Campus Point Master Plan Project

Noise and Vibration Study

prepared for

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1 Project Description and Impact Summary

1.1 Introduction

This study analyzes the potential noise and vibration impacts of the proposed Campus Point Project (project) in the City of San Diego (City), San Diego County, California. Rincon Consultants, Inc. (Rincon) prepared this study for LPA Design Studios for use in support of environmental documentation being prepared for the project pursuant to the California Environmental Quality Act (CEQA). The purpose of this study is to analyze the project's noise and vibration impacts related to both temporary construction activity and long-term operation of the project. Table 1 provides a summary of project impacts.

Table 1 Summary of Impacts

Issue	Level of Significance	Applicable Recommendations
Would the project result in 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?	Less than significant impact (Construction) Less than significant impact (Operation)	None
Would the project result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	Less than significant impact (Construction) No impact (Operation)	None
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, would the project expose people residing or working in the project area to excessive noise levels?	No Impact	None
Would the project conflict with land use compatibility guidelines for noise?	No conflict	None

1.2 Project Summary

Project Location

The project site is located within the city of San Diego. The 84.79-acre project site is located within the University Community Planning (UCP) area in the northwestern portion of the City. The UCP area encompasses approximately 8,500 acres and is generally bounded by Los Peñasquitos Lagoon and Torrey Pines on the north, Interstate 805 and Mira Mesa on the east, State Route 52 on the south, and La Jolla and the Pacific Ocean on the west. The project site is situated between Interstate 5 and Interstate 805, approximately 0.5 mile south of where the two freeways converge.

The following addresses and Assessor's Parcel Numbers (APNs) are associated with the project site:

- 10300 Campus Point Drive (APN 343-230-13)
- 10290 Campus Point Drive (APN 343-230-14)
- 4110 Campus Point Court (APN 343-230-38)

- 4161 Campus Point Court (APN 343-230-43)
- 10260 Campus Point Drive (APN 343-230-42)
- 4224 Campus Point Court (APN 343-230-40)
- 4242 Campus Point Court (APN 343-230-41)
- 10210 Campus Point Drive (APN 343-230-17)

The project site is bound on the north by undeveloped land, on the west by a steep hillside adjacent to Interstate 5, on the east by vacant land, and on the south by industrial development. Figure 1 shows the regional location of the site, and Figure 2 shows the project site in the existing neighborhood context.

Figure 1 Regional Location

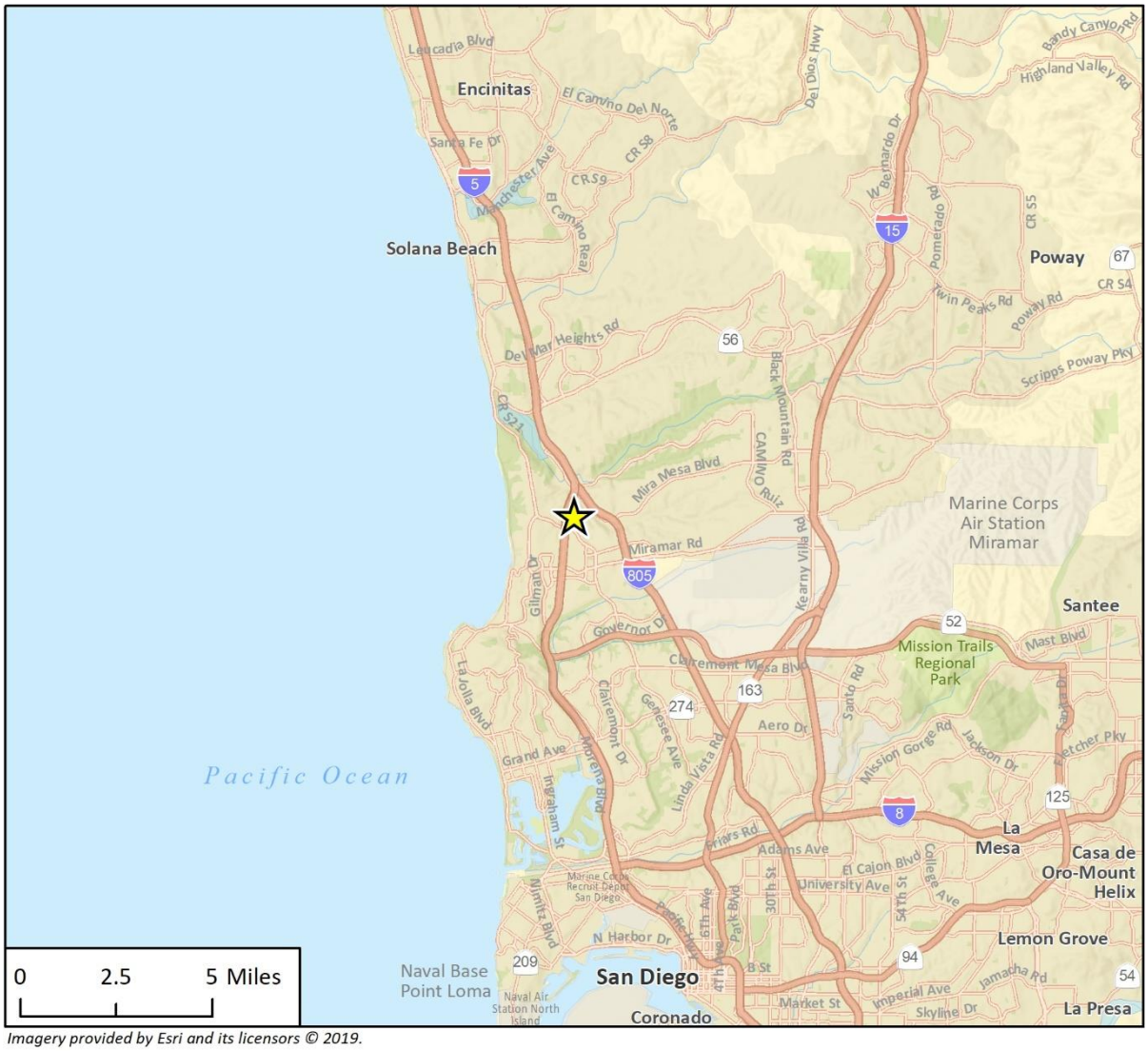

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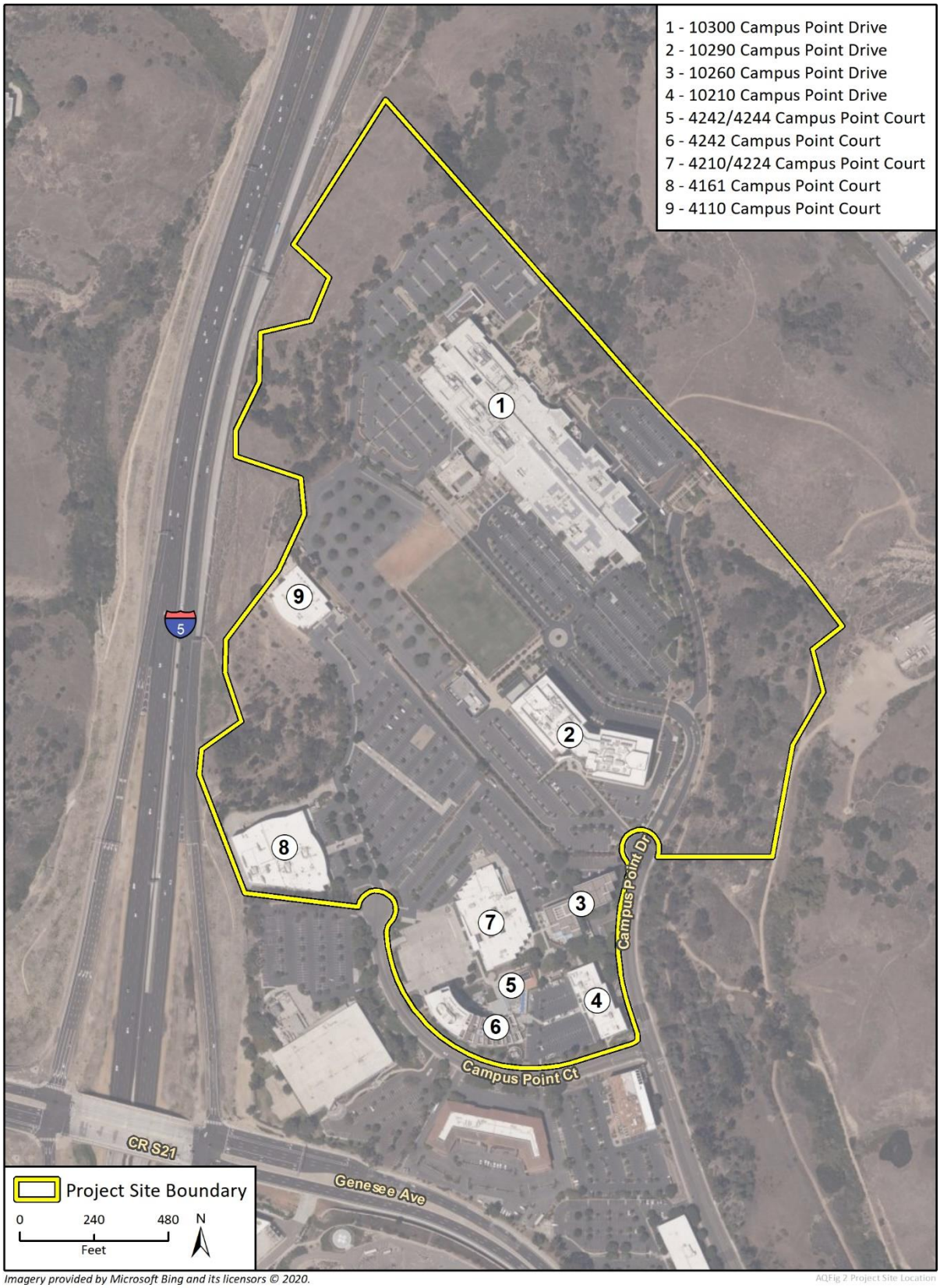
Figure 2 Project Location



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AQFig 2 Project Site Location

Project Description

The applicant proposes to increase the existing approved development intensity of the project site from 1,673,633 gross floor area (GFA) to 1,901,913 GFA (see Figure 3). The net increase of the proposed development intensity over the existing development intensity is 227,980 GFA. The proposed development intensity increase would include the following existing buildings to remain: CP1, CP1-1, CP2, CP2-1, CPS1, CPS2, CPS3, and CPS4 with a total of 1,345,250 GFA. New buildings that are being processed separately under a ministerial permit include CP4 and P1 with a total of 245,607 GFA. Proposed new buildings under the proposed permit analyzed herein include CP3, CP5, CP6, CP7, and P2, which make up a total of 626,032 GFA. Of this total, approximately 621,032 square feet would be scientific research uses and approximately 5,000 square feet would be accessory amenity use intended to serve employees associated with tenants of on-site buildings and adjacent properties. The buildings specifically consist of:

- CP3 – 103,559 square feet, 4-story over 1 level subterranean parking, multi-tenant building
- CP5 – 99,481 square feet, 3-story over 2 levels subterranean basement, single-tenant building
- CP6 – 136,500 square feet, 4-story over 1 level subterranean parking, multi-tenant building
- CP7 – 211,792 square feet, 7-story over 2 levels subterranean parking, multi-tenant building
- P2 – 74,700 square feet R&D, 5,000 square feet accessory amenity, 1,251 stalls, 5 levels over two levels subterranean, parking structure

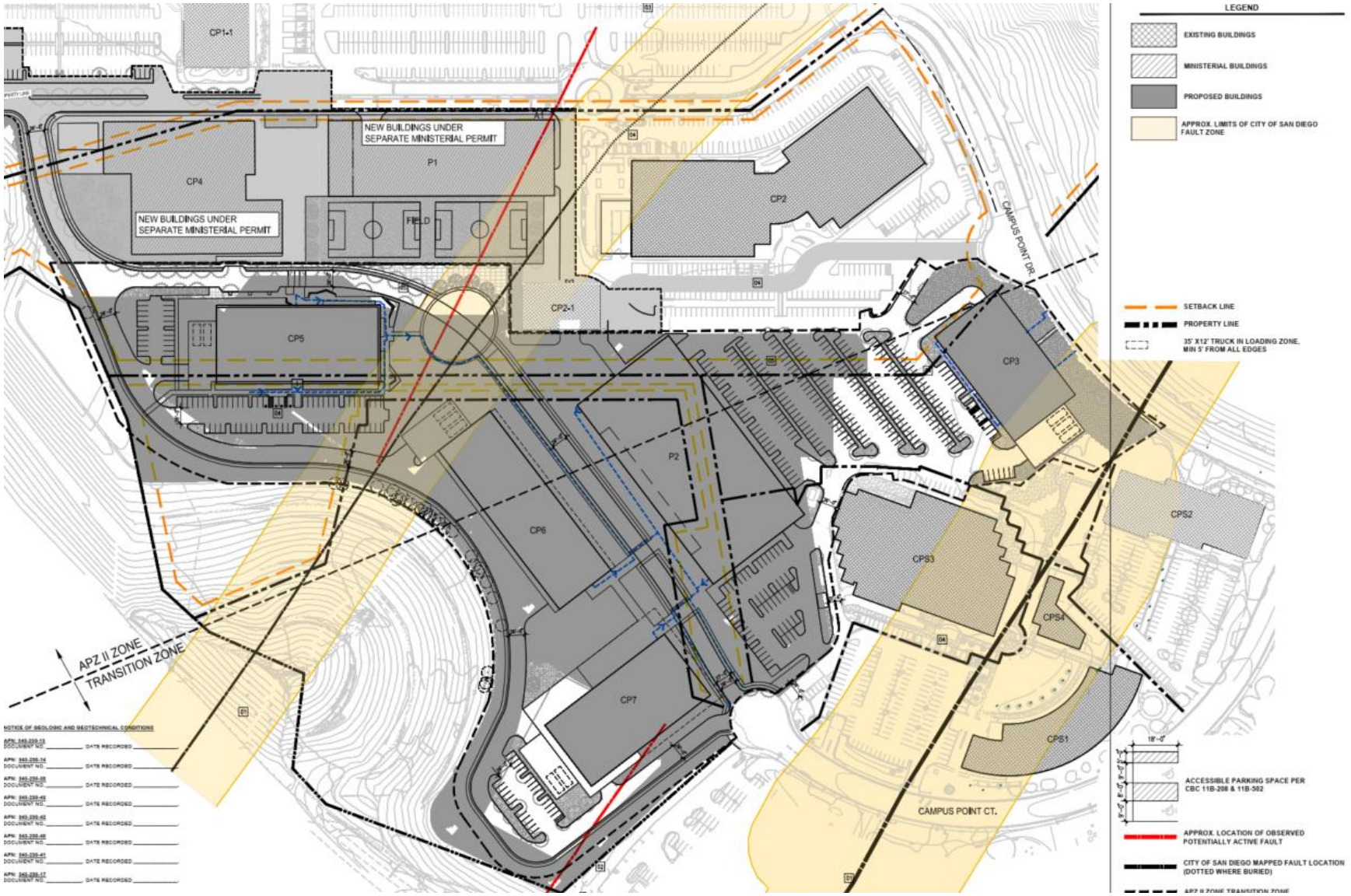
Approximately 2,055 parking spaces would be constructed across the six buildings with structured and surface parking.

Three existing buildings are planned to be demolished, including the buildings at 10260 Campus Point Drive, 4110 Campus Point Court, and 4161 Campus Point Court, with a total of 315,276 GFA. The buildings to be demolished currently house scientific research uses. Other proposed improvements include reconfiguration of the main “boulevard” (private road), which provides for circulation through the campus.

Demolition and Construction

Project demolition and construction are expected to commence in year 2021 with completion by year 2027. Demolition and construction would be phased with activities associated with CP5 and P2 occurring from 2021 to 2022, followed by CP3 from 2022 to 2024, CP6 from 2024 to 2025, and CP7 from 2025 to 2027.

Figure 3 Site Plan



2 Background

2.1 Overview of Sound Measurement

Sound is a vibratory disturbance created by a moving or vibrating source, which is capable of being detected by the hearing organs. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and, in the extreme, hearing impairment (Caltrans 2013).

Noise levels are commonly 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 so that they are consistent with the human hearing response, which is most sensitive to frequencies around 4,000 Hertz and less sensitive to frequencies around and below 100 Hertz (Kinsler, et. al. 1999). Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used to measure earthquake magnitudes. A doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dB; dividing the energy in half would result in a 3 dB decrease (Crocker 2007).

Human perception of noise has no simple correlation with sound energy: the perception of sound is not linear in terms of dBA or in terms of sound energy. Two sources do not “sound twice as loud” as one source. It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA, increase or decrease (i.e., twice the sound energy); that a change of 5 dBA (8 times the sound energy) is readily perceptible; and that an increase (or decrease) of 10 dBA (10.5 times the sound energy) sounds twice (or half) as loud (Crocker 2007).

Sound changes in both level and frequency spectrum as it travels from the source to the receiver. The most obvious change is the decrease in level as the distance from the source increases. The manner by which noise reduces with distance depends on factors such as the type of sources (e.g., point or line), the path the sound will travel, site conditions, and obstructions. Noise levels from a point source (e.g., construction, industrial machinery, ventilation units) typically attenuate, or drop off, at a rate of 6 dBA per doubling of distance. Noise from a line source (e.g., roadway, pipeline, railroad) typically attenuates at about 3 dBA per doubling of distance (Caltrans 2013). The propagation of noise is also affected by the intervening ground, known as ground absorption. A hard site, such as a parking lot or smooth body of water, receives no additional ground attenuation and the changes in noise levels with distance (drop-off rate) result from simply the geometric spreading of the source. An additional ground attenuation value of 1.5 dBA per doubling of distance applies to a soft site (e.g., soft dirt, grass, or scattered bushes and trees) (Caltrans 2013). Noise levels may also be reduced by intervening structures; the amount of attenuation provided by this “shielding” depends on the size of the object and the frequencies of the noise levels. Natural terrain features such as hills and dense woods, and man-made features such as buildings and walls, can significantly alter noise levels. Generally, any large structure blocking the line of sight will provide at least a 5-dBA reduction in source noise levels at the receiver (Federal Highway Administration [FHWA] 2011). Structures can substantially reduce interior exposure to noise as well. The FHWA’s guidelines indicate that modern building construction generally provides an exterior-to-interior noise level reduction of 20 to 35 dBA with closed windows.

The impact of noise is not a function of loudness alone. The time of day when noise occurs and the duration of the noise are also important factors of project noise impact. Most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors have been developed. One of the most frequently-used noise metrics is the equivalent noise level (L_{eq}); it considers both duration and sound power level. L_{eq} is defined as the single steady A-weighted level equivalent to the same amount of energy as that contained in the actual fluctuating levels over time. Typically, L_{eq} is summed over a one-hour period. L_{max} is the highest root mean squared (RMS) sound pressure level within the sampling period, and L_{min} is the lowest RMS sound pressure level within the measuring period (Crocker 2007).

Noise that occurs at night tends to be more disturbing than that occurring during the day. Community noise is usually measured using Day-Night Average Level (L_{dn}), which is the 24-hour average noise level with a +10 dBA penalty for noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. It is also measured using 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. (Caltrans 2013). Noise levels described by L_{dn} and CNEL usually differ by about 1 dBA. The relationship between the peak-hour L_{eq} value and the L_{dn}/CNEL depends on the distribution of traffic during the day, evening, and night. Quiet suburban areas typically have CNEL noise levels in the range of 40 to 50 dBA, while areas near arterial streets are in the 50 to 60+ CNEL range. Normal conversational levels are in the 60 to 65-dBA L_{eq} range; ambient noise levels greater than 65 dBA L_{eq} can interrupt conversations (Federal Transit Administration [FTA] 2018).

2.2 Vibration

Groundborne vibration of concern in environmental analysis consists of the oscillatory waves that move from a source through the ground to adjacent structures. The number of cycles per second of oscillation makes up the vibration frequency, described in terms of Hz. The frequency of a vibrating object describes how rapidly it oscillates. The normal frequency range of most groundborne vibration that can be felt by the human body starts from a low frequency of less than 1 Hz and goes to a high of about 200 Hz (Crocker 2007).

While people have varying sensitivities to vibrations at different frequencies, in general they are most sensitive to low-frequency vibration. Vibration in buildings, such as from nearby construction activities, may cause windows, items on shelves, and pictures on walls to rattle. Vibration of building components can also take the form of an audible low-frequency rumbling noise, referred to as groundborne noise. Groundborne noise is usually only a problem when the originating vibration spectrum is dominated by frequencies in the upper end of the range (60 to 200 Hz), or when foundations or utilities, such as sewer and water pipes, physically connect the structure and the vibration source (FTA 2018). Although groundborne vibration is sometimes noticeable in outdoor environments, it is almost never annoying to people who are outdoors. The primary concern from vibration is that it can be intrusive and annoying to building occupants and vibration-sensitive land uses.

Vibration energy spreads out as it travels through the ground, causing the vibration level to diminish with distance away from the source. High-frequency vibrations diminish much more rapidly than low frequencies, so low frequencies tend to dominate the spectrum at large distances from the source. Discontinuities in the soil strata can also cause diffractions or channeling effects that affect the propagation of vibration over long distances (Caltrans 2020b). When a building is impacted by vibration, a ground-to-foundation coupling loss will usually reduce the overall vibration level.

However, under rare circumstances, the ground-to-foundation coupling may actually amplify the vibration level due to structural resonances of the floors and walls.

Vibration amplitudes are usually expressed in peak particle velocity (PPV) or RMS vibration velocity. The PPV and RMS velocity are normally described in inches per second (in./sec). PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is often used in monitoring of blasting vibration because it is related to the stresses that are experienced by buildings (Caltrans 2020b).

2.3 Sensitive Receivers

Noise exposure goals for various types of land uses reflect the varying noise sensitivities associated with those uses. As defined by the City of San Diego Noise Element, noise sensitive land uses (also referred to as "sensitive receivers") include, but are not necessarily limited to residential uses, hospitals, nursing facilities, intermediate care facilities, child educational facilities, libraries, museums, and child care facilities (City of San Diego 2015).

Sensitive receivers nearest to the project site include the Scripps Memorial Hospital, located approximately 1,100 feet to the south the Preuss School (a middle and high school) located approximately 1,500 feet to the south, and the La Jolla Vista apartment complex located approximately 3,200 feet to the southeast.

2.4 Project Noise Setting

The dominant sources of noise in the project site vicinity are vehicular traffic from Interstate 5. According to Caltrans' traffic volumes the segment of Interstate 5 nearest the project site has an average daily traffic volume of 199,000 vehicles, with a vehicle classification mix of 96 percent automobiles, 2 percent medium trucks, and 2 percent heavy trucks (Caltrans 2020a). Assuming a peak hour traffic volume of 10 percent, this would result in a peak hour noise level from the freeway of approximately 72 dBA Leq at the nearest portion of the project site to the freeway (the southwestern portion of the project). These noise level contours do not account for topography attenuation, which would have an attenuation effect on the project site due to its elevated position to the freeway. The project is not located within the nearest identified noise contour for Marine Corps Air Station (MCAS) Miramar (San Diego County Airport Land Use Compatibility Plan 2008).

2.5 Regulatory Setting

Federal

Federal agencies have established guidelines and thresholds pertaining to noise and groundborne vibration as they relate to land use compatibility, human response, and structural integrity. No federal noise requirements or regulations apply directly to the implementation of the project; however, these thresholds, as applicable, are discussed below in Section 3, *Methodology and Significance Thresholds*.

State

The State of California regulates freeway noise, sets standards for sound transmission, provides occupational noise control criteria, identifies noise standards, and provides guidance for local land

use compatibility. The following law and guidelines are relevant to the proposed project. In addition to these, CEQA requires analysis of all known environmental effects of a project including environmental noise impacts.

California Noise Control Act of 1973

California Health and Safety Code Sections 46000 through 46080, known as the California Noise Control Act, find that excessive noise is a serious hazard to public health and welfare and that exposure to certain levels of noise can result in physiological, psychological, and economic damage. The act also finds that there is a continuous and increasing bombardment of noise in urban, suburban, and rural areas. The California Noise Control Act declares that the State of California has a responsibility to protect the health and welfare of its citizens by the control, prevention, and abatement of noise. It is the policy of the State to provide an environment for all Californians that is free from noise that jeopardizes their health or welfare.

California General Plan Guidelines

State law requires each county and city to adopt a General Plan that includes a Noise Element prepared per the California General Plan Guidelines adopted by the Governor's Office of Planning and Research. The purpose of the Noise Element is to limit the exposure of the community to excessive noise levels. The California General Plan Guidelines indicate specific land use types that are acceptable in areas with certain noise exposure. The guidelines also offer adjustment factors that may be used to arrive at noise compatibility standards that reflect the noise control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution. These guidelines are advisory, and local jurisdictions, including the City of San Diego, have the responsibility to set specific noise standards based on local conditions. Refer to the discussion under *City of San Diego General Plan* below for the compatibility guidelines adopted by the City.

Local

San Diego Municipal Code

The San Diego Municipal Code sets forth the City's standards, guidelines, and procedures concerning the regulation of construction and operational noise in Article 9.5 (Noise Abatement and Control). These regulations are intended to implement the goals, objectives, and policies of the General Plan; protect the public health, safety, and welfare of the City; and control unnecessary excessive, and/or annoying noise in the City.

Section 59.5.0404 of the Municipal Code, which regulates construction noise, states:

(a) It shall be unlawful for any person, between the hours of 7:00 p.m. of any day and 7:00 a.m. of the following day, or on legal holidays as specified in Section 21.04 of the San Diego Municipal Code, with exception of Columbus Day and Washington's Birthday, or on Sundays, to erect, construct, demolish, excavate for, alter or repair any building or structure in such a manner as to create disturbing, excessive or offensive noise unless a permit has been applied for and granted beforehand by the Noise Abatement and Control Administrator. In granting such permit, the Administrator shall consider whether the construction noise in the vicinity of the proposed work site would be less objectionable at night than during the daytime because of different population densities or different neighboring activities; whether obstruction and interference with traffic particularly on

streets of major importance, would be less objectionable at night than during the daytime; whether the type of work to be performed emits noises at such a low level as to not cause significant disturbances in the vicinity of the work site; the character and nature of the neighborhood of the proposed work site; whether great economic hardship would occur if the work were spread over a longer time; whether proposed night work is in the general public interest; and he shall prescribe such conditions, working times, types of construction equipment to be used, and permissible noise levels as he deems to be required in the public interest.

(b) Except as provided in subsection (c) hereof, it shall be unlawful for any person, including the City of San Diego, to conduct any construction activity so as to cause, at or beyond the property lines of any property zoned residential, an average sound level greater than 75 dBA during the 12-hour period from 7:00 a.m. to 7:00 p.m.

(c) The provisions of subsection (b) of this section shall not apply to construction equipment used in connection with emergency work, provided the Administrator is notified within 48 hours after commencement of work.

Section 59.5.0401 of the Municipal Code, which regulates operational noise, states:

(a) It shall be unlawful for any person to cause noise by any means to the extent that the one-hour average sound level exceeds the applicable limit given in the following table (reproduced herein as Table 2), at any location in the City of San Diego on or beyond the boundaries of the property on which the noise is produced. The noise subject to these limits is that part of the total noise at the specified location that is due solely to the action of said person.

Table 2 Applicable Noise Limits

Land Use Zone	Time of Day	One-Hour Average Sound Level (dBA $L_{eq[1h]}$)
Single Family Residential	7:00 a.m. to 7:00 p.m.	50
	7:00 p.m. to 10:00 p.m.	45
	10:00 p.m. to 7:00 a.m.	40
Multi-Family Residential (up to a maximum density of 1/2000)	7:00 a.m. to 7:00 p.m.	55
	7:00 p.m. to 10:00 p.m.	50
	10:00 p.m. to 7:00 a.m.	45
All other Residential	7:00 a.m. to 7:00 p.m.	60
	7:00 p.m. to 10:00 p.m.	55
	10:00 p.m. to 7:00 a.m.	50
Commercial	7:00 a.m. to 7:00 p.m.	65
	7:00 p.m. to 10:00 p.m.	60
	10:00 p.m. to 7:00 a.m.	60
Industrial or Agricultural	Anytime	75

Source: City of San Diego Municipal Code, Chapter 5, Article 9.5, Division 4, Section 59.5.0401(a)

(b) The sound level limit at a location on a boundary between two zoning districts is the arithmetic mean of the respective limits for the two districts. Permissible construction noise level limits shall be governed by Section 59.5.0404 of this article.

Section 59.5.0502 of the Municipal Code, which regulates operational noise, states:

The following activities, among others, are declared to cause disturbing, excessive or offensive noises in violation of this section and are unlawful, namely:

(d) Hospitals, Schools, Libraries, Rest Homes, Long-Term Medical or Mental Care Facilities

To make noise adjacent to a hospital, school, library, rest home, or long–term medical or mental care facility, which noise unreasonably interferes with the workings of such institutions or which disturbs or unduly annoys occupants in said institutions.

City of San Diego General Plan Noise Element

The City has adopted a General Plan Noise Element to control and abate environmental noise and to protect the citizens of the City from excessive exposure to noise (City of San Diego 2015). The Noise Element establishes noise compatibility guidelines for uses affected by transportation noise, as shown in Table 3. The conditionally compatible noise level range for the proposed land uses is 65 to 75 CNEL for office uses. For outdoor uses at a conditionally compatible land use, feasible noise mitigation techniques should be analyzed and incorporated to reduce noise levels to make the outdoor activities acceptable. For indoor noise levels at a conditionally compatible land use, exterior noise must be attenuated to 50 CNEL for office uses to be considered a compatible land use.

Table 3 City of San Diego Land Use-Noise Compatibility Guidelines[1]

	Exterior Noise Exposure (CNEL)				
Land Use Category	**<60**	**60-65**	**65-70**	**70-75**	**75+**
Parks and Recreational					
Parks, Active and Passive Recreation					
Outdoor Spectator Sports, Golf Courses; Water Recreational Facilities; Indoor Recreation Facilities					
Agricultural					
Crop Raising & Farming; Community Gardens, Aquaculture, Dairies; Horticulture Nurseries & Greenhouses; Animal Raising, Maintain & Keeping; Commercial Stables					
Residential					
Single Dwelling Units; Mobile Homes		45			
Multiple Dwelling Units		45	45		
Institutional					
Hospitals; Nursing Facilities; Intermediate Care Facilities; K-12 Educational Facilities; Libraries; Museums; Child Care Facilities		45			
Other Educational Facilities including Vocational/Trade Schools and Colleges, and Universities)		45	45		
Cemeteries					

Land Use Category	Exterior Noise Exposure (CNEL) <60	60-65	65-70	70-75	75+
Retail Sales					
Building Supplies/Equipment; Groceries; Pets & Pet Supplies; Sundries, Pharmaceutical, & Convenience Sales; Apparel & Accessories			50	50	
Commercial Services					
Building Services; Business Support; Eating & Drinking; Financial Institutions; Maintenance & Repair; Personal Services; Assembly & Entertainment (includes public and religious assembly); Radio & Television Studios; Golf Course Support			50	50	
Visitor Accommodations		45	45	45	
Offices					
Business & Professional; Government; Medical, Dental & Health Practitioner; Regional & Corporate Headquarters			50	50	
Vehicle and Vehicular Equipment Sales and Services Use					
Vehicle Repair & Maintenance; Vehicle Sales & Rentals; Vehicle Equipment & Supplies Sales & Rentals; Vehicle Parking					
Wholesale, Distribution, Storage Use Category					
Equipment & Materials Storage Yards; Moving & Storage Facilities; Warehouse; Wholesale Distribution					
Industrial					
Heavy Manufacturing; Light Manufacturing; Marine Industry; Trucking & Transportation Terminals; Mining & Extractive Industries					
Research & Development				50	

	Compatible	Indoor Uses	Standard construction methods should attenuate exterior noise to an acceptable indoor noise level.
		Outdoor Uses	Activities associated with the land use may be carried out.
	Conditionally Compatible	Indoor Uses	Building structure must attenuate exterior noise to the indoor noise level indicated by the number (45 or 50) for occupied areas. Conditionally indicated by the number for occupied areas.
		Outdoor Uses	Feasible noise mitigation techniques should be analyzed and incorporated to make the outdoor activities acceptable
	Incompatible	Indoor Uses	New construction should not be undertaken.
		Outdoor Uses	Severe noise interference makes outdoor activities unacceptable.

Source: City of San Diego 2015

[1] Compatible noise levels and land use definitions reflect amendments to the City's General Plan approved in 2015.

City of San Diego Significance Determination Thresholds

The purpose of the City of San Diego Significance Determination Thresholds (City of San Diego 2016) is to assist City of San Diego staff, project proponents, and the public in determining whether a project may have a significant effect on the environment under Public Resources Code Section 21082.2 based on substantial evidence and therefore require mitigation. They are not intended to be standalone policies and are to be used in conjunction with commonly accepted professional standards, judgments, and practices. Section K of the document covers noise issues. The thresholds in the document applicable to the proposed project include:

- 70 dB for traffic noise levels at the exterior usable space of an office building;

- The limits shown in Table 2 under *San Diego Municipal Code* above for new stationary noise sources; and
- The limits in Section 59.5.0404 of the San Diego Municipal Code for construction noise sources (described above under *San Diego Municipal Code*).

3 Methodology and Significance Thresholds

3.1 Construction Noise

Construction noise was estimated using the FHWA Roadway Construction Noise Model (RCNM) (FHWA 2006) noise values. RCNM predicts construction noise levels for a variety of construction operations based on empirical data and the application of acoustical propagation formulas. Construction noise levels were estimated at noise sensitive receivers near the project site. RCNM provides reference noise levels for standard construction equipment, with an attenuation of 6 dBA per doubling of distance for stationary equipment. In addition, a custom spreadsheet was used to convert the hourly noise levels to a 12-hour construction noise value, consistent with the City's construction noise threshold of 75 dBA over a 12-hour period from 7:00 a.m. to 7:00 p.m.

Variation in power imposes additional complexity in characterizing the noise source level from construction equipment. Power variation is accounted for by describing the noise at a reference distance from the equipment operating at full power and adjusting it based on the duty cycle of the activity to determine the L_{eq} of the operation (FHWA 2018). Each phase of construction has a specific equipment mix, depending on the work to be accomplished during that phase. Each phase also has its own noise characteristics; some will have higher continuous noise levels than others, and some have high-impact noise levels.

Construction noise would typically be higher during the more intensive periods of initial construction (i.e., site preparation and grading work) and would be lower during the later construction phases (i.e., interior building construction). Typical heavy construction equipment during project grading and site preparation would include excavators, dozers, graders, and backhoes. It is assumed that diesel engines would power all construction equipment. Construction equipment would not all operate at the same time or location, and construction equipment would not be in constant use during the typical eight-hour operating day. For the purposes of this analysis, an excavator and front-end loader operating simultaneously were analyzed as a representative scenario of reasonable, worst-case construction noise impacts due to the likelihood that these two pieces of equipment would be used in conjunction with one another (i.e., an excavator to dig and pile soil and a front-end loader to move the soil pile). Using RCNM to estimate noise associated with simultaneous operation of an excavator and front-end loader, noise levels are calculated to be 77.2 dBA L_{eq} (one-hour) at 100 feet. Construction noise calculations are included in Appendix A.

3.2 Groundborne Vibration

The project does not include any substantial vibration sources associated with operation. Thus, construction activities have the greatest potential to generate ground-borne vibration affecting nearby receivers, especially during grading and excavation of the project site. The greatest vibratory source during construction in the project vicinity would be a large bulldozer. Neither blasting nor pile driving would be required for construction of the project. Construction vibration estimates are based on vibration levels reported by Caltrans and the FTA (Caltrans 2020b, FTA 2018). Table 4 shows typical vibration levels for various pieces of construction equipment used in the assessment of construction vibration (FTA 2018).

Table 4 Vibration Levels Measured during Construction Activities

Equipment	PPV at 25 feet (in./sec.)
Large Bulldozer	0.089
Loaded Trucks	0.076
Small Bulldozer	0.003

Source: FTA 2018

Vibration limits used in this analysis to determine a potential impact to local land uses from construction activities, such as demolition, or excavation, are based on information contained in Caltrans' *Transportation and Construction Vibration Guidance Manual* and the Federal Transit Administration and the FTA *Transit Noise and Vibration Impact Assessment Manual* (Caltrans 2020b; FTA 2018). Maximum recommended vibration limits by the American Association of State Highway and Transportation Officials (AASHTO) are identified in Table 5.

