



Redlands Boulevard and Hemlock Avenue Gas Station Project

Noise and Vibration Study

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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 Redlands Boulevard and Hemlock Avenue Gas Station Project (project) in the City of Moreno Valley, Riverside County, California. Rincon Consultants, Inc. (Rincon) prepared this study for A&S Engineering, Inc. (applicant) for use in support of environmental documentation 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

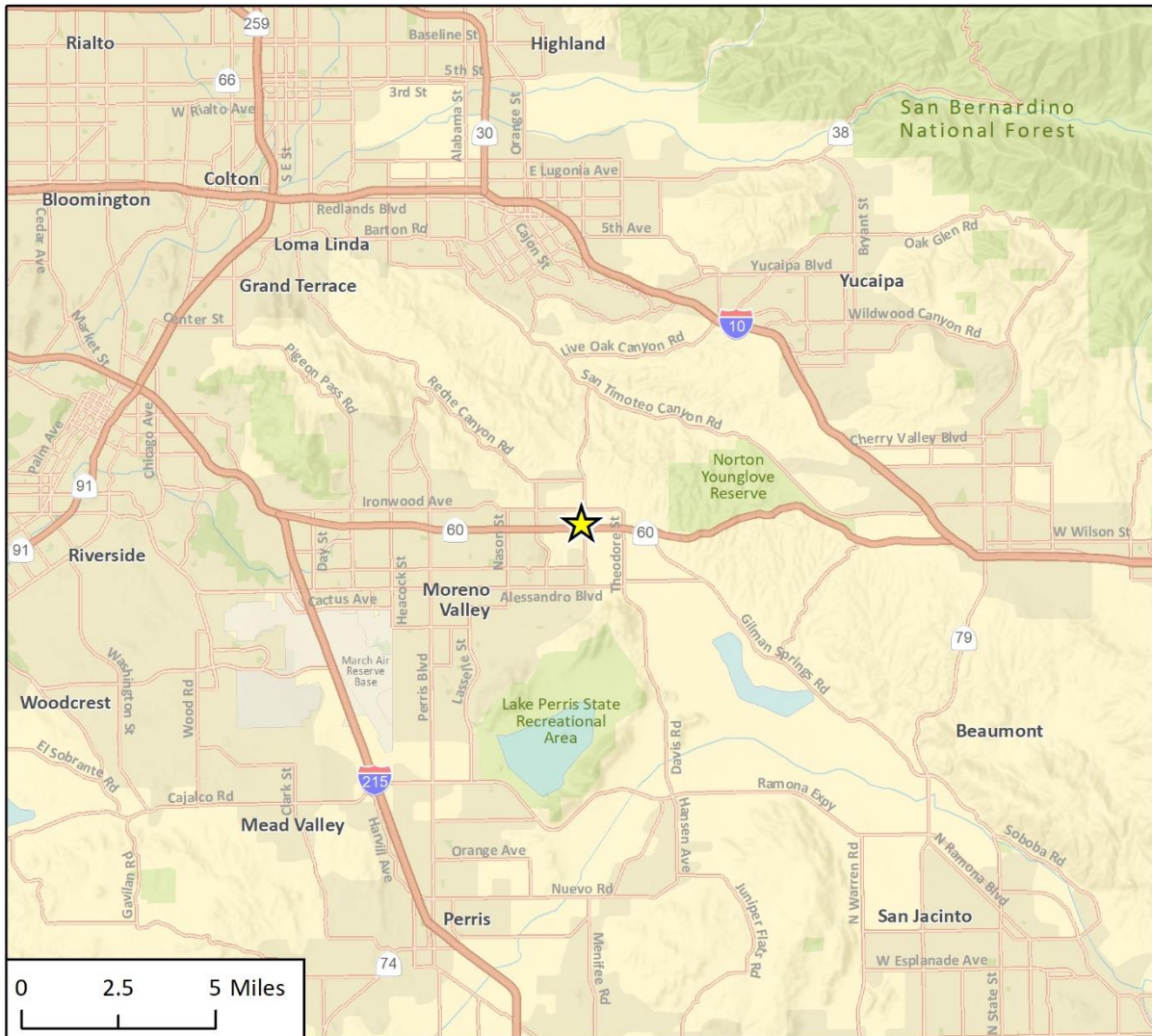
Impact Statement	Level of Significance	Applicable Recommendations
Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	Less Than Significant Impact	None
Would the project result in generation of excessive groundborne vibration or groundborne noise levels?	Less Than Significant Impact	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

1.2 Project Summary

Project Location

The proposed project is located on a 2.4-acre portion of a 6.9-acre parcel located in the City of Moreno Valley in Riverside County, California. The project site lies south of the intersection of Redlands Boulevard and Hemlock Avenue (Assessor Parcel Number 488-310-012). The project site is currently vacant. Surrounding land uses include residences and commercial uses to the south and vacant land to the west and north. Redlands Boulevard borders the project to the east. In addition, the Redlands and Hemlock Booster Station is adjacent to the project's eastern boundary. State Route (SR) 60 is approximately 560 feet south of the project site. Figure 1 shows the project site's regional location and Figure 2 shows an aerial view of the project site and surrounding area.

Figure 1 Regional Location



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★ Project Location

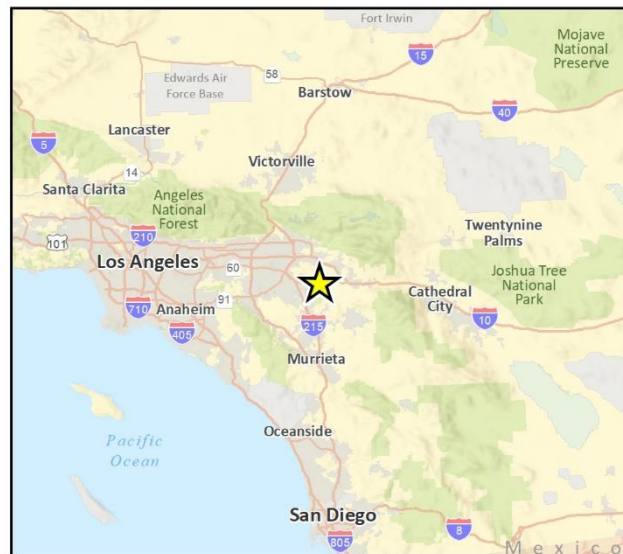
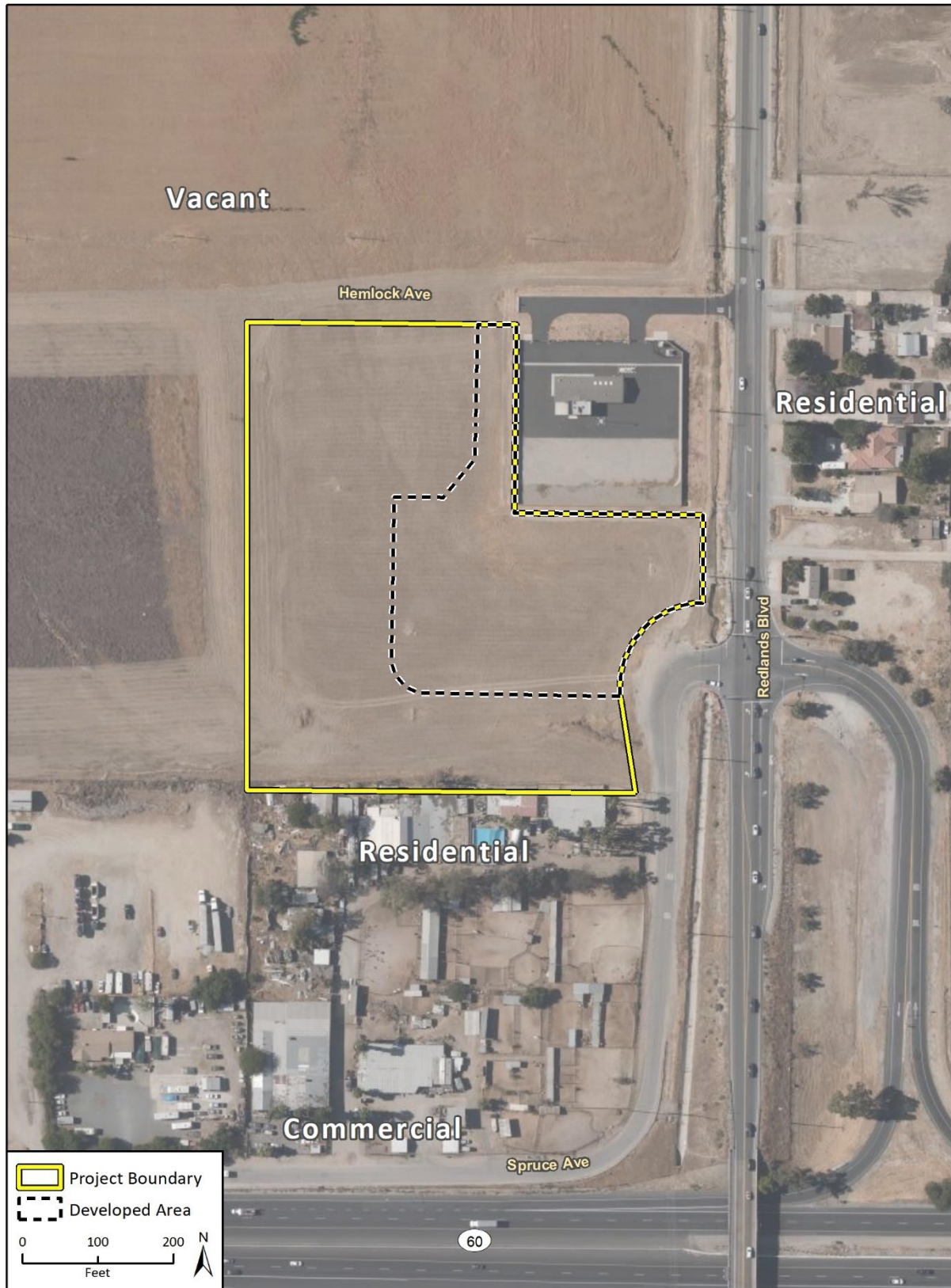


Fig 1 Regional Location

Figure 2 Project Site Location



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Fig. 2 Project Location

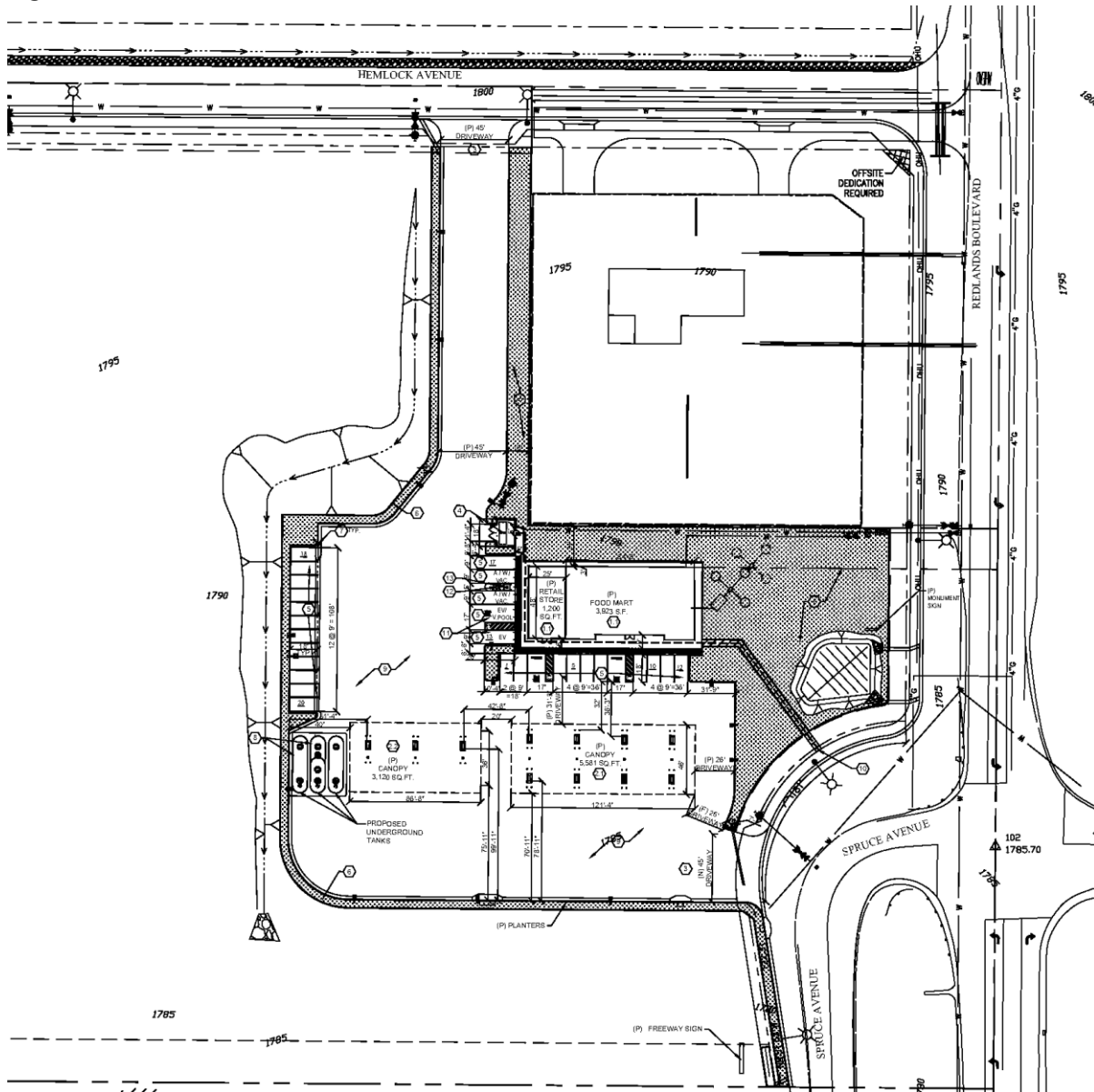
Project Description

The project would include the development of a gas station with 11 fueling stations (16 total dispensers), a 3,923 square foot food mart with 1,200 square feet of office and storage in the mezzanine level, and a 1,200 square foot retail store adjacent to the food mart. Of the 16 dispensers, 14 of the dispensers would be gasoline dispensers and would be underneath a 5,581 square foot canopy. The remaining 2 dispensers would be diesel dispensers underneath a 3,120 square foot canopy. An 18 x 12.5 x 6 foot trash enclosure would also be constructed adjacent to the western boundary of the food mart/retail store. The project would also be served by an on-site septic system. The project would provide a total of 29 parking spaces in a surface lot with two stalls for electric vehicle parking. Additional improvements include curb and sidewalk enhancements and landscaping. Access to the project site would be provided from two driveways with one off Redlands Boulevard and the other driveway off of Hemlock Avenue. Of the 6.9-acre site, only approximately 2.4 acres would be developed; the remaining 4.5 acres would remain undeveloped. An additional 0.63 acres would be improved for off-site modifications (e.g., storm drain improvements) for a total disturbed area of 7.53 acres. Figure 3 shows the project plan layout.

Construction

Construction is expected to begin in January 2022 and estimated to be completed in December 2022 for a total construction period of 12 months. Construction activities would include site preparation, grading, building construction, paving, and architectural coating (e.g., painting). During grading, approximately 300 cubic yards of soil would be exported. All construction would occur within the current conceptual limits of the project.

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 (California Department of Transportation [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 dBA; reducing the energy in half would result in a 3 dBA 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 is readily perceptible (8 times the sound energy); and that an increase (or decrease) of 10 dBA sounds twice (half) as loud ([10.5x the sound energy] 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 in 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 typically attenuate, or drop off, at a rate of 6 dBA per doubling of distance (e.g., construction, industrial machinery, ventilation units). 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 substantially 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 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 Community Noise Equivalent Level (CNEL), which is the 24-hour average noise level with a +5 dBA penalty for noise occurring from 7:00 p.m. to 10:00 p.m. and a +10 dBA penalty for noise occurring from 10:00 p.m. to 7:00 a.m. (Caltrans 2013). Noise levels described by L_{dn} and CNEL usually differ by about 1 dBA or less. 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-plus 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 2020). When a building is affected 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. 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 2020).

2.3 Sensitive Receivers

Noise exposure goals for various types of land uses reflect the varying noise sensitivities associated with those uses. Sensitive land uses are generally defined as locations where people reside or where the presence of noise could adversely affect the use of the land. The City of Moreno Valley General Plan list of noise sensitive uses includes residences, motels and hotels, nursing homes, auditoriums, natural areas, parks, and outdoor recreation (City of Moreno Valley 2021). Sensitive receivers in the area include the single-family residences located across Redlands Boulevard to the east of the project site and office zoned single-family residences adjacent to the south of the project site.

Vibration sensitive receivers are similar to noise sensitive receivers, such as residences and institutional uses (e.g., schools, libraries, and religious facilities). The General Plan does not identify vibration sensitive receivers, however concert halls, hospitals, libraries, research operations, residential areas, schools, and offices would also be considered vibration sensitive uses. Vibration sensitive receivers also include buildings where vibrations may interfere with vibration-sensitive equipment, affected by levels that may be well below those associated with human annoyance (FTA 2018; Caltrans 2013).

2.4 Project Noise Setting

The most common source of noise in the project site vicinity is vehicular traffic from Redlands Boulevard, Spruce Avenue, and SR 60. To characterize ambient sound levels at and near the project site, two 15-minute sound level measurements were conducted on March 16, 2021. Noise Measurement (NM) 1 was taken at the central eastern edge of the project site to capture noise levels from Redlands Boulevard across the street from existing single-family residences. NM2 was taken at the central southern edge of the project site to capture ambient noise levels at the adjacent residences due to Spruce Avenue and SR 60 traffic noise. Table 2 summarizes the results of the noise measurement, and Table 3 shows the recorded traffic volumes from the noise measurement.

Table 2 Project Site Vicinity Sound Level Monitoring Results

Measurement Location	Measurement Location	Sample Times	Approximate Distance to Primary Noise Source	L _{eq} (dBA)	L _{min} (dBA)	L _{max} (dBA)
NM1	Central Eastern Property Boundary, adjacent to Redlands Boulevard	10:00 – 10:15 a.m.	Approximately 100 feet to centerline of Redlands Boulevard	61	52	72
NM2	Central Southern Property Boundary	9:31 – 9:46 a.m.	Approximately 240 feet from Spruce Avenue	54	49	60

Detailed sound level measurement data are included in Appendix A.

Table 3 Sound Level Monitoring Traffic Counts

Measurement	Roadway	Traffic	Autos	Medium Trucks	Heavy Trucks
NM1	Redlands Boulevard	15-minute count	132	7	4
		One-hour Equivalent	528	28	16
Percent			92%	5%	3%
NM2	Spruce Avenue	15-minute count	6	3	1
		One-hour Equivalent	16	12	4
Percent			50%	38%	12%

Detailed sound level measurement data are included in Appendix A.

2.5 Applicable Regulatory Setting

Federal

FTA Transit and Noise Vibration Impact Assessment Manual

The FTA provides reasonable criteria for assessing construction noise impacts based on the potential for adverse community reaction in their *Transit and Noise Vibration Impact Assessment Manual* (FTA 2018). For residential, commercial, and industrial uses, the daytime noise threshold is 80 dBA L_{eq}, 85 dBA L_{eq}, and 90 dBA L_{eq} for an 8-hour period, respectively.

State

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. State law requires each county and city to adopt a General Plan that includes a Noise Element prepared per 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. CEQA requires all known environmental effects of a project be analyzed, 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.

City of Moreno Valley Noise Standards

The Noise Element of the City of Moreno Valley General Plan provides a description of existing noise levels and sources and incorporates comprehensive goals and policies. The General Plan includes the Community Noise Compatibility Matrix, which establishes acceptable noise, conditionally acceptable, normally unacceptable, and clearly unacceptable noise levels for various land uses. Ambient noise levels up to 70 dBA CNEL are normally acceptable and ambient noise levels up to 77.5 dBA CNEL are conditionally acceptable for commercial development (City of Moreno Valley 2021). The following goals and policies from the Noise Element applicable to the project:

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

Policies:

N.1-2: Guide the location and design of transportation facilities, industrial uses, and other potential noise generators to minimize the effects of noise on adjacent land uses.

N.1-3: Apply the community noise compatibility standards (Table N-1) to all new development and major redevelopment projects outside the noise and safety compatibility zones established in the March Air Reserve Base/ Inland Port Airport Land Use Compatibility (ALUC) Plan in order to protect against the adverse effects of noise exposure. Projects within the noise and safety compatibility zones are subject to the standards contained in the ALUC Plan.

N.1-4: Require a noise study and/or mitigation measures if applicable for all projects that would expose people to noise levels greater than the “normally acceptable” standard and for any other projects that are likely to generate noise in excess of these standards.

N.1-5: Noise impacts should be controlled at the noise source where feasible, as opposed to at receptor end with measures to buffer, dampen, or actively cancel noise sources. Site design, building orientation, building design, hours of operation, and other techniques, for new developments deemed to be noise generators shall be used to control noise sources.

N.1-6: Require noise buffering, dampening, or active cancellation, on rooftop or other outdoor mechanical equipment located near residences, parks, and other noise sensitive land uses.

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

Policies:

N.2-1: Use the development review process to proactively identify and address potential noise compatibility issues.

N.2-2: Continue to work with community members and business owners to address noise complaints and ensure voluntary resolution of issues through the enforcement of Municipal Code provisions.

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

The Noise Ordinance included in Chapter 11.80 of the Moreno Valley Municipal Code provides performance standards and noise control guidelines for operational activities and for construction activities, as described below.

Operational Noise Standards

Moreno Valley Municipal Code Section 11.80.030.C, Nonimpulsive Sound Decibel Limits, provides the following restriction:

No person shall maintain, create, operate or cause to be operated on private property any source of sound in such a manner as to create any nonimpulsive sound which exceeds the limits set forth for the source land use category (as defined in Section 11.80.020) in Table 11.80.030-2 (Table 5 of this report) when measured at a distance of two hundred (200) feet or more from the real property line of the source of the sound, if the sound occurs on privately owned property, or from the source of the sound, if the sound occurs on public right-of-way, public space or other publicly owned property. Any source of sound in violation of this subsection shall be deemed prima facie to be a noise disturbance. (Moreno Valley n.d. Section 11.80.030.C)

For industrial and commercial land uses, based on the commercial land use standard of Moreno Valley Municipal Code Table 11.80.030-2 (Table 5 of this report), the operational noise level limits are 65 dBA L_{eq} during the daytime hours (8:00 a.m. to 10:00 p.m.) and 60 dBA L_{eq} during the nighttime hours (10:00 p.m. to 8:00 a.m.). Therefore, at a distance of 200 feet from the property line, operational noise from commercial and industrial buildings is not permitted to exceed 65 dBA L_{eq} during the day and 60 dBA L_{eq} during the night.

- A. **General Prohibition.** It is unlawful and a violation of this chapter to maintain, make, cause, or allow the making of any sound that causes a noise disturbance, as defined in Section 11.80.020.
- B. **Sound Causing Permanent Hearing Loss**
 - 1. **Sound level limits.** Based on statistics from the Center for Disease Control and Prevention and the National Institute for Occupational Safety and Health, Table 1 (Table 4 of this report) specifies sound level limits which, if exceeded, will have a high probability of producing permanent hearing loss in anyone in the area where the sound levels are being exceeded. No sound shall be permitted within the city which exceeds the parameters set forth in Table 11.80.030-1 (Table 4 of this report), of this chapter:

Table 4 City of Moreno Valley Maximum Continuous Sound Levels¹

Duration per Day Continuous Hours	Sound level [dbA]
8	90
6	92
4	95
3	97
2	100
1.5	102
1	105
0.5	110
0.25	115

¹When the daily sound exposure is composed of two or more periods of sound exposure at different levels, the combined effect of all such periods shall constitute a violation of this section if the sum of the percent of allowed period of sound exposure at each level exceeds 100 percent.

Source: Moreno Valley Municipal Code, Title 11 Peace, Morals and Safety, Table 11.80.030-1.

- C. **Non-impulsive Sound Decibel Limits.** No person shall maintain, create, operate or cause to be operated on private property any source of sound in such a manner as to create any non-impulsive sound which exceeds the limits set forth for the source land use category (as defined in Section 11.80.020) in Table 11.80.030-2 (Table 5 of this report), when measured at a distance of two hundred (200) feet or more from the real property line of the source of the sound, if the sound occurs on privately owned property, or from the source of the sound, if the sound occurs on public right-of-way, public space or other publicly owned property. Any source of sound in violation of this subsection shall be deemed prima facie to be a noise disturbance.

Table 5 City of Moreno Valley Maximum Sound Levels (in dBA) for Source Land Uses

Residential		Commercial	
Daytime	Nighttime	Daytime	Nighttime
60	55	65	60

Source: Moreno Valley Municipal Code, Title 11 Peace, Morals and Safety, Table 11.80.030-2.

- D. **Specific Prohibitions.** In addition to the general prohibitions set out in subsection A of this section, and unless otherwise exempted by this chapter, the following specific acts, or the causing or permitting thereof, are regulated as follows:
- 7 **Construction and Demolition.** No person shall operate or cause the operation of any tools or equipment used in construction, drilling, repair, alteration or demolition work between the hours of 8:00 p.m. and 7:00 a.m. the following day such that the sound there from creates a noise disturbance, except for emergency work by public service utilities or for other work approved by the city manager or designee. This section shall not apply to the use of power tools as provided in subsection (D)(9) of this section.
 - 9 **Power Tools.** No person shall operate or permit the operation of any mechanically, electrically or gasoline motor driven tool during nighttime hours so as to cause a noise disturbance across a residential real property boundary.

3 Methodology

3.1 Construction Noise

Construction noise was estimated using the FHWA Roadway Construction Noise Model (RCNM) (FHWA 2006). RCNM predicts construction noise levels for a variety of construction operations based on empirical data and the application of acoustical propagation formulas. Using RCNM, construction noise levels were estimated at noise sensitive receivers near the project site. RCNM provides reference noise levels for standard construction equipment, with an attenuation rate of 6 dBA per doubling of distance for stationary equipment.

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 2006). 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 activity would result in temporary noise in the project site vicinity, exposing surrounding nearby receivers to increased noise levels. Construction noise would typically be higher during the heavier periods of initial construction (i.e., site preparation and grading) and would be lower during the later construction phases (i.e., building construction and paving). Typical heavy construction equipment during project grading could include dozers, loaders, graders, and dump trucks. It is assumed that diesel engines would power all construction equipment. Construction equipment would not all operate at the same time or location. In addition, construction equipment would not be in constant use during the 8-hour operating day.

Project construction would occur nearest to the office-zoned single-family residences to the south of the project site. Over the course of a typical construction day, construction equipment would be located as close as 50 feet to the properties but would typically be located at an average distance farther away due to the nature of construction and the lot size of the project. For example, during a typical construction day, the equipment may operate across the horizontal distance of the site (150 to 350 feet) from a nearby noise receiver to the south of the project site. Single family residential uses are located across Redlands Boulevard to the east of the project site. Construction equipment would be located as close as 100 feet to these properties but would typically operate at an average distance of 200 feet. Therefore, it is assumed that over the course of a typical construction day the construction equipment would operate at an average distance of 150 feet from the office-zoned single-family residences to the south and 200 feet from single family residences to the east of the project site.

Construction noise is typically loudest during activities that involve excavation and move soil, such as site preparation and grading. A potential high-intensity construction scenario includes a grader, loader, dozer, and dump truck working during grading to excavate and move soil. At a distance of 100 feet, a grader, a front-end loader, a dozer, and a dump truck would generate a noise level of 78 dBA L_{eq} (RCNM calculations are included in Appendix B).

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 groundborne vibration affecting nearby receivers, especially during grading and excavation of the project site. The greatest vibratory source during construction within 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 2020, FTA 2018). Table 6 shows typical vibration levels for various pieces of construction equipment used in the assessment of construction vibration (FTA 2018).

Table 6 Vibration Levels Measured during Construction Activities

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

Source: FTA 2018

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

3.3 Operational Noise Sources

On-site noise source would include general conversations, landscape maintenance, waste hauling, and the heating, ventilation, and air conditioning (HVAC) equipment. There are no large gathering areas on the project site and these sources would be transient in nature as people transit from vehicles to the store or fuel pumps. Therefore, general conversations would not represent a substantial noise source. Landscape maintenance and waste hauling typically occur during the less noise sensitive daytime hours and would be active for short periods of time. Thus, the primary noise source of concern would be associated with mechanical equipment.

Retail Store and Food Mart Mechanical Equipment

Noise-generating mechanical equipment on the retail store and food mart rooftops include HVAC units and an exhaust fan (food mart only). The equipment was assumed to be placed on the approximate center of the rooftop; noise levels for the equipment are described below. This analysis conservatively assumes the equipment would operate continuously for a full hour (100 percent for 60 minutes) during the daytime and nighttime. For a conservative assessment, it has been assumed that the equipment would not include any type of screening.

Heating, Ventilation, and Air Conditioning Units

Based upon one ton of HVAC per 600 sf of building space and the square footage of each proposed building shown on the site plan, one 3-ton Carrier 38HDR036 Performance Series Air Conditioner unit is estimated to be required for the retail store and one 10-ton Carrier 38AUD14 HVAC unit is

estimated to be required for the food mart (see Appendix C for manufacturer’s specifications). The units for the retail store and food mart would generate an approximate sound power level of 72 dBA and 79 dBA; respectively, see Table 7 for noise spectrum data.

Table 7 HVAC Noise Levels

HVAC Unit	Noise Levels in dB ¹ Measured at Octave Frequencies							Overall Noise Level in A-weighted Scale (dBA) ¹
	125 Hz	250 Hz	500 Hz	1 KHz	2 KHz	4 KHz	8 KHz	
3-ton	56.5	63.0	65.0	66.0	64.0	62.5	57.0	72
10-ton	78.6	78.1	75.1	75.2	71.4	67.9	65.1	79

¹ Noise Levels for 3-ton Carrier HDR38 Performance Series and 10-ton Carrier 38AUD14 rooftop HVAC units (see Appendix C for specification sheets).

Hz = Hertz; KHz = kilohertz

Roof Exhaust Fan

The food mart would also potentially include a roof exhaust fan on the rooftop of the building. It has been assumed that a Greencheck G-090-VG Direct Drive Centrifugal Roof Exhaust Fan would be used for the project (see Appendix D for manufacturer’s specifications). This unit would generate an approximate sound power level of 66 dBA; see Table 8 for noise spectrum data.

Table 8 Roof Exhaust Fan Noise Levels

63 Hz	Noise Levels in dB ¹ Measured at Octave Frequencies							Overall Noise Level in A-weighted Scale (dBA) ¹
	125 Hz	250 Hz	500 Hz	1 KHz	2 KHz	4 KHz	8 KHz	
77	74	69	63	58	55	51	44	55

¹ Noise Levels for a Greencheck G-090-VG Direct Drive Centrifugal Roof Exhaust Fan (see Appendix D for specification sheets).

Hz = Hertz; KHz = kilohertz

3.4 Traffic Noise

Noise affecting the project site is primarily from traffic on Redlands Boulevard. Traffic noise was modeled with the FHWA RD-77-108 Traffic Noise Prediction Model. The Traffic Impact Analysis (Ganddini 2019) traffic volumes were input into the model as shown in Table 9.

Table 9 Traffic Volumes

Roadway	Segment	Existing ADT	Existing with Project ADT	Opening Year 2024 ADT	Opening Year 2024 with Project ADT	General Plan Buildout Year 2040 ADT	General Plan Buildout Year 2040 with Project ADT
Redlands Boulevard	Ironwood Ave to Hemlock Avenue	15,070	15,680	19,300	19,900	23,500	24,100
	Hemlock Ave to SR 60 WB Ramps	14,470	15,010	18,600	19,100	23,600	22,400
	SR 60 WB Ramps to Eucalyptus Avenue	11,760	12,520	19,400	20,200	27,200	28,100
Ironwood Avenue	West of Redlands Boulevard to Redlands Boulevard	4,420	4,570	5,100	5,200	9,000	9,200
	Redlands Boulevard to east of Redlands Boulevard	730	880	2,600	2,700	6,200	6,400
Hemlock Avenue	West of Redlands Boulevard to Redlands Boulevard	–	530	–	500	4,100	5,900
Eucalyptus Avenue	West of Redlands Boulevard to Redlands Boulevard	670	970	9,200	9,500	11,200	11,500
	Redlands Boulevard to east of Redlands Boulevard	330	630	2,200	2,500	9,200	9,500

See Appendix E for traffic volumes.
 Source: Ganddini 2019

The posted speed limits on Redlands Boulevard, Ironwood Avenue, Hemlock Avenue, and Eucalyptus Avenue are 50 miles per hour (mph), 55 mph, 25 mph, and 35 mph, respectively. To determine the vehicle classification mix for modeling, the observed mix from the site measurement was used, which observed 92 percent automobiles, 5 percent medium trucks, and 3 percent heavy trucks.

3.5 Significance Thresholds

The following thresholds are based on City of Moreno Valley noise standards and Appendix G of the CEQA Guidelines. Noise impacts would be considered significant if:

- **Item 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.
 - Based on the Moreno Valley Municipal Code Chapters 11.80, construction noise would be significant if:
 - Noise levels exceed the FTA daytime criteria of 80 dBA L_{eq} , 85 dBA L_{eq} , and 90 dBA L_{eq} for an 8-hour period for residential, commercial, and industrial land uses, respectively.
 - Construction and demolition work are conducted between the hours of 8:00 p.m. and 7:00 a.m.

- Based on Moreno Valley Municipal Code Table 11.80.030-2, operational noise would be significant if:
 - Noise levels exceed 60 dBA from 8:00 a.m. to 10:00 p.m. or 55 dBA from 10:00 p.m. to 8:00 a.m.
- Traffic-related noise impacts would be considered significant if project-generated traffic would result in exposure of sensitive receivers to an unacceptable increase in noise levels.
 - For purposes of this analysis, a significant impact would occur if project-related traffic increases the ambient noise environment of noise-sensitive land uses by 3 dBA or more if the locations are subject to noise levels in excess of conditionally compatible levels, or by 5 dBA or more if the locations are not subject to noise levels in excess of the conditionally compatible levels identified in the City of Moreno Valley General Plan.
- **Item 2.** The project would result in the generation of excessive groundborne vibration or groundborne noise levels.
 - Vibration levels equal to or below 0.4 in./sec. PPV at residential structures would prevent structural damage for most residential building and vibration levels equal to or less than 1.0 in./sec. PPV would prevent damage to more substantial construction, such as high-rise, commercial, and industrial buildings. For human annoyance, the vibration level threshold at which transient, or temporary, vibration sources are considered to be distinctly perceptible is 0.24 in./sec. PPV.
- **Item 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, if the project exposes people residing or working in the project area to excessive noise levels.

4 Impact Analysis

4.1 Item 1 – Temporary and Permanent Noise Increase

Item: 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

As described in Section 3.1, at a distance of 100 feet, a grader, front-end loader, a dozer, and a dump truck would generate a noise level of 78 dBA L_{eq} . For the Highway Office/Commercial (H-OC) District designated parcels developed with single-family and commercial uses to the south, project construction noise levels would be 74 dBA L_{eq} and 72 dBA L_{eq} , respectively (see Appendix B for construction noise modeling results). The FTA’s daytime construction noise limit is 80 dBA for residential uses; therefore, project construction noise levels would not exceed construction noise thresholds. In addition, construction activities would be restricted to daytime hours per the Moreno Valley Municipal Code Chapters 11.80 allowed hours of 7:00 a.m. and 7:00 p.m. Therefore, impacts from construction noise would be less than significant.

Operation

The project would introduce sources of operational noise to the site, including mechanical equipment (HVAC units and exhaust fan). Assumptions for these sources are discussed in Section 3.3. Noise levels at the nearest properties from each noise source and their combined noise levels are shown in Table 10.

Table 10 Operational Noise Levels at Off-site Land Uses

Receiver	Description	Noise Level (dBA L_{eq})				Exceed Thresholds? ⁴
		3-ton HVAC	10-ton HVAC	Exhaust Fan	Combined	
Residential	South of site ^{1,2}	37	44	20	45	No
Residential	East of site ³	36	44	20	45	No

¹ South of site residential receivers are located on properties that are zoned office use.

² Assumes 280 feet to residence south of the site

³ Assumes 285 feet to residence east of the site

⁴ Thresholds would be exceeded if exterior noise levels exceed 60 dBA from 7:00 a.m. to 10:00 p.m. or 55 dBA from 10:00 p.m. to 7:00 a.m.

