



Improving HVAC Refrigerant Charge Value Estimates for Residential Systems

Final Report

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Executive Summary

This report provides recommended normalized refrigerant charge values for all residential HVAC equipment types contained in the Database for Energy Efficiency Resources Refrigerant Avoided Cost Calculator and Combined Refrigerant Avoided Cost and Fuel-Substitution Calculators, Version 3.1 (RACC-FSC_v3.1 Tool). [Appendix C](#) includes all data collected to generate the recommended normalized refrigerant charge values.

The phasedown of hydrofluorocarbon refrigerants and limits of refrigerant global warming potential through federal and state regulations have resulted in new refrigerants being used in residential HVAC equipment. For California investor-owned utility programs, avoiding greenhouse gas emissions from HVAC system refrigerant leakage has a direct effect on the cost effectiveness of a measure and whether it passes the fuel substitution test. Measures in the California Electronic Technical Reference Manual measure catalog will benefit from more accurate refrigerant charge value data for estimating leakage rates. This research will impact all California energy efficiency programs offering residential HVAC measures.

The research team recommends updating the refrigerant charge values underlying the RACC Tools to match the residential HVAC equipment categories and the respective refrigerant charge values in [Table 8](#). If the IOUs decide not to update the HVAC equipment categories, the refrigerant charge values should be updated to reflect the values in [Table 9](#).

Abbreviations and Acronyms

Acronym	Meaning
CARB	California Air Resources Board
CPUC	California Public Utilities Commission
DEER	Database for Energy Efficiency Resources
EPA	United States Environmental Protection Agency
eTRM	Electronic Technical Reference Manual
GHG	Greenhouse gas
CARB, Appx B	Appendix B of California Facilities and Greenhouse Gas Emissions Inventory – High-Global Warming Potential Stationary Source Refrigerant Management Program
GWP	Global warming potential
HFC	Hydrofluorocarbon
HVAC	Heating, ventilation, and air conditioning
IOU	Investor-owned utility
PG&E	Pacific Gas & Electric
RACC	Refrigerant Avoided Cost Calculator
RACC-FSC_v3.1 Tool	Combined Refrigerant Avoided Cost and Fuel-Substitution Calculators, Version 3.1
SCE	Southern California Edison
SDG&E	San Diego Gas & Electric

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Introduction

The research team conducted a study on behalf of the California Public Utilities Commission (CPUC) and CalNEXT to research refrigerant charge amounts of residential heating, ventilation, and air-conditioning (HVAC) equipment. To achieve California's decarbonization goals through electrification, the state is encouraging the replacement of gas appliances with electric ones. This includes the increased installation of HVAC heat pumps, which introduces refrigerant and makes refrigerant management more urgent.

For California investor-owned utility (IOU) programs, avoiding greenhouse gas (GHG) emissions from HVAC system refrigerant leakage has a direct effect on the cost-effectiveness of a measure and whether it passes the fuel substitution test. This project proposes updates to the underlying data tables in the Database for Energy Efficiency Resources (DEER) and Combined Refrigerant Avoided Cost and Fuel-Substitution Calculators, Version 3.1 (RACC-FSC_v3.1 Tool), collectively referred to as "RACC Tools." Measures in the Electronic Technical Reference Manual (eTRM) measure catalog will benefit from a better understanding of refrigerant charge values for estimating leakage rates. This research will impact all California energy efficiency programs offering residential HVAC measures.

This report provides recommended refrigerant charge values for low-global-warming-potential refrigerants (R454B and R32) in residential HVAC equipment. In support of those values, this report also provides the following:

- A review of existing eTRM measures that will be affected by updated residential HVAC refrigerant charge values
- The impact of the HVAC equipment capacities on the refrigerant charge values
- The HVAC equipment manufacturers identified for data collection
- The refrigerant charge data collected by manufacturer, equipment type, and capacity
- The existing residential refrigerant HVAC charge estimates used in the RACC Tools

Background

Since 2006, the California Air Resources Board (CARB) and the US Environmental Protection Agency (EPA) have been actively phasing down the use of hydrofluorocarbons (HFCs) due to their high global warming potential (GWP). In October 2018, CARB announced a new rulemaking prohibiting refrigerant with a GWP of 750 or more in residential HVAC equipment starting January 1, 2023. Since these regulations render R-410A ineligible for many residential HVAC applications, most manufacturers of residential HVAC equipment have been switching to R-32 or R-454B as the primary refrigerant for their North American product lines; other refrigerants that also have a GWP less than 750 are being used, but less commonly. The transition to new refrigerants changes the impact of fuel substitution measures as newer equipment is charged with different amounts of compliant, low-GWP refrigerants.