Table 5 AASHTO Maximum Vibration Levels for Preventing Damage

Type of Situation	Limiting Velocity (in./sec.)
Historic sites or other critical locations	0.1
Residential buildings, plastered walls	0.2–0.3
Residential buildings in good repair with gypsum board walls	0.4–0.5
Engineered structures, without plaster	1.0–1.5

Source: Caltrans 2020b

Based on AASHTO recommendations, limiting vibration levels to below 0.2 in./sec. PPV at residential structures would prevent structural damage regardless of building construction type. These limits are applicable regardless of the frequency of the source. However, as shown in Table 6 and Table 7, potential human annoyance associated with vibration is usually different if it is generated by a steady state or a transient vibration source.

Table 6 Human Response to Steady State Vibration

PPV (in./sec.)	Human Response
3.6 (at 2 Hz) to 0.4 (at 20 Hz)	Very disturbing
0.7 (at 2 Hz) to 0.17 (at 20 Hz)	Disturbing
0.10	Strongly perceptible
0.035	Distinctly perceptible
0.012	Slightly perceptible

Source: Caltrans 2020b

Table 7 Human Response to Transient Vibration

PPV (in./sec.)	Human Response
2.0	Severe
0.9	Strongly perceptible
0.24	Distinctly perceptible
0.035	Barely perceptible

Source: Caltrans 2020b

As shown in Table 6, the vibration level threshold at which steady vibration sources are considered to be distinctly perceptible is 0.035 in./sec. PPV. However, as shown in Table 7, the vibration level threshold at which transient vibration sources (such as construction equipment) are considered to be distinctly perceptible is 0.24 in./sec. PPV. This analysis uses the distinctly perceptible thresholds for purposes of assessing vibration impacts.

Although groundborne vibration is sometimes noticeable in outdoor environments, it is almost never annoying to people who are outdoors; therefore, vibration impacts are assessed at the nearest structure of an affected property (FTA 2018).

3.3 Operational Noise Sources

Noise sources associated with operation of the proposed project would consist of landscaping maintenance, on-site traffic, and general conversations, and mechanical equipment (e.g., heating, ventilation, and air conditioning [HVAC] units). Due to the low noise levels associated with general site activities, on-site traffic, and landscape maintenance and the distance between the project site and the nearest sensitive receivers, these sources are not considered substantial and are not analyzed further.

Heating, Ventilation, and Air Conditioning Units

Noise levels generated by HVAC units were modeled with 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." The assessment methodology assumes that all receivers would be downwind of stationary sources. This is a conservative assumption for total noise impacts because, in reality, only some receivers would be downwind at any given time.

A new development typically requires one ton of HVAC per 600 square feet of building space. Based on this assumption, Table 8 summarizes the estimated quantities of HVAC units that would be required for each proposed building. For the purposes of this analysis, it is assumed that the project's HVAC units would be similar or equivalent to a typical larger-sized condenser such as a Carrier 38AUD25 split system condenser (see Appendix B for specification sheets). Each unit would handle 16.7 nominal tons; therefore, as shown in Table 8, each building would require approximately 10 to 21 HVAC units. The manufacturer's noise data for the representative HVAC unit is provided in Table 9.

Table 8 Estimated HVAC Units Per Building

Building	Square Footage	Estimated HVAC Tons	Estimated HVAC Units[1]
CP3	103,559	173	10
CP5	99,481	166	10
CP6	136,500	228	14
CP7	211,792	353	21
P2	74,700	125	7

[1] Assumes each HVAC unit would handle 16.7 nominal tons (see Appendix B for specification sheets for the representative HVAC unit).

Table 9 HVAC Noise Levels[1]

Noise Levels in dB Measured at Octave Frequencies							Overall Noise Level in A-weighted Scale (dBA)
125 Hz	250 Hz	500 Hz	1 KHz	2 KHz	4 KHz	8 KHz	
85.0	80.0	86.0	79.0	73.0	68.0	63.0	85

[1] Noise Levels for a Carrier 38AUD25 split system condenser (see Appendix B for specification sheets).

Hz = Hertz; KHz = kilohertz

The HVAC units are anticipated to be located on the rooftops of the proposed buildings. For the purposes of modeling, HVAC units were generally placed in clusters of three to four units across the rooftop. All HVAC units were modeled as being three feet in height above the rooftop elevation. To provide a conservative scenario, the units were assumed to operate at 100 percent of an hour for 24 hours a day.

3.4 Traffic Noise

Noise levels affecting the proposed project site would be primarily influenced by traffic noise from Interstate 5, as well as Genesee Avenue and Campus Point Drive. Future noise levels affecting the compatibility of the project site were estimated using the FHWA's Traffic Noise Model (TNM) traffic noise-reference levels and SoundPLAN. Traffic noise-model inputs to SoundPLAN include the three-dimensional coordinates of the roadways, noise receivers, and topographic features or planned barriers that would affect noise propagation; vehicle volumes and speeds, by type of vehicle; and absorption factors.

Traffic volumes and project trip generation are based on the project's traffic report for Genesee Avenue and Campus Point Drive (Urban Systems Associates, Inc. 2020), and Caltrans' freeway traffic volumes for Interstate 5 (Caltrans 2020a). These traffic volumes are presented in Table 10 for existing, existing plus project, year 2050, and year 2050 plus project scenarios.

Table 10 Existing and Future Traffic Volumes

Roadway/Segment	Traffic Counts (Average Daily Trips)			
	Existing	Existing + Project	Year 2050	Year 2050 + Project
Campus Point Drive				
Project Driveway "B" to Campus Point Court	5,388	8,121	7,808	7,986
Campus Point Court to Genesee Avenue	11,117	15,456	12,800	14,584
Project Driveway "A" to Campus Point Drive	2,528	4,134	3,290	4,896
Genesee Avenue				
Campus Point Drive to Scripps Hospital Driveway	48,542	50,537	43,800	44,799
Scripps Hospital Driveway to I-5 NB Ramps	48,542	50,476	49,500	50,463
I-5 NB Ramps to I-5 SB Ramps	49,051	50,381	57,100	57,889
Campus Point Drive to Regents Road	48,542	50,314	38,400	38,971
Interstate 5[1]				
SR-52 to I-805	199,000	200,784	199,000	200,784

Source: Caltrans 2020a; Urban Systems Associates, Inc. 2020

[1] The project's traffic report did not quantify the project's added trips to Interstate 5. Therefore, to provide a conservative analysis, the project's total net increase of 1,784 average daily trips was assumed to travel on this segment.

The posted speed limits on Interstate 5, Genesee Avenue, Campus Point Drive, and Campus Point Court of 65 miles per hour (mph), 35 mph, 25 mph, and 25 mph, respectively, were used in the modeling. To determine the vehicle classification mix for modeling, the Caltrans vehicle classification mix from Interstate 5, which observed 96 percent automobiles, 2 percent medium trucks, and 2 percent heavy trucks, was used for all roadways (Caltrans 2020a). Peak hour traffic was assumed to be approximately 10 percent of the roadway's total ADT in the model because 10 percent peak hour traffic noise level is considered approximately equivalent to CNEL.

Exterior traffic noise levels at the project's building façades were calculated with receivers placed on the ground floor five feet above ground level and receivers placed on the second, third, fourth and fifth floor approximately 20 feet, 30 feet, 40 feet, etc. above ground level, depending on how many the floors the building would have.

3.5 Significance Thresholds

The following thresholds used in this analysis are based on the City's noise standards, including the City's CEQA Determination Thresholds, and Appendix G of the CEQA guidelines. Noise impacts would be considered significant if:

- **Issue 1:** The project would result in the 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.
  - **Temporary**
    - Construction noise would exceed 75 dBA L_{eq} over a 12-hour period; or
    - Construction occurs between the hours of 7:00 p.m. to 7:00 a.m., or on legal holidays.
  - **Permanent**
    - Operational noise levels would exceed the standards listed in Table 2 under *San Diego Municipal Code* above**Error! Reference source not found.**.
    - Project-related traffic would increase the ambient noise environment of noise-sensitive receivers by 3 dBA or more if the locations are currently subject to noise levels in excess of the City's land use noise compatibility standards in Table 3 under *City of San Diego General Plan Nosie Element* above, or by 5 dBA or more if the locations are not subject to noise levels in excess of the aforementioned standards.
- **Issue 2:** The project would result in the generation of excessive ground-borne vibration or ground-borne noise levels.
  - For purposes of analyzing impacts from this project, the City has determined that using Caltrans and AASHTO vibration thresholds would be applicable to the project. Therefore, a significant vibration impact would occur if the project would subject vibration-sensitive land uses to construction-related ground-borne vibration that exceeds the distinctly perceptible transient vibration annoyance potential criteria for human receivers of 0.24 in./sec. PPV, or the residential structural damage criteria of 0.2 in./sec. PPV. A significant vibration impact would also occur if the project would subject vibration-sensitive land uses to operational ground-borne vibration that exceeds the distinctly perceptible steady-state vibration annoyance potential criteria for human receivers of 0.035 in./sec. PPV, or the residential structural damage criteria of 0.2 in./sec. PPV.
- **Issue 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, the project would expose people residing or working in the project area to excessive noise levels.
- **Issue 4:** The project's on-site uses would be subject to noise exceeding the City's traffic noise significance threshold of 70 CNEL for exterior space of the project buildings, or 50 CNEL for interior areas of the project buildings.

4 Impact Analysis

4.1 Issue 1

Issue: Would the project result in 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?

Construction Noise

The nearest buildings to the proposed construction site would be existing commercial buildings and sports fields located at the project site. Over the course of a typical construction day, construction equipment would be located as close as 25 feet to the nearest buildings and sports field. However, over the course of any given day, construction equipment would be mobile and would not be operating in one spot. Therefore, a conservative estimate is that the construction equipment would be located at an average distance of 100 feet from the nearest buildings and sports fields.

At a distance of 100 feet, a loader and an excavator would generate a noise level of 71.2 dBA L_{eq} over a 12-hour period (see construction noise calculations in Appendix A). This noise level would be below the City's construction noise threshold of 75 dBA L_{eq} for an 12-hour period. Noise levels at other nearby receivers would be lower than 71.2 dBA L_{eq} over a 12-hour period because these receivers are located farther away. In addition, construction would only occur between 7:00 a.m. to 7:00 p.m. Therefore, because construction would not occur outside of the City's allowed hours and construction noise levels would not exceed the City's threshold, impacts from construction noise would be less than significant.

Operational Noise

Stationary Source Noise

The proposed project would include additional HVAC units that would generate noise that may be periodically audible at nearby properties. Estimated HVAC noise levels at adjacent properties are shown in Table 11as receivers OFF1 through OFF27, and noise level contours for HVAC noise are presented graphically in Figure 4. Assumptions for modeling these sources are provided in Section 3.3, *Operational Noise Sources*. Although no residential uses are located nearby, vacant land zoned for residential uses is located at the steep slopes adjacent to the western and eastern edges of the project site. As shown in Table 11, noise levels would not exceed the City's noise level limits for stationary sources at existing commercial uses or at the currently vacant residentially-zoned land uses. Therefore, noise levels from project operation would result in less than significant impacts.

Table 11 Operational Noise Levels at Off-site Receivers

Receiver	Use	Description	HVAC Noise Levels (dBA L_{eq})	Daytime Threshold (dBA L_{eq})[1]	Evening Threshold (dBA L_{eq})[1]	Nighttime Threshold (dBA L_{eq})[1]	Exceeds Threshold?
OFF1	Commercial	Commercial property adjacent to north	36	65	60	60	No
OFF2	Commercial	Commercial property's sports field adjacent to north	40	65	60	60	No
OFF3	Commercial	Commercial property's sports field adjacent to north	42	65	60	60	No
OFF4	Commercial	Commercial property adjacent to north	41	65	60	60	No
OFF5	Commercial	Commercial Building (4244 Campus Point Court)	39	65	60	60	No
OFF6	Commercial	Commercial property adjacent to northeast	38	65	60	60	No
OFF7	Commercial	Commercial Building (10210 Campus Point Drive)	37	65	60	60	No
OFF8	Commercial	Commercial Building (4210/4224 Campus Point Court)	41	65	60	60	No
OFF9	Commercial	Commercial Building (4210/4224 Campus Point Court)	40	65	60	60	No
OFF10	Commercial	Commercial Building (4243 Campus Point Court)	37	65	60	60	No
OFF11	Commercial	Commercial Building (4242 Campus Point Court)	39	65	60	60	No
OFF12	Commercial	Commercial Building (4243 Campus Point Court)	37	65	60	60	No
OFF13	Commercial	Commercial Building (4275 Campus Point Court)	37	65	60	60	No
OFF14	Commercial	Commercial Building (10140 Campus Point Drive)	35	65	60	60	No

Receiver	Use	Description	HVAC Noise Levels (dBA L_{eq})	Daytime Threshold (dBA L_{eq})[1]	Evening Threshold (dBA L_{eq})[1]	Nighttime Threshold (dBA L_{eq})[1]	Exceeds Threshold?
OFF15	Commercial	Commercial Building (10010 Campus Point Drive)	32	65	60	60	No
OFF16	Commercial	Scripps Memorial Hospital	33	65	60	60	No
OFF17	Commercial	Closest building off Science Center Drive	34	65	60	60	No
OFF18	Commercial	Closest building off Roselle Street	11	65	60	60	No
OFF19	Commercial	Commercial use at end of Towne Center Drive	28	65	60	60	No
OFF20	Commercial	Commercial Building (10300 Campus Point Drive)	38	65	60	60	No
OFF21	Residential	Vacant residentially-zoned property	39	50	45	40	No
OFF22	Residential	Vacant residentially-zoned property	36	50	45	40	No
OFF23	Residential	Vacant residentially-zoned property	34	50	45	40	No
OFF24	Residential	Vacant residentially-zoned property	32	50	45	40	No
OFF25	Residential	Vacant residentially-zoned property	36	50	45	40	No
OFF26	Residential	Vacant residentially-zoned property	35	50	45	40	No
OFF27	Residential	Vacant residentially-zoned property	36	50	45	40	No

[1] See Table 2.

Figure 4 Operational HVAC Noise Contours and Off-site Receivers

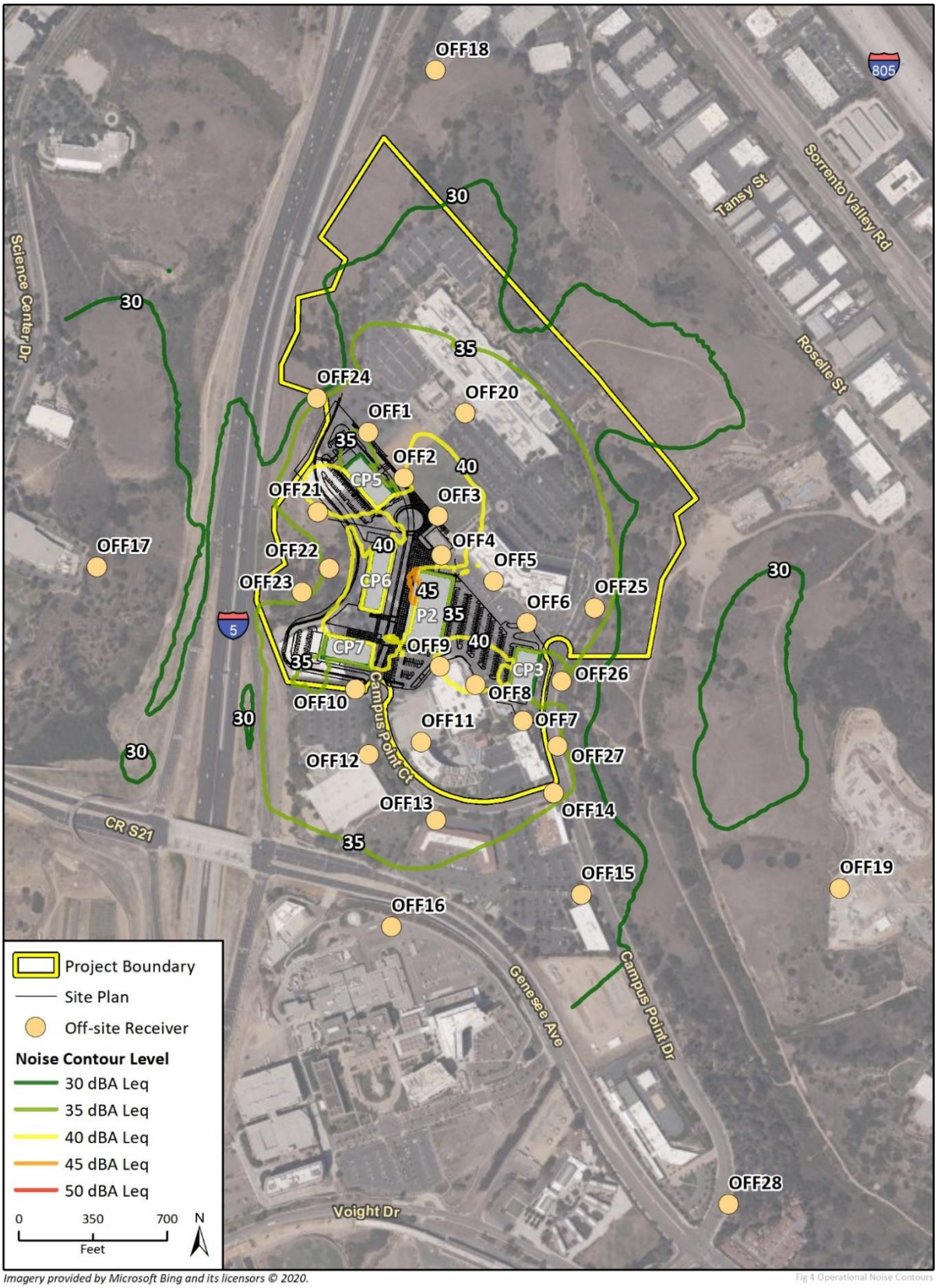


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Fig 4 Operational Noise Contours

Traffic Noise

The project would generate new vehicle trips that would increase noise levels on nearby roadways. These trips would occur primarily on Genesee Avenue, Interstate 5, and Campus Point Drive. The trip increases relative to existing and future traffic volumes would be proportionally greatest on Campus Point Drive because all project traffic would use this roadway to access the project site and because the roadway has much lower traffic volumes than the heavily traveled Interstate 5 and Genesee Avenue. As shown in Table 10, the greatest percentage increase in vehicle trips would be a 64 percent increase on Campus Point Drive between Project Driveway "A" and Campus Point Drive under existing plus project conditions. A 64 percent increase would result in an approximately 2 dBA increase in traffic noise levels, which would not increase the existing noise environment of noise-sensitive receivers by 3 dBA. In addition, the project-related increase in traffic volumes on Genesee Avenue and Interstate 5 would be approximately one to four percent, which would result in much lower dBA increases from the project. Therefore, impacts from off-site traffic noise increases would be less than significant.

4.2 Issue 2

Issue:	Would the project result in generation of excessive ground-borne vibration or ground-borne noise levels?

Construction activities known to generate excessive ground-borne vibration, such as pile driving, would not be required for project construction. The greatest anticipated source of vibration during general project construction activities would be from a dozer, which may be used within 25 feet of the nearest off-site structures to the northeast. A dozer would create approximately 0.089 in./sec. PPV at a distance of 25 feet (Caltrans 2020a), which would be lower than the distinctly perceptible transient vibration threshold for humans of 0.24 in./sec. PPV and the structural damage threshold for residential structures of 0.2 in./sec. PPV. Therefore, although a dozer may be perceptible to nearby human receivers, temporary impacts associated with the dozer (and other potential vibration-generating equipment) would be less than significant.

Operation of the project would not include any substantial vibration sources. Therefore, no operational vibration impacts occur.

4.3 Issue 3

Issue:	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, would the project expose people residing or working in the project area to excessive noise levels?

The airport nearest to the project site, MCAS Miramar, is located approximately 3.6 miles to the east. The project would not be located within the noise contours of the airport (San Diego County Airport Land Use Compatibility Plan 2008). Therefore, no substantial noise exposure from airport noise would occur to construction workers, employees, or patrons of the project, and no impacts would occur.

4.4 Issue 4

Issue: Would the project be subjected to noise levels in excess of the City's land use compatibility guidelines for noise?

Following the methodology and reference noise levels discussed in Section 3.4, *Traffic Noise*, noise levels at the project's building façades and potential exterior areas were modeled. As shown in Table 12, receiver ON9, ON15, and ON16 represent potential exterior use areas, while the remaining receivers represent estimated noise at the building façades around the project site. These receivers, as well as the roadway noise level contours, are shown on Figure 5.

As shown in Table 12, the exterior noise level from traffic at the potential outdoor areas and ground-floor building façades would reach up to 70 CNEL. Therefore, noise levels at exterior areas of project residences would not exceed the City's normally acceptable exterior noise standard of 70 CNEL for office uses, and the project's exterior noise exposure would not conflict with the City's standards.

Standard construction techniques for wood-frame construction buildings required under the California Building Code typically achieve a minimum 25-dBA reduction from exterior sources at interior locations when the windows are in a closed position. Building façade noise levels reach up to 75 CNEL at the highest floors of CP7 that face Interstate 5. This would result in an interior noise level of up to 50 CNEL, which would not exceed the City's interior noise standard of 50 CNEL for office uses. Therefore, the project's interior noise exposure would not conflict with City standards.

Figure 5 Traffic Noise Contours and On-site Receivers

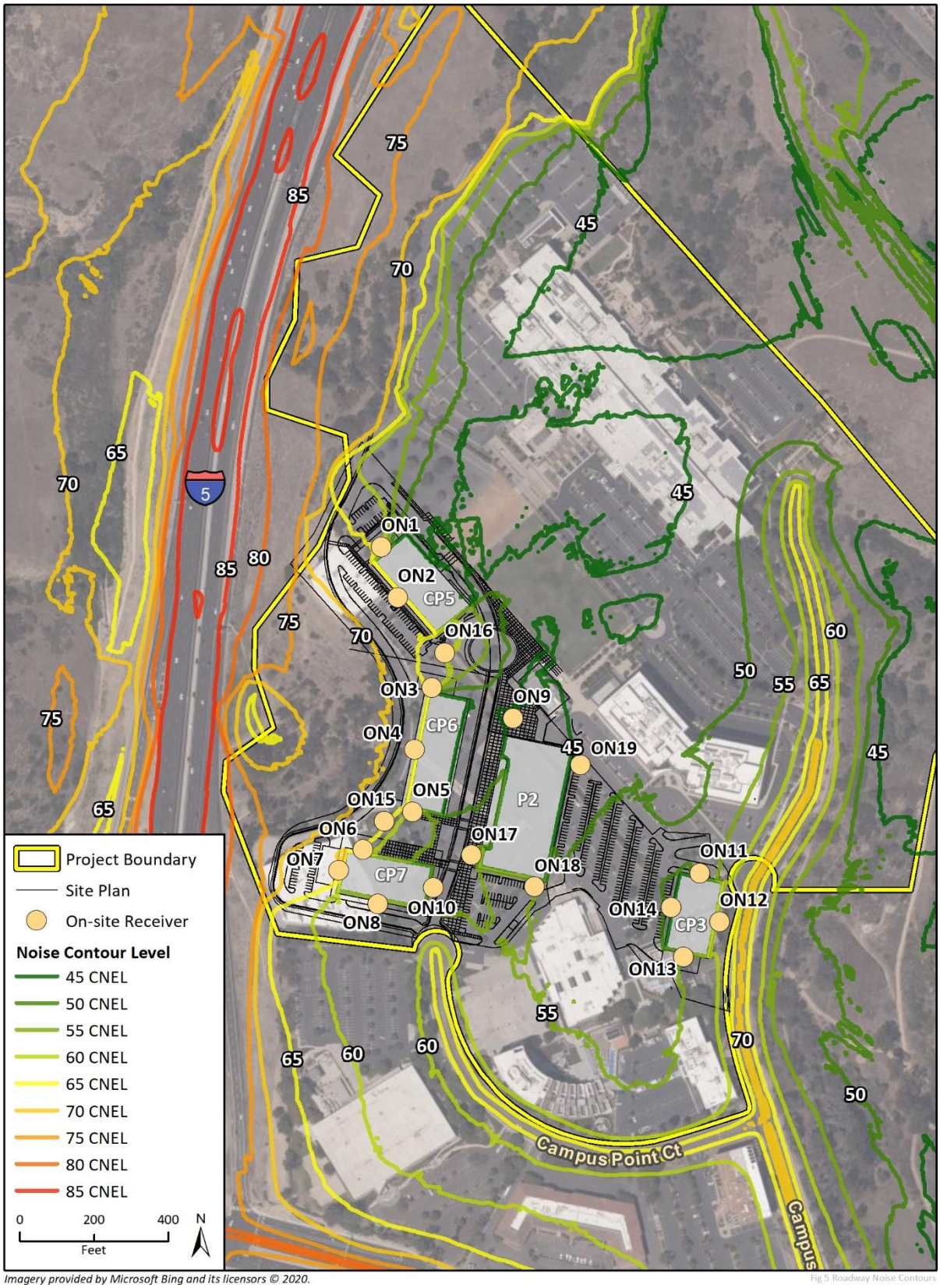

Table 12 Traffic Noise Levels

Receiver	Description	Noise Level (CNEL)							Exceeds Exterior Threshold (70 CNEL)?	Exceeds Interior Threshold (50 CNEL)?[1]
		Ground Level/ 1st Floor	2nd Floor	3rd Floor	4th Floor	5th Floor	6th Floor	7th Floor		
ON1	CP5 - Northwestern Edge	59	63	65	66	68	N/A	N/A	No	N/A
ON2	CP5 - Southwestern Edge	67	69	71	71	72	N/A	N/A	No	No
ON3	CP6 - Northern Edge	63	67	68	68	N/A	N/A	N/A	No	No
ON4	CP6 - Western Edge	70	71	71	72	N/A	N/A	N/A	No	No
ON5	CP6 - Southern Edge	57	66	67	68	N/A	N/A	N/A	No	No
ON6	CP7 - Northern Edge	65	71	71	72	72	72	72	No	No
ON7	CP7 - Western Edge	69	71	72	73	74	75	75	No	No
ON8	CP7 - Southern Edge	58	61	64	65	66	68	69	No	No
ON9	Potential Exterior Area	44	N/A	N/A	N/A	N/A	N/A	N/A	No	N/A
ON10	CP7 - Eastern Edge	52	53	54	55	55	56	56	No	No
ON11	CP3 - Northern Edge	52	54	54	54	N/A	N/A	N/A	No	No
ON12	CP3 - Eastern Edge	61	62	61	61	N/A	N/A	N/A	No	No
ON13	CP3 - Southern Edge	55	57	58	59	N/A	N/A	N/A	No	No
ON14	CP3 - Western Edge	49	51	53	55	N/A	N/A	N/A	No	No
ON15	Potential Exterior Area	68	N/A	N/A	N/A	N/A	N/A	N/A	No	N/A
ON16	Potential Exterior Area	61	N/A	N/A	N/A	N/A	N/A	N/A	No	N/A
ON17	P2 - Southwestern Edge	56	59	62	65	68	N/A	N/A	No	No
ON18	P2 - Southern Edge	55	58	60	61	62	N/A	N/A	No	No
ON19	P2 - Northeastern Edge	49	51	52	53	54	N/A	N/A	No	No

See **Error! Reference source not found.** for receiver locations.

[1] Assumes 25 CNEL reduction from exterior to interior noise levels.

5 Conclusion

The project would generate both temporary construction-related noise and long-term operational noise. Construction noise would not exceed the threshold of 75 dBA L_{eq} for a 12-hour period; therefore, impacts from construction noise would be less than significant. The project's stationary noise sources (HVAC units) would not exceed the City's standards at the nearest property lines; therefore, stationary noise impacts would be less than significant.

Project-generated traffic would generate an increase of up to approximately 2 dBA on Campus Point Drive, which would be below the threshold of 3 dBA; therefore, the off-site traffic noise increase would be less than significant.

The project would generate groundborne vibration during construction, but vibration levels would not exceed the applicable thresholds at the closest structures to the north. Therefore, construction-related vibration impacts would be less than significant.

The project site is located approximately 3.6 miles from the nearest airport, MCAS Miramar, and is outside the noise level contours for this airport. Therefore, the project would not result in impacts from airport noise exposure.

The project's traffic noise exposure at outdoor use areas would not exceed the City's exterior noise standard of 70 CNEL. for office uses. In addition, interior noise levels at the proposed project buildings would not exceed the City's interior noise standard of 50 CNEL for office uses.

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Appendix A

RCNM Results

19-08066 - Campus Point Construction

Equipment	dBA L_{MAX}	Percentage	Use Per Day	Ordinance Hour Day	L_{EQ} dBA (Daily)	Distance	L_{EQ} dBA (Daily)	Distance To (dBA):	Distance
Noise Sum	80.7	N/A	N/A	N/A	77.2	N/A	71.2	75	64.7
Loader	79.1	40.00%	8	12	73.4	100.0	67.3	75	41.4
Excavator	80.7	40.00%	8	12	75.0	100.0	68.9	75	49.8

Appendix B

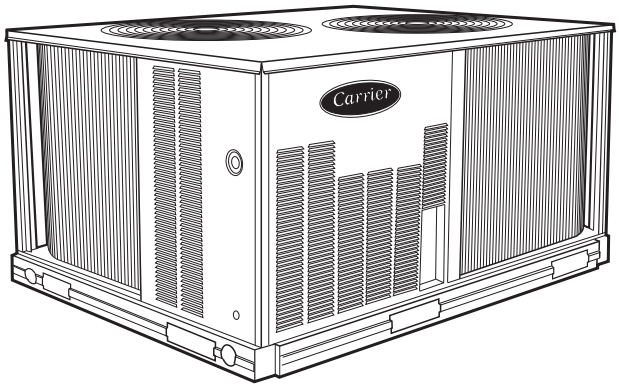
Sample HVAC Specifications

38AUZ/D 50 Hz
Commercial Split Systems
Air Conditioning Condensing Units
18.3 kW to 59.2 kW

Carrier
turn to the experts

Product Data

Gemini



C09227

38AUZ07-08 shown

Certified to ISO 9001

Carrier's air-cooled air conditioning split systems:

- provide a logical solution for commercial needs
- have a rugged, dependable construction
- are available in single and circuit scroll compressor capacity control
- have cooling capability up to 52°C (125°F) ambient and down to 2°C (35°F) ambient standard

FEATURES/BENEFITS

These dependable outdoor air cooled condensing units match Carrier's indoor-air handlers to meet a wide selection of cooling solutions.

Constructed for long life

The 38AUZ single circuit and 38AUD dual circuit, scroll compressor models are designed and built to last. The high efficient designed outdoor coil construction allows for a more efficient design in a smaller cabinet size that utilizes an overall reduction in refrigerant charge. Where conditions require, special coil coating coil protection option is available. Cabinets are constructed of prepainted galvanized steel, delivering unparalleled protection from the environment. Inside and outside surfaces are protected to ensure long life, good looks, and reliable operation. Safety controls are used for enhanced system protection and reliability.

Each unit utilizes the Comfort Alert diagnostic and troubleshoot control system. This protects the units operation and provides valuable diagnostic information when required.

Factory-installed options (FIOPs)

Certified and pre-engineered factory-installed options (FIOPs) allow units to be installed in less time, thereby reducing installed cost. FIOPs include:

- low ambient controls which provide cooling operation down to -29°C (-20°F) ambient temperatures
- non-fused disconnect
- special coil coating coil protection
- louvered hail guard

FEATURES AND BENEFITS (cont.)

Efficient operation

These air cooled condensing units will provide EER's up to 12.6 (tested in accordance with ASHRAE 90.1 standards).

This high efficiency will help reduce overall operating cost and energy consumption.

Controls for performance dependability

The 38AU condensing units offer operating controls and components designed for performance dependability. The high efficiency hermetic scroll compressor is engineered for long life and durability. The compressors include vibration isolation for quiet operation. The high-pressure switch protects the entire refrigeration system from abnormally high operating pressures. A low-pressure switch protects the system from loss of charge. These units also include anti-short-cycling protection, which helps to protect the units against compressor failure.

All units include a crankcase heater to eliminate liquid slugging at start-up. Each unit comes standard with the Comfort Alert™ control system. This provides:

- System Go LED indicator
- Fault LED indicator
- Compressor fault LED indicator
- Phase loss protection
- Phase reversal protection
- Safety pressure indicator
- Anti-short cycle protection

Innovative Carrier 40RU packaged air handlers are custom matched to 38AUZ/D condensing units

Information on matching 40RU DX packaged air handler follows for convenience. See separate product data for more details. The 40RU Series has excellent fan performance, efficient direct-expansion (DX) coils, a unique combination of indoor-air quality features, and is easy to install. Its versatility and state-of-the-art features help to ensure economical performance of the split system both now and in the future.

Indoor-air quality (IAQ) features

The unique combination of IAQ features in the 40RU Series air handlers help to ensure that only clean, fresh, conditioned air is delivered to the occupied space.

Direct-expansion (DX) 4 row cooling coils prevent the build-up of humidity in the room, even during part-load conditions.

Standard 2-in. (51mm) disposable filters remove dust and airborne particles from the occupied space for cleaner air.

The pitched, non-corroding drain pan can be adjusted for a right-hand or left-hand connection to suit many applications and provide positive drainage and prevent standing condensate.

The accessory economizer can provide ventilation air to improve indoor-air quality by using demand control ventilation. When used in conjunction with Carrier Comfort System and CO_2 sensors, the economizer admits fresh outdoor air to replace stale, recirculated indoor air.

Economy

The 40RU Series packaged air handlers provide reduced installation expense and energy-efficient performance.

Quick installation is ensured by the multipoise design. Units can be installed in either the horizontal or vertical configuration without modifications. Fan motors and contactors are pre-wired and thermostatic expansion valves (TXVs) are factory-installed on all 40RU models.

High efficiency, precision-balanced fans minimize air turbulence, surging, and unbalanced operation, cutting operation expenses.

The economizer accessory precisely controls the blend of outdoor air and room air to achieve comfort levels. When the outside air enthalpy is suitable, outside air dampers can fully open to provide "free" cooling without energizing mechanical cooling.

Rugged dependability

The 40RU series units are made to last. The die-formed galvanized steel panels ensure structural integrity under all operating conditions. Galvanized steel fan housings are securely mounted to a die-formed galvanized steel fan deck.

Rugged pillow-block bearings (40RU14) are securely fastened to the solid steel fan shaft with split collets and clamp locking devices. Smaller unit sizes have spider-type bearings.

Coil flexibility

Model 40RU direct- expansion coils have galvanized steel casings; inlet and outlet connections are on the same end. The coils are designed for use with Puron (R-410A) refrigerant and have $^3/_8$-in. diameter copper tubes mechanically bonded to aluminum sine-wave fins. The coils include matched, factory-installed thermostatic expansion valves (TXVs) with matching distributor nozzles and offers a removable power element and extended connections.

Easier installation and service

The multipoise design and component layout ensures quick unit installation and operation. Units can be converted from horizontal to vertical operation by simply repositioning the unit. Drain pan connections are duplicated on both sides of the unit. The filters, motor, drive, TXVs, and coil connections are all easily accessed by removing a single side panel.