See Figure 4 for receiver locations.

As shown in Table 10, combined operational activities on the project site would generate noise levels up to 45 dBA L_{eq} at nearby Highway Office/Commercial (H-OC) District and Residential 1 (R1) District properties. The combined operational noise from the retail store and food mart mechanical equipment would not exceed Moreno Valley’s daytime and nighttime noise standards of 60 dBA and 55 dBA L_{eq} , respectively.

Off-site Traffic Noise

The project would generate new vehicle trips that would increase noise levels on nearby roadways, which would occur primarily on Redlands Boulevard. The increase in roadway noise with the addition of project traffic is shown in Table 11. Traffic data was obtained from the project's Traffic Impact Analysis (Ganddini 2019). Due to the relatively small increase in overall ADT volumes from project-generated traffic, the noise level increases would range between 0.1 dBA L_{dn} to be 2.8 dBA L_{dn} . One project area roadway segment, Eucalyptus Avenue from Redlands Boulevard to east of Redlands Boulevard would experience the largest traffic noise level increase, 2.8 dBA L_{dn} , when comparing existing to existing plus project traffic scenario. It should be noted that there are no noise sensitive receivers along this roadway segment. Furthermore, the project's traffic noise increase would not exceed 3 dBA or more, and impacts would be less than significant.

4.2 Item 2 – Vibration

Item: Would the project result in generation of excessive groundborne vibration or groundborne noise levels? (*Less Than Significant Impact*)

Construction activities known to generate excessive groundborne vibration, such as pile driving, would not be conducted by the project. The greatest anticipated source of vibration during general project construction activities would be from a large bulldozer, which may be used within 50 feet of the nearest off-site structure. A large bulldozer creates approximately 0.089 in./sec. PPV at a distance of 25 feet (Caltrans 2020). This would equal a vibration level of 0.0315 in./sec. PPV at 50 feet. This vibration level is lower than the threshold of 0.24 in./sec. PPV. Therefore, temporary impacts associated with construction would be less than significant.

The project does not include any substantial vibration sources associated with operation. Therefore, operational vibration impacts would be less than significant.

4.3 Item 3 – Airport Noise

Item: 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*)

The March Air Reserve Base/Inland Port Airport is the nearest airport, located approximately 6.7 miles to the southwest of the project site. According to the noise compatibility contours figure for the March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan (Riverside County Airport Land Use Commission 2014), the project site is located outside the airport's 60 dBA CNEL noise contour. Therefore, no substantial noise exposure from airport noise would occur to construction workers, users, or employees of the project, and no impacts would occur.

Table 11 Traffic Noise Levels (dBA L_{dn} at 50 Feet)

Roadway	Segment	Existing	Existing with Project Traffic	Increase with Project Traffic	Opening Year 2024	Opening Year 2024 with Project Traffic	Increase with Project Traffic	General Plan Buildout Year 2040	General Plan Buildout Year 2040 with Project Traffic	Increase with Project Traffic
Redlands Boulevard	Ironwood Ave to Hemlock Avenue	68.4	68.6	0.2	69.5	69.6	0.1	70.3	70.4	0.1
	Hemlock Ave to SR 60 WB Ramps	68.2	68.4	0.2	69.3	69.4	0.1	70.3	70.1	-0.2
	SR 60 WB Ramps to Eucalyptus Avenue	67.3	67.6	0.3	69.5	69.7	0.2	71.0	71.1	0.1
Ironwood Avenue	West of Redlands Boulevard to Redlands Boulevard	63.9	64.0	0.1	64.5	64.6	0.1	67.0	67.1	0.1
	Redlands Boulevard to east of Redlands Boulevard	56.1	56.9	0.8	61.6	61.8	0.2	65.4	65.5	0.1
Hemlock Avenue	West of Redlands Boulevard to Redlands Boulevard	–	52.0	–	–	51.8	–	60.9	62.5	1.6
Eucalyptus Avenue	West of Redlands Boulevard to Redlands Boulevard	53.0	54.6	1.6	64.4	64.6	0.1	65.3	65.4	0.1
	Redlands Boulevard to east of Redlands Boulevard	50.0	52.8	2.8	58.2	58.8	0.6	64.4	64.6	0.1

See Appendix E for model inputs and results.

Source: Ganddini 2019

5 Conclusions

The project would generate both temporary construction-related noise and long-term noise associated with operation of the project. Construction noise would not exceed Moreno Valley Municipal Code noise standards at the nearby land uses and impacts from construction noise would be less than significant.

Combined operational activities on the project site would generate noise levels up to 45 dBA L_{eq} at nearby residential office-zoned and residential-zoned properties, to the south and east of the site, respectively. The combined operational noise from the mechanical equipment would comply with Moreno Valley's daytime and nighttime noise standards, and the project would be consistent with the Moreno Valley noise standards.

Project-generated traffic would generate an increase of up to 2.8 dBA on analyzed roadways. The roadway segment of Eucalyptus Avenue from Redlands Boulevard to east of Redlands Boulevard would experience the largest traffic noise level increase, 2.8 dBA L_{dn} , when comparing existing to existing plus project traffic scenario only, however, there are no noise sensitive receivers along this roadway segment to be impacted. Traffic noise increases due to the project is 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. Groundborne vibration would not exceed the applicable vibration threshold at the nearest structures, and construction-related vibration impacts would be less than significant.

The project site is outside the noise contours for the March Air Reserve Base/Inland Port Airport. Therefore, no substantial noise exposure would occur to construction workers, employees, or users of the project from aircraft noise.

Given the aforementioned, the project as designed would result in less than significant impacts and no mitigation is necessary.

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Appendix A

Noise Measurement Data

Ambient Noise Survey Data Sheet

Instructions: Document noise measurement locations with a photo of the site, including the noise meter. Additionally, take notes on general and secondary noise sources, including the instantaneous noise level if possible. As a reminder, A/C weighting should be set to "A", and response time should typically be set to "slow." For additional information, please review the Noise Measurement Protocols in the case or on file.

Project Name: Redlands & Hemlock Ave Gas Job Number: 21-10878
 Date: 3/16/2021 Operator Name: Destiny Timms

Measurement #1

Location: NM 1 Begin time: 10:00 Finish time: 10:15
 Measurement No.: 002 Wind (mph): 5 Direction: SSE

Cloud Cover Class: Overcast (>80%) Light (20-80%) Sunny (<20%)

Calibration (dB): Start: 94.6 End: 94.9

Primary Noise Sources: Redlands Blvd Distance: 100 ft from centerline

Secondary Noise Sources: 60 Freeway

Notes: Dogs barking from adj residential from east
Stopped @ 7 MINS

Traffic Count: Passenger Cars: (132)

Redlands Blvd Medium Trucks (2 axles, 6 tires): ||||| (7) Heavy Trucks (3+ axles): ||| (4)

Instantaneous Noise Sources/Levels (e.g., airplane, bus airbrake, etc.):

L_{eq}: 61.2 SEL: 90.7 L_{max}: 72.3 L_{min}: 51.7 PK: 86.1
 L(05): 64.6 L(10): 63.6 L(50): 60.3 L(90): 55.7 L(95): 54.7

Response: Slow Fast Peak Impulse

Measurement #2

Location: NM 2 Begin time: 9:31 Finish time: 9:46
 Measurement No.: 001 Wind (mph): 5 Direction: SE

Cloud Cover Class: Overcast (>80%) Light (20-80%) Sunny (<20%)

Calibration (dB): Start: 95.5 End: 94.7

Primary Noise Sources: Spruce Distance: 238 ft from centerline

Secondary Noise Sources: 60 Freeway

Notes: Rooster crowing from adj land use,
BRDS in trees from Moreno Ranch Supply

Traffic Count: Passenger Cars: ||||| (6)

ON SPRUCE Medium Trucks (2 axles, 6 tires): ||| (3) Heavy Trucks (3+ axles): 1 (1)

Instantaneous Noise Sources/Levels (e.g., airplane, bus airbrake, etc.):

L_{eq}: 53.8 SEL: 83.3 L_{max}: 59.7 L_{min}: 49.4 PK: 78.3
 L(05): 56.4 L(10): 55.6 L(50): 53.1 L(90): 51.3 L(95): 50.7

Response: Slow Fast Peak Impulse

Appendix B

Roadway Construction Noise Model (RCNM) Results

Appendix C

HVAC Unit Specifications

**38HDR
Performance™ Series Air Conditioner
with Puron® Refrigerant
1 – 1/2 to 5 Nominal Tons**



Turn to the Experts.™

Product Data

INDUSTRY LEADING FEATURES / BENEFITS



Performance
SERIES

Carrier's Air Conditioners with Puron® refrigerant provide a collection of features unmatched by any other family of equipment. The 38HDR has been designed utilizing Carrier's Puron refrigerant. The environmentally sound refrigerant allows you to make a responsible decision in the protection of the earth's ozone layer.

As an Energy Star® Partner, Carrier Corporation has determined that this product meets the Energy Star® guidelines for energy efficiency. Refer to the combination ratings in the Product Data for system combinations that meet Energy Star® guidelines.

NOTE: Ratings contained in this document are subject to change at any time. Always refer to the AHRI directory (www.ahridirectory.org) for the most up-to-date ratings information.

Energy Efficiency

- 13 - 15 SEER/10.9 - 12.5 EER

Sound

- Levels as low as 68 dBA

Design Features

- New aesthetics
- Small footprint, same as old model and "stackable"
- WeatherArmor™ cabinet
 - All steel cabinet construction
 - Baked on powder paint
 - Mesh coil guard

Reliability, Quality and Toughness

- Scroll compressor
- Crankcase Heater standard on sizes 030-060
- Factory-supplied filter drier
- High pressure switch
- Low pressure switch
- Line lengths up to 250' (76.2 m)
- Low ambient operation (down to -20°F/-28.9°C) with low ambient accessories.

MODEL NUMBER NOMENCLATURE

1	2	3	4	5	6	7	8	9	10	11	12	13
N	N	A	A	A/N	N	N	N	A/N	A/N	A/N	N	N
3	8	H	D	R	0	1	8	A	0	0	3	0

Product Series HDR = Horizontal Discharge Condensing Unit Cooling Capacity Variations Open Open Voltage Minor Series

38=AC/HP Major Model 1,000 Btuh Nominal A=Standard 0=Not Defined 0=Not Defined 3=208/230-1
5=208/230-3
6=460/3 0, 1, 2...



This product has been designed and manufactured to meet Energy Star® criteria for energy efficiency when matched with appropriate coil components. However, proper refrigerant charge and proper air flow are critical to achieve rated capacity and efficiency. Installation of this product should follow all manufacturing refrigerant charging and air flow instructions. **Failure to confirm proper charge and air flow may reduce energy efficiency and shorten equipment life.**

PHYSICAL DATA

UNIT 38HDR	018	024	030	036	048	060
NOMINAL CAPACITY (Tons)	1.5	2.0	2.50	3.0	4.0	5.0
OPERATING WEIGHT lb (kg)	155 (70.3)	180 (81.6)	200 (90.7)	218 (98.9)	284 (128.8)	294 (133.4)
REFRIGERANT TYPE	R-410A					
METERING DEVICE	TXV					
CHARGE lb (kg)	6.3 (2.86)	6.0 (2.73)	8.7 (3.95)	8.7 (3.95)	11.5 (5.23)	12.0 (5.45)
COMPRESSOR	Scroll					
Type	Scroll					
Oil Charge (POE – oz)	25.0	25.0	25.0	25.0	42.0	42.0
Crankcase Heater (watts)	—	—	40	40	40	40
OUTDOOR FAN						
Rpm/Cfm	840/1720	840/1720	850/3900	850/3900	850/3900	850/3900
Diameter in. (mm)	18 (457)	18 (457)	24 (610)	24 (610)	24 (610)	24 (610)
No. Blades	3	3	3	3	3	3
Motor hp (w)	1/8 (93)	1/8 (93)	1/4 (187)	1/4 (187)	1/4 (187)	1/4 (187)
OUTDOOR COIL						
Face Area (sq ft)	5.8	7.3	12.1	12.1	14.1	14.1
No. Rows	2	2	2	2	2	2
FPI	20	20	20	20	20	20
HIGH PRESSURE SWITCH						
Cut-In (psig) Cutout (psig)	420 ± 25 650 ± 10	420 ± 25 650 ± 10	420 ± 25 650 ± 10	420 ± 25 650 ± 10	420 ± 25 650 ± 10	420 ± 25 650 ± 10
LOW PRESSURE SWITCH						
Cut-In (psig) Cutout (psig)	45 ± 25 20 ± 5	45 ± 25 20 ± 5	45 ± 25 20 ± 5	45 ± 25 20 ± 5	45 ± 25 20 ± 5	45 ± 25 20 ± 5
REFRIGERANT LINES						
Connection Type	Sweat					
Max. Liquid Line* (in.) OD	3/8	3/8	3/8	3/8	3/8	3/8
Rated Vapor Line† (in.) OD	5/8	5/8	3/4	3/4	7/8	1-1/8**
CONTROLS						
Control Voltage‡	24 vac					
System Voltage	208/230 v	208/230 v	208/230 v	208/230 v, Single and 3 Phase, 460 v, 3 Phase		
FINISH	Gray					

* See *Liquid Line Sizing For Cooling Only Systems with Puron Refrigerant* tables.

† Units are rated with 25 ft (7.6 m) of lineset length. See *Vapor Line Sizing and Cooling Capacity Loss* table when using other sizes and lengths of lineset.

‡ 24 v and a minimum of 40 va is provided in the fan coil unit.

** Vapor connection size is 7/8 inch.

FPI – Fins Per Inch

POE – Polyol Ester

38HDR

REFRIGERANT PIPING LENGTH LIMITATIONS

Liquid Line Sizing and Maximum Total Equivalent Lengths† for Cooling Only Systems with Puron® Refrigerant:

The maximum allowable length of a residential split system depends on the liquid line diameter and vertical separation between indoor and outdoor units.

See Table below for liquid line sizing and maximum lengths :

Maximum Total Equivalent Length Outdoor Unit BELOW Indoor Unit

Size	Liquid Line Connection	Liquid Line Diam. w/ TXV	AC with Puron Refrigerant Maximum Total Equivalent Length†: Outdoor unit BELOW Indoor Vertical Separation ft (m)								
			0-5 (0-1.5)	6-10 (1.8-3.0)	11-20 (3.4-6.1)	21-30 (6.4-9.1)	31-40 (9.4-12.2)	41-50 (12.5-15.2)	51-60 (15.5-18.3)	61-70 (18.6-21.3)	71-80 (21.6-24.4)
018 AC with Puron	3/8	1/4	150	150	125	100	100	75	--	--	--
		5/16	250*	250*	250*	250*	250*	250*	250*	225*	150
		3/8	250*	250*	250*	250*	250*	250*	250*	250*	250*
024 AC with Puron	3/8	1/4	75	75	75	50	50	--	--	--	--
		5/16	250*	250*	250*	250*	250*	225*	175	125	100
		3/8	250*	250*	250*	250*	250*	250*	250*	250*	250*
030 AC with Puron	3/8	1/4	30	--	--	--	--	--	--	--	--
		5/16	175	225*	200	175	125	100	75	--	--
		3/8	250*	250*	250*	250*	250*	250*	250*	250*	250*
036 AC with Puron	3/8	5/16	175	150	150	100	100	100	75	--	--
		3/8	250*	250*	250*	250*	250*	250*	250*	250*	250*
048 AC with Puron	3/8	3/8	250*	250*	250*	250*	250*	250*	230	160	--
060 AC with Puron	3/8	3/8	250*	250*	250*	225*	190	150	110	--	--

* Maximum actual length not to exceed 200 ft (61 m)

† Total equivalent length accounts for losses due to elbows or fitting. See the Long Line Guideline for details.

-- = outside acceptable range

38HDR

Maximum Total Equivalent Length Outdoor Unit ABOVE Indoor Unit

Size	Liquid Line Connection	Liquid Line Diam. w/ TXV	AC with Puron Refrigerant Maximum Total Equivalent Length†: Outdoor unit ABOVE Indoor Vertical Separation ft (m)								
			25 (7.6)	26-50 (7.9-15.2)	51-75 (15.5-22.9)	76-100 (23.2-30.5)	101-125 (30.8-38.1)	126-150 (38.4-45.7)	151-175 (46.0-53.3)	176-200 (53.6-61.0)	
018 AC with Puron	3/8	1/4	175	250*	250*	250*	250*	250*	250*	250*	250*
		5/16	250*	250*	250*	250*	250*	250*	250*	250*	250*
		3/8	250*	250*	250*	250*	250*	250*	250*	250*	250*
024 AC with Puron	3/8	1/4	100	125	175	200	225*	250*	250*	250*	250*
		5/16	250*	250*	250*	250*	250*	250*	250*	250*	250*
		3/8	250*	250*	250*	250*	250*	250*	250*	250*	250*
030 AC with Puron	3/8	1/4	30	--	--	--	--	--	--	--	--
		5/16	250*	250*	250*	250*	250*	250*	250*	250*	250*
		3/8	250*	250*	250*	250*	250*	250*	250*	250*	250*
036 AC with Puron	3/8	5/16	225*	250*	250*	250*	250*	250*	250*	250*	250*
		3/8	250*	250*	250*	250*	250*	250*	250*	250*	250*
048 AC with Puron	3/8	3/8	250*	250*	250*	250*	250*	250*	250*	250*	250*
060 AC with Puron	3/8	3/8	250*	250*	250*	250*	250*	250*	250*	250*	250*

* Maximum actual length not to exceed 200 ft (61 m)

† Total equivalent length accounts for losses due to elbows or fitting. See the Long Line Guideline for details.

-- = outside acceptable range

REFRIGERANT CHARGE ADJUSTMENTS

Liquid Line Size	Puron Charge oz/ft (g/m)
3/8	0.60 (17.74) (Factory charge for lineset = 9 oz / 266.16 g)
5/16	0.40 (11.83)
1/4	0.27 (7.98)

Units are factory charged for 15 ft (4.6 m) of 3/8" liquid line. The factory charge for 3/8" lineset 9 oz (266.16 g). When using other length or diameter liquid lines, charge adjustments are required per the chart above.

Charging Formula:

$[(\text{Lineset oz/ft} \times \text{total length}) - (\text{factory charge for lineset})] = \text{charge adjustment}$

Example 1: System has 15 ft of line set using existing 1/4" liquid line. What charge adjustment is required?

Formula: $(.27 \text{ oz/ft} \times 15\text{ft}) - (9 \text{ oz}) = (-4.95) \text{ oz.}$

Net result is to remove 4.95 oz of refrigerant from the system

Example 2: System has 45 ft of existing 5/16" liquid line. What is the charge adjustment?

Formula: $(.40 \text{ oz/ft.} \times 45\text{ft}) - (9 \text{ oz.}) = 9 \text{ oz.}$

Net result is to add 9 oz of refrigerant to the system

LONG LINE APPLICATIONS

An application is considered Long Line, when the refrigerant level in the system requires the use of accessories to maintain acceptable refrigerant management for systems reliability. See Accessory Usage Guideline table for required accessories. Defining a system as long line depends on the liquid line diameter, actual length of the tubing, and vertical separation between the indoor and outdoor units.

For Air Conditioner systems, the chart below shows when an application is considered Long Line.

AC WITH PURON® REFRIGERANT LONG LINE DESCRIPTION ft (m) Beyond these lengths, long line accessories are required

Liquid Line Size	Units On Same Level	Outdoor Below Indoor	Outdoor Above Indoor
1/4	No accessories needed within allowed lengths	No accessories needed within allowed lengths	175 (53.3)
5/16	120 (36.6)	50 (15.2) vertical or 120 (36.6) total	120 (36.6)
3/8	80 (24.4)	35 (10.7) vertical or 80 (24.4) total	80 (24.4)

Note: See Long Line Guideline for details

VAPOR LINE SIZING AND COOLING CAPACITY LOSS

Acceptable vapor line diameters provide adequate oil return to the compressor while avoiding excessive capacity loss. The suction line diameters shown in the chart below are acceptable for AC systems with Puron refrigerant:

Vapor Line Sizing and Cooling Capacity Losses — Puron® Refrigerant 1-Stage Air Conditioner Applications

Unit Nominal Size (Btuh)	Maximum Liquid Line Diameters (In. OD)	Vapor Line Diameters (In. OD)	Cooling Capacity Loss (%)									
			Total Equivalent Line Length ft. (m)									
			26-50 (7.9-15.2)	51-80 (15.5-24.4)	81-100 (24.7-30.5)	101-125 (30.8-38.1)	126-150 (38.4-45.7)	151-175 (46.0-53.3)	176-200 (53.6-61.0)	201-225 (61.3-68.6)	226-250 (68.9-76.2)	
018 1 Stage AC with Puron	3/8	1/2	1	2	3	5	6	7	8	9	11	
		5/8	0	1	1	1	2	2	2	3	3	
		3/4	0	0	0	0	1	1	1	1	1	1
024 1 Stage AC with Puron	3/8	5/8	0	1	2	2	3	3	4	5	5	
		3/4	0	0	1	1	1	1	1	2	2	
		7/8	0	0	0	0	0	1	1	1	1	
030 1 Stage AC with Puron	3/8	5/8	1	2	3	3	4	5	6	7	8	
		3/4	0	0	1	1	1	2	2	2	3	
		7/8	0	0	0	0	1	1	1	1	1	
036 1 Stage AC with Puron	3/8	5/8	1	2	4	5	6	8	9	10	12	
		3/4	0	1	1	2	2	3	3	4	4	
		7/8	0	0	0	1	1	1	1	2	2	
048 1 Stage AC with Puron	3/8	3/4	0	1	2	3	4	5	5	6	7	
		7/8	0	0	1	1	2	2	2	3	3	
		1 1/8	0	0	0	0	0	0	0	1	1	
060 1 Stage AC with Puron	3/8	3/4	1	2	4	5	6	7	9	10	11	
		7/8	0	1	2	2	3	4	4	5	5	
		1 1/8	0	0	0	1	1	1	1	1	1	

Applications in this area may be long line and may have height restrictions. See the *Residential Piping and Long Line Guideline*.

ACCESSORY THERMOSTATS

THERMOSTAT / SUBBASE PKG.	DESCRIPTION
TP-PRH01-A	Programmable Thermidistat
TP-NRH01-A	Non-programmable Thermidistat
TP-PAC01	Performance Series Programmable AC Stat
TP-NAC01	Performance Series Non-programmable AC Stat
TSTATCCSEN01-B	Outdoor Air Temperature Sensor
TSTATXXBBP01	Backplate for Builder's Thermostat
TSTATXXNBP01	Backplate for Non-Programmable Thermostat
TSTATXXBP01	Backplate for Programmable Thermostat
TSTATXXCNV10	Thermostat Conversion Kit (4 to 5 wires) - 10 Pack

ACCESSORIES

KIT NUMBER	KIT NAME	018	024	030	036	048	060
KAACH1401AAA	Crankcase Heater	X	X				
Standard	Crankcase Heater			S	S	S	S
KAFT0101AAA	Evaporator Freeze Stat	X	X	X	X	X	X
KAATD0101TDR	Time Delay Relay	X	X	X	X	X	X
KAWS0101AAA	Winter Start Kit (for low ambient)	X	X	X	X	X	X
53DS-900---086	Low Ambient Control (Puron)	X	X	X	X	X	X
53DS-900---070	Wind Baffle	X					
53DS-900---087	Wind Baffle		X				
53DS-900---071	Wind Baffle			X	X		
53DS-900---088	Wind Baffle					X	X
53DS-900---075	Stacking Kit	X	X				
53DS-900---076	Stacking Kit			X	X	X	X
53DS-900---077	Wall Mounting Kit	X	X				
53DS-900---078	Wall Mounting Kit			X	X	X	X

X = Accessory, S = Standard

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ACCESSORY USAGE GUIDELINE

ACCESSORY	REQUIRED FOR LOW-AMBIENT COOLING APPLICATIONS (Below 55°F/12.8°C)	REQUIRED FOR LONG LINE APPLICATIONS* (Over 80 ft. / 24.4 m)	REQUIRED FOR SEA COAST APPLICATIONS (Within 2 miles / 3.2 km)
Compressor Start Assist Capacitor and Relay	Yes	Yes	No
Crankcase Heater	Yes	Yes	No
Evaporator Freeze Thermostat	Yes	No	No
Hard Shutoff TXV	Yes	Yes	Yes
Liquid Line Solenoid Valve	No	See Longline Application Guideline	No
Low-ambient Control	Yes	No	No
Winter Start Control	Yes	No	No

* For tubing line sets between 80 and 200 ft. (24.38 and 60.96 m) and/or 35 ft. (10.7 m) vertical differential, refer to Residential Piping and Longline Guideline.

Accessory Description and Usage (Listed Alphabetically)

1. Crankcase Heater

An electric resistance heater which mounts to the base of the compressor to keep the lubricant warm during off cycles. Improves compressor lubrication on restart and minimizes the chance of liquid slugging.

Usage Guideline:

- Required in low ambient cooling applications.
- Required in long line applications.
- Suggested in all commercial applications.

2. Evaporator Freeze Thermostat

An SPST temperature-actuated switch that stops unit operation when evaporator reaches freeze-up conditions.

Usage Guideline:

- Required when low ambient kit has been added.

3. Low-Ambient Control

A fan-speed control device activated by a temperature sensor, designed to control condenser fan motor speed in response to the saturated, condensing temperature during operation in cooling mode only. For outdoor temperatures down to -20°F (-28.9°C), it maintains condensing temperature at 100°F ±10°F (37.8°C ± 5.5°C).

Usage Guideline:

- A Low Ambient Controller must be used when cooling operation is used at outdoor temperatures below 55°F (12.8°C).

Suggested for all commercial applications.

4. Outdoor Air Temperature Sensor

Designed for use with Carrier Thermostats listed in this publication. This device enables the thermostat to display the outdoor temperature. This device also

is required to enable special thermostat features such as auxiliary heat lock out.

Usage Guideline:

- Suggested for all Carrier thermostats listed in this publication.

5. Thermostatic Expansion Valve (TXV)

A modulating flow-control valve which meters refrigerant liquid flow rate into the evaporator in response to the superheat of the refrigerant gas leaving the evaporator.

Kit includes valve, adapter tubes, and external equalizer tube. Hard shut off types are available.

NOTE: When using a hard shut off TXV with single phase reciprocating compressors, a Compressor Start Assist Capacitor and Relay is required.

Usage Guideline:

- Accessory required to meet ARI rating and system reliability, where indoor not equipped.
- Hard shut off TXV or LLS required in air conditioner long line applications.
- Required for use on all zoning systems.

6. Time-Delay Relay

An SPST delay relay which briefly continues operation of indoor blower motor to provide additional cooling after the compressor cycles off.

NOTE: Most indoor unit controls include this feature. For those that do not, use the guideline below.

Usage Guideline:

- Accessory required to meet ARI rating, where indoor not equipped.

7. Winter Start Control

This control is designed to alleviate nuisance opening of the low-pressure switch by bypassing it for the first 3 minutes of operation.

ELECTRICAL DATA

38HDR UNIT SIZE	V-PH-Hz	VOLTAGE RANGE*		COMPRESSOR		OUTDOOR FAN MOTOR			MIN CKT AMPS	FUSE/CKT BKR AMPS
		Min	Max	RLA	LRA	FLA	NEC Hp	kW Out		
018-31	208/230-1-60	187	253	9.0	48.0	0.8	0.125	0.09	12.1	20
024-32	208/230-1-60	187	253	13.5	58.3	0.8	0.125	0.09	17.7	25
030-31	208/230-1-60	187	253	14.1	73.0	1.5	0.250	0.19	19.1	30
036-31	208/230-1-60	187	253	14.1	77.0	1.5	0.250	0.19	19.1	30
	208/230-3-60	187	253	9.2	71.0	1.5	0.250	0.19	13.0	20
	460-3-60	414	506	5.6	38.0	0.8	0.250	0.19	7.9	10
048-32	208/230-1-60	187	253	19.9	109.0	1.5	0.250	0.19	26.4	40
	208/230-3-60	187	253	13.1	83.1	1.5	0.250	0.19	17.9	25
	460-3-60	414	506	6.1	41.0	0.8	0.250	0.19	8.4	15
060-32	208/230-1-60	187	253	26.4	134.0	1.5	0.250	0.19	34.5	60
	208/230-3-60	187	253	16.0	110.0	1.5	0.250	0.19	21.5	30
	460-3-60	414	506	7.8	52.0	0.8	0.250	0.19	10.6	15

* Permissible limits of the voltage range at which the unit will operate satisfactorily

FLA – Full Load Amps

HACR – Heating, Air Conditioning, Refrigeration

LRA – Locked Rotor Amps

NEC – National Electrical Code

RLA – Rated Load Amps (compressor)

NOTE: Control circuit is 24-V on all units and requires external power source. Copper wire must be used from service disconnect to unit. All motors/compressors contain internal overload protection.

Complies with 2007 requirements of ASHRAE Standards 90.1

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A-WEIGHTED SOUND POWER (dBA)

Unit Size	Standard Rating (dBA)	Typical Octave Band Spectrum (dBA) (without tone adjustment)						
		125	250	500	1000	2000	4000	8000
018-31	68	52.0	57.5	60.5	63.5	60.5	57.5	46.5
024-32	69	57.5	61.5	63.0	61.0	60.0	56.0	45.0
030-31	72	56.5	63.0	65.0	66.0	64.0	62.5	57.0
036-31	72	65.0	61.5	63.5	65.0	64.5	61.0	54.5
048-32	72	58.5	61.0	64.0	67.5	66.0	64.0	57.0
060-32	72	63.0	61.5	64.0	66.5	66.0	64.5	55.5

NOTE: Tested in accordance with ARI Standard 270-08 (not listed in AHRI).

CHARGING SUBCOOLING (TXV-TYPE EXPANSION DEVICE)

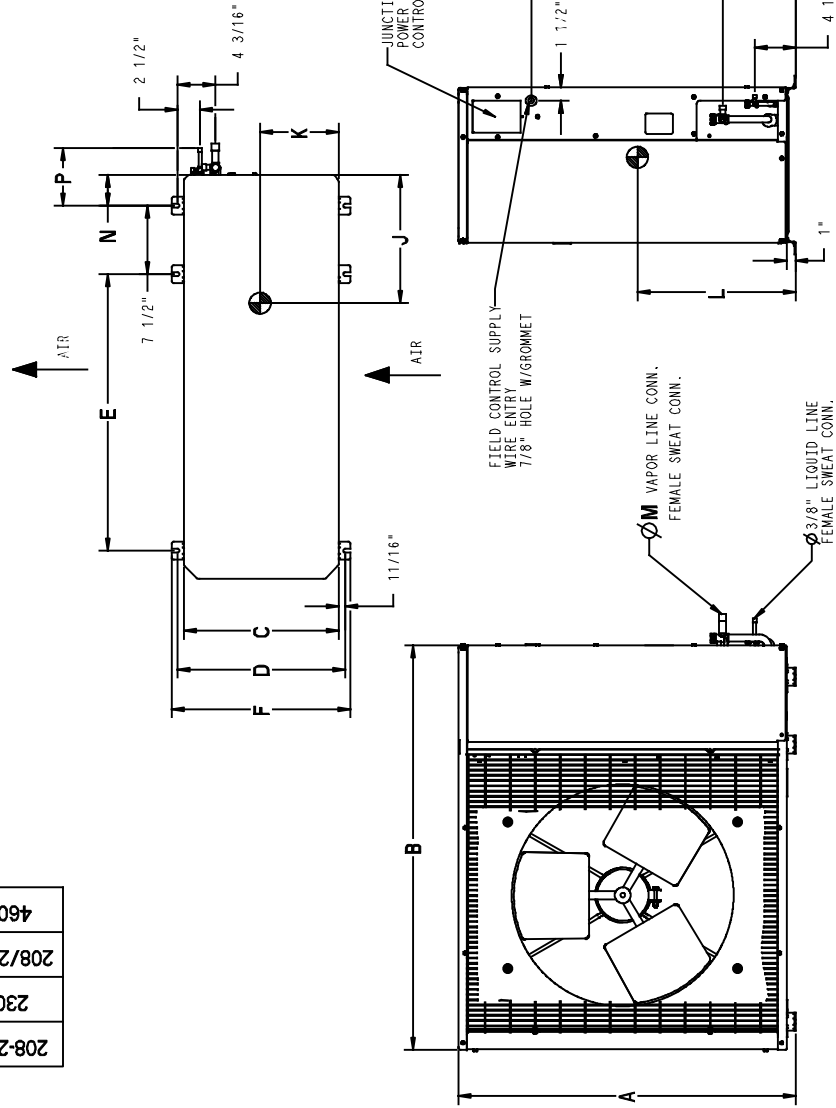
UNIT SIZE-VOLTAGE, SERIES	REQUIRED SUBCOOLING °F (°C)
018-31	12 (6.7)
024-32	12 (6.7)
030-31	12 (6.7)
036-31	12 (6.7)
048-32	12 (6.7)
060-32	12 (6.7)

DIMENSIONS - ENGLISH

UNIT SERIES	ELECTRICAL CHARACTERISTICS	A	B	C	D	E	F	G	H	J	K	L	M	N	P	OPERATING WEIGHT(lbs)	SHIPPING WEIGHT(lbs)	SHIPPING DIMENSIONS (L x W x H)
38HDR018	1	X	0	0	25 1/8"	36 15/16"	14 9/16"	17 1/8"	22"	13"	6 5/8"	11 1/4"	5/8"	2 15/16"	6"	155	171	42 9/10" X 18" X 28 1/10"
38HDR024	1,2	X	0	0	31 1/8"	36 15/16"	14 9/16"	17 1/8"	28"	14"	6 3/4"	11 5/8"	5/8"	2 15/16"	6"	180	198	42 9/10" X 18" X 34 1/10"
38HDR030	1	X	0	0	37 3/16"	44 9/16"	17 1/16"	19 5/8"	30 1/2"	19 5/8"	8 1/8"	15 7/8"	3/4"	3 7/16"	6 1/2"	200	223	50 1/2" X 20 1/2" X 40 2/10"
38HDR036	1	X	0	X	37 3/16"	44 9/16"	17 1/16"	19 5/8"	34 1/16"	13 11/16"	8 1/8"	15 7/8"	3/4"	3 7/16"	6 1/2"	218	240	50 1/2" X 20 1/2" X 40 2/10"
38HDR048	1,2	X	0	X	43 3/16"	44 9/16"	17 1/16"	19 5/8"	40 1/16"	14 1/2"	8 1/2"	18 7/8"	7/8"	3 7/16"	6 1/2"	284	309	50 1/2" X 20 1/2" X 46 2/10"
38HDR060	1,2	X	0	X	43 3/16"	44 9/16"	17 1/16"	19 5/8"	40 1/16"	14 1/2"	8 1/2"	18 7/8"	7/8"	3 7/16"	6 1/2"	294	319	50 1/2" X 20 1/2" X 46 2/10"

X = YES
0 = NO

- REQUIRED CLEARANCES: WITH COIL FACING WALL: ALLOW 6" MIN CLEARANCE ON COIL SIDE AND COIL END AND 36" MIN CLEARANCE ON COMPRESSOR END AND FAN SIDE. WITH FAN FACING WALL: ALLOW 8" MIN CLEARANCE ON FAN SIDE AND COIL END AND 36" MIN CLEARANCE ON COMPRESSOR END AND COIL SIDE. WITH MULTI UNIT APPLICATION: ARRANGE UNITS SO DISCHARGE OF ONE DOES NOT ENTER INLET OF ANOTHER.
- MINIMUM OUTDOOR OPERATING AMBIENT IN COOLING MODE IS 55°F. MAX. 125°F.
- SERIES DESIGNATION IS THE 13TH POSITION OF THE UNIT MODEL NUMBER.
- CENTER OF GRAVITY
- ALL DIMENSIONS ARE IN *INCHES* UNLESS NOTED.