Programs that use eTRM measures require accurate refrigerant charge value estimates. These estimates greatly affect costs and savings calculations associated with adding refrigerants derived

by RACC Tools. This research seeks to improve the accuracy of the RACC Tools used in savings calculations for existing and future measures.

Objectives

The objectives of the study are solutions focused on residential HVAC equipment:

- Collect refrigerant type and charge value data for:
 - Multiple examples of each residential HVAC equipment used in the RACC Tools
 - At least three manufacturers of each residential HVAC equipment type
 - A range of HVAC equipment capacities

This report includes analysis of the following:

- Existing measures affected by refrigerant charge values
- Impact of the HVAC equipment capacities on the refrigerant charge values
- Existing estimates of refrigerant charge
- Make and model of several specific units representing each HVAC equipment category for each manufacturer
- The research team's recommendation for updates to the RACC Tools' HVAC refrigerant charge value estimates, by equipment type and capacity

Methodology and Approach

The research team's method for collecting and analyzing relevant HVAC data is described below. This section describes the team's approach to identifying key market manufacturers, affected measure packages, and equipment categories.

Manufacturer Identification

The research team reviewed program participation data for residential HVAC systems installed in California to identify manufacturers with equipment commonly participating in the California program, Comfortably California, a statewide program that supports contractors and distributors with installation of high efficiency HVAC equipment¹. [Figure 1](#) represents the share of residential HVAC installations in the Comfortably California midstream program by manufacturer. The research team collected data both by using online publicly available data and by reaching out to manufacturers.

¹ (Comfortably California n.d.). Note that the TECH Clean California program database does not include manufacturer as a field, so the research team did not conduct similar analysis for TECH Clean California.

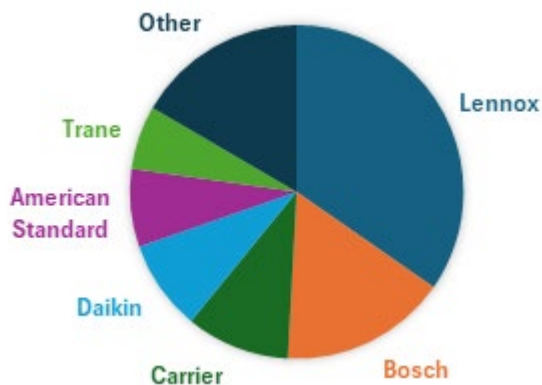


Figure 1: Comfortably California residential installations by manufacturer.

Source: Comfortably CA Participation Data, CLEAResult

The research team collected data from 19 manufacturers. This data pool includes data from five of the manufacturers with significant market share that participated in the Comfortably California Program, which are shown in [Figure 1](#)—Lennox, Bosch, Carrier, Daikin, and Trane.

The following 14 manufacturers are included in “Other” of [Figure 1](#) or have not participated in the Comfortably California program:

- Samsung Electronics
- Rheem Manufacturing Company
- LG Electronics
- Friedrich
- General Electric
- Toshiba Corporation
- AprilAire
- Midea
- Amana
- Gree Electric Appliances
- Vissani
- Mitsubishi
- Gradient Comfort
- Cooper&Hunter

Data Collection

The research team conducted online research and outreach to identify manufacturers to request the publicly stored location of refrigerant charge values and availability of existing datasets from. The sources of refrigerant charge data include manufacturers’ specification sheets, online databases, and shared datasets. The research team collected the following data for each analyzed system:

- Manufacturer
- Model number
- Equipment type
- Rated capacity
- Refrigerant type
- Refrigerant charge

Data Analysis

The data analysis consisted of:

- Aggregation of collected data
- Identification of trends in refrigerant quantities by equipment type, rated capacity, and refrigerant type
- Summary of data sources

[Table 8](#) contains the research team’s recommendations to the RACC Tools’ refrigerant charge value estimates that should result in more accurate cost estimates for relevant measures.

Findings

The research team’s recommendations are based on actual refrigerant charge data collected from manufacturers of residential HVAC equipment in 2025. The current version of the RACC Tools contains refrigerant charge estimates based on equipment shipment data from CARB’s F-Gas Inventory² and an estimated 3.5 lbs. per ton for air-conditioning (AC) systems per *Appendix B of California Facilities and Greenhouse Gas Emissions Inventory – High-Global Warming Potential Stationary Source Refrigerant Management Program*³ (CARB, Appx B). The existing estimates are outdated and based on charge sizes of phased-out refrigerants. This research provides recommendations for improved HVAC refrigerant charge estimates with the following updates:

- Equipment categories used to identify unique equipment with significant differences in refrigerant charge size
- Equipment category specific refrigerant charge per capacity

All the data tables in this report were generated based on data collected in [Appendix Table 24](#) with the exception of [Table 7](#) which is based on the RACC-FSC_V3.1⁴ ‘O Refrig Research’ sheet.