MODEL NUMBER NOMENCLATURE

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
3	8	A	U	Z	A	0	7	A	0	A	9	–	0	A	0	A	0

Model Type
Commercial Air Cooled Cond. Unit
Puron® R–410A Refrigerant

Type of Coil
D = Dual Circuit
Z = Single Circuit

Refrigerant Options
A = Standard
B = Low Ambient Controls

Nominal Tonnage
07 = 18.3 kW (5.2 Tons)
08 = 23.2 kW (6.6 Tons)
12 = 29.1 kW (8.3 Tons)
14 = 35.2 kW (10.0 Tons)
16 = 45.8 kW (13.0 Tons)
25 = 59.2 kW (16.8 Tons)

Factory Assigned
A = Default

Factory Assigned
0 = Default

Coil Options (Condenser)
With Round Tube/Plate Fin Design
All models except 14 size (12.5 Ton)
A = Al/Cu Standard
B = Pre Coat Al/Cu
C = E–Coat Al/Cu
E = Cu/Cu
M = Al/Cu Standard with louvered hail guard
N = Pre Coat Al/Cu with louvered hail guard
P = E–Coat Al/Cu with louvered hail guard
R = Cu/Cu – Louvered hail guard
Coil Options (Condenser)
With All Aluminum – NOVATION Design (07–16 sizes)
G = Al/Al Standard
K = E–Coat Al/Al
T = Al/Al with louvered hail guard
W = E–Coat Al/Al with louvered hail guard

Voltage
9 = 400–3–50

Design Rev
– = Factory Assigned

Base Unit Controls
0 = Standard Electro–Mechanical Controls

Factory Assigned
A = Default

Service Options
0 = None

Electrical Options
A = None
C = Non–Fused Disconnect

Brand / Packaging
0 = Standard
1 = LTL

AHRI CAPACITY RATINGS

UNIT	COOLING STAGES	NOM. CAPACITY (TONS)	NET COOLING CAPACITY (MBH)	TOTAL POWER (kW)	EER
38AUZ07/40RU07	1	5	62.7	5.1	12.2
38AUZ08/40RU08	1	6.3	79.3	6.9	11.5
38AUD12/40RU12	2	8.3	103.0	8.2	12.6
38AUD14/40RU14	2	10.4	125.0	10.9	11.5
38AUD16/40RU16	2	12.5	162.0	13.5	12.0
38AUD25/40RU25	2	16.7	202.2	16.6	12.2

LEGEND

AHRI – Air Conditioning, Heating and Refrigeration Institute
ASHRAE – American Society of Heating, Refrigerating and Air Conditioning, Inc.
EER – Energy Efficiency Ratio
IEER – Integrated Energy Efficiency Ratio

NOTES

1. Rated in accordance with AHRI Standard 340/360, as appropriate.
2. Ratings are based on:
   Cooling Standard: 27°C (80°F) db, 19°C (67°F) wb indoor air temp and 35°C (95°F) db outdoor air temp.
3. All units comply with ASHRAE 90.1 Energy Standard for minimum EER and IEER requirements.

SOUND POWER LEVELS, dB

UNIT	COOLING STAGES	OUTDOOR SOUND (dB)								
		A–WEIGHTED	63	125	250	500	1000	2000	4000	8000
NOVATION – All Aluminum Coil Design										
38AUZ07	1	82	78.7	91.2	84.4	79.7	76.9	73.5	71.9	67.5
38AUZ08	1	81	81.7	89.7	82.6	77.6	74.4	70.3	68.0	64.2
38AUD12	2	78	79.2	81.1	78.4	75.0	72.9	68.2	66.4	68.2
38AUD14	2	79	76.2	78.6	78.1	75.1	75.2	71.4	67.9	65.1
38AUD16	2	80	90.3	81.8	78.0	76.7	75.2	70.5	66.4	61.9
RTPF – Round Tube/Plate Fin Coil Design										
38AUZ07	1	83	81.7	88.2	84.0	79.7	78.1	74.0	71.4	68.0
38AUZ08	1	83	81.7	88.2	84.0	79.7	78.1	74.0	71.4	68.0
38AUD12	2	80	76.0	79.9	79.8	77.4	75.6	69.8	67.8	66.4
38AUD16	2	83	86.7	81.2	78.9	80.4	78.0	74.2	70.2	65.0
38AUD25	2	85	91.0	85.0	80.0	86.0	79.0	73.0	68.0	63.0

NOTE: Outdoor sound data is measure in accordance with AHRI standard 270–2008.
LEGEND:
dB = Decibel

PHYSICAL DATA

SINGLE CIRCUIT MODELS with RTPF – Round Tube/Plate Fin Coil Design		
	38AUZ07	**38AUZ08**
Refrigeration System		
# Circuits / # Comp. / Type	1 / 1 / Scroll	1 / 1 / Scroll
R–410a shipping charge A/B (lbs, 50 Hz)	11	13
System charge w/ fan coil* (50 Hz)	14	17
Metering device	TXV	TXV
High–press. Trip / Reset (psig)	630 / 505	630 / 505
Low–press. Trip / Reset (psig)	54 / 117	54 / 117
Cond. Coil		
Material	Al/Cu	Al/Cu
Coil type	RTPF	RTPF
Rows / FPI	2 / 17	2 / 17
Total face area (ft2)	17.5	17.5
Cond. fan / motor		
Qty / Motor drive type	2 / direct	2 / direct
Motor HP / RPM	1/4 / 1100	1/4 / 1100
Fan diameter (in)	22	22
Nominal Airflow (cfm)	6000	6000
Watts (total)	610	610
Piping Connections		
Qty / Suction (in. ODS)	1 / 1 1/8	1 / 1 1/8
Qty / Liquid (in. ODS)	1 / 3/8	1 / 1/2

SINGLE CIRCUIT MODELS with NOVATION – All Aluminum coil Design		
	38AUZ07	**38AUZ08**
Refrigeration System		
# Circuits / # Comp. / Type	1 / 1 / Scroll	1 / 1 / Scroll
R–410a shipping charge A/B (lbs)	4.4	4.9
System charge w/ fan coil	8.4	10.2
System charge w/ fan coil (50hz)	9.0	12.3
Metering device	TXV	TXV
High–press. Trip / Reset (psig)	630 / 505	630 / 505
Low–press. Trip / Reset (psig)	54 / 117	54 / 117
Cond. Coil		
Material	Al	Al
Coil type	microchannel	microchannel
Rows / FPI	1 / 17	1 / 17
total face area (ft2)	17.5	20.5
Cond. fan / motor		
Qty / Motor drive type	2 / direct	2 / direct
Motor HP / RPM	1/4 / 1100	1/4 / 1100
Fan diameter (in)	22	22
Nominal Airflow (cfm)	6,000	6,000
Watts (total)	610	610

RTPF – Round tube /plate fin design

* Approximate system charge with about 25 ft piping of sizes indicated with matched 40RU.

PHYSICAL DATA (CONT)

DUAL CIRCUIT MODELS with RTPF – Round Tube/Plate Fin Coil Design			
	38AUD12	**38AUD16**	**38AUD25**
Refrigeration System			
# Circuits / # Comp. / Type	2 / 2 / Scroll	2 / 2 / Scroll	2 / 2 / Scroll
R–410a shipping charge A/B (lbs, 50 Hz)	8.0 / 8.0	16.0 / 16.0	14.0 / 14.0
System charge w/ fan coil* (50 Hz)	11.0 / 10.0	22.0 / 22.0	19.0 / 19.0
Metering device	TXV	TXV	TXV
High–press. Trip / Reset (psig)	630 / 505	630 / 505	630 / 505
Low–press. Trip / Reset (psig)	54 / 117	54 / 117	54 / 117
Compressor			
Model	ZP51 (2)	ZP83 (2)	ZP103 (2)
Oil Charge A/B (oz)	42 / 42	60 / 60	110 / 110
Speed rpm 50 Hz	2900	2900	2900
Cond. Coil			
Material	Al/Cu	Al/Cu	Al/Cu
Coil type	RTPF	RTPF	RTPF
Rows / FPI	2 / 17	2 / 17	2 / 17
Total face area (ft2)	25.1	23.5 x 2	25.0 x 2
Cond. fan / motor			
Qty / Motor drive type	2 / direct	3 / direct	4 / direct
Motor HP / RPM	1/4 / 1100	1/4 / 1100	1/4 / 1100
Fan diameter (in)	22	22	22
Nominal Airflow (cfm)	6000	9000	12000
Watts (total)	610	970	1150
Piping Connections			
Qty / Suction (in. ODS)	2 / 1 1/8	2 / 1 3/8	2 / 1 3/8
Qty / Liquid (in. ODS)	2 / 3/8	2 / 1/2	2 / 1/2

DUAL CIRCUIT MODELS with NOVATION – All Aluminum coil Design			
	38AUD12	**38AUD14**	**38AUD16**
Refrigeration System			
# Circuits / # Comp. / Type	2/2/Scroll	2/2/Scroll	2/2/Scroll
R–410a shipping charge A/B (lbs)	3.0 /3.1	3.7/3.9	6.1/6.1
System charge w/ fan coil	7.4 / 7.4	10.8 / 10.8	12.0/12.0
System charge w/ fan coil (50hz)	7.5 / 7.5	11.2 / 11.2	14.0 /14.0
Metering device	TXV	TXV	TXV
High–press. Trip / Reset (psig)	630 / 505	630 / 505	630 / 505
Low–press. Trip / Reset (psig)	54 / 117	54 / 117	54 / 117
Cond. Coil			
Material	Al	Al	Al
Coil type	microchannel	microchannel	microchannel
Rows / FPI	1 / 17	1 / 17	1 / 17
total face area (ft2)	25.0	31.8	25.0 x 2
Cond. fan / motor			
Qty / Motor drive type	2 / direct	2 / direct	3 / direct
Motor HP / RPM	1/4 / 1100	1/4 / 1100	1/4 / 1100
Fan diameter (in)	22	22	22
Nominal Airflow (cfm)	6,000	6,000	10,000
Watts (total)	610	610	970

RTPF – Round tube /plate fin design

* Approximate system charge with about 25 ft piping of sizes indicated with matched 40RU.

DIMENSIONS

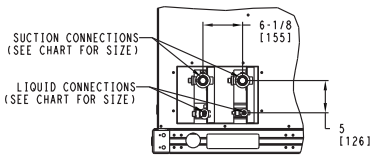
UNIT	STD. UNIT WT.		CORNER A		CORNER B		CORNER C		CORNER D		CENTER OF GRAVITY			UNIT HEIGHT
	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	X	Y	Z	H
38AUZ-07 (MCHX)	149	328	58	128	31	68	28	62	32	70	21 [533.4]	19 [482.6]	13 [330.2]	42-3/8 [1076.0]
38AUZ-08 (MCHX)	160	353	63	138	33	72	29	65	35	78	19 [482.6]	23 [584.2]	13 [330.2]	42-3/8 [1076.0]
38AUD-12 (MCHX)	226	499	88	193	50	111	38	72	56	123	20 [508.0]	23 [584.2]	15 [381.0]	50-3/8 [1279.2]
38AUD-14 (MCHX)	229	505	86	190	40	88	34	76	68	151	20 [508.0]	24 [609.6]	15 [381.0]	50-3/8 [1279.2]
38AUZ-07 (RTPF)	176	389	64	141	44	96	28	62	41	91	18 [457.2]	24 [609.6]	21 [533.4]	42-3/8 [1076.0]
38AUZ-08 (RTPF)	177	391	64	142	44	96	28	62	41	91	18 [457.2]	24 [609.6]	21 [533.4]	42-3/8 [1076.0]
38AUD-12 (RTPF)	234	516	84	185	53	117	38	83	59	131	19 [482.6]	23 [584.2]	24 [609.6]	50-3/8 [1279.2]

CG CENTER OF GRAVITY

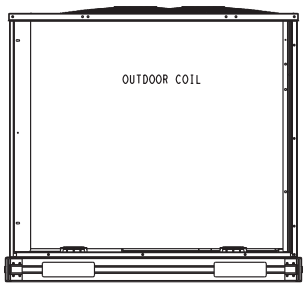
DIRECTION OF AIR FLOW

DIMENSIONS IN [ ] ARE IN MM

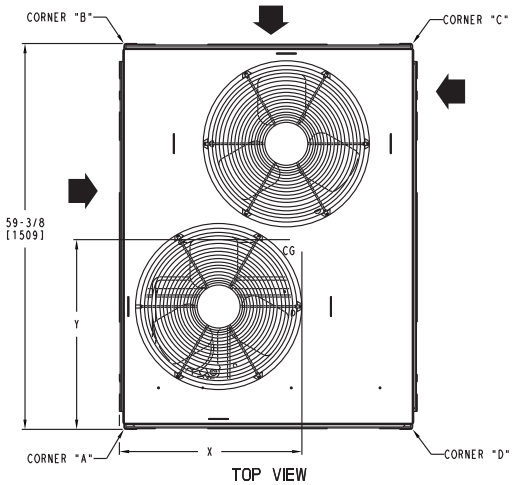
SERVICE VALVE CONNECTIONS		
UNIT	SUCTION	LIQUID
38AUZ07	1-1/8 [28.6]	3/8 [9.5]
38AUZ08	1-1/8 [28.6]	1/2 [12.7]
38AUD12	1-1/8 [28.6]	3/8 [9.5]
38AUD14	1-3/8 [34.9]	1/2 [12.7]



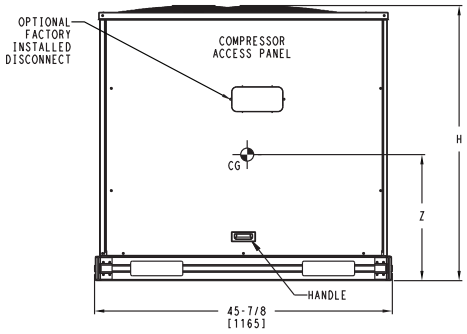
RIGHT SIDE VIEW
(FOR 38AUD SYSTEMS)



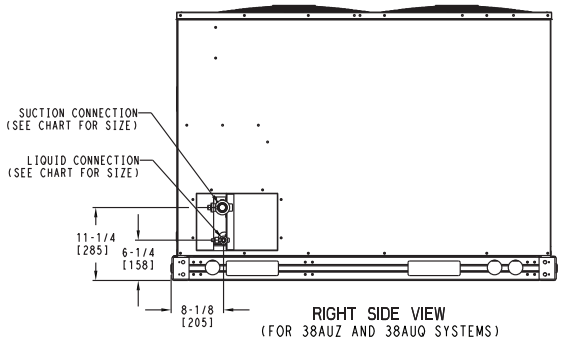
PLAN VIEW



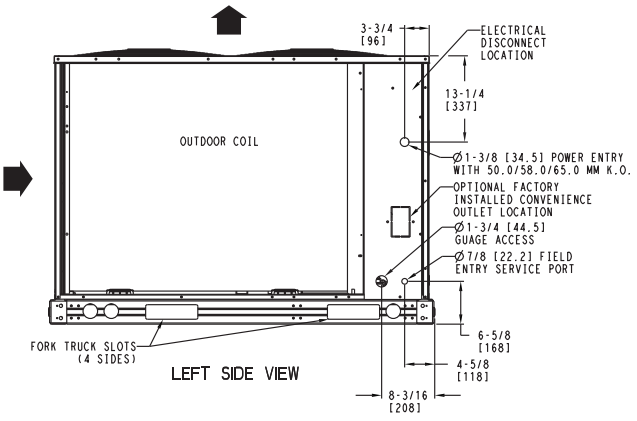
TOP VIEW



FRONT VIEW



RIGHT SIDE VIEW
(FOR 38AUZ AND 38AUQ SYSTEMS)



LEFT SIDE VIEW

NOTES:

1. MINIMUM CLEARANCE (LOCAL CODES OR JURISDICTION MAY PREVAIL):
   A. BOTTOM TO COMBUSTIBLE SURFACES: 0 INCHES.
   B. OUTDOOR COIL, FOR PROPER AIR FLOW: 36 INCHES ONE SIDE, 12 INCHES THE OTHER. THE SIDE GETTING THE GREATER CLEARANCE IS OPTIONAL.
   C. OVERHEAD: 60 INCHES, TO ASSURE PROPER OUTDOOR FAN OPERATION.
   D. BETWEEN UNITS: CONTROL BOX SIDE, 42 INCHES PER NEC.
   E. BETWEEN UNIT AND UNGROUNDED SURFACES: CONTROL BOX SIDE, 36 INCHES PER NEC.
   F. BETWEEN UNIT AND BLOCK OR CONCRETE WALLS AND OTHER GROUNDED SURFACES: CONTROL BOX SIDE, 42 INCHES PER NEC.
2. WITH EXCEPTION OF THE CLEARANCE FOR THE OUTDOOR COIL AS STATED IN NOTE 1B, A REMOVABLE FENCE OR BARRICADE REQUIRES NO CLEARANCE.
3. UNITS MAY BE INSTALLED ON COMBUSTIBLE FLOORS MADE FROM WOOD OR CLASS A, B OR C ROOF COVERING MATERIAL.

C10590

DIMENSIONS (cont.)

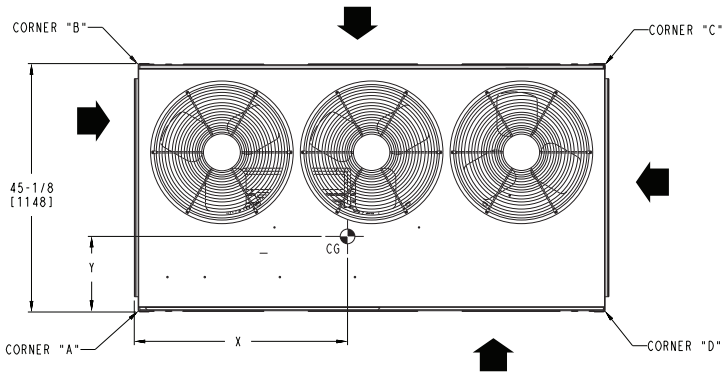
UNIT	STD. UNIT WT.		CORNER A		CORNER B		CORNER C		CORNER D		CENTER OF GRAVITY			UNIT HEIGHT
	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	X	Y	Z	H
38AUD16 (MCHX)	288	633	100	220	61	134	61.5	135	65.5	144	38 [965.2]	19 [482.6]	15 [381]	50-3/8 [1279.2]
38AUD16 (RTPF)	332	731	107	237	78	172	61	135	84	186	38 [965.2]	19 [482.6]	17 [431.8]	50-3/8 [1279.2]

CG CENTER OF GRAVITY

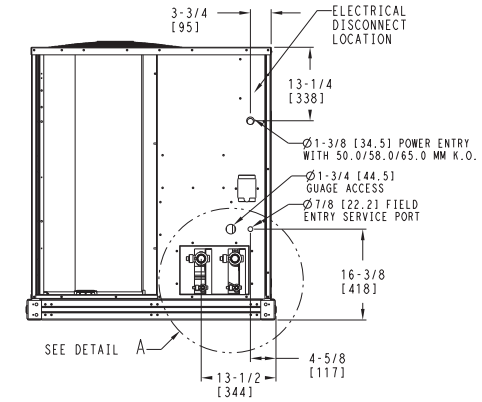
DIRECTION OF AIR FLOW

DIMENSIONS IN [ ] ARE IN MM

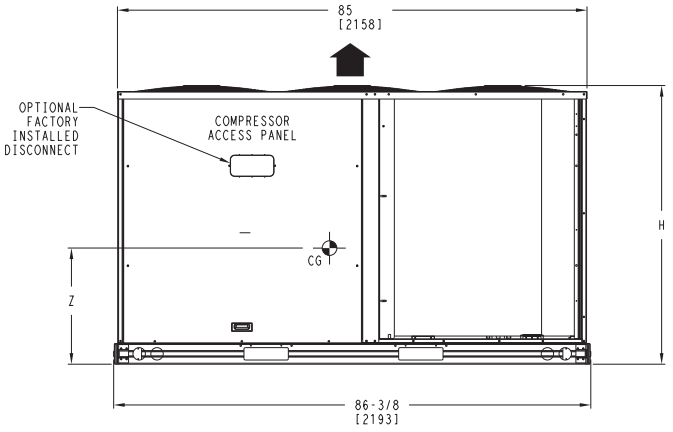
SERVICE VALVE CONNECTIONS			QTY
UNIT	SUCTION	LIQUID	
38AUD16	1-3/8 [34.9]	1/2 [12.7]	2 EA



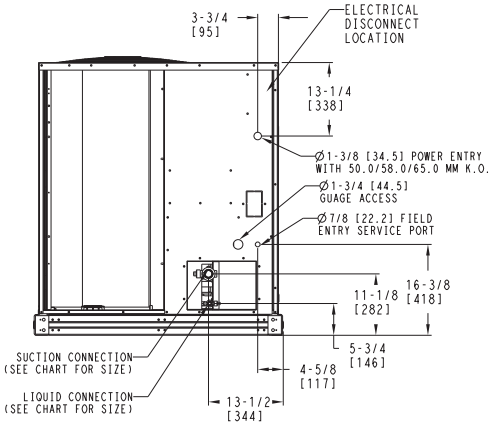
TOP VIEW



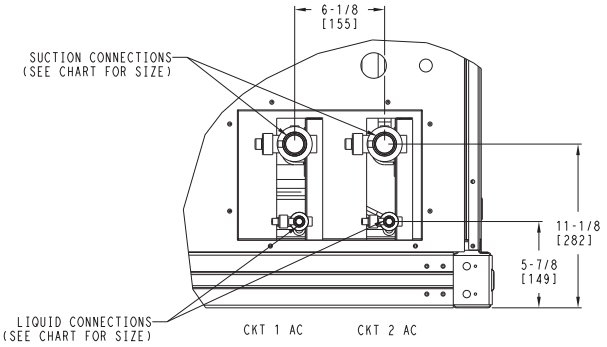
LEFT SIDE VIEW FOR 38AUD SYSTEMS



FRONT VIEW



LEFT SIDE VIEW



DETAIL A
(NOTE POSITION OF CKT 1)

NOTES:
1. MINIMUM CLEARANCE (LOCAL CODES OR JURISDICTION MAY PREVAIL):
   A. BOTTOM TO COMBUSTIBLE SURFACES: 0 INCHES.
   B. OUTDOOR COIL, FOR PROPER AIR FLOW: 36 INCHES ONE SIDE, 12 INCHES THE OTHER. THE SIDE GETTING THE GREATER CLEARANCE IS OPTIONAL.
   C. OVERHEAD: 60 INCHES, TO ASSURE PROPER OUTDOOR FAN OPERATION.
   D. BETWEEN UNITS: CONTROL BOX SIDE, 42 INCHES PER NEC.
   E. BETWEEN UNIT AND UNGROUNDED SURFACES: CONTROL BOX SIDE, 36 INCHES PER NEC.
   F. BETWEEN UNIT AND BLOCK OR CONCRETE WALLS AND OTHER GROUNDED SURFACES: CONTROL BOX SIDE, 42 INCHES PER NEC.
2. WITH EXCEPTION OF THE CLEARANCE FOR THE OUTDOOR COIL AS STATED IN NOTE 1B, A REMOVABLE FENCE OR BARRICADE REQUIRES NO CLEARANCE.
3. UNITS MAY BE INSTALLED ON COMBUSTIBLE FLOORS MADE FROM WOOD OR CLASS A, B OR C ROOF COVERING MATERIAL.

C10591

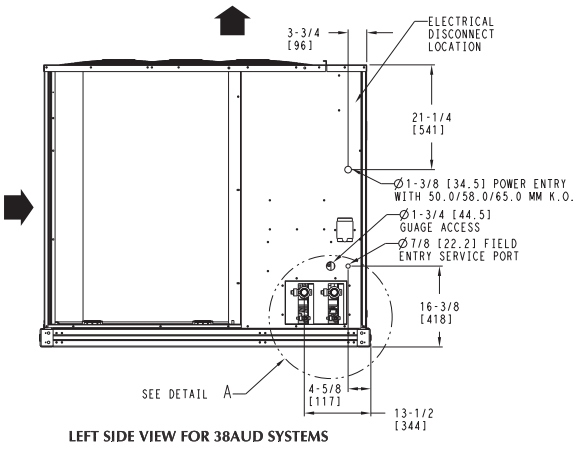
DIMENSIONS (cont.)

UNIT	STD. UNIT WT.		CORNER A		CORNER B		CORNER C		CORNER D		CENTER OF GRAVITY			UNIT HEIGHT
	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	X	Y	Z	H
38AUD25 (RTPF)	444	978	163	360	85	188	67	147	128	283	38 [965.2]	23 [584.2]	17 [431.8]	50-3/8 [1279.2]

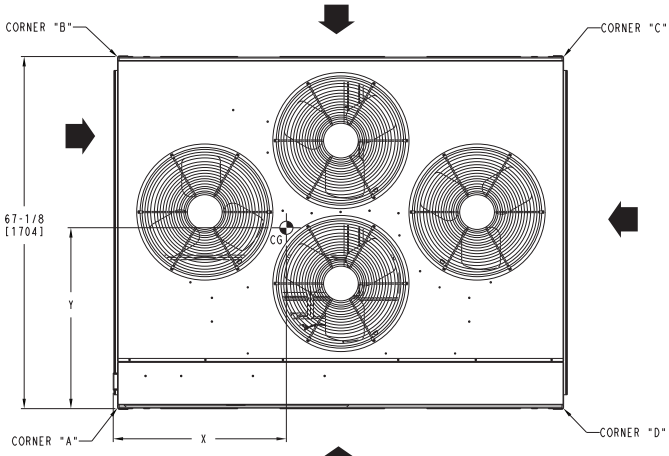
CG CENTER OF GRAVITY

DIRECTION OF AIR FLOW

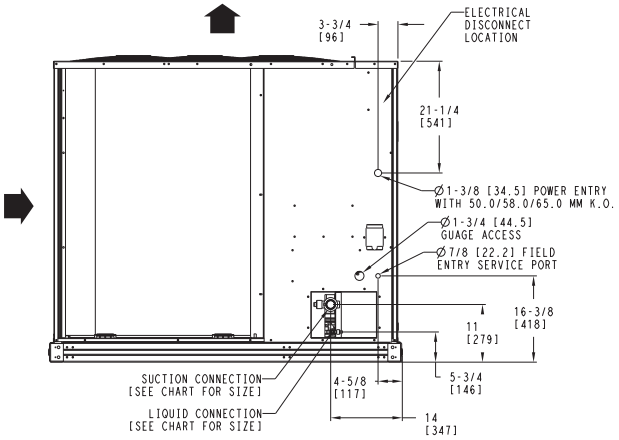
DIMENSIONS IN [ ] ARE IN MM



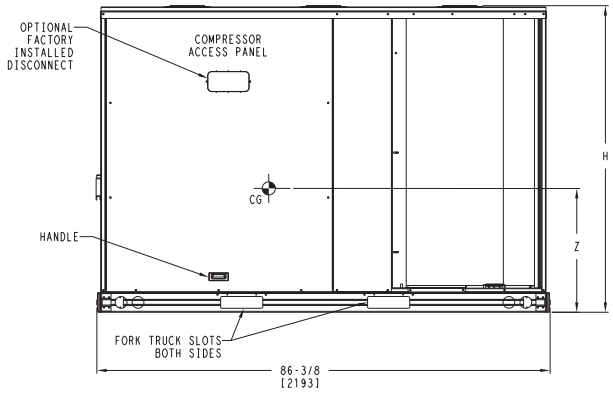
LEFT SIDE VIEW FOR 38AUD SYSTEMS



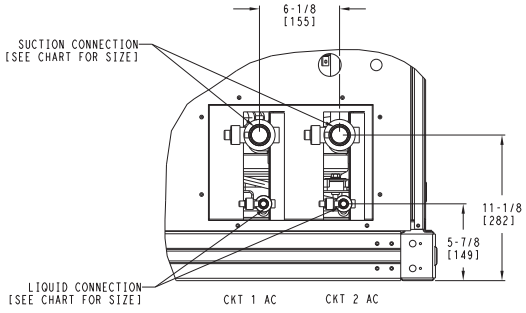
TOP VIEW



LEFT SIDE VIEW



FRONT VIEW



DETAIL A
(NOTE POSITION OF CKT 1)

NOTES:
1. MINIMUM CLEARANCE (LOCAL CODES OR JURISDICTION MAY PREVAIL):
   A. BOTTOM TO COMBUSTIBLE SURFACES: 0 INCHES.
   B. OUTDOOR COIL, FOR PROPER AIR FLOW: 36 INCHES ONE SIDE, 12 INCHES THE OTHER. THE SIDE GETTING THE GREATER CLEARANCE IS OPTIONAL.
   C. OVERHEAD: 60 INCHES, TO ASSURE PROPER OUTDOOR FAN OPERATION.
   D. BETWEEN UNITS: CONTROL BOX SIDE, 42 INCHES PER NEC.
   E. BETWEEN UNIT AND UNGROUNDED SURFACES: CONTROL BOX SIDE, 36 INCHES PER NEC.
   F. BETWEEN UNIT AND BLOCK OR CONCRETE WALLS AND OTHER GROUNDED SURFACES: CONTROL BOX SIDE, 42 INCHES PER NEC.
2. WITH EXCEPTION OF THE CLEARANCE FOR THE OUTDOOR COIL AS STATED IN NOTE 1B, A REMOVABLE FENCE OR BARRICADE REQUIRES NO CLEARANCE.
3. UNITS MAY BE INSTALLED ON COMBUSTIBLE FLOORS MADE FROM WOOD OR CLASS A, B OR C ROOF COVERING MATERIAL.

SERVICE VALVE CONNECTIONS			QTY
UNIT	SUCTION	LIQUID	
38AUD25	1-3/8 [34.9]	1/2 [12.7]	2 EA

C10592

OPTIONS AND ACCESSORIES

38AUZ/D OPTIONS AND ACCESSORIES

ITEM	OPTION*	ACCESSORY†
Disconnect Switch (non-fused)	X	
Special–coated Coil Protection	X	
Low Ambient Temperature MotorMaster I® Control	X	X
Wired Condenser Coil Grille (Novation 07–14 models only)		X
Louvered Hail Guard	X	X
Programmable Thermostats		X

* Factory-installed option.

† Field-installed accessory.

38AUZ/38AUD factory-installed options

E-coated aluminum-fin coils have a flexible and durable epoxy coating uniformly applied to all coil surfaces. Unlike brittle phenolic dip and bake coatings, E-coating provides superior protection with unmatched flexibility, edge coverage, metal adhesion, thermal performance, and most importantly, corrosion resistance.

E-coated coils provide this protection since all coil surfaces are completely encapsulated from environmental contamination. This coating is especially suitable in industrial environments.

Pre-coated coils (RTPF coils only) provide protection in mild coastal environments.

–29°C (–20°F) low-ambient temperature kit option (MotorMaster I®) controls outdoor-fan motor operation to maintain the correct head pressure at low outdoor ambient temperatures.

Louvered hail guard package protects coils against damage from flying debris and hail.

Non-fused disconnect switch is used to remove power locally at the condensing unit. This switch also includes a power lockout capability to protect the service person. This lockout switch saves the service person time and effort because there is no need to access a distant disconnect switch while servicing the unit.

NOTE: Non-fused disconnect switch cannot be used when unit MOCP electrical rating exceeds 80 amps.

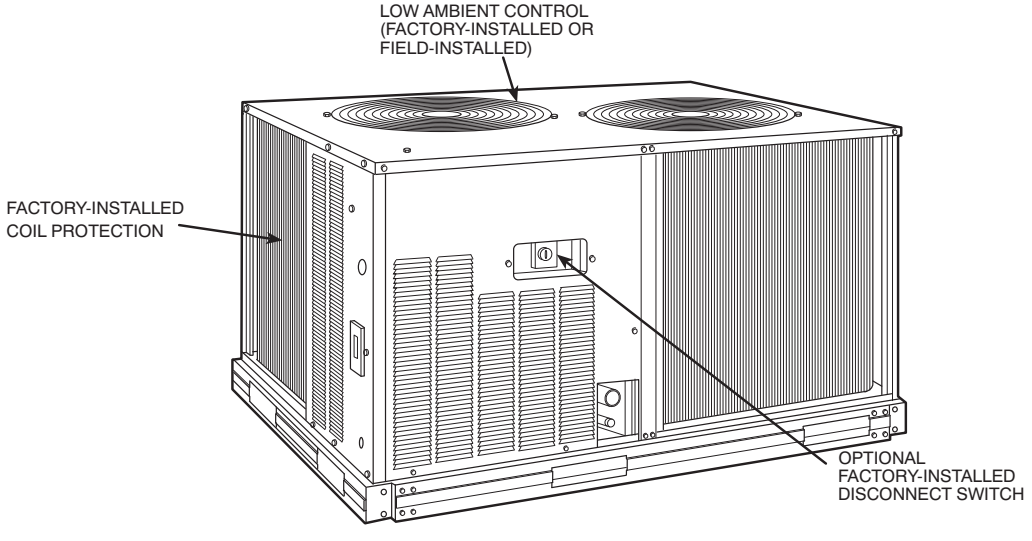
38AUZ/D field-installed accessories

–29°C (–20°F) low-ambient temperature kit accessory (MotorMaster I®) controls outdoor-fan motor operation to maintain the correct head pressure at low outdoor ambient temperatures.

Louvered hail guard package protects coils against damage from flying debris and hail.

Condenser coil grille package protects condensing unit coil from impact by large objects and vandalism.

Carrier's line of thermostats provide both programmable and non-programmable capability with the new **Debonair®** line of commercial programmable thermostats. The **Commercial Electronic** thermostats provide 7-day programmable capability for economical applications.



C10609

OPTIONS AND ACCESSORIES (cont.)

40RU OPTIONS AND ACCESSORIES

ITEM	OPTION*	ACCESSORY†
Alternate Fan Motors	X	
Alternate Drives	X	
CO_2 Sensors		X
Condensate Drain Trap		X
Discharge Plenum		X
Economizer		X
Electric Heat		X
Hot Water Heating Coils		X
Overhead Suspension Package		X
Prepainted Units	X	
Return Air Grille		X
Steam Heating Coil		X
Subbase		X

* Factory-installed option.

† Field-installed accessory.

40RU factory-installed options

Alternate fan motors and drives are available to provide the widest possible range of performance.

Units constructed of prepainted steel are available from the factory for applications that require painted units. Unit color is American Sterling Gray.

40RU field-installed accessories

Two-row hot water coils have $^5/_8$-in. diameter copper tubes mechanically bonded to aluminum plate fins. Coils have non-ferrous headers.

One-row steam coil has 1-in. OD copper tube and aluminum fins. The Inner Distributing Tube (IDT) design provides uniform temperatures across the coil face. The IDT steam coils are especially suited to applications where sub-freezing air enters the unit.

Electric resistance heat coils have an open-wire design and are mounted in a rigid frame. Safety cutouts for high temperature conditions are standard.

Economizer (enthalpy controlled) provides ventilation air and provides "free" cooling if the outside ambient temperature and humidity are suitable. The economizer can also be used in conjunction with Carrier Comfort System thermostats and CO_2 sensors to help meet indoor air quality requirements. The economizer can be used in both vertical and horizontal positions.

Discharge plenum directs the air discharge into the occupied space; integral horizontal and vertical louvers enable redirection of airflow. This accessory is available unpainted or painted.

Return-air grille provides a protective barrier over the return-air opening and gives a finished appearance to units installed in the occupied space. This accessory is available unpainted or painted.

Subbase provides a stable, raised platform and room for condensate drain connection for floor-mounted units. This accessory is available unpainted or painted.

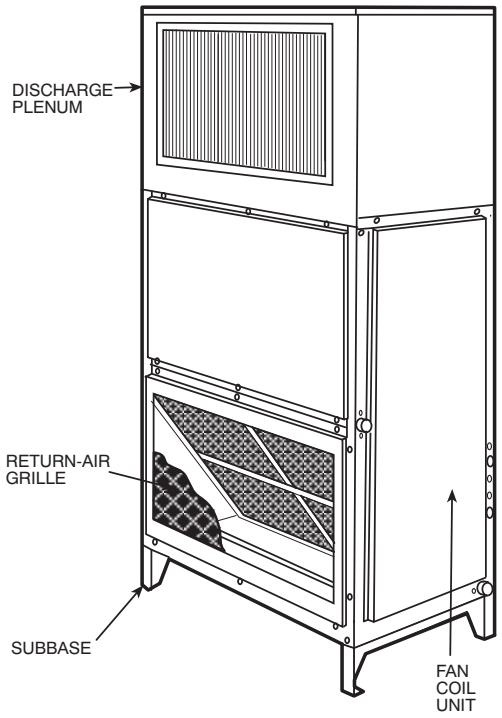
Overhead suspension package includes necessary brackets to support units in horizontal installations.

CO_2 sensors can be used in conjunction with the economizer accessory to help meet indoor air quality requirements. The sensor signals the economizer to open when the CO_2 level in the space exceeds the setpoint. A Carrier Comfort System programmable thermostat can also be used to override the sensor if the outside-air temperature is too high or too low.