UNIT SIZE	MINIMUM MOUNTING PAD DIMENSIONS
18, 24	23" X 42"
30, 36, 48, 60	24" X 50"

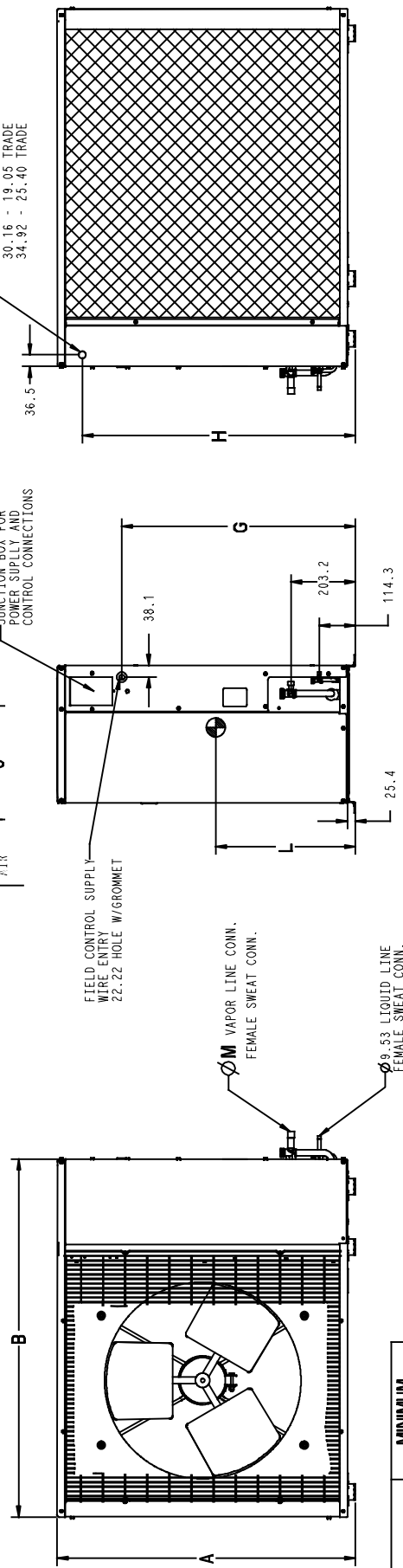
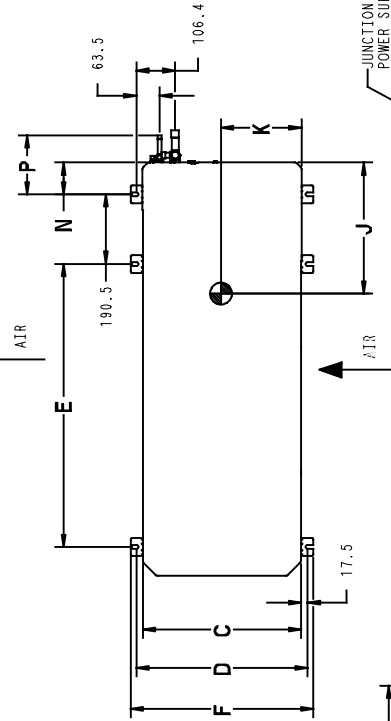
DIMENSIONS - SI

UNIT	SERIES	ELECTRICAL CHARACTERISTICS	A	B	C	D	E	F	G	H	J	K	L	M	N	P	OPERATING WEIGHT(KG)	SHIPPING WEIGHT(KG)	SHIPPING DIMENSIONS (L x W x H)
38HDR018	1	X 0 0	638.2	938.2	369.9	406.4	595.3	436.6	435.0	558.8	330.2	168.3	285.8	15.9	74.6	152.4	70.4	77.7	1090.2 X 457.7 X 714.3
38HDR024	1,2	X 0 0	790.6	938.2	369.9	406.4	595.3	436.6	587.4	711.2	355.6	171.5	295.3	15.9	74.6	152.4	81.8	90.0	1090.2 X 457.7 X 866.7
38HDR030	1	X 0 0	844.6	1131.9	433.4	468.3	774.7	498.5	741.4	865.2	347.7	206.4	403.2	19.0	87.3	165.1	90.9	101.4	1282.7 X 520.7 X 1020.7
38HDR036	1	X 0 X	844.6	1131.9	433.4	468.3	774.7	498.5	741.4	865.2	347.7	206.4	403.2	19.0	87.3	165.1	99.0	109.0	1282.7 X 520.7 X 1020.7
38HDR048	1,2	X 0 X	1097.0	1131.9	433.4	468.3	774.7	498.5	893.8	1077.6	368.3	215.9	419.4	22.2	87.3	165.1	129.0	140.4	1282.7 X 520.7 X 1173.1
38HDR060	1,2	X 0 X	1097.0	1131.9	433.4	468.3	774.7	498.5	893.8	1077.6	368.3	215.9	419.4	22.2	87.3	165.1	133.6	145.0	1282.7 X 520.7 X 1173.1

X = YES
0 = NO

460-3-60
208/230-3-60
230-1-60
208-230-1-60

- REQUIRED CLEARANCES: WITH COIL FACING WALL; ALLOW 152.4 MIN CLEARANCE ON COIL SIDE AND COIL END AND 914.4 MIN CLEARANCE ON COMPRESSOR END AND FAN SIDE. WITH FAN FACING WALL; ALLOW 203.2 MIN CLEARANCE ON FAN SIDE AND COIL END AND 914.4 MIN CLEARANCE ON COMPRESSOR END AND COIL SIDE. WITH MULTI UNIT APPLICATION; ARRANGE UNITS SO DISCHARGE OF ONE DOES NOT ENTER INLET OF ANOTHER.
- MINIMUM OUTDOOR OPERATING AMBIENT IN COOLING MODE IS 12.8°C, MAX. 51.7°C.
- SERIES DESIGNATION IS THE 13TH POSITION OF THE UNIT MODEL NUMBER.
- CENTER OF GRAVITY
- ALL DIMENSIONS ARE IN "MM" UNLESS NOTED.



UNIT SIZE	MINIMUM MOUNTING PAD DIMENSIONS
18.24	584.2 X 1066.8
30.36, 48.60	609.6 X 1270.0

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COMBINATION RATINGS

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ARI Ref. No.	Model Number	Indoor Model	Furnace Model	Capacity	EER	SEER
1085392	38HDR018-31	†CNPV*1814A**+TDR		17,000	11.0	13.0
1117974	38HDR018-31	40QAC024--3		18,000	11.5	13.0
1085396	38HDR018-31	CAP**1814A**	58CV(A,X)070-12	17,000	11.5	14.0
3015375	38HDR018-31	CAP**1814A**	58PH*045-08	17,000	11.5	14.0
1085394	38HDR018-31	CAP**1814A**+TDR		17,000	10.9	13.0
1085400	38HDR018-31	CAP**2414A**	58CV(A,X)070-12	17,400	11.5	14.0
3015376	38HDR018-31	CAP**2414A**	58PH*045-08	17,400	12.0	14.5
1085398	38HDR018-31	CAP**2414A**+TDR		17,400	11.0	13.0
1085456	38HDR018-31	CAP**2417A**	58CV(A,X)070-12	17,400	11.5	14.0
1085406	38HDR018-31	CAP**2417A**	58CV(A,X)090-16	17,400	11.5	14.0
3112072	38HDR018-31	CAP**2417A**	58MEB040-12	17,400	12.0	14.5
3112073	38HDR018-31	CAP**2417A**	58MEB060-12	17,400	12.0	14.5
1390388	38HDR018-31	CAP**2417A**	58MV(B,C)060-14	17,400	11.5	14.0
1085402	38HDR018-31	CAP**2417A**+TDR		17,400	11.0	13.0
1085432	38HDR018-31	CNPF*2418A**+TDR		17,400	11.0	13.0
1085428	38HDR018-31	CNPH*2417A**	58CV(A,X)070-12	17,400	11.5	14.0
1085430	38HDR018-31	CNPH*2417A**	58CV(A,X)090-16	17,400	11.5	14.0
3112076	38HDR018-31	CNPH*2417A**	58MEB040-12	17,400	12.0	14.5
3112077	38HDR018-31	CNPH*2417A**	58MEB060-12	17,400	12.0	14.5
1390392	38HDR018-31	CNPH*2417A**	58MV(B,C)060-14	17,400	11.5	14.0
1390396	38HDR018-31	CNPH*2417A**	58MV(B,C)080-14	17,400	11.5	14.0
3015379	38HDR018-31	CNPH*2417A**	58PH*045-08	17,400	12.0	14.5
1085420	38HDR018-31	CNPH*2417A**+TDR		17,400	11.0	13.0
1085408	38HDR018-31	CNPV*1814A**	58CV(A,X)070-12	17,000	11.5	14.0
3015377	38HDR018-31	CNPV*1814A**	58PH*045-08	17,000	11.5	14.0
1085412	38HDR018-31	CNPV*2414A**	58CV(A,X)070-12	17,400	11.5	14.0
3015378	38HDR018-31	CNPV*2414A**	58PH*045-08	17,400	12.0	14.5
1085410	38HDR018-31	CNPV*2414A**+TDR		17,400	11.0	13.0
1085458	38HDR018-31	CNPV*2417A**	58CV(A,X)070-12	17,400	11.5	14.0
1085418	38HDR018-31	CNPV*2417A**	58CV(A,X)090-16	17,400	11.5	14.0
3112074	38HDR018-31	CNPV*2417A**	58MEB040-12	17,400	12.0	14.5
3112075	38HDR018-31	CNPV*2417A**	58MEB060-12	17,400	12.0	14.5
1390390	38HDR018-31	CNPV*2417A**	58MV(B,C)060-14	17,400	11.5	14.0
1085414	38HDR018-31	CNPV*2417A**+TDR		17,400	11.0	13.0
1085442	38HDR018-31	CSPH*2412A**	58CV(A,X)070-12	17,400	11.5	14.0
1085444	38HDR018-31	CSPH*2412A**	58CV(A,X)090-16	17,400	11.5	14.0
3112078	38HDR018-31	CSPH*2412A**	58MEB040-12	17,400	12.0	14.5
3112079	38HDR018-31	CSPH*2412A**	58MEB060-12	17,400	12.0	14.5
1390394	38HDR018-31	CSPH*2412A**	58MV(B,C)060-14	17,400	11.5	14.0
1390398	38HDR018-31	CSPH*2412A**	58MV(B,C)080-14	17,400	11.5	14.0
3015380	38HDR018-31	CSPH*2412A**	58PH*045-08	17,400	12.0	14.5
1085434	38HDR018-31	CSPH*2412A**+TDR		17,400	11.0	13.0
1086232	38HDR018-31	FE4ANF002+UI		17,400	11.5	14.0
1085450	38HDR018-31	FF1ENP018		17,400	11.0	13.0
1085452	38HDR018-31	FF1ENP024		17,400	11.0	13.0
1085454	38HDR018-31	FV4BNF002		17,400	11.5	14.0
3404623	38HDR018-31	FV4CNF002		17,400	11.5	14.0
1085446	38HDR018-31	FX4CNF018		17,000	11.5	14.0
1085448	38HDR018-31	FX4CNF024		17,400	11.5	14.0
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3465486	38HDR024-32	†CNPV*2414A**+TDR		23,400	11.0	13.0
3465806	38HDR024-32	40QAC024-3		22,800	11.5	13.0
3465488	38HDR024-32	CAP**2414A**	58CV(A,X)070-12	23,400	11.5	14.0
3465489	38HDR024-32	CAP**2414A**	58PH*045-08	23,400	11.5	14.0
3465487	38HDR024-32	CAP**2414A**+TDR		23,400	11.0	13.0
3465492	38HDR024-32	CAP**2417A**	58CV(A,X)090-16	23,400	11.5	14.0
3465493	38HDR024-32	CAP**2417A**	58MEB040-12	23,400	12.0	14.5
3465494	38HDR024-32	CAP**2417A**	58MEB060-12	23,400	12.0	14.5
3465495	38HDR024-32	CAP**2417A**	58MEB080-12	23,400	12.0	14.5
3465491	38HDR024-32	CAP**2417A**	58MV(B,C)060-14	23,400	11.5	14.0
3465490	38HDR024-32	CAP**2417A**+TDR		23,400	11.0	13.0
3465497	38HDR024-32	CAP**3014A**	58CV(A,X)070-12	23,400	11.5	14.0
3465498	38HDR024-32	CAP**3014A**	58PH*045-08	23,600	12.0	14.5
3465496	38HDR024-32	CAP**3014A**+TDR		23,600	11.0	13.0
3465501	38HDR024-32	CAP**3017A**	58CV(A,X)090-16	23,600	11.5	14.0
3465502	38HDR024-32	CAP**3017A**	58MEB040-12	23,600	12.0	14.5
3465503	38HDR024-32	CAP**3017A**	58MEB060-12	23,600	12.0	14.5
3465504	38HDR024-32	CAP**3017A**	58MEB080-12	23,600	12.0	14.5
3465500	38HDR024-32	CAP**3017A**	58MV(B,C)060-14	23,600	11.5	14.0
3465499	38HDR024-32	CAP**3017A**+TDR		23,600	11.0	13.0
3465554	38HDR024-32	CNPF*2418A**+TDR		23,400	11.0	13.0
3465529	38HDR024-32	CNPH*2417A**	58CV(A,X)070-12	23,400	11.5	14.0
3465530	38HDR024-32	CNPH*2417A**	58CV(A,X)090-16	23,400	11.5	14.0
3465531	38HDR024-32	CNPH*2417A**	58CV(A,X)110-20	23,400	11.5	14.0
3465532	38HDR024-32	CNPH*2417A**	58CV(A,X)135-22	23,400	11.5	14.0
3465533	38HDR024-32	CNPH*2417A**	58CV(A,X)155-22	23,400	11.5	14.0
3465535	38HDR024-32	CNPH*2417A**	58MEB040-12	23,400	12.0	14.5
3465536	38HDR024-32	CNPH*2417A**	58MEB060-12	23,400	12.0	14.5
3465537	38HDR024-32	CNPH*2417A**	58MEB080-12	23,400	12.0	14.5

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COMBINATION RATINGS (CONT.)

ARI Ref. No.	Model Number	Indoor Model	Furnace Model	Capacity	EER	SEER
3465524	38HDR024-32	CNPH*2417A**	58MV(B,C)060-14	23,400	11.5	14.0
3465525	38HDR024-32	CNPH*2417A**	58MV(B,C)080-14	23,400	11.5	14.0
3465526	38HDR024-32	CNPH*2417A**	58MV(B,C)080-20	23,200	11.5	14.0
3465527	38HDR024-32	CNPH*2417A**	58MV(B,C)100-20	23,400	11.5	14.0
3465528	38HDR024-32	CNPH*2417A**	58MV(B,C)120-20	23,400	11.5	14.0
3465523	38HDR024-32	CNPH*2417A**	58MVB040-14	23,400	11.5	14.0
3465534	38HDR024-32	CNPH*2417A**	58PH*045-08	23,400	11.5	14.0
3465522	38HDR024-32	CNPH*2417A**+TDR		23,400	11.0	13.0
3465545	38HDR024-32	CNPH*3017A**	58CV(A,X)070-12	23,400	11.5	14.0
3465546	38HDR024-32	CNPH*3017A**	58CV(A,X)090-16	23,600	11.5	14.0
3465547	38HDR024-32	CNPH*3017A**	58CV(A,X)110-20	23,600	11.5	14.0
3465548	38HDR024-32	CNPH*3017A**	58CV(A,X)135-22	23,600	11.5	14.0
3465549	38HDR024-32	CNPH*3017A**	58CV(A,X)155-22	23,600	11.5	14.0
3465551	38HDR024-32	CNPH*3017A**	58MEB040-12	23,600	12.0	14.5
3465552	38HDR024-32	CNPH*3017A**	58MEB060-12	23,600	12.0	14.5
3465553	38HDR024-32	CNPH*3017A**	58MEB080-12	23,600	12.0	14.5
3465540	38HDR024-32	CNPH*3017A**	58MV(B,C)060-14	23,600	11.5	14.0
3465541	38HDR024-32	CNPH*3017A**	58MV(B,C)080-14	23,400	11.5	14.0
3465542	38HDR024-32	CNPH*3017A**	58MV(B,C)080-20	23,400	11.5	14.0
3465543	38HDR024-32	CNPH*3017A**	58MV(B,C)100-20	23,600	11.5	14.0
3465544	38HDR024-32	CNPH*3017A**	58MV(B,C)120-20	23,600	11.5	14.0
3465539	38HDR024-32	CNPH*3017A**	58MVB040-14	23,600	11.5	14.0
3465550	38HDR024-32	CNPH*3017A**	58PH*045-08	23,600	12.0	14.5
3465538	38HDR024-32	CNPH*3017A**+TDR		23,600	11.0	13.0
3465505	38HDR024-32	CNPV*2414A**	58CV(A,X)070-12	23,400	11.5	14.0
3465506	38HDR024-32	CNPV*2414A**	58PH*045-08	23,400	11.5	14.0
3465509	38HDR024-32	CNPV*2417A**	58CV(A,X)090-16	23,400	11.5	14.0
3465510	38HDR024-32	CNPV*2417A**	58MEB040-12	23,400	12.0	14.5
3465511	38HDR024-32	CNPV*2417A**	58MEB060-12	23,400	12.0	14.5
3465512	38HDR024-32	CNPV*2417A**	58MEB080-12	23,400	12.0	14.5
3465508	38HDR024-32	CNPV*2417A**	58MV(B,C)060-14	23,400	11.5	14.0
3465507	38HDR024-32	CNPV*2417A**+TDR		23,400	11.0	13.0
3465514	38HDR024-32	CNPV*3014A**	58CV(A,X)070-12	23,400	11.5	14.0
3465515	38HDR024-32	CNPV*3014A**	58PH*045-08	23,600	11.5	14.0
3465513	38HDR024-32	CNPV*3014A**+TDR		23,600	11.0	13.0
3465518	38HDR024-32	CNPV*3017A**	58CV(A,X)090-16	23,600	11.5	14.0
3465519	38HDR024-32	CNPV*3017A**	58MEB040-12	23,600	12.0	14.5
3465520	38HDR024-32	CNPV*3017A**	58MEB060-12	23,600	12.0	14.5
3465521	38HDR024-32	CNPV*3017A**	58MEB080-12	23,600	12.0	14.5
3465517	38HDR024-32	CNPV*3017A**	58MV(B,C)060-14	23,600	11.5	14.0
3465516	38HDR024-32	CNPV*3017A**+TDR		23,600	11.0	13.0
3465562	38HDR024-32	CSPH*2412A**	58CV(A,X)070-12	23,400	11.5	14.0
3465563	38HDR024-32	CSPH*2412A**	58CV(A,X)090-16	23,400	11.5	14.0
3465564	38HDR024-32	CSPH*2412A**	58CV(A,X)110-20	23,400	11.5	14.0
3465565	38HDR024-32	CSPH*2412A**	58CV(A,X)135-22	23,400	11.5	14.0
3465566	38HDR024-32	CSPH*2412A**	58CV(A,X)155-22	23,400	11.5	14.0
3465568	38HDR024-32	CSPH*2412A**	58MEB040-12	23,400	12.0	14.5
3465569	38HDR024-32	CSPH*2412A**	58MEB060-12	23,400	12.0	14.5
3465570	38HDR024-32	CSPH*2412A**	58MEB080-12	23,400	12.0	14.5
3465557	38HDR024-32	CSPH*2412A**	58MV(B,C)060-14	23,400	11.5	14.0
3465558	38HDR024-32	CSPH*2412A**	58MV(B,C)080-14	23,400	11.5	14.0
3465559	38HDR024-32	CSPH*2412A**	58MV(B,C)080-20	23,400	11.5	14.0
3465560	38HDR024-32	CSPH*2412A**	58MV(B,C)100-20	23,400	11.5	14.0
3465561	38HDR024-32	CSPH*2412A**	58MV(B,C)120-20	23,400	11.5	14.0
3465556	38HDR024-32	CSPH*2412A**	58MVB040-14	23,400	11.5	14.0
3465567	38HDR024-32	CSPH*2412A**	58PH*045-08	23,400	11.5	14.0
3465555	38HDR024-32	CSPH*2412A**+TDR		23,400	11.0	13.0
3465578	38HDR024-32	CSPH*3012A**	58CV(A,X)070-12	23,600	11.5	14.0
3465579	38HDR024-32	CSPH*3012A**	58CV(A,X)090-16	23,600	11.5	14.0
3465580	38HDR024-32	CSPH*3012A**	58CV(A,X)110-20	23,600	11.5	14.0
3465581	38HDR024-32	CSPH*3012A**	58CV(A,X)135-22	23,600	11.5	14.0
3465582	38HDR024-32	CSPH*3012A**	58CV(A,X)155-22	23,600	11.5	14.0
3465584	38HDR024-32	CSPH*3012A**	58MEB040-12	23,600	12.0	14.5
3465585	38HDR024-32	CSPH*3012A**	58MEB060-12	23,600	12.0	14.5
3465586	38HDR024-32	CSPH*3012A**	58MEB080-12	23,600	12.0	14.5
3465573	38HDR024-32	CSPH*3012A**	58MV(B,C)060-14	23,600	11.5	14.0
3465574	38HDR024-32	CSPH*3012A**	58MV(B,C)080-14	23,600	11.5	14.0
3465575	38HDR024-32	CSPH*3012A**	58MV(B,C)080-20	23,400	11.5	14.0
3465576	38HDR024-32	CSPH*3012A**	58MV(B,C)100-20	23,600	11.5	14.0
3465577	38HDR024-32	CSPH*3012A**	58MV(B,C)120-20	23,600	11.5	14.0
3465572	38HDR024-32	CSPH*3012A**	58MVB040-14	23,600	11.5	14.0
3465583	38HDR024-32	CSPH*3012A**	58PH*045-08	23,600	12.0	14.5
3465571	38HDR024-32	CSPH*3012A**+TDR		23,600	11.0	13.0
3465594	38HDR024-32	FE4AN(B,F)003+UI		23,800	12.0	14.5
3465592	38HDR024-32	FE4ANF002+UI		23,600	12.0	14.5
3465596	38HDR024-32	FE5ANB004+UI		24,000	12.0	14.5
3465597	38HDR024-32	FF1ENP024		22,800	11.0	13.0
3465606	38HDR024-32	FF1ENP025		23,400	11.5	14.0
3465600	38HDR024-32	FF1ENP030		23,000	11.0	13.0

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COMBINATION RATINGS (CONT.)

ARI Ref. No.	Model Number	Indoor Model	Furnace Model	Capacity	EER	SEER
3465608	38HDR024-32	FF1ENP031		23,600	11.5	14.0
3465609	38HDR024-32	FF1ENP037		23,800	11.5	14.0
3465603	38HDR024-32	FV4BN(B,F)003		23,800	12.0	14.5
3465601	38HDR024-32	FV4BNF002		23,600	12.0	14.5
3465613	38HDR024-32	FV4CN(B,F)003		23,800	12.0	14.5
3465611	38HDR024-32	FV4CNF002		23,600	12.0	14.5
3465589	38HDR024-32	FX4CNF024		23,400	11.5	14.0
3465590	38HDR024-32	FX4CNF030		23,800	11.5	14.0
3465587	38HDR024-32	FY4ANF024		23,200	11.0	13.0
3465588	38HDR024-32	FY4ANF030		23,600	11.0	13.0
1085620	38HDR030-31	†CNPV*3014A**+TDR		28,000	11.0	13.0
1117978	38HDR030-31	40QAC036-- --3		29,000	12.0	13.0
1085624	38HDR030-31	CAP**3014A**	58CV(A,X)070-12	28,000	11.5	14.0
1085622	38HDR030-31	CAP**3014A**+TDR		28,000	11.0	13.0
1085788	38HDR030-31	CAP**3017A**	58CV(A,X)070-12	28,000	11.5	14.0
1085630	38HDR030-31	CAP**3017A**	58CV(A,X)090-16	28,000	11.5	14.0
3112104	38HDR030-31	CAP**3017A**	58MEB040-12	28,000	12.0	14.5
3112105	38HDR030-31	CAP**3017A**	58MEB060-12	28,000	12.0	14.5
3112106	38HDR030-31	CAP**3017A**	58MEB080-12	28,000	12.0	14.5
3112107	38HDR030-31	CAP**3017A**	58MEB080-16	28,000	12.0	14.5
1390448	38HDR030-31	CAP**3017A**	58MV(B,C)060-14	28,000	11.5	14.0
3015389	38HDR030-31	CAP**3017A**	58PH*070-16	28,000	11.5	14.0
1085626	38HDR030-31	CAP**3017A**+TDR		28,000	11.0	13.0
1085634	38HDR030-31	CAP**3614A**	58CV(A,X)070-12	28,600	11.5	14.0
1085632	38HDR030-31	CAP**3614A**+TDR		28,600	11.0	13.0
1085790	38HDR030-31	CAP**3617A**	58CV(A,X)070-12	28,600	11.5	14.0
1085640	38HDR030-31	CAP**3617A**	58CV(A,X)090-16	28,600	11.5	14.0
3112108	38HDR030-31	CAP**3617A**	58MEB040-12	28,600	12.0	14.5
3112109	38HDR030-31	CAP**3617A**	58MEB060-12	28,600	12.0	14.5
3112110	38HDR030-31	CAP**3617A**	58MEB080-12	28,600	12.0	14.5
3112111	38HDR030-31	CAP**3617A**	58MEB080-16	28,600	12.0	14.5
1390450	38HDR030-31	CAP**3617A**	58MV(B,C)060-14	28,600	11.5	14.0
3015390	38HDR030-31	CAP**3617A**	58PH*070-16	28,600	12.0	14.5
1085636	38HDR030-31	CAP**3617A**+TDR		28,600	11.0	13.0
1085794	38HDR030-31	CAP**3621A**	58CV(A,X)090-16	28,600	11.5	14.0
1085650	38HDR030-31	CAP**3621A**	58CV(A,X)110-20	28,600	11.5	14.0
1390464	38HDR030-31	CAP**3621A**	58MV(B,C)060-14	28,600	11.5	14.0
1390468	38HDR030-31	CAP**3621A**	58MV(B,C)080-14	28,600	11.5	14.0
1390480	38HDR030-31	CAP**3621A**	58MV(B,C)080-20	28,600	11.5	14.0
1390492	38HDR030-31	CAP**3621A**	58MV(B,C)100-20	28,600	11.5	14.0
3015391	38HDR030-31	CAP**3621A**	58PH*090-16	28,600	12.0	14.5
1085642	38HDR030-31	CAP**3621A**+TDR		28,600	11.0	13.0
1085724	38HDR030-31	CNPF*3618A**+TDR		28,600	11.0	13.0
1085690	38HDR030-31	CNPH*3017A**	58CV(A,X)070-12	28,000	11.5	14.0
1085692	38HDR030-31	CNPH*3017A**	58CV(A,X)090-16	28,000	11.5	14.0
1085694	38HDR030-31	CNPH*3017A**	58CV(A,X)110-20	28,000	11.5	14.0
1085696	38HDR030-31	CNPH*3017A**	58CV(A,X)135-22	28,000	11.5	14.0
1085698	38HDR030-31	CNPH*3017A**	58CV(A,X)155-22	28,000	11.5	14.0
3112120	38HDR030-31	CNPH*3017A**	58MEB040-12	28,000	12.0	14.5
3112121	38HDR030-31	CNPH*3017A**	58MEB060-12	28,000	12.0	14.5
3112122	38HDR030-31	CNPH*3017A**	58MEB080-12	28,000	12.0	14.5
3112123	38HDR030-31	CNPH*3017A**	58MEB080-16	28,000	12.0	14.5
1390456	38HDR030-31	CNPH*3017A**	58MV(B,C)060-14	28,000	11.5	14.0
1390472	38HDR030-31	CNPH*3017A**	58MV(B,C)080-14	28,000	11.5	14.0
1390484	38HDR030-31	CNPH*3017A**	58MV(B,C)080-20	28,000	11.5	14.0
1390496	38HDR030-31	CNPH*3017A**	58MV(B,C)100-20	28,000	11.5	14.0
1390504	38HDR030-31	CNPH*3017A**	58MV(B,C)120-20	28,000	11.5	14.0
3015395	38HDR030-31	CNPH*3017A**	58PH*070-16	28,000	11.5	14.0
3015396	38HDR030-31	CNPH*3017A**	58PH*090-16	28,000	11.5	14.0
1085676	38HDR030-31	CNPH*3017A**+TDR		28,000	11.0	13.0
1085714	38HDR030-31	CNPH*3617A**	58CV(A,X)070-12	28,600	11.5	14.0
1085716	38HDR030-31	CNPH*3617A**	58CV(A,X)090-16	28,600	11.5	14.0
1085718	38HDR030-31	CNPH*3617A**	58CV(A,X)110-20	28,600	11.5	14.0
1085720	38HDR030-31	CNPH*3617A**	58CV(A,X)135-22	28,600	11.5	14.0
1085722	38HDR030-31	CNPH*3617A**	58CV(A,X)155-22	28,600	11.5	14.0
3112124	38HDR030-31	CNPH*3617A**	58MEB040-12	28,600	12.0	14.5
3112125	38HDR030-31	CNPH*3617A**	58MEB060-12	28,600	12.0	14.5
3112126	38HDR030-31	CNPH*3617A**	58MEB080-12	28,600	12.0	14.5
3112127	38HDR030-31	CNPH*3617A**	58MEB080-16	28,600	12.0	14.5
1390458	38HDR030-31	CNPH*3617A**	58MV(B,C)060-14	28,600	11.5	14.0
1390474	38HDR030-31	CNPH*3617A**	58MV(B,C)080-14	28,600	11.5	14.0
1390486	38HDR030-31	CNPH*3617A**	58MV(B,C)080-20	28,600	11.5	14.0
1390498	38HDR030-31	CNPH*3617A**	58MV(B,C)100-20	28,600	11.5	14.0
1390506	38HDR030-31	CNPH*3617A**	58MV(B,C)120-20	28,600	11.5	14.0
3015397	38HDR030-31	CNPH*3617A**	58PH*070-16	28,600	12.0	14.5
3015398	38HDR030-31	CNPH*3617A**	58PH*090-16	28,600	12.0	14.5
1085700	38HDR030-31	CNPH*3617A**+TDR		28,600	11.0	13.0
1085652	38HDR030-31	CNPV*3014A**	58CV(A,X)070-12	28,000	11.5	14.0

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ARI Ref. No.	Model Number	Indoor Model	Furnace Model	Capacity	EER	SEER
1085796	38HDR030-31	CNPV*3017A**	58CV(A,X)070-12	28,000	11.5	14.0
1085658	38HDR030-31	CNPV*3017A**	58CV(A,X)090-16	28,000	11.5	14.0
3112112	38HDR030-31	CNPV*3017A**	58MEB040-12	28,000	12.0	14.5
3112113	38HDR030-31	CNPV*3017A**	58MEB060-12	28,000	12.0	14.5
3112114	38HDR030-31	CNPV*3017A**	58MEB080-12	28,000	12.0	14.5
3112115	38HDR030-31	CNPV*3017A**	58MEB080-16	28,000	12.0	14.5
1390452	38HDR030-31	CNPV*3017A**	58MV(B,C)060-14	28,000	11.5	14.0
3015392	38HDR030-31	CNPV*3017A**	58PH*070-16	28,000	11.5	14.0
1085654	38HDR030-31	CNPV*3017A**+TDR		28,000	11.0	13.0
1085798	38HDR030-31	CNPV*3617A**	58CV(A,X)070-12	28,600	11.5	14.0
1085664	38HDR030-31	CNPV*3617A**	58CV(A,X)090-16	28,600	11.5	14.0
3112116	38HDR030-31	CNPV*3617A**	58MEB040-12	28,600	12.0	14.5
3112117	38HDR030-31	CNPV*3617A**	58MEB060-12	28,600	12.0	14.5
3112118	38HDR030-31	CNPV*3617A**	58MEB080-12	28,600	12.0	14.5
3112119	38HDR030-31	CNPV*3617A**	58MEB080-16	28,600	12.0	14.5
1390454	38HDR030-31	CNPV*3617A**	58MV(B,C)060-14	28,600	11.5	14.0
3015393	38HDR030-31	CNPV*3617A**	58PH*070-16	28,600	12.0	14.5
1085660	38HDR030-31	CNPV*3617A**+TDR		28,600	11.0	13.0
1085802	38HDR030-31	CNPV*3621A**	58CV(A,X)090-16	28,600	11.5	14.0
1085674	38HDR030-31	CNPV*3621A**	58CV(A,X)110-20	28,600	11.5	14.0
1390466	38HDR030-31	CNPV*3621A**	58MV(B,C)060-14	28,600	11.5	14.0
1390470	38HDR030-31	CNPV*3621A**	58MV(B,C)080-14	28,600	11.5	14.0
1390482	38HDR030-31	CNPV*3621A**	58MV(B,C)080-20	28,600	11.5	14.0
1390494	38HDR030-31	CNPV*3621A**	58MV(B,C)100-20	28,600	11.5	14.0
3015394	38HDR030-31	CNPV*3621A**	58PH*090-16	28,600	12.0	14.5
1085666	38HDR030-31	CNPV*3621A**+TDR		28,600	11.0	13.0
1085740	38HDR030-31	CSPH*3012A**	58CV(A,X)070-12	28,000	11.5	14.0
1085742	38HDR030-31	CSPH*3012A**	58CV(A,X)090-16	28,000	11.5	14.0
1085744	38HDR030-31	CSPH*3012A**	58CV(A,X)110-20	28,000	11.5	14.0
1085746	38HDR030-31	CSPH*3012A**	58CV(A,X)135-22	28,000	11.5	14.0
1085748	38HDR030-31	CSPH*3012A**	58CV(A,X)155-22	28,000	11.5	14.0
3112128	38HDR030-31	CSPH*3012A**	58MEB040-12	28,000	12.0	14.5
3112129	38HDR030-31	CSPH*3012A**	58MEB060-12	28,000	12.0	14.5
3112130	38HDR030-31	CSPH*3012A**	58MEB080-12	28,000	12.0	14.5
3112131	38HDR030-31	CSPH*3012A**	58MEB080-16	28,000	12.0	14.5
1390460	38HDR030-31	CSPH*3012A**	58MV(B,C)060-14	28,000	11.5	14.0
1390476	38HDR030-31	CSPH*3012A**	58MV(B,C)080-14	28,000	11.5	14.0
1390488	38HDR030-31	CSPH*3012A**	58MV(B,C)080-20	28,000	11.5	14.0
1390500	38HDR030-31	CSPH*3012A**	58MV(B,C)100-20	28,000	11.5	14.0
1390508	38HDR030-31	CSPH*3012A**	58MV(B,C)120-20	28,000	11.5	14.0
3015399	38HDR030-31	CSPH*3012A**	58PH*070-16	28,000	11.5	14.0
3015400	38HDR030-31	CSPH*3012A**	58PH*090-16	28,000	11.5	14.0
1085726	38HDR030-31	CSPH*3012A**+TDR		28,000	11.0	13.0
1085764	38HDR030-31	CSPH*3612A**	58CV(A,X)070-12	28,600	11.5	14.0
1085766	38HDR030-31	CSPH*3612A**	58CV(A,X)090-16	28,600	11.5	14.0
1085768	38HDR030-31	CSPH*3612A**	58CV(A,X)110-20	28,600	11.5	14.0
1085770	38HDR030-31	CSPH*3612A**	58CV(A,X)135-22	28,600	11.5	14.0
1085772	38HDR030-31	CSPH*3612A**	58CV(A,X)155-22	28,600	11.5	14.0
3112132	38HDR030-31	CSPH*3612A**	58MEB040-12	28,600	12.0	14.5
3112133	38HDR030-31	CSPH*3612A**	58MEB060-12	28,600	12.0	14.5
3112134	38HDR030-31	CSPH*3612A**	58MEB080-12	28,600	12.0	14.5
3112135	38HDR030-31	CSPH*3612A**	58MEB080-16	28,600	12.0	14.5
1390462	38HDR030-31	CSPH*3612A**	58MV(B,C)060-14	28,600	11.5	14.0
1390478	38HDR030-31	CSPH*3612A**	58MV(B,C)080-14	28,600	11.5	14.0
1390490	38HDR030-31	CSPH*3612A**	58MV(B,C)080-20	28,600	11.5	14.0
1390502	38HDR030-31	CSPH*3612A**	58MV(B,C)100-20	28,600	11.5	14.0
1390510	38HDR030-31	CSPH*3612A**	58MV(B,C)120-20	28,600	11.5	14.0
3015401	38HDR030-31	CSPH*3612A**	58PH*070-16	28,600	12.0	14.5
3015402	38HDR030-31	CSPH*3612A**	58PH*090-16	28,600	12.0	14.5
1085750	38HDR030-31	CSPH*3612A**+TDR		28,600	11.0	13.0
1086240	38HDR030-31	FE4AN(B,F)003+UI		28,600	11.5	14.0
1086242	38HDR030-31	FE4AN(B,F)005+UI		29,000	12.5	15.0
1086238	38HDR030-31	FE4ANF002+UI		28,600	11.5	14.0
1085782	38HDR030-31	FF1ENP030		28,000	11.0	13.0
1085784	38HDR030-31	FF1ENP036		28,600	11.0	13.0
1085786	38HDR030-31	FV4BNF002		28,600	11.5	14.0
3404625	38HDR030-31	FV4CNF002		28,600	11.5	14.0
1085780	38HDR030-31	FX4CN(B,F)036		28,600	11.5	14.0
1085778	38HDR030-31	FX4CNF030		28,000	11.5	14.0
1085774	38HDR030-31	FY4ANF030		28,000	11.0	13.0
1085776	38HDR030-31	FY4ANF036		28,600	11.0	13.0
1085804	38HDR036-31	†CNPV*4221A**+TDR		33,400	11.0	13.0
1117980	38HDR036-31	40QAC036---3		33,000	11.4	13.0
1085808	38HDR036-31	CAP**3614A**	58CV(A,X)070-12	32,600	11.5	13.5
3015403	38HDR036-31	CAP**3614A**	58PH*045-08	33,000	11.5	14.0
1085806	38HDR036-31	CAP**3614A**+TDR		32,600	11.0	13.0
1085982	38HDR036-31	CAP**3617A**	58CV(A,X)070-12	33,000	11.5	14.0
1085814	38HDR036-31	CAP**3617A**	58CV(A,X)090-16	33,000	11.5	14.0

