	67.2	70	80
									E18	18.0	2	43.3	78.6	85.5	80	90
									E24	24.0	2	57.7	96.7	103.5	100	110
									E36	34.0	2	81.8	126.7	133.6	150	150
									E54	54.0	2	129.9	154.4	161.3	175	175
	460	7.8	52.0	12.1	1.6	4.7	2.2	5.0	None	-	-	-	30.5	32.7	35	40
									E18	18.0	2	21.7	39.2	41.9	40	45
									E24	24.0	2	28.9	48.2	51.0	50	60
									E36	34.0	2	40.9	63.2	66.0	70	70
									E54	54.0	2	65.0	77.1	79.8	90	90
	575	5.7	38.9	8.9	1.4	3.6	1.8	4.0	None	-	-	-	23.1	24.9	25	30
									E18	18.0	2	17.3	31.2	33.4	35	35
									E24	24.0	2	23.1	38.4	40.6	40	45
									E36	34.0	2	32.7	50.4	52.6	60	60
									E54	54.0	2	52.0	61.5	63.7	70	70
150 (12.5)	208	23.1	160.0	36.0	2.1	14.0	5.5	10.0	None	-	-	-	84.4	89.9	100	110
									E18	13.5	2	37.5	84.4	89.9	100	110
									E24	18.0	2	50.0	92.5	99.3	100	110
									E36	25.5	2	70.8	118.5	125.4	125	150
									E54	40.6	2	112.7	170.9	177.7	175	200
	230	23.1	160.0	36.0	2.1	14.0	5.5	10.0	None	-	-	-	84.4	89.9	100	110
									E18	18.0	2	43.3	84.4	91.0	100	110
									E24	24.0	2	57.7	102.2	109.0	110	110
									E36	34.0	2	81.8	132.2	139.1	150	150
									E54	54.0	2	129.9	159.9	166.8	175	175
	460	12.2	87.0	19.0	1.3	6.6	2.2	5.0	None	-	-	-	44.1	46.3	50	50
									E18	18.0	2	21.7	44.1	46.3	50	50
									E24	24.0	2	28.9	50.6	53.3	60	60
									E36	34.0	2	40.9	65.6	68.4	70	70
									E54	54.0	2	65.0	79.5	82.2	90	90
	575	8.7	62.0	13.5	0.7	5.2	1.8	4.0	None	-	-	-	31.4	33.2	40	40
									E18	18.0	2	17.3	33.2	35.4	40	40
									E24	24.0	2	23.1	40.4	42.6	45	45
									E36	34.0	2	32.7	52.4	54.6	60	60
									E54	54.0	2	52.0	63.5	65.7	70	70

1. Minimum Circuit Ampacity.
2. Dual Element, Time Delay Type.
3. HACR type per NEC.

ZJ037-061 Standard Indoor Blower - Without Powered Convenience Outlet

Size (Tons)	Volt	Compressors (each)			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Option				MCA[1] (Amps)	MCA[1] w/Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)
		RLA	LRA	MCC	FLA	FLA	FLA	FLA	Model	kW	Stages	Amps				
037 (3)	208	8.7	68.0	13.5	2.1	5.2	5.5	0.0	None	-	-	-	18.2	23.7	25	30
									E03	2.3	1	6.4	18.2	23.7	25	30
									E06	4.5	1	12.5	22.1	29.0	25	30
									E09	6.8	1	18.9	30.1	37.0	35	40
									E15	11.3	2	31.4	45.7	52.6	50	60
	230	8.7	68.0	13.5	2.1	5.2	5.5	0.0	None	-	-	-	18.2	23.7	25	30
									E03	3.0	1	7.2	18.2	23.7	25	30
									E06	6.0	1	14.4	24.5	31.4	25	35
									E09	9.0	1	21.7	33.6	40.4	35	45
									E15	15.0	2	36.1	51.6	58.5	60	60
	460	4.6	34.0	7.1	1.3	2.6	2.2	0.0	None	-	-	-	9.6	11.8	15	15
									E03	3.0	1	3.6	9.6	11.8	15	15
									E06	6.0	1	7.2	12.3	15.0	15	15
									E09	9.0	1	10.8	16.8	19.5	20	20
									E15	15.0	2	18.0	25.8	28.6	30	30
	575	3.5	28.0	5.5	0.7	2.0	1.8	0.0	None	-	-	-	7.0	8.8	15	15
									E09	9.0	1	8.7	13.3	15.6	15	20
									E15	15.0	2	14.4	20.5	22.8	25	25
049 (4)	208	11.2	88.0	17.5	2.1	5.2	5.5	0.0	None	-	-	-	21.3	26.8	30	35
									E06	4.5	1	12.5	22.1	29.0	30	35
									E09	6.8	1	18.9	30.1	37.0	35	40
									E15	11.3	2	31.4	45.7	52.6	50	60
									E20	15.0	2	41.6	58.5	65.4	60	70
	230	11.2	88.0	17.5	2.1	5.2	5.5	0.0	None	-	-	-	21.3	26.8	30	35
									E06	6.0	1	14.4	24.5	31.4	30	35
									E09	9.0	1	21.7	33.6	40.4	35	45
									E15	15.0	2	36.1	51.6	58.5	60	60
									E20	20.0	2	48.1	66.6	73.5	70	80
	460	5.6	44.0	8.0	1.3	2.6	2.2	0.0	None	-	-	-	10.9	13.1	15	15
									E06	6.0	1	7.2	12.3	15.0	15	15
									E09	9.0	1	10.8	16.8	19.5	20	20
									E15	15.0	2	18.0	25.8	28.6	30	30
									E20	20.0	2	24.1	33.3	36.1	35	40
	575	4.5	36.0	7.0	0.7	2.0	1.8	0.0	None	-	-	-	8.3	10.1	15	15
									E09	9.0	1	8.7	13.3	15.6	15	20
									E15	15.0	2	14.4	20.5	22.8	25	25
									E20	20.0	2	19.2	26.6	28.8	30	30
061 (5)	208	14.1	88.0	22.0	2.1	5.2	5.5	0.0	None	-	-	-	27.0	32.5	35	45
									E06	4.5	1	12.5	27.0	32.5	35	45
									E09	6.8	1	18.9	30.1	37.0	40	45
									E15	11.3	2	31.4	45.7	52.6	50	60
									E20	15.0	2	41.6	58.5	65.4	60	70
									E24	18.0	2	50.0	69.0	75.8	70	80
	230	14.1	88.0	22.0	2.1	5.2	5.5	0.0	None	-	-	-	27.0	32.5	35	45
									E06	6.0	1	14.4	27.0	32.5	35	45
									E09	9.0	1	21.7	33.6	40.4	40	45
									E15	15.0	2	36.1	51.6	58.5	60	60
									E20	20.0	2	48.1	66.6	73.5	70	80
									E24	24.0	2	57.7	78.7	85.5	80	90
	460	7.7	55.0	12.0	1.3	2.6	2.2	0.0	None	-	-	-	14.7	16.9	20	20
									E06	6.0	1	7.2	14.7	16.9	20	20
									E09	9.0	1	10.8	16.8	19.5	20	20
									E15	15.0	2	18.0	25.8	28.6	30	30
									E20	20.0	2	24.1	33.3	36.1	35	40
									E24	24.0	2	28.9	39.3	42.1	40	45
	575	5.1	36.0	7.5	0.7	2.0	1.8	0.0	None	-	-	-	9.7	11.5	15	15
									E09	9.0	1	8.7	13.3	15.6	15	20
									E15	15.0	2	14.4	20.5	22.8	25	25
									E20	20.0	2	19.2	26.6	28.8	30	30
									E24	24.0	2	23.1	31.4	33.6	35	35

1. Minimum Circuit Ampacity.
2. Dual Element, Time Delay Type.
3. HACR type per NEC.

ZJ078-150 Standard Motor - Without Powered Convenience Outlet

Size (Tons)	Volt	Compressors (each)			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Option				MCA[1] (Amps)	MCA[1] w/Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)
		RLA	LRA	MCC	FLA	FLA	FLA	FLA	Model	kW	Stages	Amps				
078 (6.5)	208	9.3	68.0	14.5	2.1	5.2	5.5	0.0	None	-	-	-	30.3	35.8	35	45
									E09	6.8	1	18.9	30.3	37.0	35	45
									E18	13.5	2	37.5	53.3	60.2	60	70
									E24	18.0	2	50.0	69.0	75.8	70	80
									E36	25.5	2	70.8	95.0	101.9	100	110
	230	9.3	68.0	14.5	2.1	5.2	5.5	0.0	None	-	-	-	30.3	35.8	35	45
									E09	9.0	1	21.7	33.6	40.4	35	45
									E18	18.0	2	43.3	60.6	67.5	70	70
									E24	24.0	2	57.7	78.7	85.5	80	90
									E36	34.0	2	81.8	108.7	115.6	110	125
	460	4.9	34.0	7.6	1.3	2.6	2.2	0.0	None	-	-	-	16.1	18.3	20	20
									E09	9.0	1	10.8	16.8	19.5	20	20
									E18	18.0	2	21.7	30.3	33.1	35	35
									E24	24.0	2	28.9	39.3	42.1	40	45
									E36	34.0	2	40.9	54.4	57.1	60	60
	575	3.8	28.0	6.0	0.7	2.0	1.8	0.0	None	-	-	-	11.9	13.7	15	15
									E09	9.0	1	8.7	13.3	15.6	15	20
									E18	18.0	2	17.3	24.2	26.4	25	30
									E24	24.0	2	23.1	31.4	33.6	35	35
									E36	34.0	2	32.7	43.4	45.6	45	50
090 (7.5)	208	11.9	88.0	18.5	3.0	5.2	5.5	0.0	None	-	-	-	38.0	43.5	45	50
									E09	6.8	1	18.9	38.0	43.5	45	50
									E18	13.5	2	37.5	53.3	60.2	60	70
									E24	18.0	2	50.0	69.0	75.8	70	80
									E36	25.5	2	70.8	95.0	101.9	100	110
	230	11.9	88.0	18.5	3.0	5.2	5.5	0.0	None	-	-	-	38.0	43.5	45	50
									E09	9.0	1	21.7	38.0	43.5	45	50
									E18	18.0	2	43.3	60.6	67.5	70	70
									E24	24.0	2	57.7	78.7	85.5	80	90
									E36	34.0	2	81.8	108.7	115.6	110	125
	460	5.2	44.0	8.1	1.6	2.6	2.2	0.0	None	-	-	-	17.5	19.7	20	20
									E09	9.0	1	10.8	17.5	19.7	20	20
									E18	18.0	2	21.7	30.3	33.1	35	35
									E24	24.0	2	28.9	39.3	42.1	40	45
									E36	34.0	2	40.9	54.4	57.1	60	60
	575	4.8	36.0	7.5	1.4	2.0	1.8	0.0	None	-	-	-	15.5	17.3	20	20
									E09	9.0	1	8.7	15.5	17.3	20	20
									E18	18.0	2	17.3	24.2	26.4	25	30
									E24	24.0	2	23.1	31.4	33.6	35	35
									E36	34.0	2	32.7	43.4	45.6	45	50
102 (8.5)	208	12.2	88.0	19.0	3.0	6.8	5.5	0.0	None	-	-	-	40.3	45.8	50	50
									E09	6.8	1	18.9	40.3	45.8	50	50
									E18	13.5	2	37.5	55.3	62.2	60	70
									E24	18.0	2	50.0	71.0	77.8	80	80
									E36	25.5	2	70.8	97.0	103.9	100	110
	230	12.2	88.0	19.0	3.0	6.8	5.5	0.0	None	-	-	-	40.3	45.8	50	50
									E09	9.0	1	21.7	40.3	45.8	50	50
									E18	18.0	2	43.3	62.6	69.5	70	70
									E24	24.0	2	57.7	80.7	87.5	90	90
									E36	34.0	2	81.8	110.7	117.6	125	125
	460	5.8	44.0	9.0	1.6	3.4	2.2	0.0	None	-	-	-	19.7	21.9	25	25
									E09	9.0	1	10.8	19.7	21.9	25	25
									E18	18.0	2	21.7	31.3	34.1	35	35
									E24	24.0	2	28.9	40.3	43.1	45	45
									E36	34.0	2	40.9	55.4	58.1	60	60
	575	4.4	36.0	5.5	1.4	2.4	1.8	0.0	None	-	-	-	15.0	16.8	15	20
									E09	9.0	1	8.7	15.0	16.8	15	20
									E18	18.0	2	17.3	24.7	26.9	25	30
									E24	24.0	2	23.1	31.9	34.1	35	35
									E36	34.0	2	32.7	43.9	46.1	45	50

ZJ078-150 Standard Motor - Without Powered Convenience Outlet (Continued)

Size (Tons)	Volt	Compressors (each)			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Option				MCA[1] (Amps)	MCA[1] w/Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)
		RLA	LRA	MCC	FLA	FLA	FLA	FLA	Model	kW	Stages	Amps				
120 (10)	208	16.0	110.0	24.9	3.0	6.8	5.5	0.0	None	-	-	-	48.9	54.4	60	70
									E18	13.5	2	37.5	55.3	62.2	60	70
									E24	18.0	2	50.0	71.0	77.8	80	80
									E36	25.5	2	70.8	97.0	103.9	100	110
									E54	40.6	2	112.7	149.4	156.2	150	175
	230	16.0	110.0	24.9	3.0	6.8	5.5	0.0	None	-	-	-	48.9	54.4	60	70
									E18	18.0	2	43.3	62.6	69.5	70	70
									E24	24.0	2	57.7	80.7	87.5	90	90
									E36	34.0	2	81.8	110.7	117.6	125	125
									E54	54.0	2	129.9	138.4	145.3	150	175
	460	7.8	52.0	12.1	1.6	3.4	2.2	0.0	None	-	-	-	24.2	26.4	30	30
									E18	18.0	2	21.7	31.3	34.1	35	35
									E24	24.0	2	28.9	40.3	43.1	45	45
									E36	34.0	2	40.9	55.4	58.1	60	60
									E54	54.0	2	65.0	69.2	72.0	80	80
	575	5.7	38.9	8.9	1.4	2.4	1.8	0.0	None	-	-	-	17.9	19.7	20	25
									E18	18.0	2	17.3	24.7	26.9	25	30
									E24	24.0	2	23.1	31.9	34.1	35	35
									E36	34.0	2	32.7	43.9	46.1	45	50
									E54	54.0	2	52.0	55.0	57.2	60	60
150 (12.5)	208	23.1	160.0	36.0	2.1	9.6	5.5	0.0	None	-	-	-	70.0	75.5	90	90
									E18	13.5	2	37.5	70.0	75.5	90	90
									E24	18.0	2	50.0	74.5	81.3	90	90
									E36	25.5	2	70.8	100.5	107.4	110	110
									E54	40.6	2	112.7	152.9	159.7	175	175
	230	23.1	160.0	36.0	2.1	9.6	5.5	0.0	None	-	-	-	70.0	75.5	90	90
									E18	18.0	2	43.3	70.0	75.5	90	90
									E24	24.0	2	57.7	84.2	91.0	90	100
									E36	34.0	2	81.8	114.2	121.1	125	125
									E54	54.0	2	129.9	141.9	148.8	175	175
	460	12.2	87.0	19.0	1.3	4.7	2.2	0.0	None	-	-	-	37.2	39.4	45	50
									E18	18.0	2	21.7	37.2	39.4	45	50
									E24	24.0	2	28.9	42.0	44.7	45	50
									E36	34.0	2	40.9	57.0	59.7	60	60
									E54	54.0	2	65.0	70.8	73.6	80	80
	575	8.7	62.0	13.5	0.7	3.6	1.8	0.0	None	-	-	-	25.8	27.6	30	35
									E18	18.0	2	17.3	26.2	28.4	30	35
									E24	24.0	2	23.1	33.4	35.6	35	40
									E36	34.0	2	32.7	45.4	47.6	50	50
									E54	54.0	2	52.0	56.5	58.7	70	70

1. Minimum Circuit Ampacity.
2. Dual Element, Time Delay Type.
3. HACR type per NEC.

ZJ037-061 Hi Static Indoor Blower - Without Powered Convenience Outlet

Size (Tons)	Volt	Compressors (each)			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Option				MCA[1] (Amps)	MCA[1] w/Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)
		RLA	LRA	MCC	FLA	FLA	FLA	FLA	Model	kW	Stages	Amps				
037 (3)	208	8.7	68.0	13.5	2.1	5.2	5.5	0.0	None	-	-	-	18.2	23.7	25	30
									E03	2.3	1	6.4	18.2	23.7	25	30
									E06	4.5	1	12.5	22.1	29.0	25	30
									E09	6.8	1	18.9	30.1	37.0	35	40
									E15	11.3	2	31.4	45.7	52.6	50	60
	230	8.7	68.0	13.5	2.1	5.2	5.5	0.0	None	-	-	-	18.2	23.7	25	30
									E03	3.0	1	7.2	18.2	23.7	25	30
									E06	6.0	1	14.4	24.5	31.4	25	35
									E09	9.0	1	21.7	33.6	40.4	35	45
									E15	15.0	2	36.1	51.6	58.5	60	60
	460	4.6	34.0	7.1	1.3	2.6	2.2	0.0	None	-	-	-	9.6	11.8	15	15
									E03	3.0	1	3.6	9.6	11.8	15	15
									E06	6.0	1	7.2	12.3	15.0	15	15
									E09	9.0	1	10.8	16.8	19.5	20	20
									E15	15.0	2	18.0	25.8	28.6	30	30
	575	3.5	28.0	5.5	0.7	2.0	1.8	0.0	None	-	-	-	7.0	8.8	15	15
									E09	9.0	1	8.7	13.3	15.6	15	20
									E15	15.0	2	14.4	20.5	22.8	25	25
049 (4)	208	11.2	88.0	17.5	2.1	5.2	5.5	0.0	None	-	-	-	21.3	26.8	30	35
									E06	4.5	1	12.5	22.1	29.0	30	35
									E09	6.8	1	18.9	30.1	37.0	35	40
									E15	11.3	2	31.4	45.7	52.6	50	60
									E20	15.0	2	41.6	58.5	65.4	60	70
	230	11.2	88.0	17.5	2.1	5.2	5.5	0.0	None	-	-	-	21.3	26.8	30	35
									E06	6.0	1	14.4	24.5	31.4	30	35
									E09	9.0	1	21.7	33.6	40.4	35	45
									E15	15.0	2	36.1	51.6	58.5	60	60
									E20	20.0	2	48.1	66.6	73.5	70	80
	460	5.6	44.0	8.0	1.3	2.6	2.2	0.0	None	-	-	-	10.9	13.1	15	15
									E06	6.0	1	7.2	12.3	15.0	15	15
									E09	9.0	1	10.8	16.8	19.5	20	20
									E15	15.0	2	18.0	25.8	28.6	30	30
									E20	20.0	2	24.1	33.3	36.1	35	40
	575	4.5	36.0	7.0	0.7	2.0	1.8	0.0	None	-	-	-	8.3	10.1	15	15
									E09	9.0	1	8.7	13.3	15.6	15	20
									E15	15.0	2	14.4	20.5	22.8	25	25
									E20	20.0	2	19.2	26.6	28.8	30	30
061 (5)	208	14.1	88.0	22.0	2.1	6.8	5.5	0.0	None	-	-	-	28.6	34.1	40	45
									E06	4.5	1	12.5	28.6	34.1	40	45
									E09	6.8	1	18.9	32.1	39.0	40	45
									E15	11.3	2	31.4	47.7	54.6	50	60
									E20	15.0	2	41.6	60.5	67.4	70	70
									E24	18.0	2	50.0	71.0	77.8	80	80
	230	14.1	88.0	22.0	2.1	6.8	5.5	0.0	None	-	-	-	28.6	34.1	40	45
									E06	6.0	1	14.4	28.6	34.1	40	45
									E09	9.0	1	21.7	35.6	42.4	40	45
									E15	15.0	2	36.1	53.6	60.5	60	70
									E20	20.0	2	48.1	68.6	75.5	70	80
									E24	24.0	2	57.7	80.7	87.5	90	90
	460	7.7	55.0	12.0	1.3	3.4	2.2	0.0	None	-	-	-	15.5	17.7	20	25
									E06	6.0	1	7.2	15.5	17.7	20	25
									E09	9.0	1	10.8	17.8	20.5	20	25
									E15	15.0	2	18.0	26.8	29.6	30	30
									E20	20.0	2	24.1	34.3	37.1	35	40
									E24	24.0	2	28.9	40.3	43.1	45	45
	575	5.1	36.0	7.5	0.7	2.4	1.8	0.0	None	-	-	-	10.1	11.9	15	15
									E09	9.0	1	8.7	13.8	16.1	15	20
									E15	15.0	2	14.4	21.0	23.3	25	25
									E20	20.0	2	19.2	27.1	29.3	30	30
									E24	24.0	2	23.1	31.9	34.1	35	35

1. Minimum Circuit Ampacity.
2. Dual Element, Time Delay Type.
3. HACR type per NEC.

ZJ078-150 Hi Static Motor - Without Powered Convenience Outlet

Size (Tons)	Volt	Compressors (each)			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Option				MCA[1] (Amps)	MCA[1] w/Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)
		RLA	LRA	MCC	FLA	FLA	FLA	FLA	Model	kW	Stages	Amps				
078 (6.5)	208	9.3	68.0	14.5	2.1	6.8	5.5	0.0	None	-	-	-	31.9	37.4	40	45
									E09	6.8	1	18.9	32.1	39.0	40	45
									E18	13.5	2	37.5	55.3	62.2	60	70
									E24	18.0	2	50.0	71.0	77.8	80	80
									E36	25.5	2	70.8	97.0	103.9	100	110
	230	9.3	68.0	14.5	2.1	6.8	5.5	0.0	None	-	-	-	31.9	37.4	40	45
									E09	9.0	1	21.7	35.6	42.4	40	45
									E18	18.0	2	43.3	62.6	69.5	70	70
									E24	24.0	2	57.7	80.7	87.5	90	90
									E36	34.0	2	81.8	110.7	117.6	125	125
	460	4.9	34.0	7.6	1.3	3.4	2.2	0.0	None	-	-	-	16.9	19.1	20	20
									E09	9.0	1	10.8	17.8	20.5	20	25
									E18	18.0	2	21.7	31.3	34.1	35	35
									E24	24.0	2	28.9	40.3	43.1	45	45
									E36	34.0	2	40.9	55.4	58.1	60	60
	575	3.8	28.0	6.0	0.7	2.4	1.8	0.0	None	-	-	-	12.3	14.1	15	15
									E09	9.0	1	8.7	13.8	16.1	15	20
									E18	18.0	2	17.3	24.7	26.9	25	30
									E24	24.0	2	23.1	31.9	34.1	35	35
									E36	34.0	2	32.7	43.9	46.1	45	50
090 (7.5)	208	11.9	88.0	18.5	3.0	9.6	5.5	0.0	None	-	-	-	42.4	47.9	50	50
									E09	6.8	1	18.9	42.4	47.9	50	50
									E18	13.5	2	37.5	58.8	65.7	60	70
									E24	18.0	2	50.0	74.5	81.3	80	90
									E36	25.5	2	70.8	100.5	107.4	110	110
	230	11.9	88.0	18.5	3.0	9.6	5.5	0.0	None	-	-	-	42.4	47.9	50	50
									E09	9.0	1	21.7	42.4	47.9	50	50
									E18	18.0	2	43.3	66.1	73.0	70	80
									E24	24.0	2	57.7	84.2	91.0	90	100
									E36	34.0	2	81.8	114.2	121.1	125	125
	460	5.2	44.0	8.1	1.6	4.7	2.2	0.0	None	-	-	-	19.6	21.8	20	25
									E09	9.0	1	10.8	19.6	22.2	20	25
									E18	18.0	2	21.7	32.9	35.7	35	40
									E24	24.0	2	28.9	42.0	44.7	45	45
									E36	34.0	2	40.9	57.0	59.7	60	60
	575	4.8	36.0	7.5	1.4	3.6	1.8	0.0	None	-	-	-	17.1	18.9	20	20
									E09	9.0	1	8.7	17.1	18.9	20	20
									E18	18.0	2	17.3	26.2	28.4	30	30
									E24	24.0	2	23.1	33.4	35.6	35	40
									E36	34.0	2	32.7	45.4	47.6	50	50
102 (8.5)	208	12.2	88.0	19.0	3.0	9.6	5.5	0.0	None	-	-	-	43.1	48.6	50	60
									E09	6.8	1	18.9	43.1	48.6	50	60
									E18	13.5	2	37.5	58.8	65.7	60	70
									E24	18.0	2	50.0	74.5	81.3	80	90
									E36	25.5	2	70.8	100.5	107.4	110	110
	230	12.2	88.0	19.0	3.0	9.6	5.5	0.0	None	-	-	-	43.1	48.6	50	60
									E09	9.0	1	21.7	43.1	48.6	50	60
									E18	18.0	2	43.3	66.1	73.0	70	80
									E24	24.0	2	57.7	84.2	91.0	90	100
									E36	34.0	2	81.8	114.2	121.1	125	125
	460	5.8	44.0	9.0	1.6	4.7	2.2	0.0	None	-	-	-	21.0	23.2	25	25
									E09	9.0	1	10.8	21.0	23.2	25	25
									E18	18.0	2	21.7	32.9	35.7	35	40
									E24	24.0	2	28.9	42.0	44.7	45	45
									E36	34.0	2	40.9	57.0	59.7	60	60
	575	4.4	36.0	5.5	1.4	3.6	1.8	0.0	None	-	-	-	16.2	18.0	20	20
									E09	9.0	1	8.7	16.2	18.0	20	20
									E18	18.0	2	17.3	26.2	28.4	30	30
									E24	24.0	2	23.1	33.4	35.6	35	40
									E36	34.0	2	32.7	45.4	47.6	50	50

ZJ078-150 Hi Static Motor - Without Powered Convenience Outlet (Continued)

Size (Tons)	Volt	Compressors (each)			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Option				MCA[1] (Amps)	MCA[1] w/Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)
		RLA	LRA	MCC	FLA	FLA	FLA	FLA	Model	kW	Stages	Amps				
120 (10)	208	16.0	110.0	24.9	3.0	9.6	5.5	0.0	None	-	-	-	51.7	57.2	60	70
									E18	13.5	2	37.5	58.8	65.7	60	70
									E24	18.0	2	50.0	74.5	81.3	80	90
									E36	25.5	2	70.8	100.5	107.4	110	110
									E54	40.6	2	112.7	152.9	159.7	175	175
	230	16.0	110.0	24.9	3.0	9.6	5.5	0.0	None	-	-	-	51.7	57.2	60	70
									E18	18.0	2	43.3	66.1	73.0	70	80
									E24	24.0	2	57.7	84.2	91.0	90	100
									E36	34.0	2	81.8	114.2	121.1	125	125
									E54	54.0	2	129.9	141.9	148.8	175	175
	460	7.8	52.0	12.1	1.6	4.7	2.2	0.0	None	-	-	-	25.5	27.7	30	35
									E18	18.0	2	21.7	32.9	35.7	35	40
									E24	24.0	2	28.9	42.0	44.7	45	45
									E36	34.0	2	40.9	57.0	59.7	60	60
									E54	54.0	2	65.0	70.8	73.6	80	80
	575	5.7	38.9	8.9	1.4	3.6	1.8	0.0	None	-	-	-	19.1	20.9	20	25
									E18	18.0	2	17.3	26.2	28.4	30	30
									E24	24.0	2	23.1	33.4	35.6	35	40
									E36	34.0	2	32.7	45.4	47.6	50	50
									E54	54.0	2	52.0	56.5	58.7	70	70
150 (12.5)	208	23.1	160.0	36.0	2.1	14.0	5.5	0.0	None	-	-	-	74.4	79.9	90	100
									E18	13.5	2	37.5	74.4	79.9	90	100
									E24	18.0	2	50.0	80.0	86.8	90	100
									E36	25.5	2	70.8	106.0	112.9	110	125
									E54	40.6	2	112.7	158.4	165.2	175	175
	230	23.1	160.0	36.0	2.1	14.0	5.5	0.0	None	-	-	-	74.4	79.9	90	100
									E18	18.0	2	43.3	74.4	79.9	90	100
									E24	24.0	2	57.7	89.7	96.5	90	100
									E36	34.0	2	81.8	119.7	126.6	125	150
									E54	54.0	2	129.9	147.4	154.3	175	175
	460	12.2	87.0	19.0	1.3	6.6	2.2	0.0	None	-	-	-	39.1	41.3	50	50
									E18	18.0	2	21.7	39.1	41.3	50	50
									E24	24.0	2	28.9	44.3	47.1	50	50
									E36	34.0	2	40.9	59.4	62.1	60	70
									E54	54.0	2	65.0	73.2	76.0	80	90
	575	8.7	62.0	13.5	0.7	5.2	1.8	0.0	None	-	-	-	27.4	29.2	35	35
									E18	18.0	2	17.3	28.2	30.4	35	35
									E24	24.0	2	23.1	35.4	37.6	40	40
									E36	34.0	2	32.7	47.4	49.6	50	50
									E54	54.0	2	52.0	58.5	60.7	70	70

1. Minimum Circuit Ampacity.
2. Dual Element, Time Delay Type.
3. HACR type per NEC.

ZJ037-061 Standard Indoor Blower - With Powered Convenience Outlet

Size (Tons)	Volt	Compressors (each)			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Option				MCA[1] (Amps)	MCA[1] w/Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)
		RLA	LRA	MCC	FLA	FLA	FLA	FLA	Model	kW	Stages	Amps				
037 (3)	208	8.7	68.0	13.5	2.1	5.2	5.5	10.0	None	-	-	-	28.5	34.0	35	40
									E03	2.3	1	6.4	28.5	34.0	35	40
									E06	4.5	1	12.5	34.6	41.5	40	45
									E09	6.8	1	18.9	42.6	49.5	45	50
									E15	11.3	2	31.4	58.2	65.1	60	70
	230	8.7	68.0	13.5	2.1	5.2	5.5	10.0	None	-	-	-	28.5	34.0	35	40
									E03	3.0	1	7.2	28.5	34.9	35	40
									E06	6.0	1	14.4	37.0	43.9	40	45
									E09	9.0	1	21.7	46.1	52.9	50	60
									E15	15.0	2	36.1	64.1	71.0	70	80
	460	4.6	34.0	7.1	1.3	2.6	2.2	5.0	None	-	-	-	14.7	16.9	15	20
									E03	3.0	1	3.6	14.7	16.9	15	20
									E06	6.0	1	7.2	18.5	21.3	20	25
									E09	9.0	1	10.8	23.0	25.8	25	30
									E15	15.0	2	18.0	32.1	34.8	35	35
	575	3.5	28.0	5.5	0.7	2.0	1.8	4.0	None	-	-	-	11.2	13.0	15	15
									E09	9.0	1	8.7	18.3	20.6	20	25
									E15	15.0	2	14.4	25.5	27.8	30	30
049 (4)	208	11.2	88.0	17.5	2.1	5.2	5.5	10.0	None	-	-	-	31.3	36.8	40	45
									E06	4.5	1	12.5	34.6	41.5	40	45
									E09	6.8	1	18.9	42.6	49.5	45	50
									E15	11.3	2	31.4	58.2	65.1	60	70
									E20	15.0	2	41.6	71.0	77.9	80	80
	230	11.2	88.0	17.5	2.1	5.2	5.5	10.0	None	-	-	-	31.3	36.8	40	45
									E06	6.0	1	14.4	37.0	43.9	40	45
									E09	9.0	1	21.7	46.1	52.9	50	60
									E15	15.0	2	36.1	64.1	71.0	70	80
									E20	20.0	2	48.1	79.1	86.0	80	90
	460	5.6	44.0	8.0	1.3	2.6	2.2	5.0	None	-	-	-	15.9	18.1	20	20
									E06	6.0	1	7.2	18.5	21.3	20	25
									E09	9.0	1	10.8	23.0	25.8	25	30
									E15	15.0	2	18.0	32.1	34.8	35	35
									E20	20.0	2	24.1	39.6	42.3	40	45
	575	4.5	36.0	7.0	0.7	2.0	1.8	4.0	None	-	-	-	12.3	14.1	15	15
									E09	9.0	1	8.7	18.3	20.6	20	25
									E15	15.0	2	14.4	25.5	27.8	30	30
									E20	20.0	2	19.2	31.6	33.8	35	35
061 (5)	208	14.1	88.0	22.0	2.1	5.2	5.5	10.0	None	-	-	-	37.0	42.5	50	50
									E06	4.5	1	12.5	37.0	42.5	50	50
									E09	6.8	1	18.9	42.6	49.5	50	50
									E15	11.3	2	31.4	58.2	65.1	60	70
									E20	15.0	2	41.6	71.0	77.9	80	80
									E24	18.0	2	50.0	81.5	88.3	90	90
	230	14.1	88.0	22.0	2.1	5.2	5.5	10.0	None	-	-	-	37.0	42.5	50	50
									E06	6.0	1	14.4	37.0	43.9	50	50
									E09	9.0	1	21.7	46.1	52.9	50	60
									E15	15.0	2	36.1	64.1	71.0	70	80
									E20	20.0	2	48.1	79.1	86.0	80	90
									E24	24.0	2	57.7	91.2	98.0	100	100
	460	7.7	55.0	12.0	1.3	2.6	2.2	5.0	None	-	-	-	19.7	21.9	25	25
									E06	6.0	1	7.2	19.7	21.9	25	25
									E09	9.0	1	10.8	23.0	25.8	25	30
									E15	15.0	2	18.0	32.1	34.8	35	35
									E20	20.0	2	24.1	39.6	42.3	40	45
									E24	24.0	2	28.9	45.6	48.3	50	50
	575	5.1	36.0	7.5	0.7	2.0	1.8	4.0	None	-	-	-	13.7	15.5	15	20
									E09	9.0	1	8.7	18.3	20.6	20	25
									E15	15.0	2	14.4	25.5	27.8	30	30
									E20	20.0	2	19.2	31.6	33.8	35	35
									E24	24.0	2	23.1	36.4	38.6	40	40