Condensate drain trap includes an overflow shutoff switch that can be wired to turn off the unit if the trap becomes plugged. The kit also includes a wire harness that can be connected to an alarm if desired. The transparent trap is designed for easy service and maintenance.

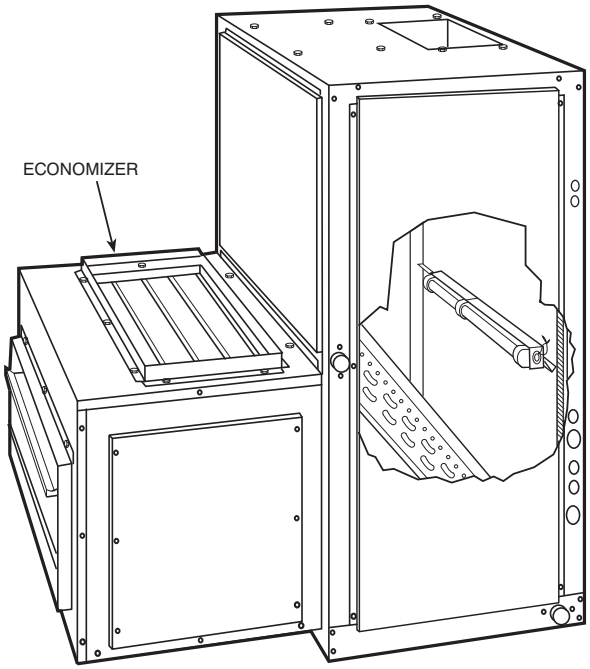
OPTIONS AND ACCESSORIES (cont.)

40RU WITH DISCHARGE PLENUM RETURN-AIR GRILLE AND SUBBASE

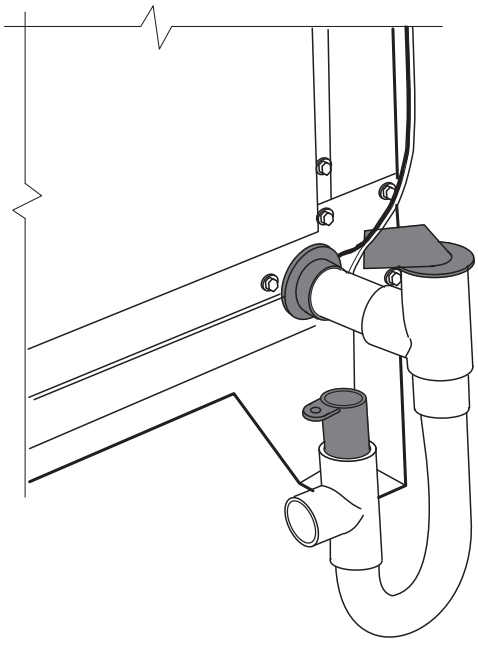


40RU WITH HOT WATER OR STEAM COIL

40RU WITH ECONOMIZER

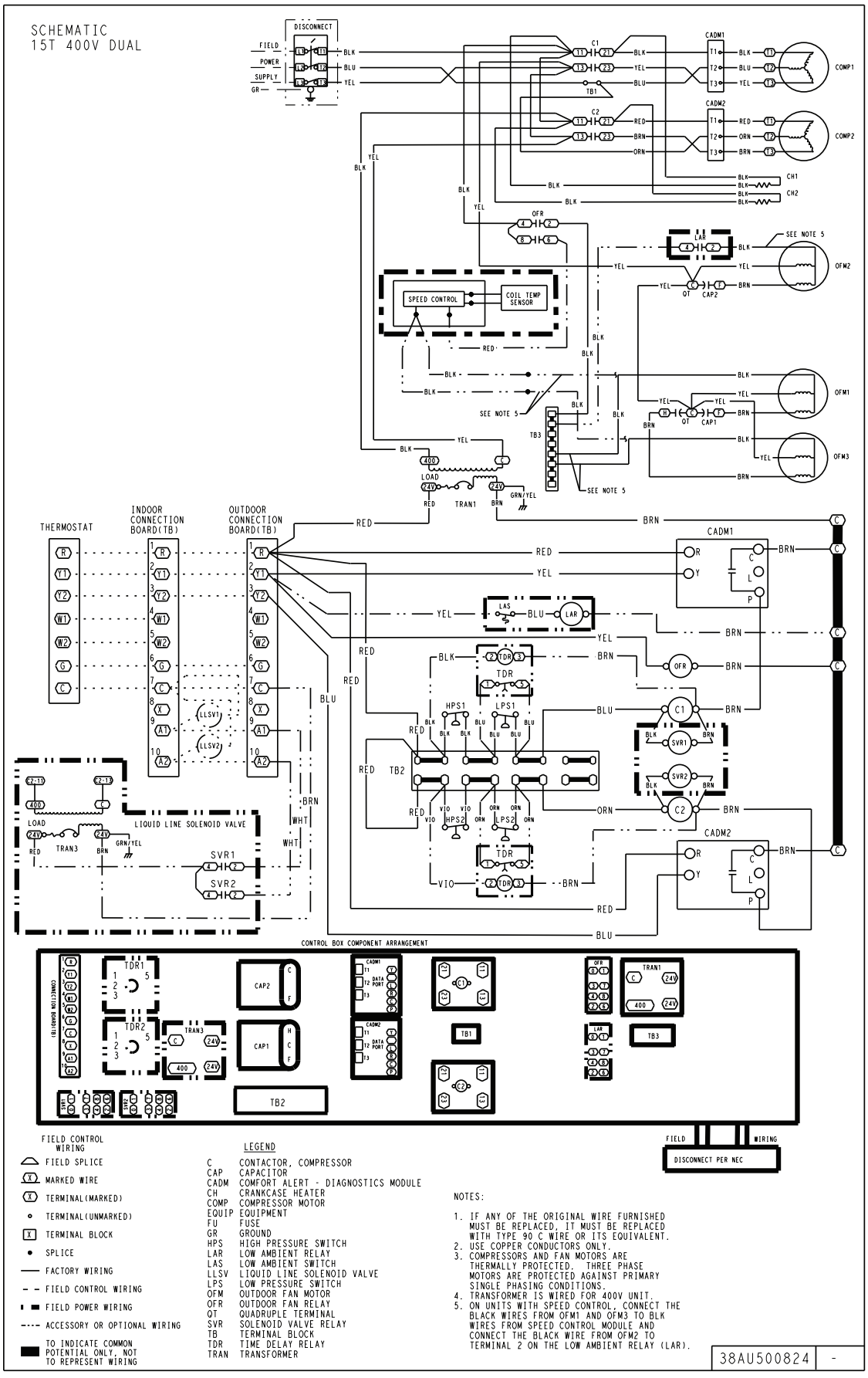


40RU WITH CONDENSATE TRAP



C10610

TYPICAL WIRING SCHEMATIC



C10593

Typical 38AUD16 Dual Circuit

PERFORMANCE DATA

38AUZ07 50 Hz **CONDENSER ONLY RATINGS** **SI**

SST (°C)		Air Temperature entering Condenser (°C)					
		27	29	35	41	46	52
-7	TC	11.9	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	35.4	38.1	44.2	49.5	54.5	59.6
-4	TC	13.2	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	35.9	38.7	44.2	49.5	54.3	60.0
-1	TC	14.6	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	36.5	39.3	44.8	50.0	54.9	61.9
2	TC	16.0	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	37.1	39.8	45.4	50.9	56.1	61.6
4	TC	17.4	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	37.7	40.4	45.9	51.5	56.9	62.2
7	TC	18.9	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	38.2	41.0	46.5	52.0	57.4	62.5
10	TC	20.3	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	38.8	41.6	47.1	52.5	57.9	63.3

38AUZ07 50 Hz **CONDENSER ONLY RATINGS** **ENGLISH**

SST (°F)		Air Temperature entering Condenser (°F)					
		80	85	95	105	115	125
20	TC	40.7	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	95.7	100.6	111.5	121.1	130.1	139.3
25	TC	45.2	43.8	41.0	38.0	34.5	31.3
	kW	3.6	3.8	4.4	5.0	5.7	6.4
	SDT	96.7	101.6	111.6	121.1	129.8	140.1
30	TC	49.8	48.4	45.5	42.2	38.6	36.0
	kW	3.5	3.8	4.4	5.0	5.7	6.6
	SDT	97.8	102.7	112.6	122.1	130.8	143.5
35	TC	54.6	53.2	50.2	47.0	43.2	40.0
	kW	3.5	3.7	4.3	5.0	5.8	6.6
	SDT	98.8	103.7	113.7	123.6	132.9	142.9
40	TC	59.5	58.0	54.9	51.6	48.1	44.3
	kW	3.4	3.7	4.3	5.0	5.7	6.6
	SDT	99.8	104.7	114.7	124.6	134.5	143.9
45	TC	64.4	62.9	59.7	56.4	52.8	48.6
	kW	3.3	3.6	4.2	4.9	5.7	6.5
	SDT	100.8	105.8	115.7	125.6	135.4	144.4
50	TC	69.3	67.8	64.6	61.2	57.6	53.6
	kW	3.2	3.5	4.2	4.9	5.6	6.5
	SDT	101.9	106.8	116.7	126.5	136.3	145.9

LEGEND:
kW – Compressor Power
SDT – Saturated Discharge Temperature at Compressor
SST – Saturated Suction Temperature
TC – Gross Cooling Capacity (1000 Btuh)

38AUZ08 50 Hz CONDENSER ONLY RATINGS SI

SST (°C)		Air Temperature entering Condenser (°C)					
		27	29	35	41	46	52
-7	TC	15.3	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	34.5	37.2	42.7	48.2	53.5	59.1
-4	TC	16.9	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	35.0	37.7	43.2	48.7	53.5	58.9
-1	TC	18.6	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	35.6	38.3	43.7	49.2	54.6	59.5
2	TC	20.3	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	36.1	38.8	44.3	49.7	55.1	60.5
4	TC	22.1	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	36.7	39.4	44.8	50.2	55.6	60.9
7	TC	23.8	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	37.3	40.0	45.4	50.7	56.1	61.4
10	TC	25.6	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	38.0	40.6	46.0	51.3	56.6	61.8

38AUZ08 50 Hz CONDENSER ONLY RATINGS ENGLISH

SST (°F)		Air Temperature entering Condenser (°F)					
		80	85	95	105	115	125
20	TC	52.2	50.6	47.2	43.7	39.9	36.3
	kW	4.1	4.4	5.2	6.0	6.8	7.8
	SDT	94.1	99.0	108.9	118.8	128.2	138.4
25	TC	57.7	55.9	52.3	48.6	44.0	40.1
	kW	4.1	4.5	5.2	6.0	6.9	7.9
	SDT	95.0	99.9	109.8	119.7	128.3	138.1
30	TC	63.4	61.5	57.7	53.8	49.6	44.7
	kW	4.2	4.5	5.3	6.1	7.0	8.0
	SDT	96.0	100.9	110.7	120.6	130.3	139.1
35	TC	69.3	67.3	63.3	59.2	54.9	50.4
	kW	4.2	4.6	5.3	6.2	7.1	8.0
	SDT	97.0	101.9	111.7	121.5	131.3	140.9
40	TC	75.2	73.3	69.2	64.9	60.4	55.6
	kW	4.3	4.6	5.4	6.2	7.1	8.1
	SDT	98.1	102.9	112.7	122.4	132.1	141.7
45	TC	81.3	79.3	75.2	70.7	66.0	61.0
	kW	4.3	4.6	5.4	6.2	7.2	8.2
	SDT	99.2	104.0	113.7	123.3	132.9	142.5
50	TC	87.4	85.4	81.1	76.6	71.7	66.5
	kW	4.3	4.7	5.5	6.3	7.2	8.2
	SDT	100.3	105.1	114.7	124.3	133.8	143.3

LEGEND:

kW – Compressor Power
SDT – Saturated Discharge Temperature at Compressor
SST – Saturated Suction Temperature
TC – Gross Cooling Capacity (1000 Btuh)

PERFORMANCE DATA (cont.)

38AUD12 Total Unit 50 Hz CONDENSER ONLY RATINGS SI

SST (°C)		Air Temperature entering Condenser (°C)					
		27	29	35	41	46	52
-7	TC	19.5	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	35.5	38.0	43.1	48.2	53.2	58.2
-4	TC	21.5	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	36.2	38.7	43.8	48.8	53.8	58.7
-1	TC	23.7	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	36.9	39.5	44.5	49.5	54.4	59.2
2	TC	26.0	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	37.7	40.2	45.2	50.1	55.0	59.8
4	TC	28.4	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	38.5	40.9	45.9	50.8	55.6	60.3
7	TC	30.9	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	39.2	41.7	46.6	51.5	56.2	60.9
10	TC	33.6	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	40.1	42.5	47.3	52.2	56.9	61.4

38AUD12 Total Unit 50 Hz CONDENSER ONLY RATINGS ENGLISH

SST (°F)		Air Temperature entering Condenser (°F)					
		80	85	95	105	115	125
20	TC	66.5	64.3	59.8	55.1	50.0	44.7
	kW	5.2	5.6	6.4	7.3	8.2	9.1
	SDT	95.9	100.5	109.6	118.8	127.8	136.7
25	TC	73.4	71.0	66.1	61.0	55.7	50.0
	kW	5.2	5.6	6.5	7.4	8.3	9.2
	SDT	97.2	101.7	110.8	119.9	128.9	137.7
30	TC	80.8	78.2	72.9	67.3	61.6	55.5
	kW	5.3	5.7	6.6	7.5	8.4	9.3
	SDT	98.5	103.0	112.1	121.1	129.9	138.6
35	TC	88.6	85.8	80.0	74.0	67.9	61.4
	kW	5.4	5.8	6.6	7.5	8.5	9.4
	SDT	99.8	104.3	113.3	122.3	131.1	139.6
40	TC	96.8	93.8	87.5	81.2	74.5	67.4
	kW	5.5	5.9	6.7	7.6	8.6	9.5
	SDT	101.2	105.7	114.6	123.4	132.2	140.6
45	TC	105.6	102.2	95.4	88.5	81.2	73.6
	kW	5.6	5.9	6.8	7.7	8.7	9.6
	SDT	102.6	107.0	115.9	124.6	133.2	141.6
50	TC	114.7	111.0	103.6	96.0	88.0	79.6
	kW	5.6	6.0	6.9	7.8	8.7	9.7
	SDT	104.1	108.4	117.2	125.9	134.3	142.6

LEGEND:

kW – Compressor Power
SDT – Saturated Discharge Temperature at Compressor
SST – Saturated Suction Temperature
TC – Gross Cooling Capacity (1000 Btuh)

PERFORMANCE DATA (cont.)

38AUD12 Circuit A 50 Hz CONDENSER ONLY RATINGS SI

SST (°C)		Air Temperature entering Condenser (° C)					
		27	29	35	41	46	52
-7	TC	9.6	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	35.4	37.9	43.0	48.1	53.1	58.0
-4	TC	10.6	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	36.1	38.6	43.7	48.7	53.7	58.6
-1	TC	11.7	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	36.8	39.3	44.3	49.3	54.3	59.1
2	TC	12.8	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	37.5	40.0	45.0	50.0	54.9	59.6
4	TC	14.0	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	38.3	40.8	45.7	50.6	55.5	60.1
7	TC	15.2	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	39.1	41.5	46.4	51.3	56.0	60.7
10	TC	16.5	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	39.9	42.3	47.1	52.0	56.6	61.2

38AUD12 Circuit A 50 Hz CONDENSER ONLY RATINGS ENGLISH

SST (°F)		Air Temperature entering Condenser (°F)					
		80	85	95	105	115	125
20	TC	32.9	31.8	29.6	27.2	24.7	22.1
	kW	2.6	2.8	3.2	3.6	4.1	4.5
	SDT	95.7	100.3	109.4	118.6	127.6	136.4
25	TC	36.3	35.1	32.6	30.1	27.4	24.6
	kW	2.6	2.8	3.2	3.7	4.1	4.6
	SDT	96.9	101.5	110.6	119.7	128.6	137.4
30	TC	39.9	38.6	35.9	33.2	30.3	27.3
	kW	2.6	2.8	3.3	3.7	4.2	4.7
	SDT	98.3	102.8	111.8	120.8	129.7	138.3
35	TC	43.7	42.2	39.4	36.4	33.3	30.1
	kW	2.7	2.9	3.3	3.8	4.2	4.7
	SDT	99.6	104.1	113.0	122.0	130.7	139.3
40	TC	47.6	46.1	43.0	39.8	36.5	32.9
	kW	2.7	2.9	3.3	3.8	4.3	4.8
	SDT	101.0	105.4	114.3	123.1	131.8	140.3
45	TC	51.8	50.1	46.8	43.3	39.6	35.9
	kW	2.8	3.0	3.4	3.8	4.3	4.8
	SDT	102.3	106.7	115.5	124.3	132.9	141.3
50	TC	56.2	54.3	50.6	46.8	42.8	38.6
	kW	2.8	3.0	3.4	3.9	4.3	4.8
	SDT	103.8	108.1	116.8	125.5	133.9	142.1

LEGEND:
kW – Compressor Power
SDT – Saturated Discharge Temperature at Compressor
SST – Saturated Suction Temperature
TC – Gross Cooling Capacity (1000 Btuh)

PERFORMANCE DATA (cont.)

38AUD12 Circuit B 50 Hz CONDENSER ONLY RATINGS SI

SST (°C)		Air Temperature entering Condenser (°C)					
		27	29	35	41	46	52
-7	TC	9.8	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	35.6	38.2	43.3	48.3	53.3	58.3
-4	TC	10.9	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	36.3	38.9	43.9	49.0	53.9	58.8
-1	TC	12.0	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	37.1	39.6	44.6	49.6	54.6	59.4
2	TC	13.2	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	37.8	40.3	45.3	50.3	55.2	60.0
4	TC	14.4	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	38.6	41.1	46.0	51.0	55.8	60.5
7	TC	15.7	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	39.4	41.8	46.8	51.6	56.4	61.1
10	TC	17.1	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	40.2	42.7	47.5	52.3	57.1	61.7

38AUD12 Circuit B 50 Hz CONDENSER ONLY RATINGS ENGLISH

SST (°F)		Air Temperature entering Condenser (°F)					
		80	85	95	105	115	125
20	TC	33.6	32.5	30.2	27.8	25.3	22.7
	kW	2.6	2.8	3.2	3.7	4.1	4.5
	SDT	96.1	100.7	109.9	119.0	128.0	136.9
25	TC	37.1	35.9	33.5	30.9	28.2	25.4
	kW	2.6	2.8	3.2	3.7	4.2	4.6
	SDT	97.4	101.9	111.1	120.2	129.1	137.9
30	TC	40.9	39.6	37.0	34.2	31.3	28.2
	kW	2.7	2.9	3.3	3.7	4.2	4.7
	SDT	98.7	103.3	112.3	121.3	130.2	138.9
35	TC	44.9	43.5	40.6	37.6	34.6	31.3
	kW	2.7	2.9	3.3	3.8	4.3	4.7
	SDT	100.1	104.6	113.6	122.6	131.4	139.9
40	TC	49.2	47.7	44.5	41.4	38.0	34.5
	kW	2.7	2.9	3.4	3.8	4.3	4.8
	SDT	101.5	106.0	114.9	123.7	132.5	141.0
45	TC	53.7	52.1	48.7	45.2	41.6	37.8
	kW	2.8	3.0	3.4	3.9	4.3	4.8
	SDT	102.9	107.3	116.2	125.0	133.6	142.0
50	TC	58.5	56.7	53.0	49.2	45.2	41.1
	kW	2.8	3.0	3.5	3.9	4.4	4.9
	SDT	104.4	108.8	117.6	126.2	134.7	143.0

LEGEND:
kW – Compressor Power
SDT – Saturated Discharge Temperature at Compressor
SST – Saturated Suction Temperature
TC – Gross Cooling Capacity (1000 Btuh)

PERFORMANCE DATA (cont.)

38AUD14 Total Unit 50 Hz CONDENSER ONLY RATINGS SI

SST (°C)		Air Temperature entering Condenser (°C)					
		27	29	35	41	46	52
-7	TC	24.5	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	36.5	39.0	44.0	48.9	53.7	58.4
-4	TC	27.0	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	37.4	39.8	44.8	49.6	54.4	59.1
-1	TC	29.6	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	38.2	40.7	45.6	50.4	55.1	59.7
2	TC	32.3	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	39.1	41.5	46.4	51.2	55.9	60.4
4	TC	35.1	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	40.0	42.4	47.2	52.0	56.6	61.1
7	TC	38.0	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	40.9	43.3	48.1	52.8	57.4	61.7
10	TC	40.8	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	41.9	44.3	48.9	53.6	58.1	62.4

38AUD14 Total Unit 50 Hz CONDENSER ONLY RATINGS ENGLISH

SST (°F)		Air Temperature entering Condenser (°F)					
		80	85	95	105	115	125
20	TC	83.7	80.8	74.6	68.0	61.0	53.9
	kW	7.0	7.5	8.4	9.3	10.2	11.0
	SDT	97.8	102.2	111.2	120.0	128.7	137.2
25	TC	92.1	89.0	82.3	75.4	67.9	60.3
	kW	7.1	7.6	8.5	9.5	10.4	11.3
	SDT	99.3	103.7	112.6	121.4	129.9	138.3
30	TC	101.0	97.5	90.5	83.0	75.3	66.8
	kW	7.3	7.7	8.7	9.7	10.6	11.6
	SDT	100.8	105.2	114.0	122.7	131.3	139.5
35	TC	110.2	106.5	98.9	91.0	82.4	73.5
	kW	7.4	7.9	8.8	9.8	10.8	11.8
	SDT	102.4	106.8	115.5	124.2	132.6	140.8
40	TC	119.8	115.7	107.6	98.9	89.8	80.1
	kW	7.6	8.0	9.0	10.0	11.0	12.1
	SDT	104.0	108.3	117.0	125.6	133.9	141.9
45	TC	129.6	125.1	116.1	106.8	97.1	86.6
	kW	7.7	8.2	9.2	10.2	11.2	12.3
	SDT	105.7	110.0	118.5	127.0	135.2	143.1
50	TC	139.3	134.6	124.7	114.8	104.1	93.1
	kW	7.9	8.4	9.3	10.4	11.4	12.5
	SDT	107.4	111.7	120.1	128.5	136.5	144.4

LEGEND:
kW – Compressor Power
SDT – Saturated Discharge Temperature at Compressor
SST – Saturated Suction Temperature
TC – Gross Cooling Capacity (1000 Btuh)

PERFORMANCE DATA (cont.)

38AUD14 Circuit A 50 Hz CONDENSER ONLY RATINGS SI

SST (°C)		Air Temperature entering Condenser (°C)					
		27	29	35	41	46	52
-7	TC	12.3	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	36.3	38.8	43.7	48.7	53.5	58.2
-4	TC	13.6	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	37.1	39.6	44.5	49.4	54.2	58.9
-1	TC	14.9	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	37.9	40.4	45.3	50.1	54.9	59.5
2	TC	16.2	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	38.8	41.2	46.1	50.9	55.6	60.2
4	TC	17.7	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	39.7	42.1	46.9	51.7	56.4	60.9
7	TC	19.1	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	40.6	43.0	47.8	52.5	57.1	61.5
10	TC	20.6	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	41.6	43.9	48.6	53.3	57.8	62.2

38AUD14 Circuit A 50 Hz CONDENSER ONLY RATINGS ENGLISH

SST (°F)		Air Temperature entering Condenser (°F)					
		80	85	95	105	115	125
20	TC	42.0	40.5	37.4	34.2	30.7	27.1
	kW	3.5	3.8	4.2	4.7	5.1	5.5
	SDT	97.3	101.8	110.7	119.6	128.3	136.8
25	TC	46.2	44.7	41.4	37.9	34.2	30.3
	kW	3.6	3.8	4.3	4.8	5.2	5.7
	SDT	98.8	103.2	112.1	120.9	129.5	138.0
30	TC	50.7	49.0	45.5	41.7	37.9	33.7
	kW	3.7	3.9	4.4	4.9	5.3	5.8
	SDT	100.3	104.7	113.6	122.3	130.8	139.1
35	TC	55.4	53.5	49.7	45.8	41.5	37.0
	kW	3.7	4.0	4.4	4.9	5.4	5.9
	SDT	101.8	106.2	115.0	123.7	132.1	140.4
40	TC	60.2	58.2	54.1	49.8	45.2	40.4
	kW	3.8	4.0	4.5	5.0	5.6	6.1
	SDT	103.5	107.8	116.5	125.1	133.4	141.5
45	TC	65.2	62.9	58.4	53.8	48.9	43.7
	kW	3.9	4.1	4.6	5.1	5.6	6.2
	SDT	105.1	109.4	118.0	126.5	134.8	142.7
50	TC	70.2	67.8	62.8	57.9	52.5	47.0
	kW	4.0	4.2	4.7	5.2	5.7	6.3
	SDT	106.8	111.1	119.5	127.9	136.0	143.9

LEGEND:
kW – Compressor Power
SDT – Saturated Discharge Temperature at Compressor
SST – Saturated Suction Temperature
TC – Gross Cooling Capacity (1000 Btuh)

PERFORMANCE DATA (cont.)

38AUD14 Circuit B 50 Hz CONDENSER ONLY RATINGS SI

SST (°C)		Air Temperature entering Condenser (°C)					
		27	29	35	41	46	52
-7	TC	12.2	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	36.8	39.3	44.2	49.1	53.9	58.6
-4	TC	13.4	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	37.6	40.1	45.0	49.9	54.6	59.3
-1	TC	14.7	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	38.5	41.0	45.9	50.7	55.4	60.0
2	TC	16.1	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	39.4	41.8	46.7	51.5	56.1	60.7
4	TC	17.5	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	40.3	42.7	47.5	52.3	56.9	61.3
7	TC	18.9	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	41.3	43.6	48.4	53.1	57.6	62.0
10	TC	20.3	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	42.2	44.6	49.2	53.9	58.4	62.7

38AUD14 Circuit B 50 Hz CONDENSER ONLY RATINGS ENGLISH

SST (°F)		Air Temperature entering Condenser (°F)					
		80	85	95	105	115	125
20	TC	41.7	40.2	37.1	33.8	30.3	26.8
	kW	3.5	3.7	4.2	4.6	5.1	5.5
	SDT	98.2	102.7	111.6	120.4	129.1	137.6
25	TC	45.9	44.3	41.0	37.5	33.8	29.9
	kW	3.5	3.8	4.2	4.7	5.2	5.6
	SDT	99.7	104.2	113.1	121.8	130.3	138.7
30	TC	50.2	48.5	45.0	41.3	37.4	33.2
	kW	3.6	3.8	4.3	4.8	5.3	5.8
	SDT	101.3	105.7	114.5	123.2	131.7	139.9
35	TC	54.8	53.0	49.2	45.2	40.9	36.5
	kW	3.7	3.9	4.4	4.9	5.4	5.9
	SDT	102.9	107.3	116.0	124.6	133.0	141.2
40	TC	59.6	57.5	53.5	49.1	44.6	39.7
	kW	3.8	4.0	4.5	5.0	5.5	6.0
	SDT	104.6	108.9	117.6	126.1	134.4	142.4
45	TC	64.4	62.1	57.6	53.0	48.1	42.9
	kW	3.8	4.1	4.5	5.1	5.6	6.1
	SDT	106.3	110.5	119.1	127.5	135.7	143.6
50	TC	69.2	66.8	61.9	56.9	51.6	46.2
	kW	3.9	4.1	4.6	5.1	5.7	6.2
	SDT	108.0	112.3	120.6	129.0	137.0	144.8

LEGEND:
kW – Compressor Power
SDT – Saturated Discharge Temperature at Compressor
SST – Saturated Suction Temperature
TC – Gross Cooling Capacity (1000 Btuh)

PERFORMANCE DATA (cont.)

38AUD16 Total Unit 50 Hz CONDENSER ONLY RATINGS SI

SST (°C)		Air Temperature entering Condenser (°C)					
		27	29	35	41	46	52
-7	TC	31.6	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	35.4	38.0	43.2	48.3	53.4	58.4
-4	TC	34.8	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	36.2	38.7	43.8	48.9	53.9	58.9
-1	TC	38.3	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	36.9	39.5	44.5	49.5	54.5	59.4
2	TC	41.9	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	37.7	40.2	45.2	50.2	55.1	59.9
4	TC	45.6	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	38.5	41.0	45.9	50.9	55.7	60.5
7	TC	49.7	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	39.3	41.8	46.7	51.6	56.4	61.0
10	TC	53.9	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	40.2	42.6	47.5	52.3	57.0	61.6

38AUD16 Total Unit 50 Hz CONDENSER ONLY RATINGS ENGLISH

SST (°F)		Air Temperature entering Condenser (°F)					
		80	85	95	105	115	125
20	TC	107.8	104.6	97.9	90.9	83.7	76.1
	kW	8.4	8.9	10.0	11.2	12.5	13.9
	SDT	95.8	100.4	109.7	118.9	128.1	137.1
25	TC	118.8	115.3	107.9	100.4	92.4	84.1
	kW	8.6	9.1	10.2	11.4	12.7	14.1
	SDT	97.1	101.7	110.9	120.0	129.1	138.0
30	TC	130.5	126.6	118.6	110.3	101.6	92.7
	kW	8.7	9.2	10.3	11.6	12.9	14.3
	SDT	98.4	103.0	112.1	121.2	130.1	138.9
35	TC	142.8	138.5	129.7	120.8	111.5	101.6
	kW	8.9	9.4	10.5	11.7	13.0	14.4
	SDT	99.8	104.3	113.4	122.4	131.2	139.9
40	TC	155.8	151.0	141.6	132.0	121.7	110.7
	kW	9.1	9.6	10.7	11.9	13.2	14.6
	SDT	101.3	105.7	114.7	123.6	132.3	140.8
45	TC	169.5	164.3	154.0	143.4	132.0	120.1
	kW	9.3	9.8	10.9	12.1	13.4	14.8
	SDT	102.7	107.2	116.0	124.8	133.5	141.9
50	TC	183.9	178.2	166.8	154.9	142.6	129.5
	kW	9.5	10.0	11.1	12.3	13.6	15.0
	SDT	104.3	108.7	117.4	126.1	134.6	142.9

LEGEND:
kW – Compressor Power
SDT – Saturated Discharge Temperature at Compressor
SST – Saturated Suction Temperature
TC – Gross Cooling Capacity (1000 Btuh)

PERFORMANCE DATA (cont.)

38AUD16 Circuit A 50 Hz CONDENSER ONLY RATINGS SI

SST (°C)		Air Temperature entering Condenser (°C)					
		27	29	35	41	46	52
-7	TC	15.8	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	35.9	38.5	43.6	48.7	53.8	58.8
-4	TC	17.4	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	36.6	39.2	44.3	49.4	54.3	59.3
-1	TC	19.1	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	37.4	39.9	45.0	50.0	54.9	59.8
2	TC	20.8	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	38.2	40.7	45.7	50.7	55.6	60.3
4	TC	22.7	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	39.0	41.5	46.4	51.4	56.2	60.9
7	TC	24.7	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	39.9	42.3	47.2	52.1	56.8	61.5
10	TC	26.8	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	40.7	43.1	48.0	52.8	57.5	62.1

38AUD16 Circuit A 50 Hz CONDENSER ONLY RATINGS ENGLISH

SST (°F)		Air Temperature entering Condenser (°F)					
		80	85	95	105	115	125
20	TC	53.8	52.2	48.8	45.3	41.7	37.9
	kW	4.2	4.5	5.1	5.7	6.3	7.0
	SDT	96.6	101.2	110.5	119.7	128.8	137.8
25	TC	59.3	57.5	53.8	50.0	46.0	41.9
	kW	4.3	4.6	5.1	5.7	6.4	7.1
	SDT	97.9	102.5	111.7	120.8	129.8	138.7
30	TC	65.1	63.1	59.0	54.9	50.6	46.1
	kW	4.4	4.7	5.2	5.8	6.5	7.2
	SDT	99.3	103.9	112.9	122.0	130.9	139.6
35	TC	71.1	68.9	64.5	60.1	55.4	50.5
	kW	4.5	4.8	5.3	5.9	6.6	7.3
	SDT	100.7	105.2	114.2	123.2	132.0	140.6
40	TC	77.5	75.1	70.4	65.6	60.5	55.0
	kW	4.6	4.9	5.4	6.0	6.7	7.4
	SDT	102.2	106.7	115.6	124.5	133.2	141.6
45	TC	84.3	81.7	76.6	71.3	65.6	59.6
	kW	4.7	5.0	5.5	6.1	6.8	7.5
	SDT	103.7	108.1	117.0	125.7	134.3	142.7
50	TC	91.4	88.6	82.9	76.9	70.8	64.3
	kW	4.8	5.1	5.6	6.2	6.9	7.6
	SDT	105.3	109.7	118.4	127.0	135.5	143.7

LEGEND:

kW – Compressor Power
SDT – Saturated Discharge Temperature at Compressor
SST – Saturated Suction Temperature
TC – Gross Cooling Capacity (1000 Btuh)

PERFORMANCE DATA (cont.)

38AUD16 Circuit B 50 Hz CONDENSER ONLY RATINGS SI

SST (°C)		Air Temperature entering Condenser (°C)					
		27	29	35	41	46	52
-7	TC	15.8	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	35.0	37.6	42.7	47.9	53.0	58.0
-4	TC	17.5	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	35.7	38.3	43.4	48.5	53.5	58.5
-1	TC	19.2	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	36.4	39.0	44.0	49.1	54.1	59.0
2	TC	21.0	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	37.2	39.7	44.7	49.7	54.7	59.5
4	TC	22.9	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	38.0	40.4	45.4	50.4	55.3	60.0
7	TC	25.0	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	38.8	41.2	46.2	51.1	55.9	60.6
10	TC	27.1	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	39.6	42.0	46.9	51.8	56.5	61.2

38AUD16 Circuit B 50 Hz CONDENSER ONLY RATINGS ENGLISH

SST (°F)		Air Temperature entering Condenser (°F)					
		80	85	95	105	115	125
20	TC	54.0	52.4	49.1	45.6	42.0	38.2
	kW	4.2	4.4	5.0	5.6	6.2	6.9
	SDT	95.0	99.7	108.9	118.2	127.3	136.3
25	TC	59.6	57.8	54.2	50.4	46.4	42.3
	kW	4.2	4.5	5.0	5.6	6.3	7.0
	SDT	96.2	100.9	110.1	119.2	128.3	137.2
30	TC	65.5	63.5	59.5	55.4	51.1	46.6
	kW	4.3	4.6	5.1	5.7	6.4	7.1
	SDT	97.6	102.1	111.3	120.4	129.3	138.1
35	TC	71.7	69.5	65.2	60.7	56.0	51.1
	kW	4.4	4.7	5.2	5.8	6.5	7.2
	SDT	98.9	103.4	112.5	121.5	130.4	139.1
40	TC	78.2	75.9	71.2	66.3	61.2	55.7
	kW	4.5	4.8	5.3	5.9	6.5	7.2
	SDT	100.3	104.8	113.8	122.7	131.5	140.0
45	TC	85.2	82.6	77.4	72.1	66.4	60.4
	kW	4.6	4.9	5.4	6.0	6.6	7.3
	SDT	101.8	106.2	115.1	123.9	132.6	141.1
50	TC	92.4	89.6	83.9	77.9	71.8	65.2
	kW	4.7	5.0	5.5	6.1	6.7	7.4
	SDT	103.3	107.6	116.5	125.2	133.8	142.1

LEGEND:
kW – Compressor Power
SDT – Saturated Discharge Temperature at Compressor
SST – Saturated Suction Temperature
TC – Gross Cooling Capacity (1000 Btuh)

PERFORMANCE DATA (cont.)