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ARI Ref. No.	Model Number	Indoor Model	Furnace Model	Capacity	EER	SEER
3112136	38HDR036-31	CAP**3617A**	58MEB040-12	33,000	12.0	14.5
3112137	38HDR036-31	CAP**3617A**	58MEB060-12	33,000	12.0	14.5
3112138	38HDR036-31	CAP**3617A**	58MEB080-12	33,000	12.0	14.5
3112139	38HDR036-31	CAP**3617A**	58MEB080-16	33,000	12.0	14.5
1390512	38HDR036-31	CAP**3617A**	58MV(B,C)060-14	33,000	11.5	13.5
3015404	38HDR036-31	CAP**3617A**	58PH*070-16	33,000	11.5	14.0
1085810	38HDR036-31	CAP**3617A**+TDR		33,000	11.0	13.0
1085986	38HDR036-31	CAP**3621A**	58CV(A,X)090-16	33,000	11.5	14.0
1085824	38HDR036-31	CAP**3621A**	58CV(A,X)110-20	33,000	11.5	14.0
3112140	38HDR036-31	CAP**3621A**	58MEB100-20	33,000	12.0	14.5
1390524	38HDR036-31	CAP**3621A**	58MV(B,C)060-14	33,000	11.5	14.0
1390532	38HDR036-31	CAP**3621A**	58MV(B,C)080-14	33,000	11.5	13.5
1390550	38HDR036-31	CAP**3621A**	58MV(B,C)080-20	33,000	11.5	13.5
1390568	38HDR036-31	CAP**3621A**	58MV(B,C)100-20	33,000	11.5	14.0
3015405	38HDR036-31	CAP**3621A**	58PH*090-16	33,000	12.0	14.5
3015406	38HDR036-31	CAP**3621A**	58PH*110-20	33,000	12.0	14.5
1085816	38HDR036-31	CAP**3621A**+TDR		33,000	11.0	13.0
1085990	38HDR036-31	CAP**4221A**	58CV(A,X)090-16	33,400	11.5	14.0
1085834	38HDR036-31	CAP**4221A**	58CV(A,X)110-20	33,400	11.5	14.0
3112141	38HDR036-31	CAP**4221A**	58MEB100-20	33,400	12.0	14.5
1390526	38HDR036-31	CAP**4221A**	58MV(B,C)060-14	33,400	11.5	14.0
1390534	38HDR036-31	CAP**4221A**	58MV(B,C)080-14	33,400	11.5	13.5
1390552	38HDR036-31	CAP**4221A**	58MV(B,C)080-20	33,400	11.5	14.0
1390570	38HDR036-31	CAP**4221A**	58MV(B,C)100-20	33,400	11.5	14.0
3015407	38HDR036-31	CAP**4221A**	58PH*090-16	33,400	12.0	14.5
3015408	38HDR036-31	CAP**4221A**	58PH*110-20	33,400	12.0	14.5
1085826	38HDR036-31	CAP**4221A**+TDR		33,400	11.0	13.0
1085998	38HDR036-31	CAP**4224A**	58CV(A,X)110-20	33,400	11.5	14.0
1085842	38HDR036-31	CAP**4224A**	58CV(A,X)135-22	33,400	11.5	14.0
1085844	38HDR036-31	CAP**4224A**	58CV(A,X)155-22	33,400	11.5	14.0
1390548	38HDR036-31	CAP**4224A**	58MV(B,C)080-14	33,400	11.5	14.0
1390566	38HDR036-31	CAP**4224A**	58MV(B,C)080-20	33,400	11.5	14.0
1390584	38HDR036-31	CAP**4224A**	58MV(B,C)100-20	33,400	11.5	14.0
1390586	38HDR036-31	CAP**4224A**	58MV(B,C)120-20	33,400	11.5	13.5
1085836	38HDR036-31	CAP**4224A**+TDR		33,400	11.0	13.0
1085918	38HDR036-31	CNPF*3618A**+TDR		33,000	11.0	13.0
1085884	38HDR036-31	CNPH*3617A**	58CV(A,X)070-12	33,000	11.5	13.5
1085886	38HDR036-31	CNPH*3617A**	58CV(A,X)090-16	33,000	11.5	13.5
1085888	38HDR036-31	CNPH*3617A**	58CV(A,X)110-20	33,000	11.5	13.5
1085890	38HDR036-31	CNPH*3617A**	58CV(A,X)135-22	33,000	11.5	13.5
1085892	38HDR036-31	CNPH*3617A**	58CV(A,X)155-22	33,000	11.5	14.0
3112156	38HDR036-31	CNPH*3617A**	58MEB040-12	33,000	12.0	14.5
3112157	38HDR036-31	CNPH*3617A**	58MEB060-12	33,000	12.0	14.5
3112158	38HDR036-31	CNPH*3617A**	58MEB080-12	33,000	12.0	14.5
3112159	38HDR036-31	CNPH*3617A**	58MEB080-16	33,000	12.0	14.5
3112160	38HDR036-31	CNPH*3617A**	58MEB100-20	33,000	12.0	14.5
1390516	38HDR036-31	CNPH*3617A**	58MV(B,C)060-14	33,000	11.5	13.5
1390540	38HDR036-31	CNPH*3617A**	58MV(B,C)080-14	33,000	11.5	13.5
1390558	38HDR036-31	CNPH*3617A**	58MV(B,C)080-20	33,000	11.5	13.5
1390576	38HDR036-31	CNPH*3617A**	58MV(B,C)100-20	33,000	11.5	13.5
1390588	38HDR036-31	CNPH*3617A**	58MV(B,C)120-20	33,000	11.5	13.5
3015414	38HDR036-31	CNPH*3617A**	58PH*045-08	33,000	11.5	14.0
3015415	38HDR036-31	CNPH*3617A**	58PH*070-16	33,000	11.5	14.0
3015416	38HDR036-31	CNPH*3617A**	58PH*090-16	33,000	12.0	14.5
3015417	38HDR036-31	CNPH*3617A**	58PH*110-20	33,000	12.0	14.5
1085870	38HDR036-31	CNPH*3617A**+TDR		33,000	11.0	13.0
1085908	38HDR036-31	CNPH*4221A**	58CV(A,X)070-12	33,400	11.5	14.0
1085910	38HDR036-31	CNPH*4221A**	58CV(A,X)090-16	33,400	11.5	14.5
1085912	38HDR036-31	CNPH*4221A**	58CV(A,X)110-20	33,400	11.5	14.5
1085914	38HDR036-31	CNPH*4221A**	58CV(A,X)135-22	33,400	11.5	14.5
1085916	38HDR036-31	CNPH*4221A**	58CV(A,X)155-22	33,400	11.5	14.5
3112161	38HDR036-31	CNPH*4221A**	58MEB040-12	33,400	12.0	14.5
3112162	38HDR036-31	CNPH*4221A**	58MEB060-12	33,400	12.0	14.5
3112163	38HDR036-31	CNPH*4221A**	58MEB080-12	33,400	12.0	14.5
3112164	38HDR036-31	CNPH*4221A**	58MEB080-16	33,400	12.0	14.5
3112165	38HDR036-31	CNPH*4221A**	58MEB100-20	33,400	12.0	14.5
1390518	38HDR036-31	CNPH*4221A**	58MV(B,C)060-14	33,400	11.5	14.0
1390542	38HDR036-31	CNPH*4221A**	58MV(B,C)080-14	33,400	11.5	14.0
1390560	38HDR036-31	CNPH*4221A**	58MV(B,C)080-20	33,400	11.5	14.0
1390578	38HDR036-31	CNPH*4221A**	58MV(B,C)100-20	33,400	11.5	14.0
1390590	38HDR036-31	CNPH*4221A**	58MV(B,C)120-20	33,400	11.5	14.5
3015418	38HDR036-31	CNPH*4221A**	58PH*045-08	33,400	11.5	14.0
3015419	38HDR036-31	CNPH*4221A**	58PH*070-16	33,400	11.5	14.0
3015420	38HDR036-31	CNPH*4221A**	58PH*090-16	33,400	12.0	14.5
3015421	38HDR036-31	CNPH*4221A**	58PH*110-20	33,400	12.0	14.5
1085894	38HDR036-31	CNPH*4221A**+TDR		33,400	11.0	13.0
1086000	38HDR036-31	CNPV*3617A**	58CV(A,X)070-12	33,000	11.5	14.0
1085850	38HDR036-31	CNPV*3617A**	58CV(A,X)090-16	33,000	11.5	13.5
3112142	38HDR036-31	CNPV*3617A**	58MEB040-12	33,000	12.0	14.5

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ARI Ref. No.	Model Number	Indoor Model	Furnace Model	Capacity	EER	SEER
3112143	38HDR036-31	CNPV*3617A**	58MEB060-12	33,000	12.0	14.5
3112144	38HDR036-31	CNPV*3617A**	58MEB080-12	33,000	12.0	14.5
3112145	38HDR036-31	CNPV*3617A**	58MEB080-16	33,000	12.0	14.5
1390514	38HDR036-31	CNPV*3617A**	58MV(B,C)060-14	33,000	11.5	13.5
3015409	38HDR036-31	CNPV*3617A**	58PH*070-16	33,000	11.5	14.0
1085846	38HDR036-31	CNPV*3617A**+TDR		33,000	11.0	13.0
1086004	38HDR036-31	CNPV*3621A**	58CV(A,X)090-16	33,000	11.5	14.5
1085860	38HDR036-31	CNPV*3621A**	58CV(A,X)110-20	33,000	11.5	13.5
3112146	38HDR036-31	CNPV*3621A**	58MEB100-20	33,000	12.0	14.5
1390528	38HDR036-31	CNPV*3621A**	58MV(B,C)060-14	33,000	11.5	14.5
1390536	38HDR036-31	CNPV*3621A**	58MV(B,C)080-14	33,000	11.5	13.5
1390554	38HDR036-31	CNPV*3621A**	58MV(B,C)080-20	33,000	11.5	13.5
1390572	38HDR036-31	CNPV*3621A**	58MV(B,C)100-20	33,000	11.5	13.5
3015410	38HDR036-31	CNPV*3621A**	58PH*090-16	33,000	12.0	14.5
3015411	38HDR036-31	CNPV*3621A**	58PH*110-20	33,000	12.0	14.5
1085852	38HDR036-31	CNPV*3621A**+TDR		33,000	11.0	13.0
3112149	38HDR036-31	CNPV*4217A**	58CV(A,X)090-16	33,400	12.0	14.5
3112151	38HDR036-31	CNPV*4217A**	58MEB040-12	33,400	12.0	14.5
3112152	38HDR036-31	CNPV*4217A**	58MEB060-12	33,400	12.0	14.5
3112153	38HDR036-31	CNPV*4217A**	58MEB080-12	33,400	12.0	14.5
3112154	38HDR036-31	CNPV*4217A**	58MEB080-16	33,400	12.0	14.5
3112148	38HDR036-31	CNPV*4217A**	58MV(B,C)060-14	33,400	12.0	14.5
3112150	38HDR036-31	CNPV*4217A**	58PH*070-16	33,400	12.0	14.5
3112147	38HDR036-31	CNPV*4217A**+TDR		33,400	11.0	13.0
1086008	38HDR036-31	CNPV*4221A**	58CV(A,X)090-16	33,400	11.5	14.5
1085868	38HDR036-31	CNPV*4221A**	58CV(A,X)110-20	33,400	11.5	14.5
3112155	38HDR036-31	CNPV*4221A**	58MEB100-20	33,400	12.0	14.5
1390530	38HDR036-31	CNPV*4221A**	58MV(B,C)060-14	33,400	11.5	14.5
1390538	38HDR036-31	CNPV*4221A**	58MV(B,C)080-14	33,400	11.5	14.0
1390556	38HDR036-31	CNPV*4221A**	58MV(B,C)080-20	33,400	11.5	14.0
1390574	38HDR036-31	CNPV*4221A**	58MV(B,C)100-20	33,400	11.5	14.0
3015412	38HDR036-31	CNPV*4221A**	58PH*090-16	33,400	12.0	14.5
3015413	38HDR036-31	CNPV*4221A**	58PH*110-20	33,400	12.0	14.5
1085934	38HDR036-31	CSPH*3612A**	58CV(A,X)070-12	33,000	11.5	14.0
1085936	38HDR036-31	CSPH*3612A**	58CV(A,X)090-16	33,000	11.5	14.5
1085938	38HDR036-31	CSPH*3612A**	58CV(A,X)110-20	33,000	11.5	14.5
1085940	38HDR036-31	CSPH*3612A**	58CV(A,X)135-22	33,000	11.5	14.5
1085942	38HDR036-31	CSPH*3612A**	58CV(A,X)155-22	33,000	11.5	14.5
3112166	38HDR036-31	CSPH*3612A**	58MEB040-12	33,000	12.0	14.5
3112167	38HDR036-31	CSPH*3612A**	58MEB060-12	33,000	12.0	14.5
3112168	38HDR036-31	CSPH*3612A**	58MEB080-12	33,000	12.0	14.5
3112169	38HDR036-31	CSPH*3612A**	58MEB080-16	33,000	12.0	14.5
3112170	38HDR036-31	CSPH*3612A**	58MEB100-20	33,000	12.0	14.5
1390520	38HDR036-31	CSPH*3612A**	58MV(B,C)060-14	33,000	11.5	14.5
1390544	38HDR036-31	CSPH*3612A**	58MV(B,C)080-14	33,000	11.5	14.0
1390562	38HDR036-31	CSPH*3612A**	58MV(B,C)080-20	33,000	11.5	14.0
1390580	38HDR036-31	CSPH*3612A**	58MV(B,C)100-20	33,000	11.5	14.5
1390592	38HDR036-31	CSPH*3612A**	58MV(B,C)120-20	33,000	11.5	14.5
3015422	38HDR036-31	CSPH*3612A**	58PH*045-08	33,000	11.5	14.0
3015423	38HDR036-31	CSPH*3612A**	58PH*070-16	33,000	11.5	14.0
3015424	38HDR036-31	CSPH*3612A**	58PH*090-16	33,000	12.0	14.5
3015425	38HDR036-31	CSPH*3612A**	58PH*110-20	33,000	12.0	14.5
1085920	38HDR036-31	CSPH*3612A**+TDR		33,000	11.0	13.0
1085958	38HDR036-31	CSPH*4212A**	58CV(A,X)070-12	33,400	11.5	14.0
1085960	38HDR036-31	CSPH*4212A**	58CV(A,X)090-16	33,400	11.5	14.5
1085962	38HDR036-31	CSPH*4212A**	58CV(A,X)110-20	33,400	11.5	14.5
1085964	38HDR036-31	CSPH*4212A**	58CV(A,X)135-22	33,400	11.5	14.5
1085966	38HDR036-31	CSPH*4212A**	58CV(A,X)155-22	33,400	11.5	14.5
3112171	38HDR036-31	CSPH*4212A**	58MEB040-12	33,400	12.0	14.5
3112172	38HDR036-31	CSPH*4212A**	58MEB060-12	33,400	12.0	14.5
3112173	38HDR036-31	CSPH*4212A**	58MEB080-12	33,400	12.0	14.5
3112174	38HDR036-31	CSPH*4212A**	58MEB080-16	33,400	12.0	14.5
3112175	38HDR036-31	CSPH*4212A**	58MEB100-20	33,400	12.0	14.5
1390522	38HDR036-31	CSPH*4212A**	58MV(B,C)060-14	33,400	11.5	14.0
1390546	38HDR036-31	CSPH*4212A**	58MV(B,C)080-14	33,400	11.5	14.0
1390564	38HDR036-31	CSPH*4212A**	58MV(B,C)080-20	33,400	11.5	14.0
1390582	38HDR036-31	CSPH*4212A**	58MV(B,C)100-20	33,400	11.5	14.0
1390594	38HDR036-31	CSPH*4212A**	58MV(B,C)120-20	33,400	11.5	14.0
3015426	38HDR036-31	CSPH*4212A**	58PH*045-08	33,400	11.5	14.0
3015427	38HDR036-31	CSPH*4212A**	58PH*070-16	33,400	11.5	14.0
3015428	38HDR036-31	CSPH*4212A**	58PH*090-16	33,400	12.0	14.5
3015429	38HDR036-31	CSPH*4212A**	58PH*110-20	33,400	12.0	14.5
1085944	38HDR036-31	CSPH*4212A**+TDR		33,400	11.0	13.0
1086246	38HDR036-31	FE4AN(B,F)003+UI		33,000	11.5	14.0
1086248	38HDR036-31	FE4AN(B,F)005+UI		33,400	12.5	15.0
1086250	38HDR036-31	FE4ANB006+UI		33,400	12.5	15.0
1086244	38HDR036-31	FE4ANF002+UI		33,000	11.5	13.5
1085976	38HDR036-31	FF1ENP036		33,000	11.0	13.0
1085980	38HDR036-31	FV4BNB006		33,400	12.5	15.0

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COMBINATION RATINGS (CONT.)

ARI Ref. No.	Model Number	Indoor Model	Furnace Model	Capacity	EER	SEER
1085978	38HDR036-31	FV4BNF002		33,000	11.5	13.5
3404627	38HDR036-31	FV4CNB006		33,400	12.5	15.0
3404626	38HDR036-31	FV4CNF002		33,000	11.5	13.5
1085972	38HDR036-31	FX4CN(B,F)036		33,000	11.5	14.0
1085974	38HDR036-31	FX4CN(B,F)042		33,400	11.5	14.0
1085968	38HDR036-31	FY4ANF036		33,000	11.0	13.0
1085970	38HDR036-31	FY4ANF042		33,400	11.0	13.0
1117042	38HDR036-51	†CNPV*4221A**+TDR		33,400	11.0	13.0
1117982	38HDR036-51	40QAC036--3		33,000	11.4	13.0
1117046	38HDR036-51	CAP**3614A**	58CV(A,X)070-12	32,600	11.5	13.5
3015466	38HDR036-51	CAP**3614A**	58PH*045-08	33,000	11.5	14.0
1117044	38HDR036-51	CAP**3614A**+TDR		32,600	11.0	13.0
1117228	38HDR036-51	CAP**3617A**	58CV(A,X)070-12	33,000	11.5	14.0
1117052	38HDR036-51	CAP**3617A**	58CV(A,X)090-16	33,000	11.5	14.0
3116284	38HDR036-51	CAP**3617A**	58MEB040-12	33,000	12.0	14.5
3116285	38HDR036-51	CAP**3617A**	58MEB060-12	33,000	12.0	14.5
3116286	38HDR036-51	CAP**3617A**	58MEB080-12	33,000	12.0	14.5
3116287	38HDR036-51	CAP**3617A**	58MEB080-16	33,000	12.0	14.5
1390596	38HDR036-51	CAP**3617A**	58MV(B,C)060-14	33,000	11.5	13.5
3015467	38HDR036-51	CAP**3617A**	58PH*070-16	33,000	11.5	14.0
1117048	38HDR036-51	CAP**3617A**+TDR		33,000	11.0	13.0
1117232	38HDR036-51	CAP**3621A**	58CV(A,X)090-16	33,000	11.5	14.0
1145786	38HDR036-51	CAP**3621A**	58CV(A,X)110-20	33,000	11.5	14.0
3116288	38HDR036-51	CAP**3621A**	58MEB100-20	33,000	12.0	14.5
1390602	38HDR036-51	CAP**3621A**	58MV(B,C)060-14	33,000	11.5	14.0
1390616	38HDR036-51	CAP**3621A**	58MV(B,C)080-14	33,000	11.5	13.5
1390634	38HDR036-51	CAP**3621A**	58MV(B,C)080-20	33,000	11.5	13.5
1390658	38HDR036-51	CAP**3621A**	58MV(B,C)100-20	33,000	11.5	14.0
3015468	38HDR036-51	CAP**3621A**	58PH*090-16	33,000	12.0	14.5
3015469	38HDR036-51	CAP**3621A**	58PH*110-20	33,000	12.0	14.5
1117054	38HDR036-51	CAP**3621A**+TDR		33,000	11.0	13.0
1117236	38HDR036-51	CAP**4221A**	58CV(A,X)090-16	33,400	11.5	14.0
1145796	38HDR036-51	CAP**4221A**	58CV(A,X)110-20	33,400	11.5	14.0
3116289	38HDR036-51	CAP**4221A**	58MEB100-20	33,400	12.0	14.5
1390604	38HDR036-51	CAP**4221A**	58MV(B,C)060-14	33,400	11.5	14.0
1390624	38HDR036-51	CAP**4221A**	58MV(B,C)080-14	33,400	11.5	13.5
1390642	38HDR036-51	CAP**4221A**	58MV(B,C)080-20	33,400	11.5	14.0
1390660	38HDR036-51	CAP**4221A**	58MV(B,C)100-20	33,400	11.5	14.0
3015470	38HDR036-51	CAP**4221A**	58PH*090-16	33,400	12.0	14.5
3015471	38HDR036-51	CAP**4221A**	58PH*110-20	33,400	12.0	14.5
1145788	38HDR036-51	CAP**4221A**+TDR		33,400	11.0	13.0
1117244	38HDR036-51	CAP**4224A**	58CV(A,X)110-20	33,400	11.5	14.0
1145804	38HDR036-51	CAP**4224A**	58CV(A,X)135-22	33,400	11.5	14.0
1145806	38HDR036-51	CAP**4224A**	58CV(A,X)155-22	33,400	11.5	14.0
1390622	38HDR036-51	CAP**4224A**	58MV(B,C)080-14	33,400	11.5	14.0
1390640	38HDR036-51	CAP**4224A**	58MV(B,C)080-20	33,400	11.5	14.0
1390656	38HDR036-51	CAP**4224A**	58MV(B,C)100-20	33,400	11.5	14.0
1390674	38HDR036-51	CAP**4224A**	58MV(B,C)120-20	33,400	11.5	13.5
1145798	38HDR036-51	CAP**4224A**+TDR		33,400	11.0	13.0
1117156	38HDR036-51	CNPF*3618A**+TDR		33,000	11.0	13.0
1145846	38HDR036-51	CNPH*3617A**	58CV(A,X)070-12	33,000	11.5	13.5
1145848	38HDR036-51	CNPH*3617A**	58CV(A,X)090-16	33,000	11.5	13.5
1145850	38HDR036-51	CNPH*3617A**	58CV(A,X)110-20	33,000	11.5	13.5
1145852	38HDR036-51	CNPH*3617A**	58CV(A,X)135-22	33,000	11.5	13.5
1145854	38HDR036-51	CNPH*3617A**	58CV(A,X)155-22	33,000	11.5	14.0
3116304	38HDR036-51	CNPH*3617A**	58MEB040-12	33,000	12.0	14.5
3116305	38HDR036-51	CNPH*3617A**	58MEB060-12	33,000	12.0	14.5
3116306	38HDR036-51	CNPH*3617A**	58MEB080-12	33,000	12.0	14.5
3116307	38HDR036-51	CNPH*3617A**	58MEB080-16	33,000	12.0	14.5
3116308	38HDR036-51	CNPH*3617A**	58MEB100-20	33,000	12.0	14.5
1390612	38HDR036-51	CNPH*3617A**	58MV(B,C)060-14	33,000	11.5	13.5
1390630	38HDR036-51	CNPH*3617A**	58MV(B,C)080-14	33,000	11.5	13.5
1390648	38HDR036-51	CNPH*3617A**	58MV(B,C)080-20	33,000	11.5	13.5
1390666	38HDR036-51	CNPH*3617A**	58MV(B,C)100-20	33,000	11.5	13.5
1390676	38HDR036-51	CNPH*3617A**	58MV(B,C)120-20	33,000	11.5	13.5
3015477	38HDR036-51	CNPH*3617A**	58PH*045-08	33,000	11.5	14.0
3015478	38HDR036-51	CNPH*3617A**	58PH*070-16	33,000	11.5	14.0
3015479	38HDR036-51	CNPH*3617A**	58PH*090-16	33,000	12.0	14.5
3015480	38HDR036-51	CNPH*3617A**	58PH*110-20	33,000	12.0	14.5
1145832	38HDR036-51	CNPH*3617A**+TDR		33,000	11.0	13.0
1145870	38HDR036-51	CNPH*4221A**	58CV(A,X)070-12	33,400	11.5	14.0
1145872	38HDR036-51	CNPH*4221A**	58CV(A,X)090-16	33,400	11.5	14.5
1145874	38HDR036-51	CNPH*4221A**	58CV(A,X)110-20	33,400	11.5	14.5
1117152	38HDR036-51	CNPH*4221A**	58CV(A,X)135-22	33,400	11.5	14.5
1117154	38HDR036-51	CNPH*4221A**	58CV(A,X)155-22	33,400	11.5	14.5
3116309	38HDR036-51	CNPH*4221A**	58MEB040-12	33,400	12.0	14.5
3116310	38HDR036-51	CNPH*4221A**	58MEB060-12	33,400	12.0	14.5
3116311	38HDR036-51	CNPH*4221A**	58MEB080-12	33,400	12.0	14.5

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COMBINATION RATINGS (CONT.)

ARI Ref. No.	Model Number	Indoor Model	Furnace Model	Capacity	EER	SEER
3116312	38HDR036-51	CNPH*4221A**	58MEB080-16	33,400	12.0	14.5
3116313	38HDR036-51	CNPH*4221A**	58MEB100-20	33,400	12.0	14.5
1390614	38HDR036-51	CNPH*4221A**	58MV(B,C)060-14	33,400	11.5	14.0
1390632	38HDR036-51	CNPH*4221A**	58MV(B,C)080-14	33,400	11.5	14.0
1390650	38HDR036-51	CNPH*4221A**	58MV(B,C)080-20	33,400	11.5	14.0
1390668	38HDR036-51	CNPH*4221A**	58MV(B,C)100-20	33,400	11.5	14.0
1390678	38HDR036-51	CNPH*4221A**	58MV(B,C)120-20	33,400	11.5	14.5
3015481	38HDR036-51	CNPH*4221A**	58PH*045-08	33,400	11.5	14.0
3015482	38HDR036-51	CNPH*4221A**	58PH*070-16	33,400	11.5	14.0
3015483	38HDR036-51	CNPH*4221A**	58PH*090-16	33,400	12.0	14.5
3015484	38HDR036-51	CNPH*4221A**	58PH*110-20	33,400	12.0	14.5
1145856	38HDR036-51	CNPH*4221A**+TDR		33,400	11.0	13.0
1117246	38HDR036-51	CNPV*3617A**	58CV(A,X)070-12	33,000	11.5	14.0
1145812	38HDR036-51	CNPV*3617A**	58CV(A,X)090-16	33,000	11.5	13.5
3116290	38HDR036-51	CNPV*3617A**	58MEB040-12	33,000	12.0	14.5
3116291	38HDR036-51	CNPV*3617A**	58MEB060-12	33,000	12.0	14.5
3116292	38HDR036-51	CNPV*3617A**	58MEB080-12	33,000	12.0	14.5
3116293	38HDR036-51	CNPV*3617A**	58MEB080-16	33,000	12.0	14.5
1390610	38HDR036-51	CNPV*3617A**	58MV(B,C)060-14	33,000	11.5	13.5
3015472	38HDR036-51	CNPV*3617A**	58PH*070-16	33,000	11.5	14.0
1145808	38HDR036-51	CNPV*3617A**+TDR		33,000	11.0	13.0
1117250	38HDR036-51	CNPV*3621A**	58CV(A,X)090-16	33,000	11.5	14.5
1145822	38HDR036-51	CNPV*3621A**	58CV(A,X)110-20	33,000	11.5	13.5
3116294	38HDR036-51	CNPV*3621A**	58MEB100-20	33,000	12.0	14.5
1390606	38HDR036-51	CNPV*3621A**	58MV(B,C)060-14	33,000	11.5	14.5
1390626	38HDR036-51	CNPV*3621A**	58MV(B,C)080-14	33,000	11.5	13.5
1390644	38HDR036-51	CNPV*3621A**	58MV(B,C)080-20	33,000	11.5	13.5
1390662	38HDR036-51	CNPV*3621A**	58MV(B,C)100-20	33,000	11.5	13.5
3015473	38HDR036-51	CNPV*3621A**	58PH*090-16	33,000	12.0	14.5
3015474	38HDR036-51	CNPV*3621A**	58PH*110-20	33,000	12.0	14.5
1145814	38HDR036-51	CNPV*3621A**+TDR		33,000	11.0	13.0
3116297	38HDR036-51	CNPV*4217A**	58CV(A,X)090-16	33,400	12.0	14.5
3116299	38HDR036-51	CNPV*4217A**	58MEB040-12	33,400	12.0	14.5
3116300	38HDR036-51	CNPV*4217A**	58MEB060-12	33,400	12.0	14.5
3116301	38HDR036-51	CNPV*4217A**	58MEB080-12	33,400	12.0	14.5
3116302	38HDR036-51	CNPV*4217A**	58MEB080-16	33,400	12.0	14.5
3116296	38HDR036-51	CNPV*4217A**	58MV(B,C)060-14	33,400	12.0	14.5
3116298	38HDR036-51	CNPV*4217A**	58PH*070-16	33,400	12.0	14.5
3116295	38HDR036-51	CNPV*4217A**+TDR		33,400	11.0	13.0
1117254	38HDR036-51	CNPV*4221A**	58CV(A,X)090-16	33,400	11.5	14.5
1145830	38HDR036-51	CNPV*4221A**	58CV(A,X)110-20	33,400	11.5	14.5
3116303	38HDR036-51	CNPV*4221A**	58MEB100-20	33,400	12.0	14.5
1390608	38HDR036-51	CNPV*4221A**	58MV(B,C)060-14	33,400	11.5	14.5
1390628	38HDR036-51	CNPV*4221A**	58MV(B,C)080-14	33,400	11.5	14.0
1390646	38HDR036-51	CNPV*4221A**	58MV(B,C)080-20	33,400	11.5	14.0
1390664	38HDR036-51	CNPV*4221A**	58MV(B,C)100-20	33,400	11.5	14.0
3015475	38HDR036-51	CNPV*4221A**	58PH*090-16	33,400	12.0	14.5
3015476	38HDR036-51	CNPV*4221A**	58PH*110-20	33,400	12.0	14.5
1117172	38HDR036-51	CSPH*3612A**	58CV(A,X)070-12	33,000	11.5	14.0
1117174	38HDR036-51	CSPH*3612A**	58CV(A,X)090-16	33,000	11.5	14.5
1117176	38HDR036-51	CSPH*3612A**	58CV(A,X)110-20	33,000	11.5	14.5
1117178	38HDR036-51	CSPH*3612A**	58CV(A,X)135-22	33,000	11.5	14.5
1117180	38HDR036-51	CSPH*3612A**	58CV(A,X)155-22	33,000	11.5	14.5
3116314	38HDR036-51	CSPH*3612A**	58MEB040-12	33,000	12.0	14.5
3116315	38HDR036-51	CSPH*3612A**	58MEB060-12	33,000	12.0	14.5
3116316	38HDR036-51	CSPH*3612A**	58MEB080-12	33,000	12.0	14.5
3116317	38HDR036-51	CSPH*3612A**	58MEB080-16	33,000	12.0	14.5
3116318	38HDR036-51	CSPH*3612A**	58MEB100-20	33,000	12.0	14.5
1390598	38HDR036-51	CSPH*3612A**	58MV(B,C)060-14	33,000	11.5	14.5
1390618	38HDR036-51	CSPH*3612A**	58MV(B,C)080-14	33,000	11.5	14.0
1390636	38HDR036-51	CSPH*3612A**	58MV(B,C)080-20	33,000	11.5	14.0
1390652	38HDR036-51	CSPH*3612A**	58MV(B,C)100-20	33,000	11.5	14.5
1390670	38HDR036-51	CSPH*3612A**	58MV(B,C)120-20	33,000	11.5	14.5
3015485	38HDR036-51	CSPH*3612A**	58PH*045-08	33,000	11.5	14.0
3015486	38HDR036-51	CSPH*3612A**	58PH*070-16	33,000	11.5	14.0
3015487	38HDR036-51	CSPH*3612A**	58PH*090-16	33,000	12.0	14.5
3015488	38HDR036-51	CSPH*3612A**	58PH*110-20	33,000	12.0	14.5
1117158	38HDR036-51	CSPH*3612A**+TDR		33,000	11.0	13.0
1117196	38HDR036-51	CSPH*4212A**	58CV(A,X)070-12	33,400	11.5	14.0
1117198	38HDR036-51	CSPH*4212A**	58CV(A,X)090-16	33,400	11.5	14.5
1117200	38HDR036-51	CSPH*4212A**	58CV(A,X)110-20	33,400	11.5	14.5
1117202	38HDR036-51	CSPH*4212A**	58CV(A,X)135-22	33,400	11.5	14.5
1117204	38HDR036-51	CSPH*4212A**	58CV(A,X)155-22	33,400	11.5	14.5
3116319	38HDR036-51	CSPH*4212A**	58MEB040-12	33,400	12.0	14.5
3116320	38HDR036-51	CSPH*4212A**	58MEB060-12	33,400	12.0	14.5
3116321	38HDR036-51	CSPH*4212A**	58MEB080-12	33,400	12.0	14.5
3116322	38HDR036-51	CSPH*4212A**	58MEB080-16	33,400	12.0	14.5
3116323	38HDR036-51	CSPH*4212A**	58MEB100-20	33,400	12.0	14.5
1390600	38HDR036-51	CSPH*4212A**	58MV(B,C)060-14	33,400	11.5	14.0