1. Minimum Circuit Ampacity.
2. Dual Element, Time Delay Type.
3. HACR type per NEC.

ZJ078-150 Standard Motor - With Powered Convenience Outlet

Size (Tons)	Volt	Compressors (each)			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Option				MCA[1] (Amps)	MCA[1] w/Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)
		RLA	LRA	MCC	FLA	FLA	FLA	FLA	Model	kW	Stages	Amps				
078 (6.5)	208	9.3	68.0	14.5	2.1	5.2	5.5	10.0	None	-	-	-	40.5	46.0	50	50
									E09	6.8	1	18.9	42.6	49.5	50	50
									E18	13.5	2	37.5	65.8	72.7	70	80
									E24	18.0	2	50.0	81.5	88.3	90	90
									E36	25.5	2	70.8	107.5	114.4	110	125
	230	9.3	68.0	14.5	2.1	5.2	5.5	10.0	None	-	-	-	40.5	46.0	50	50
									E09	9.0	1	21.7	46.1	52.9	50	60
									E18	18.0	2	43.3	73.1	80.0	80	80
									E24	24.0	2	57.7	91.2	98.0	100	100
									E36	34.0	2	81.8	121.2	128.1	125	150
	460	4.9	34.0	7.6	1.3	2.6	2.2	5.0	None	-	-	-	21.2	23.4	25	25
									E09	9.0	1	10.8	23.0	25.8	25	30
									E18	18.0	2	21.7	36.6	39.3	40	40
									E24	24.0	2	28.9	45.6	48.3	50	50
									E36	34.0	2	40.9	60.6	63.4	70	70
	575	3.8	28.0	6.0	0.7	2.0	1.8	4.0	None	-	-	-	15.9	17.7	20	20
									E09	9.0	1	8.7	18.3	20.6	20	25
									E18	18.0	2	17.3	29.2	31.4	30	35
									E24	24.0	2	23.1	36.4	38.6	40	40
									E36	34.0	2	32.7	48.4	50.6	50	60
090 (7.5)	208	11.9	88.0	18.5	3.0	5.2	5.5	10.0	None	-	-	-	48.0	53.5	50	60
									E09	6.8	1	18.9	48.0	53.5	50	60
									E18	13.5	2	37.5	65.8	72.7	70	80
									E24	18.0	2	50.0	81.5	88.3	90	90
									E36	25.5	2	70.8	107.5	114.4	110	125
	230	11.9	88.0	18.5	3.0	5.2	5.5	10.0	None	-	-	-	48.0	53.5	50	60
									E09	9.0	1	21.7	48.0	53.5	50	60
									E18	18.0	2	43.3	73.1	80.0	80	80
									E24	24.0	2	57.7	91.2	98.0	100	100
									E36	34.0	2	81.8	121.2	128.1	125	150
	460	5.2	44.0	8.1	1.6	2.6	2.2	5.0	None	-	-	-	22.5	24.7	25	25
									E09	9.0	1	10.8	23.0	25.8	25	30
									E18	18.0	2	21.7	36.6	39.3	40	40
									E24	24.0	2	28.9	45.6	48.3	50	50
									E36	34.0	2	40.9	60.6	63.4	70	70
	575	4.8	36.0	7.5	1.4	2.0	1.8	4.0	None	-	-	-	19.5	21.3	20	25
									E09	9.0	1	8.7	19.5	21.3	20	25
									E18	18.0	2	17.3	29.2	31.4	30	35
									E24	24.0	2	23.1	36.4	38.6	40	40
									E36	34.0	2	32.7	48.4	50.6	50	60
102 (8.5)	208	12.2	88.0	19.0	3.0	6.8	5.5	10.0	None	-	-	-	50.3	55.8	60	60
									E09	6.8	1	18.9	50.3	55.8	60	60
									E18	13.5	2	37.5	67.8	74.7	70	80
									E24	18.0	2	50.0	83.5	90.3	90	100
									E36	25.5	2	70.8	109.5	116.4	110	125
	230	12.2	88.0	19.0	3.0	6.8	5.5	10.0	None	-	-	-	50.3	55.8	60	60
									E09	9.0	1	21.7	50.3	55.8	60	60
									E18	18.0	2	43.3	75.1	82.0	80	90
									E24	24.0	2	57.7	93.2	100.0	100	100
									E36	34.0	2	81.8	123.2	130.1	125	150
	460	5.8	44.0	9.0	1.6	3.4	2.2	5.0	None	-	-	-	24.7	26.9	30	30
									E09	9.0	1	10.8	24.7	26.9	30	30
									E18	18.0	2	21.7	37.6	40.3	40	45
									E24	24.0	2	28.9	46.6	49.3	50	50
									E36	34.0	2	40.9	61.6	64.4	70	70
	575	4.4	36.0	5.5	1.4	2.4	1.8	4.0	None	-	-	-	19.0	20.8	20	25
									E09	9.0	1	8.7	19.0	21.1	20	25
									E18	18.0	2	17.3	29.7	31.9	30	35
									E24	24.0	2	23.1	36.9	39.1	40	40
									E36	34.0	2	32.7	48.9	51.1	50	60

ZJ078-150 Standard Motor - With Powered Convenience Outlet (Continued)

Size (Tons)	Volt	Compressors (each)			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Option				MCA[1] (Amps)	MCA[1] w/Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)
		RLA	LRA	MCC	FLA	FLA	FLA	FLA	Model	kW	Stages	Amps				
120 (10)	208	16.0	110.0	24.9	3.0	6.8	5.5	10.0	None	-	-	-	58.9	64.4	70	80
									E18	13.5	2	37.5	67.8	74.7	70	80
									E24	18.0	2	50.0	83.5	90.3	90	100
									E36	25.5	2	70.8	109.5	116.4	110	125
									E54	40.6	2	112.7	161.9	168.7	175	175
	230	16.0	110.0	24.9	3.0	6.8	5.5	10.0	None	-	-	-	58.9	64.4	70	80
									E18	18.0	2	43.3	75.1	82.0	80	90
									E24	24.0	2	57.7	93.2	100.0	100	100
									E36	34.0	2	81.8	123.2	130.1	125	150
									E54	54.0	2	129.9	150.9	157.8	175	175
	460	7.8	52.0	12.1	1.6	3.4	2.2	5.0	None	-	-	-	29.2	31.4	35	35
									E18	18.0	2	21.7	37.6	40.3	40	45
									E24	24.0	2	28.9	46.6	49.3	50	50
									E36	34.0	2	40.9	61.6	64.4	70	70
									E54	54.0	2	65.0	75.5	78.2	80	90
	575	5.7	38.9	8.9	1.4	2.4	1.8	4.0	None	-	-	-	21.9	23.7	25	25
									E18	18.0	2	17.3	29.7	31.9	30	35
									E24	24.0	2	23.1	36.9	39.1	40	40
									E36	34.0	2	32.7	48.9	51.1	50	60
									E54	54.0	2	52.0	60.0	62.2	70	70
150 (12.5)	208	23.1	160.0	36.0	2.1	9.6	5.5	10.0	None	-	-	-	80.0	85.5	100	100
									E18	13.5	2	37.5	80.0	85.5	100	100
									E24	18.0	2	50.0	87.0	93.8	100	100
									E36	25.5	2	70.8	113.0	119.9	125	125
									E54	40.6	2	112.7	165.4	172.2	175	175
	230	23.1	160.0	36.0	2.1	9.6	5.5	10.0	None	-	-	-	80.0	85.5	100	100
									E18	18.0	2	43.3	80.0	85.5	100	100
									E24	24.0	2	57.7	96.7	103.5	100	110
									E36	34.0	2	81.8	126.7	133.6	150	150
									E54	54.0	2	129.9	154.4	161.3	175	175
	460	12.2	87.0	19.0	1.3	4.7	2.2	5.0	None	-	-	-	42.2	44.4	50	50
									E18	18.0	2	21.7	42.2	44.4	50	50
									E24	24.0	2	28.9	48.2	51.0	50	60
									E36	34.0	2	40.9	63.2	66.0	70	70
									E54	54.0	2	65.0	77.1	79.8	90	90
	575	8.7	62.0	13.5	0.7	3.6	1.8	4.0	None	-	-	-	29.8	31.6	35	40
									E18	18.0	2	17.3	31.2	33.4	35	40
									E24	24.0	2	23.1	38.4	40.6	40	45
									E36	34.0	2	32.7	50.4	52.6	60	60
									E54	54.0	2	52.0	61.5	63.7	70	70

1. Minimum Circuit Ampacity.
2. Dual Element, Time Delay Type.
3. HACR type per NEC.

ZJ037-061 Hi Static Blower - With Powered Convenience Outlet

Size (Tons)	Volt	Compressors (each)			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Option				MCA[1] (Amps)	MCA[1] w/Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)
		RLA	LRA	MCC	FLA	FLA	FLA	FLA	Model	kW	Stages	Amps				
037 (3)	208	8.7	68.0	13.5	2.1	5.2	5.5	10.0	None	-	-	-	28.5	34.0	35	40
									E03	2.3	1	6.4	28.5	34.0	35	40
									E06	4.5	1	12.5	34.6	41.5	40	45
									E09	6.8	1	18.9	42.6	49.5	45	50
									E15	11.3	2	31.4	58.2	65.1	60	70
	230	8.7	68.0	13.5	2.1	5.2	5.5	10.0	None	-	-	-	28.5	34.0	35	40
									E03	3.0	1	7.2	28.5	34.9	35	40
									E06	6.0	1	14.4	37.0	43.9	40	45
									E09	9.0	1	21.7	46.1	52.9	50	60
									E15	15.0	2	36.1	64.1	71.0	70	80
	460	4.6	34.0	7.1	1.3	2.6	2.2	5.0	None	-	-	-	14.7	16.9	15	20
									E03	3.0	1	3.6	14.7	16.9	15	20
									E06	6.0	1	7.2	18.5	21.3	20	25
									E09	9.0	1	10.8	23.0	25.8	25	30
									E15	15.0	2	18.0	32.1	34.8	35	35
	575	3.5	28.0	5.5	0.7	2.0	1.8	4.0	None	-	-	-	11.2	13.0	15	15
									E09	9.0	1	8.7	18.3	20.6	20	25
									E15	15.0	2	14.4	25.5	27.8	30	30
049 (4)	208	11.2	88.0	17.5	2.1	5.2	5.5	10.0	None	-	-	-	31.3	36.8	40	45
									E06	4.5	1	12.5	34.6	41.5	40	45
									E09	6.8	1	18.9	42.6	49.5	45	50
									E15	11.3	2	31.4	58.2	65.1	60	70
									E20	15.0	2	41.6	71.0	77.9	80	80
	230	11.2	88.0	17.5	2.1	5.2	5.5	10.0	None	-	-	-	31.3	36.8	40	45
									E06	6.0	1	14.4	37.0	43.9	40	45
									E09	9.0	1	21.7	46.1	52.9	50	60
									E15	15.0	2	36.1	64.1	71.0	70	80
									E20	20.0	2	48.1	79.1	86.0	80	90
	460	5.6	44.0	8.0	1.3	2.6	2.2	5.0	None	-	-	-	15.9	18.1	20	20
									E06	6.0	1	7.2	18.5	21.3	20	25
									E09	9.0	1	10.8	23.0	25.8	25	30
									E15	15.0	2	18.0	32.1	34.8	35	35
									E20	20.0	2	24.1	39.6	42.3	40	45
	575	4.5	36.0	7.0	0.7	2.0	1.8	4.0	None	-	-	-	12.3	14.1	15	15
									E09	9.0	1	8.7	18.3	20.6	20	25
									E15	15.0	2	14.4	25.5	27.8	30	30
									E20	20.0	2	19.2	31.6	33.8	35	35
061 (5)	208	14.1	88.0	22.0	2.1	6.8	5.5	10.0	None	-	-	-	38.6	44.1	50	50
									E06	4.5	1	12.5	38.6	44.1	50	50
									E09	6.8	1	18.9	44.6	51.5	50	60
									E15	11.3	2	31.4	60.2	67.1	70	70
									E20	15.0	2	41.6	73.0	79.9	80	80
									E24	18.0	2	50.0	83.5	90.3	90	100
	230	14.1	88.0	22.0	2.1	6.8	5.5	10.0	None	-	-	-	38.6	44.1	50	50
									E06	6.0	1	14.4	39.0	45.9	50	50
									E09	9.0	1	21.7	48.1	54.9	50	60
									E15	15.0	2	36.1	66.1	73.0	70	80
									E20	20.0	2	48.1	81.1	88.0	90	90
									E24	24.0	2	57.7	93.2	100.0	100	100
	460	7.7	55.0	12.0	1.3	3.4	2.2	5.0	None	-	-	-	20.5	22.7	25	30
									E06	6.0	1	7.2	20.5	22.7	25	30
									E09	9.0	1	10.8	24.0	26.8	25	30
									E15	15.0	2	18.0	33.1	35.8	35	40
									E20	20.0	2	24.1	40.6	43.3	45	45
									E24	24.0	2	28.9	46.6	49.3	50	50
	575	5.1	36.0	7.5	0.7	2.4	1.8	4.0	None	-	-	-	14.1	15.9	15	20
									E09	9.0	1	8.7	18.8	21.1	20	25
									E15	15.0	2	14.4	26.0	28.3	30	30
									E20	20.0	2	19.2	32.1	34.3	35	35
									E24	24.0	2	23.1	36.9	39.1	40	40

1. Minimum Circuit Ampacity.
2. Dual Element, Time Delay Type.
3. HACR type per NEC.

ZJ078-150 Hi Static Motor - With Powered Convenience Outlet

Size (Tons)	Volt	Compressors (each)			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Option				MCA[1] (Amps)	MCA[1] w/Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)
		RLA	LRA	MCC	FLA	FLA	FLA	FLA	Model	kW	Stages	Amps				
078 (6.5)	208	9.3	68.0	14.5	2.1	6.8	5.5	10.0	None	-	-	-	42.1	47.6	50	50
									E09	6.8	1	18.9	44.6	51.5	50	60
									E18	13.5	2	37.5	67.8	74.7	70	80
									E24	18.0	2	50.0	83.5	90.3	90	100
									E36	25.5	2	70.8	109.5	116.4	110	125
	230	9.3	68.0	14.5	2.1	6.8	5.5	10.0	None	-	-	-	42.1	47.6	50	50
									E09	9.0	1	21.7	48.1	54.9	50	60
									E18	18.0	2	43.3	75.1	82.0	80	90
									E24	24.0	2	57.7	93.2	100.0	100	100
									E36	34.0	2	81.8	123.2	130.1	125	150
	460	4.9	34.0	7.6	1.3	3.4	2.2	5.0	None	-	-	-	22.0	24.2	25	25
									E09	9.0	1	10.8	24.0	26.8	25	30
									E18	18.0	2	21.7	37.6	40.3	40	45
									E24	24.0	2	28.9	46.6	49.3	50	50
									E36	34.0	2	40.9	61.6	64.4	70	70
	575	3.8	28.0	6.0	0.7	2.4	1.8	4.0	None	-	-	-	16.3	18.1	20	20
									E09	9.0	1	8.7	18.8	21.1	20	25
									E18	18.0	2	17.3	29.7	31.9	30	35
									E24	24.0	2	23.1	36.9	39.1	40	40
									E36	34.0	2	32.7	48.9	51.1	50	60
090 (7.5)	208	11.9	88.0	18.5	3.0	9.6	5.5	10.0	None	-	-	-	52.4	57.9	60	60
									E09	6.8	1	18.9	52.4	57.9	60	60
									E18	13.5	2	37.5	71.3	78.2	80	80
									E24	18.0	2	50.0	87.0	93.8	90	100
									E36	25.5	2	70.8	113.0	119.9	125	125
	230	11.9	88.0	18.5	3.0	9.6	5.5	10.0	None	-	-	-	52.4	57.9	60	60
									E09	9.0	1	21.7	52.4	58.4	60	60
									E18	18.0	2	43.3	78.6	85.5	80	90
									E24	24.0	2	57.7	96.7	103.5	100	110
									E36	34.0	2	81.8	126.7	133.6	150	150
	460	5.2	44.0	8.1	1.6	4.7	2.2	5.0	None	-	-	-	24.6	26.8	25	30
									E09	9.0	1	10.8	25.7	28.4	30	30
									E18	18.0	2	21.7	39.2	41.9	40	45
									E24	24.0	2	28.9	48.2	51.0	50	60
									E36	34.0	2	40.9	63.2	66.0	70	70
	575	4.8	36.0	7.5	1.4	3.6	1.8	4.0	None	-	-	-	21.1	22.9	25	25
									E09	9.0	1	8.7	21.1	22.9	25	25
									E18	18.0	2	17.3	31.2	33.4	35	35
									E24	24.0	2	23.1	38.4	40.6	40	45
									E36	34.0	2	32.7	50.4	52.6	60	60
102 (8.5)	208	12.2	88.0	19.0	3.0	9.6	5.5	10.0	None	-	-	-	53.1	58.6	60	70
									E09	6.8	1	18.9	53.1	58.6	60	70
									E18	13.5	2	37.5	71.3	78.2	80	80
									E24	18.0	2	50.0	87.0	93.8	90	100
									E36	25.5	2	70.8	113.0	119.9	125	125
	230	12.2	88.0	19.0	3.0	9.6	5.5	10.0	None	-	-	-	53.1	58.6	60	70
									E09	9.0	1	21.7	53.1	58.6	60	70
									E18	18.0	2	43.3	78.6	85.5	80	90
									E24	24.0	2	57.7	96.7	103.5	100	110
									E36	34.0	2	81.8	126.7	133.6	150	150
	460	5.8	44.0	9.0	1.6	4.7	2.2	5.0	None	-	-	-	26.0	28.2	30	30
									E09	9.0	1	10.8	26.0	28.4	30	30
									E18	18.0	2	21.7	39.2	41.9	40	45
									E24	24.0	2	28.9	48.2	51.0	50	60
									E36	34.0	2	40.9	63.2	66.0	70	70
	575	4.4	36.0	5.5	1.4	3.6	1.8	4.0	None	-	-	-	20.2	22.0	25	25
									E09	9.0	1	8.7	20.3	22.6	25	25
									E18	18.0	2	17.3	31.2	33.4	35	35
									E24	24.0	2	23.1	38.4	40.6	40	45
									E36	34.0	2	32.7	50.4	52.6	60	60

ZJ078-150 Hi Static Motor - With Powered Convenience Outlet (Continued)

Size (Tons)	Volt	Compressors (each)			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Option				MCA[1] (Amps)	MCA[1] w/Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)
		RLA	LRA	MCC	FLA	FLA	FLA	FLA	Model	kW	Stages	Amps				
120 (10)	208	16.0	110.0	24.9	3.0	9.6	5.5	10.0	None	-	-	-	61.7	67.2	70	80
									E18	13.5	2	37.5	71.3	78.2	80	80
									E24	18.0	2	50.0	87.0	93.8	90	100
									E36	25.5	2	70.8	113.0	119.9	125	125
									E54	40.6	2	112.7	165.4	172.2	175	175
	230	16.0	110.0	24.9	3.0	9.6	5.5	10.0	None	-	-	-	61.7	67.2	70	80
									E18	18.0	2	43.3	78.6	85.5	80	90
									E24	24.0	2	57.7	96.7	103.5	100	110
									E36	34.0	2	81.8	126.7	133.6	150	150
									E54	54.0	2	129.9	154.4	161.3	175	175
	460	7.8	52.0	12.1	1.6	4.7	2.2	5.0	None	-	-	-	30.5	32.7	35	40
									E18	18.0	2	21.7	39.2	41.9	40	45
									E24	24.0	2	28.9	48.2	51.0	50	60
									E36	34.0	2	40.9	63.2	66.0	70	70
									E54	54.0	2	65.0	77.1	79.8	90	90
	575	5.7	38.9	8.9	1.4	3.6	1.8	4.0	None	-	-	-	23.1	24.9	25	30
									E18	18.0	2	17.3	31.2	33.4	35	35
									E24	24.0	2	23.1	38.4	40.6	40	45
									E36	34.0	2	32.7	50.4	52.6	60	60
									E54	54.0	2	52.0	61.5	63.7	70	70
150 (12.5)	208	23.1	160.0	36.0	2.1	14.0	5.5	10.0	None	-	-	-	84.4	89.9	100	110
									E18	13.5	2	37.5	84.4	89.9	100	110
									E24	18.0	2	50.0	92.5	99.3	100	110
									E36	25.5	2	70.8	118.5	125.4	125	150
									E54	40.6	2	112.7	170.9	177.7	175	200
	230	23.1	160.0	36.0	2.1	14.0	5.5	10.0	None	-	-	-	84.4	89.9	100	110
									E18	18.0	2	43.3	84.4	91.0	100	110
									E24	24.0	2	57.7	102.2	109.0	110	110
									E36	34.0	2	81.8	132.2	139.1	150	150
									E54	54.0	2	129.9	159.9	166.8	175	175
	460	12.2	87.0	19.0	1.3	6.6	2.2	5.0	None	-	-	-	44.1	46.3	50	50
									E18	18.0	2	21.7	44.1	46.3	50	50
									E24	24.0	2	28.9	50.6	53.3	60	60
									E36	34.0	2	40.9	65.6	68.4	70	70
									E54	54.0	2	65.0	79.5	82.2	90	90
	575	8.7	62.0	13.5	0.7	5.2	1.8	4.0	None	-	-	-	31.4	33.2	40	40
									E18	18.0	2	17.3	33.2	35.4	40	40
									E24	24.0	2	23.1	40.4	42.6	45	45
									E36	34.0	2	32.7	52.4	54.6	60	60
									E54	54.0	2	52.0	63.5	65.7	70	70

1. Minimum Circuit Ampacity.
2. Dual Element, Time Delay Type.
3. HACR type per NEC.

ZR037-061 Standard Indoor Blower - Without Powered Convenience Outlet

Size (Tons)	Volt	Compressors (each)			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Option				MCA[1] (Amps)	MCA[1] w/Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)
		RLA	LRA	MCC	FLA	FLA	FLA	FLA	Model	kW	Stages	Amps				
037 (3)	208	8.7	68.0	13.5	2.1	5.2	5.5	0.0	None	-	-	-	18.2	23.7	25	30
									E03	2.3	1	6.4	18.2	23.7	25	30
									E06	4.5	1	12.5	22.1	29.0	25	30
									E09	6.8	1	18.9	30.1	37.0	35	40
									E15	11.3	2	31.4	45.7	52.6	50	60
	230	8.7	68.0	13.5	2.1	5.2	5.5	0.0	None	-	-	-	18.2	23.7	25	30
									E03	3.0	1	7.2	18.2	23.7	25	30
									E06	6.0	1	14.4	24.5	31.4	25	35
									E09	9.0	1	21.7	33.6	40.4	35	45
									E15	15.0	2	36.1	51.6	58.5	60	60
	460	4.6	34.0	7.1	1.3	2.6	2.2	0.0	None	-	-	-	9.6	11.8	15	15
									E03	3.0	1	3.6	9.6	11.8	15	15
									E06	6.0	1	7.2	12.3	15.0	15	15
									E09	9.0	1	10.8	16.8	19.5	20	20
									E15	15.0	2	18.0	25.8	28.6	30	30
	575	3.5	28.0	5.5	0.7	2.0	1.8	0.0	None	-	-	-	7.0	8.8	15	15
									E09	9.0	1	8.7	13.3	15.6	15	20
									E15	15.0	2	14.4	20.5	22.8	25	25
049 (4)	208	11.9	88.0	18.5	2.1	5.2	5.5	0.0	None	-	-	-	24.3	29.8	35	40
									E06	4.5	1	12.5	24.3	29.8	35	40
									E09	6.8	1	18.9	30.1	37.0	35	40
									E15	11.3	2	31.4	45.7	52.6	50	60
									E20	15.0	2	41.6	58.5	65.4	60	70
	230	11.9	88.0	18.5	2.1	5.2	5.5	0.0	None	-	-	-	24.3	29.8	35	40
									E06	6.0	1	14.4	24.5	31.4	35	40
									E09	9.0	1	21.7	33.6	40.4	35	45
									E15	15.0	2	36.1	51.6	58.5	60	60
									E20	20.0	2	48.1	66.6	73.5	70	80
	460	5.2	44.0	8.1	1.3	2.6	2.2	0.0	None	-	-	-	11.6	13.8	15	15
									E06	6.0	1	7.2	12.3	15.0	15	15
									E09	9.0	1	10.8	16.8	19.5	20	20
									E15	15.0	2	18.0	25.8	28.6	30	30
									E20	20.0	2	24.1	33.3	36.1	35	40
	575	4.8	36.0	7.5	0.7	2.0	1.8	0.0	None	-	-	-	9.3	11.1	15	15
									E09	9.0	1	8.7	13.3	15.6	15	20
									E15	15.0	2	14.4	20.5	22.8	25	25
									E20	20.0	2	19.2	26.6	28.8	30	30
061 (5)	208	14.1	88.0	22.0	2.1	5.2	5.5	0.0	None	-	-	-	27.0	32.5	35	45
									E06	4.5	1	12.5	27.0	32.5	35	45
									E09	6.8	1	18.9	30.1	37.0	40	45
									E15	11.3	2	31.4	45.7	52.6	50	60
									E20	15.0	2	41.6	58.5	65.4	60	70
									E24	18.0	2	50.0	69.0	75.8	70	80
	230	14.1	88.0	22.0	2.1	5.2	5.5	0.0	None	-	-	-	27.0	32.5	35	45
									E06	6.0	1	14.4	27.0	32.5	35	45
									E09	9.0	1	21.7	33.6	40.4	40	45
									E15	15.0	2	36.1	51.6	58.5	60	60
									E20	20.0	2	48.1	66.6	73.5	70	80
									E24	24.0	2	57.7	78.7	85.5	80	90
	460	7.7	55.0	12.0	1.3	2.6	2.2	0.0	None	-	-	-	14.7	16.9	20	20
									E06	6.0	1	7.2	14.7	16.9	20	20
									E09	9.0	1	10.8	16.8	19.5	20	20
									E15	15.0	2	18.0	25.8	28.6	30	30
									E20	20.0	2	24.1	33.3	36.1	35	40
									E24	24.0	2	28.9	39.3	42.1	40	45
	575	5.1	36.0	7.5	0.7	2.0	1.8	0.0	None	-	-	-	9.7	11.5	15	15
									E09	9.0	1	8.7	13.3	15.6	15	20
									E15	15.0	2	14.4	20.5	22.8	25	25
									E20	20.0	2	19.2	26.6	28.8	30	30
									E24	24.0	2	23.1	31.4	33.6	35	35

1. Minimum Circuit Ampacity.
2. Dual Element, Time Delay Type.
3. HACR type per NEC.

ZR078-150 Standard Motor - Without Powered Convenience Outlet

Size (Tons)	Volt	Compressors (each)			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Option				MCA[1] (Amps)	MCA[1] w/Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)
		RLA	LRA	MCC	FLA	FLA	FLA	FLA	Model	kW	Stages	Amps				
078 (6.5)	208	13.5	88.0	21.1	2.1	5.2	5.5	0.0	None	-	-	-	39.8	45.3	50	50
									E09	6.8	1	18.9	39.8	45.3	50	50
									E18	13.5	2	37.5	53.3	60.2	60	70
									E24	18.0	2	50.0	69.0	75.8	70	80
									E36	25.5	2	70.8	95.0	101.9	100	110
	230	13.5	88.0	21.1	2.1	5.2	5.5	0.0	None	-	-	-	39.8	45.3	50	50
									E09	9.0	1	21.7	39.8	45.3	50	50
									E18	18.0	2	43.3	60.6	67.5	70	70
									E24	24.0	2	57.7	78.7	85.5	80	90
									E36	34.0	2	81.8	108.7	115.6	110	125
	460	6.0	44.0	9.3	1.3	2.6	2.2	0.0	None	-	-	-	18.6	20.8	20	25
									E09	9.0	1	10.8	18.6	20.8	20	25
									E18	18.0	2	21.7	30.3	33.1	35	35
									E24	24.0	2	28.9	39.3	42.1	40	45
									E36	34.0	2	40.9	54.4	57.1	60	60
	575	4.9	34.0	7.7	0.7	2.0	1.8	0.0	None	-	-	-	14.3	16.1	15	20
									E09	9.0	1	8.7	14.3	16.1	15	20
									E18	18.0	2	17.3	24.2	26.4	25	30
									E24	24.0	2	23.1	31.4	33.6	35	35
									E36	34.0	2	32.7	43.4	45.6	45	50
090 (7.5)	208	13.1	83.1	20.5	2.1	5.2	5.5	0.0	None	-	-	-	38.9	44.4	50	50
									E09	6.8	1	18.9	38.9	44.4	50	50
									E18	13.5	2	37.5	53.3	60.2	60	70
									E24	18.0	2	50.0	69.0	75.8	70	80
									E36	25.5	2	70.8	95.0	101.9	100	110
	230	13.1	83.1	20.5	2.1	5.2	5.5	0.0	None	-	-	-	38.9	44.4	50	50
									E09	9.0	1	21.7	38.9	44.4	50	50
									E18	18.0	2	43.3	60.6	67.5	70	70
									E24	24.0	2	57.7	78.7	85.5	80	90
									E36	34.0	2	81.8	108.7	115.6	110	125
	460	6.1	41.0	9.5	1.3	2.6	2.2	0.0	None	-	-	-	18.8	21.0	20	25
									E09	9.0	1	10.8	18.8	21.0	20	25
									E18	18.0	2	21.7	30.3	33.1	35	35
									E24	24.0	2	28.9	39.3	42.1	40	45
									E36	34.0	2	40.9	54.4	57.1	60	60
	575	4.4	33.0	6.8	0.7	2.0	1.8	0.0	None	-	-	-	13.2	15.0	15	15
									E09	9.0	1	8.7	13.3	15.6	15	20
									E18	18.0	2	17.3	24.2	26.4	25	30
									E24	24.0	2	23.1	31.4	33.6	35	35
									E36	34.0	2	32.7	43.4	45.6	45	50
102 (8.5)	208	14.5	98.0	22.6	2.1	6.8	5.5	0.0	None	-	-	-	43.6	49.1	50	60
									E09	6.8	1	18.9	43.6	49.1	50	60
									E18	13.5	2	37.5	55.3	62.2	60	70
									E24	18.0	2	50.0	71.0	77.8	80	80
									E36	25.5	2	70.8	97.0	103.9	100	110
	230	14.5	98.0	22.6	2.1	6.8	5.5	0.0	None	-	-	-	43.6	49.1	50	60
									E09	9.0	1	21.7	43.6	49.1	50	60
									E18	18.0	2	43.3	62.6	69.5	70	70
									E24	24.0	2	57.7	80.7	87.5	90	90
									E36	34.0	2	81.8	110.7	117.6	125	125
	460	6.3	55.0	9.9	1.3	3.4	2.2	0.0	None	-	-	-	20.1	22.3	25	25
									E09	9.0	1	10.8	20.1	22.3	25	25
									E18	18.0	2	21.7	31.3	34.1	35	35
									E24	24.0	2	28.9	40.3	43.1	45	45
									E36	34.0	2	40.9	55.4	58.1	60	60
	575	6.0	41.0	9.4	0.7	2.4	1.8	0.0	None	-	-	-	17.2	19.0	20	25
									E09	9.0	1	8.7	17.2	19.0	20	25
									E18	18.0	2	17.3	24.7	26.9	25	30
									E24	24.0	2	23.1	31.9	34.1	35	35
									E36	34.0	2	32.7	43.9	46.1	45	50

ZR078-150 Standard Motor - Without Powered Convenience Outlet (Continued)