38AUD25 Total Unit **CONDENSER ONLY RATINGS** **SI**

SST (°C)		Air Temperature entering Condenser (°C)					
		27	29	35	41	46	52
-7	TC	38.7	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	33.8	36.4	41.6	46.7	51.9	57.0
-4	TC	42.8	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	34.5	37.1	42.2	47.4	52.5	57.5
-1	TC	47.2	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	35.2	37.8	42.9	48.0	53.1	58.1
2	TC	52.0	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	36.0	38.6	43.6	48.7	53.7	58.6
4	TC	57.1	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	36.9	39.4	44.4	49.4	54.4	59.2
7	TC	62.6	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	37.8	40.3	45.2	50.2	55.1	59.8
10	TC	68.4	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	38.8	41.2	46.1	51.0	55.8	60.5

38AUD25 Total Unit **CONDENSER ONLY RATINGS** **ENGLISH**

SST (°F)		Air Temperature entering Condenser (°F)					
		80	85	95	105	115	125
20	TC	131.9	128.0	119.8	111.1	101.6	91.4
	kW	10.0	10.6	12.0	13.5	15.2	17.2
	SDT	92.8	97.5	106.9	116.1	125.4	134.6
25	TC	145.9	141.7	132.9	123.5	113.3	102.3
	kW	10.2	10.8	12.1	13.6	15.4	17.3
	SDT	94.1	98.7	108.0	117.3	126.4	135.5
30	TC	161.1	156.5	146.9	136.7	125.6	113.7
	kW	10.4	11.0	12.3	13.8	15.5	17.5
	SDT	95.4	100.0	109.2	118.4	127.5	136.5
35	TC	177.3	172.3	161.9	150.7	138.7	125.7
	kW	10.6	11.2	12.5	14.0	15.7	17.6
	SDT	96.9	101.4	110.5	119.6	128.7	137.6
40	TC	194.8	189.3	177.9	165.7	152.5	138.4
	kW	10.8	11.4	12.7	14.2	15.9	17.8
	SDT	98.4	102.9	111.9	120.9	129.8	138.6
45	TC	213.5	207.4	194.9	181.5	167.1	151.7
	kW	11.1	11.7	13.0	14.5	16.1	18.0
	SDT	100.0	104.5	113.4	122.3	131.1	139.7
50	TC	233.4	226.7	213.0	198.2	182.5	165.6
	kW	11.4	12.0	13.3	14.7	16.4	18.2
	SDT	101.8	106.2	115.0	123.7	132.4	140.9

LEGEND:
kW – Compressor Power
SDT – Saturated Discharge Temperature at Compressor
SST – Saturated Suction Temperature
TC – Gross Cooling Capacity (1000 Btuh)

PERFORMANCE DATA (cont.)

38AUD25 Circuit A 50 Hz CONDENSER ONLY RATINGS SI

SST (°C)		Air Temperature entering Condenser (°C)					
		27	29	35	41	46	52
-7	TC	19.3	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	33.6	36.2	41.4	46.6	51.7	56.8
-4	TC	21.4	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	34.3	36.8	42.0	47.2	52.3	57.3
-1	TC	23.6	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	35.0	37.5	42.7	47.8	52.9	57.9
2	TC	26.0	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	35.8	38.3	43.4	48.5	53.5	58.4
4	TC	28.6	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	36.6	39.1	44.1	49.2	54.1	59.0
7	TC	31.3	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	37.5	40.0	44.9	49.9	54.8	59.6
10	TC	34.3	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	38.4	40.9	45.8	50.7	55.5	60.3

38AUD25 Circuit A 50 Hz CONDENSER ONLY RATINGS ENGLISH

SST (°F)		Air Temperature entering Condenser (°F)					
		80	85	95	105	115	125
20	TC	66.0	64.0	60.0	55.6	50.9	45.8
	kW	5.0	5.3	5.9	6.7	7.6	8.5
	SDT	92.4	97.1	106.5	115.8	125.1	134.3
25	TC	73.0	70.9	66.5	61.8	56.7	51.2
	kW	5.1	5.4	6.0	6.8	7.6	8.6
	SDT	93.7	98.3	107.6	116.9	126.1	135.2
30	TC	80.6	78.3	73.5	68.4	62.9	57.0
	kW	5.2	5.5	6.1	6.9	7.7	8.7
	SDT	95.0	99.6	108.8	118.0	127.1	136.2
35	TC	88.8	86.2	81.1	75.5	69.5	63.0
	kW	5.3	5.6	6.2	7.0	7.8	8.8
	SDT	96.4	100.9	110.1	119.2	128.3	137.2
40	TC	97.5	94.8	89.1	83.0	76.4	69.4
	kW	5.4	5.7	6.3	7.1	7.9	8.9
	SDT	97.9	102.4	111.4	120.5	129.4	138.2
45	TC	106.9	103.9	97.6	91.0	83.8	76.0
	kW	5.5	5.8	6.5	7.2	8.0	9.0
	SDT	99.5	104.0	112.9	121.8	130.6	139.3
50	TC	116.9	113.6	106.7	99.4	91.5	83.0
	kW	5.7	6.0	6.6	7.3	8.1	9.1
	SDT	101.2	105.6	114.4	123.2	131.9	140.5

LEGEND:
kW – Compressor Power
SDT – Saturated Discharge Temperature at Compressor
SST – Saturated Suction Temperature
TC – Gross Cooling Capacity (1000 Btuh)

PERFORMANCE DATA (cont.)

38AUD25 Circuit B 50 Hz CONDENSER ONLY RATINGS SI

SST (°C)		Air Temperature entering Condenser (°C)					
		27	29	35	41	46	52
-7	TC	19.3	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	34.0	36.6	41.8	46.9	52.1	57.2
-4	TC	21.4	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	34.7	37.3	42.4	47.6	52.7	57.7
-1	TC	23.6	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	35.5	38.0	43.1	48.2	53.3	58.3
2	TC	26.0	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	36.3	38.8	43.9	48.9	53.9	58.8
4	TC	28.5	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	37.2	39.7	44.7	49.7	54.6	59.4
7	TC	31.2	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	38.1	40.6	45.5	50.4	55.3	60.1
10	TC	34.1	39.4	37.0	34.2	30.9	27.2
	kW	3.6	3.9	4.4	5.0	5.7	6.3
	SDT	39.1	41.5	46.4	51.2	56.0	60.7

38AUD25 Circuit B 50 Hz CONDENSER ONLY RATINGS ENGLISH

SST (°F)		Air Temperature entering Condenser (°F)					
		80	85	95	105	115	125
20	TC	65.9	63.9	59.9	55.5	50.7	45.6
	kW	5.0	5.3	6.0	6.8	7.6	8.6
	SDT	93.3	97.9	107.2	116.5	125.8	134.9
25	TC	72.9	70.8	66.4	61.7	56.6	51.0
	kW	5.1	5.4	6.1	6.8	7.7	8.7
	SDT	94.5	99.2	108.4	117.6	126.8	135.9
30	TC	80.5	78.2	73.4	68.2	62.7	56.7
	kW	5.2	5.5	6.2	6.9	7.8	8.8
	SDT	95.9	100.5	109.6	118.8	127.9	136.9
35	TC	88.6	86.0	80.8	75.2	69.2	62.7
	kW	5.3	5.6	6.3	7.0	7.9	8.9
	SDT	97.4	101.9	111.0	120.1	129.0	137.9
40	TC	97.3	94.5	88.8	82.7	76.1	69.0
	kW	5.4	5.7	6.4	7.1	8.0	8.9
	SDT	98.9	103.4	112.4	121.4	130.3	139.0
45	TC	106.6	103.5	97.2	90.5	83.3	75.6
	kW	5.6	5.9	6.5	7.3	8.1	9.0
	SDT	100.6	105.0	113.9	122.8	131.5	140.1
50	TC	116.5	113.1	106.2	98.8	91.0	82.5
	kW	5.7	6.0	6.7	7.4	8.2	9.2
	SDT	102.4	106.8	115.5	124.2	132.9	141.3

LEGEND:
kW – Compressor Power
SDT – Saturated Discharge Temperature at Compressor
SST – Saturated Suction Temperature
TC – Gross Cooling Capacity (1000 Btuh)

PERFORMANCE DATA (cont.)

38AUZ07 - 40RUA07 **COMBINATION RATINGS** **SI**

				Ambient Temperature														
				29.4			35.0			40.6			46.1			51.7		
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)		
				23.9	26.7	29.4	23.9	26.7	29.4	23.9	26.7	29.4	23.9	26.7	29.4	23.9	26.7	29.4
850 L/S	EAT (wb)	14.4	THC	17.2	17.2	19.3	16.6	16.6	18.8	16.0	16.0	18.1	15.4	15.4	17.4	14.5	14.5	16.4
			SHC	15.0	17.2	19.3	14.5	16.6	18.8	14.0	16.0	18.1	13.5	15.4	17.4	12.7	14.5	16.4
			kW		3.6			4.3			4.9			5.7			6.5	
		16.7	THC	17.5	17.5	19.2	16.9	16.9	18.8	16.2	16.2	18.4	15.5	15.5	17.9	14.6	14.6	17.1
			SHC	13.8	16.5	19.2	13.5	16.2	18.8	13.2	15.8	18.4	12.8	15.4	17.9	12.2	14.6	17.1
			kW		3.6			4.2			4.9			5.7			6.5	
		19.4	THC	18.9	18.9	18.9	18.3	18.3	18.3	17.5	17.5	17.5	16.7	16.7	16.7	15.8	15.8	15.8
			SHC	11.2	13.9	16.6	10.9	13.6	16.3	10.6	13.3	16.0	10.3	13.0	15.7	9.9	12.6	15.3
			kW		3.6			4.2			4.9		5.7				6.5	
		22.2	THC	20.6	20.6	20.6	19.9	19.9	19.9	19.1	19.1	19.1	18.3	18.3	18.3	17.3	17.3	17.3
			SHC	8.4	11.2	13.9	8.2	10.9	13.6	7.9	10.6	13.3	7.6	10.3	13.0	7.2	9.9	12.7
			kW		3.5			4.1			4.8			5.6			6.5	
		24.4	THC	–	22.0	22.0	–	21.3	21.3	–	20.5	20.5	–	19.6	19.6	–	–	–
			SHC	–	9.0	11.8	–	8.7	11.5	–	8.4	11.2	–	8.1	10.9	–	–	–
			kW		3.5			4.1			4.8			5.6			–	
991 L/S	EAT (wb)	14.4	THC	17.9	17.9	20.2	17.4	17.4	19.5	16.7	16.7	18.8	16.1	16.1	18.1	15.3	15.3	17.3
			SHC	15.6	17.9	20.2	15.2	17.4	19.5	14.6	16.7	18.8	14.0	16.1	18.1	13.4	15.3	17.3
			kW		3.6			4.2			4.9			5.7			6.5	
		16.7	THC	18.0	18.0	20.6	17.4	17.4	20.3	16.7	16.7	19.6	16.1	16.1	18.8	15.3	15.3	17.9
			SHC	14.7	17.7	20.6	14.4	17.4	20.3	13.9	16.7	19.6	13.4	16.1	18.8	12.7	15.3	17.9
			kW		3.6			4.2			4.9			5.7			6.5	
		19.4	THC	19.3	19.3	19.3	18.6	18.6	18.6	17.8	17.8	17.8	17.0	17.0	17.1	16.1	16.1	16.7
			SHC	11.8	14.9	18.0	11.5	14.6	17.7	11.3	14.3	17.4	10.9	14.0	17.1	10.6	13.6	16.7
			kW		3.6			4.2			4.9			5.6			6.5	
		22.2	THC	21.0	21.0	21.0	20.3	20.3	20.3	19.5	19.5	19.5	18.6	18.6	18.6	17.6	17.6	17.6
			SHC	8.7	11.8	14.9	8.4	11.5	14.6	8.2	11.3	14.3	7.9	10.9	14.0	7.5	10.6	13.7
			kW		3.5			4.1			4.8			5.6			6.4	
		24.4	THC	–	22.4	22.4	–	21.7	21.7	–	20.8	20.8	–	–	–	–	–	–
			SHC	–	9.3	12.5	–	9.1	12.3	–	8.8	12.0	–	–	–	–	–	–
			kW		3.4			4.1			4.8			–			–	
1133 L/S	EAT (wb)	14.4	THC	18.5	18.5	20.8	17.9	17.9	20.2	17.3	17.3	19.5	16.6	16.6	18.7	15.8	15.8	17.8
			SHC	16.1	18.5	20.8	15.7	17.9	20.2	15.1	17.3	19.5	14.5	16.6	18.7	13.8	15.8	17.8
			kW		3.6			4.2			4.9			5.7			6.5	
		16.7	THC	18.5	18.5	21.7	17.9	17.9	21.0	17.3	17.3	20.2	16.6	16.6	19.4	15.8	15.8	18.5
			SHC	15.4	18.5	21.7	14.9	17.9	21.0	14.4	17.3	20.2	13.8	16.6	19.4	13.2	15.8	18.5
			kW		3.6			4.2			4.9			5.7			6.5	
		19.4	THC	19.6	19.6	19.6	18.9	18.9	19.0	18.1	18.1	18.7	17.3	17.3	18.3	16.3	16.3	17.9
			SHC	12.4	15.9	19.3	12.1	15.6	19.0	11.8	15.3	18.7	11.5	14.9	18.3	11.1	14.5	17.9
			kW		3.5			4.2			4.9			5.6			6.5	
		22.2	THC	21.2	21.2	21.2	20.5	20.5	20.5	19.7	19.7	19.7	18.8	18.8	18.8	17.8	17.8	17.8
			SHC	8.9	12.4	15.9	8.7	12.1	15.6	8.4	11.8	15.3	8.1	11.5	14.9	7.7	11.2	14.6
			kW		3.5			4.1			4.8			5.6			6.4	
		24.4	THC	–	22.7	22.7	–	21.9	21.9	–	21.1	21.1	–	–	–	–	–	–
			SHC	–	9.6	13.2	–	9.4	12.9	–	9.1	12.6	–	–	–	–	–	–
			kW		3.4			4.1			4.8			–			–	
1274 L/S	EAT (wb)	14.4	THC	19.0	19.0	21.4	18.4	18.4	20.7	17.7	17.7	20.0	17.0	17.0	19.2	16.2	16.2	18.3
			SHC	16.6	19.0	21.4	16.0	18.4	20.7	15.5	17.7	20.0	14.9	17.0	19.2	14.2	16.2	18.3
			kW	3.6			4.2			4.9			5.6			6.5		
		16.7	THC	19.0	19.0	22.2	18.4	18.4	21.5	17.7	17.7	20.8	17.0	17.0	19.9	16.2	16.2	19.0
			SHC	15.8	19.0	22.2	15.3	18.4	21.5	14.7	17.7	20.8	14.1	17.0	19.9	13.5	16.2	19.0
			kW	3.6			4.2			4.9			5.6			6.5		
		19.4	THC	19.8	19.8	20.5	19.1	19.1	20.2	18.3	18.3	19.9	17.5	17.5	19.5	16.5	16.5	19.1
			SHC	13.0	16.8	20.5	12.7	16.5	20.2	12.4	16.1	19.9	12.0	15.8	19.5	11.6	15.4	19.1
			kW	3.5			4.2			4.8			5.6			6.5		
		22.2	THC	21.5	21.5	21.5	20.8	20.8	20.8	19.9	19.9	19.9	19.0	19.0	19.0	–	–	–
			SHC	9.2	13.0	16.8	8.9	12.7	16.5	8.6	12.4	16.2	8.3	12.1	15.9	–	–	–
			kW	3.5			4.1			4.8			5.6			–		
		24.4	THC	–	22.9	22.9	–	22.2	22.2	–	21.3	21.3	–	–	–	–	–	–
			SHC	–	9.9	13.8	–	9.7	13.5	–	9.4	13.2	–	–	–	–	–	–
			kW		3.4			4.1			4.8			–			–	
1416 L/S	EAT (wb)	14.4	THC	19.4	19.4	21.9	18.8	18.8	21.2	18.1	18.1	20.4	17.4	17.4	19.6	16.6	16.6	18.6
			SHC	16.9	19.4	21.9	16.4	18.8	21.2	15.8	18.1	20.4	15.2	17.4	19.6	14.4	16.6	18.6
			kW		3.5			4.2			4.9			5.6			6.5	
		16.7	THC	19.4	19.4	22.7	18.8	18.8	22.0	18.1	18.1	21.2	17.4	17.4	20.3	16.6	16.6	19.4
			SHC	16.1	19.4	22.7	15.6	18.8	22.0	15.1	18.1	21.2	14.4	17.4	20.3	13.7	16.6	19.4
			kW		3.5			4.2		4.8			5.6			6.5		
		19.4	THC	20.0	20.0	21.7	19.3	19.3	21.4	18.5	18.5	21.0	17.6	17.6	20.6	16.7	16.7	20.1
			SHC	13.5	17.6	21.7	13.2	17.3	21.4	12.9	17.0	21.0	12.5	16.6	20.6	12.1	16.1	20.1
			kW		3.5			4.1		4.8			5.6				6.5	
		22.2	THC	21.7	21.7	21.7	20.9	20.9	20.9	20.1	20.1	20.1	19.1	19.1	19.1	–	–	–
			SHC	9.4	13.5	17.6	9.1	13.2	17.4	8.8	12.9	17.1	8.5	12.6	16.7	–	–	–
			kW		3.5			4.1			4.8			5.6			–	
		24.4	THC	–	23.1	23.1	–	22.3	22.3	–	21.4	21.4	–	–	–	–	–	–
			SHC	–	10.2	14.4	–	9.9	14.1	–	9.6	13.8	–	–	–	–	–	–
			kW		3.4			4.1			4.8			–			–	

LEGEND:

– = Do not operate
EAT(wb) = Entering air temp (wet bulb)
SHC = Sensible heat capacity (Gross)
EAT(db) = Entering air temp (dry bulb)
L/s = Liters per second
kW = Compressor kilowatts
THC = Total heat capacity (Gross)
Cfm = Cubic feet per minute (supply air)

				Ambient Temperature														
				85.0			95.0			105.0			115.0			125.0		
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)		
				75.0	80.0	85.0	75.0	80.0	85.0	75.0	80.0	85.0	75.0	80.0	85.0	75.0	80.0	85.0
1800 cfm	EAT (wb)	58.0	THC	58.6	58.6	66.0	56.8	56.8	64.0	54.7	54.7	61.7	52.6	52.6	59.3	49.6	49.6	55.9
			SHC	51.1	58.6	66.0	49.6	56.8	64.0	47.8	54.7	61.7	45.9	52.6	59.3	43.3	49.6	55.9
			kW		3.6			4.3			4.9			5.7			6.5	
		62.0	THC	59.7	59.7	65.4	57.5	57.5	64.2	55.2	55.2	62.8	52.8	52.8	61.2	49.9	49.9	58.4
			SHC	47.2	56.3	65.4	46.2	55.2	64.2	44.9	53.9	62.8	43.6	52.4	61.2	41.5	49.9	58.4
			kW		3.6			4.2			4.9			5.7			6.5	
		67.0	THC	64.6	64.6	64.6	62.3	62.3	62.3	59.7	59.7	59.7	57.0	57.0	57.0	54.0	54.0	54.0
			SHC	38.2	47.4	56.6	37.2	46.4	55.6	36.2	45.4	54.6	35.1	44.3	53.4	33.8	43.0	52.2
			kW		3.6			4.2			4.9			5.7			6.5	
		72.0	THC	70.3	70.3	70.3	67.9	67.9	67.9	65.3	65.3	65.3	62.3	62.3	62.3	59.1	59.1	59.1
			SHC	28.8	38.1	47.4	27.9	37.2	46.5	27.0	36.2	45.5	25.9	35.1	44.4	24.7	33.9	43.2
			kW		3.5			4.1			4.8			5.6			6.5	
		76.0	THC	–	75.1	75.1	–	72.7	72.7	–	69.9	69.9	–	66.8	66.8	–	–	–
			SHC	–	30.6	40.2	–	29.8	39.3	–	28.8	38.3	–	27.7	37.2	–	–	–
			kW		3.5			4.1			4.8			5.6			–	
2100 cfm	EAT (wb)	58.0	THC	61.1	61.1	68.8	59.2	59.2	66.7	57.1	57.1	64.3	54.8	54.8	61.8	52.3	52.3	58.9
			SHC	53.3	61.1	68.8	51.7	59.2	66.7	49.8	57.1	64.3	47.9	54.8	61.8	45.6	52.3	58.9
			kW		3.6			4.2			4.9			5.7			6.5	
		62.0	THC	61.5	61.5	70.4	59.2	59.2	69.2	57.1	57.1	66.8	54.9	54.9	64.2	52.3	52.3	61.2
			SHC	50.3	60.3	70.4	49.2	59.2	69.2	47.4	57.1	66.8	45.6	54.9	64.2	43.5	52.3	61.2
			kW		3.6			4.2			4.9			5.7			6.5	
		67.0	THC	65.8	65.8	65.8	63.4	63.4	63.4	60.9	60.9	60.9	58.0	58.0	58.2	54.9	54.9	56.9
			SHC	40.4	50.9	61.4	39.4	49.9	60.4	38.4	48.9	59.3	37.2	47.7	58.2	36.0	46.4	56.9
			kW		3.6			4.2			4.9			5.6			6.5	
		72.0	THC	71.6	71.6	71.6	69.1	69.1	69.1	66.4	66.4	66.4	63.4	63.4	63.4	60.1	60.1	60.1
			SHC	29.7	40.3	50.9	28.8	39.4	49.9	27.9	38.4	48.9	26.8	37.3	47.8	25.6	36.1	46.6
			kW		3.5			4.1			4.8			5.6			6.4	
		76.0	THC	–	76.4	76.4	–	73.9	73.9	–	71.0	71.0	–	–	–	–	–	–
			SHC	–	31.8	42.6	–	30.9	41.8	–	29.9	40.8	–	–	–	–	–	–
			kW		3.4			4.1			4.8			–			–	
2400 cfm	EAT (wb)	58.0	THC	63.1	63.1	71.1	61.1	61.1	68.9	58.9	58.9	66.4	56.6	56.6	63.8	54.0	54.0	60.9
			SHC	55.1	63.1	71.1	53.4	61.1	68.9	51.5	58.9	66.4	49.4	56.6	63.8	47.1	54.0	60.9
			kW		3.6			4.2			4.9			5.7			6.5	
		62.0	THC	63.2	63.2	73.9	61.2	61.2	71.5	59.0	59.0	68.9	56.6	56.6	66.2	54.0	54.0	63.2
			SHC	52.5	63.2	73.9	50.8	61.2	71.5	49.0	59.0	68.9	47.0	56.6	66.2	44.9	54.0	63.2
			kW		3.6			4.2			4.9			5.7			6.5	
		67.0	THC	66.8	66.8	66.8	64.4	64.4	64.9	61.8	61.8	63.8	58.9	58.9	62.5	55.7	55.7	61.1
			SHC	42.4	54.2	65.9	41.4	53.2	64.9	40.4	52.1	63.8	39.2	50.9	62.5	37.9	49.5	61.1
			kW		3.5			4.2			4.9			5.6			6.5	
		72.0	THC	72.5	72.5	72.5	70.1	70.1	70.1	67.3	67.3	67.3	64.2	64.2	64.2	60.7	60.7	60.7
			SHC	30.5	42.3	54.1	29.7	41.4	53.2	28.7	40.4	52.2	27.6	39.3	51.0	26.4	38.1	49.7
			kW		3.5		4.1			4.8				5.6			6.4	
		76.0	THC	–	77.4	77.4	–	74.8	74.8	–	71.9	71.9	–	–	–	–	–	–
			SHC	–	32.8	44.9	–	32.0	44.0	–	31.0	43.0	–	–	–	–	–	–
			kW		3.4			4.1			4.8			–			–	
2700 cfm	EAT (wb)	58.0	THC	64.8	64.8	73.0	62.7	62.7	70.7	60.5	60.5	68.2	58.0	58.0	65.4	55.4	55.4	62.4
			SHC	56.6	64.8	73.0	54.7	62.7	70.7	52.8	60.5	68.2	50.7	58.0	65.4	48.3	55.4	62.4
			kW		3.6			4.2			4.9			5.6			6.5	
		62.0	THC	64.8	64.8	75.8	62.7	62.7	73.4	60.5	60.5	70.8	58.1	58.1	67.9	55.4	55.4	64.8
			SHC	53.9	64.8	75.8	52.1	62.7	73.4	50.3	60.5	70.8	48.2	58.1	67.9	46.0	55.4	64.8
			kW		3.6			4.2			4.9			5.6			6.5	
		67.0	THC	67.6	67.6	70.1	65.1	65.1	69.0	62.5	62.5	67.9	59.6	59.6	66.6	56.4	56.4	65.1
			SHC	44.3	57.2	70.1	43.3	56.2	69.0	42.3	55.1	67.9	41.1	53.8	66.6	39.7	52.4	65.1
			kW		3.5			4.2			4.8			5.6			6.5	
		72.0	THC	73.3	73.3	73.3	70.8	70.8	70.8	67.9	67.9	67.9	64.8	64.8	64.8	–	–	–
			SHC	31.3	44.3	57.2	30.4	43.3	56.3	29.4	42.3	55.2	28.3	41.2	54.1	–	–	–
			kW		3.5			4.1			4.8			5.6			–	
		76.0	THC	–	78.2	78.2	–	75.6	75.6	–	72.6	72.6	–	–	–	–	–	–
			SHC	–	33.9	47.1	–	33.0	46.2	–	32.0	45.2	–	–	–	–	–	–
			kW		3.4			4.1			4.8			–			–	
3000 cfm	EAT (wb)	58.0	THC	66.2	66.2	74.6	64.1	64.1	72.2	61.8	61.8	69.6	59.3	59.3	66.8	56.5	56.5	63.6
			SHC	57.8	66.2	74.6	55.9	64.1	72.2	53.9	61.8	69.6	51.8	59.3	66.8	49.3	56.5	63.6
			kW		3.5			4.2			4.9			5.6			6.5	
		62.0	THC	66.2	66.2	77.4	64.1	64.1	75.0	61.8	61.8	72.3	59.3	59.3	69.4	56.5	56.5	66.1
			SHC	55.0	66.2	77.4	53.3	64.1	75.0	51.4	61.8	72.3	49.3	59.3	69.4	46.9	56.5	66.1
			kW		3.5			4.2			4.8			5.6			6.5	
		67.0	THC	68.2	68.2	74.0	65.8	65.8	72.9	63.1	63.1	71.7	60.2	60.2	70.3	57.0	57.0	68.5
			SHC	46.1	60.1	74.0	45.1	59.0	72.9	44.0	57.9	71.7	42.7	56.5	70.3	41.3	54.9	68.5
			kW		3.5			4.1			4.8			5.6			6.5	
		72.0	THC	73.9	73.9	73.9	71.3	71.3	71.3	68.5	68.5	68.5	65.3	65.3	65.3	–	–	–
			SHC	32.0	46.1	60.2	31.1	45.2	59.2	30.1	44.1	58.2	29.0	43.0	57.0	–	–	–
			kW		3.5			4.1			4.8			5.6			–	
		76.0	THC	–	78.9	78.9	–	76.2	76.2	–	73.1	73.1	–	–	–	–	–	–
			SHC	–	34.8	49.2	–	33.9	48.2	–	32.9	47.2	–	–	–	–	–	–
			kW		3.4			4.1			4.8			–			–	

LEGEND:

– = Do not operate
EAT(wb) = Entering air temp (wet bulb)
SHC = Sensible heat capacity (Gross)
EAT(db) = Entering air temp (dry bulb)
L/s = Liters per second
kW = Compressor kilowatts
THC = Total heat capacity (Gross)
Cfm = Cubic feet per minute (supply air)

PERFORMANCE DATA (cont.)

38AUZ08 - 40RUA08 **COMBINATION RATINGS** **SI**

				Ambient Temperature														
				29.4			35.0			40.6			46.1			51.7		
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)		
				23.9	26.7	29.4	23.9	26.7	29.4	23.9	26.7	29.4	23.9	26.7	29.4	23.9	26.7	29.4
1062 L/S	EAT (wb)	14.4	THC	21.9	21.9	24.6	21.2	21.2	23.9	20.4	20.4	23.0	19.5	19.5	22.0	18.6	18.6	21.0
			SHC	19.1	21.9	24.6	18.5	21.2	23.9	17.8	20.4	23.0	17.1	19.5	22.0	16.2	18.6	21.0
			Kw		4.6			5.4			6.2			7.2			8.2	
		16.7	THC	22.5	22.5	24.3	21.6	21.6	23.9	20.7	20.7	23.3	19.6	19.6	22.7	18.6	18.6	21.7
			SHC	17.6	21.0	24.3	17.2	20.5	23.9	16.7	20.0	23.3	16.1	19.4	22.7	15.4	18.6	21.7
			kW		4.6			5.4			6.3			7.2			8.2	
		19.4	THC	24.4	24.4	24.4	23.5	23.5	23.5	22.4	22.4	22.4	21.3	21.3	21.3	20.0	20.0	20.0
			SHC	14.3	17.7	21.1	13.9	17.3	20.7	13.5	16.9	20.3	13.0	16.4	19.8	12.5	15.9	19.3
			kW		4.7			5.5			6.3			7.2			8.2	
		22.2	THC	26.5	26.5	26.5	25.5	25.5	25.5	24.4	24.4	24.4	23.2	23.2	23.2	–	–	–
			SHC	10.8	14.3	17.7	10.5	13.9	17.3	10.1	13.5	16.9	9.6	13.0	16.4	–	–	–
			kW		4.8			5.5			6.4			7.3			–	
		24.4	THC	–	28.3	28.3	–	27.3	27.3	–	26.1	26.1	–	24.8	24.8	–	–	–
			SHC	–	11.5	15.0	–	11.1	14.6	–	10.7	14.2	–	10.3	13.8	–	–	–
			kW		4.8			5.6			6.4			7.4			–	
1239 L/S	EAT (wb)	14.4	THC	22.9	22.9	25.8	22.1	22.1	24.9	21.3	21.3	24.0	20.4	20.4	22.9	19.4	19.4	21.8
			SHC	20.0	22.9	25.8	19.3	22.1	24.9	18.6	21.3	24.0	17.8	20.4	22.9	16.9	19.4	21.8
			kW		4.6			5.4			6.3			7.2			8.2	
		16.7	THC	23.1	23.1	26.4	22.2	22.2	25.9	21.3	21.3	24.9	20.4	20.4	23.9	19.4	19.4	22.7
			SHC	18.9	22.7	26.4	18.4	22.2	25.9	17.7	21.3	24.9	16.9	20.4	23.9	16.1	19.4	22.7
			kW		4.7			5.4			6.3			7.2			8.2	
		19.4	THC	24.9	24.9	24.9	23.9	23.9	23.9	22.9	22.9	22.9	21.7	21.7	21.7	20.4	20.4	21.1
			SHC	15.2	19.1	23.0	14.8	18.7	22.6	14.3	18.2	22.1	13.9	17.8	21.6	13.4	17.2	21.1
			kW		4.7			5.5			6.3			7.2			8.2	
		22.2	THC	27.1	27.1	27.1	26.0	26.0	26.0	24.9	24.9	24.9	23.6	23.6	23.6	22.2	22.2	22.2
			SHC	11.2	15.1	19.1	10.8	14.7	18.6	10.4	14.3	18.2	10.0	13.9	17.8	9.5	13.4	17.3
			kW		4.8			5.5			6.4			7.3			8.3	
		24.4	THC	–	28.9	28.9	–	27.8	27.8	–	26.6	26.6	–	–	–	–	–	–
			SHC	–	11.9	16.0	–	11.6	15.6	–	11.2	15.2						
			kW		4.8			5.6			6.5			–			–	
1416 L/S	EAT (wb)	14.4	THC	23.7	23.7	26.7	22.9	22.9	25.8	22.0	22.0	24.8	21.1	21.1	23.7	20.0	20.0	22.5
			SHC	20.7	23.7	26.7	20.0	22.9	25.8	19.2	22.0	24.8	18.4	21.1	23.7	17.5	20.0	22.5
			kW		4.7			5.4			6.3			7.2			8.2	
		16.7	THC	23.7	23.7	27.8	22.9	22.9	26.8	22.0	22.0	25.8	21.1	21.1	24.6	20.0	20.0	23.4
			SHC	19.7	23.7	27.8	19.1	22.9	26.8	18.3	22.0	25.8	17.5	21.1	24.6	16.6	20.0	23.4
			kW		4.7			5.4			6.3			7.2			8.2	
		19.4	THC	25.3	25.3	25.3	24.3	24.3	24.4	23.2	23.2	23.9	22.0	22.0	23.4	20.7	20.7	22.8
			SHC	16.0	20.4	24.8	15.6	20.0	24.4	15.2	19.5	23.9	14.7	19.0	23.4	14.1	18.5	22.8
			kW		4.7			5.5			6.3			7.3			8.3	
		22.2	THC	27.4	27.4	27.4	26.4	26.4	26.4	25.2	25.2	25.2	23.9	23.9	23.9	22.5	22.5	22.5
			SHC	11.5	15.9	20.3	11.1	15.6	20.0	10.7	15.1	19.5	10.3	14.7	19.1	9.8	14.2	18.6
			kW		4.8			5.6			6.4			7.3			8.3	
		24.4	THC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			SHC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			kW		–			–			–			–			–	
1593 L/S	EAT (wb)	14.4	THC	24.4	24.4	27.5	23.5	23.5	26.5	22.6	22.6	25.5	21.6	21.6	24.4	20.5	20.5	23.1
			SHC	21.3	24.4	27.5	20.5	23.5	26.5	19.8	22.6	25.5	18.9	21.6	24.4	17.9	20.5	23.1
			kW		4.7			5.5			6.3			7.2			8.2	
		16.7	THC	24.4	24.4	28.5	23.6	23.6	27.5	22.6	22.6	26.5	21.6	21.6	25.3	20.5	20.5	24.0
			SHC	20.3	24.4	28.5	19.6	23.6	27.5	18.8	22.6	26.5	18.0	21.6	25.3	17.1	20.5	24.0
			kW		4.7			5.5			6.3			7.2			8.2	
		19.4	THC	25.6	25.6	26.5	24.6	24.6	26.0	23.5	23.5	25.5	22.2	22.2	25.0	21.0	21.0	24.4
			SHC	16.8	21.6	26.5	16.3	21.2	26.0	15.9	20.7	25.5	15.4	20.2	25.0	14.8	19.6	24.4
			kW		4.7			5.5			6.3			7.3			8.3	
		22.2	THC	27.7	27.7	27.7	26.7	26.7	26.7	25.5	25.5	25.5	24.2	24.2	24.2	–	–	–
			SHC	11.8	16.7	21.6	11.5	16.4	21.2	11.0	15.9	20.8	10.6	15.5	20.3	–	–	–
			kW		4.8			5.6			6.4			7.3			–	
		24.4	THC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			SHC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			kW		–			–			–			–			–	
1770 L/S	EAT (wb)	14.4	THC	24.9	24.9	28.1	24.1	24.1	27.1	23.1	23.1	26.1	22.1	22.1	24.9	21.0	21.0	23.6
			SHC	21.8	24.9	28.1	21.0	24.1	27.1	20.2	23.1	26.1	19.3	22.1	24.9	18.3	21.0	23.6
			kW		4.7			5.5			6.3			7.3			8.3	
		16.7	THC	24.9	24.9	29.2	24.1	24.1	28.2	23.2	23.2	27.1	22.1	22.1	25.8	21.0	21.0	24.5
			SHC	20.7	24.9	29.2	20.0	24.1	28.2	19.2	23.2	27.1	18.3	22.1	25.8	17.4	21.0	24.5
			kW		4.7			5.5			6.3			7.3			8.3	
		19.4	THC	25.8	25.8	28.1	24.8	24.8	27.6	23.7	23.7	27.1	22.5	22.5	26.5	21.2	21.2	25.7
			SHC	17.5	22.8	28.1	17.1	22.3	27.6	16.6	21.8	27.1	16.1	21.2	26.5	15.4	20.6	25.7
			kW		4.7			5.5			6.3			7.3			8.3	
		22.2	THC	28.0	28.0	28.0	26.9	26.9	26.9	25.7	25.7	25.7	24.4	24.4	24.4	–	–	–
			SHC	12.1	17.5	22.9	11.8	17.1	22.5	11.3	16.7	22.0	10.9	16.2	21.6	–	–	–
			kW		4.8			5.6			6.4			7.3			–	
		24.4	THC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			SHC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			kW		–			–			–			–			–	

LEGEND:

– = Do not operate
EAT(wb) = Entering air temp (wet bulb)
SHC = Sensible heat capacity (Gross)
EAT(db) = Entering air temp (dry bulb)
L/s = Liters per second
kW = Compressor kilowatts
THC = Total heat capacity (Gross)
Cfm = Cubic feet per minute (supply air)

PERFORMANCE DATA (cont.)