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ARI Ref. No.	Model Number	Indoor Model	Furnace Model	Capacity	EER	SEER
1390620	38HDR036-51	CSPH*4212A**	58MV(B,C)080-14	33,400	11.5	14.0
1390638	38HDR036-51	CSPH*4212A**	58MV(B,C)080-20	33,400	11.5	14.0
1390654	38HDR036-51	CSPH*4212A**	58MV(B,C)100-20	33,400	11.5	14.0
1390672	38HDR036-51	CSPH*4212A**	58MV(B,C)120-20	33,400	11.5	14.0
3015489	38HDR036-51	CSPH*4212A**	58PH*045-08	33,400	11.5	14.0
3015490	38HDR036-51	CSPH*4212A**	58PH*070-16	33,400	11.5	14.0
3015491	38HDR036-51	CSPH*4212A**	58PH*090-16	33,400	12.0	14.5
3015492	38HDR036-51	CSPH*4212A**	58PH*110-20	33,400	12.0	14.5
1117182	38HDR036-51	CSPH*4212A**+TDR		33,400	11.0	13.0
1117216	38HDR036-51	FE4AN(B,F)003+UI		33,000	11.5	14.0
1117218	38HDR036-51	FE4AN(B,F)005+UI		33,400	12.5	15.0
1117220	38HDR036-51	FE4ANB006+UI		33,400	12.5	15.0
1117214	38HDR036-51	FE4ANF002+UI		33,000	11.5	13.5
1117222	38HDR036-51	FF1ENP036		33,000	11.0	13.0
1117226	38HDR036-51	FV4BNB006		33,400	12.5	15.0
1117224	38HDR036-51	FV4BNF002		33,000	11.5	13.5
3404631	38HDR036-51	FV4CNB006		33,400	12.5	15.0
3404630	38HDR036-51	FV4CNF002		33,000	11.5	13.5
1117210	38HDR036-51	FX4CN(B,F)036		33,000	11.5	14.0
1117212	38HDR036-51	FX4CN(B,F)042		33,400	11.5	14.0
1117206	38HDR036-51	FY4ANF036		33,000	11.0	13.0
1117208	38HDR036-51	FY4ANF042		33,400	11.0	13.0
1117484	38HDR036-61	†CNPV*4221A**+TDR		33,400	11.0	13.0
1117984	38HDR036-61	40QAC036---3		33,000	11.4	13.0
1117488	38HDR036-61	CAP**3614A**	58CV(A,X)070-12	32,600	11.5	13.5
3015493	38HDR036-61	CAP**3614A**	58PH*045-08	33,000	11.5	14.0
1117486	38HDR036-61	CAP**3614A**+TDR		32,600	11.0	13.0
1117670	38HDR036-61	CAP**3617A**	58CV(A,X)070-12	33,000	11.5	14.0
1117494	38HDR036-61	CAP**3617A**	58CV(A,X)090-16	33,000	11.5	14.0
3116353	38HDR036-61	CAP**3617A**	58MEB040-12	33,000	12.0	14.5
3116354	38HDR036-61	CAP**3617A**	58MEB060-12	33,000	12.0	14.5
3116355	38HDR036-61	CAP**3617A**	58MEB080-12	33,000	12.0	14.5
3116356	38HDR036-61	CAP**3617A**	58MEB080-16	33,000	12.0	14.5
1390680	38HDR036-61	CAP**3617A**	58MV(B,C)060-14	33,000	11.5	13.5
3015494	38HDR036-61	CAP**3617A**	58PH*070-16	33,000	11.5	14.0
1117490	38HDR036-61	CAP**3617A**+TDR		33,000	11.0	13.0
1117674	38HDR036-61	CAP**3621A**	58CV(A,X)090-16	33,000	11.5	14.0
1117504	38HDR036-61	CAP**3621A**	58CV(A,X)110-20	33,000	11.5	14.0
3116357	38HDR036-61	CAP**3621A**	58MEB100-20	33,000	12.0	14.5
1390692	38HDR036-61	CAP**3621A**	58MV(B,C)060-14	33,000	11.5	14.0
1390700	38HDR036-61	CAP**3621A**	58MV(B,C)080-14	33,000	11.5	13.5
1390718	38HDR036-61	CAP**3621A**	58MV(B,C)080-20	33,000	11.5	13.5
1390736	38HDR036-61	CAP**3621A**	58MV(B,C)100-20	33,000	11.5	14.0
3015495	38HDR036-61	CAP**3621A**	58PH*090-16	33,000	12.0	14.5
3015496	38HDR036-61	CAP**3621A**	58PH*110-20	33,000	12.0	14.5
1117496	38HDR036-61	CAP**3621A**+TDR		33,000	11.0	13.0
1117678	38HDR036-61	CAP**4221A**	58CV(A,X)090-16	33,400	11.5	14.0
1117514	38HDR036-61	CAP**4221A**	58CV(A,X)110-20	33,400	11.5	14.0
3116358	38HDR036-61	CAP**4221A**	58MEB100-20	33,400	12.0	14.5
1390694	38HDR036-61	CAP**4221A**	58MV(B,C)060-14	33,400	11.5	14.0
1390702	38HDR036-61	CAP**4221A**	58MV(B,C)080-14	33,400	11.5	13.5
1390720	38HDR036-61	CAP**4221A**	58MV(B,C)080-20	33,400	11.5	14.0
1390738	38HDR036-61	CAP**4221A**	58MV(B,C)100-20	33,400	11.5	14.0
3015497	38HDR036-61	CAP**4221A**	58PH*090-16	33,400	12.0	14.5
3015498	38HDR036-61	CAP**4221A**	58PH*110-20	33,400	12.0	14.5
1117506	38HDR036-61	CAP**4221A**+TDR		33,400	11.0	13.0
1117686	38HDR036-61	CAP**4224A**	58CV(A,X)110-20	33,400	11.5	14.0
1117522	38HDR036-61	CAP**4224A**	58CV(A,X)135-22	33,400	11.5	14.0
1117524	38HDR036-61	CAP**4224A**	58CV(A,X)155-22	33,400	11.5	14.0
1390716	38HDR036-61	CAP**4224A**	58MV(B,C)080-14	33,400	11.5	14.0
1390734	38HDR036-61	CAP**4224A**	58MV(B,C)080-20	33,400	11.5	14.0
1390752	38HDR036-61	CAP**4224A**	58MV(B,C)100-20	33,400	11.5	14.0
1390754	38HDR036-61	CAP**4224A**	58MV(B,C)120-20	33,400	11.5	13.5
1117516	38HDR036-61	CAP**4224A**+TDR		33,400	11.0	13.0
1117598	38HDR036-61	CNPF*3618A**+TDR		33,000	11.0	13.0
1117564	38HDR036-61	CNPH*3617A**	58CV(A,X)070-12	33,000	11.5	13.5
1117566	38HDR036-61	CNPH*3617A**	58CV(A,X)090-16	33,000	11.5	13.5
1117568	38HDR036-61	CNPH*3617A**	58CV(A,X)110-20	33,000	11.5	13.5
1117570	38HDR036-61	CNPH*3617A**	58CV(A,X)135-22	33,000	11.5	13.5
1117572	38HDR036-61	CNPH*3617A**	58CV(A,X)155-22	33,000	11.5	14.0
3116373	38HDR036-61	CNPH*3617A**	58MEB040-12	33,000	12.0	14.5
3116374	38HDR036-61	CNPH*3617A**	58MEB060-12	33,000	12.0	14.5
3116375	38HDR036-61	CNPH*3617A**	58MEB080-12	33,000	12.0	14.5
3116376	38HDR036-61	CNPH*3617A**	58MEB080-16	33,000	12.0	14.5
3116377	38HDR036-61	CNPH*3617A**	58MEB100-20	33,000	12.0	14.5
1390684	38HDR036-61	CNPH*3617A**	58MV(B,C)060-14	33,000	11.5	13.5
1390708	38HDR036-61	CNPH*3617A**	58MV(B,C)080-14	33,000	11.5	13.5
1390726	38HDR036-61	CNPH*3617A**	58MV(B,C)080-20	33,000	11.5	13.5

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ARI Ref. No.	Model Number	Indoor Model	Furnace Model	Capacity	EER	SEER
1390744	38HDR036-61	CNPH*3617A**	58MV(B,C)100-20	33,000	11.5	13.5
1390756	38HDR036-61	CNPH*3617A**	58MV(B,C)120-20	33,000	11.5	13.5
3015504	38HDR036-61	CNPH*3617A**	58PH*045-08	33,000	11.5	14.0
3015505	38HDR036-61	CNPH*3617A**	58PH*070-16	33,000	11.5	14.0
3015506	38HDR036-61	CNPH*3617A**	58PH*090-16	33,000	12.0	14.5
3015507	38HDR036-61	CNPH*3617A**	58PH*110-20	33,000	12.0	14.5
1117550	38HDR036-61	CNPH*3617A**+TDR		33,000	11.0	13.0
1117588	38HDR036-61	CNPH*4221A**	58CV(A,X)070-12	33,400	11.5	14.0
1117590	38HDR036-61	CNPH*4221A**	58CV(A,X)090-16	33,400	11.5	14.5
1117592	38HDR036-61	CNPH*4221A**	58CV(A,X)110-20	33,400	11.5	14.5
1117594	38HDR036-61	CNPH*4221A**	58CV(A,X)135-22	33,400	11.5	14.5
1117596	38HDR036-61	CNPH*4221A**	58CV(A,X)155-22	33,400	11.5	14.5
3116378	38HDR036-61	CNPH*4221A**	58MEB040-12	33,400	12.0	14.5
3116379	38HDR036-61	CNPH*4221A**	58MEB060-12	33,400	12.0	14.5
3116380	38HDR036-61	CNPH*4221A**	58MEB080-12	33,400	12.0	14.5
3116381	38HDR036-61	CNPH*4221A**	58MEB080-16	33,400	12.0	14.5
3116382	38HDR036-61	CNPH*4221A**	58MEB100-20	33,400	12.0	14.5
1390686	38HDR036-61	CNPH*4221A**	58MV(B,C)060-14	33,400	11.5	14.0
1390710	38HDR036-61	CNPH*4221A**	58MV(B,C)080-14	33,400	11.5	14.0
1390728	38HDR036-61	CNPH*4221A**	58MV(B,C)080-20	33,400	11.5	14.0
1390746	38HDR036-61	CNPH*4221A**	58MV(B,C)100-20	33,400	11.5	14.0
1390758	38HDR036-61	CNPH*4221A**	58MV(B,C)120-20	33,400	11.5	14.5
3015508	38HDR036-61	CNPH*4221A**	58PH*045-08	33,400	11.5	14.0
3015509	38HDR036-61	CNPH*4221A**	58PH*070-16	33,400	11.5	14.0
3015510	38HDR036-61	CNPH*4221A**	58PH*090-16	33,400	12.0	14.5
3015511	38HDR036-61	CNPH*4221A**	58PH*110-20	33,400	12.0	14.5
1117574	38HDR036-61	CNPH*4221A**+TDR		33,400	11.0	13.0
1117688	38HDR036-61	CNPV*3617A**	58CV(A,X)070-12	33,000	11.5	14.0
1117530	38HDR036-61	CNPV*3617A**	58CV(A,X)090-16	33,000	11.5	13.5
3116359	38HDR036-61	CNPV*3617A**	58MEB040-12	33,000	12.0	14.5
3116360	38HDR036-61	CNPV*3617A**	58MEB060-12	33,000	12.0	14.5
3116361	38HDR036-61	CNPV*3617A**	58MEB080-12	33,000	12.0	14.5
3116362	38HDR036-61	CNPV*3617A**	58MEB080-16	33,000	12.0	14.5
1390682	38HDR036-61	CNPV*3617A**	58MV(B,C)060-14	33,000	11.5	13.5
3015499	38HDR036-61	CNPV*3617A**	58PH*070-16	33,000	11.5	14.0
1117526	38HDR036-61	CNPV*3617A**+TDR		33,000	11.0	13.0
1117692	38HDR036-61	CNPV*3621A**	58CV(A,X)090-16	33,000	11.5	14.5
1117540	38HDR036-61	CNPV*3621A**	58CV(A,X)110-20	33,000	11.5	13.5
3116363	38HDR036-61	CNPV*3621A**	58MEB100-20	33,000	12.0	14.5
1390696	38HDR036-61	CNPV*3621A**	58MV(B,C)060-14	33,000	11.5	14.5
1390704	38HDR036-61	CNPV*3621A**	58MV(B,C)080-14	33,000	11.5	13.5
1390722	38HDR036-61	CNPV*3621A**	58MV(B,C)080-20	33,000	11.5	13.5
1390740	38HDR036-61	CNPV*3621A**	58MV(B,C)100-20	33,000	11.5	13.5
3015500	38HDR036-61	CNPV*3621A**	58PH*090-16	33,000	12.0	14.5
3015501	38HDR036-61	CNPV*3621A**	58PH*110-20	33,000	12.0	14.5
1117532	38HDR036-61	CNPV*3621A**+TDR		33,000	11.0	13.0
3116366	38HDR036-61	CNPV*4217A**	58CV(A,X)090-16	33,400	12.0	14.5
3116368	38HDR036-61	CNPV*4217A**	58MEB040-12	33,400	12.0	14.5
3116369	38HDR036-61	CNPV*4217A**	58MEB060-12	33,400	12.0	14.5
3116370	38HDR036-61	CNPV*4217A**	58MEB080-12	33,400	12.0	14.5
3116371	38HDR036-61	CNPV*4217A**	58MEB080-16	33,400	12.0	14.5
3116365	38HDR036-61	CNPV*4217A**	58MV(B,C)060-14	33,400	12.0	14.5
3116367	38HDR036-61	CNPV*4217A**	58PH*070-16	33,400	12.0	14.5
3116364	38HDR036-61	CNPV*4217A**+TDR		33,400	11.0	13.0
1117696	38HDR036-61	CNPV*4221A**	58CV(A,X)090-16	33,400	11.5	14.5
1117548	38HDR036-61	CNPV*4221A**	58CV(A,X)110-20	33,400	11.5	14.5
3116372	38HDR036-61	CNPV*4221A**	58MEB100-20	33,400	12.0	14.5
1390698	38HDR036-61	CNPV*4221A**	58MV(B,C)060-14	33,400	11.5	14.5
1390706	38HDR036-61	CNPV*4221A**	58MV(B,C)080-14	33,400	11.5	14.0
1390724	38HDR036-61	CNPV*4221A**	58MV(B,C)080-20	33,400	11.5	14.0
1390742	38HDR036-61	CNPV*4221A**	58MV(B,C)100-20	33,400	11.5	14.0
3015502	38HDR036-61	CNPV*4221A**	58PH*090-16	33,400	12.0	14.5
3015503	38HDR036-61	CNPV*4221A**	58PH*110-20	33,400	12.0	14.5
1117614	38HDR036-61	CSPH*3612A**	58CV(A,X)070-12	33,000	11.5	14.0
1117616	38HDR036-61	CSPH*3612A**	58CV(A,X)090-16	33,000	11.5	14.5
1117618	38HDR036-61	CSPH*3612A**	58CV(A,X)110-20	33,000	11.5	14.5
1117620	38HDR036-61	CSPH*3612A**	58CV(A,X)135-22	33,000	11.5	14.5
1117622	38HDR036-61	CSPH*3612A**	58CV(A,X)155-22	33,000	11.5	14.5
3116383	38HDR036-61	CSPH*3612A**	58MEB040-12	33,000	12.0	14.5
3116384	38HDR036-61	CSPH*3612A**	58MEB060-12	33,000	12.0	14.5
3116385	38HDR036-61	CSPH*3612A**	58MEB080-12	33,000	12.0	14.5
3116386	38HDR036-61	CSPH*3612A**	58MEB080-16	33,000	12.0	14.5
3116387	38HDR036-61	CSPH*3612A**	58MEB100-20	33,000	12.0	14.5
1390688	38HDR036-61	CSPH*3612A**	58MV(B,C)060-14	33,000	11.5	14.5
1390712	38HDR036-61	CSPH*3612A**	58MV(B,C)080-14	33,000	11.5	14.0
1390730	38HDR036-61	CSPH*3612A**	58MV(B,C)080-20	33,000	11.5	14.0
1390748	38HDR036-61	CSPH*3612A**	58MV(B,C)100-20	33,000	11.5	14.5
1390760	38HDR036-61	CSPH*3612A**	58MV(B,C)120-20	33,000	11.5	14.5
3015512	38HDR036-61	CSPH*3612A**	58PH*045-08	33,000	11.5	14.0

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ARI Ref. No.	Model Number	Indoor Model	Furnace Model	Capacity	EER	SEER
3015513	38HDR036-61	CSPH*3612A**	58PH*070-16	33,000	11.5	14.0
3015514	38HDR036-61	CSPH*3612A**	58PH*090-16	33,000	12.0	14.5
3015515	38HDR036-61	CSPH*3612A**	58PH*110-20	33,000	12.0	14.5
1117600	38HDR036-61	CSPH*3612A**+TDR		33,000	11.0	13.0
1117638	38HDR036-61	CSPH*4212A**	58CV(A,X)070-12	33,400	11.5	14.0
1117640	38HDR036-61	CSPH*4212A**	58CV(A,X)090-16	33,400	11.5	14.5
1117642	38HDR036-61	CSPH*4212A**	58CV(A,X)110-20	33,400	11.5	14.5
1117644	38HDR036-61	CSPH*4212A**	58CV(A,X)135-22	33,400	11.5	14.5
1117646	38HDR036-61	CSPH*4212A**	58CV(A,X)155-22	33,400	11.5	14.5
3116388	38HDR036-61	CSPH*4212A**	58MEB040-12	33,400	12.0	14.5
3116389	38HDR036-61	CSPH*4212A**	58MEB060-12	33,400	12.0	14.5
3116390	38HDR036-61	CSPH*4212A**	58MEB080-12	33,400	12.0	14.5
3116391	38HDR036-61	CSPH*4212A**	58MEB080-16	33,400	12.0	14.5
3116392	38HDR036-61	CSPH*4212A**	58MEB100-20	33,400	12.0	14.5
1390690	38HDR036-61	CSPH*4212A**	58MV(B,C)060-14	33,400	11.5	14.0
1390714	38HDR036-61	CSPH*4212A**	58MV(B,C)080-14	33,400	11.5	14.0
1390732	38HDR036-61	CSPH*4212A**	58MV(B,C)080-20	33,400	11.5	14.0
1390750	38HDR036-61	CSPH*4212A**	58MV(B,C)100-20	33,400	11.5	14.0
1390762	38HDR036-61	CSPH*4212A**	58MV(B,C)120-20	33,400	11.5	14.0
3015516	38HDR036-61	CSPH*4212A**	58PH*045-08	33,400	11.5	14.0
3015517	38HDR036-61	CSPH*4212A**	58PH*070-16	33,400	11.5	14.0
3015518	38HDR036-61	CSPH*4212A**	58PH*090-16	33,400	12.0	14.5
3015519	38HDR036-61	CSPH*4212A**	58PH*110-20	33,400	12.0	14.5
1117624	38HDR036-61	CSPH*4212A**+TDR		33,400	11.0	13.0
1117658	38HDR036-61	FE4AN(B,F)003+UI		33,000	11.5	14.0
1117660	38HDR036-61	FE4AN(B,F)005+UI		33,400	12.5	15.0
1117662	38HDR036-61	FE4ANB006+UI		33,400	12.5	15.0
1117656	38HDR036-61	FE4ANF002+UI		33,000	11.5	13.5
1117664	38HDR036-61	FF1ENP036		33,000	11.0	13.0
1117668	38HDR036-61	FV4BNB006		33,400	12.5	15.0
1117666	38HDR036-61	FV4BNF002		33,000	11.5	13.5
3404635	38HDR036-61	FV4CNB006		33,400	12.5	15.0
3404634	38HDR036-61	FV4CNF002		33,000	11.5	13.5
1117652	38HDR036-61	FX4CN(B,F)036		33,000	11.5	14.0
1117654	38HDR036-61	FX4CN(B,F)042		33,400	11.5	14.0
1117648	38HDR036-61	FY4ANF036		33,000	11.0	13.0
1117650	38HDR036-61	FY4ANF042		33,400	11.0	13.0
3465144	38HDR048-32	†CNPV*4821A**+TDR		47,000	11.0	13.0
3465807	38HDR048-32	40QAC048-3		45,500	11.5	13.0
3465146	38HDR048-32	CAP**4817A**	58CV(A,X)090-16	46,500	11.5	13.5
3465148	38HDR048-32	CAP**4817A**	58MEB080-16	46,500	11.5	14.0
3465147	38HDR048-32	CAP**4817A**	58PH*070-16	46,500	11.5	13.5
3465145	38HDR048-32	CAP**4817A**+TDR		46,500	11.0	13.0
3465152	38HDR048-32	CAP**4821A**	58CV(A,X)110-20	46,500	11.5	13.5
3465155	38HDR048-32	CAP**4821A**	58MEB100-20	46,500	11.5	14.0
3465150	38HDR048-32	CAP**4821A**	58MV(B,C)080-20	46,000	11.5	13.5
3465151	38HDR048-32	CAP**4821A**	58MV(B,C)100-20	46,500	11.5	13.5
3465153	38HDR048-32	CAP**4821A**	58PH*090-16	46,500	11.5	14.0
3465154	38HDR048-32	CAP**4821A**	58PH*110-20	46,500	11.5	14.0
3465149	38HDR048-32	CAP**4821A**+TDR		47,000	11.0	13.0
3465158	38HDR048-32	CAP**4824A**	58CV(A,X)135-22	46,500	11.5	13.5
3465159	38HDR048-32	CAP**4824A**	58CV(A,X)155-22	46,500	11.5	13.5
3465161	38HDR048-32	CAP**4824A**	58MEB120-20	46,500	11.5	14.0
3465157	38HDR048-32	CAP**4824A**	58MV(B,C)120-20	46,500	11.5	13.5
3465160	38HDR048-32	CAP**4824A**	58PH*135-20	46,500	11.5	14.0
3465156	38HDR048-32	CAP**4824A**+TDR		47,000	11.0	13.0
3465165	38HDR048-32	CAP**6021A**	58CV(A,X)110-20	47,000	11.5	13.5
3465168	38HDR048-32	CAP**6021A**	58MEB100-20	47,000	12.0	14.5
3465163	38HDR048-32	CAP**6021A**	58MV(B,C)080-20	47,000	11.5	13.5
3465164	38HDR048-32	CAP**6021A**	58MV(B,C)100-20	47,000	11.5	13.5
3465166	38HDR048-32	CAP**6021A**	58PH*090-16	47,000	12.0	14.5
3465167	38HDR048-32	CAP**6021A**	58PH*110-20	47,000	12.0	14.5
3465162	38HDR048-32	CAP**6021A**+TDR		47,500	11.0	13.0
3465171	38HDR048-32	CAP**6024A**	58CV(A,X)135-22	47,000	11.5	13.5
3465172	38HDR048-32	CAP**6024A**	58CV(A,X)155-22	47,000	11.5	14.0
3465174	38HDR048-32	CAP**6024A**	58MEB120-20	47,000	12.0	14.5
3465170	38HDR048-32	CAP**6024A**	58MV(B,C)120-20	47,000	11.5	13.5
3465173	38HDR048-32	CAP**6024A**	58PH*135-20	47,000	12.0	14.5
3465169	38HDR048-32	CAP**6024A**+TDR		47,500	11.0	13.0
3465221	38HDR048-32	CNPF*4818A**+TDR		46,000	11.0	13.0
3465197	38HDR048-32	CNPH*4821A**	58CV(A,X)090-16	46,500	11.5	13.5
3465198	38HDR048-32	CNPH*4821A**	58CV(A,X)110-20	46,500	11.5	13.5
3465199	38HDR048-32	CNPH*4821A**	58CV(A,X)135-22	46,500	11.5	13.5
3465200	38HDR048-32	CNPH*4821A**	58CV(A,X)155-22	46,500	11.5	13.5
3465204	38HDR048-32	CNPH*4821A**	58MEB080-16	46,500	11.5	14.0
3465205	38HDR048-32	CNPH*4821A**	58MEB100-20	46,500	11.5	14.0
3465206	38HDR048-32	CNPH*4821A**	58MEB120-20	46,500	11.5	14.0
3465194	38HDR048-32	CNPH*4821A**	58MV(B,C)080-20	46,500	11.5	13.5

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COMBINATION RATINGS (CONT.)

ARI Ref. No.	Model Number	Indoor Model	Furnace Model	Capacity	EER	SEER
3465195	38HDR048-32	CNPH*4821A**	58MV(B,C)100-20	46,500	11.5	13.5
3465196	38HDR048-32	CNPH*4821A**	58MV(B,C)120-20	46,500	11.5	13.5
3465201	38HDR048-32	CNPH*4821A**	58PH*090-16	46,500	11.5	13.5
3465202	38HDR048-32	CNPH*4821A**	58PH*110-20	46,500	11.5	13.5
3465203	38HDR048-32	CNPH*4821A**	58PH*135-20	46,500	11.5	13.5
3465193	38HDR048-32	CNPH*4821A**+TDR		47,000	11.0	13.0
3465211	38HDR048-32	CNPH*6024A**	58CV(A,X)090-16	47,000	11.5	13.5
3465212	38HDR048-32	CNPH*6024A**	58CV(A,X)110-20	47,000	11.5	13.5
3465213	38HDR048-32	CNPH*6024A**	58CV(A,X)135-22	47,000	11.5	13.5
3465214	38HDR048-32	CNPH*6024A**	58CV(A,X)155-22	47,000	11.5	14.0
3465218	38HDR048-32	CNPH*6024A**	58MEB080-16	47,000	11.5	14.0
3465219	38HDR048-32	CNPH*6024A**	58MEB100-20	47,000	12.0	14.5
3465220	38HDR048-32	CNPH*6024A**	58MEB120-20	47,000	12.0	14.5
3465208	38HDR048-32	CNPH*6024A**	58MV(B,C)080-20	47,000	11.5	13.5
3465209	38HDR048-32	CNPH*6024A**	58MV(B,C)100-20	47,000	11.5	13.5
3465210	38HDR048-32	CNPH*6024A**	58MV(B,C)120-20	47,000	11.5	13.5
3465215	38HDR048-32	CNPH*6024A**	58PH*090-16	47,000	12.0	14.5
3465216	38HDR048-32	CNPH*6024A**	58PH*110-20	47,000	12.0	14.5
3465217	38HDR048-32	CNPH*6024A**	58PH*135-20	47,000	12.0	14.5
3465207	38HDR048-32	CNPH*6024A**+TDR		47,500	11.0	13.0
3465177	38HDR048-32	CNPV*4821A**	58CV(A,X)110-20	46,500	11.5	13.5
3465180	38HDR048-32	CNPV*4821A**	58MEB100-20	46,500	11.5	13.5
3465175	38HDR048-32	CNPV*4821A**	58MV(B,C)080-20	46,500	11.5	13.5
3465176	38HDR048-32	CNPV*4821A**	58MV(B,C)100-20	46,500	11.5	13.5
3465178	38HDR048-32	CNPV*4821A**	58PH*090-16	46,500	11.5	14.0
3465179	38HDR048-32	CNPV*4821A**	58PH*110-20	46,500	11.5	14.0
3465183	38HDR048-32	CNPV*4824A**	58CV(A,X)135-22	46,500	11.5	13.5
3465184	38HDR048-32	CNPV*4824A**	58CV(A,X)155-22	46,500	11.5	13.5
3465186	38HDR048-32	CNPV*4824A**	58MEB120-20	46,500	11.5	14.0
3465182	38HDR048-32	CNPV*4824A**	58MV(B,C)120-20	46,500	11.5	13.5
3465185	38HDR048-32	CNPV*4824A**	58PH*135-20	46,500	11.5	14.0
3465181	38HDR048-32	CNPV*4824A**+TDR		47,000	11.0	13.0
3465189	38HDR048-32	CNPV*6024A**	58CV(A,X)135-22	47,000	11.5	13.5
3465190	38HDR048-32	CNPV*6024A**	58CV(A,X)155-22	47,000	11.5	14.0
3465192	38HDR048-32	CNPV*6024A**	58MEB120-20	47,000	12.0	14.5
3465188	38HDR048-32	CNPV*6024A**	58MV(B,C)120-20	47,000	11.5	13.5
3465191	38HDR048-32	CNPV*6024A**	58PH*135-20	47,000	12.0	14.5
3465187	38HDR048-32	CNPV*6024A**+TDR		47,500	11.0	13.0
3465226	38HDR048-32	CSPH*4812A**	58CV(A,X)090-16	46,500	11.5	13.5
3465227	38HDR048-32	CSPH*4812A**	58CV(A,X)110-20	46,500	11.5	13.5
3465228	38HDR048-32	CSPH*4812A**	58CV(A,X)135-22	46,500	11.5	13.5
3465229	38HDR048-32	CSPH*4812A**	58CV(A,X)155-22	46,500	11.5	13.5
3465233	38HDR048-32	CSPH*4812A**	58MEB080-16	46,500	11.5	14.0
3465234	38HDR048-32	CSPH*4812A**	58MEB100-20	46,500	11.5	14.0
3465235	38HDR048-32	CSPH*4812A**	58MEB120-20	46,500	11.5	14.0
3465223	38HDR048-32	CSPH*4812A**	58MV(B,C)080-20	46,500	11.5	13.5
3465224	38HDR048-32	CSPH*4812A**	58MV(B,C)100-20	46,500	11.5	13.5
3465225	38HDR048-32	CSPH*4812A**	58MV(B,C)120-20	46,500	11.5	13.5
3465230	38HDR048-32	CSPH*4812A**	58PH*090-16	46,500	11.5	14.0
3465231	38HDR048-32	CSPH*4812A**	58PH*110-20	46,500	11.5	14.0
3465232	38HDR048-32	CSPH*4812A**	58PH*135-20	46,500	11.5	14.0
3465222	38HDR048-32	CSPH*4812A**+TDR		47,000	11.0	13.0
3465240	38HDR048-32	CSPH*6012A**	58CV(A,X)090-16	47,000	11.5	13.5
3465241	38HDR048-32	CSPH*6012A**	58CV(A,X)110-20	47,000	11.5	14.0
3465242	38HDR048-32	CSPH*6012A**	58CV(A,X)135-22	47,000	11.5	14.0
3465243	38HDR048-32	CSPH*6012A**	58CV(A,X)155-22	47,000	11.5	14.0
3465247	38HDR048-32	CSPH*6012A**	58MEB080-16	47,000	12.0	14.5
3465248	38HDR048-32	CSPH*6012A**	58MEB100-20	47,000	12.0	14.5
3465249	38HDR048-32	CSPH*6012A**	58MEB120-20	47,000	12.0	14.5
3465237	38HDR048-32	CSPH*6012A**	58MV(B,C)080-20	47,000	11.5	13.5
3465238	38HDR048-32	CSPH*6012A**	58MV(B,C)100-20	47,000	11.5	13.5
3465239	38HDR048-32	CSPH*6012A**	58MV(B,C)120-20	47,000	11.5	13.5
3465244	38HDR048-32	CSPH*6012A**	58PH*090-16	47,000	12.0	14.5
3465245	38HDR048-32	CSPH*6012A**	58PH*110-20	47,000	12.0	14.5
3465246	38HDR048-32	CSPH*6012A**	58PH*135-20	47,000	12.0	14.5
3465236	38HDR048-32	CSPH*6012A**+TDR		47,500	11.0	13.0
3465254	38HDR048-32	FE4AN(B,F)005+UI		47,000	11.5	13.5
3465255	38HDR048-32	FE4ANB006+UI		47,500	11.5	14.0
3465256	38HDR048-32	FV4BN(B,F)005		47,000	11.5	14.0
3465257	38HDR048-32	FV4BNB006		47,500	11.5	14.0
3465252	38HDR048-32	FX4CN(B,F)048		47,000	11.5	13.5
3465253	38HDR048-32	FX4CN(B,F)060		47,500	11.5	14.0
3465251	38HDR048-32	FY4ANB060		47,500	11.0	13.0
3465250	38HDR048-32	FY4ANF048		47,000	11.0	13.0
3465258	38HDR048-52	†CNPV*4821A**+TDR		47,000	11.0	13.0
3465808	38HDR048-52	40QAC048-3		45,500	11.5	13.0
3465260	38HDR048-52	CAP**4817A**	58CV(A,X)090-16	46,500	11.5	13.5
3465262	38HDR048-52	CAP**4817A**	58MEB080-16	46,500	11.5	14.0

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COMBINATION RATINGS (CONT.)

ARI Ref. No.	Model Number	Indoor Model	Furnace Model	Capacity	EER	SEER
3465261	38HDR048-52	CAP**4817A**	58PH*070-16	46,500	11.5	13.5
3465259	38HDR048-52	CAP**4817A**+TDR		46,500	11.0	13.0
3465266	38HDR048-52	CAP**4821A**	58CV(A,X)110-20	46,500	11.5	13.5
3465269	38HDR048-52	CAP**4821A**	58MEB100-20	46,500	11.5	14.0
3465264	38HDR048-52	CAP**4821A**	58MV(B,C)080-20	46,000	11.5	13.5
3465265	38HDR048-52	CAP**4821A**	58MV(B,C)100-20	46,500	11.5	13.5
3465267	38HDR048-52	CAP**4821A**	58PH*090-16	46,500	11.5	14.0
3465268	38HDR048-52	CAP**4821A**	58PH*110-20	46,500	11.5	14.0
3465263	38HDR048-52	CAP**4821A**+TDR		47,000	11.0	13.0
3465272	38HDR048-52	CAP**4824A**	58CV(A,X)135-22	46,500	11.5	13.5
3465273	38HDR048-52	CAP**4824A**	58CV(A,X)155-22	46,500	11.5	13.5
3465275	38HDR048-52	CAP**4824A**	58MEB120-20	46,500	11.5	14.0
3465271	38HDR048-52	CAP**4824A**	58MV(B,C)120-20	46,500	11.5	13.5
3465274	38HDR048-52	CAP**4824A**	58PH*135-20	46,500	11.5	14.0
3465270	38HDR048-52	CAP**4824A**+TDR		47,000	11.0	13.0
3465279	38HDR048-52	CAP**6021A**	58CV(A,X)110-20	47,000	11.5	13.5
3465282	38HDR048-52	CAP**6021A**	58MEB100-20	47,000	12.0	14.5
3465277	38HDR048-52	CAP**6021A**	58MV(B,C)080-20	47,000	11.5	13.5
3465278	38HDR048-52	CAP**6021A**	58MV(B,C)100-20	47,000	11.5	13.5
3465280	38HDR048-52	CAP**6021A**	58PH*090-16	47,000	12.0	14.5
3465281	38HDR048-52	CAP**6021A**	58PH*110-20	47,000	12.0	14.5
3465276	38HDR048-52	CAP**6021A**+TDR		47,500	11.0	13.0
3465285	38HDR048-52	CAP**6024A**	58CV(A,X)135-22	47,000	11.5	13.5
3465286	38HDR048-52	CAP**6024A**	58CV(A,X)155-22	47,000	11.5	14.0
3465288	38HDR048-52	CAP**6024A**	58MEB120-20	47,000	12.0	14.5
3465284	38HDR048-52	CAP**6024A**	58MV(B,C)120-20	47,000	11.5	13.5
3465287	38HDR048-52	CAP**6024A**	58PH*135-20	47,000	12.0	14.5
3465283	38HDR048-52	CAP**6024A**+TDR		47,500	11.0	13.0
3465335	38HDR048-52	CNPF*4818A**+TDR		46,000	11.0	13.0
3465311	38HDR048-52	CNPH*4821A**	58CV(A,X)090-16	46,500	11.5	13.5
3465312	38HDR048-52	CNPH*4821A**	58CV(A,X)110-20	46,500	11.5	13.5
3465313	38HDR048-52	CNPH*4821A**	58CV(A,X)135-22	46,500	11.5	13.5
3465314	38HDR048-52	CNPH*4821A**	58CV(A,X)155-22	46,500	11.5	13.5
3465318	38HDR048-52	CNPH*4821A**	58MEB080-16	46,500	11.5	14.0
3465319	38HDR048-52	CNPH*4821A**	58MEB100-20	46,500	11.5	14.0
3465320	38HDR048-52	CNPH*4821A**	58MEB120-20	46,500	11.5	14.0
3465308	38HDR048-52	CNPH*4821A**	58MV(B,C)080-20	46,500	11.5	13.5
3465309	38HDR048-52	CNPH*4821A**	58MV(B,C)100-20	46,500	11.5	13.5
3465310	38HDR048-52	CNPH*4821A**	58MV(B,C)120-20	46,500	11.5	13.5
3465315	38HDR048-52	CNPH*4821A**	58PH*090-16	46,500	11.5	13.5
3465316	38HDR048-52	CNPH*4821A**	58PH*110-20	46,500	11.5	13.5
3465317	38HDR048-52	CNPH*4821A**	58PH*135-20	46,500	11.5	13.5
3465307	38HDR048-52	CNPH*4821A**+TDR		47,000	11.0	13.0
3465325	38HDR048-52	CNPH*6024A**	58CV(A,X)090-16	47,000	11.5	13.5
3465326	38HDR048-52	CNPH*6024A**	58CV(A,X)110-20	47,000	11.5	13.5
3465327	38HDR048-52	CNPH*6024A**	58CV(A,X)135-22	47,000	11.5	13.5
3465328	38HDR048-52	CNPH*6024A**	58CV(A,X)155-22	47,000	11.5	14.0
3465332	38HDR048-52	CNPH*6024A**	58MEB080-16	47,000	11.5	14.0
3465333	38HDR048-52	CNPH*6024A**	58MEB100-20	47,000	12.0	14.5
3465334	38HDR048-52	CNPH*6024A**	58MEB120-20	47,000	12.0	14.5
3465322	38HDR048-52	CNPH*6024A**	58MV(B,C)080-20	47,000	11.5	13.5
3465323	38HDR048-52	CNPH*6024A**	58MV(B,C)100-20	47,000	11.5	13.5
3465324	38HDR048-52	CNPH*6024A**	58MV(B,C)120-20	47,000	11.5	13.5
3465329	38HDR048-52	CNPH*6024A**	58PH*090-16	47,000	12.0	14.5
3465330	38HDR048-52	CNPH*6024A**	58PH*110-20	47,000	12.0	14.5
3465331	38HDR048-52	CNPH*6024A**	58PH*135-20	47,000	12.0	14.5
3465321	38HDR048-52	CNPH*6024A**+TDR		47,500	11.0	13.0
3465291	38HDR048-52	CNPV*4821A**	58CV(A,X)110-20	46,500	11.5	13.5
3465294	38HDR048-52	CNPV*4821A**	58MEB100-20	46,500	11.5	13.5
3465289	38HDR048-52	CNPV*4821A**	58MV(B,C)080-20	46,500	11.5	13.5
3465290	38HDR048-52	CNPV*4821A**	58MV(B,C)100-20	46,500	11.5	13.5
3465292	38HDR048-52	CNPV*4821A**	58PH*090-16	46,500	11.5	14.0
3465293	38HDR048-52	CNPV*4821A**	58PH*110-20	46,500	11.5	14.0
3465297	38HDR048-52	CNPV*4824A**	58CV(A,X)135-22	46,500	11.5	13.5
3465298	38HDR048-52	CNPV*4824A**	58CV(A,X)155-22	46,500	11.5	13.5
3465300	38HDR048-52	CNPV*4824A**	58MEB120-20	46,500	11.5	14.0
3465296	38HDR048-52	CNPV*4824A**	58MV(B,C)120-20	46,500	11.5	13.5
3465299	38HDR048-52	CNPV*4824A**	58PH*135-20	46,500	11.5	14.0
3465295	38HDR048-52	CNPV*4824A**+TDR		47,000	11.0	13.0
3465303	38HDR048-52	CNPV*6024A**	58CV(A,X)135-22	47,000	11.5	13.5
3465304	38HDR048-52	CNPV*6024A**	58CV(A,X)155-22	47,000	11.5	14.0
3465306	38HDR048-52	CNPV*6024A**	58MEB120-20	47,000	12.0	14.5
3465302	38HDR048-52	CNPV*6024A**	58MV(B,C)120-20	47,000	11.5	13.5
3465305	38HDR048-52	CNPV*6024A**	58PH*135-20	47,000	12.0	14.5
3465301	38HDR048-52	CNPV*6024A**+TDR		47,500	11.0	13.0
3465340	38HDR048-52	CSPH*4812A**	58CV(A,X)090-16	46,500	11.5	13.5
3465341	38HDR048-52	CSPH*4812A**	58CV(A,X)110-20	46,500	11.5	13.5
3465342	38HDR048-52	CSPH*4812A**	58CV(A,X)135-22	46,500	11.5	13.5
3465343	38HDR048-52	CSPH*4812A**	58CV(A,X)155-22	46,500	11.5	13.5

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COMBINATION RATINGS (CONT.)