Size (Tons)	Volt	Compressors (each)			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Option				MCA[1] (Amps)	MCA[1] w/Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)
		RLA	LRA	MCC	FLA	FLA	FLA	FLA	Model	kW	Stages	Amps				
120 (10)	208	16.0	110.0	24.9	3.0	6.8	5.5	0.0	None	-	-	-	48.9	54.4	60	70
									E18	13.5	2	37.5	55.3	62.2	60	70
									E24	18.0	2	50.0	71.0	77.8	80	80
									E36	25.5	2	70.8	97.0	103.9	100	110
									E54	40.6	2	112.7	149.4	156.2	150	175
	230	16.0	110.0	24.9	3.0	6.8	5.5	0.0	None	-	-	-	48.9	54.4	60	70
									E18	18.0	2	43.3	62.6	69.5	70	70
									E24	24.0	2	57.7	80.7	87.5	90	90
									E36	34.0	2	81.8	110.7	117.6	125	125
									E54	54.0	2	129.9	138.4	145.3	150	175
	460	7.8	52.0	12.1	1.6	3.4	2.2	0.0	None	-	-	-	24.2	26.4	30	30
									E18	18.0	2	21.7	31.3	34.1	35	35
									E24	24.0	2	28.9	40.3	43.1	45	45
									E36	34.0	2	40.9	55.4	58.1	60	60
									E54	54.0	2	65.0	69.2	72.0	80	80
	575	5.7	38.9	8.9	1.4	2.4	1.8	0.0	None	-	-	-	17.9	19.7	20	25
									E18	18.0	2	17.3	24.7	26.9	25	30
									E24	24.0	2	23.1	31.9	34.1	35	35
									E36	34.0	2	32.7	43.9	46.1	45	50
									E54	54.0	2	52.0	55.0	57.2	60	60
150 (12.5)	208	22.4	149.0	35.0	2.1	9.6	5.5	0.0	None	-	-	-	68.4	73.9	90	90
									E18	13.5	2	37.5	68.4	73.9	90	90
									E24	18.0	2	50.0	74.5	81.3	90	90
									E36	25.5	2	70.8	100.5	107.4	110	110
									E54	40.6	2	112.7	152.9	159.7	175	175
	230	22.4	149.0	35.0	2.1	9.6	5.5	0.0	None	-	-	-	68.4	73.9	90	90
									E18	18.0	2	43.3	68.4	73.9	90	90
									E24	24.0	2	57.7	84.2	91.0	90	100
									E36	34.0	2	81.8	114.2	121.1	125	125
									E54	54.0	2	129.9	141.9	148.8	175	175
	460	10.6	75.0	16.5	1.3	4.7	2.2	0.0	None	-	-	-	33.6	35.8	40	45
									E18	18.0	2	21.7	33.6	35.8	40	45
									E24	24.0	2	28.9	42.0	44.7	45	45
									E36	34.0	2	40.9	57.0	59.7	60	60
									E54	54.0	2	65.0	70.8	73.6	80	80
	575	7.7	54.0	12.0	0.7	3.6	1.8	0.0	None	-	-	-	23.6	25.4	30	30
									E18	18.0	2	17.3	26.2	28.4	30	30
									E24	24.0	2	23.1	33.4	35.6	35	40
									E36	34.0	2	32.7	45.4	47.6	50	50
									E54	54.0	2	52.0	56.5	58.7	70	70

1. Minimum Circuit Ampacity.
2. Dual Element, Time Delay Type.
3. HACR type per NEC.

ZR037-061 Hi Static Indoor Blower - Without Powered Convenience Outlet

Size (Tons)	Volt	Compressors (each)			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Option				MCA[1] (Amps)	MCA[1] w/Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)
		RLA	LRA	MCC	FLA	FLA	FLA	FLA	Model	kW	Stages	Amps				
037 (3)	208	8.7	68.0	13.5	2.1	5.2	5.5	0.0	None	-	-	-	18.2	23.7	25	30
									E03	2.3	1	6.4	18.2	23.7	25	30
									E06	4.5	1	12.5	22.1	29.0	25	30
									E09	6.8	1	18.9	30.1	37.0	35	40
									E15	11.3	2	31.4	45.7	52.6	50	60
	230	8.7	68.0	13.5	2.1	5.2	5.5	0.0	None	-	-	-	18.2	23.7	25	30
									E03	3.0	1	7.2	18.2	23.7	25	30
									E06	6.0	1	14.4	24.5	31.4	25	35
									E09	9.0	1	21.7	33.6	40.4	35	45
									E15	15.0	2	36.1	51.6	58.5	60	60
	460	4.6	34.0	7.1	1.3	2.6	2.2	0.0	None	-	-	-	9.6	11.8	15	15
									E03	3.0	1	3.6	9.6	11.8	15	15
									E06	6.0	1	7.2	12.3	15.0	15	15
									E09	9.0	1	10.8	16.8	19.5	20	20
									E15	15.0	2	18.0	25.8	28.6	30	30
	575	3.5	28.0	5.5	0.7	2.0	1.8	0.0	None	-	-	-	7.0	8.8	15	15
									E09	9.0	1	8.7	13.3	15.6	15	20
									E15	15.0	2	14.4	20.5	22.8	25	25
049 (4)	208	11.9	88.0	18.5	2.1	5.2	5.5	0.0	None	-	-	-	24.3	29.8	35	40
									E06	4.5	1	12.5	24.3	29.8	35	40
									E09	6.8	1	18.9	30.1	37.0	35	40
									E15	11.3	2	31.4	45.7	52.6	50	60
									E20	15.0	2	41.6	58.5	65.4	60	70
	230	11.9	88.0	18.5	2.1	5.2	5.5	0.0	None	-	-	-	24.3	29.8	35	40
									E06	6.0	1	14.4	24.5	31.4	35	40
									E09	9.0	1	21.7	33.6	40.4	35	45
									E15	15.0	2	36.1	51.6	58.5	60	60
									E20	20.0	2	48.1	66.6	73.5	70	80
	460	5.2	44.0	8.1	1.3	2.6	2.2	0.0	None	-	-	-	11.6	13.8	15	15
									E06	6.0	1	7.2	12.3	15.0	15	15
									E09	9.0	1	10.8	16.8	19.5	20	20
									E15	15.0	2	18.0	25.8	28.6	30	30
									E20	20.0	2	24.1	33.3	36.1	35	40
	575	4.8	36.0	7.5	0.7	2.0	1.8	0.0	None	-	-	-	9.3	11.1	15	15
									E09	9.0	1	8.7	13.3	15.6	15	20
									E15	15.0	2	14.4	20.5	22.8	25	25
									E20	20.0	2	19.2	26.6	28.8	30	30
061 (5)	208	14.1	88.0	22.0	2.1	6.8	5.5	0.0	None	-	-	-	28.6	34.1	40	45
									E06	4.5	1	12.5	28.6	34.1	40	45
									E09	6.8	1	18.9	32.1	39.0	40	45
									E15	11.3	2	31.4	47.7	54.6	50	60
									E20	15.0	2	41.6	60.5	67.4	70	70
									E24	18.0	2	50.0	71.0	77.8	80	80
	230	14.1	88.0	22.0	2.1	6.8	5.5	0.0	None	-	-	-	28.6	34.1	40	45
									E06	6.0	1	14.4	28.6	34.1	40	45
									E09	9.0	1	21.7	35.6	42.4	40	45
									E15	15.0	2	36.1	53.6	60.5	60	70
									E20	20.0	2	48.1	68.6	75.5	70	80
									E24	24.0	2	57.7	80.7	87.5	90	90
	460	7.7	55.0	12.0	1.3	3.4	2.2	0.0	None	-	-	-	15.5	17.7	20	25
									E06	6.0	1	7.2	15.5	17.7	20	25
									E09	9.0	1	10.8	17.8	20.5	20	25
									E15	15.0	2	18.0	26.8	29.6	30	30
									E20	20.0	2	24.1	34.3	37.1	35	40
									E24	24.0	2	28.9	40.3	43.1	45	45
	575	5.1	36.0	7.5	0.7	2.4	1.8	0.0	None	-	-	-	10.1	11.9	15	15
									E09	9.0	1	8.7	13.8	16.1	15	20
									E15	15.0	2	14.4	21.0	23.3	25	25
									E20	20.0	2	19.2	27.1	29.3	30	30
									E24	24.0	2	23.1	31.9	34.1	35	35

1. Minimum Circuit Ampacity.
2. Dual Element, Time Delay Type.
3. HACR type per NEC.

ZR078-150 Hi Static Motor - Without Powered Convenience Outlet

Size (Tons)	Volt	Compressors (each)			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Option				MCA[1] (Amps)	MCA[1] w/Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)
		RLA	LRA	MCC	FLA	FLA	FLA	FLA	Model	kW	Stages	Amps				
078 (6.5)	208	13.5	88.0	21.1	2.1	6.8	5.5	0.0	None	-	-	-	41.4	46.9	50	60
									E09	6.8	1	18.9	41.4	46.9	50	60
									E18	13.5	2	37.5	55.3	62.2	60	70
									E24	18.0	2	50.0	71.0	77.8	80	80
									E36	25.5	2	70.8	97.0	103.9	100	110
	230	13.5	88.0	21.1	2.1	6.8	5.5	0.0	None	-	-	-	41.4	46.9	50	60
									E09	9.0	1	21.7	41.4	46.9	50	60
									E18	18.0	2	43.3	62.6	69.5	70	70
									E24	24.0	2	57.7	80.7	87.5	90	90
									E36	34.0	2	81.8	110.7	117.6	125	125
	460	6.0	44.0	9.3	1.3	3.4	2.2	0.0	None	-	-	-	19.4	21.6	25	25
									E09	9.0	1	10.8	19.4	21.6	25	25
									E18	18.0	2	21.7	31.3	34.1	35	35
									E24	24.0	2	28.9	40.3	43.1	45	45
									E36	34.0	2	40.9	55.4	58.1	60	60
	575	4.9	34.0	7.7	0.7	2.4	1.8	0.0	None	-	-	-	14.7	16.5	15	20
									E09	9.0	1	8.7	14.7	16.5	15	20
									E18	18.0	2	17.3	24.7	26.9	25	30
									E24	24.0	2	23.1	31.9	34.1	35	35
									E36	34.0	2	32.7	43.9	46.1	45	50
090 (7.5)	208	13.1	83.1	20.5	2.1	9.6	5.5	0.0	None	-	-	-	43.3	48.8	50	60
									E09	6.8	1	18.9	43.3	48.8	50	60
									E18	13.5	2	37.5	58.8	65.7	60	70
									E24	18.0	2	50.0	74.5	81.3	80	90
									E36	25.5	2	70.8	100.5	107.4	110	110
	230	13.1	83.1	20.5	2.1	9.6	5.5	0.0	None	-	-	-	43.3	48.8	50	60
									E09	9.0	1	21.7	43.3	48.8	50	60
									E18	18.0	2	43.3	66.1	73.0	70	80
									E24	24.0	2	57.7	84.2	91.0	90	100
									E36	34.0	2	81.8	114.2	121.1	125	125
	460	6.1	41.0	9.5	1.3	4.7	2.2	0.0	None	-	-	-	20.9	23.1	25	25
									E09	9.0	1	10.8	20.9	23.1	25	25
									E18	18.0	2	21.7	32.9	35.7	35	40
									E24	24.0	2	28.9	42.0	44.7	45	45
									E36	34.0	2	40.9	57.0	59.7	60	60
	575	4.4	33.0	6.8	0.7	3.6	1.8	0.0	None	-	-	-	14.8	16.6	15	20
									E09	9.0	1	8.7	15.3	17.6	20	20
									E18	18.0	2	17.3	26.2	28.4	30	30
									E24	24.0	2	23.1	33.4	35.6	35	40
									E36	34.0	2	32.7	45.4	47.6	50	50
102 (8.5)	208	14.5	98.0	22.6	2.1	9.6	5.5	0.0	None	-	-	-	46.4	51.9	60	60
									E09	6.8	1	18.9	46.4	51.9	60	60
									E18	13.5	2	37.5	58.8	65.7	60	70
									E24	18.0	2	50.0	74.5	81.3	80	90
									E36	25.5	2	70.8	100.5	107.4	110	110
	230	14.5	98.0	22.6	2.1	9.6	5.5	0.0	None	-	-	-	46.4	51.9	60	60
									E09	9.0	1	21.7	46.4	51.9	60	60
									E18	18.0	2	43.3	66.1	73.0	70	80
									E24	24.0	2	57.7	84.2	91.0	90	100
									E36	34.0	2	81.8	114.2	121.1	125	125
	460	6.3	55.0	9.9	1.3	4.7	2.2	0.0	None	-	-	-	21.4	23.6	25	25
									E09	9.0	1	10.8	21.4	23.6	25	25
									E18	18.0	2	21.7	32.9	35.7	35	40
									E24	24.0	2	28.9	42.0	44.7	45	45
									E36	34.0	2	40.9	57.0	59.7	60	60
	575	6.0	41.0	9.4	0.7	3.6	1.8	0.0	None	-	-	-	18.4	20.2	20	25
									E09	9.0	1	8.7	18.4	20.2	20	25
									E18	18.0	2	17.3	26.2	28.4	30	30
									E24	24.0	2	23.1	33.4	35.6	35	40
									E36	34.0	2	32.7	45.4	47.6	50	50

ZR078-150 Hi Static Motor - Without Powered Convenience Outlet (Continued)

Size (Tons)	Volt	Compressors (each)			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Option				MCA[1] (Amps)	MCA[1] w/Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)
		RLA	LRA	MCC	FLA	FLA	FLA	FLA	Model	kW	Stages	Amps				
120 (10)	208	16.0	110.0	24.9	3.0	9.6	5.5	0.0	None	-	-	-	51.7	57.2	60	70
									E18	13.5	2	37.5	58.8	65.7	60	70
									E24	18.0	2	50.0	74.5	81.3	80	90
									E36	25.5	2	70.8	100.5	107.4	110	110
									E54	40.6	2	112.7	152.9	159.7	175	175
	230	16.0	110.0	24.9	3.0	9.6	5.5	0.0	None	-	-	-	51.7	57.2	60	70
									E18	18.0	2	43.3	66.1	73.0	70	80
									E24	24.0	2	57.7	84.2	91.0	90	100
									E36	34.0	2	81.8	114.2	121.1	125	125
									E54	54.0	2	129.9	141.9	148.8	175	175
	460	7.8	52.0	12.1	1.6	4.7	2.2	0.0	None	-	-	-	25.5	27.7	30	35
									E18	18.0	2	21.7	32.9	35.7	35	40
									E24	24.0	2	28.9	42.0	44.7	45	45
									E36	34.0	2	40.9	57.0	59.7	60	60
									E54	54.0	2	65.0	70.8	73.6	80	80
	575	5.7	38.9	8.9	1.4	3.6	1.8	0.0	None	-	-	-	19.1	20.9	20	25
									E18	18.0	2	17.3	26.2	28.4	30	30
									E24	24.0	2	23.1	33.4	35.6	35	40
									E36	34.0	2	32.7	45.4	47.6	50	50
									E54	54.0	2	52.0	56.5	58.7	70	70
150 (12.5)	208	22.4	149.0	35.0	2.1	14.0	5.5	0.0	None	-	-	-	72.8	78.3	90	100
									E18	13.5	2	37.5	72.8	78.3	90	100
									E24	18.0	2	50.0	80.0	86.8	90	100
									E36	25.5	2	70.8	106.0	112.9	110	125
									E54	40.6	2	112.7	158.4	165.2	175	175
	230	22.4	149.0	35.0	2.1	14.0	5.5	0.0	None	-	-	-	72.8	78.3	90	100
									E18	18.0	2	43.3	72.8	78.5	90	100
									E24	24.0	2	57.7	89.7	96.5	90	100
									E36	34.0	2	81.8	119.7	126.6	125	150
									E54	54.0	2	129.9	147.4	154.3	175	175
	460	10.6	75.0	16.5	1.3	6.6	2.2	0.0	None	-	-	-	35.5	37.7	45	45
									E18	18.0	2	21.7	35.5	38.1	45	45
									E24	24.0	2	28.9	44.3	47.1	45	50
									E36	34.0	2	40.9	59.4	62.1	60	70
									E54	54.0	2	65.0	73.2	76.0	80	90
	575	7.7	54.0	12.0	0.7	5.2	1.8	0.0	None	-	-	-	25.2	27.0	30	30
									E18	18.0	2	17.3	28.2	30.4	30	35
									E24	24.0	2	23.1	35.4	37.6	40	40
									E36	34.0	2	32.7	47.4	49.6	50	50
									E54	54.0	2	52.0	58.5	60.7	70	70

1. Minimum Circuit Ampacity.
2. Dual Element, Time Delay Type.
3. HACR type per NEC.

ZR037-061 Standard Indoor Blower - With Powered Convenience Outlet

Size (Tons)	Volt	Compressors (each)			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Option				MCA[1] (Amps)	MCA[1] w/Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)
		RLA	LRA	MCC	FLA	FLA	FLA	FLA	Model	kW	Stages	Amps				
037 (3)	208	8.7	68.0	13.5	2.1	5.2	5.5	10.0	None	-	-	-	28.5	34.0	35	40
									E03	2.3	1	6.4	28.5	34.0	35	40
									E06	4.5	1	12.5	34.6	41.5	40	45
									E09	6.8	1	18.9	42.6	49.5	45	50
									E15	11.3	2	31.4	58.2	65.1	60	70
	230	8.7	68.0	13.5	2.1	5.2	5.5	10.0	None	-	-	-	28.5	34.0	35	40
									E03	3.0	1	7.2	28.5	34.9	35	40
									E06	6.0	1	14.4	37.0	43.9	40	45
									E09	9.0	1	21.7	46.1	52.9	50	60
									E15	15.0	2	36.1	64.1	71.0	70	80
	460	4.6	34.0	7.1	1.3	2.6	2.2	5.0	None	-	-	-	14.7	16.9	15	20
									E03	3.0	1	3.6	14.7	16.9	15	20
									E06	6.0	1	7.2	18.5	21.3	20	25
									E09	9.0	1	10.8	23.0	25.8	25	30
									E15	15.0	2	18.0	32.1	34.8	35	35
	575	3.5	28.0	5.5	0.7	2.0	1.8	4.0	None	-	-	-	11.2	13.0	15	15
									E09	9.0	1	8.7	18.3	20.6	20	25
									E15	15.0	2	14.4	25.5	27.8	30	30
049 (4)	208	11.9	88.0	18.5	2.1	5.2	5.5	10.0	None	-	-	-	34.3	39.8	45	50
									E06	4.5	1	12.5	34.6	41.5	45	50
									E09	6.8	1	18.9	42.6	49.5	45	50
									E15	11.3	2	31.4	58.2	65.1	60	70
									E20	15.0	2	41.6	71.0	77.9	80	80
	230	11.9	88.0	18.5	2.1	5.2	5.5	10.0	None	-	-	-	34.3	39.8	45	50
									E06	6.0	1	14.4	37.0	43.9	45	50
									E09	9.0	1	21.7	46.1	52.9	50	60
									E15	15.0	2	36.1	64.1	71.0	70	80
									E20	20.0	2	48.1	79.1	86.0	80	90
	460	5.2	44.0	8.1	1.3	2.6	2.2	5.0	None	-	-	-	16.6	18.8	20	20
									E06	6.0	1	7.2	18.5	21.3	20	25
									E09	9.0	1	10.8	23.0	25.8	25	30
									E15	15.0	2	18.0	32.1	34.8	35	35
									E20	20.0	2	24.1	39.6	42.3	40	45
	575	4.8	36.0	7.5	0.7	2.0	1.8	4.0	None	-	-	-	13.3	15.1	15	20
									E09	9.0	1	8.7	18.3	20.6	20	25
									E15	15.0	2	14.4	25.5	27.8	30	30
									E20	20.0	2	19.2	31.6	33.8	35	35
061 (5)	208	14.1	88.0	22.0	2.1	5.2	5.5	10.0	None	-	-	-	37.0	42.5	50	50
									E06	4.5	1	12.5	37.0	42.5	50	50
									E09	6.8	1	18.9	42.6	49.5	50	50
									E15	11.3	2	31.4	58.2	65.1	60	70
									E20	15.0	2	41.6	71.0	77.9	80	80
									E24	18.0	2	50.0	81.5	88.3	90	90
	230	14.1	88.0	22.0	2.1	5.2	5.5	10.0	None	-	-	-	37.0	42.5	50	50
									E06	6.0	1	14.4	37.0	43.9	50	50
									E09	9.0	1	21.7	46.1	52.9	50	60
									E15	15.0	2	36.1	64.1	71.0	70	80
									E20	20.0	2	48.1	79.1	86.0	80	90
									E24	24.0	2	57.7	91.2	98.0	100	100
	460	7.7	55.0	12.0	1.3	2.6	2.2	5.0	None	-	-	-	19.7	21.9	25	25
									E06	6.0	1	7.2	19.7	21.9	25	25
									E09	9.0	1	10.8	23.0	25.8	25	30
									E15	15.0	2	18.0	32.1	34.8	35	35
									E20	20.0	2	24.1	39.6	42.3	40	45
									E24	24.0	2	28.9	45.6	48.3	50	50
	575	5.1	36.0	7.5	0.7	2.0	1.8	4.0	None	-	-	-	13.7	15.5	15	20
									E09	9.0	1	8.7	18.3	20.6	20	25
									E15	15.0	2	14.4	25.5	27.8	30	30
									E20	20.0	2	19.2	31.6	33.8	35	35
									E24	24.0	2	23.1	36.4	38.6	40	40

1. Minimum Circuit Ampacity.
2. Dual Element, Time Delay Type.
3. HACR type per NEC.

ZR078-150 Standard Motor - With Powered Convenience Outlet

Size (Tons)	Volt	Compressors (each)			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Option				MCA[1] (Amps)	MCA[1] w/Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)
		RLA	LRA	MCC	FLA	FLA	FLA	FLA	Model	kW	Stages	Amps				
078 (6.5)	208	13.5	88.0	21.1	2.1	5.2	5.5	10.0	None	-	-	-	49.8	55.3	60	60
									E09	6.8	1	18.9	49.8	55.3	60	60
									E18	13.5	2	37.5	65.8	72.7	70	80
									E24	18.0	2	50.0	81.5	88.3	90	90
									E36	25.5	2	70.8	107.5	114.4	110	125
	230	13.5	88.0	21.1	2.1	5.2	5.5	10.0	None	-	-	-	49.8	55.3	60	60
									E09	9.0	1	21.7	49.8	55.3	60	60
									E18	18.0	2	43.3	73.1	80.0	80	80
									E24	24.0	2	57.7	91.2	98.0	100	100
									E36	34.0	2	81.8	121.2	128.1	125	150
	460	6.0	44.0	9.3	1.3	2.6	2.2	5.0	None	-	-	-	23.6	25.8	25	30
									E09	9.0	1	10.8	23.6	25.8	25	30
									E18	18.0	2	21.7	36.6	39.3	40	40
									E24	24.0	2	28.9	45.6	48.3	50	50
									E36	34.0	2	40.9	60.6	63.4	70	70
	575	4.9	34.0	7.7	0.7	2.0	1.8	4.0	None	-	-	-	18.3	20.1	20	25
									E09	9.0	1	8.7	18.3	20.6	20	25
									E18	18.0	2	17.3	29.2	31.4	30	35
									E24	24.0	2	23.1	36.4	38.6	40	40
									E36	34.0	2	32.7	48.4	50.6	50	60
090 (7.5)	208	13.1	83.1	20.5	2.1	5.2	5.5	10.0	None	-	-	-	48.9	54.4	60	60
									E09	6.8	1	18.9	48.9	54.4	60	60
									E18	13.5	2	37.5	65.8	72.7	70	80
									E24	18.0	2	50.0	81.5	88.3	90	90
									E36	25.5	2	70.8	107.5	114.4	110	125
	230	13.1	83.1	20.5	2.1	5.2	5.5	10.0	None	-	-	-	48.9	54.4	60	60
									E09	9.0	1	21.7	48.9	54.4	60	60
									E18	18.0	2	43.3	73.1	80.0	80	80
									E24	24.0	2	57.7	91.2	98.0	100	100
									E36	34.0	2	81.8	121.2	128.1	125	150
	460	6.1	41.0	9.5	1.3	2.6	2.2	5.0	None	-	-	-	23.8	26.0	25	30
									E09	9.0	1	10.8	23.8	26.0	25	30
									E18	18.0	2	21.7	36.6	39.3	40	40
									E24	24.0	2	28.9	45.6	48.3	50	50
									E36	34.0	2	40.9	60.6	63.4	70	70
	575	4.4	33.0	6.8	0.7	2.0	1.8	4.0	None	-	-	-	17.2	19.0	20	20
									E09	9.0	1	8.7	18.3	20.6	20	25
									E18	18.0	2	17.3	29.2	31.4	30	35
									E24	24.0	2	23.1	36.4	38.6	40	40
									E36	34.0	2	32.7	48.4	50.6	50	60
102 (8.5)	208	14.5	98.0	22.6	2.1	6.8	5.5	10.0	None	-	-	-	53.6	59.1	60	70
									E09	6.8	1	18.9	53.6	59.1	60	70
									E18	13.5	2	37.5	67.8	74.7	70	80
									E24	18.0	2	50.0	83.5	90.3	90	100
									E36	25.5	2	70.8	109.5	116.4	110	125
	230	14.5	98.0	22.6	2.1	6.8	5.5	10.0	None	-	-	-	53.6	59.1	60	70
									E09	9.0	1	21.7	53.6	59.1	60	70
									E18	18.0	2	43.3	75.1	82.0	80	90
									E24	24.0	2	57.7	93.2	100.0	100	100
									E36	34.0	2	81.8	123.2	130.1	125	150
	460	6.3	55.0	9.9	1.3	3.4	2.2	5.0	None	-	-	-	25.1	27.3	30	30
									E09	9.0	1	10.8	25.1	27.3	30	30
									E18	18.0	2	21.7	37.6	40.3	40	45
									E24	24.0	2	28.9	46.6	49.3	50	50
									E36	34.0	2	40.9	61.6	64.4	70	70
	575	6.0	41.0	9.4	0.7	2.4	1.8	4.0	None	-	-	-	21.2	23.0	25	25
									E09	9.0	1	8.7	21.2	23.0	25	25
									E18	18.0	2	17.3	29.7	31.9	30	35
									E24	24.0	2	23.1	36.9	39.1	40	40
									E36	34.0	2	32.7	48.9	51.1	50	60

ZR078-150 Standard Motor - With Powered Convenience Outlet (Continued)

Size (Tons)	Volt	Compressors (each)			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Option				MCA[1] (Amps)	MCA[1] w/Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)
		RLA	LRA	MCC	FLA	FLA	FLA	FLA	Model	kW	Stages	Amps				
120 (10)	208	16.0	110.0	24.9	3.0	6.8	5.5	10.0	None	-	-	-	58.9	64.4	70	80
									E18	13.5	2	37.5	67.8	74.7	70	80
									E24	18.0	2	50.0	83.5	90.3	90	100
									E36	25.5	2	70.8	109.5	116.4	110	125
									E54	40.6	2	112.7	161.9	168.7	175	175
	230	16.0	110.0	24.9	3.0	6.8	5.5	10.0	None	-	-	-	58.9	64.4	70	80
									E18	18.0	2	43.3	75.1	82.0	80	90
									E24	24.0	2	57.7	93.2	100.0	100	100
									E36	34.0	2	81.8	123.2	130.1	125	150
									E54	54.0	2	129.9	150.9	157.8	175	175
	460	7.8	52.0	12.1	1.6	3.4	2.2	5.0	None	-	-	-	29.2	31.4	35	35
									E18	18.0	2	21.7	37.6	40.3	40	45
									E24	24.0	2	28.9	46.6	49.3	50	50
									E36	34.0	2	40.9	61.6	64.4	70	70
									E54	54.0	2	65.0	75.5	78.2	80	90
	575	5.7	38.9	8.9	1.4	2.4	1.8	4.0	None	-	-	-	21.9	23.7	25	25
									E18	18.0	2	17.3	29.7	31.9	30	35
									E24	24.0	2	23.1	36.9	39.1	40	40
									E36	34.0	2	32.7	48.9	51.1	50	60
									E54	54.0	2	52.0	60.0	62.2	70	70
150 (12.5)	208	22.4	149.0	35.0	2.1	9.6	5.5	10.0	None	-	-	-	78.4	83.9	100	100
									E18	13.5	2	37.5	78.4	83.9	100	100
									E24	18.0	2	50.0	87.0	93.8	100	100
									E36	25.5	2	70.8	113.0	119.9	125	125
									E54	40.6	2	112.7	165.4	172.2	175	175
	230	22.4	149.0	35.0	2.1	9.6	5.5	10.0	None	-	-	-	78.4	83.9	100	100
									E18	18.0	2	43.3	78.6	85.5	100	100
									E24	24.0	2	57.7	96.7	103.5	100	110
									E36	34.0	2	81.8	126.7	133.6	150	150
									E54	54.0	2	129.9	154.4	161.3	175	175
	460	10.6	75.0	16.5	1.3	4.7	2.2	5.0	None	-	-	-	38.6	40.8	45	50
									E18	18.0	2	21.7	39.2	41.9	45	50
									E24	24.0	2	28.9	48.2	51.0	50	60
									E36	34.0	2	40.9	63.2	66.0	70	70
									E54	54.0	2	65.0	77.1	79.8	90	90
	575	7.7	54.0	12.0	0.7	3.6	1.8	4.0	None	-	-	-	27.6	29.4	35	35
									E18	18.0	2	17.3	31.2	33.4	35	35
									E24	24.0	2	23.1	38.4	40.6	40	45
									E36	34.0	2	32.7	50.4	52.6	60	60
									E54	54.0	2	52.0	61.5	63.7	70	70

1. Minimum Circuit Ampacity.
2. Dual Element, Time Delay Type.
3. HACR type per NEC.

ZR037-061 Hi Static Indoor Blower - With Powered Convenience Outlet

Size (Tons)	Volt	Compressors (each)			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Option				MCA[1] (Amps)	MCA[1] w/Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)
		RLA	LRA	MCC	FLA	FLA	FLA	FLA	Model	kW	Stages	Amps				
037 (3)	208	8.7	68.0	13.5	2.1	5.2	5.5	10.0	None	-	-	-	28.5	34.0	35	40
									E03	2.3	1	6.4	28.5	34.0	35	40
									E06	4.5	1	12.5	34.6	41.5	40	45
									E09	6.8	1	18.9	42.6	49.5	45	50
									E15	11.3	2	31.4	58.2	65.1	60	70
	230	8.7	68.0	13.5	2.1	5.2	5.5	10.0	None	-	-	-	28.5	34.0	35	40
									E03	3.0	1	7.2	28.5	34.9	35	40
									E06	6.0	1	14.4	37.0	43.9	40	45
									E09	9.0	1	21.7	46.1	52.9	50	60
									E15	15.0	2	36.1	64.1	71.0	70	80
	460	4.6	34.0	7.1	1.3	2.6	2.2	5.0	None	-	-	-	14.7	16.9	15	20
									E03	3.0	1	3.6	14.7	16.9	15	20
									E06	6.0	1	7.2	18.5	21.3	20	25
									E09	9.0	1	10.8	23.0	25.8	25	30
									E15	15.0	2	18.0	32.1	34.8	35	35
	575	3.5	28.0	5.5	0.7	2.0	1.8	4.0	None	-	-	-	11.2	13.0	15	15
									E09	9.0	1	8.7	18.3	20.6	20	25
									E15	15.0	2	14.4	25.5	27.8	30	30
049 (4)	208	11.9	88.0	18.5	2.1	5.2	5.5	10.0	None	-	-	-	34.3	39.8	45	50
									E06	4.5	1	12.5	34.6	41.5	45	50
									E09	6.8	1	18.9	42.6	49.5	45	50
									E15	11.3	2	31.4	58.2	65.1	60	70
									E20	15.0	2	41.6	71.0	77.9	80	80
	230	11.9	88.0	18.5	2.1	5.2	5.5	10.0	None	-	-	-	34.3	39.8	45	50
									E06	6.0	1	14.4	37.0	43.9	45	50
									E09	9.0	1	21.7	46.1	52.9	50	60
									E15	15.0	2	36.1	64.1	71.0	70	80
									E20	20.0	2	48.1	79.1	86.0	80	90
	460	5.2	44.0	8.1	1.3	2.6	2.2	5.0	None	-	-	-	16.6	18.8	20	20
									E06	6.0	1	7.2	18.5	21.3	20	25
									E09	9.0	1	10.8	23.0	25.8	25	30
									E15	15.0	2	18.0	32.1	34.8	35	35
									E20	20.0	2	24.1	39.6	42.3	40	45
	575	4.8	36.0	7.5	0.7	2.0	1.8	4.0	None	-	-	-	13.3	15.1	15	20
									E09	9.0	1	8.7	18.3	20.6	20	25
									E15	15.0	2	14.4	25.5	27.8	30	30
									E20	20.0	2	19.2	31.6	33.8	35	35
061 (5)	208	14.1	88.0	22.0	2.1	6.8	5.5	10.0	None	-	-	-	38.6	44.1	50	50
									E06	4.5	1	12.5	38.6	44.1	50	50
									E09	6.8	1	18.9	44.6	51.5	50	60
									E15	11.3	2	31.4	60.2	67.1	70	70
									E20	15.0	2	41.6	73.0	79.9	80	80
									E24	18.0	2	50.0	83.5	90.3	90	100
	230	14.1	88.0	22.0	2.1	6.8	5.5	10.0	None	-	-	-	38.6	44.1	50	50
									E06	6.0	1	14.4	39.0	45.9	50	50
									E09	9.0	1	21.7	48.1	54.9	50	60
									E15	15.0	2	36.1	66.1	73.0	70	80
									E20	20.0	2	48.1	81.1	88.0	90	90
									E24	24.0	2	57.7	93.2	100.0	100	100
	460	7.7	55.0	12.0	1.3	3.4	2.2	5.0	None	-	-	-	20.5	22.7	25	30
									E06	6.0	1	7.2	20.5	22.7	25	30
									E09	9.0	1	10.8	24.0	26.8	25	30
									E15	15.0	2	18.0	33.1	35.8	35	40
									E20	20.0	2	24.1	40.6	43.3	45	45
									E24	24.0	2	28.9	46.6	49.3	50	50
	575	5.1	36.0	7.5	0.7	2.4	1.8	4.0	None	-	-	-	14.1	15.9	15	20
									E09	9.0	1	8.7	18.8	21.1	20	25
									E15	15.0	2	14.4	26.0	28.3	30	30
									E20	20.0	2	19.2	32.1	34.3	35	35
									E24	24.0	2	23.1	36.9	39.1	40	40