Data Collection

Measure Identification

The research team reviewed all measures in the eTRM measure catalog that use the RACC tools and would therefore be impacted by changes to residential HVAC refrigerant charge values. The measures are not the only residential HVAC measures that use refrigerant containing equipment, but they are the only ones where refrigerant charge values are changing as part of the measure installation. Table 1 contains the five identified residential measures that matched this criterion.

² (CARB 2023)

³ (R. D. CARB 2009)

⁴ (CPUC 2024)

The research team found heat pumps using low-GWP refrigerants (R-454B and R-32) typically contained less refrigerant than similar heat pumps using R-410A. A decrease in refrigerant charge and refrigerant GWP will increase the avoided cost of refrigerant and improve total system benefit.

Table 1: Residential measures affected by changes in refrigerant cost.

Code	Measure	Measure Description
SWAP020-01	Portable Air Conditioner and Heat Pump, Residential	Installation of a portable air conditioner or heat pump
SWHC044-06	Ductless HVAC, Residential, Fuel Substitution	Replacement of electric resistance heating or natural gas furnace with a ductless HVAC system
SWHC045-05	Heat Pump HVAC, Residential, Fuel Substitution	Replacement of electric resistance heating or natural gas furnace with a heat pump HVAC system
SWWB008-02	All-Electric Homes, Residential, New Construction	Installation of above-code heat pump equipment in new construction
SWSV014-04	Lifecycle Refrigerant Management, Residential	Refrigerant charge adjustment, leak detection and repair

Source: <https://www.caetrm.com/>

Stakeholder Feedback

The research team contacted stakeholders to collect feedback on data availability and confirmation of data collection processes. [Table 2](#) lists the contacted stakeholders: equipment manufacturers, distributors, and a program implementer.

The feedback provided by manufacturers and distributors confirmed data availability and the location of refrigerant charge values. The manufacturers also provided feedback on the equipment categories used within the RACC Tools, leading to the updated equipment categories recommended within this report.

Carrier Enterprise⁵ and Ferguson HVAC Supply⁶ databases are publicly available.

CLEAResult provided program participation data for Comfortably California, a statewide midstream program implemented by CLEAResult on behalf of SDG&E and California IOUs.

⁵ (CE 2025)

⁶ (Ferguson Enterprise LLC 2025)

Table 2: Contacted stakeholders.

Stakeholder	Stakeholder Category
Carrier	Manufacturer
Rheem	Manufacturer
Trane	Manufacturer
Lennox	Manufacturer
LG Electronics	Manufacturer
Daikin	Manufacturer
Midea	Manufacturer
Mitsubishi Electric	Manufacturer
Fujitsu	Manufacturer
Johnson Controls	Manufacturer
Haier	Manufacturer
Gradient Comfort	Manufacturer
Carrier Enterprise	Distributor
Ferguson HVAC Supply	Distributor
CLEAResult	Program implementer

Equipment Categorization

The research team received feedback from key manufacturers that the categories used in the RACC Tools are not the typical categories used by industry. Upon receiving this feedback, the program team restructured the equipment categories into the categories seen in [Table 3](#). [Table 3](#) shows the recommended equipment categories in relation to the RACC Tools' existing equipment categories to allow DEER the ability to keep the existing equipment categories if desired.

Table 3: Recommended HVAC equipment categories and the related existing categories.

Recommended HVAC Equipment Category	Existing HVAC Equipment Category
Residential Split System AC	Residential Unitary AC
Residential Packaged AC	Residential Unitary AC
Ductless Mini Split AC	Residential Unitary AC
Window AC	Window/Room/Wall AC and Packaged Terminal AC (PTAC) Units, residential
Portable AC	Portable AC
Packaged Terminal AC (PTAC) Units	Window/Room/Wall AC and Packaged Terminal AC (PTAC) Units, residential
Residential Split System HP	Residential Heat Pumps
Residential Packaged HP	Residential Heat Pumps
Ductless Mini Split HP	Residential Heat Pumps
Packaged Terminal HP (PTHP) Units	Window/Room/Wall AC and Packaged Terminal AC (PTAC) Units, residential
Window HP	Window/Room/Wall AC and Packaged Terminal AC (PTAC) Units, residential
Portable HP	Window/Room/Wall AC and Packaged Terminal AC (PTAC) Units, residential
Dehumidifiers	Dehumidifiers

Data Collection Summary

The research team collected data for 707 systems from 19 manufacturers, listed in [Table 4](#). [Appendix Table 24](#) contains a dataset with the collected make, model, capacity, charge value, and equipment type for each system.