ARI Ref. No.	Model Number	Indoor Model	Furnace Model	Capacity	EER	SEER
3465347	38HDR048-52	CSPH*4812A**	58MEB080-16	46,500	11.5	14.0
3465348	38HDR048-52	CSPH*4812A**	58MEB100-20	46,500	11.5	14.0
3465349	38HDR048-52	CSPH*4812A**	58MEB120-20	46,500	11.5	14.0
3465337	38HDR048-52	CSPH*4812A**	58MV(B,C)080-20	46,500	11.5	13.5
3465338	38HDR048-52	CSPH*4812A**	58MV(B,C)100-20	46,500	11.5	13.5
3465339	38HDR048-52	CSPH*4812A**	58MV(B,C)120-20	46,500	11.5	13.5
3465344	38HDR048-52	CSPH*4812A**	58PH*090-16	46,500	11.5	14.0
3465345	38HDR048-52	CSPH*4812A**	58PH*110-20	46,500	11.5	14.0
3465346	38HDR048-52	CSPH*4812A**	58PH*135-20	46,500	11.5	14.0
3465336	38HDR048-52	CSPH*4812A**+TDR		47,000	11.0	13.0
3465354	38HDR048-52	CSPH*6012A**	58CV(A,X)090-16	47,000	11.5	13.5
3465355	38HDR048-52	CSPH*6012A**	58CV(A,X)110-20	47,000	11.5	14.0
3465356	38HDR048-52	CSPH*6012A**	58CV(A,X)135-22	47,000	11.5	14.0
3465357	38HDR048-52	CSPH*6012A**	58CV(A,X)155-22	47,000	11.5	14.0
3465361	38HDR048-52	CSPH*6012A**	58MEB080-16	47,000	12.0	14.5
3465362	38HDR048-52	CSPH*6012A**	58MEB100-20	47,000	12.0	14.5
3465363	38HDR048-52	CSPH*6012A**	58MEB120-20	47,000	12.0	14.5
3465351	38HDR048-52	CSPH*6012A**	58MV(B,C)080-20	47,000	11.5	13.5
3465352	38HDR048-52	CSPH*6012A**	58MV(B,C)100-20	47,000	11.5	13.5
3465353	38HDR048-52	CSPH*6012A**	58MV(B,C)120-20	47,000	11.5	13.5
3465358	38HDR048-52	CSPH*6012A**	58PH*090-16	47,000	12.0	14.5
3465359	38HDR048-52	CSPH*6012A**	58PH*110-20	47,000	12.0	14.5
3465360	38HDR048-52	CSPH*6012A**	58PH*135-20	47,000	12.0	14.5
3465350	38HDR048-52	CSPH*6012A**+TDR		47,500	11.0	13.0
3465368	38HDR048-52	FE4AN(B,F)005+UI		47,000	11.5	13.5
3465369	38HDR048-52	FE4ANB006+UI		47,500	11.5	14.0
3465370	38HDR048-52	FV4BN(B,F)005		47,000	11.5	14.0
3465371	38HDR048-52	FV4BNB006		47,500	11.5	14.0
3465366	38HDR048-52	FX4CN(B,F)048		47,000	11.5	13.5
3465367	38HDR048-52	FX4CN(B,F)060		47,500	11.5	14.0
3465365	38HDR048-52	FY4ANB060		47,500	11.0	13.0
3465364	38HDR048-52	FY4ANF048		47,000	11.0	13.0
3465372	38HDR048-62	†CNPV*4821A**+TDR		47,000	11.0	13.0
3465809	38HDR048-62	40QAC048-3		45,500	11.5	13.0
3465374	38HDR048-62	CAP**4817A**	58CV(A,X)090-16	46,500	11.5	13.5
3465376	38HDR048-62	CAP**4817A**	58MEB080-16	46,500	11.5	14.0
3465375	38HDR048-62	CAP**4817A**	58PH*070-16	46,500	11.5	13.5
3465373	38HDR048-62	CAP**4817A**+TDR		46,500	11.0	13.0
3465380	38HDR048-62	CAP**4821A**	58CV(A,X)110-20	46,500	11.5	13.5
3465383	38HDR048-62	CAP**4821A**	58MEB100-20	46,500	11.5	14.0
3465378	38HDR048-62	CAP**4821A**	58MV(B,C)080-20	46,000	11.5	13.5
3465379	38HDR048-62	CAP**4821A**	58MV(B,C)100-20	46,500	11.5	13.5
3465381	38HDR048-62	CAP**4821A**	58PH*090-16	46,500	11.5	14.0
3465382	38HDR048-62	CAP**4821A**	58PH*110-20	46,500	11.5	14.0
3465377	38HDR048-62	CAP**4821A**+TDR		47,000	11.0	13.0
3465386	38HDR048-62	CAP**4824A**	58CV(A,X)135-22	46,500	11.5	13.5
3465387	38HDR048-62	CAP**4824A**	58CV(A,X)155-22	46,500	11.5	13.5
3465389	38HDR048-62	CAP**4824A**	58MEB120-20	46,500	11.5	14.0
3465385	38HDR048-62	CAP**4824A**	58MV(B,C)120-20	46,500	11.5	13.5
3465388	38HDR048-62	CAP**4824A**	58PH*135-20	46,500	11.5	14.0
3465384	38HDR048-62	CAP**4824A**+TDR		47,000	11.0	13.0
3465393	38HDR048-62	CAP**6021A**	58CV(A,X)110-20	47,000	11.5	13.5
3465396	38HDR048-62	CAP**6021A**	58MEB100-20	47,000	12.0	14.5
3465391	38HDR048-62	CAP**6021A**	58MV(B,C)080-20	47,000	11.5	13.5
3465392	38HDR048-62	CAP**6021A**	58MV(B,C)100-20	47,000	11.5	13.5
3465394	38HDR048-62	CAP**6021A**	58PH*090-16	47,000	12.0	14.5
3465395	38HDR048-62	CAP**6021A**	58PH*110-20	47,000	12.0	14.5
3465390	38HDR048-62	CAP**6021A**+TDR		47,500	11.0	13.0
3465399	38HDR048-62	CAP**6024A**	58CV(A,X)135-22	47,000	11.5	13.5
3465400	38HDR048-62	CAP**6024A**	58CV(A,X)155-22	47,000	11.5	14.0
3465402	38HDR048-62	CAP**6024A**	58MEB120-20	47,000	12.0	14.5
3465398	38HDR048-62	CAP**6024A**	58MV(B,C)120-20	47,000	11.5	13.5
3465401	38HDR048-62	CAP**6024A**	58PH*135-20	47,000	12.0	14.5
3465397	38HDR048-62	CAP**6024A**+TDR		47,500	11.0	13.0
3465449	38HDR048-62	CNPF*4818A**+TDR		46,000	11.0	13.0
3465425	38HDR048-62	CNPH*4821A**	58CV(A,X)090-16	46,500	11.5	13.5
3465426	38HDR048-62	CNPH*4821A**	58CV(A,X)110-20	46,500	11.5	13.5
3465427	38HDR048-62	CNPH*4821A**	58CV(A,X)135-22	46,500	11.5	13.5
3465428	38HDR048-62	CNPH*4821A**	58CV(A,X)155-22	46,500	11.5	13.5
3465432	38HDR048-62	CNPH*4821A**	58MEB080-16	46,500	11.5	14.0
3465433	38HDR048-62	CNPH*4821A**	58MEB100-20	46,500	11.5	14.0
3465434	38HDR048-62	CNPH*4821A**	58MEB120-20	46,500	11.5	14.0
3465422	38HDR048-62	CNPH*4821A**	58MV(B,C)080-20	46,500	11.5	13.5
3465423	38HDR048-62	CNPH*4821A**	58MV(B,C)100-20	46,500	11.5	13.5
3465424	38HDR048-62	CNPH*4821A**	58MV(B,C)120-20	46,500	11.5	13.5
3465429	38HDR048-62	CNPH*4821A**	58PH*090-16	46,500	11.5	13.5
3465430	38HDR048-62	CNPH*4821A**	58PH*110-20	46,500	11.5	13.5
3465431	38HDR048-62	CNPH*4821A**	58PH*135-20	46,500	11.5	13.5

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ARI Ref. No.	Model Number	Indoor Model	Furnace Model	Capacity	EER	SEER
3465421	38HDR048-62	CNPH*4821A**+TDR		47,000	11.0	13.0
3465439	38HDR048-62	CNPH*6024A**	58CV(A,X)090-16	47,000	11.5	13.5
3465440	38HDR048-62	CNPH*6024A**	58CV(A,X)110-20	47,000	11.5	13.5
3465441	38HDR048-62	CNPH*6024A**	58CV(A,X)135-22	47,000	11.5	13.5
3465442	38HDR048-62	CNPH*6024A**	58CV(A,X)155-22	47,000	11.5	14.0
3465446	38HDR048-62	CNPH*6024A**	58MEB080-16	47,000	11.5	14.0
3465447	38HDR048-62	CNPH*6024A**	58MEB100-20	47,000	12.0	14.5
3465448	38HDR048-62	CNPH*6024A**	58MEB120-20	47,000	12.0	14.5
3465436	38HDR048-62	CNPH*6024A**	58MV(B,C)080-20	47,000	11.5	13.5
3465437	38HDR048-62	CNPH*6024A**	58MV(B,C)100-20	47,000	11.5	13.5
3465438	38HDR048-62	CNPH*6024A**	58MV(B,C)120-20	47,000	11.5	13.5
3465443	38HDR048-62	CNPH*6024A**	58PH*090-16	47,000	12.0	14.5
3465444	38HDR048-62	CNPH*6024A**	58PH*110-20	47,000	12.0	14.5
3465445	38HDR048-62	CNPH*6024A**	58PH*135-20	47,000	12.0	14.5
3465435	38HDR048-62	CNPH*6024A**+TDR		47,500	11.0	13.0
3465405	38HDR048-62	CNPV*4821A**	58CV(A,X)110-20	46,500	11.5	13.5
3465408	38HDR048-62	CNPV*4821A**	58MEB100-20	46,500	11.5	13.5
3465403	38HDR048-62	CNPV*4821A**	58MV(B,C)080-20	46,500	11.5	13.5
3465404	38HDR048-62	CNPV*4821A**	58MV(B,C)100-20	46,500	11.5	13.5
3465406	38HDR048-62	CNPV*4821A**	58PH*090-16	46,500	11.5	14.0
3465407	38HDR048-62	CNPV*4821A**	58PH*110-20	46,500	11.5	14.0
3465411	38HDR048-62	CNPV*4824A**	58CV(A,X)135-22	46,500	11.5	13.5
3465412	38HDR048-62	CNPV*4824A**	58CV(A,X)155-22	46,500	11.5	13.5
3465414	38HDR048-62	CNPV*4824A**	58MEB120-20	46,500	11.5	14.0
3465410	38HDR048-62	CNPV*4824A**	58MV(B,C)120-20	46,500	11.5	13.5
3465413	38HDR048-62	CNPV*4824A**	58PH*135-20	46,500	11.5	14.0
3465409	38HDR048-62	CNPV*4824A**+TDR		47,000	11.0	13.0
3465417	38HDR048-62	CNPV*6024A**	58CV(A,X)135-22	47,000	11.5	13.5
3465418	38HDR048-62	CNPV*6024A**	58CV(A,X)155-22	47,000	11.5	14.0
3465420	38HDR048-62	CNPV*6024A**	58MEB120-20	47,000	12.0	14.5
3465416	38HDR048-62	CNPV*6024A**	58MV(B,C)120-20	47,000	11.5	13.5
3465419	38HDR048-62	CNPV*6024A**	58PH*135-20	47,000	12.0	14.5
3465415	38HDR048-62	CNPV*6024A**+TDR		47,500	11.0	13.0
3465454	38HDR048-62	CSPH*4812A**	58CV(A,X)090-16	46,500	11.5	13.5
3465455	38HDR048-62	CSPH*4812A**	58CV(A,X)110-20	46,500	11.5	13.5
3465456	38HDR048-62	CSPH*4812A**	58CV(A,X)135-22	46,500	11.5	13.5
3465457	38HDR048-62	CSPH*4812A**	58CV(A,X)155-22	46,500	11.5	13.5
3465461	38HDR048-62	CSPH*4812A**	58MEB080-16	46,500	11.5	14.0
3465462	38HDR048-62	CSPH*4812A**	58MEB100-20	46,500	11.5	14.0
3465463	38HDR048-62	CSPH*4812A**	58MEB120-20	46,500	11.5	14.0
3465451	38HDR048-62	CSPH*4812A**	58MV(B,C)080-20	46,500	11.5	13.5
3465452	38HDR048-62	CSPH*4812A**	58MV(B,C)100-20	46,500	11.5	13.5
3465453	38HDR048-62	CSPH*4812A**	58MV(B,C)120-20	46,500	11.5	13.5
3465458	38HDR048-62	CSPH*4812A**	58PH*090-16	46,500	11.5	14.0
3465459	38HDR048-62	CSPH*4812A**	58PH*110-20	46,500	11.5	14.0
3465460	38HDR048-62	CSPH*4812A**	58PH*135-20	46,500	11.5	14.0
3465450	38HDR048-62	CSPH*4812A**+TDR		47,000	11.0	13.0
3465468	38HDR048-62	CSPH*6012A**	58CV(A,X)090-16	47,000	11.5	13.5
3465469	38HDR048-62	CSPH*6012A**	58CV(A,X)110-20	47,000	11.5	14.0
3465470	38HDR048-62	CSPH*6012A**	58CV(A,X)135-22	47,000	11.5	14.0
3465471	38HDR048-62	CSPH*6012A**	58CV(A,X)155-22	47,000	11.5	14.0
3465475	38HDR048-62	CSPH*6012A**	58MEB080-16	47,000	12.0	14.5
3465476	38HDR048-62	CSPH*6012A**	58MEB100-20	47,000	12.0	14.5
3465477	38HDR048-62	CSPH*6012A**	58MEB120-20	47,000	12.0	14.5
3465465	38HDR048-62	CSPH*6012A**	58MV(B,C)080-20	47,000	11.5	13.5
3465466	38HDR048-62	CSPH*6012A**	58MV(B,C)100-20	47,000	11.5	13.5
3465467	38HDR048-62	CSPH*6012A**	58MV(B,C)120-20	47,000	11.5	13.5
3465472	38HDR048-62	CSPH*6012A**	58PH*090-16	47,000	12.0	14.5
3465473	38HDR048-62	CSPH*6012A**	58PH*110-20	47,000	12.0	14.5
3465474	38HDR048-62	CSPH*6012A**	58PH*135-20	47,000	12.0	14.5
3465464	38HDR048-62	CSPH*6012A**+TDR		47,500	11.0	13.0
3465482	38HDR048-62	FE4AN(B,F)005+UI		47,000	11.5	13.5
3465483	38HDR048-62	FE4ANB006+UI		47,500	11.5	14.0
3465484	38HDR048-62	FV4BN(B,F)005		47,000	11.5	14.0
3465485	38HDR048-62	FV4BNB006		47,500	11.5	14.0
3465480	38HDR048-62	FX4CN(B,F)048		47,000	11.5	13.5
3465481	38HDR048-62	FX4CN(B,F)060		47,500	11.5	14.0
3465479	38HDR048-62	FY4ANB060		47,500	11.0	13.0
3465478	38HDR048-62	FY4ANF048		47,000	11.0	13.0
3465024	38HDR060-32	†CNPV*6024A**+TDR		57,000	11.0	13.0
3465810	38HDR060-32	40QAC060-3		56,000	11.0	13.0
3465026	38HDR060-32	CAP**6021A**	58CV(A,X)110-20	56,000	11.0	13.2
3465029	38HDR060-32	CAP**6021A**	58MEB100-20	56,000	11.0	13.5
3465027	38HDR060-32	CAP**6021A**	58PH*090-16	56,000	11.0	13.2
3465028	38HDR060-32	CAP**6021A**	58PH*110-20	56,000	11.0	13.5
3465025	38HDR060-32	CAP**6021A**+TDR		57,000	11.0	13.0
3465031	38HDR060-32	CAP**6024A**	58CV(A,X)135-22	56,000	11.0	13.5
3465032	38HDR060-32	CAP**6024A**	58CV(A,X)155-22	56,000	11.0	13.5

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ARI Ref. No.	Model Number	Indoor Model	Furnace Model	Capacity	EER	SEER
3465034	38HDR060-32	CAP**6024A**	58MEB120-20	56,000	11.0	13.5
3465033	38HDR060-32	CAP**6024A**	58PH*135-20	56,000	11.0	13.5
3465030	38HDR060-32	CAP**6024A**+TDR		57,000	11.0	13.0
3465040	38HDR060-32	CNPH*6024A**	58CV(A,X)110-20	56,000	11.0	13.2
3465041	38HDR060-32	CNPH*6024A**	58CV(A,X)135-22	56,000	11.0	13.5
3465042	38HDR060-32	CNPH*6024A**	58CV(A,X)155-22	56,000	11.0	13.5
3465046	38HDR060-32	CNPH*6024A**	58MEB080-16	56,000	11.0	13.2
3465047	38HDR060-32	CNPH*6024A**	58MEB100-20	56,000	11.0	13.5
3465048	38HDR060-32	CNPH*6024A**	58MEB120-20	56,000	11.0	13.5
3465043	38HDR060-32	CNPH*6024A**	58PH*090-16	56,000	11.0	13.2
3465044	38HDR060-32	CNPH*6024A**	58PH*110-20	56,000	11.0	13.5
3465045	38HDR060-32	CNPH*6024A**	58PH*135-20	56,000	11.0	13.5
3465039	38HDR060-32	CNPH*6024A**+TDR		57,000	11.0	13.0
3465035	38HDR060-32	CNPV*6024A**	58CV(A,X)135-22	56,000	11.0	13.5
3465036	38HDR060-32	CNPV*6024A**	58CV(A,X)155-22	56,000	11.0	13.5
3465038	38HDR060-32	CNPV*6024A**	58MEB120-20	56,000	11.0	13.5
3465037	38HDR060-32	CNPV*6024A**	58PH*135-20	56,000	11.0	13.5
3465051	38HDR060-32	CSPH*6012A**	58CV(A,X)110-20	56,000	11.0	13.5
3465052	38HDR060-32	CSPH*6012A**	58CV(A,X)135-22	56,000	11.0	13.5
3465053	38HDR060-32	CSPH*6012A**	58CV(A,X)155-22	56,000	11.0	13.5
3465057	38HDR060-32	CSPH*6012A**	58MEB080-16	56,000	11.0	13.2
3465058	38HDR060-32	CSPH*6012A**	58MEB100-20	56,000	11.0	13.5
3465059	38HDR060-32	CSPH*6012A**	58MEB120-20	56,000	11.0	13.5
3465050	38HDR060-32	CSPH*6012A**	58MV(B,C)120-20	56,000	11.0	13.2
3465054	38HDR060-32	CSPH*6012A**	58PH*090-16	56,000	11.0	13.5
3465055	38HDR060-32	CSPH*6012A**	58PH*110-20	56,000	11.0	13.5
3465056	38HDR060-32	CSPH*6012A**	58PH*135-20	56,000	11.0	13.5
3465049	38HDR060-32	CSPH*6012A**+TDR		57,000	11.0	13.0
3465062	38HDR060-32	FE4ANB006+UI		57,500	11.0	13.5
3465063	38HDR060-32	FV4BNB006		57,500	11.0	13.5
3465061	38HDR060-32	FX4CN(B,F)060		57,500	11.0	13.5
3465060	38HDR060-32	FY4ANB060		57,000	11.0	13.0
3465064	38HDR060-52	†CNPV*6024A**+TDR		57,000	11.0	13.0
3465811	38HDR060-52	40QAC060-3		56,000	11.0	13.0
3465066	38HDR060-52	CAP**6021A**	58CV(A,X)110-20	56,000	11.0	13.2
3465069	38HDR060-52	CAP**6021A**	58MEB100-20	56,000	11.0	13.5
3465067	38HDR060-52	CAP**6021A**	58PH*090-16	56,000	11.0	13.2
3465068	38HDR060-52	CAP**6021A**	58PH*110-20	56,000	11.0	13.5
3465065	38HDR060-52	CAP**6021A**+TDR		57,000	11.0	13.0
3465071	38HDR060-52	CAP**6024A**	58CV(A,X)135-22	56,000	11.0	13.5
3465072	38HDR060-52	CAP**6024A**	58CV(A,X)155-22	56,000	11.0	13.5
3465074	38HDR060-52	CAP**6024A**	58MEB120-20	56,000	11.0	13.5
3465073	38HDR060-52	CAP**6024A**	58PH*135-20	56,000	11.0	13.5
3465070	38HDR060-52	CAP**6024A**+TDR		57,000	11.0	13.0
3465080	38HDR060-52	CNPH*6024A**	58CV(A,X)110-20	56,000	11.0	13.2
3465081	38HDR060-52	CNPH*6024A**	58CV(A,X)135-22	56,000	11.0	13.5
3465082	38HDR060-52	CNPH*6024A**	58CV(A,X)155-22	56,000	11.0	13.5
3465086	38HDR060-52	CNPH*6024A**	58MEB080-16	56,000	11.0	13.2
3465087	38HDR060-52	CNPH*6024A**	58MEB100-20	56,000	11.0	13.5
3465088	38HDR060-52	CNPH*6024A**	58MEB120-20	56,000	11.0	13.5
3465083	38HDR060-52	CNPH*6024A**	58PH*090-16	56,000	11.0	13.2
3465084	38HDR060-52	CNPH*6024A**	58PH*110-20	56,000	11.0	13.5
3465085	38HDR060-52	CNPH*6024A**	58PH*135-20	56,000	11.0	13.5
3465079	38HDR060-52	CNPH*6024A**+TDR		57,000	11.0	13.0
3465075	38HDR060-52	CNPV*6024A**	58CV(A,X)135-22	56,000	11.0	13.5
3465076	38HDR060-52	CNPV*6024A**	58CV(A,X)155-22	56,000	11.0	13.5
3465078	38HDR060-52	CNPV*6024A**	58MEB120-20	56,000	11.0	13.5
3465077	38HDR060-52	CNPV*6024A**	58PH*135-20	56,000	11.0	13.5
3465091	38HDR060-52	CSPH*6012A**	58CV(A,X)110-20	56,000	11.0	13.5
3465092	38HDR060-52	CSPH*6012A**	58CV(A,X)135-22	56,000	11.0	13.5
3465093	38HDR060-52	CSPH*6012A**	58CV(A,X)155-22	56,000	11.0	13.5
3465097	38HDR060-52	CSPH*6012A**	58MEB080-16	56,000	11.0	13.2
3465098	38HDR060-52	CSPH*6012A**	58MEB100-20	56,000	11.0	13.5
3465099	38HDR060-52	CSPH*6012A**	58MEB120-20	56,000	11.0	13.5
3465090	38HDR060-52	CSPH*6012A**	58MV(B,C)120-20	56,000	11.0	13.2
3465094	38HDR060-52	CSPH*6012A**	58PH*090-16	56,000	11.0	13.5
3465095	38HDR060-52	CSPH*6012A**	58PH*110-20	56,000	11.0	13.5
3465096	38HDR060-52	CSPH*6012A**	58PH*135-20	56,000	11.0	13.5
3465089	38HDR060-52	CSPH*6012A**+TDR		57,000	11.0	13.0
3465102	38HDR060-52	FE4ANB006+UI		57,500	11.0	13.5
3465103	38HDR060-52	FV4BNB006		57,500	11.0	13.5
3465101	38HDR060-52	FX4CN(B,F)060		57,500	11.0	13.5
3465100	38HDR060-52	FY4ANB060		57,000	11.0	13.0
3465104	38HDR060-62	†CNPV*6024A**+TDR		57,000	11.0	13.0
3465812	38HDR060-62	40QAC060-3		56,000	11.0	13.0
3465106	38HDR060-62	CAP**6021A**	58CV(A,X)110-20	56,000	11.0	13.2
3465109	38HDR060-62	CAP**6021A**	58MEB100-20	56,000	11.0	13.5

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COMBINATION RATINGS (CONT.)

ARI Ref. No.	Model Number	Indoor Model	Furnace Model	Capacity	EER	SEER
3465107	38HDR060-62	CAP**6021A**	58PH*090-16	56,000	11.0	13.2
3465108	38HDR060-62	CAP**6021A**	58PH*110-20	56,000	11.0	13.5
3465105	38HDR060-62	CAP**6021A**+TDR		57,000	11.0	13.0
3465111	38HDR060-62	CAP**6024A**	58CV(A,X)135-22	56,000	11.0	13.5
3465112	38HDR060-62	CAP**6024A**	58CV(A,X)155-22	56,000	11.0	13.5
3465114	38HDR060-62	CAP**6024A**	58MEB120-20	56,000	11.0	13.5
3465113	38HDR060-62	CAP**6024A**	58PH*135-20	56,000	11.0	13.5
3465110	38HDR060-62	CAP**6024A**+TDR		57,000	11.0	13.0
3465120	38HDR060-62	CNPH*6024A**	58CV(A,X)110-20	56,000	11.0	13.2
3465121	38HDR060-62	CNPH*6024A**	58CV(A,X)135-22	56,000	11.0	13.5
3465122	38HDR060-62	CNPH*6024A**	58CV(A,X)155-22	56,000	11.0	13.5
3465126	38HDR060-62	CNPH*6024A**	58MEB080-16	56,000	11.0	13.2
3465127	38HDR060-62	CNPH*6024A**	58MEB100-20	56,000	11.0	13.5
3465128	38HDR060-62	CNPH*6024A**	58MEB120-20	56,000	11.0	13.5
3465123	38HDR060-62	CNPH*6024A**	58PH*090-16	56,000	11.0	13.2
3465124	38HDR060-62	CNPH*6024A**	58PH*110-20	56,000	11.0	13.5
3465125	38HDR060-62	CNPH*6024A**	58PH*135-20	56,000	11.0	13.5
3465119	38HDR060-62	CNPH*6024A**+TDR		57,000	11.0	13.0
3465115	38HDR060-62	CNPV*6024A**	58CV(A,X)135-22	56,000	11.0	13.5
3465116	38HDR060-62	CNPV*6024A**	58CV(A,X)155-22	56,000	11.0	13.5
3465118	38HDR060-62	CNPV*6024A**	58MEB120-20	56,000	11.0	13.5
3465117	38HDR060-62	CNPV*6024A**	58PH*135-20	56,000	11.0	13.5
3465131	38HDR060-62	CSPH*6012A**	58CV(A,X)110-20	56,000	11.0	13.5
3465132	38HDR060-62	CSPH*6012A**	58CV(A,X)135-22	56,000	11.0	13.5
3465133	38HDR060-62	CSPH*6012A**	58CV(A,X)155-22	56,000	11.0	13.5
3465137	38HDR060-62	CSPH*6012A**	58MEB080-16	56,000	11.0	13.2
3465138	38HDR060-62	CSPH*6012A**	58MEB100-20	56,000	11.0	13.5
3465139	38HDR060-62	CSPH*6012A**	58MEB120-20	56,000	11.0	13.5
3465130	38HDR060-62	CSPH*6012A**	58MV(B,C)120-20	56,000	11.0	13.2
3465134	38HDR060-62	CSPH*6012A**	58PH*090-16	56,000	11.0	13.5
3465135	38HDR060-62	CSPH*6012A**	58PH*110-20	56,000	11.0	13.5
3465136	38HDR060-62	CSPH*6012A**	58PH*135-20	56,000	11.0	13.5
3465129	38HDR060-62	CSPH*6012A**+TDR		57,000	11.0	13.0
3465142	38HDR060-62	FE4ANB006+UI		57,500	11.0	13.5
3465143	38HDR060-62	FV4BNB006		57,500	11.0	13.5
3465141	38HDR060-62	FX4CN(B,F)060		57,500	11.0	13.5
3465140	38HDR060-62	FY4ANB060		57,000	11.0	13.0

† Tested combination

EER — Energy Efficiency Ratio

SEER — Seasonal Energy Efficiency Ratio

TDR — Time-Delay Relay. In most cases, only 1 method should be used to achieve TDR function. Using more than 1 method in a system may cause degradation in performance. Use either the accessory Time-Delay Relay KAATD0101TDR or a furnace equipped with TDR. Most Carrier furnaces are equipped with TDR.

TXV — Thermostatic Expansion Valve

NOTES:

1. Ratings are net values reflecting the effects of circulating fan motor heat. Supplemental electric heat is not included.
2. Tested outdoor/indoor combinations have been tested in accordance with DOE test procedures for central air conditioners. Ratings for other combinations are determined under DOE computer simulation procedures.
3. Determine actual CFM values obtainable for your system by referring to fan performance data in fan coil or furnace coil literature.
4. Do not apply with capillary tube coils as performance and reliability are significantly affected.

DETAILED COOLING CAPACITIES*

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES °F (°C)																		
CFM	EWB °F (°C)	75 (23.9)			85 (29.4)			95 (35)			105 (40.6)			115 (46.1)			125 (51.7)			
		Capacity MBtu/h		Total System KW**	Capacity MBtu/h		Total System KW**	Capacity MBtu/h		Total System KW**	Capacity MBtu/h		Total System KW**	Capacity MBtu/h		Total System KW**	Capacity MBtu/h		Total System KW**	
		Total	Sens†		Total	Sens†		Total	Sens†		Total	Sens†	Total	Sens†	Total	Sens†	Total	Sens†		
525	72 (22.2)	20.28	9.40	1.22	19.31	9.07	1.38	18.30	8.73	1.52	17.26	8.38	16.14	8.01	1.69	15.05	7.61	1.87	14.90	7.61
	67 (19.4)	18.53	11.50	1.22	17.65	11.17	1.36	16.72	10.82	1.52	15.76	10.47	14.72	10.09	1.69	13.59	9.69	1.87	13.59	9.69
	62 (16.7)	16.93	13.58	1.23	16.13	13.24	1.37	15.29	12.89	1.52	14.43	12.52	13.57	13.57	1.69	12.71	12.71	1.87	12.71	12.71
	57 (13.9)	16.35	16.35	1.23	15.72	15.72	1.37	15.05	15.05	1.52	14.34	14.34	13.57	13.57	1.69	12.71	12.71	1.87	12.71	12.71
	52 (22.2)	20.65	9.87	1.25	19.63	9.53	1.39	18.59	9.18	1.54	17.50	8.83	1.71	16.34	8.46	1.90	15.05	8.05	2.10	15.05
600	67 (19.4)	18.90	12.25	1.25	17.97	11.91	1.39	17.00	11.56	1.55	16.00	11.20	14.93	10.82	1.72	13.75	10.41	2.10	13.75	10.41
	62 (16.7)	17.33	14.61	1.25	16.51	14.26	1.39	15.67	15.61	1.55	14.91	14.91	14.08	14.08	1.90	13.16	13.16	2.10	13.16	13.16
	57 (13.9)	17.07	17.07	1.25	16.39	16.39	1.39	15.67	15.67	1.55	14.91	14.91	14.08	14.08	1.90	13.16	13.16	2.10	13.16	13.16
	72 (22.2)	20.91	10.30	1.27	19.86	9.96	1.41	18.78	9.61	1.57	17.67	9.26	16.47	8.88	1.93	15.15	8.46	2.13	15.15	8.46
	67 (19.4)	19.16	12.97	1.27	18.20	12.62	1.42	17.20	12.27	1.57	16.18	11.90	15.07	11.52	1.93	13.87	11.09	2.13	13.87	11.09
675	62 (16.7)	17.70	17.52	1.28	16.94	16.94	1.42	16.17	16.17	1.57	15.37	15.37	14.49	14.49	1.93	13.52	13.52	2.13	13.52	13.52
	57 (13.9)	17.67	17.67	1.28	16.94	16.94	1.42	16.17	16.17	1.57	15.37	15.37	14.49	14.49	1.93	13.52	13.52	2.13	13.52	13.52

COOLING INDOOR MODEL	CAPACITY	POWER	FURNACE MODEL	COOLING INDOOR MODEL	CAPACITY	POWER	FURNACE MODEL
*CNPV*1814A**	1.00	1.00		CSPH*2412A**	1.02	0.98	58MV(B,C)080-14
40AC(Q)024-3	1.06	1.01		CNPH*2417A**	1.02	0.98	58MV(B,C)040-14
CAP**1814A**	1.00	1.01		CSPH*2412A**	1.02	0.98	58MV(B,C)040-14
CAP**2414A**	1.02	1.02		CAP**1814A**	0.10	0.10	58PH*045-08
CAP**2417A**	1.02	1.02		CAP**2414A**	1.02	0.94	58PH*045-08
CNPE*2418A**	1.02	1.02		CNPH*2417A**	1.02	0.94	58PH*045-08
CNPH*2417A**	1.02	1.02		CNPV*1814A**	1.00	0.96	58PH*045-08
CNPV*2414A**	1.02	1.02		CNPV*2414A**	1.02	0.94	58PH*045-08
CNPV*2417A**	1.02	1.02		CSPH*2412A**	1.02	0.94	58PH*045-08
CSPH*2412A**	1.02	1.02					
FE4ANF002	1.02	0.98					
FF1ENP018	1.00	1.05					
FF1ENP024	1.02	1.07					
FV4BNF002	1.02	0.99					
FX4CNF018	1.00	0.96					
FX4CNF024	1.02	0.98					
FY4ANF018	1.00	1.05					
FY4ANF024	1.02	1.07					
CAP**1814A**	1.00	0.96	58CV(A,X)070-12				
CAP**2414A**	1.02	0.98	58CV(A,X)070-12				
CNPH*2417A**	1.02	0.98	58CV(A,X)070-12				
CNPV*1814A**	0.10	0.10	58CV(A,X)070-12				
CNPV*2414A**	1.02	0.98	58CV(A,X)070-12				
CSPH*2412A**	1.02	0.98	58CV(A,X)070-12				
CAP**2417A**	1.02	0.98	58CV(A,X)090-16				
CNPH*2417A**	1.02	0.98	58CV(A,X)090-16				
CNPV*2417A**	1.02	0.98	58CV(A,X)090-16				
CSPH*2412A**	1.02	0.98	58CV(A,X)090-16				
CAP**2417A**	1.02	0.94	58MEB040-12				
CNPH*2417A**	1.02	0.94	58MEB040-12				
CNPV*2417A**	1.02	0.94	58MEB040-12				
CSPH*2412A**	1.02	0.94	58MEB040-12				
CAP**2417A**	1.02	0.94	58MEB060-12				
CNPH*2417A**	1.02	0.94	58MEB060-12				
CNPV*2417A**	1.02	0.94	58MEB060-12				
CSPH*2412A**	1.02	0.94	58MEB060-12				
CAP**2417A**	1.02	0.98	58MV(B,C)060-14				
CNPH*2417A**	1.02	0.98	58MV(B,C)060-14				
CNPV*2417A**	1.02	0.98	58MV(B,C)060-14				
CSPH*2412A**	1.02	0.98	58MV(B,C)060-14				
CNPH*2417A**	1.02	0.98	58MV(B,C)080-14				

See notes on pg. 34



DETAILED COOLING CAPACITIES* (CONT.)