38AUZ08 - 40RUA08 **COMBINATION RATINGS** **ENGLISH**

				Ambient Temperature														
				85.0			95.0			105.0			115.0			125.0		
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)		
				75.0	80.0	85.0	75.0	80.0	85.0	75.0	80.0	85.0	75.0	80.0	85.0	75.0	80.0	85.0
2250 cfm	EAT (wb)	58.0	THC	74.7	74.7	84.1	72.2	72.2	81.4	69.6	69.6	78.4	66.6	66.6	75.1	63.4	63.4	71.5
			SHC	65.2	74.7	84.1	63.1	72.2	81.4	60.7	69.6	78.4	58.2	66.6	75.1	55.4	63.4	71.5
			kW		4.6			5.4			6.2			7.2			8.2	
		62.0	THC	76.7	76.7	83.0	73.7	73.7	81.4	70.5	70.5	79.6	67.0	67.0	77.3	63.5	63.5	74.2
			SHC	60.2	71.6	83.0	58.7	70.0	81.4	57.1	68.3	79.6	55.1	66.2	77.3	52.7	63.5	74.2
			kW		4.6			5.4			6.3			7.2			8.2	
		67.0	THC	83.3	83.3	83.3	80.1	80.1	80.1	76.5	76.5	76.5	72.6	72.6	72.6	68.4	68.4	68.4
			SHC	48.8	60.4	72.0	47.5	59.0	70.6	46.0	57.6	69.1	44.5	56.0	67.5	42.8	54.3	65.8
			kW		4.7			5.5			6.3			7.2			8.2	
		72.0	THC	90.5	90.5	90.5	87.1	87.1	87.1	83.3	83.3	83.3	79.2	79.2	79.2	–	–	–
			SHC	37.0	48.7	60.3	35.8	47.4	59.0	34.4	46.0	57.6	32.8	44.4	56.0	–	–	–
			kW		4.8		5.5			6.4				7.3			–	
		76.0	THC	–	96.5	96.5	–	93.0	93.0	–	89.1	89.1	–	84.7	84.7	–	–	–
			SHC	–	39.2	51.2	–	37.9	49.9	–	36.6	48.5	–	35.1	47.0	–	–	–
			kW		4.8		5.6			6.4				7.4			–	
2625 cfm	EAT (wb)	58.0	THC	78.1	78.1	88.0	75.5	75.5	85.1	72.7	72.7	81.9	69.5	69.5	78.3	66.1	66.1	74.5
			SHC	68.2	78.1	88.0	65.9	75.5	85.1	63.4	72.7	81.9	60.7	69.5	78.3	57.7	66.1	74.5
			kW		4.6		5.4			6.3				7.2			8.2	
		62.0	THC	78.8	78.8	90.1	75.7	75.7	88.5	72.7	72.7	85.0	69.6	69.6	81.4	66.2	66.2	77.4
			SHC	64.4	77.3	90.1	62.9	75.7	88.5	60.4	72.7	85.0	57.8	69.6	81.4	54.9	66.2	77.4
			kW		4.7		5.4			6.3				7.2			8.2	
		67.0	THC	85.1	85.1	85.1	81.7	81.7	81.7	78.0	78.0	78.0	74.0	74.0	74.0	69.7	69.7	72.0
			SHC	51.8	65.1	78.4	50.4	63.7	77.0	48.9	62.2	75.5	47.3	60.6	73.8	45.6	58.8	72.0
			kW		4.7			5.5			6.3			7.2			8.2	
		72.0	THC	92.3	92.3	92.3	88.7	88.7	88.7	84.9	84.9	84.9	80.6	80.6	80.6	75.9	75.9	75.9
			SHC	38.2	51.6	65.0	36.9	50.3	63.6	35.5	48.9	62.2	34.0	47.3	60.6	32.4	45.6	58.9
			kW		4.8			5.5			6.4			7.3			8.3	
		76.0	THC	–	98.5	98.5	–	94.7	94.7	–	90.7	90.7	–	–	–	–	–	–
			SHC	–	40.7	54.5	–	39.5	53.1	–	38.1	51.7	–	–	–	–	–	–
			kW		4.8			5.6			6.5			–			–	
3000 cfm	EAT (wb)	58.0	THC	80.9	80.9	91.2	78.2	78.2	88.1	75.2	75.2	84.7	71.9	71.9	81.0	68.3	68.3	76.9
			SHC	70.6	80.9	91.2	68.2	78.2	88.1	65.6	75.2	84.7	62.8	71.9	81.0	59.6	68.3	76.9
			kW		4.7			5.4			6.3			7.2			8.2	
		62.0	THC	81.0	81.0	94.7	78.3	78.3	91.6	75.2	75.2	88.0	71.9	71.9	84.1	68.3	68.3	79.9
			SHC	67.3	81.0	94.7	65.0	78.3	91.6	62.5	75.2	88.0	59.7	71.9	84.1	56.8	68.3	79.9
			kW		4.7			5.4			6.3			7.2			8.2	
		67.0	THC	86.3	86.3	86.3	82.9	82.9	83.1	79.2	79.2	81.5	75.1	75.1	79.7	70.7	70.7	77.8
			SHC	54.5	69.5	84.5	53.2	68.1	83.1	51.7	66.6	81.5	50.0	64.9	79.7	48.2	63.0	77.8
			kW		4.7			5.5			6.3			7.3			8.3	
		72.0	THC	93.6	93.6	93.6	90.0	90.0	90.0	86.0	86.0	86.0	81.6	81.6	81.6	76.9	76.9	76.9
			SHC	39.3	54.4	69.4	38.0	53.1	68.1	36.6	51.6	66.7	35.1	50.1	65.1	33.4	48.4	63.4
			kW		4.8			5.6			6.4			7.3			8.3	
		76.0	THC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			SHC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			kW		–			–		–				–			–	
3375 cfm	EAT (wb)	58.0	THC	83.1	83.1	93.7	80.3	80.3	90.5	77.2	77.2	87.0	73.8	73.8	83.1	70.0	70.0	78.9
			SHC	72.6	83.1	93.7	70.1	80.3	90.5	67.4	77.2	87.0	64.4	73.8	83.1	61.1	70.0	78.9
			kW		4.7			5.5			6.3			7.2			8.2	
		62.0	THC	83.2	83.2	97.3	80.4	80.4	94.0	77.2	77.2	90.3	73.8	73.8	86.3	70.1	70.1	81.9
			SHC	69.1	83.2	97.3	66.8	80.4	94.0	64.2	77.2	90.3	61.3	73.8	86.3	58.2	70.1	81.9
			kW		4.7			5.5			6.3			7.2			8.2	
		67.0	THC	87.4	87.4	90.3	83.9	83.9	88.8	80.1	80.1	87.1	75.9	75.9	85.3	71.5	71.5	83.1
			SHC	57.2	73.7	90.3	55.7	72.3	88.8	54.2	70.7	87.1	52.5	68.9	85.3	50.6	66.9	83.1
			kW		4.7			5.5			6.3			7.3			8.3	
		72.0	THC	94.6	94.6	94.6	91.0	91.0	91.0	86.9	86.9	86.9	82.5	82.5	82.5	–	–	–
			SHC	40.4	57.1	73.8	39.1	55.8	72.4	37.7	54.3	71.0	36.1	52.8	69.4	–	–	–
			kW		4.8			5.6			6.4			7.3			–	
		76.0	THC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			SHC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			kW		–			–			–			–			–	
3750 cfm	EAT (wb)	58.0	THC	85.1	85.1	95.8	82.1	82.1	92.5	78.9	78.9	88.9	75.4	75.4	84.9	71.5	71.5	80.6
			SHC	74.3	85.1	95.8	71.7	82.1	92.5	68.9	78.9	88.9	65.8	75.4	84.9	62.4	71.5	80.6
			kW		4.7			5.5			6.3			7.3			8.3	
		62.0	THC	85.1	85.1	99.5	82.2	82.2	96.1	79.0	79.0	92.3	75.4	75.4	88.2	71.5	71.5	83.6
			SHC	70.7	85.1	99.5	68.3	82.2	96.1	65.6	79.0	92.3	62.6	75.4	88.2	59.4	71.5	83.6
			kW		4.7			5.5			6.3			7.3			8.3	
		67.0	THC	88.2	88.2	95.8	84.7	84.7	94.2	80.9	80.9	92.4	76.7	76.7	90.3	72.2	72.2	87.8
			SHC	59.6	77.7	95.8	58.2	76.2	94.2	56.6	74.5	92.4	54.8	72.5	90.3	52.7	70.3	87.8
			kW		4.7			5.5			6.3			7.3			8.3	
		72.0	THC	95.5	95.5	95.5	91.7	91.7	91.7	87.6	87.6	87.6	83.1	83.1	83.1	–	–	–
			SHC	41.4	59.7	78.0	40.1	58.4	76.6	38.7	56.9	75.2	37.1	55.3	73.6	–	–	–
			kW		4.8			5.6			6.4			7.3			–	
		76.0	THC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			SHC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			kW		–			–			–			–			–	

LEGEND:

– = Do not operate
EAT(wb) = Entering air temp (wet bulb)
SHC = Sensible heat capacity (Gross)
EAT(db) = Entering air temp (dry bulb)
L/s = Liters per second
kW = Compressor kilowatts
THC = Total heat capacity (Gross)
Cfm = Cubic feet per minute (supply air)

PERFORMANCE DATA (cont.)

38AUD12 - 40RUA12 **COMBINATION RATINGS** **SI**

				Ambient Temperature														
				29.4			35.0			40.6			46.1			51.7		
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)		
				23.9	26.7	29.4	23.9	26.7	29.4	23.9	26.7	29.4	23.9	26.7	29.4	23.9	26.7	29.4
1416 L/S	EAT (wb)	14.4	THC	28.2	28.2	31.8	27.2	27.2	30.7	26.1	26.1	29.4	24.9	24.9	28.1	23.5	23.5	26.5
			SHC	24.6	28.2	31.8	23.8	27.2	30.7	22.8	26.1	29.4	21.7	24.9	28.1	20.5	23.5	26.5
			kW		5.9			6.8			7.9			9.0			10.2	
		16.7	THC	28.7	28.7	31.9	27.5	27.5	31.2	26.2	26.2	30.4	24.9	24.9	29.2	23.6	23.6	27.5
			SHC	22.9	27.4	31.9	22.3	26.8	31.2	21.7	26.1	30.4	20.7	24.9	29.2	19.6	23.6	27.5
			kW		5.9			6.8			7.9			9.0			10.2	
		19.4	THC	31.2	31.2	31.2	29.9	29.9	29.9	28.5	28.5	28.5	26.9	26.9	26.9	25.1	25.1	25.1
			SHC	18.6	23.1	27.6	18.0	22.5	27.1	17.4	22.0	26.5	16.8	21.3	25.8	16.1	20.6	25.1
			kW		6.0			6.9			7.9			9.0			10.2	
		22.2	THC	33.8	33.8	33.8	32.5	32.5	32.5	31.0	31.0	31.0	29.3	29.3	29.3	–	–	–
			SHC	13.9	18.5	23.0	13.4	18.0	22.5	12.9	17.4	22.0	12.3	16.8	21.4	–	–	–
			kW		6.0		7.0				8.0			9.1			10.3	
		24.4	THC	–	36.1	36.1	–	–	–	–	–	–	–	–	–	–	–	–
			SHC	–	14.7	19.3	–	–	–	–	–	–	–	–	–	–	–	–
			kW		6.1			–			–			–			–	
1652 L/S	EAT (wb)	14.4	THC	29.5	29.5	33.2	28.4	28.4	32.0	27.3	27.3	30.7	26.0	26.0	29.3	24.6	24.6	27.7
			SHC	25.7	29.5	33.2	24.8	28.4	32.0	23.8	27.3	30.7	22.7	26.0	29.3	21.4	24.6	27.7
			kW		5.9			6.9			7.9			9.0			10.2	
		16.7	THC	29.6	29.6	34.3	28.5	28.5	33.3	27.3	27.3	31.9	26.0	26.0	30.4	24.6	24.6	28.7
			SHC	24.4	29.3	34.3	23.6	28.5	33.3	22.7	27.3	31.9	21.6	26.0	30.4	20.4	24.6	28.7
			kW		5.9			6.9			7.9			9.0			10.2	
		19.4	THC	31.8	31.8	31.8	30.5	30.5	30.5	29.0	29.0	29.0	27.4	27.4	28.3	25.6	25.6	27.5
			SHC	19.7	24.9	30.1	19.1	24.4	29.6	18.6	23.8	29.0	17.9	23.1	28.3	17.2	22.4	27.5
			kW		6.0			6.9			7.9			9.1			10.2	
		22.2	THC	34.5	34.5	34.5	33.1	33.1	33.1	31.5	31.5	31.5	29.8	29.8	29.8	28.0	28.0	28.0
			SHC	14.4	19.6	24.9	13.9	19.1	24.4	13.3	18.6	23.8	12.7	17.9	23.2	12.0	17.3	22.5
			kW		6.1			7.0			8.0			9.1			10.3	
		24.4	THC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			SHC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			kW		–			–			–			–			–	
1888 L/S	EAT (wb)	14.4	THC	30.5	30.5	34.3	29.4	29.4	33.1	28.2	28.2	31.7	26.8	26.8	30.2	25.3	25.3	28.5
			SHC	26.6	30.5	34.3	25.7	29.4	33.1	24.6	28.2	31.7	23.4	26.8	30.2	22.1	25.3	28.5
			kW		5.9			6.9			7.9			9.0			10.2	
		16.7	THC	30.5	30.5	35.7	29.4	29.4	34.4	28.2	28.2	33.0	26.8	26.8	31.4	25.4	25.4	29.7
			SHC	25.4	30.5	35.7	24.4	29.4	34.4	23.4	28.2	33.0	22.3	26.8	31.4	21.1	25.4	29.7
			kW		5.9			6.9			7.9			9.0			10.2	
		19.4	THC	32.3	32.3	32.5	30.9	30.9	31.9	29.4	29.4	31.3	27.8	27.8	30.6	26.0	26.0	29.8
			SHC	20.8	26.6	32.5	20.2	26.1	31.9	19.6	25.5	31.3	19.0	24.8	30.6	18.2	24.0	29.8
			kW		6.0			6.9			8.0			9.1			10.2	
		22.2	THC	34.9	34.9	34.9	33.5	33.5	33.5	31.9	31.9	31.9	30.2	30.2	30.2	–	–	–
			SHC	14.8	20.7	26.6	14.3	20.2	26.1	13.7	19.6	25.6	13.2	19.1	24.9	–	–	–
			kW		6.1			7.0			8.0			9.1			–	
		24.4	THC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			SHC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			kW		–			–			–			–			–	
2124 L/S	EAT (wb)	14.4	THC	31.3	31.3	35.3	30.2	30.2	34.0	28.9	28.9	32.6	27.5	27.5	31.0	26.0	26.0	29.3
			SHC	27.3	31.3	35.3	26.3	30.2	34.0	25.3	28.9	32.6	24.0	27.5	31.0	22.7	26.0	29.3
			kW		6.0			6.9			7.9			9.1			10.2	
		16.7	THC	31.4	31.4	36.7	30.2	30.2	35.3	29.0	29.0	33.9	27.5	27.5	32.2	26.0	26.0	30.4
			SHC	26.1	31.4	36.7	25.1	30.2	35.3	24.0	29.0	33.9	22.9	27.5	32.2	21.6	26.0	30.4
			kW		6.0			6.9			7.9			9.1			10.2	
		19.4	THC	32.6	32.6	34.8	31.2	31.2	34.2	29.7	29.7	33.5	28.1	28.1	32.7	26.3	26.3	31.7
			SHC	21.8	28.3	34.8	21.2	27.7	34.2	20.6	27.1	33.5	19.9	26.3	32.7	19.1	25.4	31.7
			kW		6.0			6.9			8.0			9.1			10.2	
		22.2	THC	35.3	35.3	35.3	33.8	33.8	33.8	32.2	32.2	32.2	–	–	–	–	–	–
			SHC	15.2	21.8	28.3	14.7	21.2	27.8	14.2	20.7	27.3	–	–	–	–	–	–
			kW		6.1			7.0			8.0			–			–	
		24.4	THC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			SHC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			kW		–			–			–			–			–	
2360 L/S	EAT (wb)	14.4	THC	32.0	32.0	36.1	30.9	30.9	34.8	29.5	29.5	33.3	28.1	28.1	31.7	26.5	26.5	29.9
			SHC	28.0	32.0	36.1	26.9	30.9	34.8	25.8	29.5	33.3	24.6	28.1	31.7	23.2	26.5	29.9
			kW		6.0			6.9			8.0			9.1			10.2	
		16.7	THC	32.0	32.0	37.5	30.9	30.9	36.1	29.6	29.6	34.6	28.1	28.1	32.9	26.6	26.6	31.0
			SHC	26.6	32.0	37.5	25.6	30.9	36.1	24.6	29.6	34.6	23.4	28.1	32.9	22.0	26.6	31.0
			kW		6.0			6.9			8.0			9.1			10.2	
		19.4	THC	32.9	32.9	36.9	31.6	31.6	36.2	30.0	30.0	35.5	28.4	28.4	34.5	26.6	26.6	33.3
			SHC	22.7	29.8	36.9	22.2	29.2	36.2	21.5	28.5	35.5	20.8	27.6	34.5	19.8	26.6	33.3
			kW		6.0			7.0			8.0			9.1			10.2	
		22.2	THC	35.6	35.6	35.6	34.1	34.1	34.1	–	–	–	–	–	–	–	–	–
			SHC	15.6	22.8	30.0	15.1	22.3	29.5	–	–	–	–	–	–	–	–	–
			kW		6.1			7.0			–			–			–	
		24.4	THC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			SHC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			kW		–			–			–			–			–	

LEGEND:

– = Do not operate
EAT(wb) = Entering air temp (wet bulb)
SHC = Sensible heat capacity (Gross)
EAT(db) = Entering air temp (dry bulb)
L/s = Liters per second
kW = Compressor kilowatts
THC = Total heat capacity (Gross)
Cfm = Cubic feet per minute (supply air)

PERFORMANCE DATA (cont.)

38AUD12 - 40RUA12 **COMBINATION RATINGS** **ENGLISH**

				Ambient Temperature															
				85.0			95.0			105.0			115.0			125.0			
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			
				75.0	80.0	85.0	75.0	80.0	85.0	75.0	80.0	85.0	75.0	80.0	85.0	75.0	80.0	85.0	
3000 cfm	EAT (wb)	58.0	THC	96.3	96.3	108.5	92.9	92.9	104.6	89.1	89.1	100.4	85.0	85.0	95.8	80.3	80.3	90.5	
			SHC	84.1	96.3	108.5	81.1	92.9	104.6	77.8	89.1	100.4	74.2	85.0	95.8	70.1	80.3	90.5	
			kW		5.9			6.8			7.9			9.0			10.2		
		62.0	THC	98.0	98.0	108.7	94.0	94.0	106.4	89.5	89.5	103.8	85.1	85.1	99.5	80.4	80.4	94.0	
			SHC	78.3	93.5	108.7	76.2	91.3	106.4	73.9	88.9	103.8	70.7	85.1	99.5	66.8	80.4	94.0	
			kW		5.9		6.8			7.9			9.0				10.2		
		67.0	THC	106.4	106.4	106.4	102.0	102.0	102.0	97.1	97.1	97.1	91.7	91.7	91.7	85.8	85.8	85.8	
			SHC	63.3	78.7	94.2	61.5	76.9	92.4	59.5	74.9	90.4	57.3	72.8	88.2	54.9	70.3	85.8	
			kW		6.0		6.9			7.9			9.0				10.2		
		72.0	THC	115.4	115.4	115.4	110.8	110.8	110.8	105.8	105.8	105.8	100.1	100.1	100.1	93.8	93.8	93.8	
			SHC	47.4	63.0	78.6	45.7	61.3	76.8	43.9	59.4	75.0	41.8	57.4	72.9	39.6	55.1	70.6	
			kW		6.0			7.0			8.0			9.1			10.3		
		76.0	THC	–	123.2	123.2	–	–	–	–	–	–	–	–	–	–	–	–	
			SHC	–	50.2	66.0	–	–	–	–	–	–	–	–	–	–	–	–	
			kW		6.1			–			–			–			–		
3500 cfm	EAT (wb)	58.0	THC	100.6	100.6	113.4	97.0	97.0	109.3	93.0	93.0	104.8	88.6	88.6	99.9	83.8	83.8	94.4	
			SHC	87.8	100.6	113.4	84.7	97.0	109.3	81.2	93.0	104.8	77.4	88.6	99.9	73.1	83.8	94.4	
			kW		5.9			6.9			7.9			9.0			10.2		
		62.0	THC	100.9	100.9	117.0	97.1	97.1	113.5	93.1	93.1	108.9	88.7	88.7	103.7	83.8	83.8	98.0	
			SHC	83.2	100.1	117.0	80.6	97.1	113.5	77.3	93.1	108.9	73.7	88.7	103.7	69.6	83.8	98.0	
			kW		5.9			6.9			7.9			9.0			10.2		
		67.0	THC	108.5	108.5	108.5	104.0	104.0	104.0	98.9	98.9	98.9	93.4	93.4	96.5	87.3	87.3	94.0	
			SHC	67.2	85.0	102.8	65.3	83.1	100.9	63.3	81.1	98.8	61.1	78.8	96.5	58.7	76.3	94.0	
			kW		6.0			6.9			7.9			9.1			10.2		
		72.0	THC	117.6	117.6	117.6	112.8	112.8	112.8	107.6	107.6	107.6	101.8	101.8	101.8	95.4	95.4	95.4	
			SHC	49.0	66.9	84.8	47.3	65.2	83.1	45.4	63.3	81.2	43.4	61.2	79.1	41.1	59.0	76.8	
			kW		6.1			7.0			8.0			9.1			10.3		
		76.0	THC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
			SHC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
			kW		–			–			–			–			–		
4000 cfm	EAT (wb)	58.0	THC	104.0	104.0	117.2	100.3	100.3	113.0	96.1	96.1	108.3	91.5	91.5	103.1	86.4	86.4	97.4	
			SHC	90.8	104.0	117.2	87.6	100.3	113.0	83.9	96.1	108.3	79.9	91.5	103.1	75.5	86.4	97.4	
			kW		5.9			6.9			7.9			9.0			10.2		
		62.0	THC	104.1	104.1	121.8	100.4	100.4	117.4	96.2	96.2	112.5	91.6	91.6	107.1	86.5	86.5	101.2	
			SHC	86.5	104.1	121.8	83.4	100.4	117.4	79.9	96.2	112.5	76.1	91.6	107.1	71.9	86.5	101.2	
			kW		5.9			6.9			7.9			9.0			10.2		
		67.0	THC	110.1	110.1	110.9	105.5	105.5	109.0	100.3	100.3	106.8	94.7	94.7	104.4	88.6	88.6	101.6	
			SHC	70.8	90.9	110.9	69.0	89.0	109.0	66.9	86.9	106.8	64.7	84.5	104.4	62.1	81.9	101.6	
			kW		6.0			6.9			8.0			9.1			10.2		
		72.0	THC	119.2	119.2	119.2	114.3	114.3	114.3	109.0	109.0	109.0	103.1	103.1	103.1	–	–	–	
			SHC	50.5	70.7	90.8	48.8	68.9	89.1	46.9	67.0	87.2	44.9	65.0	85.1	–	–	–	
			kW		6.1			7.0			8.0			9.1			–		
		76.0	THC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
			SHC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
			kW		–			–			–			–			–		
4500 cfm	EAT (wb)	58.0	THC	106.9	106.9	120.5	103.0	103.0	116.0	98.7	98.7	111.2	93.9	93.9	105.8	88.6	88.6	99.9	
			SHC	93.3	106.9	120.5	89.9	103.0	116.0	86.2	98.7	111.2	82.0	93.9	105.8	77.4	88.6	99.9	
			kW		6.0			6.9			7.9			9.1			10.2		
		62.0	THC	107.0	107.0	125.1	103.1	103.1	120.5	98.8	98.8	115.5	94.0	94.0	109.9	88.7	88.7	103.7	
			SHC	88.9	107.0	125.1	85.6	103.1	120.5	82.0	98.8	115.5	78.1	94.0	109.9	73.7	88.7	103.7	
			kW		6.0			6.9			7.9			9.1			10.2		
		67.0	THC	111.3	111.3	118.6	106.6	106.6	116.6	101.5	101.5	114.3	95.8	95.8	111.6	89.6	89.6	108.3	
			SHC	74.3	96.5	118.6	72.4	94.5	116.6	70.3	92.3	114.3	67.9	89.7	111.6	65.2	86.7	108.3	
			kW		6.0			6.9			8.0			9.1			10.2		
		72.0	THC	120.5	120.5	120.5	115.4	115.4	115.4	110.0	110.0	110.0	–	–	–	–	–	–	
			SHC	51.9	74.3	96.7	50.2	72.5	94.9	48.3	70.7	93.0	–	–	–	–	–	–	
			kW		6.1			7.0			8.0			–			–		
		76.0	THC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
			SHC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
			kW		–			–			–			–			–		
5000 cfm	EAT (wb)	58.0	THC	109.3	109.3	123.1	105.3	105.3	118.6	100.8	100.8	113.6	95.9	95.9	108.1	90.5	90.5	102.0	
			SHC	95.4	109.3	123.1	91.9	105.3	118.6	88.0	100.8	113.6	83.8	95.9	108.1	79.0	90.5	102.0	
			kW		6.0			6.9			8.0			9.1			10.2		
		62.0	THC	109.3	109.3	127.8	105.3	105.3	123.2	100.9	100.9	118.0	96.0	96.0	112.2	90.6	90.6	105.9	
			SHC	90.8	109.3	127.8	87.5	105.3	123.2	83.8	100.9	118.0	79.7	96.0	112.2	75.2	90.6	105.9	
			kW		6.0			6.9			8.0			9.1			10.2		
		67.0	THC	112.4	112.4	125.8	107.7	107.7	123.6	102.5	102.5	121.0	96.8	96.8	117.8	90.7	90.7	113.7	
			SHC	77.6	101.7	125.8	75.6	99.6	123.6	73.4	97.2	121.0	70.8	94.3	117.8	67.7	90.7	113.7	
			kW		6.0			7.0			8.0			9.1			10.2		
		72.0	THC	121.5	121.5	121.5	116.4	116.4	116.4	–	–	–	–	–	–	–	–	–	
			SHC	53.3	77.9	102.4	51.5	76.1	100.6	–	–	–	–	–	–	–	–	–	
			kW		6.1			7.0			–			–			–		
		76.0	THC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
			SHC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
			kW		–			–			–			–			–		

LEGEND:

– = Do not operate
EAT(wb) = Entering air temp (wet bulb)
SHC = Sensible heat capacity (Gross)
EAT(db) = Entering air temp (dry bulb)
L/s = Liters per second
kW = Compressor kilowatts
THC = Total heat capacity (Gross)
Cfm = Cubic feet per minute (supply air)

PERFORMANCE DATA (cont.)

38AUD14 - 40RUA14 **COMBINATION RATINGS** **SI**

				Ambient Temperature														
				29.4			35.0			40.6			46.1			51.7		
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)		
				23.9	26.7	29.4	23.9	26.7	29.4	23.9	26.7	29.4	23.9	26.7	29.4	23.9	26.7	29.4
1699 L/S	EAT (wb)	14.4	THC	34.2	34.2	38.5	33.0	33.0	37.2	31.7	31.7	35.7	30.2	30.2	34.0	28.5	28.5	32.1
			SHC	29.8	34.2	38.5	28.8	33.0	37.2	27.6	31.7	35.7	26.3	30.2	34.0	24.9	28.5	32.1
			kW		8.1			9.2			10.4			11.6			12.9	
		16.7	THC	34.8	34.8	38.3	33.4	33.4	37.5	31.9	31.9	36.6	30.2	30.2	35.3	28.5	28.5	33.3
			SHC	27.6	33.0	38.3	26.9	32.2	37.5	26.1	31.4	36.6	25.1	30.2	35.3	23.7	28.5	33.3
			kW		8.1			9.2			10.4			11.6			12.9	
		19.4	THC	37.5	37.5	37.5	36.0	36.0	36.0	34.3	34.3	34.3	32.4	32.4	32.4	30.3	30.3	30.3
			SHC	22.2	27.7	33.1	21.6	27.0	32.4	20.9	26.3	31.7	20.2	25.6	31.0	19.3	24.7	30.1
			kW		8.3			9.4			10.6			11.8			13.1	
		22.2	THC	40.7	40.7	40.7	38.8	38.8	38.8	37.0	37.0	37.0	35.1	35.1	35.1	32.9	32.9	32.9
			SHC	16.7	22.2	27.6	16.0	21.5	26.9	15.4	20.8	26.2	14.7	20.1	25.5	13.9	19.3	24.7
			kW		8.5			9.6			10.7			12.0			13.3	
		24.4	THC	–	43.6	43.6	–	–	–	–	–	–	–	–	–	–	–	–
			SHC	–	17.7	23.3	–	–	–	–	–	–	–	–	–	–	–	–
			kW		8.7			–			–			–			–	
1982 L/S	EAT (wb)	14.4	THC	35.6	35.6	40.1	34.3	34.3	38.7	32.9	32.9	37.1	31.4	31.4	35.3	29.6	29.6	33.3
			SHC	31.1	35.6	40.1	30.0	34.3	38.7	28.8	32.9	37.1	27.4	31.4	35.3	25.8	29.6	33.3
			kW		8.2			9.3			10.5			11.7			13.0	
		16.7	THC	35.7	35.7	41.6	34.4	34.4	40.2	33.0	33.0	38.5	31.4	31.4	36.7	29.6	29.6	34.6
			SHC	29.5	35.6	41.6	28.5	34.4	40.2	27.4	33.0	38.5	26.1	31.4	36.7	24.6	29.6	34.6
			kW		8.2			9.3			10.5			11.7			13.0	
		19.4	THC	38.2	38.2	38.2	36.6	36.6	36.6	34.9	34.9	34.9	33.0	33.0	33.9	30.8	30.8	33.0
			SHC	23.6	29.8	36.1	22.9	29.2	35.4	22.3	28.5	34.7	21.5	27.7	33.9	20.6	26.8	33.0
			kW		8.4			9.4			10.6			11.8			13.1	
		22.2	THC	41.5	41.5	41.5	39.5	39.5	39.5	37.6	37.6	37.6	35.6	35.6	35.6	33.3	33.3	33.3
			SHC	17.3	23.5	29.8	16.6	22.8	29.1	15.9	22.2	28.4	15.2	21.4	27.7	14.4	20.6	26.9
			kW		8.6			9.6			10.8			12.0			13.3	
		24.4	THC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			SHC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			kW		–			–			–			–			–	
2265 L/S	EAT (wb)	14.4	THC	36.7	36.7	41.4	35.4	35.4	39.9	33.9	33.9	38.2	32.3	32.3	36.4	30.5	30.5	34.3
			SHC	32.1	36.7	41.4	30.9	35.4	39.9	29.6	33.9	38.2	28.2	32.3	36.4	26.6	30.5	34.3
			kW		8.3			9.4			10.5			11.8			13.1	
		16.7	THC	36.8	36.8	43.0	35.4	35.4	41.4	34.0	34.0	39.7	32.3	32.3	37.8	30.5	30.5	35.6
			SHC	30.5	36.8	43.0	29.4	35.4	41.4	28.2	34.0	39.7	26.8	32.3	37.8	25.3	30.5	35.6
			kW		8.3			9.4			10.5			11.8			13.1	
		19.4	THC	38.7	38.7	39.0	37.1	37.1	38.2	35.3	35.3	37.5	33.4	33.4	36.7	31.2	31.2	35.7
			SHC	24.9	31.9	39.0	24.2	31.2	38.2	23.5	30.5	37.5	22.7	29.7	36.7	21.8	28.8	35.7
			kW		8.4			9.5			10.6			11.9			13.1	
		22.2	THC	42.1	42.1	42.1	39.9	39.9	39.9	38.0	38.0	38.0	36.0	36.0	36.0	–	–	–
			SHC	17.8	24.9	32.0	17.1	24.1	31.2	16.4	23.4	30.5	15.7	22.7	29.8	–	–	–
			kW															
		24.4	THC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			SHC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			kW		–			–			–			–			–	
2549 L/S	EAT (wb)	14.4	THC	37.7	37.7	42.4	36.3	36.3	40.9	34.8	34.8	39.2	33.1	33.1	37.3	31.2	31.2	35.1
			SHC	32.9	37.7	42.4	31.7	36.3	40.9	30.4	34.8	39.2	28.9	33.1	37.3	27.2	31.2	35.1
			kW		8.3			9.4			10.6			11.9			13.1	
		16.7	THC	37.7	37.7	44.1	36.3	36.3	42.4	34.8	34.8	40.7	33.1	33.1	38.7	31.2	31.2	36.5
			SHC	31.3	37.7	44.1	30.2	36.3	42.4	28.9	34.8	40.7	27.5	33.1	38.7	25.9	31.2	36.5
			kW		8.3			9.4			10.6			11.9			13.1	
		19.4	THC	39.2	39.2	41.6	37.5	37.5	40.9	35.7	35.7	40.1	33.7	33.7	39.2	31.5	31.5	38.0
			SHC	26.1	33.9	41.6	25.4	33.1	40.9	24.7	32.4	40.1	23.9	31.5	39.2	22.9	30.5	38.0
			kW		8.4			9.5			10.7			11.9			13.2	
		22.2	THC	42.6	42.6	42.6	40.3	40.3	40.3	38.4	38.4	38.4	–	–	–	–	–	–
			SHC	18.3	26.2	34.0	17.5	25.4	33.2	16.9	24.7	32.6	–	–	–	–	–	–
			kW		8.7			9.7		10.8				–			–	
		24.4	THC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			SHC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			kW		–			–			–			–			–	
2832 L/S	EAT (wb)	14.4	THC	38.5	38.5	43.3	37.0	37.0	41.7	35.5	35.5	40.0	33.7	33.7	38.0	31.8	31.8	35.8
			SHC	33.6	38.5	43.3	32.3	37.0	41.7	31.0	35.5	40.0	29.5	33.7	38.0	27.8	31.8	35.8
			kW		8.4			9.5			10.7			11.9			13.2	
		16.7	THC	38.5	38.5	45.0	37.0	37.0	43.3	35.5	35.5	41.5	33.8	33.8	39.5	31.8	31.8	37.2
			SHC	32.0	38.5	45.0	30.8	37.0	43.3	29.5	35.5	41.5	28.0	33.8	39.5	26.4	31.8	37.2
			kW	8.4			9.5			10.7			11.9				13.2	
		19.4	THC	39.6	39.6	44.2	37.8	37.8	43.4	36.0	36.0	42.5	34.0	34.0	41.4	31.8	31.8	39.9
			SHC	27.3	35.7	44.2	26.5	35.0	43.4	25.8	34.1	42.5	24.9	33.1	41.4	23.8	31.8	39.9
			kW		8.5			9.5			10.7			11.9			13.2	
		22.2	THC	43.0	43.0	43.0	40.7	40.7	40.7	–	–	–	–	–	–	–	–	–
			SHC	18.8	27.4	36.0	18.0	26.6	35.3	–	–	–	–	–	–	–	–	–
			kW	8.7				9.7			–			–			–	
		24.4	THC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			SHC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			kW		–			–			–			–			–	

LEGEND:

– = Do not operate
EAT(wb) = Entering air temp (wet bulb)
SHC = Sensible heat capacity (Gross)
EAT(db) = Entering air temp (dry bulb)
L/s = Liters per second
kW = Compressor kilowatts
THC = Total heat capacity (Gross)
Cfm = Cubic feet per minute (supply air)

PERFORMANCE DATA (cont.)