1. Minimum Circuit Ampacity.
2. Dual Element, Time Delay Type.
3. HACR type per NEC.

ZR078-150 Hi Static Motor - With Powered Convenience Outlet

Size (Tons)	Volt	Compressors (each)			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Option				MCA[1] (Amps)	MCA[1] w/Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)
		RLA	LRA	MCC	FLA	FLA	FLA	FLA	Model	kW	Stages	Amps				
078 (6.5)	208	13.5	88.0	21.1	2.1	6.8	5.5	10.0	None	-	-	-	51.4	56.9	60	70
									E09	6.8	1	18.9	51.4	56.9	60	70
									E18	13.5	2	37.5	67.8	74.7	70	80
									E24	18.0	2	50.0	83.5	90.3	90	100
									E36	25.5	2	70.8	109.5	116.4	110	125
	230	13.5	88.0	21.1	2.1	6.8	5.5	10.0	None	-	-	-	51.4	56.9	60	70
									E09	9.0	1	21.7	51.4	56.9	60	70
									E18	18.0	2	43.3	75.1	82.0	80	90
									E24	24.0	2	57.7	93.2	100.0	100	100
									E36	34.0	2	81.8	123.2	130.1	125	150
	460	6.0	44.0	9.3	1.3	3.4	2.2	5.0	None	-	-	-	24.4	26.6	30	30
									E09	9.0	1	10.8	24.4	26.8	30	30
									E18	18.0	2	21.7	37.6	40.3	40	45
									E24	24.0	2	28.9	46.6	49.3	50	50
									E36	34.0	2	40.9	61.6	64.4	70	70
	575	4.9	34.0	7.7	0.7	2.4	1.8	4.0	None	-	-	-	18.7	20.5	20	25
									E09	9.0	1	8.7	18.8	21.1	20	25
									E18	18.0	2	17.3	29.7	31.9	30	35
									E24	24.0	2	23.1	36.9	39.1	40	40
									E36	34.0	2	32.7	48.9	51.1	50	60
090 (7.5)	208	13.1	83.1	20.5	2.1	9.6	5.5	10.0	None	-	-	-	53.3	58.8	60	70
									E09	6.8	1	18.9	53.3	58.8	60	70
									E18	13.5	2	37.5	71.3	78.2	80	80
									E24	18.0	2	50.0	87.0	93.8	90	100
									E36	25.5	2	70.8	113.0	119.9	125	125
	230	13.1	83.1	20.5	2.1	9.6	5.5	10.0	None	-	-	-	53.3	58.8	60	70
									E09	9.0	1	21.7	53.3	58.8	60	70
									E18	18.0	2	43.3	78.6	85.5	80	90
									E24	24.0	2	57.7	96.7	103.5	100	110
									E36	34.0	2	81.8	126.7	133.6	150	150
	460	6.1	41.0	9.5	1.3	4.7	2.2	5.0	None	-	-	-	25.9	28.1	30	30
									E09	9.0	1	10.8	25.9	28.4	30	30
									E18	18.0	2	21.7	39.2	41.9	40	45
									E24	24.0	2	28.9	48.2	51.0	50	60
									E36	34.0	2	40.9	63.2	66.0	70	70
	575	4.4	33.0	6.8	0.7	3.6	1.8	4.0	None	-	-	-	18.8	20.6	20	25
									E09	9.0	1	8.7	20.3	22.6	25	25
									E18	18.0	2	17.3	31.2	33.4	35	35
									E24	24.0	2	23.1	38.4	40.6	40	45
									E36	34.0	2	32.7	50.4	52.6	60	60
102 (8.5)	208	14.5	98.0	22.6	2.1	9.6	5.5	10.0	None	-	-	-	56.4	61.9	70	70
									E09	6.8	1	18.9	56.4	61.9	70	70
									E18	13.5	2	37.5	71.3	78.2	80	80
									E24	18.0	2	50.0	87.0	93.8	90	100
									E36	25.5	2	70.8	113.0	119.9	125	125
	230	14.5	98.0	22.6	2.1	9.6	5.5	10.0	None	-	-	-	56.4	61.9	70	70
									E09	9.0	1	21.7	56.4	61.9	70	70
									E18	18.0	2	43.3	78.6	85.5	80	90
									E24	24.0	2	57.7	96.7	103.5	100	110
									E36	34.0	2	81.8	126.7	133.6	150	150
	460	6.3	55.0	9.9	1.3	4.7	2.2	5.0	None	-	-	-	26.4	28.6	30	30
									E09	9.0	1	10.8	26.4	28.6	30	30
									E18	18.0	2	21.7	39.2	41.9	40	45
									E24	24.0	2	28.9	48.2	51.0	50	60
									E36	34.0	2	40.9	63.2	66.0	70	70
	575	6.0	41.0	9.4	0.7	3.6	1.8	4.0	None	-	-	-	22.4	24.2	25	30
									E09	9.0	1	8.7	22.4	24.2	25	30
									E18	18.0	2	17.3	31.2	33.4	35	35
									E24	24.0	2	23.1	38.4	40.6	40	45
									E36	34.0	2	32.7	50.4	52.6	60	60

ZR078-150 Hi Static Motor - With Powered Convenience Outlet (Continued)

Size (Tons)	Volt	Compressors (each)			OD Fan Motors (each)	Supply Blower Motor	Pwr Exh Motor	Pwr Conv Outlet	Electric Heat Option				MCA[1] (Amps)	MCA[1] w/Pwr Exh (Amps)	Max Fuse[2]/ Breaker[3] Size (Amps)	Max Fuse[2]/ Breaker[3] Size w/ Pwr Exh (Amps)
		RLA	LRA	MCC	FLA	FLA	FLA	FLA	Model	kW	Stages	Amps				
120 (10)	208	16.0	110.0	24.9	3.0	9.6	5.5	10.0	None	-	-	-	61.7	67.2	70	80
									E18	13.5	2	37.5	71.3	78.2	80	80
									E24	18.0	2	50.0	87.0	93.8	90	100
									E36	25.5	2	70.8	113.0	119.9	125	125
									E54	40.6	2	112.7	165.4	172.2	175	175
	230	16.0	110.0	24.9	3.0	9.6	5.5	10.0	None	-	-	-	61.7	67.2	70	80
									E18	18.0	2	43.3	78.6	85.5	80	90
									E24	24.0	2	57.7	96.7	103.5	100	110
									E36	34.0	2	81.8	126.7	133.6	150	150
									E54	54.0	2	129.9	154.4	161.3	175	175
	460	7.8	52.0	12.1	1.6	4.7	2.2	5.0	None	-	-	-	30.5	32.7	35	40
									E18	18.0	2	21.7	39.2	41.9	40	45
									E24	24.0	2	28.9	48.2	51.0	50	60
									E36	34.0	2	40.9	63.2	66.0	70	70
									E54	54.0	2	65.0	77.1	79.8	90	90
	575	5.7	38.9	8.9	1.4	3.6	1.8	4.0	None	-	-	-	23.1	24.9	25	30
									E18	18.0	2	17.3	31.2	33.4	35	35
									E24	24.0	2	23.1	38.4	40.6	40	45
									E36	34.0	2	32.7	50.4	52.6	60	60
									E54	54.0	2	52.0	61.5	63.7	70	70
150 (12.5)	208	22.4	149.0	35.0	2.1	14.0	5.5	10.0	None	-	-	-	82.8	88.3	100	110
									E18	13.5	2	37.5	82.8	88.3	100	110
									E24	18.0	2	50.0	92.5	99.3	100	110
									E36	25.5	2	70.8	118.5	125.4	125	150
									E54	40.6	2	112.7	170.9	177.7	175	200
	230	22.4	149.0	35.0	2.1	14.0	5.5	10.0	None	-	-	-	82.8	88.3	100	110
									E18	18.0	2	43.3	84.1	91.0	100	110
									E24	24.0	2	57.7	102.2	109.0	110	110
									E36	34.0	2	81.8	132.2	139.1	150	150
									E54	54.0	2	129.9	159.9	166.8	175	175
	460	10.6	75.0	16.5	1.3	6.6	2.2	5.0	None	-	-	-	40.5	42.7	50	50
									E18	18.0	2	21.7	41.6	44.3	50	50
									E24	24.0	2	28.9	50.6	53.3	60	60
									E36	34.0	2	40.9	65.6	68.4	70	70
									E54	54.0	2	65.0	79.5	82.2	90	90
	575	7.7	54.0	12.0	0.7	5.2	1.8	4.0	None	-	-	-	29.2	31.0	35	35
									E18	18.0	2	17.3	33.2	35.4	35	40
									E24	24.0	2	23.1	40.4	42.6	45	45
									E36	34.0	2	32.7	52.4	54.6	60	60
									E54	54.0	2	52.0	63.5	65.7	70	70

1. Minimum Circuit Ampacity.
2. Dual Element, Time Delay Type.
3. HACR type per NEC.

Electric Heat Multipliers

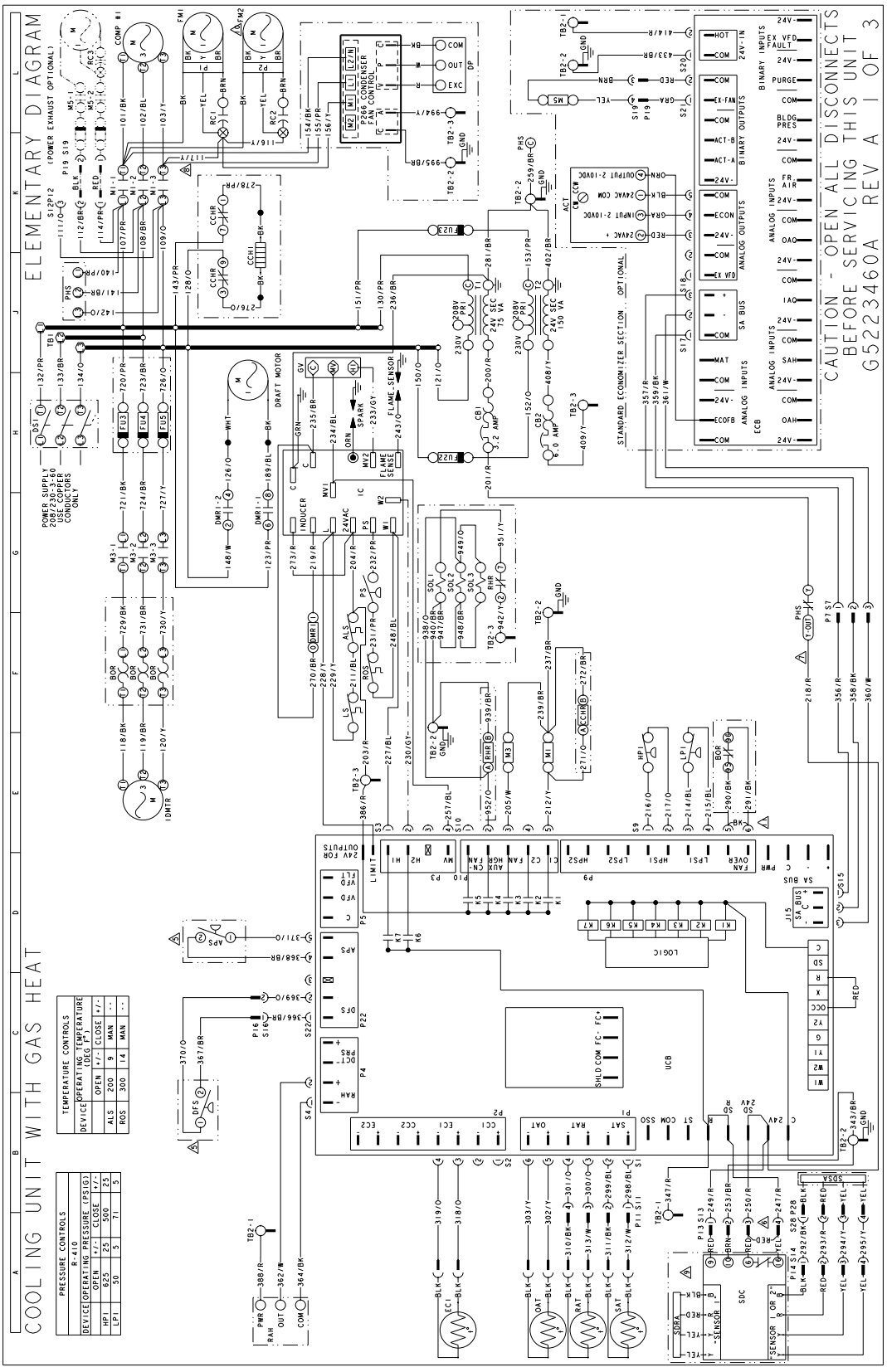
Voltage		kW Capacity Multipliers[1]
Nominal	Applied	
240	208	0.75
	230	0.92
480	460	0.92
600	575	0.92

1. Electric heaters are rated at nominal voltage. Use this table to determine the electric heat capacity for heaters applied at lower voltages.

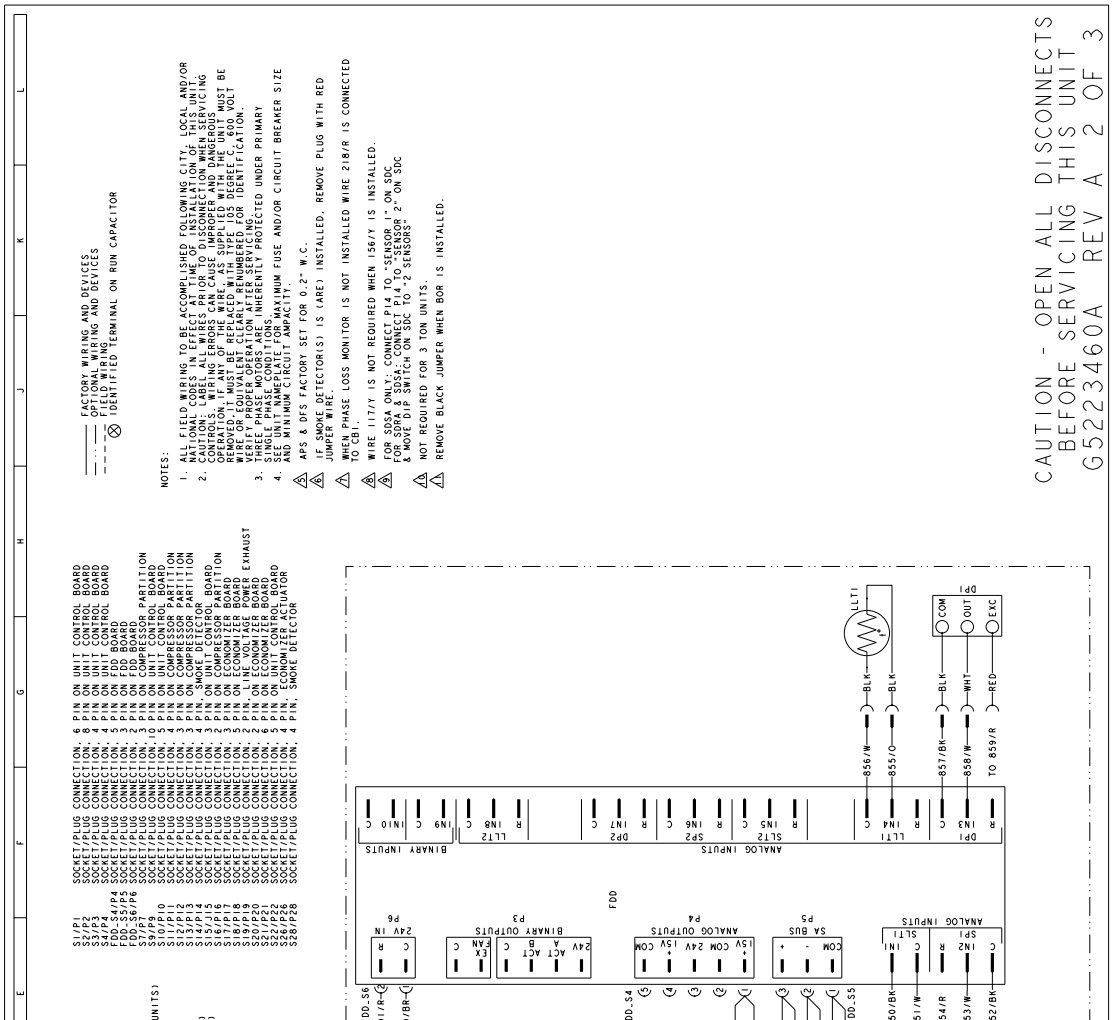
Typical Wiring Diagrams

ZH/ZJ037-150 Typical Wiring Diagrams

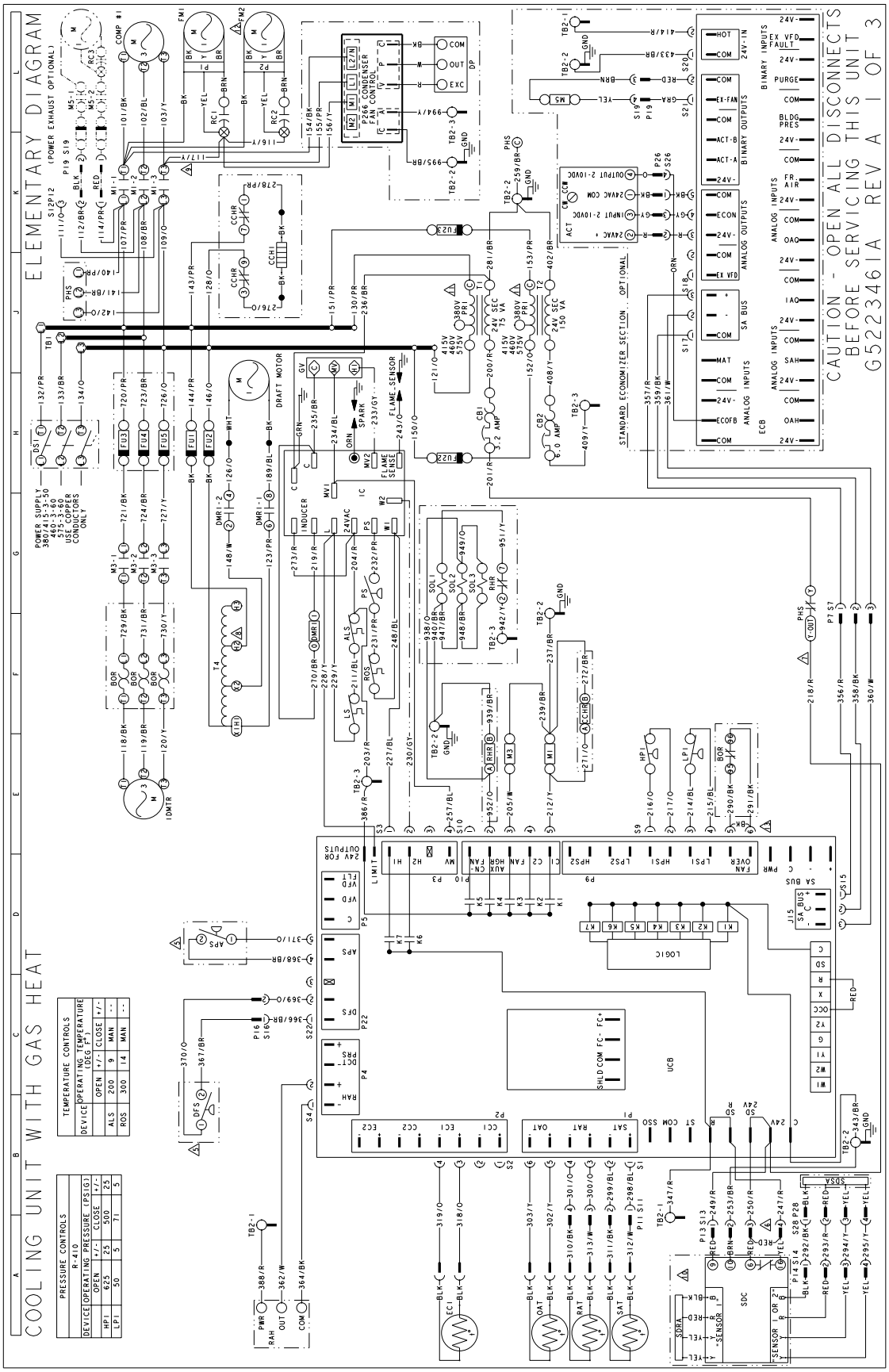
Typical ZH/ZJ/ZR037-061 Cooling Unit with Gas Heat 208/230 Volt Wiring Diagram



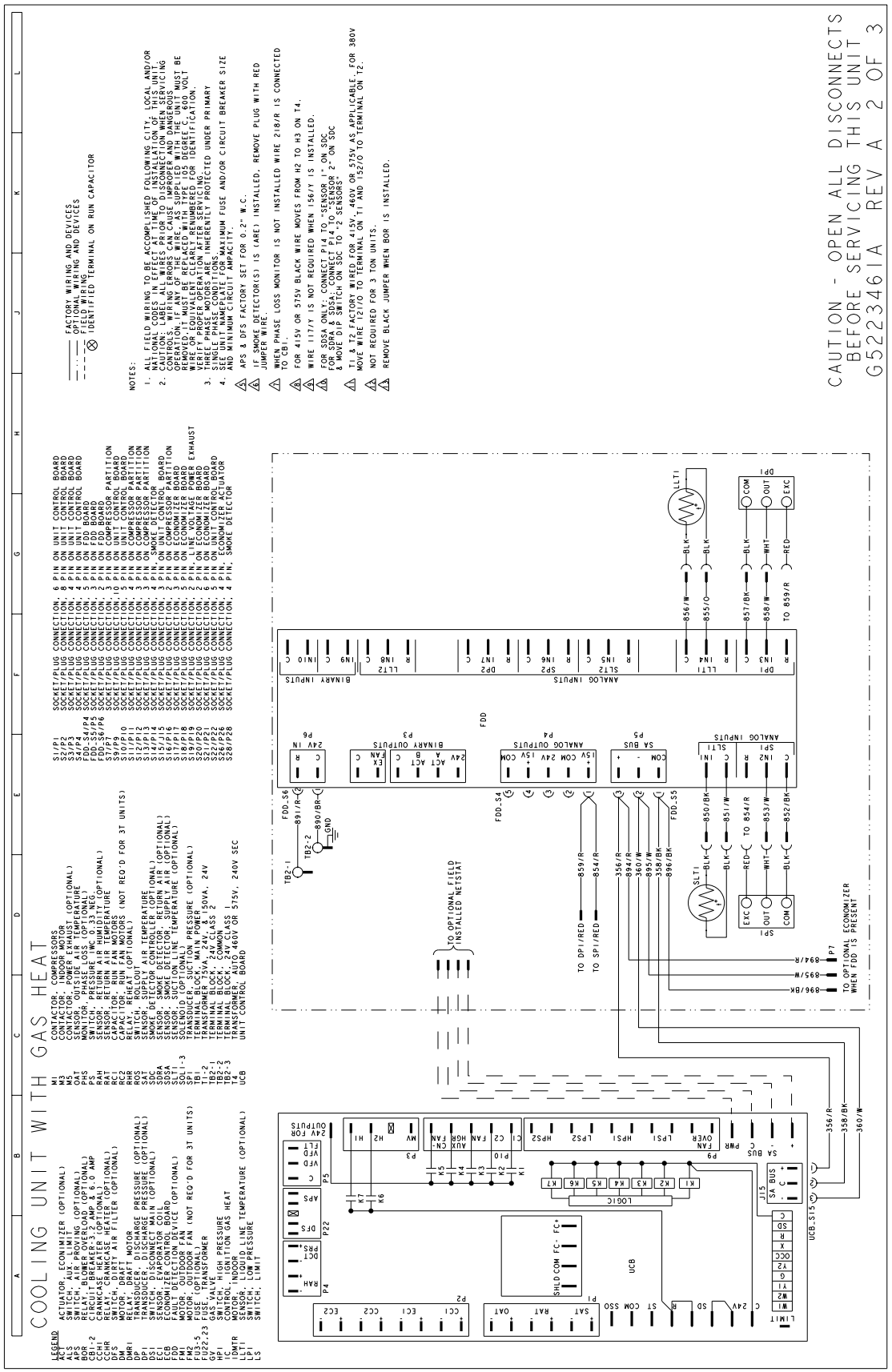
Typical ZH/ZJ/ZR037-061 Cooling Unit with Gas Heat 208/230 Volt Unit (Options)



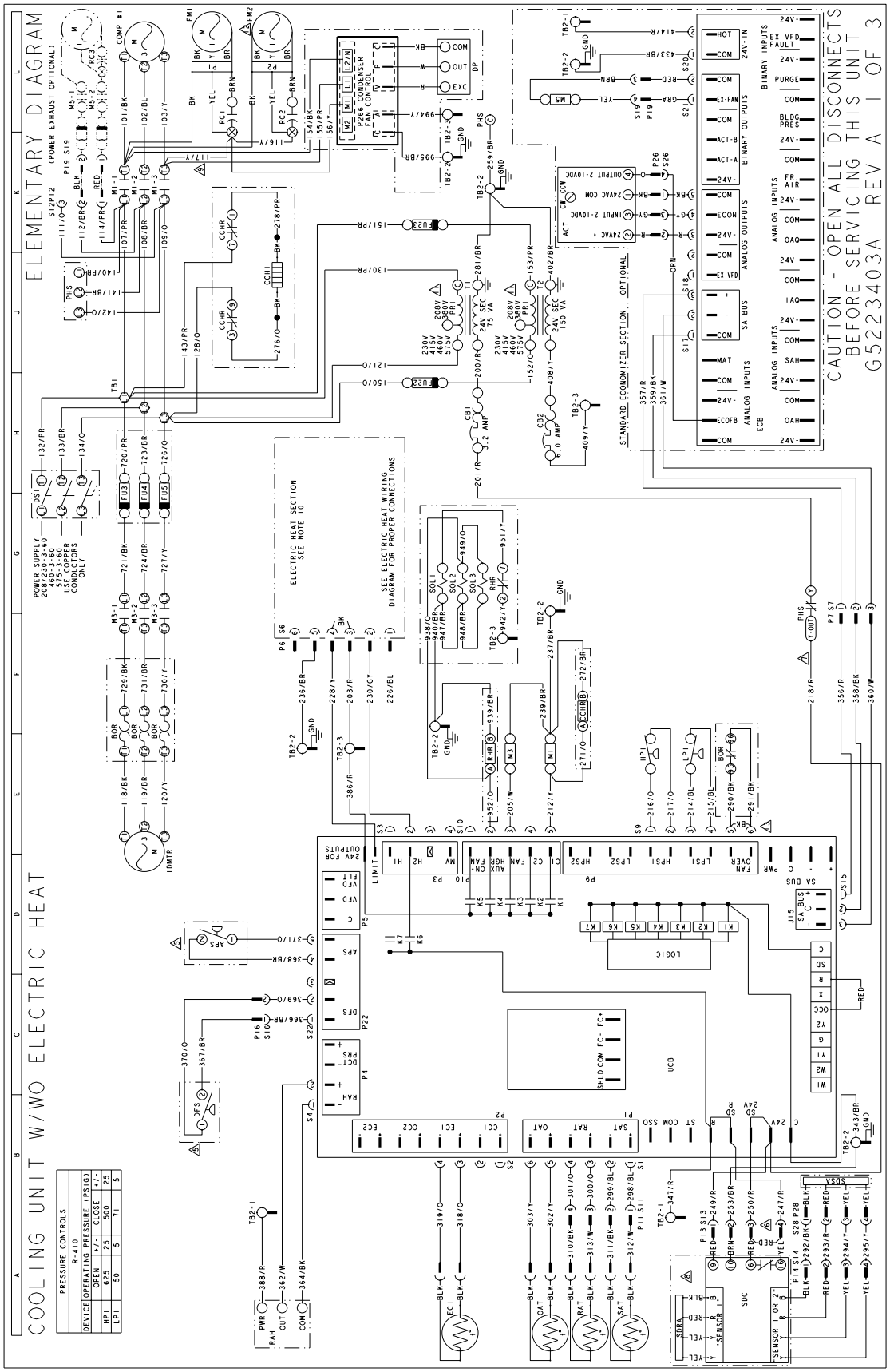
Typical ZH/ZJ/ZR037-061 Cooling Unit with Gas Heat 460/575 Volt Wiring Diagram



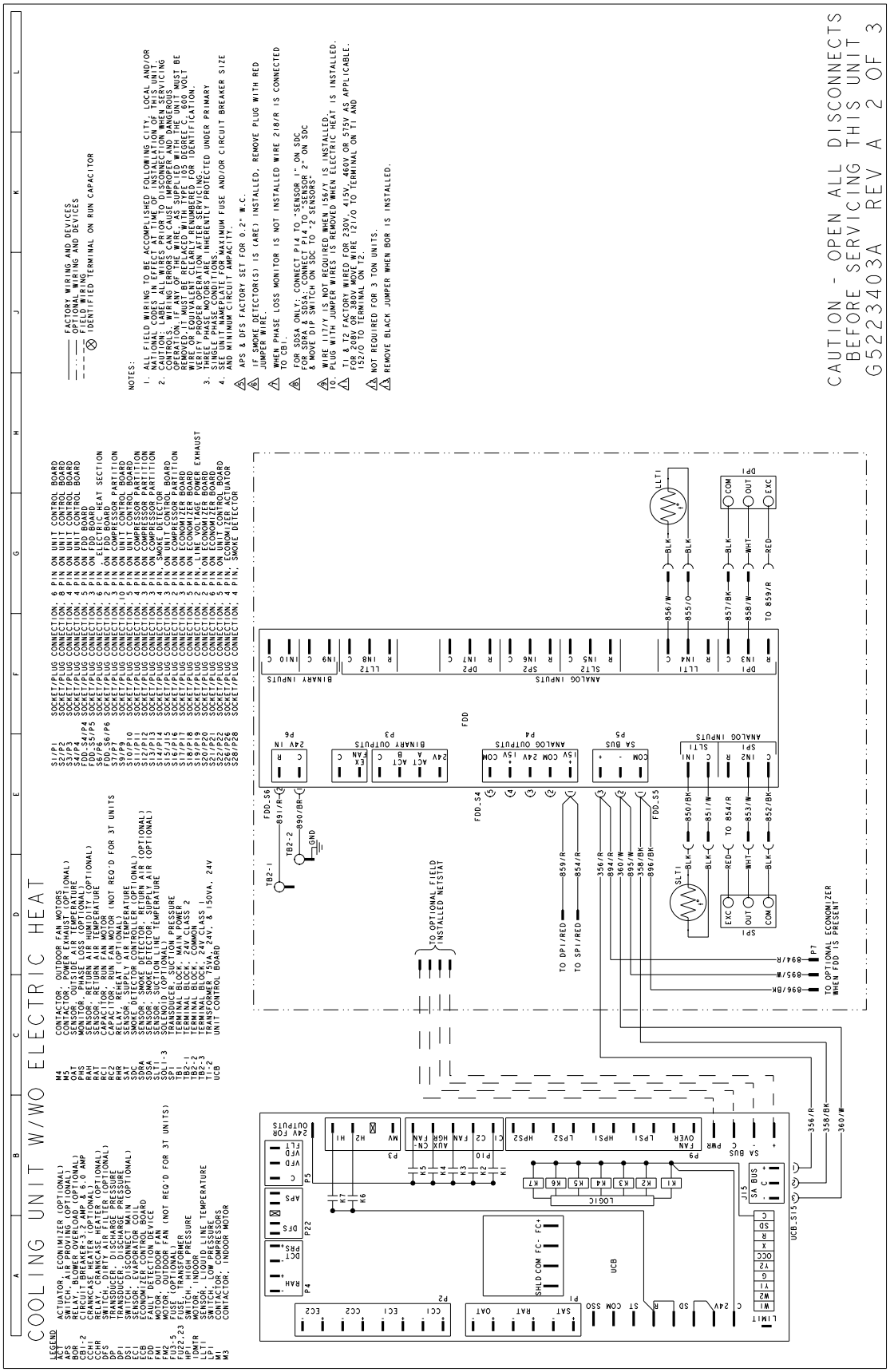
Typical ZH/ZJ/ZR037-061 Cooling Unit with Gas Heat 460/575 Volt Unit (Options)