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES °F (°C)											
CFM	ERWB °F (°C)	75 (23.9)		85 (29.4)		95 (35)		105 (40.6)		115 (46.1)		125 (51.7)	
		Capacity MBtu/h	Total System KW**	Capacity MBtu/h	Total System KW**	Capacity MBtu/h	Total System KW**	Capacity MBtu/h	Total System KW**	Capacity MBtu/h	Total System KW**	Capacity MBtu/h	Total System KW**
700	72 (22.2)	28.11	1.69	26.70	1.69	25.17	1.69	23.54	1.69	21.76	1.69	19.78	1.69
	67 (19.4)	25.68	1.61	24.41	1.61	23.04	1.61	21.58	1.61	19.98	1.61	18.21	1.61
	62 (16.7)	23.47	1.67	22.34	1.67	21.13	1.67	19.86	1.67	18.57	1.67	17.23	1.67
	57 (13.9)	22.67	1.67	21.77	1.67	20.81	1.67	19.75	1.67	18.57	1.67	17.23	1.67
	52 (15.6)	28.62	1.73	27.14	1.73	25.53	1.73	23.93	1.73	21.98	1.73	19.92	1.73
800	72 (22.2)	26.18	1.72	24.84	1.72	23.40	1.72	21.88	1.72	20.22	1.72	18.38	1.72
	67 (19.4)	24.02	1.71	22.85	1.71	21.63	1.71	20.48	1.71	19.20	1.71	17.75	1.71
	62 (16.7)	23.64	1.71	22.68	1.71	21.62	1.71	20.48	1.71	19.20	1.71	17.75	1.71
	57 (13.9)	28.99	1.77	27.45	1.77	26.09	1.77	24.03	1.77	22.12	1.77	20.00	1.77
	52 (15.6)	26.54	1.76	25.15	1.76	23.66	1.76	22.09	1.76	20.36	1.76	18.50	1.76
900	72 (22.2)	24.51	1.75	23.41	1.75	22.28	1.75	21.06	1.75	19.70	1.75	18.15	1.75
	67 (19.4)	24.45	1.75	23.41	1.75	22.28	1.75	21.06	1.75	19.70	1.75	18.15	1.75
	62 (16.7)	24.45	1.75	23.41	1.75	22.28	1.75	21.06	1.75	19.70	1.75	18.15	1.75
	57 (13.9)	28.45	1.75	27.41	1.75	26.28	1.75	25.06	1.75	23.70	1.75	21.85	1.75
	52 (15.6)	28.45	1.75	27.41	1.75	26.28	1.75	25.06	1.75	23.70	1.75	21.85	1.75

38HDR024 Outdoor Section With CNPV*2414A Indoor Section**

COOLING INDOOR MODEL	FURNACE MODEL	POWER	CAPACITY	Total System KW**	Capacity MBtu/h		Total System KW**	Capacity MBtu/h	Total System KW**	Capacity MBtu/h		Total System KW**	FURNACE MODEL
					Total	Sensit				Total	Sensit		
CNPV*2414A**	58CV(A,X)090-16	0.96	1.00	2.10	23.54	11.98	2.33	21.76	11.38	2.58	19.78	2.84	58MV(B,C)060-14
40QAC024-3	58CV(A,X)090-16	0.96	1.00	2.10	23.54	11.98	2.33	21.76	11.38	2.58	19.78	2.84	58MV(B,C)060-14
CNPV*3017A**	58CV(A,X)090-16	0.96	1.00	2.10	23.54	11.98	2.33	21.76	11.38	2.58	19.78	2.84	58MV(B,C)060-14
CAP**2414A**	58CV(A,X)090-16	0.96	1.00	2.10	23.54	11.98	2.33	21.76	11.38	2.58	19.78	2.84	58MV(B,C)060-14
CSPH*3012A**	58CV(A,X)110-20	0.96	1.00	2.10	23.54	11.98	2.33	21.76	11.38	2.58	19.78	2.84	58MV(B,C)060-14

COOLING INDOOR MODEL	FURNACE MODEL	POWER	CAPACITY	Total System KW**	Capacity MBtu/h		Total System KW**	Capacity MBtu/h	Total System KW**	Capacity MBtu/h		Total System KW**	FURNACE MODEL
					Total	Sensit				Total	Sensit		
CNPV*2417A**	58CV(A,X)155-22	0.92	1.01	2.16	21.06	21.06	2.16	21.06	21.06	2.16	18.15	2.91	58MV(B,C)060-14
CNPV*3017A**	58CV(A,X)155-22	0.92	1.01	2.16	21.06	21.06	2.16	21.06	21.06	2.16	18.15	2.91	58MV(B,C)060-14
CSPH*3012A**	58CV(A,X)110-20	0.92	1.01	2.16	21.06	21.06	2.16	21.06	21.06	2.16	18.15	2.91	58MV(B,C)060-14
CSPH*2417A**	58CV(A,X)155-22	0.92	1.01	2.16	21.06	21.06	2.16	21.06	21.06	2.16	18.15	2.91	58MV(B,C)060-14
CSPH*3017A**	58CV(A,X)155-22	0.92	1.01	2.16	21.06	21.06	2.16	21.06	21.06	2.16	18.15	2.91	58MV(B,C)060-14

COOLING INDOOR MODEL	FURNACE MODEL	POWER	CAPACITY	Total System KW**	Capacity MBtu/h		Total System KW**	Capacity MBtu/h	Total System KW**	Capacity MBtu/h		Total System KW**	FURNACE MODEL
					Total	Sensit				Total	Sensit		
FEAN/F002	58CV(A,X)070-12	0.96	1.01	1.94	23.41	23.41	2.16	22.28	22.28	2.16	18.15	2.91	58MV(B,C)060-14
FEAN/F003	58CV(A,X)070-12	0.96	1.01	1.94	23.41	23.41	2.16	22.28	22.28	2.16	18.15	2.91	58MV(B,C)060-14
FEAN/F004	58CV(A,X)070-12	0.96	1.01	1.94	23.41	23.41	2.16	22.28	22.28	2.16	18.15	2.91	58MV(B,C)060-14
FEAN/F005	58CV(A,X)070-12	0.96	1.01	1.94	23.41	23.41	2.16	22.28	22.28	2.16	18.15	2.91	58MV(B,C)060-14
FEAN/F006	58CV(A,X)070-12	0.96	1.01	1.94	23.41	23.41	2.16	22.28	22.28	2.16	18.15	2.91	58MV(B,C)060-14

See notes on pg. 34

DETAILED COOLING CAPACITIES* (CONT.)

38HDR030 Outdoor Section With CNPV*3014A** Indoor Section

COOLING INDOOR MODEL	CAPACITY	POWER	FURNACE MODEL
CNPV*3017A**	1.00	0.96	58PH*070-16
CNPV*3617A**	1.02	0.94	58PH*070-16
CSPH*3012A**	1.00	0.96	58PH*070-16
CSPH*3612A**	1.02	0.94	58PH*070-16
CAP**3621A**	1.02	0.94	58PH*090-16
CNPV*3017A**	1.00	0.96	58PH*090-16
CNPV*3617A**	1.02	0.94	58PH*090-16
CNPV*3621A**	1.02	0.94	58PH*090-16
CSPH*3012A**	1.00	0.96	58PH*090-16
CSPH*3612A**	1.02	0.94	58PH*090-16

See notes on pg. 34

DETAILED COOLING CAPACITIES* (CONT.)

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES °F (°C)																
CFM	EWB °F (°C)	75 (23.9)		85 (29.4)		95 (35)		105 (40.6)		115 (46.1)		125 (51.7)						
		Capacity MBtu/h	Total System KW**	Capacity MBtu/h	Total System KW**	Capacity MBtu/h	Total System KW**	Capacity MBtu/h	Total System KW**	Capacity MBtu/h	Total System KW**	Capacity MBtu/h	Total System KW**					
		Total	Sens†	Total	Sens†	Total	Sens†	Total	Sens†	Total	Sens†	Total	Sens†					
1050	72 (22.2)	39.85	18.85	38.03	18.23	2.68	36.08	17.58	2.98	33.99	16.89	3.30	31.72	16.14	3.65	29.20	15.33	4.03
	67 (19.4)	36.33	23.19	34.67	22.57	2.68	32.91	21.91	2.98	31.02	21.23	3.30	28.99	20.49	3.65	26.73	19.69	4.04
	62 (16.7)	33.23	27.51	31.75	26.88	2.68	30.20	26.20	2.98	28.80	26.45	3.30	27.06	27.06	3.65	25.34	25.34	4.03
	57 (13.9)	32.46	32.46	31.26	31.26	2.68	29.58	29.98	2.98	28.59	28.59	3.30	27.06	27.06	3.65	25.34	25.34	4.03
	72 (22.2)	40.51	19.77	38.61	19.14	2.74	36.57	18.47	3.04	34.40	17.77	3.36	32.04	17.01	3.71	29.42	16.18	4.09
1200	67 (19.4)	36.97	24.67	35.23	24.04	2.74	34.40	23.38	3.04	31.45	22.61	3.36	29.33	21.93	3.71	27.00	21.10	4.09
	62 (16.7)	34.01	29.52	32.53	32.23	2.74	31.11	31.11	3.04	29.61	29.61	3.36	27.97	27.97	3.71	26.12	26.12	4.09
	57 (13.9)	33.78	33.78	32.49	32.49	2.74	31.11	31.11	3.04	29.62	29.62	3.36	27.97	27.97	3.71	26.12	26.12	4.09
	72 (22.2)	40.99	20.64	39.02	19.99	2.80	36.91	19.31	3.09	34.67	18.60	3.42	32.54	17.83	3.77	29.54	16.99	4.15
	67 (19.4)	37.43	26.09	35.65	25.45	2.80	33.76	24.78	3.10	31.75	24.06	3.42	29.58	23.29	3.77	27.20	22.42	4.15
1350	62 (16.7)	34.86	34.86	33.49	33.49	2.80	32.02	32.02	3.10	30.44	30.44	3.42	28.70	28.70	3.77	26.73	26.73	4.15
	57 (13.9)	34.86	34.86	33.49	33.49	2.80	32.03	32.03	3.10	30.44	30.44	3.42	28.70	28.70	3.77	26.73	26.73	4.15

COOLING INDOOR MODEL		CAPACITY		POWER		FURNACE MODEL	
		Total	Sens†	Total	Sens†	Total	Sens†
*CNPV*4221A**		1.00	1.00	1.00	0.96	58CV(A.X)110-20	
40QAC(Q)036-3		0.96	0.96	0.99	0.95	58CV(A.X)110-20	
CAP**3614A**		0.98	0.98	1.00	0.96	58CV(A.X)110-20	
CAP**3617A**		0.99	0.99	0.99	0.95	58CV(A.X)110-20	
CAP**3621A**		0.99	1.00	1.00	0.96	58CV(A.X)110-20	
CAP**4224A**		1.00	1.00	0.99	0.95	58CV(A.X)110-20	
CNPV*3618A**		0.99	0.99	1.00	0.96	58CV(A.X)135-22	
CNPV*3617A**		0.99	0.99	1.00	0.95	58CV(A.X)135-22	
CNPV*3617A**		0.99	0.99	1.00	0.96	58CV(A.X)135-22	
CNPV*3621A**		0.99	0.99	1.00	0.95	58CV(A.X)155-22	
CNPV*3621A**		0.99	0.99	1.00	0.96	58CV(A.X)155-22	
CNPV*4217A**		0.99	0.99	1.00	0.96	58CV(A.X)155-22	
CSPH*3612A**		0.99	1.00	0.99	0.95	58CV(A.X)155-22	
FE4AN(B.F)003		1.00	1.00	1.00	0.96	58CV(A.X)155-22	
FE4AN(B.F)005		1.00	1.00	0.99	0.95	58CV(A.X)155-22	
FE4AN(B.F)006		1.00	1.00	0.99	0.91	58MEB040-12	
FE4ANF002		1.04	1.04	1.00	0.92	58MEB040-12	
FF1ENP036		0.99	0.99	1.00	0.95	58MEB040-12	
FV4BN(B.F)003		0.99	0.99	1.00	0.92	58MEB040-12	
FV4BN(B.F)005		1.02	1.02	0.99	0.91	58MEB040-12	
FV4BN(B.F)006		1.00	1.00	0.99	0.95	58MEB040-12	
FV4BNF002		0.99	0.99	1.00	0.91	58MEB080-12	
FV4CN(B.F)036		0.99	0.99	1.00	0.95	58MEB080-12	
FV4CN(B.F)042		1.00	1.00	1.02	0.93	58MEB080-12	
FV4ANF036		0.99	0.99	0.99	0.91	58MEB080-12	
FV4ANF042		1.00	1.00	1.00	0.92	58MEB080-12	
CAP**3614A**		0.98	0.98	0.99	0.91	58CV(A.X)070-12	
CNPV*3617A**		0.99	0.99	1.00	0.95	58CV(A.X)070-12	
CNPV*4221A**		1.00	1.00	0.99	0.96	58CV(A.X)070-12	
CSPH*3612A**		0.99	1.00	0.99	0.95	58CV(A.X)070-12	
CAP**3617A**		0.99	0.99	1.00	0.95	58CV(A.X)090-16	
CNPV*3617A**		0.99	0.99	1.00	0.95	58CV(A.X)090-16	
CNPV*3617A**		0.99	0.99	1.00	0.96	58CV(A.X)090-16	
CNPV*3617A**		0.99	0.99	1.00	0.95	58CV(A.X)090-16	
CNPV*4217A**		1.00	1.00	0.92	0.92	58CV(A.X)090-16	
CSPH*3612A**		0.99	1.00	0.99	0.95	58CV(A.X)090-16	
CAP**3621A**		0.99	0.99	1.00	0.95	58CV(A.X)110-20	

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DETAILED COOLING CAPACITIES* (CONT.)

38HDR036 Outdoor Section With CNPV*4221A** Indoor Section

COOLING INDOOR MODEL	CAPACITY	POWER	FURNACE MODEL
CAP**4224A**	1.00	0.96	58MV(B,C)120-20
CNPH*3617A**	0.99	0.95	58MV(B,C)120-20
CNPH*4221A**	1.00	0.96	58MV(B,C)120-20
CSPH*3612A**	0.99	0.95	58MV(B,C)120-20
CSPH*4212A**	1.00	0.96	58MV(B,C)120-20
CAP**4224A**	1.00	0.96	58MV(B040-14
CNPH*3617A**	0.99	0.95	58MV(B040-14
CNPH*4221A**	1.00	0.96	58MV(B040-14
CSPH*3612A**	0.99	0.95	58MV(B040-14
CSPH*4212A**	1.00	0.96	58MV(B040-14
CAP**3614A**	0.99	0.95	58PH*045-08
CNPH*3617A**	0.99	0.95	58PH*045-08
CNPH*4221A**	1.00	0.96	58PH*045-08
CSPH*3612A**	0.99	0.95	58PH*045-08
CSPH*4212A**	1.00	0.96	58PH*045-08
CAP**3617A**	0.99	0.95	58PH*070-16
CNPH*3617A**	0.99	0.95	58PH*070-16
CNPH*4221A**	1.00	0.96	58PH*070-16
CNPV*3617A**	0.99	0.95	58PH*070-16
CNPV*4217A**	1.00	0.92	58PH*070-16
CSPH*3612A**	0.99	0.95	58PH*070-16
CSPH*4212A**	1.00	0.96	58PH*070-16
CAP**3621A**	0.99	0.91	58PH*090-16
CAP**4221A**	1.00	0.92	58PH*090-16
CNPH*3617A**	0.99	0.91	58PH*090-16
CNPH*4221A**	1.00	0.92	58PH*090-16
CNPV*3621A**	0.99	0.91	58PH*090-16
CNPV*4221A**	1.00	0.92	58PH*090-16
CSPH*3612A**	0.99	0.91	58PH*090-16
CSPH*4212A**	1.00	0.92	58PH*090-16
CAP**3621A**	0.99	0.91	58PH*110-20
CAP**4221A**	1.02	0.93	58PH*110-20
CNPH*3617A**	0.99	0.91	58PH*110-20
CNPH*4221A**	1.02	0.93	58PH*110-20
CNPV*3621A**	0.99	0.91	58PH*110-20
CNPV*4221A**	1.00	0.92	58PH*110-20
CSPH*3612A**	0.99	0.91	58PH*110-20
CSPH*4212A**	1.00	0.92	58PH*110-20

See notes on pg. 34

DETAILED COOLING CAPACITIES (CONT.)**

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES °F (°C)																	
CFM	EWB °F (°C)	75 (23.9)			85 (29.4)			95 (35)			105 (40.6)			115 (46.1)			125 (51.7)		
		Capacity MBtuht		Total System KW**	Capacity MBtuht		Total System KW**	Capacity MBtuht		Total System KW**	Capacity MBtuht		Total System KW**	Capacity MBtuht		Total System KW**	Capacity MBtuht		Total System KW**
		Total	Sens†		Total	Sens†	Total	Sens†	Total	Sens†	Total	Sens†	Total	Sens†	Total	Sens†	Total	Sens†	
38HDR060 Outdoor Section With CNPV*6024A** Indoor Section																			
1750	72 (22.2)	68.88	35.38	4.20	65.13	32.05	4.64	60.97	30.62	5.12	56.47	29.10	5.64	51.66	27.52	6.20	46.31	25.80	6.80
	67 (19.4)	63.28	41.18	4.15	59.98	39.91	4.59	56.34	38.52	5.08	52.38	37.05	5.60	48.00	35.44	6.17	43.23	33.69	6.77
	62 (16.7)	58.24	48.95	4.11	55.37	47.69	4.55	52.27	46.30	5.04	48.91	48.85	5.7	45.63	45.63	6.15	41.69	41.69	6.76
	57 (13.9)	56.77	56.77	4.09	54.45	54.45	4.54	51.86	51.86	5.03	48.95	48.95	5.7	45.63	45.63	6.15	41.69	41.69	6.76
	72 (22.2)	69.89	34.93	4.31	65.94	33.59	4.75	61.58	32.12	5.23	56.96	30.59	5.74	52.01	29.02	6.31	47.30	27.45	6.92
	67 (19.4)	64.28	43.75	4.26	60.81	42.45	4.70	57.00	41.04	5.18	52.88	39.53	5.71	48.32	37.86	6.27	43.82	36.17	6.88
2000	62 (16.7)	59.48	52.47	4.22	56.55	51.08	4.66	53.58	53.58	5.15	50.40	50.40	5.68	46.78	46.78	6.26	42.62	42.62	6.87
	57 (13.9)	58.96	58.96	4.21	56.42	56.42	4.66	53.58	53.58	5.15	50.40	50.40	5.68	46.78	46.78	6.26	42.60	42.60	6.87
	72 (22.2)	70.60	36.41	4.42	66.50	35.04	4.86	61.97	33.55	5.33	57.25	32.02	5.85	52.14	30.44	6.41	48.41	29.01	7.04
	67 (19.4)	65.01	46.21	4.37	61.41	44.89	4.81	57.46	43.44	5.29	53.20	41.88	5.81	48.56	40.17	6.37	44.28	38.42	6.99
	62 (16.7)	60.67	60.67	4.33	58.00	58.00	4.78	54.94	54.94	5.26	51.52	51.52	5.79	47.63	47.63	6.36	43.18	43.18	6.98
	57 (13.9)	60.73	60.73	4.33	58.00	58.00	4.78	54.94	54.94	5.26	51.52	51.52	5.79	47.63	47.63	6.36	43.14	43.14	6.98
COOLING INDOOR MODEL																			
*CNPV*6024A**		1.00		1.00						0.98									
40QAC060-3		0.98		0.98						0.98									
CAP**6021A**		1.00		1.00						0.98									
CAP**6024A**		1.00		1.00						0.98									
CNPH*6024A**		1.00		1.00						0.98									
CSPH*6012A**		1.00		1.00						0.98									
FE4ANB006		1.01		1.01						0.98									
FV4ANB006		1.01		1.01						0.98									
FX4CN(B)060		1.01		1.01						0.98									
FV4ANB060		1.00		1.00						0.98									
CAP**6021A**		0.98		0.98						0.98									
CNPH*6024A**		0.98		0.98						0.98									
CSPH*6012A**		0.98		0.98						0.98									
CAP**6024A**		0.98		0.98						0.98									
CAP**6021A**		0.98		0.98						0.98									
CAP**6024A**		0.98		0.98						0.98									
CAP**6021A**		0.98		0.98						0.98									
CAP**6024A**		0.98		0.98						0.98									

NOTE: When the required data fall between the published data, interpolation may be performed. Extrapolation is not an acceptable practice.

* Detailed cooling capacities are based on indoor and outdoor unit at the same elevation per the latest edition of AHRI standard 210/240. If additional tubing length and/or indoor unit is located above outdoor unit, a slight variation in capacity may occur.

† Total and sensible capacities are net capacities. Blower motor heat has been subtracted.

‡ Sensible capacities shown are based on 80° F (27° C) entering air at the indoor coil. For sensible capacities at other than 80° F (27° C), deduct 835 Btu/h (245 kW) per 1000 CFM (480 L/S) of indoor coil air for each degree below 80° F (27° C), or add 835 Btu/h (245 kW) per 1000 CFM (480 L/S) of indoor coil air per degree above 80° F (27° C).

When the required data fall between the published data, interpolation may be performed.

** Total system kW is total of indoor and outdoor unit kilowatts.

CONDENSER ONLY RATINGS*

SST ° F (° C)		CONDENSER ENTERING AIR TEMPERATURES ° F (° C)							
		55 (12.8)	65 (18.3)	75 (23.9)	85 (29.4)	95 (35)	105 (40.6)	115 (46.1)	125 (51.7)
38HDR018-31									
30 (-1.6)	TCG	16.20	15.30	14.30	13.40	12.40	11.40	10.30	9.20
	SDT	67.40	77.00	86.50	96.00	105.50	114.90	124.40	133.70
	KW	0.86	0.98	1.11	1.26	1.42	1.59	1.77	1.96
35 (1.7)	TCG	17.90	16.90	15.90	14.80	13.80	12.70	11.60	10.40
	SDT	68.50	78.00	87.50	97.00	106.40	115.80	125.20	134.50
	KW	0.86	0.98	1.11	1.26	1.42	1.59	1.78	1.98
40 (4.4)	TCG	19.70	18.60	17.50	16.40	15.20	14.10	12.90	11.60
	SDT	69.70	79.10	88.60	98.00	107.40	116.80	126.10	135.30
	KW	0.85	0.97	1.11	1.26	1.42	1.60	1.79	1.99
45 (7.2)	TCG	21.60	20.40	19.20	18.00	16.80	15.50	14.20	12.80
	SDT	70.90	80.30	89.70	99.00	108.40	117.70	127.00	136.10
	KW	0.85	0.97	1.11	1.26	1.42	1.60	1.79	2.00
50 (10)	TCG	23.60	22.30	21.10	19.70	18.40	17.00	15.60	14.10
	SDT	72.20	81.50	90.80	100.10	109.40	118.60	127.80	136.90
	KW	0.85	0.97	1.11	1.26	1.42	1.60	1.79	2.00
55 (12.8)	TCG	25.70	24.30	22.90	21.50	20.00	18.60	17.00	15.40
	SDT	73.50	82.70	92.00	101.20	110.40	119.60	128.70	137.70
	KW	0.85	0.97	1.10	1.25	1.42	1.60	1.79	2.00
38HDR024-32									
30 (-1.6)	TCG	22.10	20.90	19.60	18.30	16.90	15.50	14.00	12.40
	SDT	69.00	78.50	88.00	97.40	106.80	116.10	125.30	134.50
	KW	1.08	1.24	1.41	1.60	1.80	2.02	2.25	2.48
35 (1.7)	TCG	24.30	23.00	21.70	20.30	18.80	17.20	15.60	13.80
	SDT	70.30	79.80	89.20	98.60	107.90	117.10	126.30	135.40
	KW	1.09	1.24	1.42	1.61	1.82	2.04	2.28	2.52
40 (4.4)	TCG	26.80	25.30	23.90	22.30	20.70	19.00	17.20	15.30
	SDT	71.70	81.10	90.50	99.80	109.10	118.20	127.30	136.30
	KW	1.10	1.26	1.43	1.62	1.83	2.06	2.30	2.55
45 (7.2)	TCG	29.40	27.80	26.20	24.50	22.70	20.90	18.90	16.70
	SDT	73.20	82.60	91.90	101.10	110.20	119.30	128.30	137.10
	KW	1.11	1.27	1.44	1.64	1.85	2.08	2.32	2.57
50 (10)	TCG	32.10	30.40	28.60	26.80	24.80	22.70	20.50	18.10
	SDT	74.80	84.10	93.30	102.40	111.50	120.40	129.20	137.90
	KW	1.12	1.28	1.46	1.65	1.86	2.09	2.33	2.59
55 (12.8)	TCG	35.00	33.10	31.20	29.10	26.90	24.60	22.20	19.50
	SDT	76.40	85.60	94.70	103.80	112.70	121.50	130.20	138.60
	KW	1.13	1.29	1.47	1.66	1.88	2.10	2.35	2.60
38HDR030-31									
30 (-1.6)	TCG	26.20	24.70	23.20	21.70	20.10	18.40	16.80	15.30
	SDT	72.00	82.30	92.90	103.80	115.00	126.90	139.00	148.90
	KW	1.30	1.48	1.69	1.92	2.19	2.50	2.84	3.12
35 (1.7)	TCG	28.80	27.30	25.70	24.10	22.40	20.60	18.90	17.40
	SDT	73.10	83.50	94.00	104.80	116.10	127.70	139.50	149.30
	KW	1.30	1.49	1.69	1.93	2.21	2.52	2.86	3.15
40 (4.4)	TCG	31.70	30.10	28.40	26.60	24.80	23.00	21.20	19.60
	SDT	74.30	84.70	95.20	105.90	117.10	128.60	140.00	149.70
	KW	1.31	1.49	1.70	1.94	2.22	2.53	2.87	3.18
45 (7.2)	TCG	34.80	33.10	31.20	29.40	27.40	25.50	23.60	21.90
	SDT	75.60	85.90	96.40	107.10	118.10	129.40	140.60	150.10
	KW	1.31	1.50	1.71	1.95	2.22	2.54	2.88	3.19
50 (10)	TCG	38.20	36.20	34.30	32.30	30.30	28.20	26.20	24.40
	SDT	76.90	87.20	97.60	108.20	119.20	130.30	141.10	150.50
	KW	1.32	1.50	1.71	1.95	2.23	2.55	2.89	3.20
55 (12.8)	TCG	41.70	39.70	37.60	35.50	33.30	31.10	29.00	27.10
	SDT	78.30	88.50	98.90	109.40	120.20	131.20	141.80	150.90
	KW	1.32	1.51	1.72	1.96	2.24	2.55	2.89	3.20
38HDR036-31									
30 (-1.6)	TCG	30.10	28.50	26.80	25.10	23.30	21.50	19.60	17.60
	SDT	70.90	80.80	90.90	101.00	111.20	121.60	132.30	143.30
	KW	1.50	1.71	1.94	2.20	2.50	2.83	3.19	3.58
35 (1.7)	TCG	33.20	31.50	29.70	27.80	25.90	24.00	21.90	19.90
	SDT	72.00	82.00	92.00	102.10	112.30	122.80	133.30	143.80
	KW	1.50	1.71	1.95	2.21	2.52	2.85	3.21	3.60
40 (4.4)	TCG	36.50	34.60	32.70	30.70	28.70	26.60	24.40	22.30
	SDT	73.30	83.20	93.20	103.20	113.40	123.60	134.10	144.50
	KW	1.51	1.72	1.95	2.22	2.52	2.85	3.23	3.63
45 (7.2)	TCG	40.10	38.10	36.00	33.80	31.70	29.40	27.10	24.80
	SDT	74.60	84.40	94.40	104.50	113.80	124.50	135.20	145.30
	KW	1.51	1.72	1.96	2.23	2.51	2.86	3.26	3.65
50 (10)	TCG	43.90	41.70	39.50	37.10	34.90	32.40	30.00	27.60
	SDT	75.90	85.80	95.70	105.90	115.50	125.90	136.20	146.00
	KW	1.52	1.73	1.97	2.24	2.54	2.89	3.27	3.66
55 (12.8)	TCG	48.00	45.70	43.30	40.70	38.30	35.70	33.10	30.50
	SDT	77.40	87.10	97.00	107.10	116.70	126.80	137.00	146.70
	KW	1.53	1.74	1.98	2.25	2.55	2.89	3.28	3.66

38HDR

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CONDENSER ONLY RATINGS* CONTINUED

SST °F (°C)		CONDENSER ENTERING AIR TEMPERATURES °F (°C)							
		55 (12.8)	65 (18.3)	75 (23.9)	85 (29.4)	95 (35)	105 (40.6)	115 (46.1)	125 (51.7)
38HDR048-32									
30 (-1.6)	TCG	48.40	45.50	42.50	39.50	36.20	32.90	30.60	28.10
	SDT	67.90	77.30	86.70	96.00	105.40	114.70	124.30	133.80
	KW	2.05	2.39	2.75	3.15	3.56	4.01	4.49	5.00
35 (1.7)	TCG	53.40	50.20	46.90	43.40	39.60	35.70	34.00	25.50
	SDT	69.10	78.40	87.80	97.00	106.20	115.40	125.10	133.00
	KW	2.02	2.37	2.74	3.14	3.56	4.01	4.51	4.99
40 (4.4)	TCG	58.70	55.10	51.40	47.50	43.10	38.30	33.00	27.10
	SDT	70.40	79.60	88.90	98.00	107.10	116.10	124.80	133.40
	KW	1.99	2.35	2.72	3.13	3.55	4.01	4.49	4.99
45 (7.2)	TCG	64.30	60.30	56.20	51.60	46.90	41.20	35.20	28.90
	SDT	71.80	80.90	90.00	99.10	108.10	116.80	125.40	133.80
	KW	1.96	2.32	2.70	3.11	3.54	4.00	4.48	4.99
50 (10)	TCG	70.30	65.80	61.10	55.80	50.40	44.20	37.30	34.60
	SDT	73.30	82.30	91.20	100.10	108.90	117.50	125.90	135.30
	KW	1.92	2.29	2.68	3.09	3.52	3.98	4.46	5.01
55 (12.8)	TCG	76.50	71.40	66.00	60.30	54.00	47.00	50.70	41.10
	SDT	74.80	83.60	92.50	101.20	109.80	118.20	129.40	137.00
	KW	1.88	2.25	2.64	3.06	3.49	3.95	4.57	5.05
38HDR060-32									
30 (-1.6)	TCG	59.30	55.30	50.90	46.20	40.40	37.90	33.80	30.30
	SDT	70.10	79.30	88.40	97.40	106.20	115.80	124.90	134.20
	KW	2.59	2.93	3.31	3.73	4.19	4.72	5.31	5.90
35 (1.7)	TCG	64.70	60.20	55.50	50.00	43.30	42.40	31.50	33.10
	SDT	71.40	80.50	89.50	98.40	106.90	116.90	124.20	134.90
	KW	2.62	2.97	3.34	3.76	4.21	4.76	5.25	5.93
40 (4.4)	TCG	69.90	65.30	60.10	53.80	55.90	47.40	31.70	35.60
	SDT	72.70	81.70	90.60	99.30	110.10	118.10	124.20	135.50
	KW	2.66	3.00	3.38	3.78	4.34	4.81	5.24	5.96
45 (7.2)	TCG	76.00	70.80	64.80	57.40	56.00	54.60	48.50	47.70
	SDT	74.10	83.00	91.80	100.20	110.00	119.90	128.60	138.80
	KW	2.71	3.04	3.40	3.80	4.32	4.89	5.43	6.08
50 (10)	TCG	82.20	76.70	69.30	70.90	61.80	58.60	30.50	52.10
	SDT	75.60	84.40	92.80	103.40	111.40	120.90	123.80	139.80
	KW	2.75	3.09	3.42	3.99	4.38	4.93	5.16	6.13
55 (12.8)	TCG	95.20	87.70	88.40	74.60	75.40	53.90	46.10	60.30
	SDT	78.80	87.10	97.50	104.30	114.70	119.50	127.70	141.70
	KW	2.85	3.13	3.74	3.95	4.56	4.78	5.33	6.25

* AHRI listing applies only to systems shown in Combination Ratings table.

KW - Outdoor Unit Kilowatts Only.

SDT - Saturated Temperature Leaving Compressor (°F)

SST - Saturated Temperature Entering Compressor (°F/°C)

TCG - Gross Cooling Capacity (1000 Btuh)

38HDR

GUIDE SPECIFICATIONS

GENERAL

System Description

Outdoor-mounted, air-cooled, split-system air conditioner unit suitable for ground or rooftop installation. Unit consists of a hermetic compressor, an air-cooled coil, propeller-type condenser fan, and a control box. Unit will discharge supply air horizontally as shown on contract drawings. Unit will be used in a refrigeration circuit to match up to a packaged fan coil or coil unit.

Quality Assurance

- Unit will be rated in accordance with the latest edition of ARI Standard 210.
- Unit will be certified for capacity and efficiency, and listed in the latest ARI directory.
- Unit construction will comply with latest edition of ANSI/ASHRAE and with NEC.
- Unit will be constructed in accordance with UL standards and will carry the UL label of approval. Unit will have c-UL approval.
- Unit cabinet will be capable of withstanding Federal Test Method Standard No. 141 (Method 6061) 500-hr salt spray test.
- Air-cooled condenser coils will be leak tested and pressure tested
- Unit constructed in ISO9001 approved facility.

Delivery, Storage, and Handling

- Unit will be shipped as single package only and is stored and handled per unit manufacturer's recommendations.

Warranty (for inclusion by specifying engineer)

- U.S. and Canada only.

PRODUCTS

Equipment

- Factory assembled, single piece, air-cooled air conditioner unit. Contained within the unit enclosure is all factory wiring, piping, controls, compressor, refrigerant charge Puron® (R-410A), and special features required prior to field start-up.

Unit Cabinet

- Unit cabinet will be constructed of galvanized steel, bonderized, and coated with a powder coat paint.

Fans

- Condenser fan will be direct-drive propeller type, discharging air horizontally.

AIR-COOLED, SPLIT-SYSTEM AIR CONDITIONER

38HDR

1-1/2 TO 5 NOMINAL TONS

- Condenser fan motors will be totally enclosed, 1-phase type with class B insulation and permanently lubricated bearings. Shafts will be corrosion resistant.
- Fan blades will be statically and dynamically balanced.
- Condenser fan openings will be equipped with coated steel wire safety guards.

Compressor

- Compressor will be hermetically sealed.
- Compressor will be mounted on rubber vibration isolators.

Condenser Coil

- Condenser coil will be air cooled.
- Coil will be constructed of aluminum fins mechanically bonded to copper tubes which are then cleaned, dehydrated, and sealed.

Refrigeration Components

- Refrigeration circuit components will include liquid-line front-seating shutoff valve with sweat connections, vapor-line front-seating shutoff valve with sweat connections, system charge of Puron® (R-410A) refrigerant, and compressor oil.
- Unit will be equipped with high-pressure switch, low pressure switch and filter drier for Puron refrigerant.

Operating Characteristics

- The capacity of the unit will meet or exceed _____ Btuh at a suction temperature of _____ °F/°C. The power consumption at full load will not exceed _____ kW.
- Combination of the unit and the evaporator or fan coil unit will have a total net cooling capacity of _____ Btuh or greater at conditions of _____ CFM entering air temperature at the evaporator at _____ °F/°C wet bulb and _____ °F/°C dry bulb, and air entering the unit at _____ °F/°C.
- The system will have a SEER of _____ Btuh/watt or greater at DOE conditions.