38AUD14 - 40RUA14 **COMBINATION RATINGS** **ENGLISH**

				Ambient Temperature															
				85.0			95.0			105.0			115.0			125.0			
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			
				75.0	80.0	85.0	75.0	80.0	85.0	75.0	80.0	85.0	75.0	80.0	85.0	75.0	80.0	85.0	
3600 cfm	EAT (wb)	58.0	THC	116.6	116.6	131.3	112.5	112.5	126.8	108.0	108.0	121.7	102.9	102.9	115.9	97.1	97.1	109.4	
			SHC	101.8	116.6	131.3	98.2	112.5	126.8	94.3	108.0	121.7	89.8	102.9	115.9	84.8	97.1	109.4	
			kW		8.1			9.2			10.4			11.6			12.9		
		62.0	THC	118.8	118.8	130.6	114.0	114.0	128.0	108.7	108.7	124.9	103.0	103.0	120.4	97.2	97.2	113.7	
			SHC	94.3	112.5	130.6	91.9	110.0	128.0	89.1	107.0	124.9	85.5	103.0	120.4	80.7	97.2	113.7	
			kW		8.1			9.2			10.4			11.6			12.9		
		67.0	THC	128.0	128.0	128.0	122.8	122.8	122.8	117.1	117.1	117.1	110.6	110.6	110.6	103.4	103.4	103.4	
			SHC	75.9	94.4	112.8	73.8	92.2	110.7	71.4	89.9	108.3	68.9	87.3	105.7	66.0	84.4	102.8	
			kW		8.3			9.4			10.6			11.8			13.1		
		72.0	THC	138.8	138.8	138.8	132.5	132.5	132.5	126.4	126.4	126.4	119.7	119.7	119.7	112.1	112.1	112.1	
			SHC	57.0	75.6	94.1	54.6	73.2	91.8	52.4	71.0	89.5	50.0	68.5	87.1	47.3	65.8	84.3	
			kW		8.5			9.6			10.7			12.0			13.3		
		76.0	THC	–	148.6	148.6	–	–	–	–	–	–	–	–	–	–	–	–	
			SHC	–	60.5	79.4	–	–	–	–	–	–	–	–	–	–	–	–	
			kW		8.7			–			–			–			–		
4200 cfm	EAT (wb)	58.0	THC	121.4	121.4	136.8	117.1	117.1	131.9	112.3	112.3	126.6	107.0	107.0	120.6	100.9	100.9	113.7	
			SHC	106.0	121.4	136.8	102.2	117.1	131.9	98.1	112.3	126.6	93.4	107.0	120.6	88.1	100.9	113.7	
			kW		8.2			9.3			10.5			11.7			13.0		
		62.0	THC	121.8	121.8	141.8	117.3	117.3	137.1	112.5	112.5	131.5	107.1	107.1	125.2	101.0	101.0	118.1	
			SHC	100.8	121.3	141.8	97.4	117.3	137.1	93.4	112.5	131.5	88.9	107.1	125.2	83.9	101.0	118.1	
			kW		8.2			9.3			10.5			11.7			13.0		
		67.0	THC	130.4	130.4	130.4	124.9	124.9	124.9	119.1	119.1	119.1	112.5	112.5	115.8	105.0	105.0	112.6	
			SHC	80.5	101.8	123.1	78.3	99.6	120.8	76.0	97.2	118.5	73.4	94.6	115.8	70.4	91.5	112.6	
			kW		8.4			9.4			10.6			11.8			13.1		
		72.0	THC	141.6	141.6	141.6	134.7	134.7	134.7	128.4	128.4	128.4	121.5	121.5	121.5	113.7	113.7	113.7	
			SHC	59.0	80.3	101.7	56.5	77.8	99.2	54.2	75.6	97.0	51.8	73.1	94.5	49.0	70.4	91.7	
			kW		8.6			9.6			10.8			12.0			13.3		
		76.0	THC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
			SHC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
			kW		–			–			–			–			–		
4800 cfm	EAT (wb)	58.0	THC	125.3	125.3	141.2	120.8	120.8	136.1	115.8	115.8	130.5	110.2	110.2	124.2	103.9	103.9	117.1	
			SHC	109.4	125.3	141.2	105.4	120.8	136.1	101.1	115.8	130.5	96.3	110.2	124.2	90.7	103.9	117.1	
			kW		8.3			9.4			10.5			11.8			13.1		
		62.0	THC	125.5	125.5	146.7	120.9	120.9	141.3	115.9	115.9	135.6	110.3	110.3	129.0	104.0	104.0	121.6	
			SHC	104.2	125.4	146.7	100.4	120.9	141.3	96.3	115.9	135.6	91.6	110.3	129.0	86.4	104.0	121.6	
			kW		8.3			9.4			10.5			11.8			13.1		
		67.0	THC	132.2	132.2	132.9	126.5	126.5	130.5	120.6	120.6	128.0	113.9	113.9	125.1	106.4	106.4	121.7	
			SHC	84.9	108.9	132.9	82.6	106.6	130.5	80.2	104.1	128.0	77.5	101.3	125.1	74.5	98.1	121.7	
			kW		8.4			9.5			10.6			11.9			13.1		
		72.0	THC	143.8	143.8	143.8	136.3	136.3	136.3	129.8	129.8	129.8	122.8	122.8	122.8	–	–	–	
			SHC	60.8	84.9	109.1	58.2	82.3	106.4	55.9	80.0	104.1	53.5	77.6	101.7	–	–	–	
			kW		8.6			9.7			10.8			12.1			–		
		76.0	THC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
			SHC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
			kW		–			–			–			–			–		
5400 cfm	EAT (wb)	58.0	THC	128.5	128.5	144.8	123.8	123.8	139.5	118.7	118.7	133.8	112.9	112.9	127.2	106.4	106.4	119.9	
			SHC	112.2	128.5	144.8	108.1	123.8	139.5	103.6	118.7	133.8	98.6	112.9	127.2	92.9	106.4	119.9	
			kW		8.3			9.4			10.6			11.9			13.1		
		62.0	THC	128.6	128.6	150.4	123.9	123.9	144.8	118.8	118.8	138.9	113.0	113.0	132.1	106.4	106.4	124.5	
			SHC	106.8	128.6	150.4	102.9	123.9	144.8	98.7	118.8	138.9	93.8	113.0	132.1	88.4	106.4	124.5	
			kW		8.3			9.4			10.6			11.9			13.1		
		67.0	THC	133.7	133.7	142.1	127.8	127.8	139.5	121.8	121.8	136.9	115.0	115.0	133.7	107.5	107.5	129.8	
			SHC	89.1	115.6	142.1	86.7	113.1	139.5	84.2	110.6	136.9	81.4	107.6	133.7	78.1	103.9	129.8	
			kW		8.4			9.5			10.7			11.9			13.2		
		72.0	THC	145.3	145.3	145.3	137.6	137.6	137.6	130.9	130.9	130.9	–	–	–	–	–	–	
			SHC	62.5	89.3	116.1	59.8	86.6	113.4	57.5	84.3	111.1	–	–	–	–	–	–	
			kW		8.7			9.7			10.8			–			–		
		76.0	THC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
			SHC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
			kW		–			–			–			–			–		
6000 cfm	EAT (wb)	58.0	THC	131.2	131.2	147.9	126.3	126.3	142.3	121.0	121.0	136.4	115.1	115.1	129.7	108.4	108.4	122.2	
			SHC	114.6	131.2	147.9	110.3	126.3	142.3	105.7	121.0	136.4	100.5	115.1	129.7	94.7	108.4	122.2	
			kW		8.4			9.5			10.7			11.9			13.2		
		62.0	THC	131.3	131.3	153.6	126.4	126.4	147.8	121.1	121.1	141.6	115.2	115.2	134.7	108.5	108.5	126.8	
			SHC	109.1	131.3	153.6	105.0	126.4	147.8	100.6	121.1	141.6	95.7	115.2	134.7	90.1	108.5	126.8	
			kW		8.4			9.5			10.7			11.9			13.2		
		67.0	THC	135.0	135.0	150.8	128.9	128.9	148.0	122.8	122.8	145.0	116.1	116.1	141.3	108.6	108.6	136.2	
			SHC	93.0	121.9	150.8	90.5	119.3	148.0	87.9	116.5	145.0	84.8	113.0	141.3	81.1	108.6	136.2	
			kW		8.5			9.5			10.7			11.9			13.2		
		72.0	THC	146.6	146.6	146.6	138.8	138.8	138.8	–	–	–	–	–	–	–	–	–	
			SHC	64.2	93.6	123.0	61.5	90.9	120.3	–	–	–	–	–	–	–	–	–	
			kW		8.7			9.7			–			–			–		
		76.0	THC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
			SHC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
			kW		–			–			–			–			–		

LEGEND:

– = Do not operate
EAT(wb) = Entering air temp (wet bulb)
SHC = Sensible heat capacity (Gross)
EAT(db) = Entering air temp (dry bulb)
L/s = Liters per second
kW = Compressor kilowatts
THC = Total heat capacity (Gross)
Cfm = Cubic feet per minute (supply air)

PERFORMANCE DATA (cont.)

38AUD16 - 40RUA16 **COMBINATION RATINGS** **SI**

				Ambient Temperature														
				29.4			35.0			40.6			46.1			51.7		
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)		
				23.9	26.7	29.4	23.9	26.7	29.4	23.9	26.7	29.4	23.9	26.7	29.4	23.9	26.7	29.4
2124 L/S	EAT (wb)	14.4	THC	44.1	44.1	49.7	42.6	42.6	48.0	40.9	40.9	46.1	39.2	39.2	44.2	37.3	37.3	42.0
			SHC	38.5	44.1	49.7	37.2	42.6	48.0	35.8	40.9	46.1	34.2	39.2	44.2	32.5	37.3	42.0
			kW		9.7			10.9			12.3			13.8			15.4	
		16.7	THC	45.3	45.3	49.0	43.4	43.4	48.0	41.4	41.4	46.9	39.4	39.4	45.4	37.3	37.3	43.6
			SHC	35.5	42.3	49.0	34.6	41.3	48.0	33.6	40.3	46.9	32.4	38.9	45.4	31.0	37.3	43.6
			kW		9.7			10.9			12.3			13.8			15.4	
		19.4	THC	49.2	49.2	49.2	47.1	47.1	47.1	44.9	44.9	44.9	42.6	42.6	42.6	40.0	40.0	40.0
			SHC	28.8	35.6	42.5	28.0	34.8	41.6	27.1	33.9	40.7	26.1	32.9	39.7	25.1	31.9	38.7
			kW		9.9			11.1			12.4			13.9			15.5	
		22.2	THC	53.3	53.3	53.3	51.1	51.1	51.1	48.8	48.8	48.8	46.2	46.2	46.2	43.5	43.5	43.5
			SHC	21.8	28.7	35.5	21.0	27.9	34.7	20.1	27.0	33.9	19.2	26.1	32.9	18.2	25.1	31.9
			kW		10.1			11.3			12.6			14.1			15.6	
		24.4	THC	–	56.7	56.7	–	54.5	54.5	–	52.0	52.0	–	–	–	–	–	–
			SHC	–	23.0	30.0	–	22.2	29.2	–	21.4	28.3	–	–	–	–	–	–
			kW		10.3			11.5			12.8			–			–	
2478 L/S	EAT (wb)	14.4	THC	46.1	46.1	52.0	44.5	44.5	50.1	42.8	42.8	48.2	40.9	40.9	46.0	38.8	38.8	43.7
			SHC	40.3	46.1	52.0	38.9	44.5	50.1	37.3	42.8	48.2	35.7	40.9	46.0	33.9	38.8	43.7
			kW		9.8			11.0			12.4			13.8			15.4	
		16.7	THC	46.5	46.5	53.3	44.7	44.7	51.7	42.8	42.8	50.0	40.9	40.9	47.8	38.8	38.8	45.4
			SHC	38.0	45.6	53.3	36.8	44.3	51.7	35.6	42.8	50.0	34.0	40.9	47.8	32.2	38.8	45.4
			kW		9.8			11.0			12.4			13.8			15.4	
		19.4	THC	50.2	50.2	50.2	48.1	48.1	48.1	45.8	45.8	45.8	43.3	43.3	43.5	40.7	40.7	42.4
			SHC	30.6	38.4	46.3	29.7	37.5	45.4	28.8	36.6	44.5	27.8	35.6	43.5	26.8	34.6	42.4
			kW		10.0			11.2			12.5			13.9			15.5	
		22.2	THC	54.3	54.3	54.3	52.1	52.1	52.1	49.6	49.6	49.6	47.0	47.0	47.0	44.2	44.2	44.2
			SHC	22.5	30.4	38.3	21.7	29.6	37.5	20.8	28.7	36.6	19.9	27.8	35.6	18.9	26.8	34.6
			kW		10.2			11.4			12.7			14.1			15.7	
		24.4	THC	–	57.8	57.8	–	55.4	55.4	–	–	–	–	–	–	–	–	–
			SHC	–	23.9	31.9	–	23.1	31.1	–	–	–	–	–	–	–	–	–
			kW		10.4			11.6			–			–			–	
2832 L/S	EAT (wb)	14.4	THC	47.8	47.8	53.8	46.1	46.1	51.9	44.2	44.2	49.8	42.2	42.2	47.6	40.0	40.0	45.1
			SHC	41.7	47.8	53.8	40.2	46.1	51.9	38.6	44.2	49.8	36.8	42.2	47.6	34.9	40.0	45.1
			kW		9.9			11.1			12.4			13.9			15.5	
		16.7	THC	47.8	47.8	55.9	46.1	46.1	53.9	44.3	44.3	51.7	42.2	42.2	49.4	40.0	40.0	46.8
			SHC	39.7	47.8	55.9	38.3	46.1	53.9	36.8	44.3	51.7	35.1	42.2	49.4	33.3	40.0	46.8
			kW		9.9			11.1			12.4			13.9			15.5	
		19.4	THC	50.9	50.9	50.9	48.8	48.8	49.0	46.4	46.4	48.1	43.9	43.9	47.0	41.2	41.2	45.8
			SHC	32.2	41.1	49.9	31.3	40.2	49.0	30.4	39.2	48.1	29.4	38.2	47.0	28.3	37.1	45.8
			kW		10.0			11.2			12.5			14.0			15.5	
		22.2	THC	55.1	55.1	55.1	52.8	52.8	52.8	50.3	50.3	50.3	47.6	47.6	47.6	44.7	44.7	44.7
			SHC	23.2	32.1	41.0	22.3	31.2	40.2	21.5	30.4	39.2	20.5	29.4	38.3	19.5	28.4	37.3
			kW		10.2			11.4			12.7			14.2			15.7	
		24.4	THC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			SHC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			kW		–			–			–			–			–	
3186 L/S	EAT (wb)	14.4	THC	49.1	49.1	55.4	47.3	47.3	53.3	45.4	45.4	51.1	43.3	43.3	48.8	41.0	41.0	46.2
			SHC	42.9	49.1	55.4	41.3	47.3	53.3	39.6	45.4	51.1	37.8	43.3	48.8	35.8	41.0	46.2
			kW		9.9			11.1			12.5			13.9			15.5	
		16.7	THC	49.2	49.2	57.5	47.4	47.4	55.4	45.4	45.4	53.1	43.3	43.3	50.6	41.0	41.0	47.9
			SHC	40.8	49.2	57.5	39.3	47.4	55.4	37.7	45.4	53.1	36.0	43.3	50.6	34.1	41.0	47.9
			kW		9.9			11.1			12.5			13.9			15.5	
		19.4	THC	51.5	51.5	53.4	49.3	49.3	52.5	47.0	47.0	51.4	44.4	44.4	50.3	41.7	41.7	49.0
			SHC	33.8	43.6	53.4	32.9	42.7	52.5	31.9	41.7	51.4	30.9	40.6	50.3	29.7	39.4	49.0
			kW		10.0			11.2			12.6			14.0			15.6	
		22.2	THC	55.7	55.7	55.7	53.3	53.3	53.3	50.8	50.8	50.8	48.0	48.0	48.0	45.0	45.0	45.0
			SHC	23.8	33.7	43.6	23.0	32.9	42.7	22.1	32.0	41.9	21.1	31.0	40.9	20.1	30.0	39.8
			kW		10.3			11.4			12.8			14.2			15.7	
		24.4	THC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			SHC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			kW		–			–			–			–			–	
3540 L/S	EAT (wb)	14.4	THC	50.2	50.2	56.6	48.4	48.4	54.5	46.4	46.4	52.3	44.2	44.2	49.8	41.8	41.8	47.1
			SHC	43.9	50.2	56.6	42.2	48.4	54.5	40.5	46.4	52.3	38.6	44.2	49.8	36.5	41.8	47.1
			kW		10.0			11.2			12.5			14.0			15.6	
		16.7	THC	50.3	50.3	58.8	48.4	48.4	56.6	46.4	46.4	54.2	44.2	44.2	51.7	41.8	41.8	48.9
			SHC	41.8	50.3	58.8	40.2	48.4	56.6	38.5	46.4	54.2	36.7	44.2	51.7	34.8	41.8	48.9
			kW		10.0			11.2			12.5			14.0			15.6	
		19.4	THC	52.0	52.0	56.7	49.8	49.8	55.7	47.4	47.4	54.5	44.8	44.8	53.3	42.1	42.1	51.7
			SHC	35.3	46.0	56.7	34.3	45.0	55.7	33.3	43.9	54.5	32.2	42.7	53.3	30.9	41.3	51.7
			kW		10.1			11.3			12.6			14.0			15.6	
		22.2	THC	56.1	56.1	56.1	53.7	53.7	53.7	51.2	51.2	51.2	–	–	–	–	–	–
			SHC	24.4	35.3	46.1	23.6	34.4	45.3	22.7	33.5	44.4	–	–	–	–	–	–
			kW		10.3			11.5			12.8			14.2			–	
		24.4	THC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			SHC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			kW		–			–			–			–			–	

LEGEND:

– = Do not operate
EAT(wb) = Entering air temp (wet bulb)
SHC = Sensible heat capacity (Gross)
EAT(db) = Entering air temp (dry bulb)
L/s = Liters per second
kW = Compressor kilowatts
THC = Total heat capacity (Gross)
Cfm = Cubic feet per minute (supply air)

PERFORMANCE DATA (cont.)

38AUD16 - 40RUA16 **COMBINATION RATINGS** **ENGLISH**

				Ambient Temperature															
				85.0			95.0			105.0			115.0			125.0			
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			
				75.0	80.0	85.0	75.0	80.0	85.0	75.0	80.0	85.0	75.0	80.0	85.0	75.0	80.0	85.0	
4500 cfm	EAT (wb)	58.0	THC	150.4	150.4	169.5	145.3	145.3	163.7	139.7	139.7	157.4	133.7	133.7	150.7	127.1	127.1	143.2	
			SHC	131.3	150.4	169.5	126.8	145.3	163.7	122.0	139.7	157.4	116.7	133.7	150.7	111.0	127.1	143.2	
			kW		9.7			10.9			12.3			13.8			15.4		
		62.0	THC	154.4	154.4	167.2	148.0	148.0	163.8	141.4	141.4	160.1	134.4	134.4	155.0	127.2	127.2	148.8	
			SHC	121.2	144.2	167.2	118.0	140.9	163.8	114.7	137.4	160.1	110.5	132.8	155.0	105.7	127.2	148.8	
			kW		9.7			10.9			12.3			13.8			15.4		
		67.0	THC	167.7	167.7	167.7	160.7	160.7	160.7	153.3	153.3	153.3	145.2	145.2	145.2	136.6	136.6	136.6	
			SHC	98.3	121.6	144.9	95.4	118.7	142.0	92.4	115.7	138.9	89.1	112.4	135.6	85.6	108.9	132.1	
			kW		9.9			11.1			12.4			13.9			15.5		
		72.0	THC	181.8	181.8	181.8	174.4	174.4	174.4	166.5	166.5	166.5	157.8	157.8	157.8	148.5	148.5	148.5	
			SHC	74.4	97.8	121.2	71.7	95.1	118.5	68.7	92.1	115.5	65.5	88.9	112.3	62.1	85.5	108.8	
			kW		10.1			11.3			12.6			14.1			15.6		
		76.0	THC	–	193.5	193.5	–	185.8	185.8	–	177.4	177.4	–	–	–	–	–	–	
			SHC	–	78.4	102.4	–	75.8	99.7	–	72.9	96.7	–	–	–	–	–	–	
			kW		10.3			11.5			12.8			–			–		
5250 cfm	EAT (wb)	58.0	THC	157.4	157.4	177.4	151.8	151.8	171.1	145.9	145.9	164.4	139.4	139.4	157.1	132.3	132.3	149.1	
			SHC	137.4	157.4	177.4	132.6	151.8	171.1	127.4	145.9	164.4	121.7	139.4	157.1	115.5	132.3	149.1	
			kW		9.8			11.0			12.4			13.8			15.4		
		62.0	THC	158.7	158.7	181.7	152.4	152.4	176.5	146.0	146.0	170.7	139.5	139.5	163.1	132.4	132.4	154.9	
			SHC	129.7	155.7	181.7	125.7	151.1	176.5	121.3	146.0	170.7	115.9	139.5	163.1	110.0	132.4	154.9	
			kW		9.8			11.0			12.4			13.8			15.4		
		67.0	THC	171.2	171.2	171.2	164.0	164.0	164.0	156.2	156.2	156.2	147.9	147.9	148.3	139.0	139.0	144.6	
			SHC	104.3	131.1	157.9	101.3	128.1	154.9	98.2	125.0	151.8	94.9	121.6	148.3	91.3	118.0	144.6	
			kW		10.0			11.2			12.5			13.9			15.5		
		72.0	THC	185.3	185.3	185.3	177.6	177.6	177.6	169.4	169.4	169.4	160.5	160.5	160.5	150.7	150.7	150.7	
			SHC	76.8	103.7	130.7	74.0	100.9	127.9	71.0	98.0	124.9	67.9	94.7	121.6	64.4	91.3	118.1	
			kW		10.2			11.4			12.7			14.1			15.7		
		76.0	THC	–	197.1	197.1	–	189.1	189.1	–	–	–	–	–	–	–	–	–	
			SHC	–	81.5	109.0	–	78.8	106.2	–	–	–	–	–	–	–	–	–	
			kW		10.4			11.6			–			–			–		
6000 cfm	EAT (wb)	58.0	THC	163.0	163.0	183.7	157.2	157.2	177.1	150.8	150.8	170.0	144.0	144.0	162.3	136.5	136.5	153.8	
			SHC	142.4	163.0	183.7	137.2	157.2	177.1	131.7	150.8	170.0	125.7	144.0	162.3	119.2	136.5	153.8	
			kW		9.9			11.1			12.4			13.9			15.5		
		62.0	THC	163.2	163.2	190.8	157.3	157.3	183.9	151.0	151.0	176.5	144.1	144.1	168.5	136.6	136.6	159.7	
			SHC	135.6	163.2	190.8	130.6	157.3	183.9	125.4	151.0	176.5	119.7	144.1	168.5	113.5	136.6	159.7	
			kW		9.9			11.1			12.4			13.9			15.5		
		67.0	THC	173.8	173.8	173.8	166.4	166.4	167.3	158.4	158.4	164.0	149.9	149.9	160.3	140.7	140.7	156.4	
			SHC	109.9	140.1	170.3	106.9	137.1	167.3	103.7	133.8	164.0	100.3	130.3	160.3	96.6	126.5	156.4	
			kW		10.0			11.2			12.5			14.0			15.5		
		72.0	THC	187.9	187.9	187.9	180.0	180.0	180.0	171.6	171.6	171.6	162.4	162.4	162.4	152.5	152.5	152.5	
			SHC	79.0	109.4	139.8	76.2	106.6	137.0	73.2	103.6	133.9	70.0	100.3	130.7	66.6	96.9	127.2	
			kW		10.2			11.4			12.7			14.2			15.7		
		76.0	THC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
			SHC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
			kW		–			–			–			–			–		
6750 cfm	EAT (wb)	58.0	THC	167.6	167.6	188.9	161.5	161.5	182.0	154.9	154.9	174.5	147.7	147.7	166.4	139.8	139.8	157.6	
			SHC	146.3	167.6	188.9	141.0	161.5	182.0	135.2	154.9	174.5	128.9	147.7	166.4	122.1	139.8	157.6	
			kW		9.9			11.1			12.5			13.9			15.5		
		62.0	THC	167.7	167.7	196.1	161.6	161.6	188.9	155.0	155.0	181.2	147.8	147.8	172.8	139.9	139.9	163.6	
			SHC	139.3	167.7	196.1	134.2	161.6	188.9	128.7	155.0	181.2	122.7	147.8	172.8	116.2	139.9	163.6	
			kW		9.9			11.1			12.5			13.9			15.5		
		67.0	THC	175.8	175.8	182.2	168.3	168.3	179.0	160.2	160.2	175.5	151.5	151.5	171.6	142.3	142.3	167.1	
			SHC	115.2	148.7	182.2	112.2	145.6	179.0	108.9	142.2	175.5	105.4	138.5	171.6	101.5	134.3	167.1	
			kW		10.0			11.2			12.6			14.0			15.6		
		72.0	THC	189.9	189.9	189.9	181.9	181.9	181.9	173.2	173.2	173.2	163.9	163.9	163.9	153.7	153.7	153.7	
			SHC	81.2	114.9	148.7	78.4	112.1	145.8	75.3	109.1	142.8	72.1	105.8	139.5	68.6	102.3	135.9	
			kW		10.3			11.4			12.8			14.2			15.7		
		76.0	THC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
			SHC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
			kW		–			–			–			–			–		
7500 cfm	EAT (wb)	58.0	THC	171.4	171.4	193.2	165.1	165.1	186.0	158.2	158.2	178.3	150.8	150.8	169.9	142.7	142.7	160.7	
			SHC	149.7	171.4	193.2	144.1	165.1	186.0	138.1	158.2	178.3	131.6	150.8	169.9	124.6	142.7	160.7	
			kW		10.0			11.2			12.5			14.0			15.6		
		62.0	THC	171.5	171.5	200.6	165.2	165.2	193.1	158.3	158.3	185.1	150.9	150.9	176.4	142.7	142.7	166.9	
			SHC	142.5	171.5	200.6	137.2	165.2	193.1	131.5	158.3	185.1	125.3	150.9	176.4	118.6	142.7	166.9	
			kW		10.0			11.2			12.5			14.0			15.6		
		67.0	THC	177.5	177.5	193.4	169.8	169.8	190.0	161.7	161.7	186.1	153.0	153.0	181.7	143.7	143.7	176.3	
			SHC	120.3	156.8	193.4	117.1	153.5	190.0	113.7	149.9	186.1	110.0	145.8	181.7	105.6	140.9	176.3	
			kW		10.1			11.3			12.6			14.0			15.6		
		72.0	THC	191.5	191.5	191.5	183.3	183.3	183.3	174.6	174.6	174.6	165.0	165.0	165.0	–	–	–	
			SHC	83.2	120.3	157.3	80.4	117.4	154.5	77.4	114.4	151.4	74.1	111.1	148.1	–	–	–	
			kW		10.3			11.5			12.8			14.2			–		
		76.0	THC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
			SHC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
			kW		–			–			–			–			–		

LEGEND:

– = Do not operate
EAT(wb) = Entering air temp (wet bulb)
SHC = Sensible heat capacity (Gross)
EAT(db) = Entering air temp (dry bulb)
L/s = Liters per second
kW = Compressor kilowatts
THC = Total heat capacity (Gross)
Cfm = Cubic feet per minute (supply air)

PERFORMANCE DATA (cont.)

38AUD25 - 40RUA25 **COMBINATION RATINGS** **SI**

				Ambient Temperature													
				29.4			35.0			40.6			46.1			51.7	
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)	
				23.9	26.7	29.4	23.9	26.7	29.4	23.9	26.7	29.4	23.9	26.7	29.4	23.9	26.7	29.4
2832 L/S	EAT (wb)	14.4	THC	58.3	58.3	65.7	56.2	56.2	63.3	54.0	54.0	60.8	51.5	51.5	58.0	48.7	48.7	54.9
			SHC	50.9	58.3	65.7	49.1	56.2	63.3	47.1	54.0	60.8	44.9	51.5	58.0	42.5	48.7	54.9
			kW	11.6			13.0			14.5			16.3			18.3		
		16.7	THC	59.8	59.8	64.9	57.3	57.3	63.6	54.5	54.5	62.0	51.7	51.7	59.8	48.7	48.7	57.0
			SHC	47.0	56.0	64.9	45.8	54.7	63.6	44.4	53.2	62.0	42.6	51.2	59.8	40.5	48.7	57.0
			kW	11.7			13.0			14.6			16.3			18.3		
		19.4	THC	65.4	65.4	65.4	62.5	62.5	62.5	59.4	59.4	59.4	56.0	56.0	56.0	52.3	52.3	52.3
			SHC	38.3	47.4	56.4	37.1	46.2	55.2	35.8	44.9	53.9	34.5	43.5	52.5	33.0	42.0	51.0
			kW		11.9			13.3			14.6			16.6			18.5	
		22.2	THC	71.6	71.6	71.6	68.4	68.4	68.4	65.0	65.0	65.0	61.3	61.3	61.3	57.2	57.2	57.2
			SHC	29.3	38.4	47.5	28.1	37.2	46.3	26.8	35.9	45.0	25.4	34.5	43.6	24.0	33.0	42.1
			kW		12.3			13.6			15.1			16.9		18.8		
		24.4	THC	–	76.8	76.8	–	73.4	73.4	–	69.7	69.7	–	–	–	–	–	–
			SHC	–	31.1	40.6	–	29.9	39.3	–	28.6	38.0	–	–	–	–	–	–
			kW		12.6			13.9			15.4			–			–	
3304 L/S	EAT (wb)	14.4	THC	61.1	61.1	68.8	58.9	58.9	66.4	56.4	56.4	63.6	53.7	53.7	60.6	50.7	50.7	57.2
			SHC	53.3	61.1	68.8	51.4	58.9	66.4	49.3	56.4	63.6	46.9	53.7	60.6	44.3	50.7	57.2
			kW		11.7			13.1			14.7			16.5		18.4		
		16.7	THC	61.7	61.7	70.5	59.1	59.1	68.5	56.5	56.5	66.0	53.8	53.8	62.9	50.8	50.8	59.4
			SHC	50.4	60.4	70.5	48.8	58.6	68.5	46.9	56.5	66.0	44.7	53.8	62.9	42.2	50.8	59.4
			kW		11.8			13.1			14.7			16.5			18.4	
		19.4	THC	67.0	67.0	67.0	64.0	64.0	64.0	60.7	60.7	60.7	57.2	57.2	57.5	53.3	53.3	55.9
			SHC	40.7	51.1	61.5	39.5	49.9	60.3	38.2	48.5	58.9	36.7	47.1	57.5	35.2	45.5	55.9
			kW		12.0			13.4			14.9			16.6			18.6	
		22.2	THC	73.2	73.2	73.2	69.9	69.9	69.9	66.3	66.3	66.3	62.4	62.4	62.4	58.2	58.2	58.2
			SHC	30.3	40.8	51.3	29.1	39.5	50.0	27.8	38.2	48.7	26.4	36.8	47.2	24.9	35.3	45.7
			kW		12.4			13.7			15.2			16.9			18.8	
		24.4	THC	–	78.5	78.5	–	–	–	–	–	–	–	–	–	–	–	–
			SHC	–	32.4	43.2	–	–	–	–	–	–	–	–	–	–	–	–
			kW		12.7			–			–			–			–	
3776 L/S	EAT (wb)	14.4	THC	63.4	63.4	71.5	61.0	61.0	68.8	58.4	58.4	65.8	55.5	55.5	62.6	52.4	52.4	59.0
			SHC	55.4	63.4	71.5	53.3	61.0	68.8	51.0	58.4	65.8	48.5	55.5	62.6	45.7	52.4	59.0
			kW		11.9			13.2			14.8			16.6			18.5	
		16.7	THC	63.5	63.5	74.2	61.1	61.1	71.4	58.5	58.5	68.4	55.6	55.6	65.0	52.4	52.4	61.3
			SHC	52.7	63.5	74.2	50.7	61.1	71.4	48.6	58.5	68.4	46.2	55.6	65.0	43.6	52.4	61.3
			kW		11.9			13.2			14.8			16.6			18.5	
		19.4	THC	68.1	68.1	68.1	65.0	65.0	65.1	61.6	61.6	63.7	58.0	58.0	62.1	54.0	54.0	60.4
			SHC	42.9	54.7	66.4	41.7	53.4	65.1	40.3	52.0	63.7	38.8	50.5	62.1	37.3	48.8	60.4
			kW		12.1			13.4			15.0			16.7			18.6	
		22.2	THC	74.5	74.5	74.5	71.0	71.0	71.0	67.3	67.3	67.3	63.3	63.3	63.3	59.0	59.0	59.0
			SHC	31.2	43.1	54.8	30.0	41.8	53.6	28.7	40.4	52.2	27.3	39.0	50.7	25.8	37.5	49.2
			kW		12.4			13.8			15.3			17.0			18.9	
		24.4	THC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			SHC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			kW		–			–			–			–			–	
4248 L/S	EAT (wb)	14.4	THC	65.4	65.4	73.7	62.8	62.8	70.8	60.1	60.1	67.7	57.1	57.1	64.3	53.8	53.8	60.6
			SHC	57.1	65.4	73.7	54.9	62.8	70.8	52.5	60.1	67.7	49.8	57.1	64.3	46.9	53.8	60.6
			kW		12.0			13.3			14.9			16.6			18.6	
		16.7	THC	65.4	65.4	76.5	62.9	62.9	73.5	60.1	60.1	70.3	57.1	57.1	66.8	53.8	53.8	62.9
			SHC	54.3	65.4	76.5	52.2	62.9	73.5	49.9	60.1	70.3	47.5	57.1	66.8	44.7	53.8	62.9
			kW		12.0			13.3			14.9			16.6			18.6	
		19.4	THC	69.1	69.1	71.0	65.9	65.9	69.7	62.4	62.4	68.1	58.7	58.7	66.4	54.7	54.7	64.5
			SHC	45.1	58.1	71.0	43.8	56.7	69.7	42.4	55.2	68.1	40.8	53.6	66.4	39.1	51.8	64.5
			kW		12.2			13.5			15.0			16.7			18.7	
		22.2	THC	75.5	75.5	75.5	72.0	72.0	72.0	68.1	68.1	68.1	64.0	64.0	64.0	–	–	–
			SHC	32.1	45.2	58.3	30.9	43.9	57.0	29.5	42.6	55.6	28.1	41.1	54.1	–	–	–
			kW		12.5			13.8			15.3			17.0			–	
		24.4	THC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			SHC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			kW		–			–			–			–			–	
4719 L/S	EAT (wb)	14.4	THC	67.0	67.0	75.5	64.4	64.4	72.6	61.5	61.5	69.3	58.4	58.4	65.8	54.9	54.9	61.8
			SHC	58.5	67.0	75.5	56.2	64.4	72.6	53.7	61.5	69.3	51.0	58.4	65.8	47.9	54.9	61.8
			kW		12.1			13.4			15.0			16.7			18.7	
		16.7	THC	67.1	67.1	78.4	64.4	64.4	75.4	61.5	61.5	72.0	58.4	58.4	68.3	54.9	54.9	64.2
			SHC	55.7	67.1	78.4	53.5	64.4	75.4	51.1	61.5	72.0	48.5	58.4	68.3	45.6	54.9	64.2
			kW		12.1			13.4			15.0			16.7			18.7	
		19.4	THC	69.9	69.9	75.4	66.6	66.6	74.0	63.1	63.1	72.3	59.3	59.3	70.4	55.3	55.3	67.9
			SHC	47.1	61.3	75.4	45.7	59.8	74.0	44.3	58.3	72.3	42.6	56.5	70.4	40.7	54.3	67.9
			kW		12.2			13.5			15.1			16.8			18.7	
		22.2	THC	76.3	76.3	76.3	72.7	72.7	72.7	68.7	68.7	68.7	–	–	–	–	–	–
			SHC	33.0	47.3	61.7	31.7	46.0	60.3	30.3	44.6	58.9	–	–	–	–	–	–
			kW		12.6			13.9			15.4			–			–	
		24.4	THC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			SHC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			kW		–			–			–			–			–	

LEGEND:

– = Do not operate
EAT(wb) = Entering air temp (wet bulb)
SHC = Sensible heat capacity (Gross)
EAT(db) = Entering air temp (dry bulb)
L/s = Liters per second
kW = Compressor kilowatts
THC = Total heat capacity (Gross)
Cfm = Cubic feet per minute (supply air)

PERFORMANCE DATA (cont.)