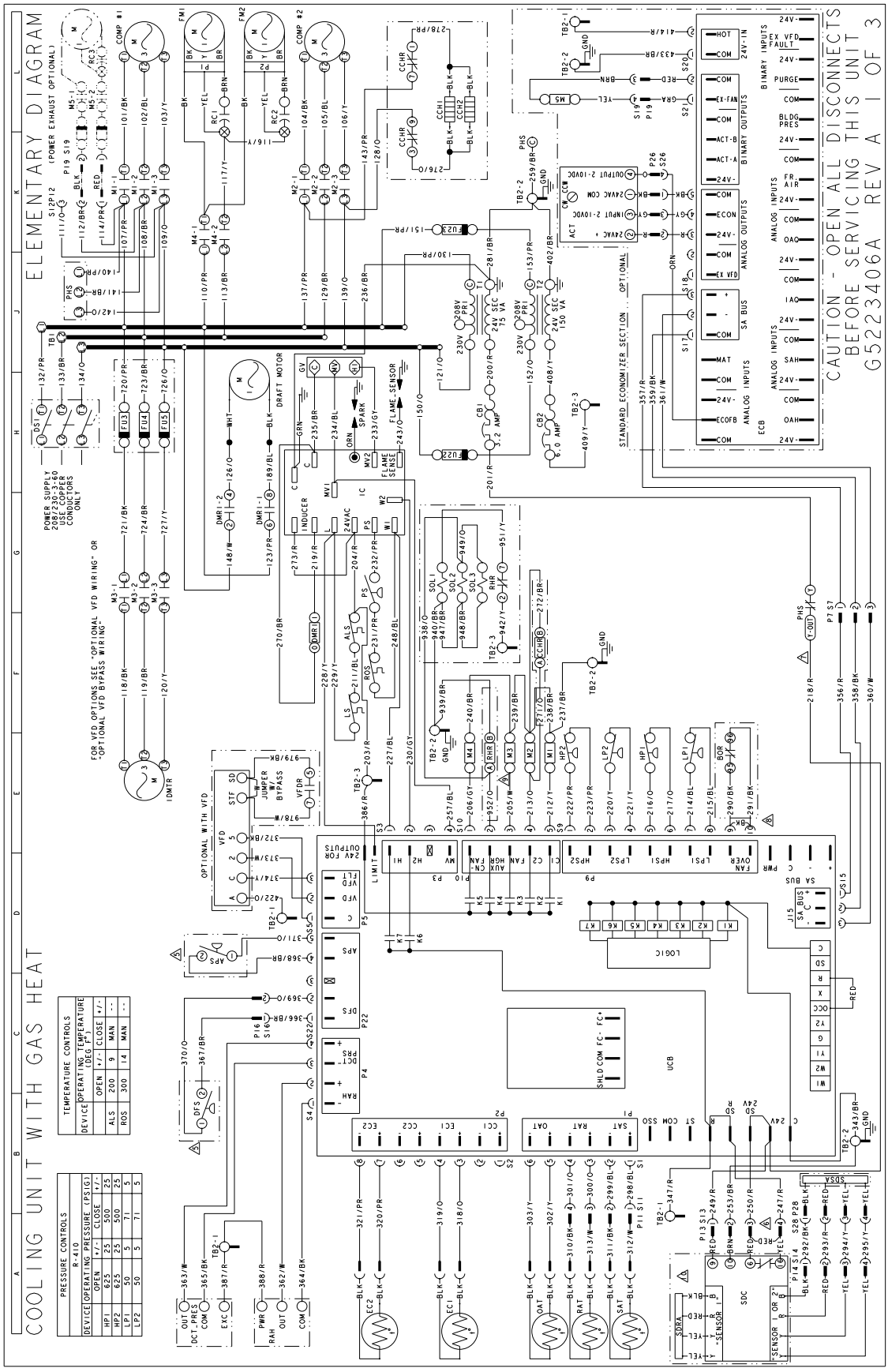
Typical ZH/ZJ/ZR037-061 Cooling Unit with/without Electric Heat Wiring Diagram



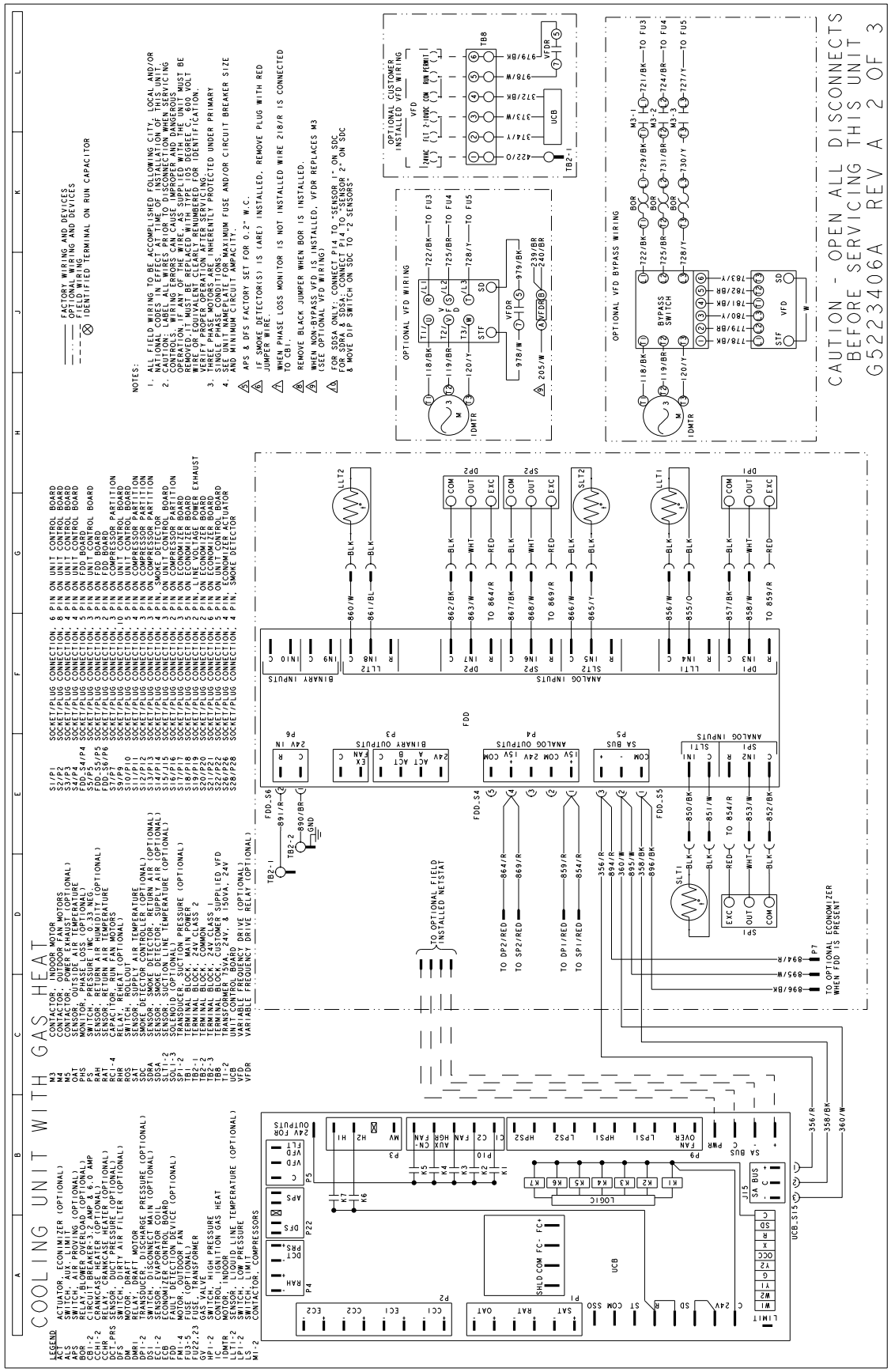
Typical ZH/ZJ/ZR037-061 Cooling Unit with/without Electric Heat Unit (Options)



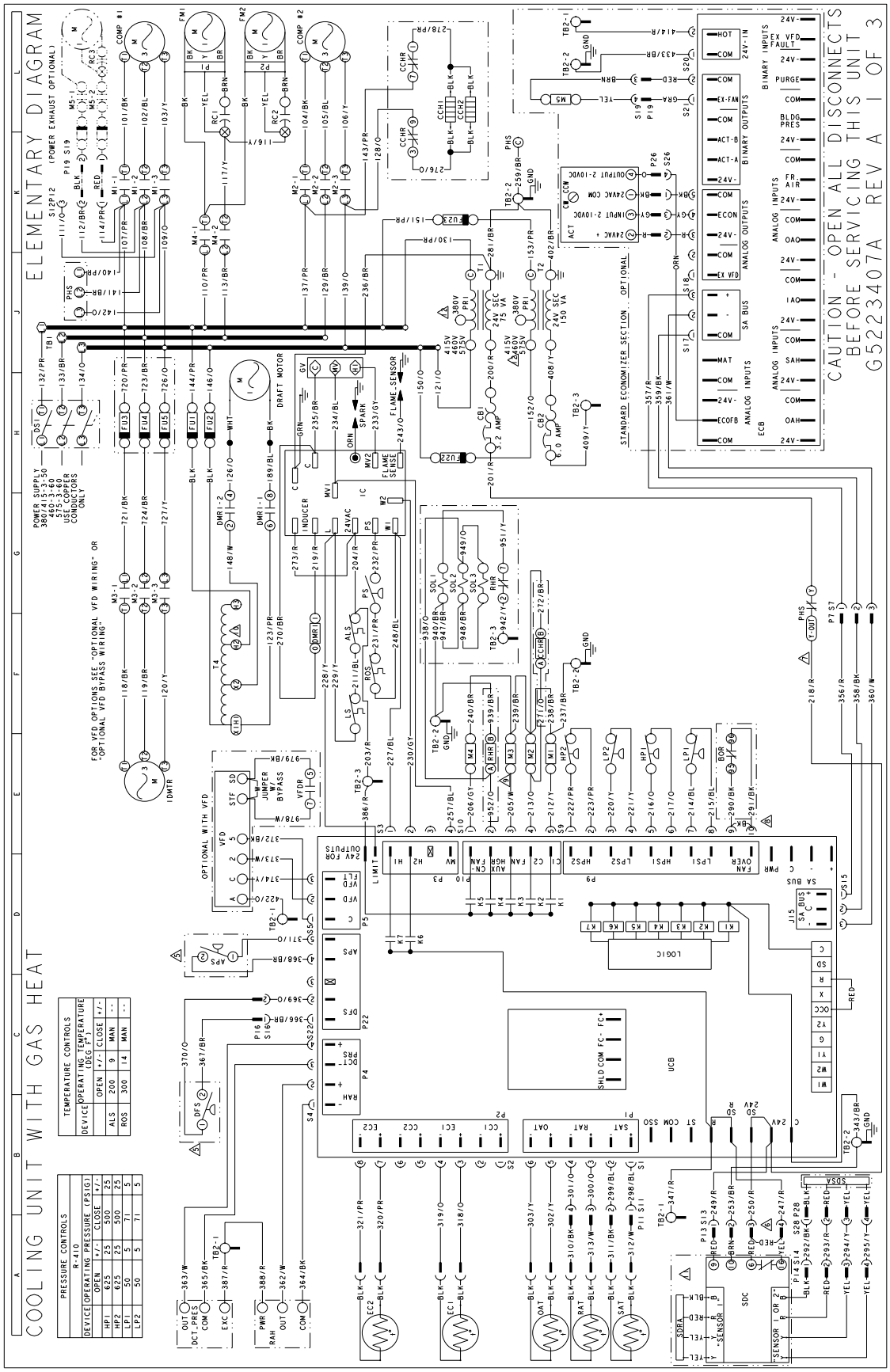
Typical ZH/ZJ/ZR078-120 Cooling Unit with Gas Heat 208/230 Volt Wiring Diagram



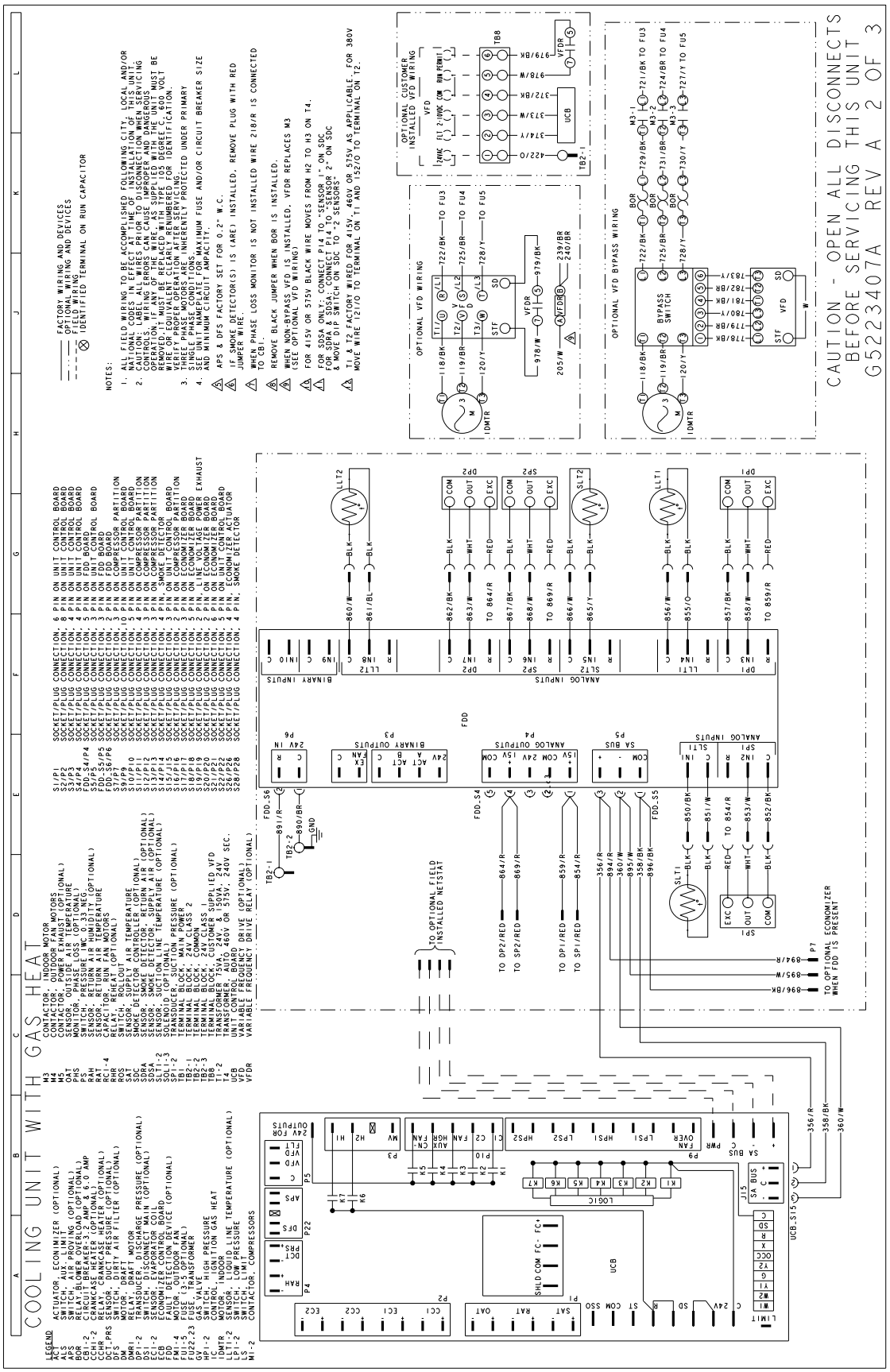
Typical ZH/ZJ/ZR078-120 Cooling Unit with Gas Heat 208/230 Volt Unit (Options)



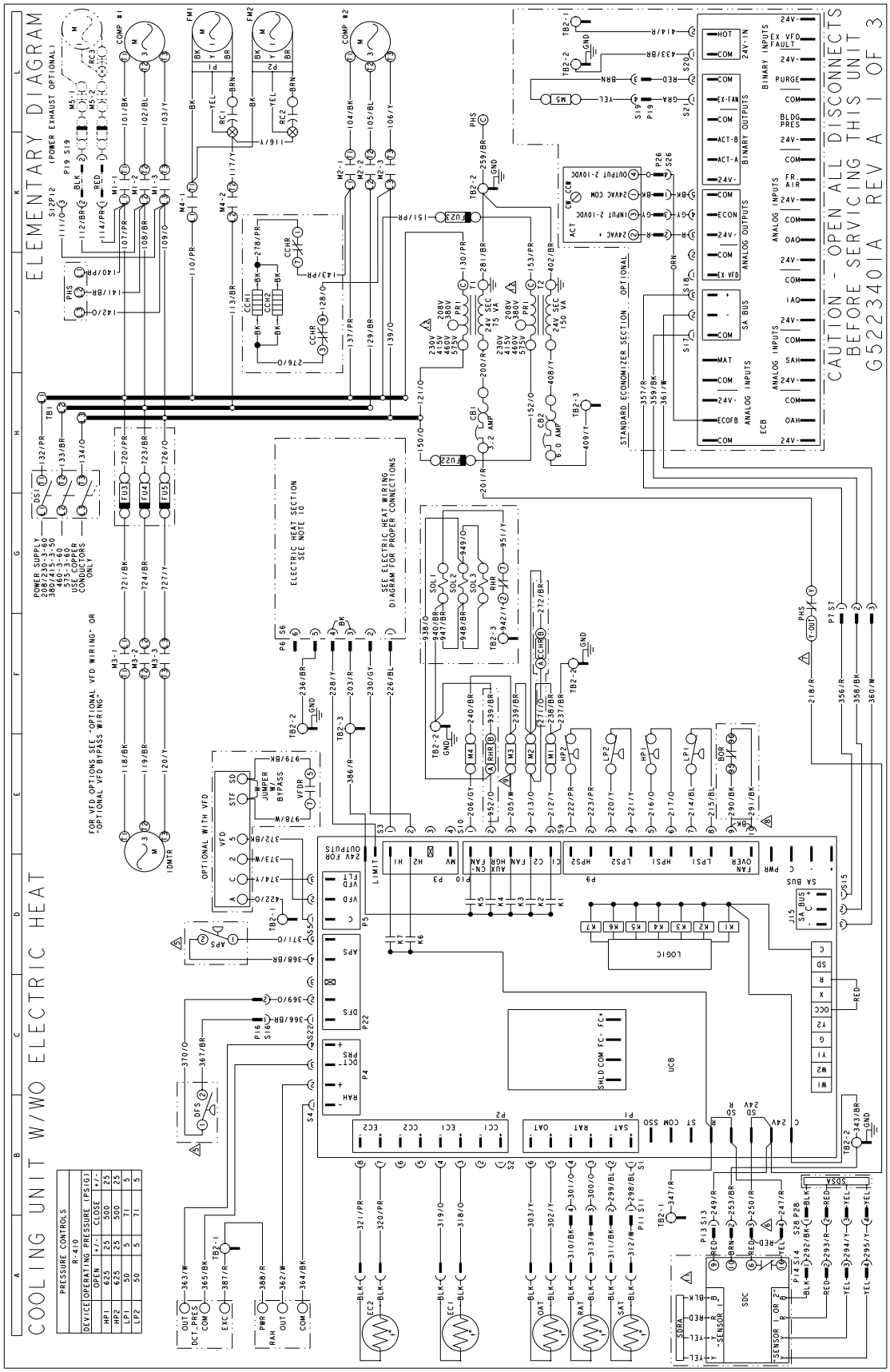
Typical ZH/ZJ/ZR078-120 Cooling Unit with Gas Heat 460/575 Volt Wiring Diagram



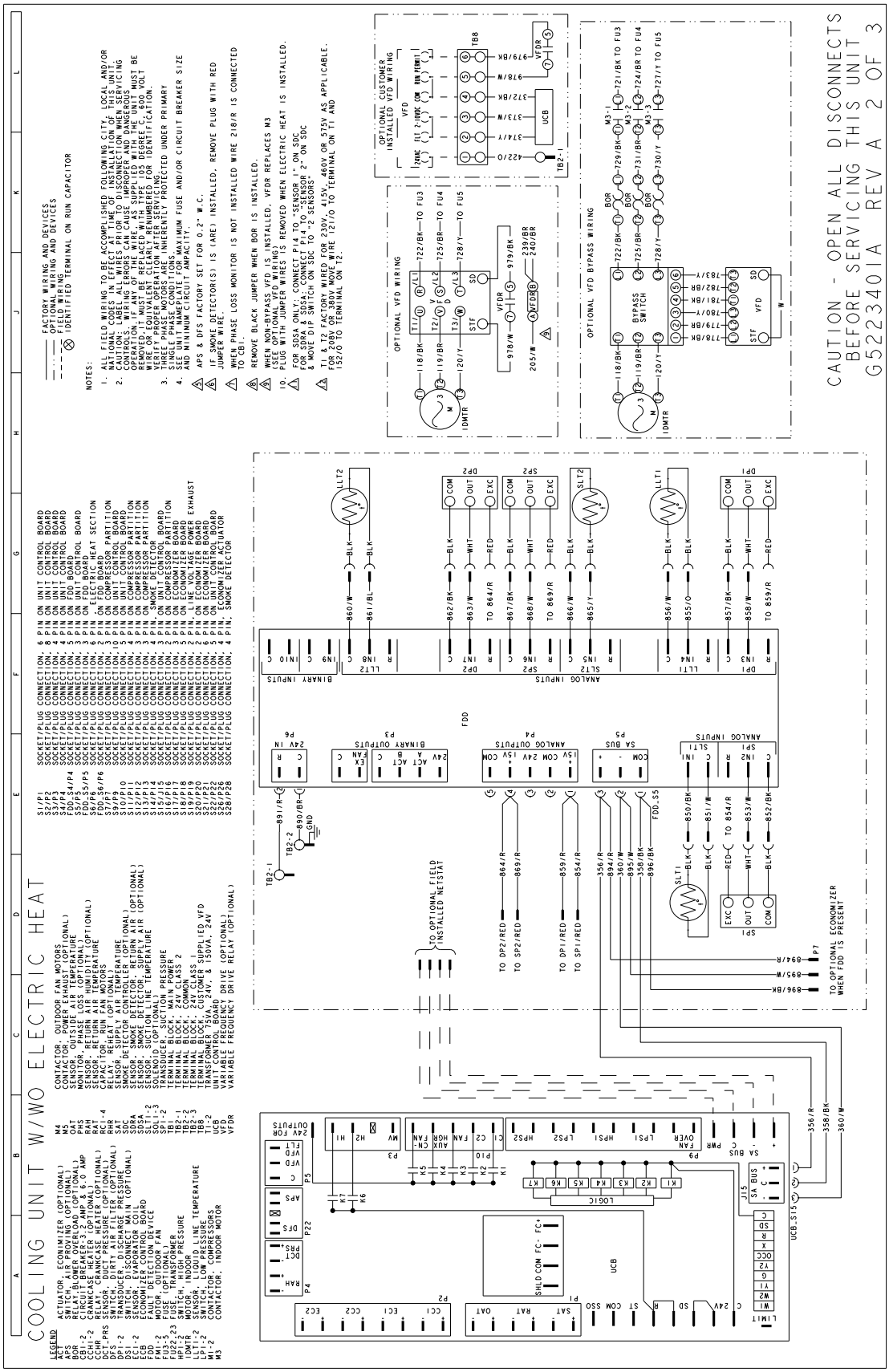
Typical ZH/ZJ/ZR078-120 Cooling Unit with Gas Heat 460/575 Volt Unit (Options)



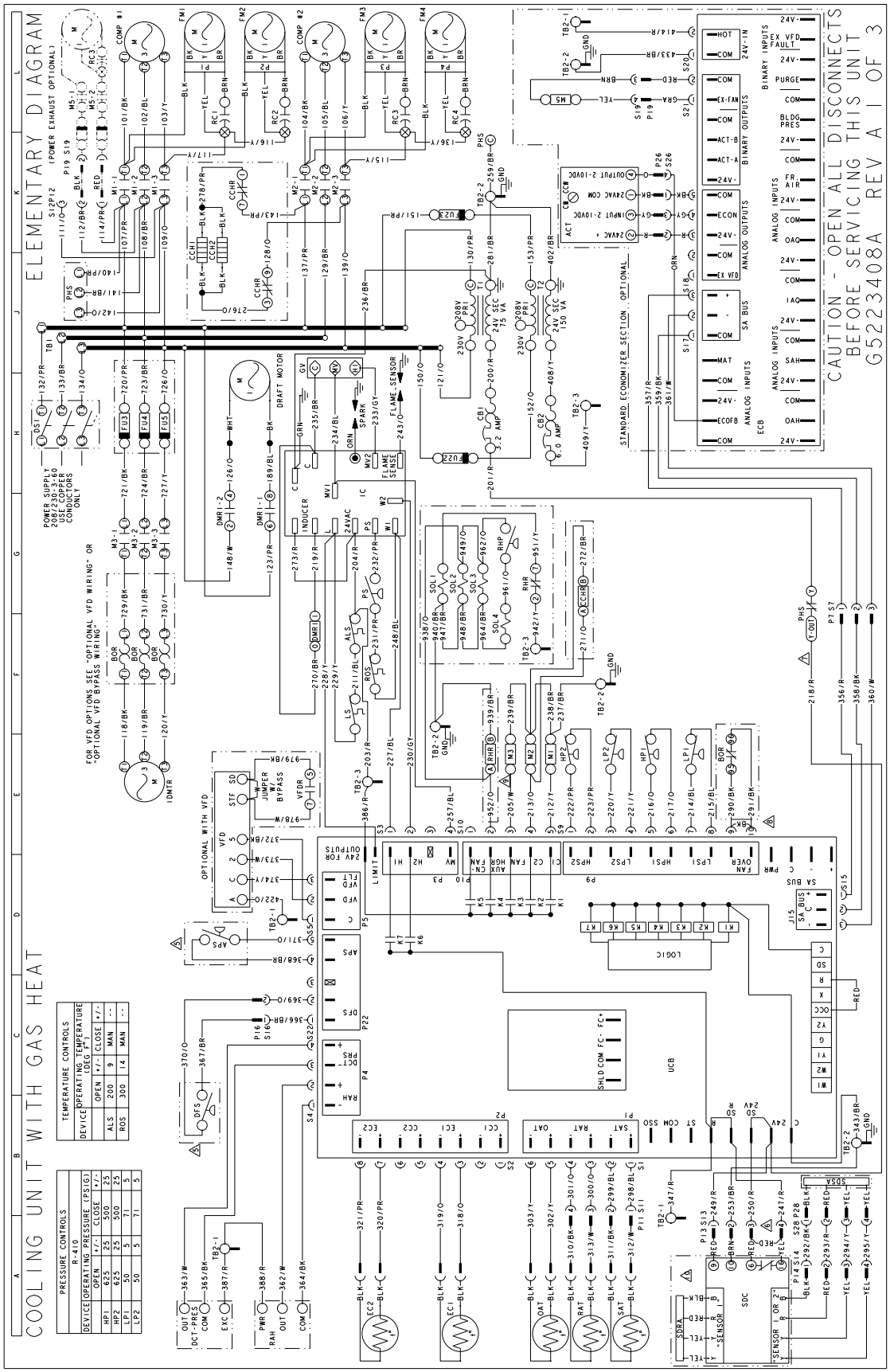
Typical ZH/ZJ/ZR078-120 Cooling Unit with/without Electric Heat Wiring Diagram



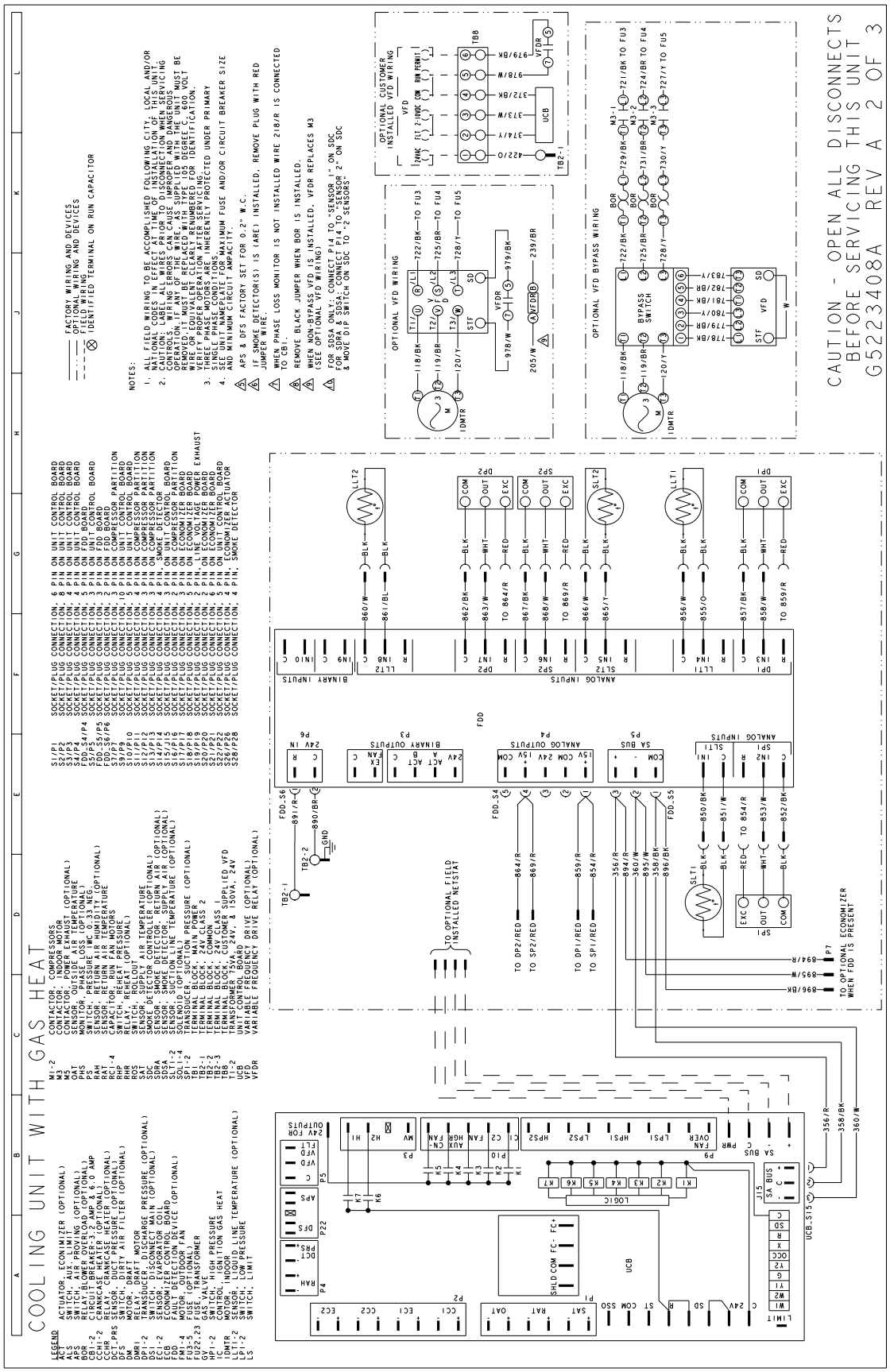
Typical ZH/ZJ/ZR078-120 Cooling Unit with/without Electric Heat Unit (Options)



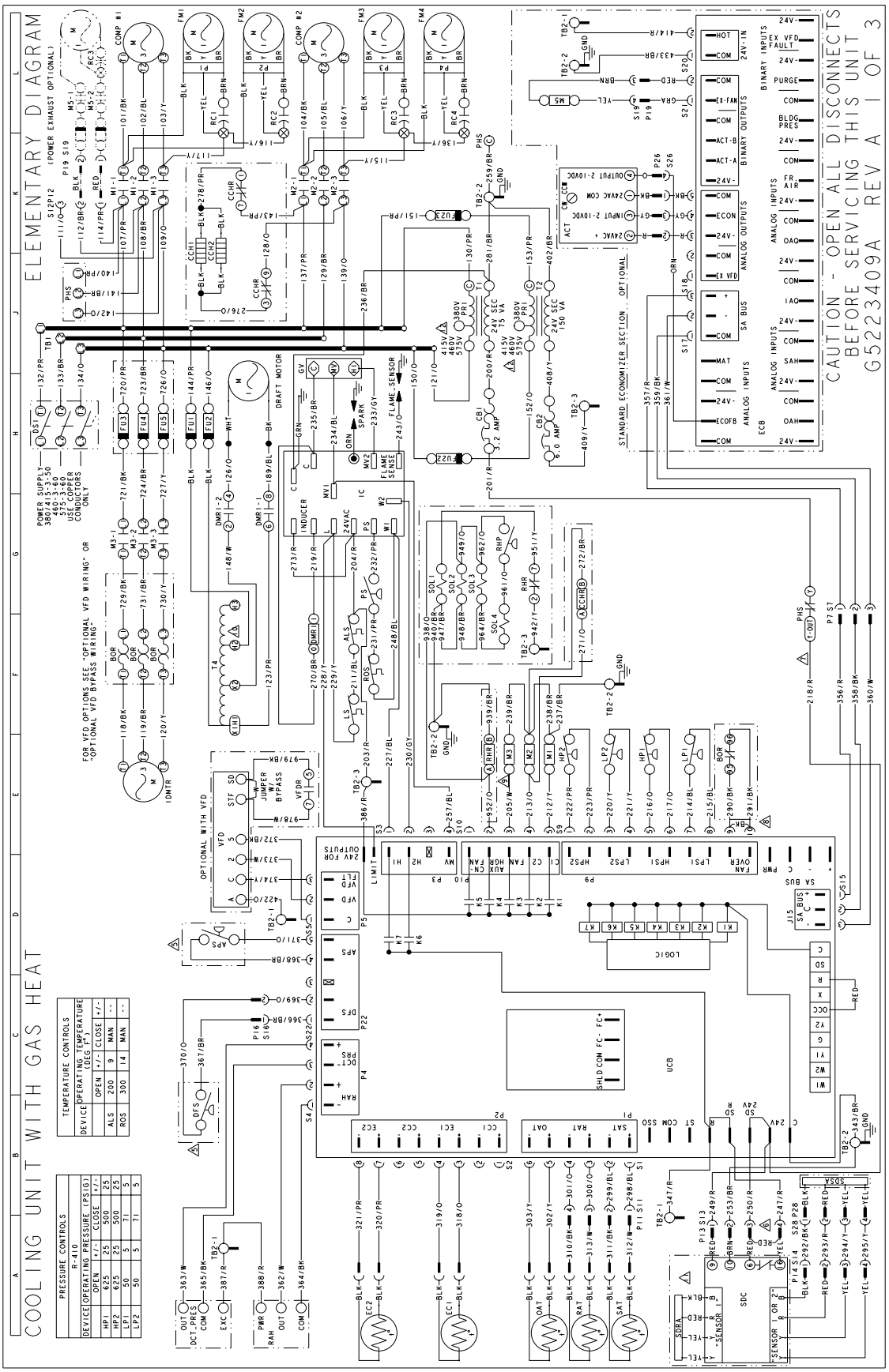
Typical ZH/ZJ/ZR150 Cooling Unit with Gas Heat 208/230 Volt Wiring Diagram