Electrical Requirements

- Nominal unit electrical characteristics will be _____ v, single phase, 60 hz. The unit will be capable of satisfactory operation within voltage limits of _____ v to _____ v.
- Nominal unit electrical characteristics will be _____ v, three phase, 60 hz. The unit will be capable of satisfactory operation within voltage limits of _____ v to _____ v.
- Unit electrical power will be single point connection.
- Control circuit will be 24v.

Special Features

- Refer to section of this literature identifying accessories and descriptions for specific features and available enhancements.

38HDR

SYSTEM DESIGN SUMMARY

1. Intended for outdoor installation with free air inlet and outlet. Outdoor fan external static pressure available is less than 0.01-in. wc.
2. Minimum outdoor operating air temperature without low-ambient operation accessory is 55°F (12.8°C).
3. Maximum outdoor operating air temperature is 125°F (51.7°C).
4. For reliable operation, unit should be level in all horizontal planes.
5. For interconnecting refrigerant tube lengths greater than 80 ft (23.4 m) and/or 35 ft (10.7 m) vertical differential, consult Residential Piping and Longline Guideline and Service Manual available from equipment distributor.
6. If any refrigerant tubing is buried, provide a 6 in. (152.4 mm) vertical rise to the valve connections at the unit. Refrigerant tubing lengths up to 36 in. (914.4 mm) may be buried without further consideration. Do not bury refrigerant lines longer than 36 in. (914.4 mm).
7. Use only copper wire for electric connection at unit. Aluminum and clad aluminum are not acceptable for the type of connector provided.
8. Do not apply capillary tube indoor coils to these units.
9. Factory-supplied filter drier must be installed.

Appendix D

Greencheck Exhaust Fan Specifications

Model: G-090-VG

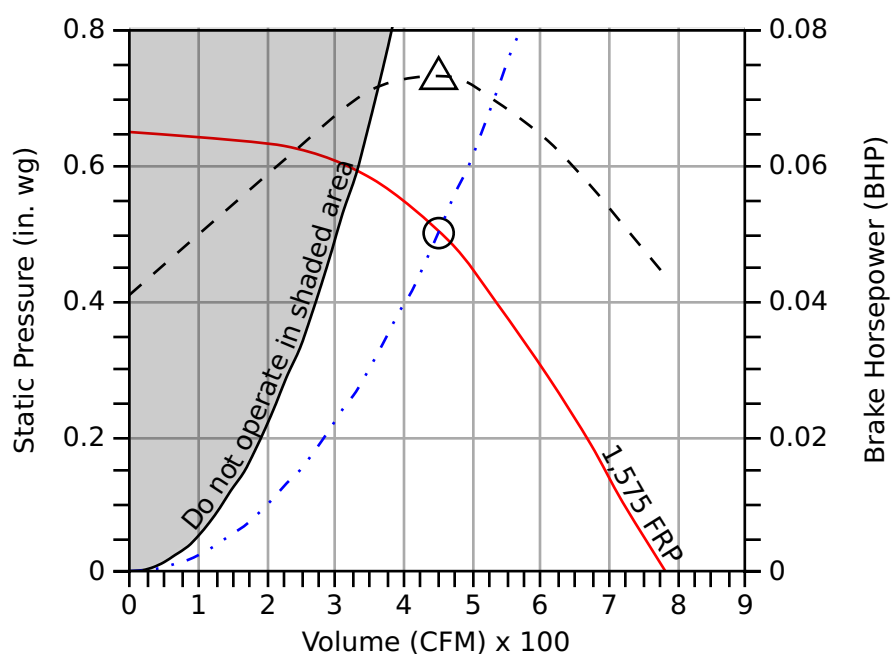
Direct Drive Centrifugal Roof Exhaust Fan

Standard Construction Features: Aluminum housing. Centrifugal backward inclined aluminum wheel. Direct driven motor mounted on vibration isolation.

Fan Configuration	
Drive type	Direct

Performance	
Requested Volume (CFM)	450
Actual Volume (CFM)	450
Total External SP (in. wg)	0.5
Fan RPM	1,575
Operating Power (bhp)	0.07
Startup Power (bhp)	0.07
Air Stream Temp (F)	70
Start-up Temp (F)	70
Air Density (lbs/ft ³)	0.068
Elevation (ft)	2726
Static Efficiency (%)	49
Outlet Velocity (ft/min)	643

Motor	
Enclosure	TENV
Size (hp)	1/10
V/C/P	115/60/1
NEC FLA (Amps)	2.6



- Fan curve
- - - Brake horsepower curve
- Operating Point SP
- △ Operating Bhp point
- Max system curve
- · · System curve

Sound

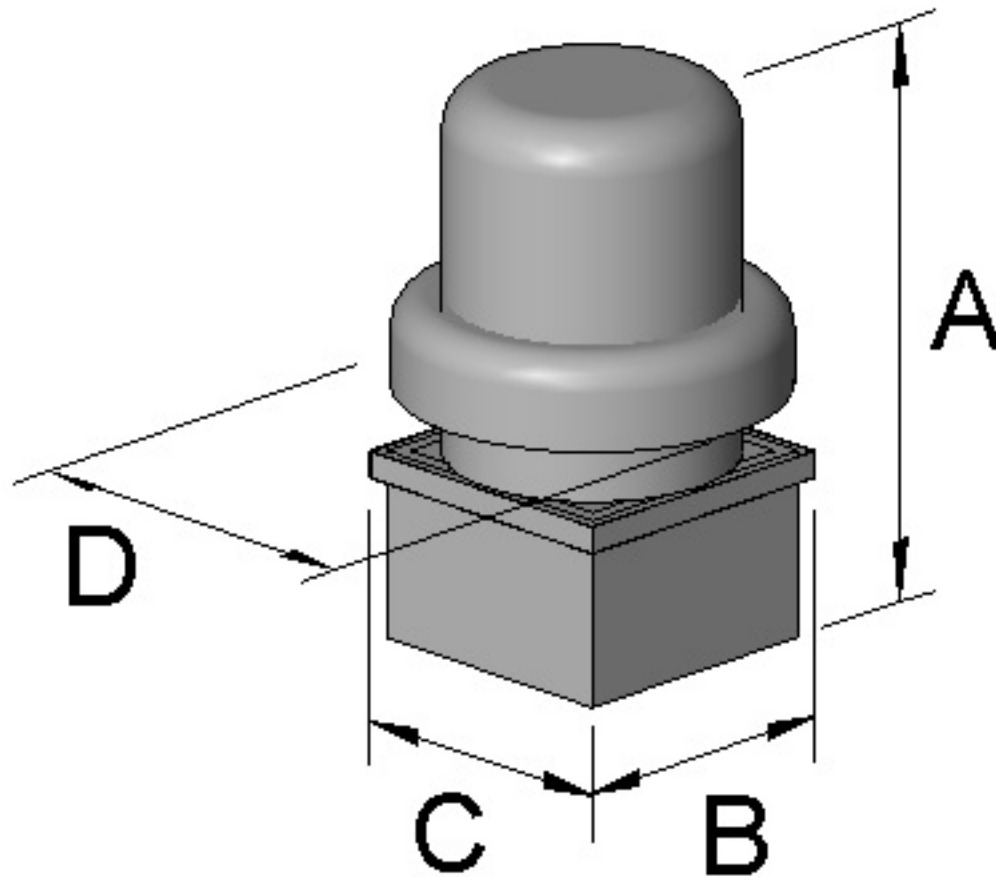
	Octave Bands (hz)								LwA	dBA	Sones
	62.5	125	250	500	1000	2000	4000	8000			
Inlet	77	74	69	63	58	55	51	44	66	55	7.6



Greenheck Fan Corporation certifies that the model shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program. Performance certified is for installation type A: Free inlet, Free outlet. Power rating (BHP/kW) does not include transmission losses. Performance ratings include the effects of birdscreen. The sound ratings shown are loudness values in fan sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type A: free inlet hemispherical sone levels. dBA levels are not licensed by AMCA International. The AMCA Certified Ratings Seal for Sound applies to inlet sone ratings only.

FLA - based on tables 150 or 148 of National Electric Code 2002. Actual motor FLA may vary, for sizing thermal overload, consult factory.

Dimensions and Weights		
Label	Value	Description
-	26	Weight w/o accessories (lbs)
A	27	Overall Height (in)
D	22	Overall Width (in)
B	17	Curb Cap Width (in)
C	17	Curb Cap Length (in)
-	10	Duct / Damper Width (in)
-	10	Duct / Damper Length (in)
-	12.5	Roof Opening Width (in)
-	12.5	Roof Opening Length (in)



*All dimensions are in inches.

Model: CSP-A510-VG

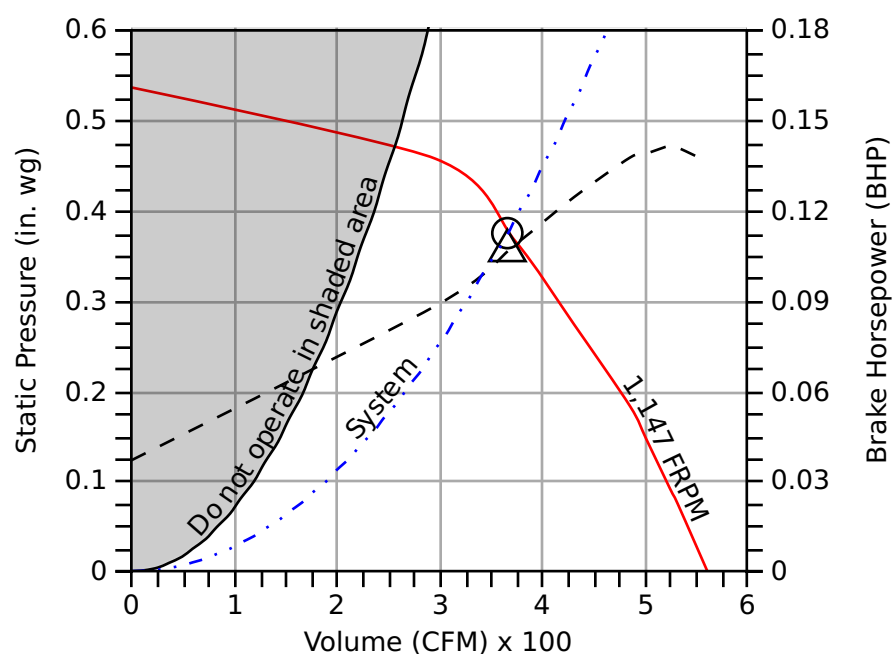
Direct Drive Cabinet Fan

Standard Construction Features: Galvanized steel housing with duct collars. Centrifugal forward curved wheel. Direct driven motor in the air stream.

Fan Configuration	
Drive type	Direct

Performance	
Requested Volume (CFM)	365
Actual Volume (CFM)	365
Total External SP (in. wg)	0.38
Fan RPM	1,147
Operating Power (bhp)	0.11
Startup Power (bhp)	0.11
Air Stream Temp (F)	70
Start-up Temp (F)	70
Air Density (lbs/ft ³)	0.068
Elevation (ft)	2726
Watts (W)	160
Static Efficiency (%)	20
Outlet Velocity (ft/min)	830

Motor	
Enclosure	TENV
Size (hp)	1/6
V/C/P	115/60/1
NEC FLA (Amps)	3.4



- Fan curve
- - - Brake horsepower curve
- Operating Point SP
- △ Operating Bhp point
- Max system curve
- · · System curve

Sound

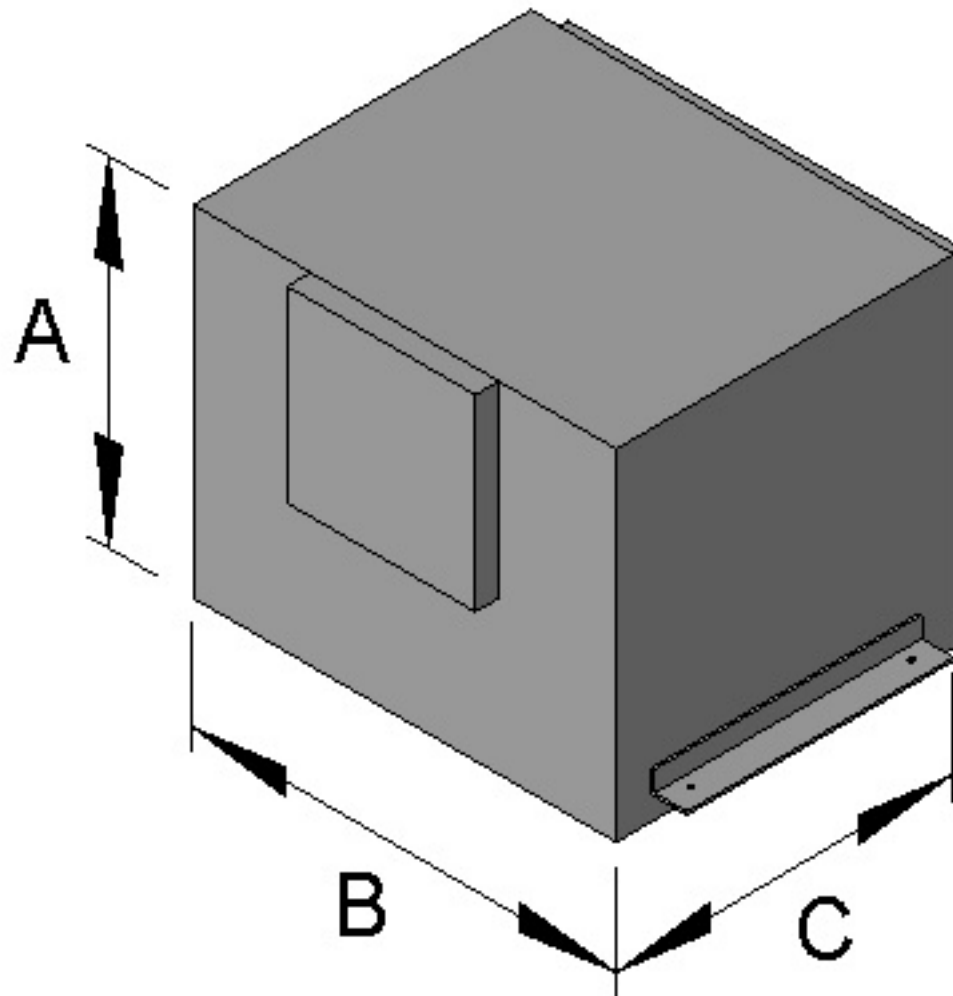
	Octave Bands (hz)								LwA	dBA	Sones
	62.5	125	250	500	1000	2000	4000	8000			
Inlet	53	59	55	40	35	30	33	27	49	34	1.9



Greenheck Fan Corporation certifies that the model shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies to air performance ratings only. Performance certified is for installation type D: Ducted inlet, Ducted outlet. Power rating (BHP/kW) does not include transmission losses. Performance ratings include the effects of a backdraft damper. Speed (RPM) shown is nominal. Performance is based on actual speed of test. The sound ratings shown are for loudness values in spherical sones at 5 ft. (1.5m) in a spherical free field calculated per Annex B of AMCA 311. Values shown are for installation type D: ducted inlet spherical sone levels. Ratings do not include the effects of duct end correction. Ratings are based on 10 ft. of insulated duct. The AMCA Certified Ratings Seal applies to air performance only.

Wattage is shown at free air. Wattage is approximate and may vary between motors. Fan shaft input power (bhp) is not certified. FLA - based on tables 150 or 148 of National Electric Code 2002. Actual motor FLA may vary, for sizing thermal overload, consult factory.

Dimensions and Weights		
Label	Value	Description
-	36	Weight w/o accessories (lbs)
A	15	Overall Height (in)
B	18	Overall Width (in)
C	14	Overall Length (in)
-	16.875	Inlet Width (in)
-	13.25	Inlet Height (in)
-	8	Outlet Width (in)
-	8	Outlet Height (in)



*All dimensions are in inches.

Appendix E

Traffic Noise Modeling Results

Appendix E Rincon FHWA Traffic Noise Model



Model Input

Project Name :	Redlands Boulevard and Hemlock Avenue Gas Station Project		
Project Number :	21-10878		
Modeling Condition :	Existing		
Ground Type :	Soft	Peak ratio to ADT:	
Metric (Leq, Ldn, CNEL) :	Ldn	Traffic Desc. (Peak or ADT) :	ADT

Segment Number	Roadway	Segment		Traffic Volume	Speed (mph)	Distance to Centerline	Vehicle Classification Mix (%)					24-Hour Traffic Distribution (%)			K-Factor	
		From	To				Automobiles	Motorcycles	Bus	Medium Trucks	Heavy Trucks	Day	Evening	Night		
1	Redlands Blvd	Ironwood Ave	Hemlock Ave	15,070	50	50	92				5	3	85		15	
2	Redlands Blvd	Hemlock Ave	SR-60 WB Ramps	14,470	50	50	92				5	3	85		15	
3	Redlands Blvd	SR-60 WB Ramps	Eucalyptus Ave	11,760	50	50	92				5	3	85		15	
4	Ironwood Ave	west of Redlands Blvd	Redlands Blvd	4,420	55	50	92				5	3	85		15	
5	Ironwood Ave	Redlands Blvd	east of Redlands Blvd	730	55	50	92				5	3	85		15	
6	Eucalyptus Ave	west of Redlands Blvd	Redlands Blvd	670	35	50	92				5	3	85		15	
7	Eucalyptus Ave	Redlands Blvd	east of Redlands Blvd	330	35	50	92				5	3	85		15	



Model Results

Project Number :	Redlands Boulevard and Hemlock Avenue Gas Station Project		
Modeling Condition :	21-10878		
Ground Type :	Existing		
Metric (Leq, Ldn, CNEL) :	Ldn		

Segment Number	Roadway	Segment		Noise Levels (dB) Ldn					
		From	To	Automobiles	Motorcycles	Bus	Medium Trucks	Heavy Trucks	Total
1	Redlands Blvd	Ironwood Ave	Hemlock Ave	66.3	0.0	0.0	60.0	62.3	68.4
2	Redlands Blvd	Hemlock Ave	SR-60 WB Ramps	66.1	0.0	0.0	59.8	62.1	68.2
3	Redlands Blvd	SR-60 WB Ramps	Eucalyptus Ave	65.2	0.0	0.0	58.9	61.2	67.3
4	Ironwood Ave	west of Redlands Blvd	Redlands Blvd	61.9	0.0	0.0	55.3	57.5	63.9
5	Ironwood Ave	Redlands Blvd	east of Redlands Blvd	54.1	0.0	0.0	47.5	49.7	56.1
6	Eucalyptus Ave	west of Redlands Blvd	Redlands Blvd	50.4	0.0	0.0	44.9	47.8	53.0
7	Eucalyptus Ave	Redlands Blvd	east of Redlands Blvd	47.3	0.0	0.0	41.9	44.7	50.0

Distance to Traffic Noise Contours (feet)				
70 dB	65 dB	60 dB	55 dB	50 dB
39	84	182	391	843
38	82	177	381	820
33	71	154	332	714
20	42	91	196	422
6	13	27	59	127
4	8	17	37	80
2	5	11	23	50

Appendix E Rincon FHWA Traffic Noise Model

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Model Input

Project Name :	Redlands Boulevard and Hemlock Avenue Gas Station Project		
Project Number :	21-10878		
Modeling Condition :	Existing Plus Project		
Ground Type :	Soft	Peak ratio to ADT:	
Metric (Leq, Ldn, CNEL) :	Ldn	Traffic Desc. (Peak or ADT) :	ADT

Segment Number	Roadway	Segment		Traffic Volume	Speed (mph)	Distance to Centerline	Vehicle Classification Mix (%)					24-Hour Traffic Distribution (%)			K-Factor	
		From	To				Automobiles	Motorcycles	Bus	Medium Trucks	Heavy Trucks	Day	Evening	Night		
1	Redlands Blvd	Ironwood Ave	Hemlock Ave	15,680	50	50	92				5	3	85		15	
2	Redlands Blvd	Hemlock Ave	SR-60 WB Ramps	15,010	50	50	92				5	3	85		15	
3	Redlands Blvd	SR-60 WB Ramps	Eucalyptus Ave	12,520	50	50	92				5	3	85		15	
4	Ironwood Ave	west of Redlands Blvd	Redlands Blvd	4,570	55	50	92				5	3	85		15	
5	Ironwood Ave	Redlands Blvd	east of Redlands Blvd	880	55	50	92				5	3	85		15	
6	Hemlock Ave	west of Redlands Blvd	Redlands Blvd	530	25	50	92				5	3	85		15	
7	Eucalyptus Ave	west of Redlands Blvd	Redlands Blvd	970	35	50	92				5	3	85		15	
8	Eucalyptus Ave	Redlands Blvd	east of Redlands Blvd	630	35	50	92				5	3	85		15	

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Model Results

Project Number :	Redlands Boulevard and Hemlock Avenue Gas Station Project
Modeling Condition :	21-10878
Ground Type :	Existing Plus Project
Metric (Leq, Ldn, CNEL) :	Ldn

Segment Number	Roadway	Segment		Noise Levels (dB) Ldn					
		From	To	Automobiles	Motorcycles	Bus	Medium Trucks	Heavy Trucks	Total
1	Redlands Blvd	Ironwood Ave	Hemlock Ave	66.4	0.0	0.0	60.2	62.4	68.6
2	Redlands Blvd	Hemlock Ave	SR-60 WB Ramps	66.3	0.0	0.0	60.0	62.3	68.4
3	Redlands Blvd	SR-60 WB Ramps	Eucalyptus Ave	65.5	0.0	0.0	59.2	61.5	67.6
4	Ironwood Ave	west of Redlands Blvd	Redlands Blvd	62.0	0.0	0.0	55.5	57.6	64.0
5	Ironwood Ave	Redlands Blvd	east of Redlands Blvd	54.9	0.0	0.0	48.3	50.5	56.9
6	Hemlock Ave	west of Redlands Blvd	Redlands Blvd	49.2	0.0	0.0	43.8	47.2	52.0
7	Eucalyptus Ave	west of Redlands Blvd	Redlands Blvd	52.0	0.0	0.0	46.5	49.4	54.6
8	Eucalyptus Ave	Redlands Blvd	east of Redlands Blvd	50.2	0.0	0.0	44.7	47.5	52.8

Distance to Traffic Noise Contours (feet)				
70 dB	65 dB	60 dB	55 dB	50 dB
40	87	186	402	865
39	84	181	390	841
35	74	160	346	745
20	43	93	200	432
7	14	31	67	144
3	7	15	32	68
5	10	22	47	102
4	8	16	35	76

Appendix E Rincon FHWA Traffic Noise Model

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Model Input

Project Name :	Redlands Boulevard and Hemlock Avenue Gas Station Project		
Project Number :	21-10878		
Modeling Condition :	Opening Year 2024		
Ground Type :	Soft	Peak ratio to ADT:	
Metric (Leq, Ldn, CNEL) :	Ldn	Traffic Desc. (Peak or ADT) :	ADT

Segment Number	Roadway	Segment		Traffic Volume	Speed (mph)	Distance to Centerline	Vehicle Classification Mix (%)					24-Hour Traffic Distribution (%)			K-Factor	
		From	To				Automobiles	Motorcycles	Bus	Medium Trucks	Heavy Trucks	Day	Evening	Night		
1	Redlands Blvd	Ironwood Ave	Hemlock Ave	19,300	50	50	92				5	3	85		15	
2	Redlands Blvd	Hemlock Ave	SR-60 WB Ramps	18,600	50	50	92				5	3	85		15	
3	Redlands Blvd	SR-60 WB Ramps	Eucalyptus Ave	19,400	50	50	92				5	3	85		15	
4	Ironwood Ave	west of Redlands Blvd	Redlands Blvd	5,100	55	50	92				5	3	85		15	
5	Ironwood Ave	Redlands Blvd	east of Redlands Blvd	2,600	55	50	92				5	3	85		15	
6	Eucalyptus Ave	west of Redlands Blvd	Redlands Blvd	9,200	35	50	92				5	3	85		15	
7	Eucalyptus Ave	Redlands Blvd	east of Redlands Blvd	2,200	35	50	92				5	3	85		15	

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Model Results

Project Number :	Redlands Boulevard and Hemlock Avenue Gas Station Project		
Modeling Condition :	21-10878		
Ground Type :	Opening Year 2024		
Metric (Leq, Ldn, CNEL) :	Ldn		

Segment Number	Roadway	Segment		Noise Levels (dB) Ldn					
		From	To	Automobiles	Motorcycles	Bus	Medium Trucks	Heavy Trucks	Total
1	Redlands Blvd	Ironwood Ave	Hemlock Ave	67.3	0.0	0.0	61.1	63.3	69.5
2	Redlands Blvd	Hemlock Ave	SR-60 WB Ramps	67.2	0.0	0.0	60.9	63.2	69.3
3	Redlands Blvd	SR-60 WB Ramps	Eucalyptus Ave	67.4	0.0	0.0	61.1	63.4	69.5
4	Ironwood Ave	west of Redlands Blvd	Redlands Blvd	62.5	0.0	0.0	55.9	58.1	64.5
5	Ironwood Ave	Redlands Blvd	east of Redlands Blvd	59.6	0.0	0.0	53.0	55.2	61.6
6	Eucalyptus Ave	west of Redlands Blvd	Redlands Blvd	61.8	0.0	0.0	56.3	59.1	64.4
7	Eucalyptus Ave	Redlands Blvd	east of Redlands Blvd	55.6	0.0	0.0	50.1	52.9	58.2

Distance to Traffic Noise Contours (feet)				
70 dB	65 dB	60 dB	55 dB	50 dB
46	99	214	461	994
45	97	209	450	970
46	100	215	463	997
22	46	100	215	464
14	30	64	138	296
21	46	98	212	457
8	18	38	82	176

Appendix E Rincon FHWA Traffic Noise Model

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Model Input

Project Name :	Redlands Boulevard and Hemlock Avenue Gas Station Project		
Project Number :	21-10878		
Modeling Condition :	Opening Year 2024 Plus Project		
Ground Type :	Soft	Peak ratio to ADT:	
Metric (Leq, Ldn, CNEL) :	Ldn	Traffic Desc. (Peak or ADT) :	ADT

Segment Number	Roadway	Segment		Traffic Volume	Speed (mph)	Distance to Centerline	Vehicle Classification Mix (%)					24-Hour Traffic Distribution (%)			K-Factor	
		From	To				Automobiles	Motorcycles	Bus	Medium Trucks	Heavy Trucks	Day	Evening	Night		
1	Redlands Blvd	Ironwood Ave	Hemlock Ave	19,900	50	50	92				5	3	85		15	
2	Redlands Blvd	Hemlock Ave	SR-60 WB Ramps	19,100	50	50	92				5	3	85		15	
3	Redlands Blvd	SR-60 WB Ramps	Eucalyptus Ave	20,200	50	50	92				5	3	85		15	
4	Ironwood Ave	west of Redlands Blvd	Redlands Blvd	5,200	55	50	92				5	3	85		15	
5	Ironwood Ave	Redlands Blvd	east of Redlands Blvd	2,700	55	50	92				5	3	85		15	
6	Hemlock Ave	west of Redlands Blvd	Redlands Blvd	500	25	50	92				5	3	85		15	
7	Eucalyptus Ave	west of Redlands Blvd	Redlands Blvd	9,500	35	50	92				5	3	85		15	
8	Eucalyptus Ave	Redlands Blvd	east of Redlands Blvd	2,500	35	50	92				5	3	85		15	

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Model Results

Project Number :	Redlands Boulevard and Hemlock Avenue Gas Station Project
Modeling Condition :	21-10878
Ground Type :	Opening Year 2024 Plus Project
Metric (Leq, Ldn, CNEL) :	Ldn

Segment Number	Roadway	Segment		Noise Levels (dB) Ldn					
		From	To	Automobiles	Motorcycles	Bus	Medium Trucks	Heavy Trucks	Total
1	Redlands Blvd	Ironwood Ave	Hemlock Ave	67.5	0.0	0.0	61.2	63.5	69.6
2	Redlands Blvd	Hemlock Ave	SR-60 WB Ramps	67.3	0.0	0.0	61.0	63.3	69.4
3	Redlands Blvd	SR-60 WB Ramps	Eucalyptus Ave	67.5	0.0	0.0	61.3	63.5	69.7
4	Ironwood Ave	west of Redlands Blvd	Redlands Blvd	62.6	0.0	0.0	56.0	58.2	64.6
5	Ironwood Ave	Redlands Blvd	east of Redlands Blvd	59.8	0.0	0.0	53.2	55.4	61.8
6	Hemlock Ave	west of Redlands Blvd	Redlands Blvd	49.0	0.0	0.0	43.6	46.9	51.8
7	Eucalyptus Ave	west of Redlands Blvd	Redlands Blvd	61.9	0.0	0.0	56.4	59.3	64.6
8	Eucalyptus Ave	Redlands Blvd	east of Redlands Blvd	56.1	0.0	0.0	50.6	53.5	58.8

Distance to Traffic Noise Contours (feet)				
70 dB	65 dB	60 dB	55 dB	50 dB
47	101	219	471	1,014
46	99	213	458	987
48	102	221	476	1,025
22	47	101	218	470
14	30	65	141	304
3	7	14	30	66
22	47	101	217	467
9	19	41	89	192

Appendix E Rincon FHWA Traffic Noise Model

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Model Input

Project Name :	Redlands Boulevard and Hemlock Avenue Gas Station Project		
Project Number :	21-10878		
Modeling Condition :	General Plan Buildout Year 2040		
Ground Type :	Soft	Peak ratio to ADT:	
Metric (Leq, Ldn, CNEL) :	Ldn	Traffic Desc. (Peak or ADT) :	ADT

Segment Number	Roadway	Segment		Traffic Volume	Speed (mph)	Distance to Centerline	Vehicle Classification Mix (%)					24-Hour Traffic Distribution (%)			K-Factor	
		From	To				Automobiles	Motorcycles	Bus	Medium Trucks	Heavy Trucks	Day	Evening	Night		
1	Redlands Blvd	Ironwood Ave	Hemlock Ave	23,500	50	50	92				5	3	85		15	
2	Redlands Blvd	Hemlock Ave	SR-60 WB Ramps	23,600	50	50	92				5	3	85		15	
3	Redlands Blvd	SR-60 WB Ramps	Eucalyptus Ave	27,200	50	50	92				5	3	85		15	
4	Ironwood Ave	west of Redlands Blvd	Redlands Blvd	9,000	55	50	92				5	3	85		15	
5	Ironwood Ave	Redlands Blvd	east of Redlands Blvd	6,200	55	50	92				5	3	85		15	
6	Hemlock Ave	west of Redlands Blvd	Redlands Blvd	4,100	25	50	92				5	3	85		15	
7	Eucalyptus Ave	west of Redlands Blvd	Redlands Blvd	11,200	35	50	92				5	3	85		15	
8	Eucalyptus Ave	Redlands Blvd	east of Redlands Blvd	9,200	35	50	92				5	3	85		15	

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Model Results

Project Number :	Redlands Boulevard and Hemlock Avenue Gas Station Project
Modeling Condition :	21-10878
Ground Type :	General Plan Buildout Year 2040
Metric (Leq, Ldn, CNEL) :	Ldn

Segment Number	Roadway	Segment		Noise Levels (dB) Ldn					
		From	To	Automobiles	Motorcycles	Bus	Medium Trucks	Heavy Trucks	Total
1	Redlands Blvd	Ironwood Ave	Hemlock Ave	68.2	0.0	0.0	61.9	64.2	70.3
2	Redlands Blvd	Hemlock Ave	SR-60 WB Ramps	68.2	0.0	0.0	61.9	64.2	70.3
3	Redlands Blvd	SR-60 WB Ramps	Eucalyptus Ave	68.8	0.0	0.0	62.6	64.8	71.0
4	Ironwood Ave	west of Redlands Blvd	Redlands Blvd	65.0	0.0	0.0	58.4	60.6	67.0
5	Ironwood Ave	Redlands Blvd	east of Redlands Blvd	63.4	0.0	0.0	56.8	59.0	65.4
6	Hemlock Ave	west of Redlands Blvd	Redlands Blvd	58.1	0.0	0.0	52.7	56.1	60.9
7	Eucalyptus Ave	west of Redlands Blvd	Redlands Blvd	62.7	0.0	0.0	57.2	60.0	65.3
8	Eucalyptus Ave	Redlands Blvd	east of Redlands Blvd	61.8	0.0	0.0	56.3	59.1	64.4

Distance to Traffic Noise Contours (feet)				
70 dB	65 dB	60 dB	55 dB	50 dB
53	113	244	526	1,133
53	114	245	528	1,137
58	125	269	580	1,249
31	68	146	315	678
25	53	114	245	529
12	27	58	124	267
24	52	112	242	521
21	46	98	212	457

Appendix E Rincon FHWA Traffic Noise Model

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Model Input

Project Name :	Redlands Boulevard and Hemlock Avenue Gas Station Project		
Project Number :	21-10878		
Modeling Condition :	General Plan Buildout Year 2040 Plus Project		
Ground Type :	Soft	Peak ratio to ADT:	
Metric (Leq, Ldn, CNEL) :	Ldn	Traffic Desc. (Peak or ADT) :	ADT

Segment Number	Roadway	Segment		Traffic Volume	Speed (mph)	Distance to Centerline	Vehicle Classification Mix (%)					24-Hour Traffic Distribution (%)			K-Factor	
		From	To				Automobiles	Motorcycles	Bus	Medium Trucks	Heavy Trucks	Day	Evening	Night		
1	Redlands Blvd	Ironwood Ave	Hemlock Ave	24,100	50	50	92				5	3	85		15	
2	Redlands Blvd	Hemlock Ave	SR-60 WB Ramps	22,400	50	50	92				5	3	85		15	
3	Redlands Blvd	SR-60 WB Ramps	Eucalyptus Ave	28,100	50	50	92				5	3	85		15	
4	Ironwood Ave	west of Redlands Blvd	Redlands Blvd	9,200	55	50	92				5	3	85		15	
5	Ironwood Ave	Redlands Blvd	east of Redlands Blvd	6,400	55	50	92				5	3	85		15	
6	Hemlock Ave	west of Redlands Blvd	Redlands Blvd	5,900	25	50	92				5	3	85		15	
7	Eucalyptus Ave	west of Redlands Blvd	Redlands Blvd	11,500	35	50	92				5	3	85		15	
8	Eucalyptus Ave	Redlands Blvd	east of Redlands Blvd	9,500	35	50	92				5	3	85		15	

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Model Results

Project Number :	Redlands Boulevard and Hemlock Avenue Gas Station Project
Modeling Condition :	21-10878
Ground Type :	General Plan Buildout Year 2040 Plus Project
Metric (Leq, Ldn, CNEL) :	Ldn

Segment Number	Roadway	Segment		Noise Levels (dB) Ldn					
		From	To	Automobiles	Motorcycles	Bus	Medium Trucks	Heavy Trucks	Total
1	Redlands Blvd	Ironwood Ave	Hemlock Ave	68.3	0.0	0.0	62.0	64.3	70.4
2	Redlands Blvd	Hemlock Ave	SR-60 WB Ramps	68.0	0.0	0.0	61.7	64.0	70.1
3	Redlands Blvd	SR-60 WB Ramps	Eucalyptus Ave	69.0	0.0	0.0	62.7	65.0	71.1
4	Ironwood Ave	west of Redlands Blvd	Redlands Blvd	65.1	0.0	0.0	58.5	60.7	67.1
5	Ironwood Ave	Redlands Blvd	east of Redlands Blvd	63.5	0.0	0.0	56.9	59.1	65.5
6	Hemlock Ave	west of Redlands Blvd	Redlands Blvd	59.7	0.0	0.0	54.3	57.6	62.5
7	Eucalyptus Ave	west of Redlands Blvd	Redlands Blvd	62.8	0.0	0.0	57.3	60.1	65.4
8	Eucalyptus Ave	Redlands Blvd	east of Redlands Blvd	61.9	0.0	0.0	56.4	59.3	64.6

Distance to Traffic Noise Contours (feet)				
70 dB	65 dB	60 dB	55 dB	50 dB
54	115	248	535	1,153
51	110	237	510	1,098
59	128	275	593	1,277
32	69	148	319	688
25	54	116	251	540
16	34	73	158	340
25	53	114	246	530
22	47	101	217	467