38AUD25 - 40RUA25 **COMBINATION RATINGS** **ENGLISH**

				Ambient Temperature															
				85.0			95.0			105.0			115.0			125.0			
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			
				75.0	80.0	85.0	75.0	80.0	85.0	75.0	80.0	85.0	75.0	80.0	85.0	75.0	80.0	85.0	
6000 cfm	EAT (wb)	58.0	THC	198.8	198.8	224.1	191.8	191.8	216.1	184.1	184.1	207.4	175.6	175.6	197.9	166.1	166.1	187.2	
			SHC	173.6	198.8	224.1	167.5	191.8	216.1	160.7	184.1	207.4	153.3	175.6	197.9	145.1	166.1	187.2	
			kW		11.6			13.0			14.5			16.3			18.3		
		62.0	THC	204.2	204.2	221.5	195.5	195.5	216.9	186.1	186.1	211.6	176.5	176.5	204.0	166.3	166.3	194.5	
			SHC	160.5	191.0	221.5	156.2	186.5	216.9	151.4	181.5	211.6	145.3	174.7	204.0	138.1	166.3	194.5	
			kW		11.7			13.0			14.6			16.3			18.3		
		67.0	THC	223.1	223.1	223.1	213.4	213.4	213.4	202.7	202.7	202.7	191.2	191.2	191.2	178.5	178.5	178.5	
			SHC	130.8	161.7	192.6	126.7	157.6	188.4	122.3	153.2	184.0	117.6	148.4	179.2	112.5	143.3	174.1	
			kW		11.9			13.3			14.6			16.6			18.5		
		72.0	THC	244.3	244.3	244.3	233.5	233.5	233.5	221.8	221.8	221.8	209.1	209.1	209.1	195.3	195.3	195.3	
			SHC	99.9	131.0	162.2	95.9	126.9	158.0	91.5	122.5	153.6	86.8	117.8	148.8	81.8	112.7	143.7	
			kW		12.3			13.6			15.1			16.9			18.8		
		76.0	THC	–	262.2	262.2	–	250.5	250.5	–	237.8	237.8	–	–	–	–	–	–	
			SHC	–	106.2	138.4	–	102.1	134.2	–	97.7	129.6	–	–	–	–	–	–	
			kW		12.6			13.9			15.4			–			–		
7000 cfm	EAT (wb)	58.0	THC	208.5	208.5	234.9	200.9	200.9	226.4	192.5	192.5	216.9	183.3	183.3	206.6	173.1	173.1	195.1	
			SHC	182.0	208.5	234.9	175.4	200.9	226.4	168.1	192.5	216.9	160.1	183.3	206.6	151.1	173.1	195.1	
			kW		11.7			13.1			14.7			16.5		18.4			
		62.0	THC	210.4	210.4	240.6	201.7	201.7	233.7	192.7	192.7	225.3	183.5	183.5	214.6	173.3	173.3	202.6	
			SHC	171.9	206.2	240.6	166.4	200.1	233.7	160.0	192.7	225.3	152.4	183.5	214.6	143.9	173.3	202.6	
			kW		11.8			13.1			14.7			16.5			18.4		
		67.0	THC	228.5	228.5	228.5	218.2	218.2	218.2	207.0	207.0	207.0	195.0	195.0	196.1	181.9	181.9	190.6	
			SHC	138.9	174.4	210.0	134.7	170.2	205.7	130.2	165.6	201.1	125.3	160.7	196.1	120.0	155.3	190.6	
			kW		12.0			13.4			14.9			16.6			18.6		
		72.0	THC	249.9	249.9	249.9	238.6	238.6	238.6	226.3	226.3	226.3	213.0	213.0	213.0	198.6	198.6	198.6	
			SHC	103.4	139.1	174.9	99.2	134.9	170.6	94.8	130.4	166.1	90.0	125.6	161.2	84.9	120.4	155.9	
			kW		12.4			13.7			15.2			16.9			18.8		
		76.0	THC	–	268.0	268.0	–	–	–	–	–	–	–	–	–	–	–	–	
			SHC	–	110.5	147.3	–	–	–	–	–	–	–	–	–	–	–	–	
			kW		12.7			–			–			–			–		
8000 cfm	EAT (wb)	58.0	THC	216.4	216.4	243.8	208.2	208.2	234.7	199.3	199.3	224.6	189.5	189.5	213.6	178.7	178.7	201.4	
			SHC	188.9	216.4	243.8	181.8	208.2	234.7	174.0	199.3	224.6	165.5	189.5	213.6	156.0	178.7	201.4	
			kW		11.9			13.2			14.8			16.6			18.5		
		62.0	THC	216.6	216.6	253.3	208.4	208.4	243.7	199.5	199.5	233.3	189.7	189.7	221.8	178.8	178.8	209.1	
			SHC	179.9	216.6	253.3	173.1	208.4	243.7	165.7	199.5	233.3	157.6	189.7	221.8	148.6	178.8	209.1	
			kW		11.9			13.2			14.8			16.6			18.5		
		67.0	THC	232.5	232.5	232.5	221.8	221.8	222.2	210.3	210.3	217.3	197.9	197.9	212.0	184.4	184.4	206.0	
			SHC	146.5	186.6	226.6	142.2	182.2	222.2	137.6	177.4	217.3	132.5	172.2	212.0	127.1	166.5	206.0	
			kW		12.1			13.4			15.0			16.7			18.6		
		72.0	THC	254.2	254.2	254.2	242.4	242.4	242.4	229.7	229.7	229.7	216.0	216.0	216.0	201.2	201.2	201.2	
			SHC	106.6	146.9	187.1	102.4	142.6	182.8	97.9	138.0	178.1	93.0	133.1	173.1	87.9	127.8	167.7	
			kW		12.4			13.8			15.3			17.0			18.9		
		76.0	THC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
			SHC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
			kW		–			–			–			–			–		
9000 cfm	EAT (wb)	58.0	THC	223.0	223.0	251.3	214.4	214.4	241.6	205.0	205.0	231.0	194.7	194.7	219.4	183.4	183.4	206.6	
			SHC	194.7	223.0	251.3	187.2	214.4	241.6	179.0	205.0	231.0	170.0	194.7	219.4	160.1	183.4	206.6	
			kW		12.0			13.3			14.9			16.6			18.6		
		62.0	THC	223.2	223.2	261.0	214.6	214.6	250.9	205.2	205.2	239.9	194.9	194.9	227.9	183.5	183.5	214.5	
			SHC	185.4	223.2	261.0	178.2	214.6	250.9	170.4	205.2	239.9	161.9	194.9	227.9	152.4	183.5	214.5	
			kW		12.0			13.3			14.9			16.6			18.6		
		67.0	THC	235.8	235.8	242.4	224.8	224.8	237.7	213.0	213.0	232.5	200.3	200.3	226.7	186.6	186.6	220.0	
			SHC	153.8	198.1	242.4	149.3	193.5	237.7	144.5	188.5	232.5	139.3	183.0	226.7	133.4	176.7	220.0	
			kW		12.2			13.5			15.0			16.7			18.7		
		72.0	THC	257.6	257.6	257.6	245.5	245.5	245.5	232.4	232.4	232.4	218.4	218.4	218.4	–	–	–	
			SHC	109.6	154.3	198.9	105.4	149.9	194.5	100.8	145.2	189.7	95.9	140.2	184.6	–	–	–	
			kW		12.5			13.8			15.3			17.0			–		
		76.0	THC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
			SHC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
			kW		–			–			–			–			–		
10,000 cfm	EAT (wb)	58.0	THC	228.7	228.7	257.7	219.7	219.7	247.6	209.8	209.8	236.5	199.1	199.1	224.4	187.3	187.3	211.0	
			SHC	199.7	228.7	257.7	191.8	219.7	247.6	183.2	209.8	236.5	173.9	199.1	224.4	163.5	187.3	211.0	
			kW		12.1			13.4			15.0			16.7			18.7		
		62.0	THC	228.8	228.8	267.6	219.8	219.8	257.1	210.0	210.0	245.5	199.2	199.2	233.0	187.4	187.4	219.1	
			SHC	190.1	228.8	267.6	182.6	219.8	257.1	174.4	210.0	245.5	165.5	199.2	233.0	155.7	187.4	219.1	
			kW		12.1			13.4			15.0			16.7			18.7		
		67.0	THC	238.5	238.5	257.4	227.3	227.3	252.4	215.2	215.2	246.7	202.4	202.4	240.1	188.7	188.7	231.8	
			SHC	160.6	209.0	257.4	156.0	204.2	252.4	151.0	198.8	246.7	145.4	192.7	240.1	138.9	185.3	231.8	
			kW		12.2			13.5			15.1			16.8			18.7		
		72.0	THC	260.3	260.3	260.3	247.9	247.9	247.9	234.5	234.5	234.5	–	–	–	–	–	–	
			SHC	112.5	161.4	210.4	108.2	157.0	205.9	103.5	152.3	201.0	–	–	–	–	–	–	
			kW		12.6			13.9			15.4			–			–		
		76.0	THC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
			SHC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
			kW		–			–			–			–			–		

LEGEND:

– = Do not operate
EAT(wb) = Entering air temp (wet bulb)
SHC = Sensible heat capacity (Gross)
EAT(db) = Entering air temp (dry bulb)
L/s = Liters per second
kW = Compressor kilowatts
THC = Total heat capacity (Gross)
Cfm = Cubic feet per minute (supply air)

ELECTRICAL DATA

38AUZ07 COOLING 50 Hz

38AUZ07							WITHOUT PWRD C.O.		WITH PWRD C.O.	
V–Ph–Hz	VOLTAGE RANGE		COMP 1		OFM (ea)		MCA	Fuse	MCA	Fuse
	MIN	MAX	RLA	LRA	WATTS	FLA				
400–3–50	380	420	9.7	64	270	0.7	13.5	20	15.9	25

38AUZ08 COOLING 50 Hz

38AUZ08							WITHOUT PWRD C.O.		WITH PWRD C.O.	
V–Ph–Hz	VOLTAGE RANGE		COMP 1		OFM (ea)					
	MIN	MAX	RLA	LRA	WATTS	FLA	MCA	Fuse	MCA	Fuse
400–3–50	380	420	12.2	101	270	0.7	16.7	25	19.0	30

38AUD12 COOLING 50 Hz

38AUD12									WITHOUT PWRD C.O.		WITH PWRD C.O.	
V–Ph–Hz	VOLTAGE RANGE		COMP 1		COMP 2		OFM (ea)					
	MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	MCA	Fuse	MCA	Fuse
400–3–50	380	420	7.8	51.5	7.8	51.5	270	0.7	19.0	25	21.3	30

38AUD14 COOLING 50 Hz

38AUD14									WITHOUT PWRD C.O.		WITH PWRD C.O.	
V–Ph–Hz	VOLTAGE RANGE		COMP 1		COMP 2		OFM (ea)					
	MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	MCA	Fuse	MCA	Fuse
400–3–50	380	420	10.6	74	10.6	74	270	0.7	25.3	30	27.6	30

38AUD16 COOLING 50 Hz

38AUD16									POWER SUPPLY		DISCONNECT SIZE	
V–Ph–Hz	VOLTAGE RANGE		COMP 1		COMP 2		OFM					
	Min	Max	RLA	LRA	RLA	LRA	Qty	FLA (ea)	MCA	MOCP	FLA	LRA
400–3–50	360	440	12.2	101	12.2	101	3	0.7	29.6	40	30	208

38AUD25 COOLING 50 Hz

38AUD24									POWER SUPPLY		DISCONNECT SIZE	
V–Ph–Hz	VOLTAGE RANGE		COMP 1		COMP 2		OFM					
	Min	Max	RLA	LRA	RLA	LRA	Qty	FLA (ea)	MCA	MOCP	FLA	LRA
400–3–50	360	440	16.7	111	16.7	111	4	0.7	40.4	50	42	230

APPLICATION DATA

Operating limits

Maximum outdoor temperature . . . . . 125°F

Minimum return-air temperature (40RUA) . . . . . 55°F

Maximum return-air temperature (40RUA) . . . . . 95°F

Range of acceptable saturation suction temperature . . . . . 20 to 50°F

Maximum discharge temperature . . . . . 275°F

Minimum discharge superheat . . . . . 60°F

NOTES:

1. Select air handler at no less than 300 cfm/ton (nominal condensing unit capacity).
2. Total combined draw of the field-supplied liquid line solenoid valve and air handler fan contactor must not exceed 22 va. If the specified va must be exceeded, use a remote relay to control the load.

MINIMUM OUTDOOR-AIR OPERATING TEMPERATURE

UNIT 38AU	MINIMUM OUTDOOR TEMP (°F)	
	Std	With MotorMaster I® Control†
Z07	35	–20
Z08	35	
D12	35	
D14	35	
D16	35	
D25	35	

† Wind baffles (field-supplied and field-installed) are recommended for all units with MotorMaster I® control. Refer to Low Ambient Temperature Control Installation Instructions for additional information.

Refrigerant piping

IMPORTANT: Do not bury refrigerant piping underground.

It is recommended that the refrigerant piping for all commercial split systems include a liquid line solenoid valve, a liquid line filter drier and a sight glass.

For refrigerant lines longer than 75 lineal ft, a liquid line solenoid valve installed at the **indoor** unit and a suction accumulator are required. Refer to the Refrigerant Specialties Part Numbers table.

REFRIGERANT SPECIALTIES PART NUMBERS

LIQUID LINE SIZE (in.)	LIQUID LINE SOLENOID VALVE (LLSV)	LLSV COIL	SIGHT GLASS
$^3/_8$	EF680033	EF680037	KM680008
$^1/_2$	EF680035	EF680037	KM680004
$^5/_8$	EF680036	EF680037	KM680005

NOTE: 38AUD units require TWO sets of parts.

38AUZ 07-08 PIPING RECOMMENDATIONS (SINGLE-CIRCUIT UNIT)

R–410A	Equivalent Length									
	meter	0–12		12–23		23–34		34–46		46–57	
	feet	0–38		38–75		75–113		113–150		150–188	
Model	Linear Length										
	meter	0–7.5		7.5–15		15–23		23–30		30–38	
	feet	0–25		25–50		50–75		75–100		100–125	
38AUZ*07	Liquid Line	3/8		3/8	1/2	3/8	1/2	3/8	1/2	3/8	1/2
	Max Lift										
	SI (m)										
	Novation	7.5		15		16	23	9	29	10	34
	RTPF	7.5		15		19	23	12	30	11	38
	EN (ft)										
	Novation	25		50		53	75	34	97	33	112
	RTPF	25		50		63	75	42	100	38	125
	Suction Line	7/8	7/8	7/8		7/8		7/8		1–1/8	
	Charge										
	SI (kg)										
	Novation	3.8		4.4		4.9	5.9	5.4	6.8	6.1	7.9
	RTPF	6.4		7.0		7.4	8.5	7.9	9.3	8.7	10.4
	EN (lbs)										
	Novation	8.4		9.8		10.8	13.1	11.8	14.9	13.5	17.4
	RTPF	14.0		15.4		16.4	18.7	17.4	20.5	19.1	23.0
38AUZ*08	Liquid Line	1/2		1/2	5/8	1/2	5/8	1/2	5/8	1/2	5/8
	Max Lift										
	SI (m)										
	Novation	7.5		9	11	7	10	DNU	10	10	16
	RTPF	7.5		15	NR	23	NR	27	30	18	38
	EN (ft)										
	Novation	25		30	38	24	36	DNU	35	33	53
	RTPF	25		50	NR	75	NR	89	100	62	125
	Suction Line	7/8		7/8		1–1/8		1–1/8		1–1/8	
	Charge										
	SI (kg)										
	Novation	5.5		6.3	7.2	7.4	8.6	DNU	9.9	9.1	11.2
	RTPF	8.6		9.4	NR	10.4	NR	11.3	13.0	12.2	14.3
	EN (lbs)										
	Novation	12.2		13.9	15.8	16.2	19.0	DNU	21.9	20.0	24.8
	RTPF	19.0		20.7	NR	23.0	NR	24.9	28.7	26.8	31.6

Legend:

Equivalent Length – Equivalent tubing length, including effects of refrigeration specialties devices

Linear Length – Linear tubing length, feet

Liquid Line – Tubing size, inches OD.

Max Lift – Maximum liquid lift (indoor unit ABOVE outdoor unit only), at maximum permitted liquid line pressure drop
- Linear Length Less than 30 m (100 ft): Minimum 1.1° C (2.0° F) subcooling entering TXV
- Linear Length Greater than 30 m (100 ft): Minimum 0.3° C (0.5° F) subcooling entering TXV

Suction Line – Tube size, inches OD

Charge – Charge Quantity, lbs. Calculated for both liquid line sizes (where applicable), but only with larger suction line size (where applicable)

DNU – Do Not Use (pressure drop exceeds available subcooling in this model)

NR – Not Recommended (use smaller liquid tube size)

SI – Metric units of measure

EN – English units of measure (I–P)

NOTE: For applications with equivalent length greater than 57 m (188 ft) and/or linear length greater than 38 m (125 ft), contact your local Carrier representative.

38AUD 12-14 PIPING RECOMMENDATIONS (TWO-CIRCUIT UNIT)

NOTE: 38AUD requires TWO sets of refrigeration piping

R–410A	Equivalent Length									
	meter	**0–12**	**12–23**		**23–34**		**34–46**		**46–57**	
	feet	**0–38**	**38–75**		**75–113**		**113–150**		**150–188**	
Model	Linear Length									
	meter	0–7.5	7.5–15		15–23		23–30		30–38	
	feet	0–25	25–50		50–75		75–100		100–125	
38AUD*12	Liquid Line	3/8	3/8		3/8	1/2	3/8	1/2	3/8	1/2
	Max Lift									
	SI (m)									
	Novation	7.5	15		15	23	10	24	13	29
	RTPF	7.5	15		15	23	10	27	11	32
	EN (ft)									
	Novation	25	50		50	75	36	79	44	96
	RTPF	25	50		50	75	36	89	39	106
	Suction Line	7/8	7/8		7/8		7/8		1–1/8	
	Charge									
	SI (kg)									
	Novation	3.3	3.8		4.2	5.3	4.7	6.1	5.1	6.9
	RTPF	4.9	5.4		5.8	6.9	6.3	7.7	6.8	8.6
	EN (lbs)									
	Novation	7.3	8.3		9.3	11.6	10.3	13.4	11.3	15.2
	RTPF	10.9	11.9		12.9	15.2	13.9	17.0	14.9	18.8
38AUD*14	Liquid Line	3/8	1/2	5/8	1/2	5/8	1/2	5/8	1/2	5/8
	Max Lift									
	SI (m)									
	Novation	7.5	13	15	12	14	11	14	17	20
	EN (ft)									
	Novation	25	45	50	42	49	39	48	56	68
	Suction Line	7/8	7/8		7/8		1–1/8		1–1/8	
	Charge									
	SI (kg)									
	Novation	4.6	5.8	6.6	6.6	7.8	7.6	10.7	9.4	12.0
	EN (lbs)									
	Novation	10.1	12.7	14.6	14.5	17.3	16.8	23.5	20.7	26.4

Legend:

Equivalent Length – Equivalent tubing length, including effects of refrigeration specialties devices

Linear Length – Linear tubing length, feet

Liquid Line – Tubing size, inches OD.

Max Lift – Maximum liquid lift (indoor unit ABOVE outdoor unit only), at maximum permitted liquid line pressure drop
- Linear Length Less than 30 m (100 ft): Minimum 1.1° C (2.0° F) subcooling entering TXV
- Linear Length Greater than 30 m (100 ft): Minimum 0.3° C (0.5° F) subcooling entering TXV

Suction Line – Tube size, inches OD

Charge – Charge Quantity, lbs. Calculated for both liquid line sizes (where applicable), but only with larger suction line size (where applicable)

DNU – Do Not Use (pressure drop exceeds available subcooling in this model)

NR – Not Recommended (use smaller liquid tube size)

SI – Metric units of measure

EN – English units of measure (I–P)

NOTE: For applications with equivalent length greater than 57 m (188 ft) and/or linear length greater than 38 m (125 ft), contact your local Carrier representative.

38AUD 16-25 PIPING RECOMMENDATIONS (TWO-CIRCUIT UNIT)

NOTE: 38AUD requires TWO sets of refrigeration piping

R–410A	Equivalent Length									
	meter	**0–12**		**12–23**		**23–34**		**34–46**		**46–57**	
	feet	**0–38**		**38–75**		**75–113**		**113–150**		**150–188**	
Model	Linear Length										
	meter	0–7.5		7.5–15		15–23		23–30		30–38	
	feet	0–25		25–50		50–75		75–100		100–125	
38AUD*16	Liquid Line	3/8	1/2	3/8	1/2	3/8	1/2	3/8	1/2	1/2	
	Max Lift										
	SI (m)										
	Novation	7.5	NR	15	NR	21	23	13	30	38	
	RTPF	DNU	7.5	DNU	15	DNU	23	DNU	30	36	
	EN (ft)										
	Novation	25	NR	50	NR	71	75	43	100	125	
	RTPF	DNU	25	DNU	50	DNU	75	DNU	100	119	
	Suction Line	7/8		1–1/8		1–1/8		1–1/8		1–1/8	
	Charge										
	SI (kg)										
	Novation	5.8	NR	6.3	NR	7.0	8.0	7.5	8.9	9.8	
	RTPF	DNU	9.8	DNU	10.7	DNU	11.6	DNU	12.4	13.3	
	EN (lbs)										
	Novation	12.9	NR	13.9	NR	15.4	17.7	16.5	19.6	21.6	
	RTPF	DNU	21.7	DNU	23.6	DNU	25.5	DNU	27.4	29.3	
38AUD*25	Liquid Line	1/2		1/2		1/2		1/2	5/8	1/2	5/8
	Max Lift										
	SI (m)										
	RTPF	7.5		15		23		20	27	23	32
	EN (ft)										
	RTPF	25		50		75		67	91	76	107
	Suction Line	7/8		1–1/8		1–1/8		1–1/8		1–1/8	
	Charge										
	SI (kg)										
	RTPF	9.4		10.3		11.2		12.1	13.8	13.0	15.1
	EN (lbs)										
	RTPF	20.7		22.8		24.7		26.6	30.4	28.6	33.3

Legend:

Equivalent Length – Equivalent tubing length, including effects of refrigeration specialties devices

Linear Length – Linear tubing length, feet

Liquid Line – Tubing size, inches OD.

Max Lift – Maximum liquid lift (indoor unit ABOVE outdoor unit only), at maximum permitted liquid line pressure drop
- Linear Length Less than 30 m (100 ft): Minimum 1.1° C (2.0° F) subcooling entering TXV
- Linear Length Greater than 30 m (100 ft): Minimum 0.3° C (0.5° F) subcooling entering TXV

Suction Line – Tube size, inches OD

Charge – Charge Quantity, lbs. Calculated for both liquid line sizes (where applicable), but only with larger suction line size (where applicable)

DNU – Do Not Use (pressure drop exceeds available subcooling in this model)

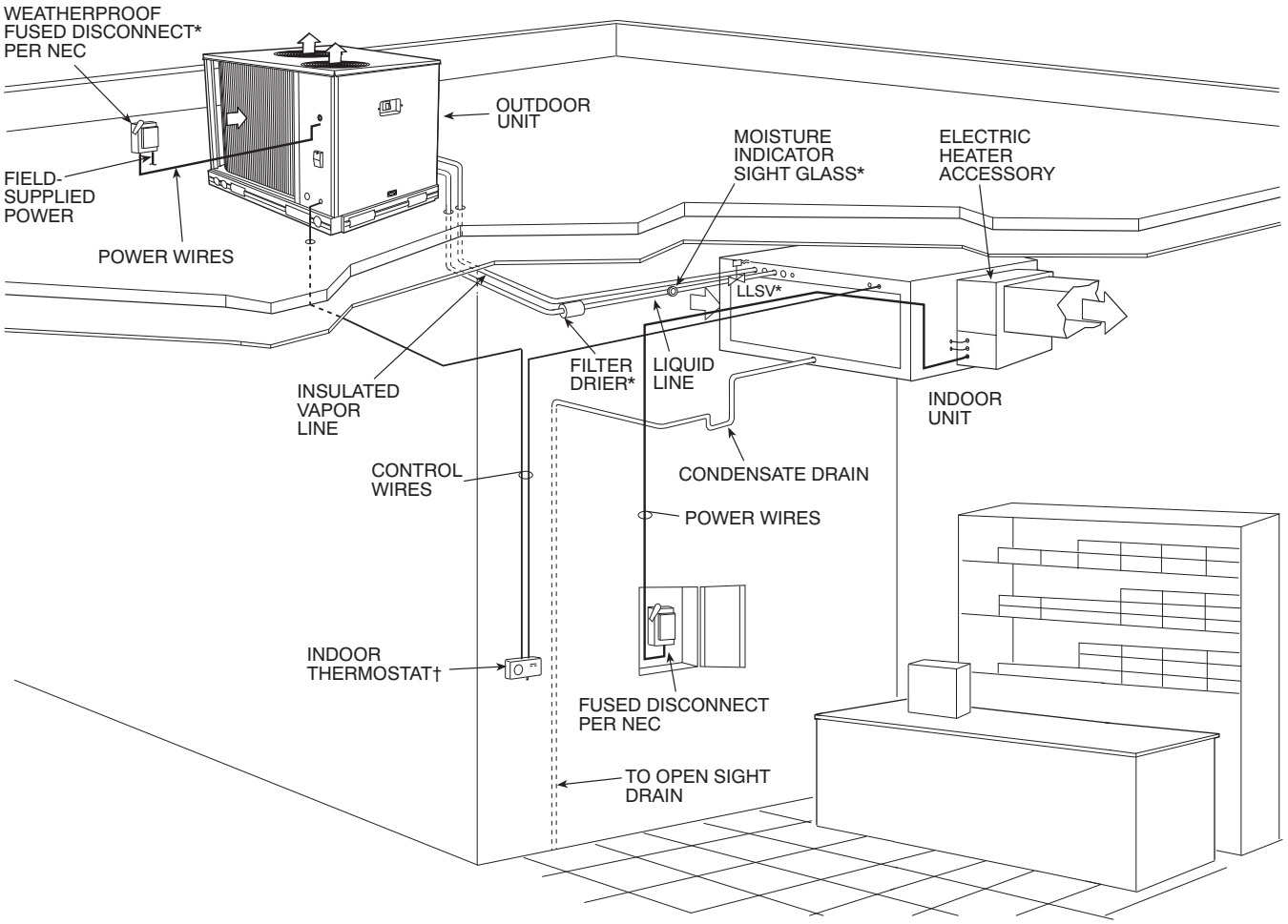
NR – Not Recommended (use smaller liquid tube size)

SI – Metric units of measure

EN – English units of measure (I–P)

NOTE: For applications with equivalent length greater than 57 m (188 ft) and/or linear length greater than 38 m (125 ft), contact your local Carrier representative.

TYPICAL PIPING AND WIRING



C09054

LEGEND:

NEC – National Electrical Code

TXV – Thermostatic Expansion Valve

* Field–supplied

† Double riser may be required. Consult condensing unit product data catalog for details.

NOTES:

1. All piping must follow standard refrigerant piping techniques. Refer to Carrier System Design Manual for details.
2. All wiring must comply with the applicable local and national codes.
3. Wiring and piping shown are general points-of-connection guides only and are not intended for, or to include all details for, a specific installation.
4. Liquid line solenoid valve (solenoid drop control) is recommended to prevent refrigerant migration to the compressor.
5. Internal factory-supplied TXVs not shown.

GUIDE SPECIFICATIONS

Commercial Air-Cooled Condensing Units

HVAC Guide Specifications

Size Range: 18.3 kW to 59.2 kW

Carrier Model Numbers: **38AUZ, Single Circuit (07 - 08 Models) 38AUD, Dual Circuit (12, 14, 16, 25 Models)**

Part 1 — General

1.01 SYSTEM DESCRIPTION

Outdoor-mounted, air-cooled condensing unit suitable for on-the-ground or rooftop installation. Unit shall consist of a hermetic scroll air-conditioning compressor(s) assembly, an air-cooled coil, propeller-type condenser fans, and a control box. Unit shall discharge supply air upward as shown on contract drawings. Unit shall be used in a refrigeration circuit matched with a packaged air-handling unit.

1.02 QUALITY ASSURANCE

A. Unit shall be rated in accordance with AHRI Standard 340/360.

B. Unit construction shall comply with ANSI/ASHRAE 15 safety code latest revision and comply with NEC.

C. Unit shall be constructed in accordance with UL 1995 standard and shall carry the UL and UL, Canada label.

D. Unit cabinet shall be capable of withstanding 500-hour salt spray exposure per ASTM B117 (scribed specimen).

E. Air-cooled condenser coils for hermetic scroll compressor units 38AUZ and 38AUD shall be leak tested at 150 psig, and pressure tested at 650 psig.

F. Unit shall be manufactured in a facility registered to ISO 9001:2008 manufacturing quality standard.

1.03 DELIVERY, STORAGE, AND HANDLING

Unit shall be shipped as single package only, and shall be stored and handled according to unit manufacturer's recommendations.

1.04 WARRANTY (FOR INCLUSION BY SPECIFYING ENGINEER.)

Part 2 — Products

2.01 EQUIPMENT

A. General:

Factory-assembled, single piece, air-cooled condensing unit. Contained within the unit enclosure shall be all factory wiring, piping, controls, compressor, holding charge, and special features required prior to field start-up.

B. Unit Cabinet:

1. Unit cabinet shall be constructed of galvanized steel, bonderized and coated with a prepainted baked enamel finish.
2. A heavy-gauge roll-formed perimeter base rail with forklift slots and lifting holes shall be provided to facilitate rigging.

C. Condenser Fans:

1. Condenser fans shall be direct driven, propeller type, discharging air vertically upward.
2. Fan blades shall be balanced.
3. Condenser fan discharge openings shall be equipped with PVC-coated steel wire safety guards.
4. Condenser fan and motor shaft shall be corrosion resistant.

D. Compressor:

1. Compressor shall be of the hermetic scroll type .
2. Compressor shall be mounted on rubber grommets.
3. Compressors shall include overload protection.
4. Compressors shall be equipped with a crankcase heater.
5. Compressor shall be equipped with internal high pressure and high temperature protection.

E. Condenser Coils:

1. Standard Aluminum fin - Copper Tube Coils:

a. Standard evaporator and condenser coils shall have aluminum lanced plate fins mechanically bonded to seamless internally grooved copper tubes with all joints brazed.

b. Evaporator coils shall be leak tested to 150 psig, pressure tested to 450 psig, and qualified to UL 1995 burst test at 1775 psig.

c. Condenser coils shall be leak tested to 150 psig, pressure tested to 650 psig, and qualified to UL 1995 burst test at 1980 psig.

2. Optional Copper-fin evaporator and condenser coils:

a. Shall be constructed of copper fins mechanically bonded to copper tubes and copper tube sheets.

b. Galvanized steel tube sheets shall not be acceptable.

c. A polymer strip shall prevent coil assembly from contacting the sheet metal coil pan to minimize potential for galvanic corrosion between coil and pan.

3. Optional E-coated aluminum-fin evaporator and condenser coils:

a. Shall have a flexible epoxy polymer coating uniformly applied to all coil surface areas without material bridging between fins.

b. Coating process shall ensure complete coil encapsulation of tubes, fins and headers.

c. Color shall be high gloss black with gloss per ASTM D523-89.

d. Uniform dry film thickness from 0.8 to 1.2 mil on all surface areas including fin edges.

e. Superior hardness characteristics of 2H per ASTM D3363-92A and cross-hatch adhesion of 4B-5B per ASTM D3359-93.

f. Impact resistance shall be up to 160 in.-lb (ASTM D2794-93).

g. Humidity and water immersion resistance shall be up to minimum 1000 and 250 hours respectively (ASTM D2247-92 and ASTM D870-92).

h. Corrosion durability shall be confirmed through testing to be no less than 1000 hours salt spray per ASTM B117-90.

4. Standard All Aluminum Novation Coils:

a. Standard condenser coils shall have all aluminum Novation Heat Exchanger Technology design consisting of aluminum multi port flat tube design and aluminum fin. Coils shall be a furnace brazed design and contain epoxy lined shrink wrap on all aluminum to copper connections.

b. Condenser coils shall be leak tested to 150 psig, pressure tested to 650 psig, and qualified to UL 1995 burst test at 1980 psig.

5. Optional E-coated aluminum-fin, aluminum tube condenser coils:

a. Shall have a flexible epoxy polymer coating uniformly applied to all coil external surface areas without material bridging between fins or louvers.

b. Coating process shall ensure complete coil encapsulation, including all exposed fin edges.

c. E-coat thickness of 0.8 to 1.2 mil with top coat having a uniform dry film thickness from 1.0 to 2.0 mil on all external coil surface areas, including fin edges, shall be provided.

d. Shall have superior hardness characteristics of 2H per ASTM D3363-00 and cross-hatch adhesion of 4B-5B per ASTM D3359-02.

e. Shall have superior impact resistance with no cracking, chipping or peeling per NSF/ANSI 51-2002 Method 10.2.

F. Refrigeration Components:

Refrigeration circuit components shall include liquid line service valve, suction line service valve, a full charge of compressor oil, and a partial holding charge of refrigerant.

G. Controls and Safeties:

1. Minimum control functions shall include:

f. Control wire terminal blocks.

g. Compressor lockout on auto-reset safety until reset from thermostat.

h. Each unit shall utilize the Comfort Alert™ Diagnostic Board that provides:

(1.) System Pressure Trip fault code indication

(2.) Short Cycling fault code indication

(3.) Locked Rotor fault code indication

(4.) Open Circuit fault code indication

(5.) Reverse Phase 3 fault code indication

(6.) Welded Contactor fault code indication

(7.) Low Voltage fault code indication

(8.) Anti-short cycle protection

(9.) Phase reversal protection

2. Minimum safety devices which are equipped with automatic reset (after resetting first at thermostat), shall include:
   a. High discharge pressure cutout.
   b. Low pressure cutout.

H. Operating Characteristics:
1. The capacity of the condensing unit shall meet or exceed _____ Btuh at a suction temperature of _____°C/F. The power consumption at full load shall not exceed _____ kW.
2. The combination of the condensing unit and the evaporator or fan coil unit shall have a total net cooling capacity of _____ Btuh or greater at conditions of _____ cfm entering-air temperature at the evaporator at _____°C/F wet bulb and _____°C/F dry bulb, and air entering the condensing unit at _____°C/F.
3. The system shall have an EER of _____ Btuh/Watt or greater at standard AHRI conditions.
4. Standard unit shall be capable to operate up to 52°C (125°F) and down to 4°C (40°F)

I. Electrical Requirements:
1. Nominal unit electrical characteristics shall be _____ v, 3-ph, 50 Hz. The unit shall be capable of satisfactory operation within voltage limits of ____ v to _____ v.
2. Unit electrical power shall be single-point connection.
3. Unit control circuit shall contain a 24-v transformer for unit control.

J. Special Features:
1. Low-Ambient Temperature Control:
   A low-ambient temperature control shall be available as a factory-installed option or as a field-installed accessory. This low-ambient control shall regulate speed of the condenser-fan motors in response to the saturated condensing temperature of the unit. The control shall maintain correct condensing pressure at outdoor temperatures down to –29°C (-20°F).
2. Unit-Mounted, Non-Fused Disconnect Switch:
   Switch shall be factory-installed and internally mounted. NEC and UL-approved non-fused switch shall provide unit power shutoff. Switch shall be accessible from outside the unit and shall provide power off lockout capability. Non-fused disconnect cannot be used when unit MOCP electrical rating exceeds 80 amps.
3. Thermostat Controls:
   a. Programmable multi-stage thermostat shall have 7-day clock, holiday scheduling, large backlit display, remote sensor capability, and Title 24 compliance.
   b. Commercial Electronic Thermostat shall have 7-day time clock, auto-changeover, multi-stage capability, and large LCD (liquid crystal display) temperature display.
4. Louvered hail Guard Package:
   Louvered hail guard package shall protect coils against damage from hail and other flying debris.
5. Condenser Coil Grille (Novation 07-14 models only):
   Grille shall add decorative appearance to unit and protect condenser coil from large objects and vandalism.

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 Replaces: NEW