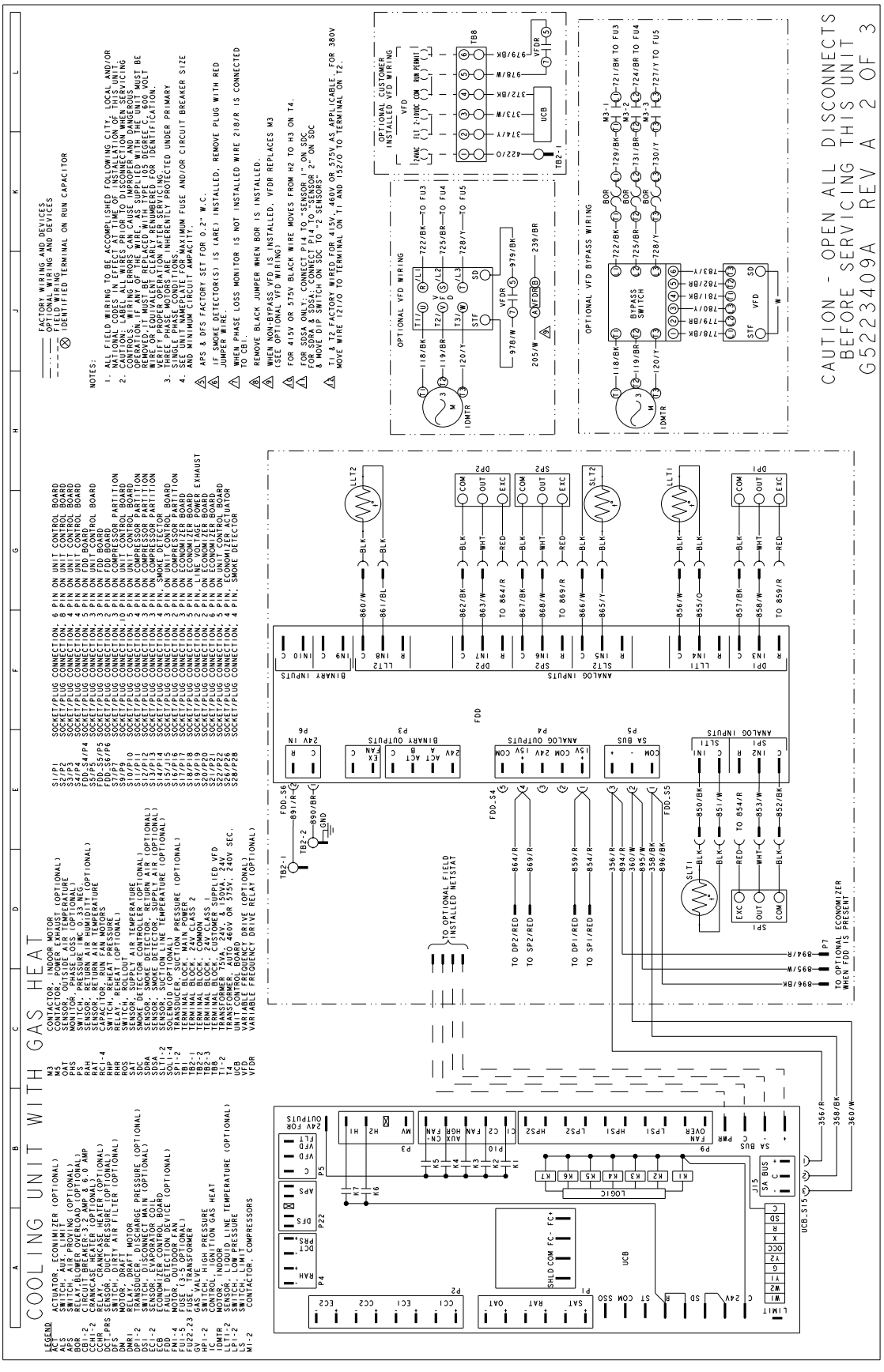
Typical ZH/ZJ/ZR150 Cooling Unit with Gas Heat 208/230 Volt Unit (Options)



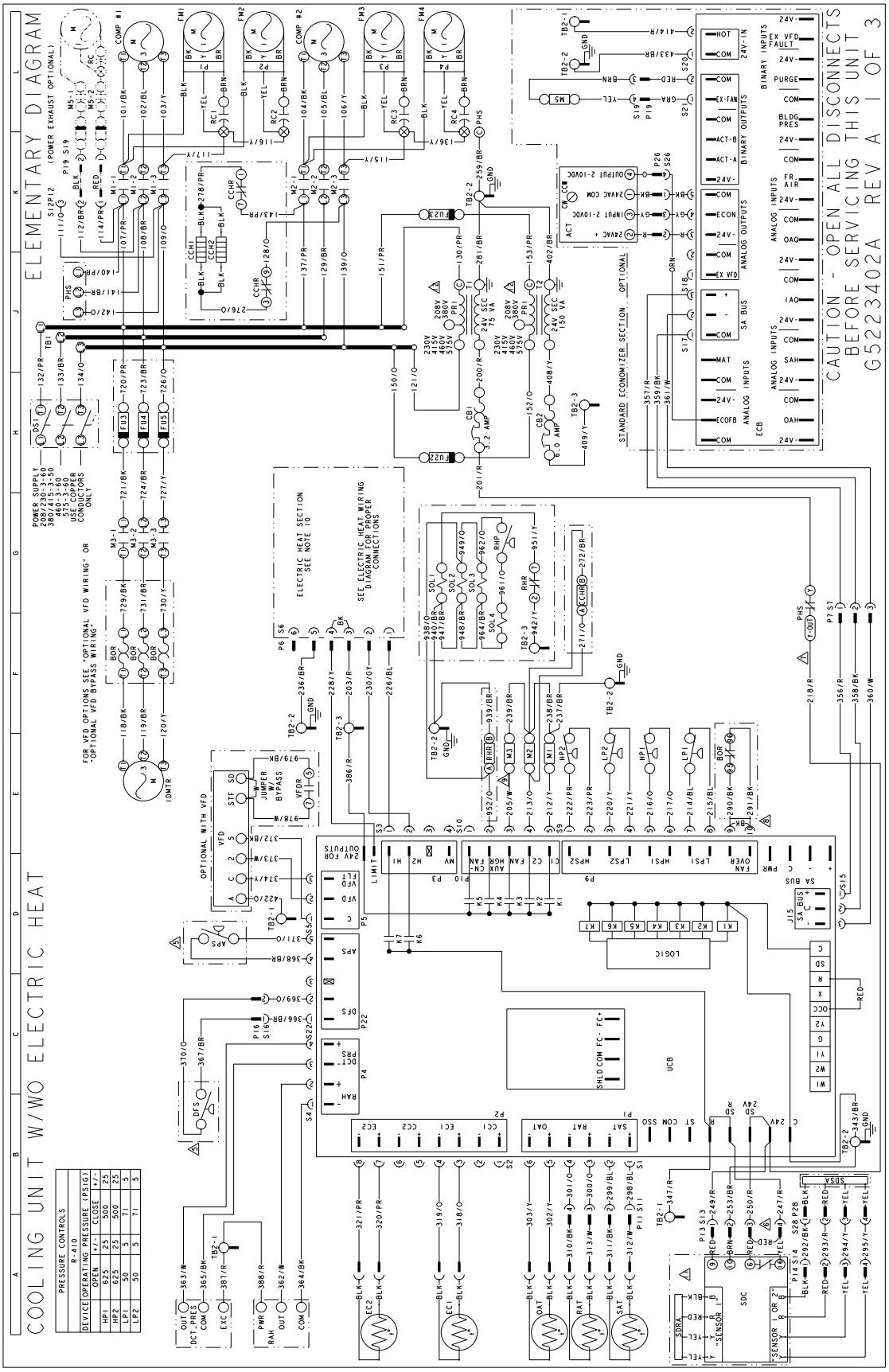
Typical ZH/ZJ/ZR150 Cooling Unit with Gas Heat 460/575 Volt Wiring Diagram



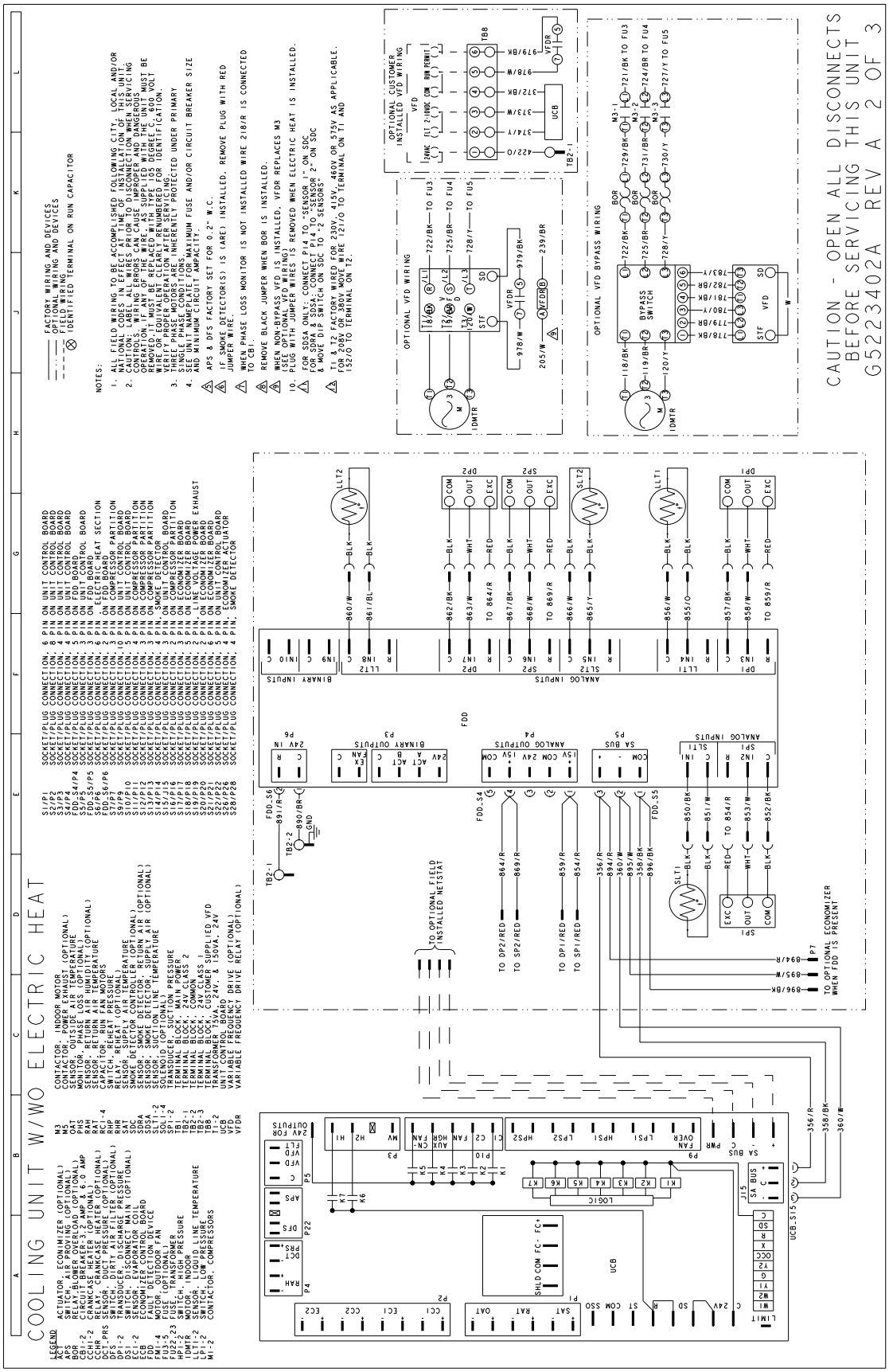
Typical ZH/ZJ/ZR150 Cooling Unit with Gas Heat 460/575 Volt Unit (Options)



Typical ZH/ZJ/ZR150 Cooling Unit with/without Electric Heat Wiring Diagram

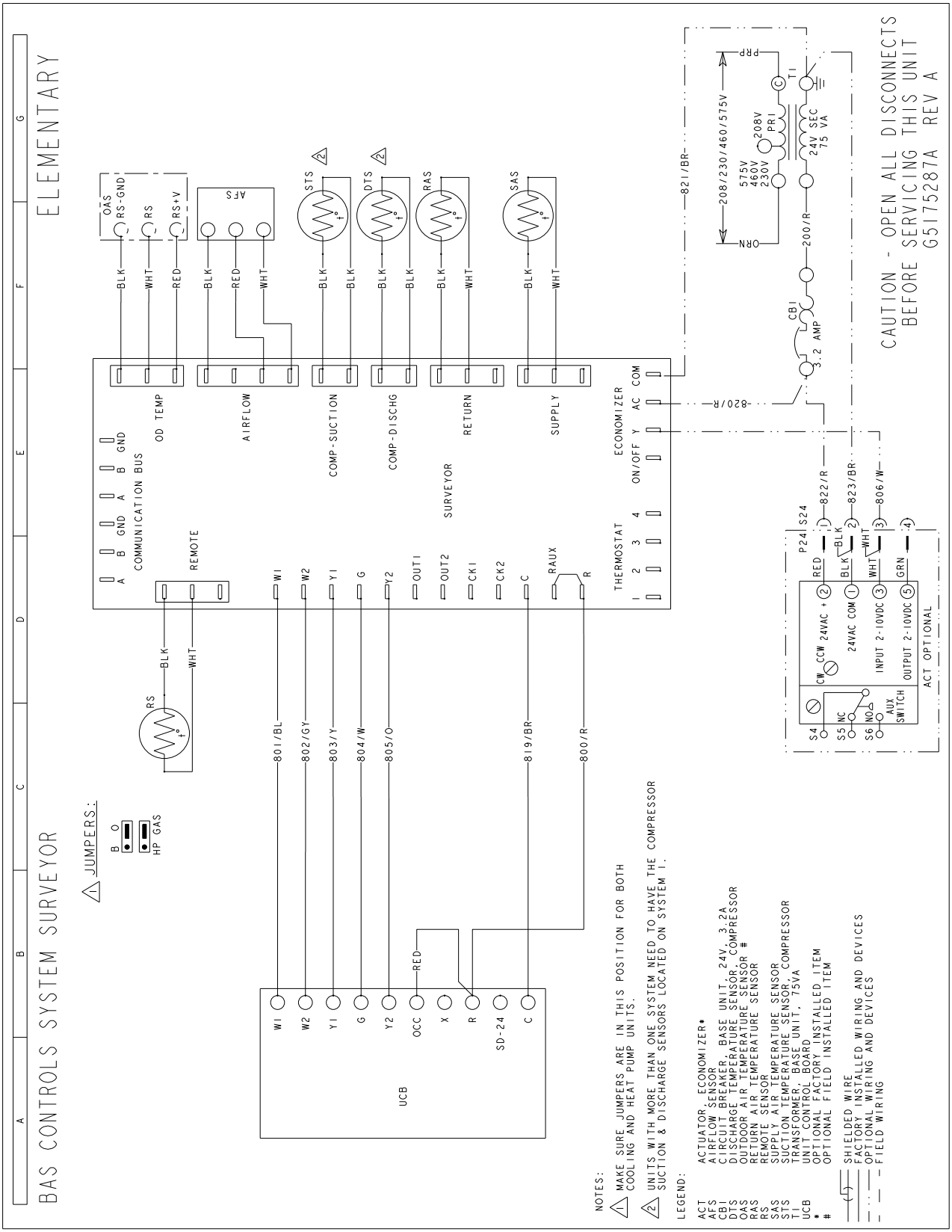


Typical ZH/ZJ/ZR150 Cooling Unit with/without Electric Heat Unit (Options)

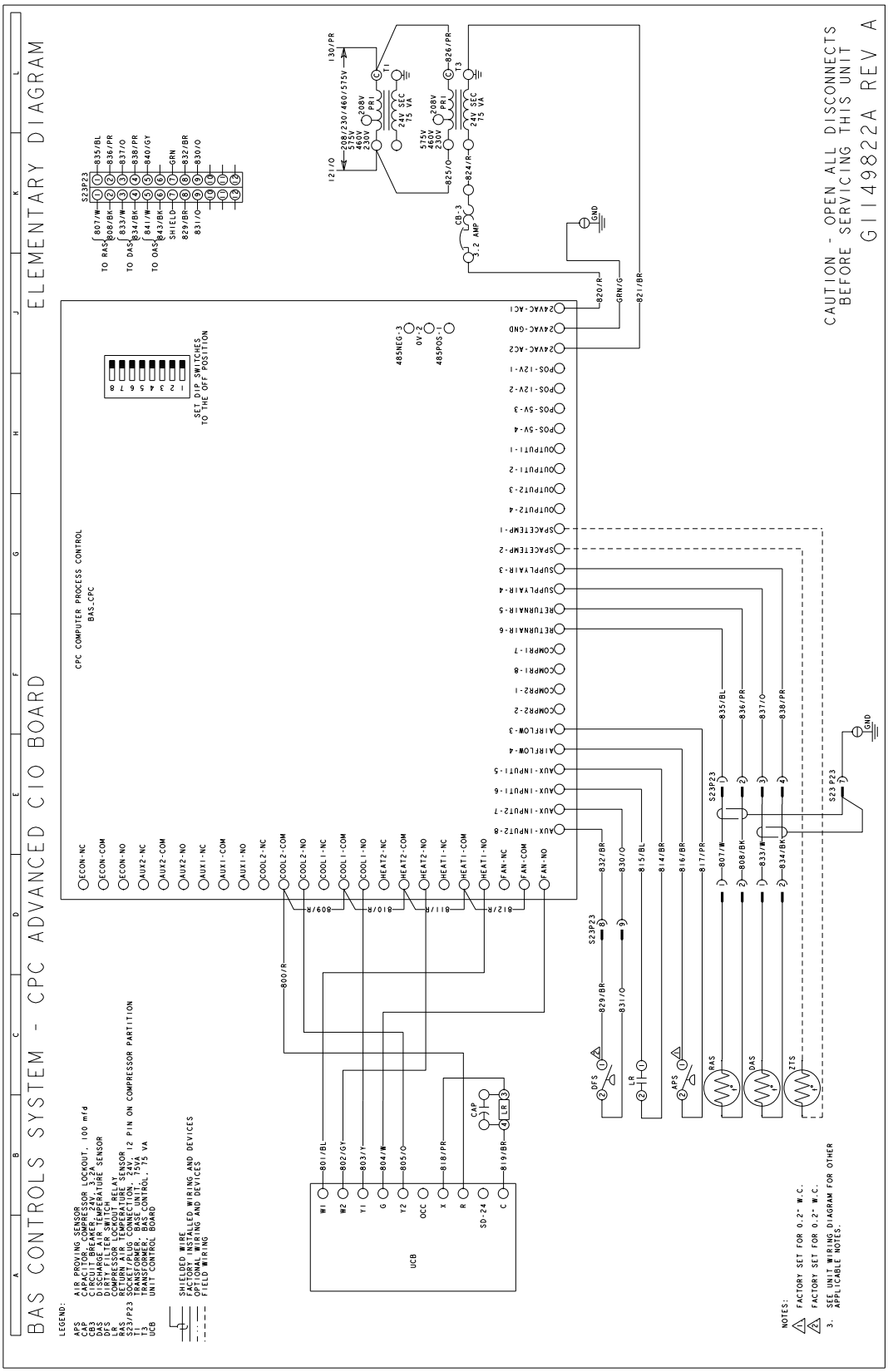


BAS Controls Typical Wiring Diagrams

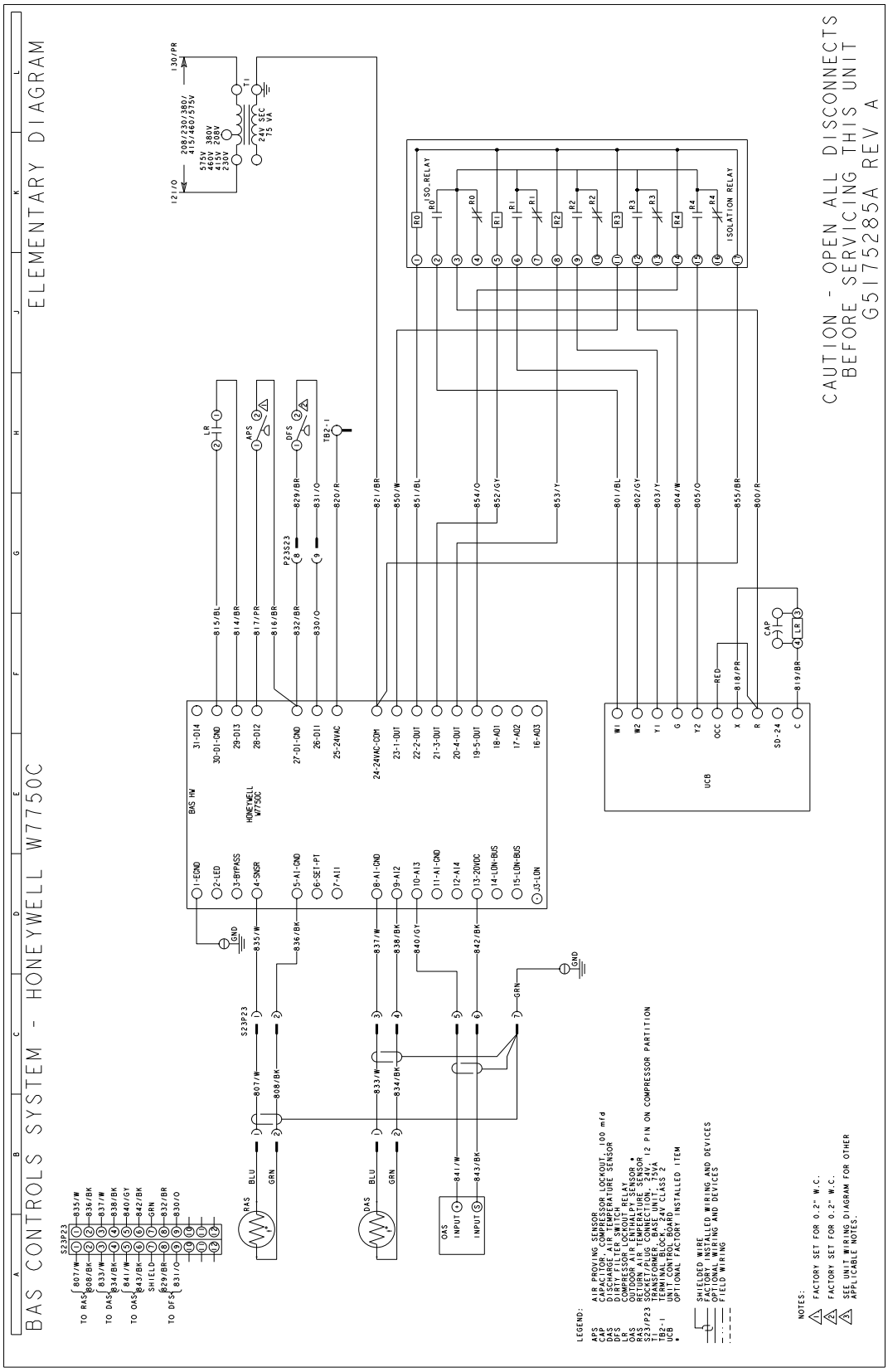
Typical SURVEYOR BAS Control Wiring Diagram



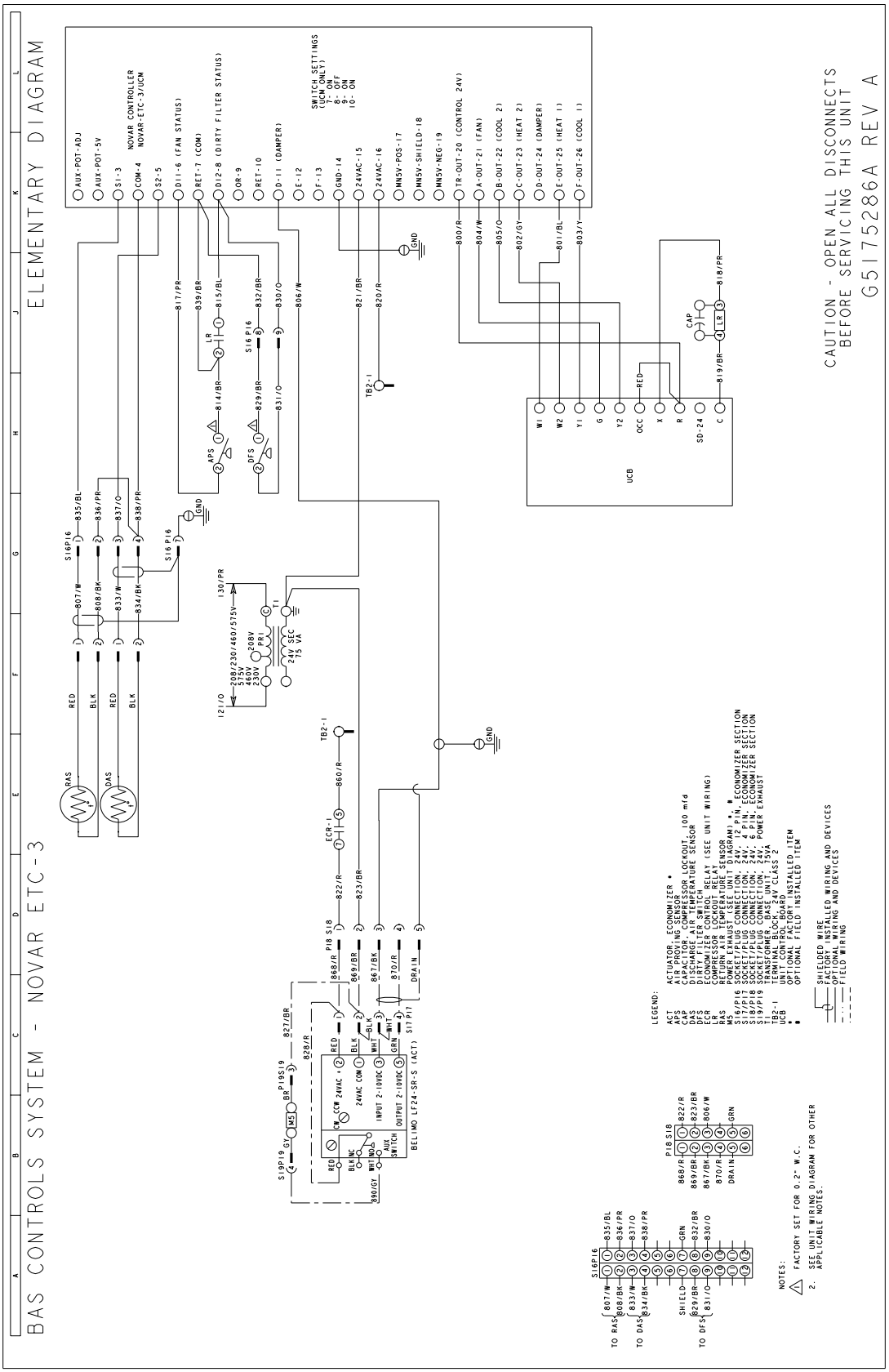
Typical CPC BAS Control Wiring Diagram



Typical HONEYWELL BAS Control Wiring Diagram



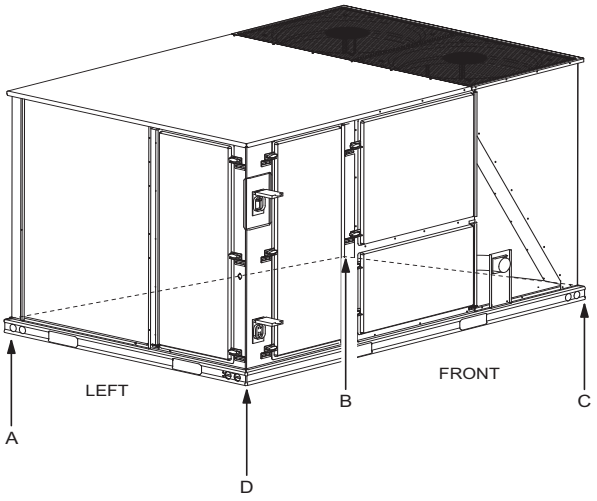
Typical NOVAR BAS Control Wiring Diagram



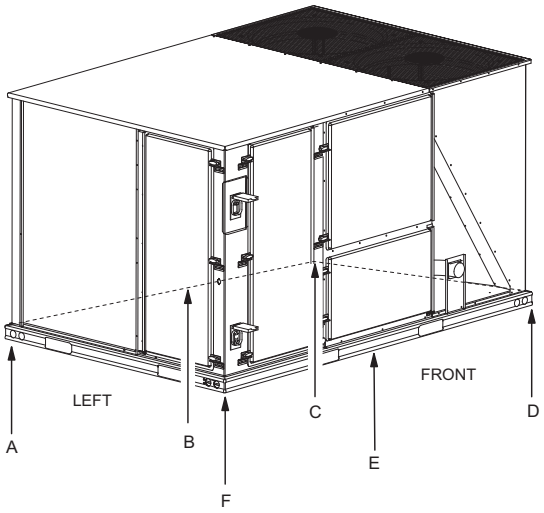
Weights and Dimensions

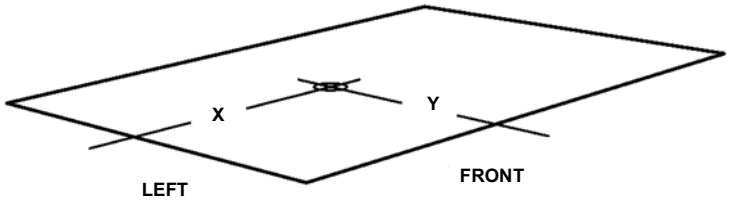
ZH/ZJ037-150 Unit Weights

Unit 4 Point Load Weight



Unit 6 Point Load Weight

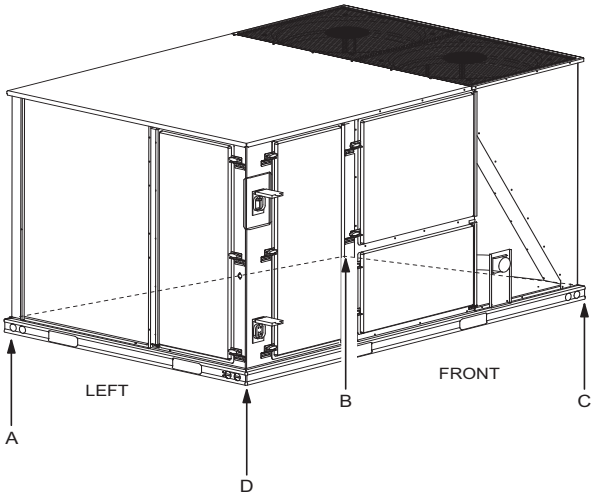




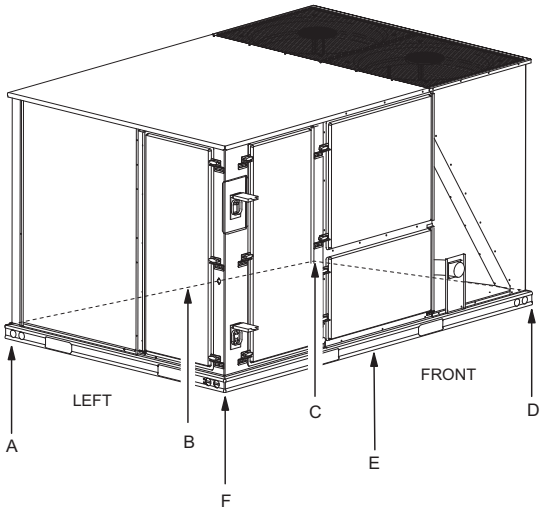
Size (Tons)	Model	Weight (lbs.)		Center of Gravity		4 Point Load Location (lbs.)				6 Point Load Location (lbs.)					
		Shipping	Operating	X	Y	A	B	C	D	A	B	C	D	E	F
037 (3)	ZH	728	723	40	26	175	143	182	223	121	105	92	117	134	154
049 (4)	ZH	768	763	40	26	185	151	192	235	128	111	97	124	141	162
061 (5)	ZH	869	864	40	26	210	171	217	266	145	126	110	140	160	184
078 (6.5)	ZH	915	910	38	24	212	158	230	309	149	121	100	147	177	217
090 (7.5)	ZH	915	910	38	24	212	158	230	309	149	121	100	147	177	217
102 (8.5)	ZH	1052	1047	38	24	244	182	265	356	171	139	116	169	203	249
120 (10)	ZH	1095	1090	38	24	254	189	276	371	178	145	120	176	211	260
150 (12.5)	ZH	1285	1280	48	24	240	281	410	350	156	173	192	280	252	227
037 (3)	ZJ	745	740	40	26	180	147	186	228	124	108	95	120	137	157
049 (4)	ZJ	780	775	40	24	174	142	207	253	120	104	91	133	152	175
061 (5)	ZJ	775	770	40	24	172	141	205	251	119	103	91	132	151	174
078 (6.5)	ZJ	1035	1030	39	25	245	191	260	333	170	144	122	167	195	232
090 (7.5)	ZJ	1055	1050	39	25	250	195	265	340	174	146	125	170	199	236
102 (8.5)	ZJ	1065	1060	38	24	247	184	268	360	173	141	117	171	206	253
120 (10)	ZJ	1075	1070	39	24	245	191	278	357	170	143	122	178	209	248
150 (12.5)	ZJ	1285	1280	48	24	240	281	410	350	156	173	192	280	252	227

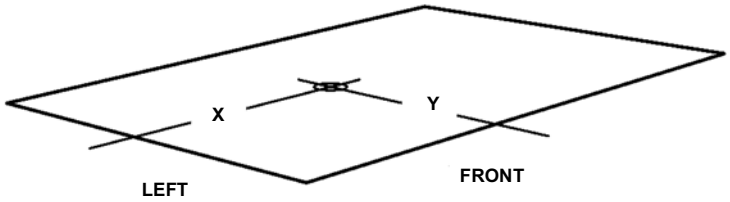
ZR037-150 Unit Weights

Unit 4 Point Load Weight



Unit 6 Point Load Weight





Size (Tons)	Model	Weight (lbs.)		Center of Gravity		4 Point Load Location (lbs.)				6 Point Load Location (lbs.)					
		Shipping	Operating	X	Y	A	B	C	D	A	B	C	D	E	F
037 (3)	ZR	872	867	40.3	25.5	205	170	223	269	141	124	110	144	163	185
049 (4)	ZR	885	880	40.9	25.1	202	172	232	273	139	124	112	151	168	187
061 (5)	ZR	872	867	41	25	198	169	230	269	136	122	110	150	166	184
078 (6.5)	ZR	962	957	38	23	214	159	249	335	150	122	101	159	191	234
090 (7.5)	ZR	970	965	38	23	216	161	251	337	151	123	102	160	193	236
102 (8.5)	ZR	1205	1200	38	25.5	297	221	291	390	208	170	141	185	223	274
120 (10)	ZR	1205	1200	38	25.5	297	221	291	390	208	170	141	185	223	274
150 (12.5)	ZR	1470	1465	51	25.5	270	363	477	355	172	207	254	334	272	226

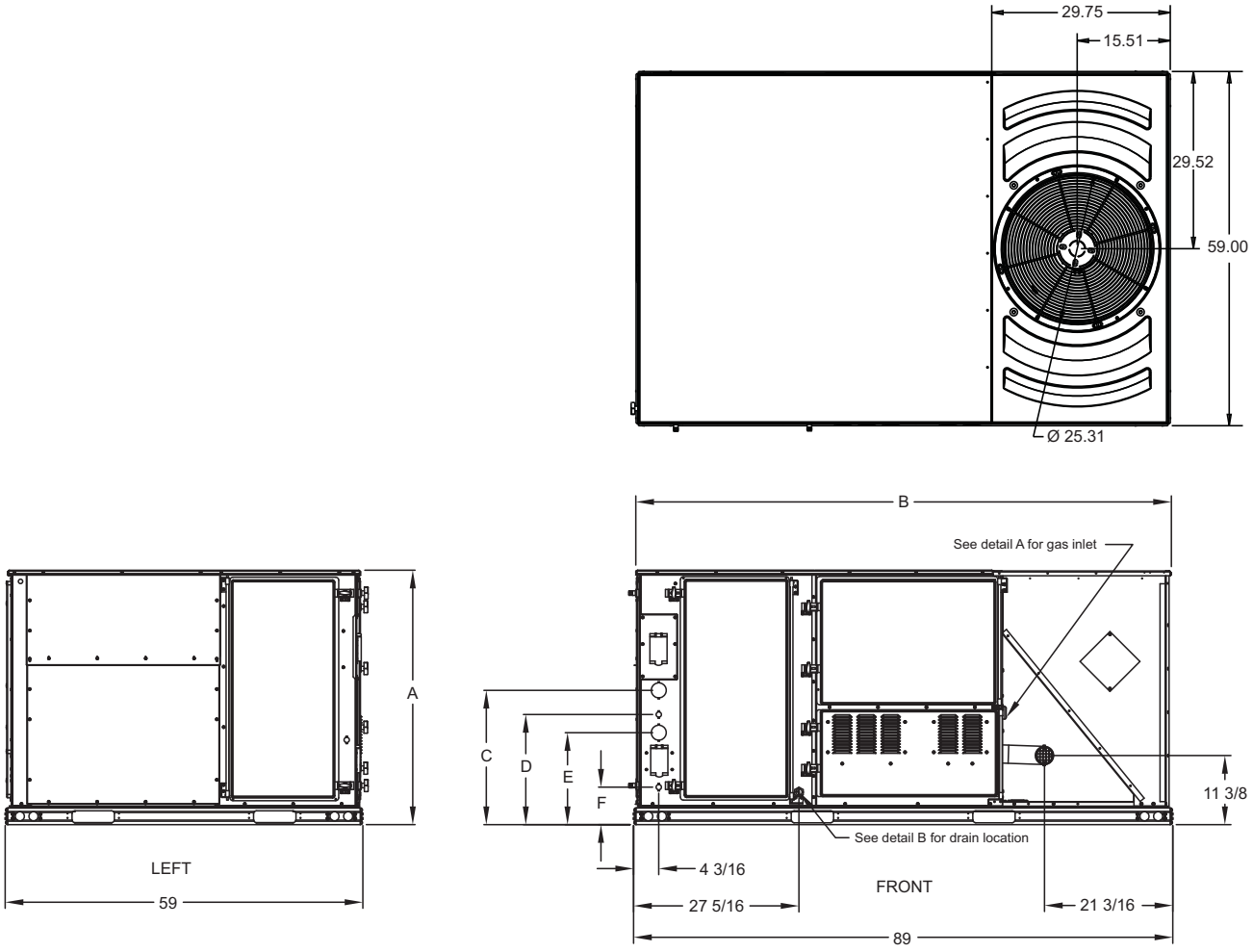
ZH/ZJ/ZR037-150 Unit Accessory Weights

Unit Accessory	Weight (lbs.)	
	Shipping	Operating
Economizer	90	85
Power Exhaust	40	35
Electric Heat[1]	49	49
Gas Heat[2]	110	110
Variable Frequency Drive[3]	30	30

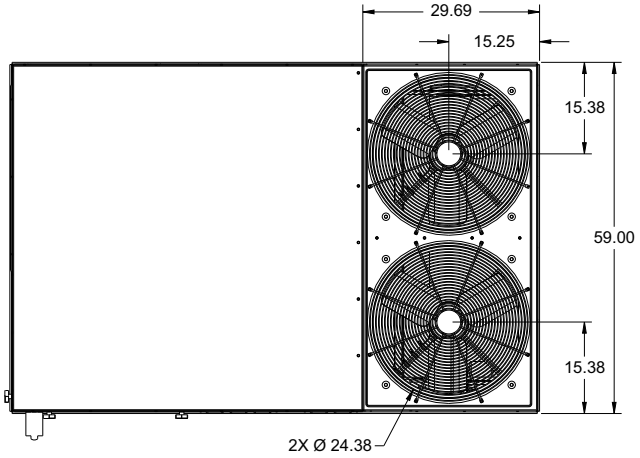
1. Weight given is for the maximum heater size available (54KW).
2. Weight given is for the maximum number of tube heat exchangers available (8 tube).
3. Weight includes mounting hardware, controls and manual bypass option (6-1/2 to 12-1/2 ton only).

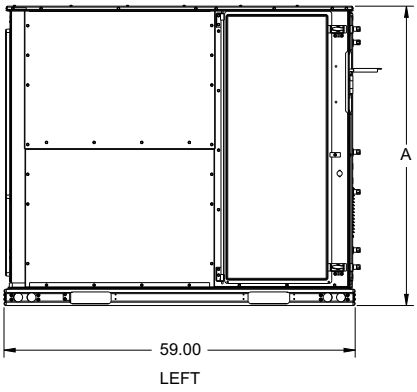
ZH/ZJ/ZR037-150 Unit Dimensions

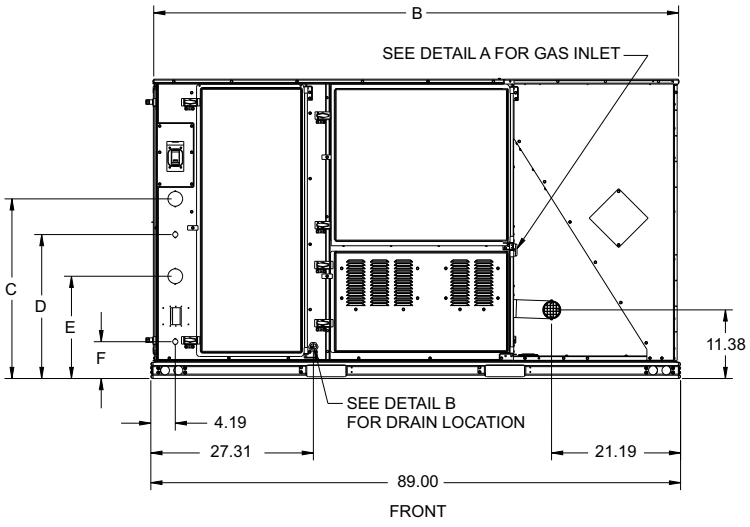
ZH/ZJ037-049 and ZR037



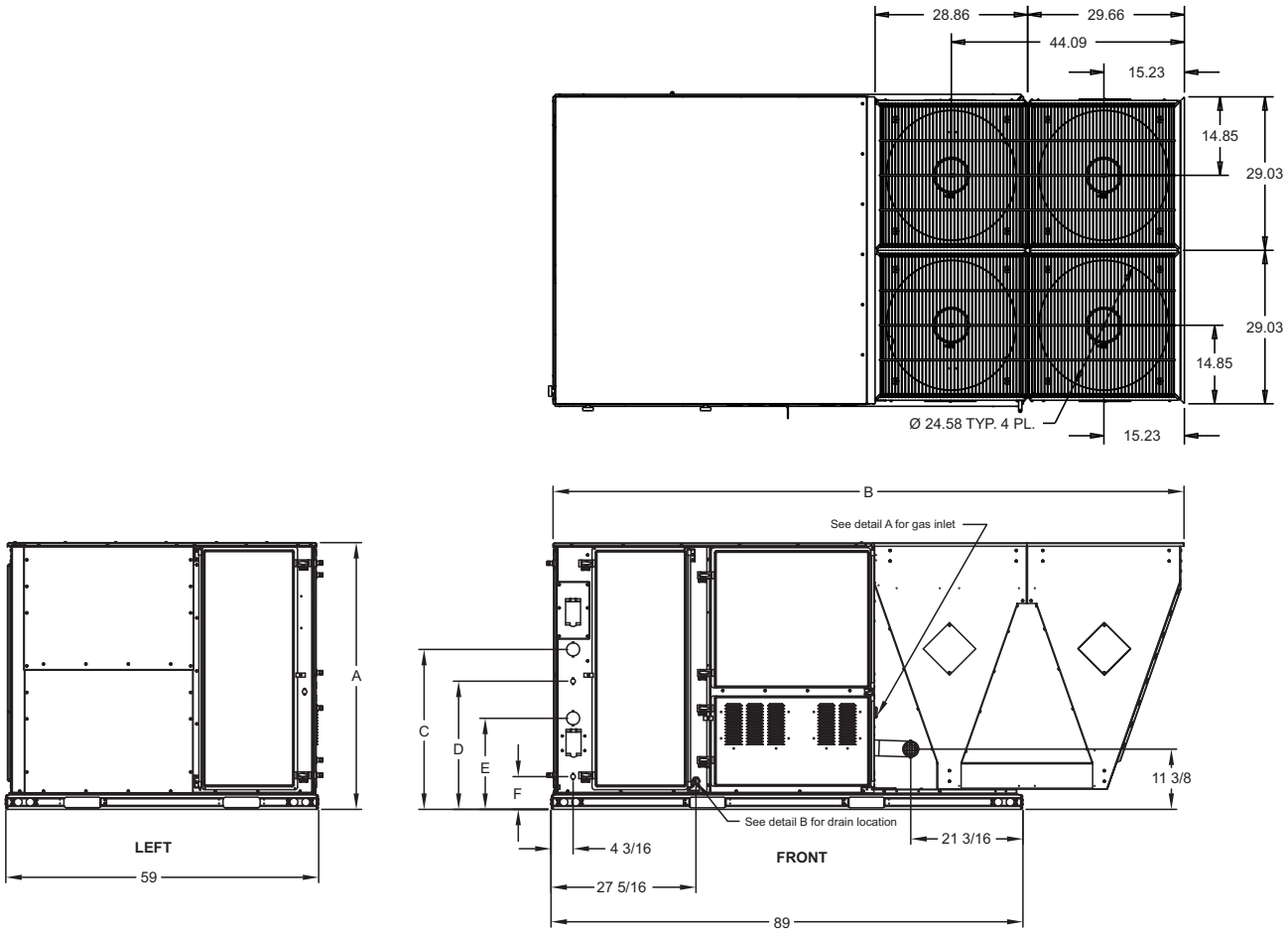
ZH/ZJ 061, ZR049 - 061 and ZH/ZJ/ZR078 thru 120







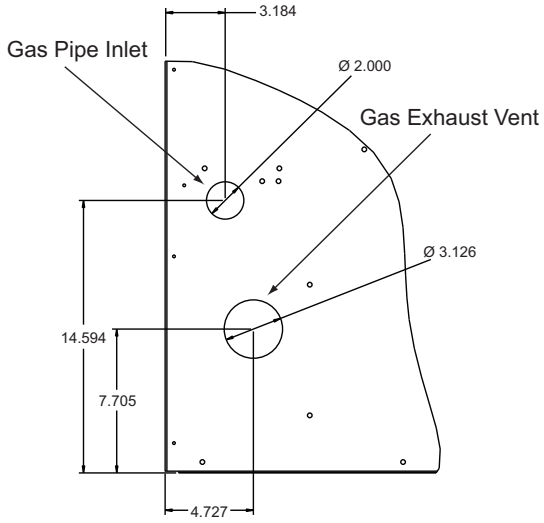
ZH/ZJ/ZR150



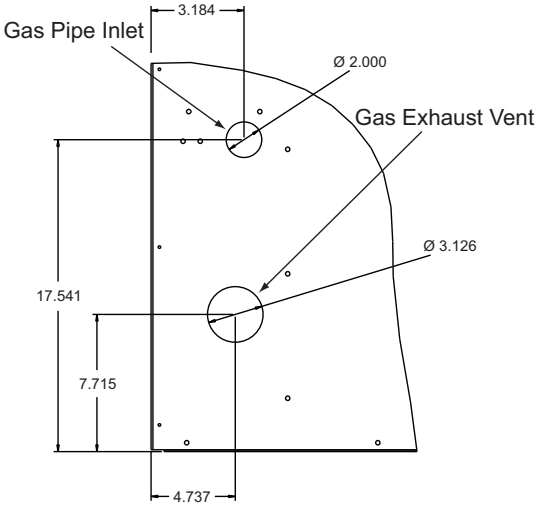
ZH/ZJ/ZR037-150 Unit Physical Dimensions

Unit Model Number	Dimension (in.)					
	A	B	C	D	E	F
ZH037, 049, 061, 078, 090	42	89	22 1/8	18 3/16	15 3/16	6 3/16
ZH102, 120	50 3/4	89	30 3/16	24 3/16	17 3/16	6 3/16
ZH150	50 3/4	119 1/2	30 3/16	24 3/16	17 3/16	6 3/16
ZJ037, 049, 061	42	89	22 1/8	18 3/16	15 3/16	6 3/16
ZJ078, 090, 102, 120	50 3/4	89	30 3/16	24 3/16	17 3/16	6 3/16
ZJ150	50 3/4	119 1/2	30 3/16	24 3/16	17 3/16	6 3/16
ZR037, 049, 061	42	89	22 1/8	18 3/16	15 3/16	6 3/16
ZR078, 090	42	89	22 1/8	18 3/16	15 3/16	6 3/16
ZR102, 120	50 3/4	89	30 3/16	24 3/16	17 3/16	6 3/16
ZR150	50 3/4	119 1/2	30 3/16	24 3/16	17 3/16	6 3/16

Detail A

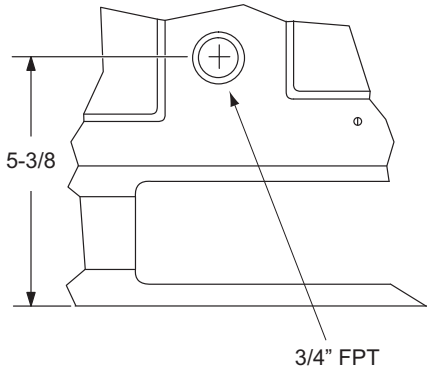


42” CABINET



50 3/4” CABINET

Detail B

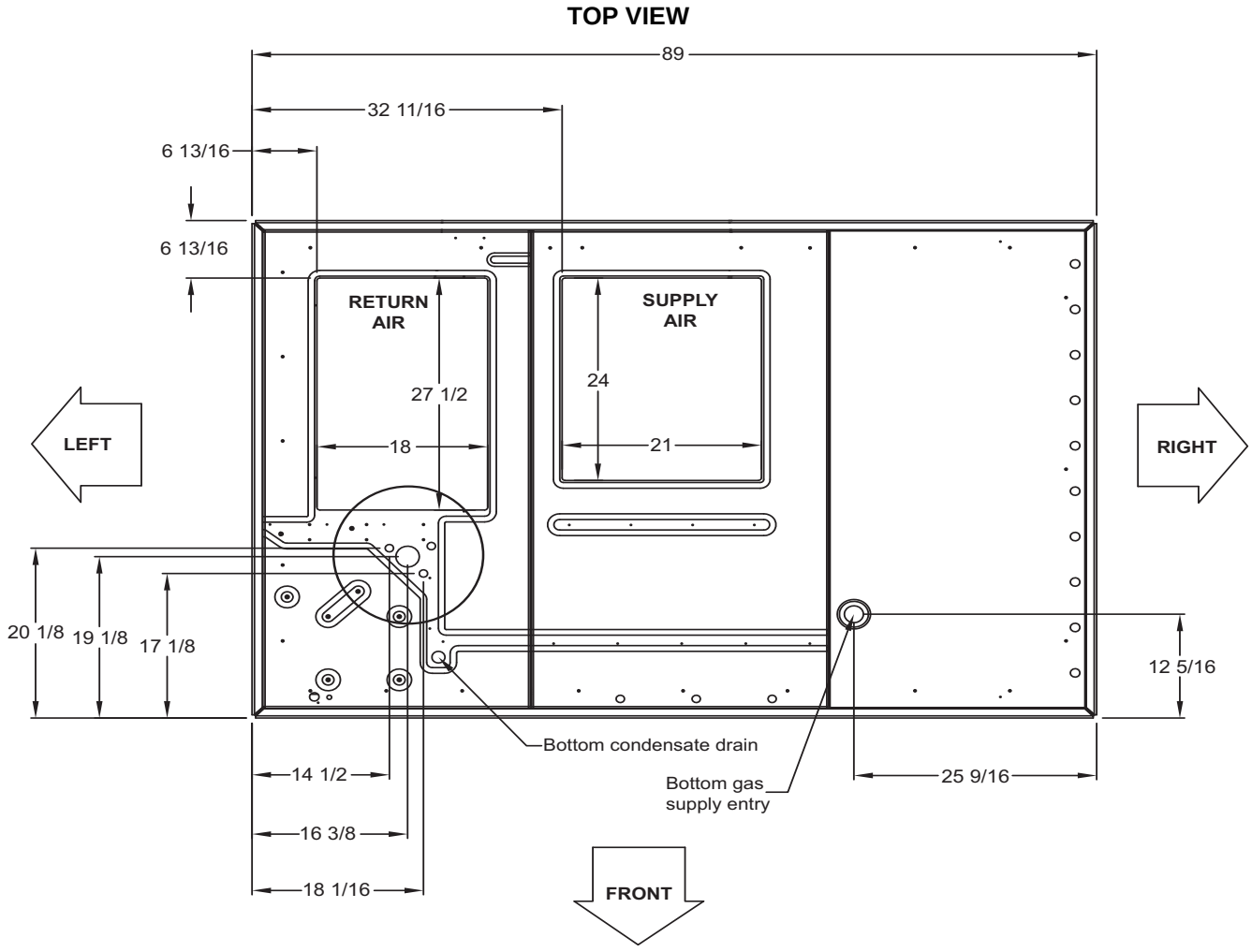


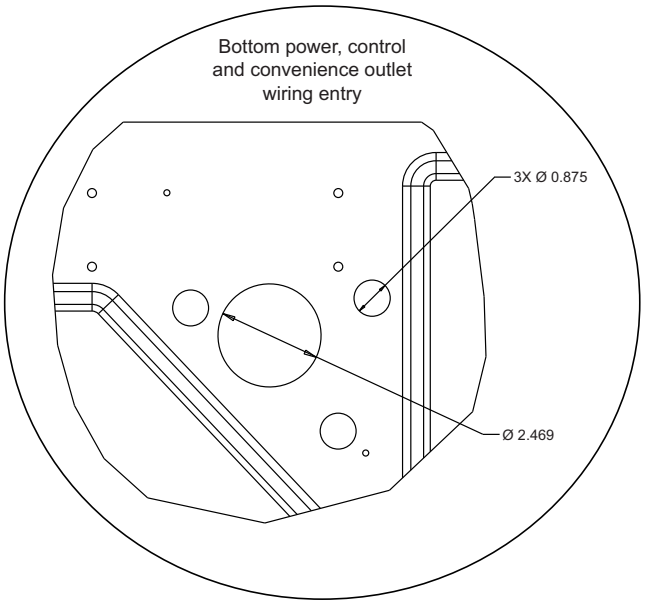
ZH/ZJ/ZR037-150 Unit Clearances

Direction	Distance (in.)	Direction	Distance (in.)
Top[1]	72	Right	12
Front	36	Left	36
Rear	36	Bottom[2]	0

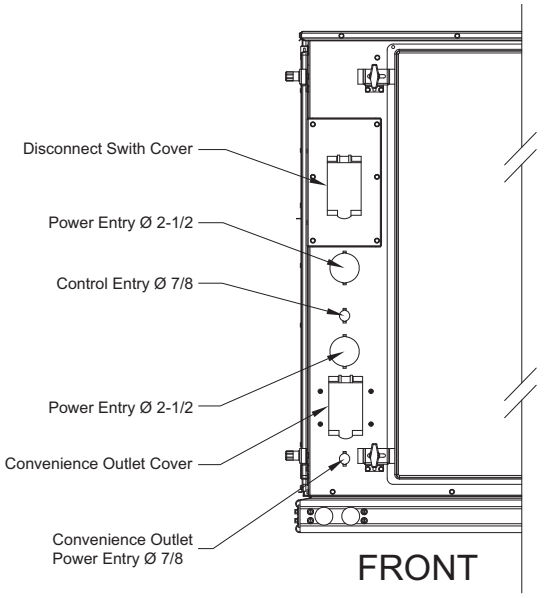
1. Units must be installed outdoors. Over hanging structure or shrubs should not obscure condenser air discharge outlet.
2. Units may be installed on combustible floors made from wood or class A, B or C roof covering materials.

ZH/ZJ/ZR037-150 Unit Bottom Duct Openings

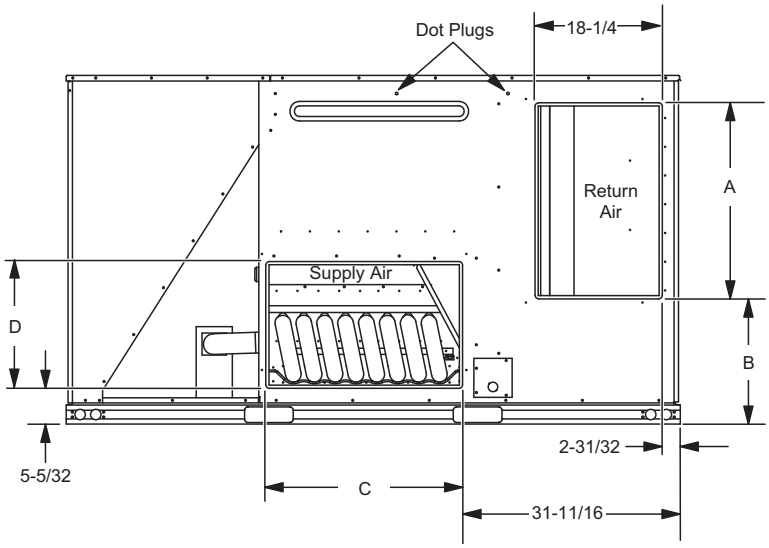




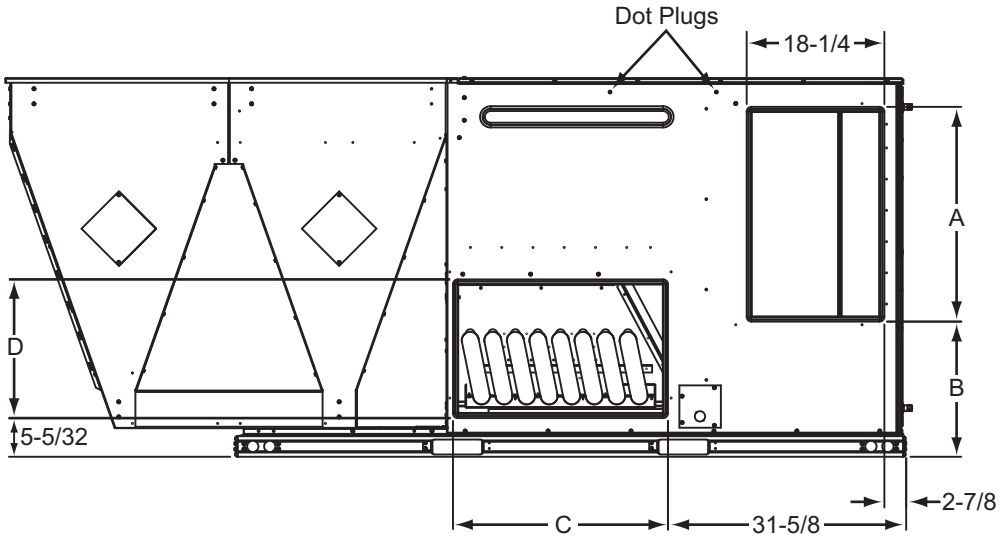
ZH/ZJ/ZR037-150 Unit Electrical Entry



ZH/ZJ/ZR037-120 Unit Side Duct Openings



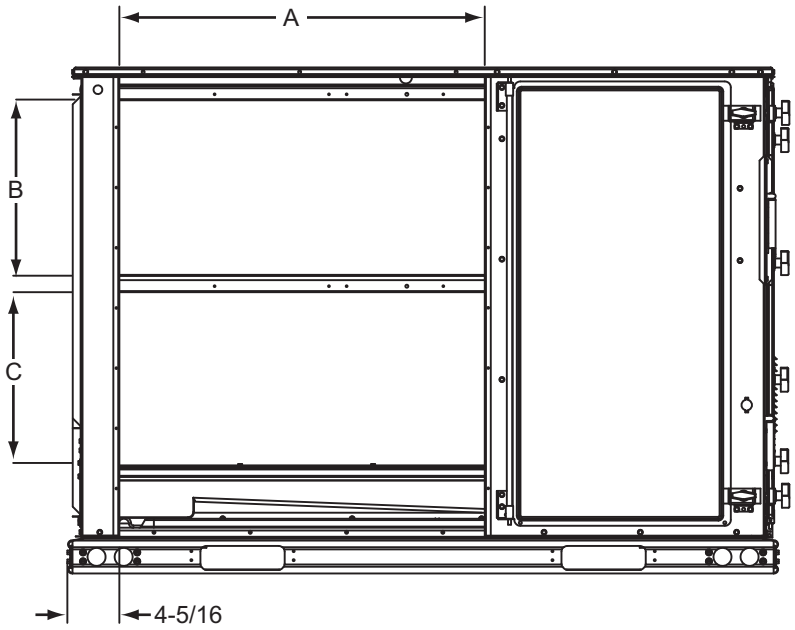
ZH/ZJ/ZR150 Unit Side Duct Openings



ZH/ZJ/ZR037-150 Side Duct Dimensions

Unit Model Number	Dimension (in.)			
	A	B	C	D
ZH037, 049, 061, 078, 090	27 3/4	12 1/16	27 1/2	16
ZH102, 120	28 1/4	18 1/16	28 1/4	18 1/4
ZH150	28 1/4	18 1/16	28 1/4	18 1/4
ZJ037, 049, 061	27 3/4	12 1/16	27 1/2	16
ZJ078, 090, 102, 120	28 1/4	18 1/16	28 1/4	18 1/4
ZJ150	28 1/4	18 1/16	28 1/4	18 1/4
ZR037, 049, 061	27 3/4	12 1/16	27 1/2	16
ZR078, 090	27 3/4	12 1/16	27 1/2	16
ZR102, 120	28 1/4	18 1/16	28 1/4	18 1/4
ZR150	28 1/4	18 1/16	28 1/4	18 1/4

ZH/ZJ/ZR037-150 Unit Left/End Duct Opening

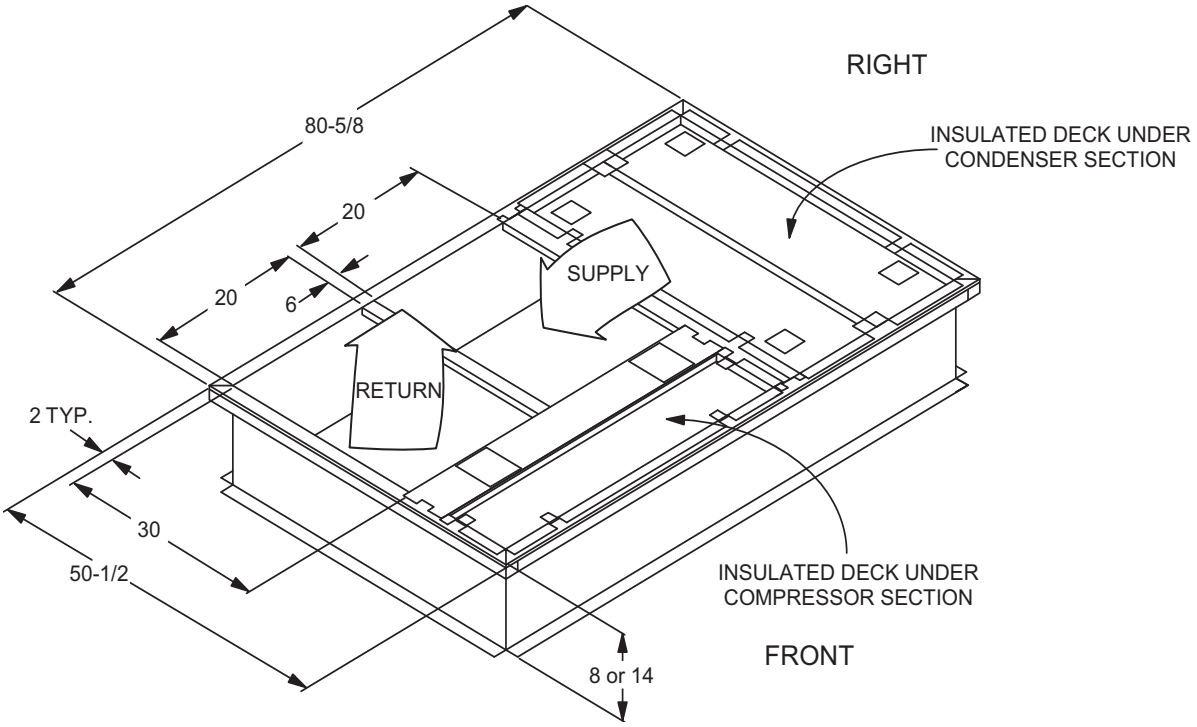


ZH/ZJ/ZR037-150 Left/End Duct Dimensions

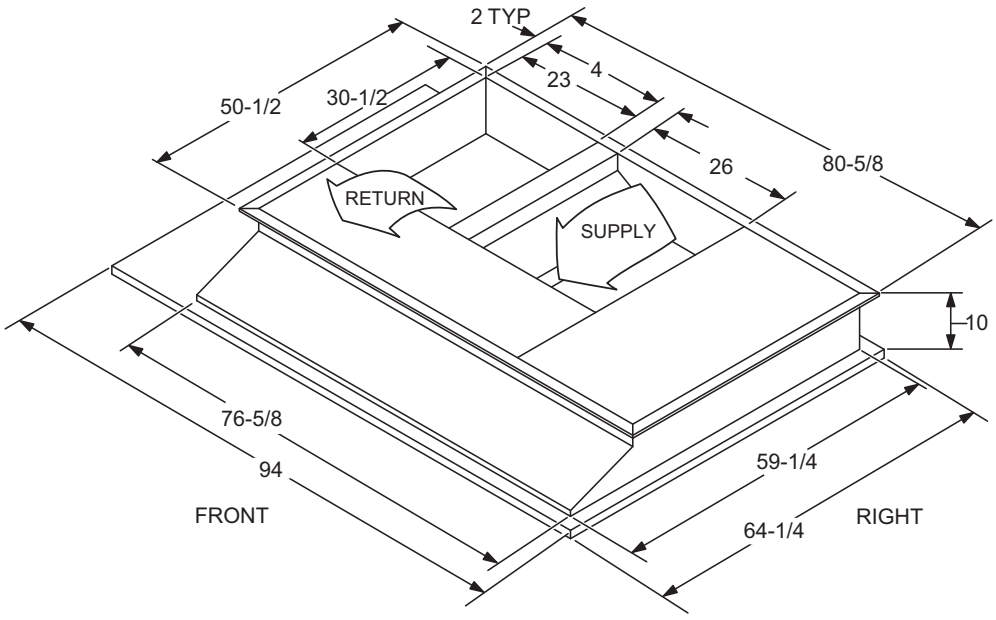
Unit Model Number	Dimension (in.)		
	A	B	C
ZH037, 049, 061, 078, 090	30.357	13.365	22.516
ZH102, 120	30.358	22.580	22.330
ZH150	30.358	22.580	22.330
ZJ037, 049, 061	30.357	13.365	22.516
ZJ078, 090, 102, 120	30.358	22.580	22.330
ZJ150	30.358	22.580	22.330
ZR037, 049, 061	30.357	13.365	22.516
ZR078, 090	30.357	13.365	22.516
ZR102, 120	30.358	22.580	22.330
ZR150	30.358	22.580	22.330

ZH/ZJ/ZR037-150 Unit Accessory Dimensions

ZH/ZJ/ZR037-150 Roof Curb



ZH/ZJ/ZR037-150 Transition Roof Curb



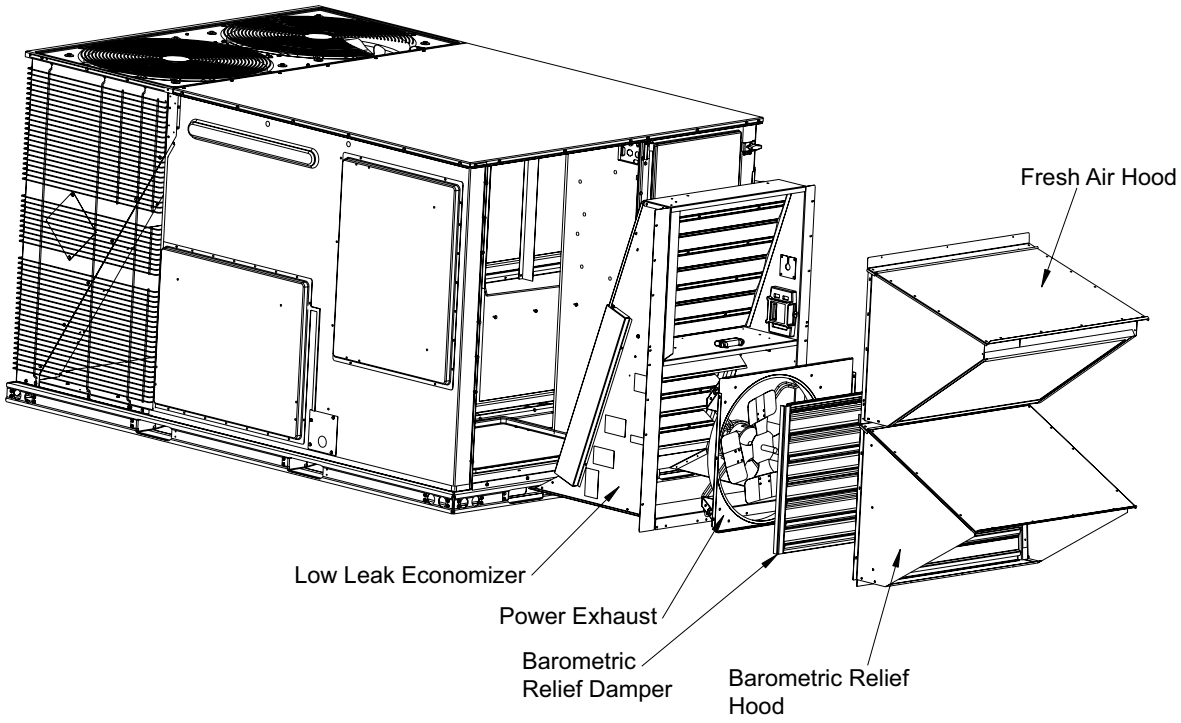
Economizer Options

Economizer Usage

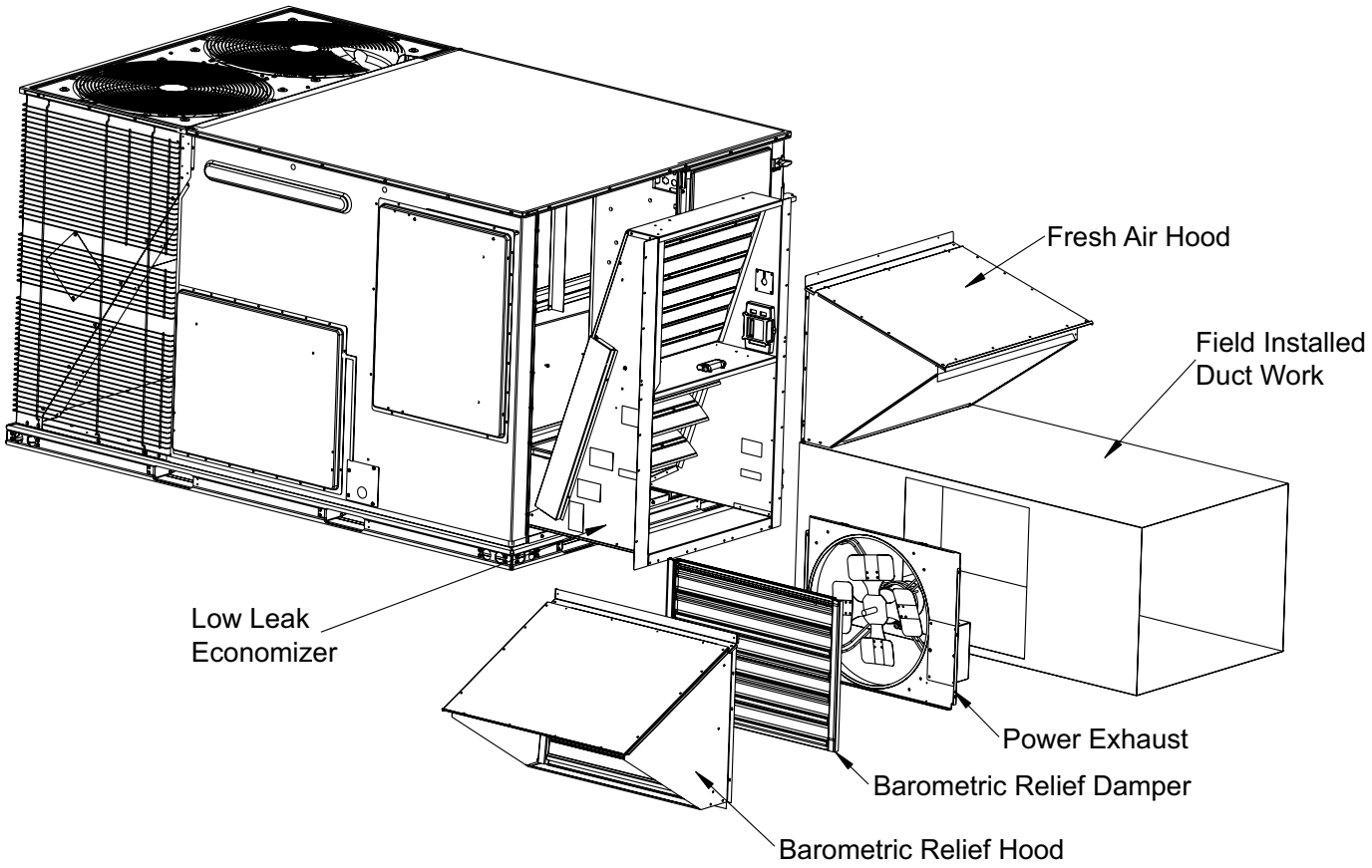
Application	Cabinet Height	Description	Model
Side Return	All	Horizontal economizer without barometric relief	2EE04706924[1]
Downflow, End Return Horizontal or ERV	42"	Economizer, 42” tall cabinet	2EE04707424[2]
	50"	Economizer, 50” tall cabinet	2EE04707624[2]

1. Barometric relief must be ordered separately and installed in duct work.
2. Includes fresh air hood, exhaust hood and barometric relief.

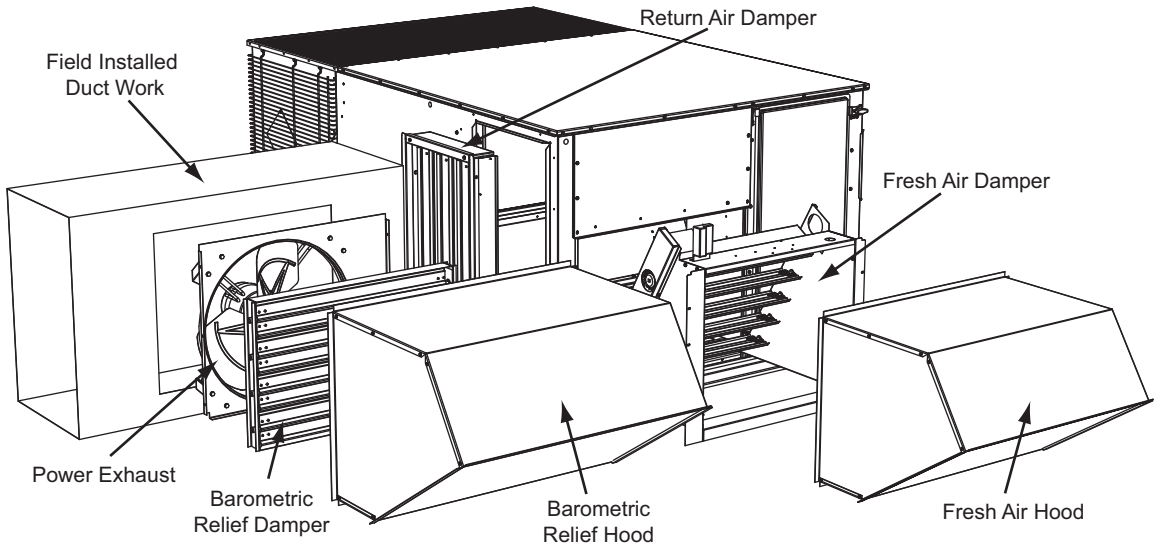
Economizer Downflow W/Power Exhaust



Economizer End Return W/Power Exhaust



Field Installed Horizontal Economizer W/Power Exhaust



5167795-YTG-H-0717
Supersedes: 5167795-YTG-G-0417

York International Corporation
5005 York Drive
Norman, OK 73069

Appendix F

Typical Noise Levels Generated by Construction Equipment

Typical Noise Levels Generated by Construction Equipment

Equipment	Type	Typical Lmax (dBA) 50 Feet from the Source
Air Compressor	Stationary	80
Augur Drill Rig	Stationary	84
Backhoe	Mobile	80
Compactor (ground)	Mobile	82
Concrete Mixer	Stationary	85
Crane	Stationary	82
Dozer	Mobile	85
Dump Truck	Mobile	76
Excavator	Mobile	81
Front End Loader	Mobile	80
Generator	Stationary	82
Grader	Mobile	85
Jack Hammer	Mobile	88
Man Lift	Mobile	75
Paver	Mobile	85
Pickup Truck	Mobile	75
Pneumatic Tools	Stationary	85
Roller	Mobile	85
Saw	Stationary	76
Scraper	Mobile	85
Tractor	Mobile	84
Truck	Mobile	84
Warning Horn	Stationary	83
Welder/Torch	Stationary	74

Source: Federal Highway Administration, 2018, FHWA Highway Construction Noise Handbook.

Appendix G

Roadway Construction Noise Model (RCNM) Noise Sheets

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 03/26/2021
Case Description: Moreno Valley Center - Site Preparation

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Western Residences	Residential	61.6	45.0	45.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	50.0	0.0
Backhoe	No	40		77.6	50.0	0.0
Backhoe	No	40		77.6	50.0	0.0
Backhoe	No	40		77.6	50.0	0.0
Dozer	No	40		81.7	50.0	0.0
Dozer	No	40		81.7	50.0	0.0
Dozer	No	40		81.7	50.0	0.0

Results

	Calculated (dBA)		Noise Limits (dBA) Day		Evening		Night		Noise Limit Exceedance (dBA) Day		Evening		Night	
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Backhoe		77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe		77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe		77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer		81.7	77.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer		81.7	77.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer		81.7	77.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	81.7	84.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #2 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Southeastern Residences	Residential	70.6	45.0	45.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	175.0	0.0
Backhoe	No	40		77.6	175.0	0.0
Backhoe	No	40		77.6	175.0	0.0
Backhoe	No	40		77.6	175.0	0.0
Dozer	No	40		81.7	175.0	0.0
Dozer	No	40		81.7	175.0	0.0
Dozer	No	40		81.7	175.0	0.0

Results

	Noise Limits (dBA)	Noise Limit Exceedance (dBA)

Equipment	Calculated (dBA) Lmax	Calculated (dBA) Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Backhoe	66.7	62.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	66.7	62.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	66.7	62.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	66.7	62.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	70.8	66.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	70.8	66.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	70.8	66.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	70.8	73.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #3 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Southern Residences	Residential	61.6	45.0	45.0

Description	Impact Device	Usage (%)	Equipment Spec Lmax (dBA)	Equipment Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	70.0	0.0
Backhoe	No	40		77.6	70.0	0.0
Backhoe	No	40		77.6	70.0	0.0
Backhoe	No	40		77.6	70.0	0.0

Dozer	No	40	81.7	70.0	0.0
Dozer	No	40	81.7	70.0	0.0
Dozer	No	40	81.7	70.0	0.0

Results

		Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night	
Equipment		Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Backhoe		74.6	70.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe		74.6	70.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe		74.6	70.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe		74.6	70.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer		78.7	74.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer		78.7	74.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer		78.7	74.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	78.7	81.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 03/26/2021
Case Description: Moreno Valley Center - Building Construction

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Western Residences	Residential	61.6	45.0	45.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	50.0	0.0
Man Lift	No	20		74.7	50.0	0.0
Man Lift	No	20		74.7	50.0	0.0
Man Lift	No	20		74.7	50.0	0.0
Generator	No	50		80.6	50.0	0.0
Backhoe	No	40		77.6	50.0	0.0
Backhoe	No	40		77.6	50.0	0.0
Backhoe	No	40		77.6	50.0	0.0
Welder / Torch	No	40		74.0	50.0	0.0

Results

	Calculated (dBA)		Noise Limits (dBA) Day		Evening		Night		Noise Limit Exceedance (dBA) Day		Evening		Night	
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq

Crane	80.6	72.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	74.7	67.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	74.7	67.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	74.7	67.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	80.6	77.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	74.0	70.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	80.6	82.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #2 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Southeastern Residences	Residential	70.6	45.0	45.0

			Equipment			
Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	175.0	0.0
Man Lift	No	20		74.7	175.0	0.0
Man Lift	No	20		74.7	175.0	0.0
Man Lift	No	20		74.7	175.0	0.0
Generator	No	50		80.6	175.0	0.0
Backhoe	No	40		77.6	175.0	0.0
Backhoe	No	40		77.6	175.0	0.0
Backhoe	No	40		77.6	175.0	0.0
Welder / Torch	No	40		74.0	175.0	0.0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane	69.7	61.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	63.8	56.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	63.8	56.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	63.8	56.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	69.7	66.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	66.7	62.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	66.7	62.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	66.7	62.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	63.1	59.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	69.7	71.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #3 ****

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Southern Residences	Residential	61.6	45.0	45.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	70.0	0.0
Man Lift	No	20		74.7	70.0	0.0
Man Lift	No	20		74.7	70.0	0.0

Man Lift	No	20	74.7	70.0	0.0
Generator	No	50	80.6	70.0	0.0
Backhoe	No	40	77.6	70.0	0.0
Backhoe	No	40	77.6	70.0	0.0
Backhoe	No	40	77.6	70.0	0.0
Welder / Torch	No	40	74.0	70.0	0.0

Results

			Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
	Calculated (dBA)		Day		Evening		Night		Day		Evening		Night	
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane	77.6	69.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	71.8	64.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	71.8	64.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	71.8	64.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	77.7	74.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	74.6	70.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	74.6	70.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	74.6	70.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	71.1	67.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	77.7	79.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 03/26/2021
Case Description: Moreno Valley Center - Grading

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Western Residences	Residential	61.6	45.0	45.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	50.0	0.0
Dozer	No	40		81.7	50.0	0.0
Grader	No	40	85.0		50.0	0.0
Backhoe	No	40		77.6	50.0	0.0
Backhoe	No	40		77.6	50.0	0.0
Backhoe	No	40		77.6	50.0	0.0

Results

	Calculated (dBA)		Noise Limits (dBA) Day		Evening		Night		Noise Limit Exceedance (dBA) Day		Evening		Night	
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Excavator	80.7	76.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	81.7	77.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Grader	85.0	81.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	85.0	84.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #2 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Southeastern Residences	Residential	70.6	45.0	45.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	175.0	0.0
Dozer	No	40		81.7	175.0	0.0
Grader	No	40	85.0		175.0	0.0
Backhoe	No	40		77.6	175.0	0.0
Backhoe	No	40		77.6	175.0	0.0
Backhoe	No	40		77.6	175.0	0.0

Results

	Calculated (dBA)		Noise Limits (dBA) Day		Evening		Night		Noise Limit Exceedance (dBA) Day		Evening		Night	
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Excavator	69.8	65.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Dozer		70.8	66.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader		74.1	70.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe		66.7	62.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe		66.7	62.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe		66.7	62.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	74.1	73.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #3 ****

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Southern Residences	Residential	61.6	45.0	45.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	70.0	0.0
Dozer	No	40		81.7	70.0	0.0
Grader	No	40	85.0		70.0	0.0
Backhoe	No	40		77.6	70.0	0.0
Backhoe	No	40		77.6	70.0	0.0
Backhoe	No	40		77.6	70.0	0.0

Results

			Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
	Calculated (dBA)		Day		Evening		Night		Day		Evening		Night	
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq

Excavator		77.8	73.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer		78.7	74.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader		82.1	78.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe		74.6	70.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe		74.6	70.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe		74.6	70.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	82.1	81.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 03/26/2021
Case Description: Moreno Valley Center - Paving

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Western Residences	Residential	61.6	45.0	45.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Paver	No	50		77.2	50.0	0.0
Paver	No	50		77.2	50.0	0.0
Paver	No	50		77.2	50.0	0.0
Roller	No	20		80.0	50.0	0.0
Roller	No	20		80.0	50.0	0.0
Concrete Mixer Truck	No	40		78.8	50.0	0.0
Concrete Mixer Truck	No	40		78.8	50.0	0.0
Backhoe	No	40		77.6	50.0	0.0

Results

Equipment	Calculated (dBA) Lmax	Leq	Noise Limits (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Noise Limit Exceedance (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq

Paver	77.2	74.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	77.2	74.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	77.2	74.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	80.0	73.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	80.0	73.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	78.8	74.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	78.8	74.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	80.0	83.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #2 ****

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Southeastern Residences	Residential	70.6	45.0	45.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Paver	No	50		77.2	175.0	0.0
Paver	No	50		77.2	175.0	0.0
Paver	No	50		77.2	175.0	0.0
Roller	No	20		80.0	175.0	0.0
Roller	No	20		80.0	175.0	0.0
Concrete Mixer Truck	No	40		78.8	175.0	0.0
Concrete Mixer Truck	No	40		78.8	175.0	0.0
Backhoe	No	40		77.6	175.0	0.0

Results

	Noise Limits (dBA)	Noise Limit Exceedance (dBA)

	Calculated (dBA)		Day		Evening		Night		Day		Evening		Night	
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Paver	66.3	63.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	66.3	63.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	66.3	63.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	69.1	62.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	69.1	62.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	67.9	63.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	67.9	63.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	66.7	62.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	69.1	72.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #3 ****

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Southern Residences	Residential	61.6	45.0	45.0

			Equipment			
Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Paver	No	50		77.2	70.0	0.0
Paver	No	50		77.2	70.0	0.0
Paver	No	50		77.2	70.0	0.0
Roller	No	20		80.0	70.0	0.0
Roller	No	20		80.0	70.0	0.0
Concrete Mixer Truck	No	40		78.8	70.0	0.0
Concrete Mixer Truck	No	40		78.8	70.0	0.0

Backhoe	No	40	77.6	70.0	0.0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Paver	74.3	71.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	74.3	71.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	74.3	71.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	77.1	70.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	77.1	70.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	75.9	71.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	75.9	71.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	74.6	70.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	77.1	80.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Appendix H

Vibration Analysis

Vibration Analysis - Moreno Valley Center (Western Residences)

PPV (in/sec) = PPV {ref} * (25/D)^1.5
Where PPV = Peak Particle Velocity
{ref} = PPV at the reference distance of 25 feet
D = distance to the receptor

Equipment = Large Dozer

PPV{ref} = 0.089 in/sec
D = 50 feet
PPV at receptor = 0.031 in/sec

PPV is 1.7x to 6x larger than RMS velocity
Assume typical conversion factor of 4 PPV:RMS

Therefore estimated RMS velocity = 0.008 in/sec
Residential Receptor Lv = 78 VdB

Equipment = Loaded truck

PPV{ref} = 0.076 in/sec
D = 50 feet
PPV at receptor = 0.027 in/sec

PPV is 1.7x to 6x larger than RMS velocity
Assume typical conversion factor of 4 PPV:RMS
Therefore estimated RMS velocity = 0.007 in/sec
Residential Receptor Lv = 77 VdB

Equipment = Vibratory Roller

PPV{ref} = 0.21 in/sec
D = 50 feet
PPV at receptor = 0.074 in/sec

PPV is 1.7x to 6x larger than RMS velocity
Assume typical conversion factor of 4 PPV:RMS

Therefore estimated RMS velocity = 0.019 in/sec
Residential Receptor Lv = 85 VdB

Source: Chapter 12 Noise and Vibration During Construction in *Transit Noise and Vibration Assessment, May 2006*
Harris Miller Miller & Hanson, Inc.
Prepared For: USDOT Federal Transit Administration

* RMS Velocity in decibels VdB with Vref of 1E-6 in/sec and PPV:RMS of ~4

Criterion

US Bureau of Mines, 1971	
PPV, in/sec	Degree of Damage
<2	Safe
2 - 4	Plaster Cracking
4 - 7	Minor Damage
>7	Major Damage

Canmet, Bauer, and Calder, 1977		
Equipment	PPV Threshold, in/sec	Type of Damage
Rigid Mercury Switches	0.5	Trip Out
House	2	Cracked Plaster
Concrete Block	8	Crack in Block
Cased Drill Holes	15	Horizontol Offset
Pumps, Compressors	40	Shaft Misalignment

Human Response Criteria

Level, Lv in VdB	Equivalent Noise Level, dBA		Human Response
	Low freq (30Hz)	Hi Freq (60 Hz)	
65	25	40	Approximate threshold of perception, low-freq inaudible, but mid-freq excessive for sleeping
75	35	50	Approx. dividing line between barely perceptible and clearly perceptible. Annoying vibration for most people. Low-freq acceptable for sleeping areas.
85	45	60	Vibration acceptable only if no more than 2 events/day for residential uses. Low-freq annoying in sleeping areas; mid-freq unacceptable for sensitive uses, including schools and churches.
90	50	65	Difficulty with tasks such as reading computer screens. Generally annoying for commercial uses.

Impact Criteria

Land Use	Lv in VdB		
	Frequent Events (70+/day)	Occasional Events (30-70)	Infrequent (<30 events/day)
Category 1: Vibration Sensitive	65	65	65
Concert Halls	65	65	65
TV Studios	65	65	65
Recording Studios	65	65	65
Category 2: Residences, hotels, sleeping areas	72	75	80
Auditoriums	72	80	80
Theaters	72	80	80
Category 3: Institutional with primarily daytime use only	75	78	83

Vibration Source Levels For Construction Equipment

Equipment		PPV at 25 ft (in/sec)	Approximate Lv at 25 feet *
Impact Pile Driver	upper range	1.518	112
	typical	0.644	104
Sonic Pile Driver	upper range	0.734	105
	typical	0.17	93
Clam shovel drop (slurry wall construction)		0.202	94
	in soil	0.008	66
Hydromill (slurry wall construction)	in rock	0.017	75
Vibratory Roller		0.21	94
Hoe Ram		0.089	87
	large	0.089	87
Bulldozer	small	0.003	58
Caisson drilling		0.089	87
Loaded trucks		0.076	86
Jackhammer		0.035	79

Appendix I

HUD Day/Night Noise Level (DNL) Calculator Results

DNL Calculator

The Day/Night Noise Level Calculator is an electronic assessment tool that calculates the Day/Night Noise Level (DNL) from roadway and railway traffic. For more information on using the DNL calculator, view the **Day/Night Noise Level Calculator Electronic Assessment Tool Overview (/programs/environmental-review/daynight-noise-level-electronic-assessment-tool/)**.

Guidelines

- To display the Road and/or Rail DNL calculator(s), click on the "Add Road Source" and/or "Add Rail Source" button(s) below.
- All Road and Rail input values must be positive non-decimal numbers.
- All Road and/or Rail DNL value(s) must be calculated separately before calculating the Site DNL.
- All checkboxes that apply must be checked for vehicles and trains in the tables' headers.
- **Note #1:** Tooltips, containing field specific information, have been added in this tool and may be accessed by hovering over all the respective data fields (site identification, roadway and railway assessment, DNL calculation results, roadway and railway input variables) with the mouse.
- **Note #2:** DNL Calculator assumes roadway data is always entered.

DNL Calculator

Site ID	Village at Moreno Valley
Record Date	09/01/2023
User's Name	Rincon Consultants

Road # 1 Name:	**Nason Street #6 Cumulative w/o Project (2023)**

Road #1

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑
Effective Distance	70	70	70
Distance to Stop Sign			
Average Speed	40	40	40
Average Daily Trips (ADT)	22916	335	150
Night Fraction of ADT	18	18	18
Road Gradient (%)			2
Vehicle DNL	67	58	64
Calculate Road #1 DNL	69	Reset	

Road # 2 Name:	**Nason Street #6 Cumulative w Project (2023)**

Road #2

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑

Effective Distance	70	70	70
Distance to Stop Sign			
Average Speed	40	40	40
Average Daily Trips (ADT)	24797	361	162
Night Fraction of ADT	18	18	18
Road Gradient (%)			2
Vehicle DNL	67	59	65

Calculate Road #2 DNL | 70 | Reset

Road # 3 Name: **Fir Avenue - Cumulative w/o Project (2023)**

Road #3

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑
Effective Distance	25	25	25
Distance to Stop Sign			
Average Speed	30	30	30
Average Daily Trips (ADT)	7071	103	46
Night Fraction of ADT	18	18	18
Road Gradient (%)			2
Vehicle DNL	66	58	66

Calculate Road #3 DNL | 69 | Reset

Road # 4 Name:	**Fir Avenue - Cumulative w Project (2023)**

Road #4

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑
Effective Distance	25	25	25
Distance to Stop Sign			
Average Speed	30	30	30
Average Daily Trips (ADT)	7100	104	46
Night Fraction of ADT	18	18	18
Road Gradient (%)			2
Vehicle DNL	66	58	66
Calculate Road #4 DNL	69	Reset	

Add Road Source | Add Rail Source

Airport Noise Level	
Loud Impulse Sounds?	○**Yes** ○**No**
Combined DNL for all Road and Rail sources	**0**
Combined DNL including Airport	
Site DNL with Loud Impulse Sound	

Calculate | Reset

Mitigation Options

If your site DNL is in Excess of 65 decibels, your options are:

- **No Action Alternative**: Cancel the project at this location
- **Other Reasonable Alternatives**: Choose an alternate site
- **Mitigation**
    - **Contact your Field or Regional Environmental Officer (/programs/environmental-review/hud-environmental-staff-contacts/)**
    - Increase mitigation in the building walls (only effective if no outdoor, noise sensitive areas)
    - Reconfigure the site plan to increase the distance between the noise source and noise-sensitive uses
    - Incorporate natural or man-made barriers. See ***The Noise Guidebook (/resource/313/hud-noise-guidebook/)***
    - Construct noise barrier. See the **Barrier Performance Module (/programs/environmental-review/bpm-calculator/)**

Tools and Guidance

Day/Night Noise Level Assessment Tool User Guide (/resource/3822/day-night-noise-level-assessment-tool-user-guide/)

Day/Night Noise Level Assessment Tool Flowcharts (/resource/3823/day-night-noise-level-assessment-tool-flowcharts/)

DNL Calculator

The Day/Night Noise Level Calculator is an electronic assessment tool that calculates the Day/Night Noise Level (DNL) from roadway and railway traffic. For more information on using the DNL calculator, view the **Day/Night Noise Level Calculator Electronic Assessment Tool Overview (/programs/environmental-review/daynight-noise-level-electronic-assessment-tool/)**.

Guidelines

- To display the Road and/or Rail DNL calculator(s), click on the "Add Road Source" and/or "Add Rail Source" button(s) below.
- All Road and Rail input values must be positive non-decimal numbers.
- All Road and/or Rail DNL value(s) must be calculated separately before calculating the Site DNL.
- All checkboxes that apply must be checked for vehicles and trains in the tables' headers.
- **Note #1:** Tooltips, containing field specific information, have been added in this tool and may be accessed by hovering over all the respective data fields (site identification, roadway and railway assessment, DNL calculation results, roadway and railway input variables) with the mouse.
- **Note #2:** DNL Calculator assumes roadway data is always entered.

DNL Calculator

Site ID	Village at Moreno Valley
Record Date	09/01/2023
User's Name	Rincon Consultants

Road # 1 Name:	**Nason Street #6 Existing**

Road #1

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑
Effective Distance	70	70	70
Distance to Stop Sign			
Average Speed	40	40	40
Average Daily Trips (ADT)	22064	322	144
Night Fraction of ADT	18	18	18
Road Gradient (%)			2
Vehicle DNL	67	58	64
Calculate Road #1 DNL	69	Reset	

Road # 2 Name:	**Nason Street #6 Existing + Project**

Road #2

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑

Effective Distance	70	70	70
Distance to Stop Sign			
Average Speed	40	40	40
Average Daily Trips (ADT)	24776	362	162
Night Fraction of ADT	18	18	18
Road Gradient (%)			2
Vehicle DNL	67	59	65

Calculate Road #2 DNL | 70 | Reset

Road # 3 Name: **Fir Avenue - Existing**

Road #3

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑
Effective Distance	25	25	25
Distance to Stop Sign			
Average Speed	30	30	30
Average Daily Trips (ADT)	4201	61	27
Night Fraction of ADT	18	18	18
Road Gradient (%)			2
Vehicle DNL	64	55	64

Name of the Road being Assessed — Must be Unique.

Calculate Road #3 DNL | 67 | Reset

Road # 4 Name:	**Fir Avenue - Existing + Project**

Road #4

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑
Effective Distance	25	25	25
Distance to Stop Sign			
Average Speed	30	30	30
Average Daily Trips (ADT)	6003	88	39
Night Fraction of ADT	18	18	18
Road Gradient (%)			2
Vehicle DNL	65	57	65
Calculate Road #4 DNL	68	Reset	

Add Road Source | Add Rail Source

Airport Noise Level	
Loud Impulse Sounds?	○**Yes** ○**No**
Combined DNL for all Road and Rail sources	**0**
Combined DNL including Airport	
Site DNL with Loud Impulse Sound	

Calculate | Reset

Mitigation Options

If your site DNL is in Excess of 65 decibels, your options are:

- **No Action Alternative**: Cancel the project at this location
- **Other Reasonable Alternatives**: Choose an alternate site
- **Mitigation**
    - **Contact your Field or Regional Environmental Officer (/programs/environmental-review/hud-environmental-staff-contacts/)**
    - Increase mitigation in the building walls (only effective if no outdoor, noise sensitive areas)
    - Reconfigure the site plan to increase the distance between the noise source and noise-sensitive uses
    - Incorporate natural or man-made barriers. See ***The Noise Guidebook (/resource/313/hud-noise-guidebook/)***
    - Construct noise barrier. See the **Barrier Performance Module (/programs/environmental-review/bpm-calculator/)**

Tools and Guidance

Day/Night Noise Level Assessment Tool User Guide (/resource/3822/day-night-noise-level-assessment-tool-user-guide/)

Day/Night Noise Level Assessment Tool Flowcharts (/resource/3823/day-night-noise-level-assessment-tool-flowcharts/)