Table 4: Final data collection summary.

HVAC Equipment Category	Data Collected	Unique Manufacturers
Residential Split System AC	193	5
Residential Packaged AC	71	4
Ductless Mini Split AC	34	5
Window AC	69	4
Portable AC	24	3

HVAC Equipment Category	Data Collected	Unique Manufacturers
Packaged Terminal AC (PTAC) Units	19	4
Residential Split System HP	141	6
Residential Packaged HP	53	4
Ductless Mini Split HP	66	5
Packaged Terminal HP (PTHP) Units	20	4
Window HP	4	3
Portable HP	3	3
Dehumidifiers	10	5

Data Analysis

Accuracy of Refrigerant Charge Estimates

The current version of the RACC Tools uses an average charge size data that is calculated by a combination of Table 24 of the CARB, Staff Report of the *Public Hearing to Consider Proposed Amendments to the Prohibition on Use of Certain Hydrofluorocarbons in Stationary Refrigeration, Chillers, Aerosols-Propellants, and Foam End-uses Regulation*⁷ (CARB, Staff Report) and the conversion factor for AC systems in the CARB, Appx B. This calculation uses broad industry data from CARB’s F-Gas Inventory 2016⁸ to estimate average R-410A charge size per unit and multiplies this estimate against a conversion factor of 3.5. While the broadness of this calculation captured industry wide data, it also disregarded nuances between equipment categories that can significantly improve the accuracy of the RACC Tools. More granular refrigerant charge estimates can be made for each equipment category with the recommended HVAC equipment categories. [Appendix Table 23](#) shows the assumed baseline refrigerant and average charge size assumed currently, based on the CARB, Staff Report.

Advantages of Updated Equipment Categories

The recommended HVAC equipment categories in Table 5 provide more robust results for refrigerant charge values by equipment type for current refrigerants than the *existing* HVAC equipment categories in [Table 7](#). The research team found differences in the results of the data analysis between equipment categories that were previously included in the same category within the RACC Tools. Additionally, the research team noticed that the previous equipment categories used different units for some categories, creating inconsistency and making it harder to compare refrigerant charge

⁷ (R. D. CARB 2020)

⁸ (CARB 2023)

sizes across them. The research team recommends adopting the recommended HVAC equipment categories to improve the accuracy of the RACC Tools' calculations. HVAC equipment categories with a "N/A" value under recommended R-410A charge values did not have enough data available to conclusively recommend an accurate, updated charge value. For these equipment types marked with a "N/A" value, the research team recommends using the existing RACC charge values.

Table 5: Recommended refrigerant charge for recommended HVAC equipment categories.

Recommended HVAC Equipment Category	Baseline Refrigerant	Refrigerant Charge Size per unit
Residential Split System AC	R-454B; R-32	2.11 lb/ton
Residential Packaged AC	R-454B; R-32	2.00 lb/ton
Ductless Mini Split AC	R-454B; R-32	2.50 lb/ton
Window AC	R-454B; R-32	0.87 lb/ton
Portable AC	R-454B; R-32	0.96 lb/ton
Packaged Terminal AC (PTAC) Units	R-454B; R-32	1.47 lb/ton
Residential Split System HP	R-454B; R-32	2.62 lb/ton
Residential Packaged HP	R-454B; R-32	2.32 lb/ton
Ductless Mini Split HP	R-454B; R-32	2.39 lb/ton
Packaged Terminal HP (PTHP) Units	R-454B; R-32	1.93 lb/ton
Window HP	R-454B; R-32	2.54 lb/ton
Portable HP	R-454B; R-32	0.99 lb/ton
Dehumidifiers	R-410A; R-32	0.63 lb each

[Table 6](#) provides similar data to Table 5, but for the refrigerant R-410A.

Table 6: Recommended refrigerant charge for recommended HVAC equipment categories.

Recommended HVAC Equipment Category	Baseline Refrigerant	Calculated Average Charge Size per unit	Recommended Refrigerant Charge Size per unit
Residential Split System AC	R-410A	2.46 lb/ton	2.46 lb/ton
Residential Packaged AC	R-410A	1.87 lb/ton	1.87 lb/ton
Ductless Mini Split AC	R-410A	2.30 lb/ton	2.30 lb/ton
Window AC*	R-410A	0.93 lb/ton	N/A
Portable AC	R-410A	No data available	N/A
Packaged Terminal AC (PTAC) Units*	R-410A	2.10 lb/ton	N/A

Recommended HVAC Equipment Category	Baseline Refrigerant	Calculated Average Charge Size per unit	Recommended Refrigerant Charge Size per unit
Residential Split System HP	R-410A	3.19 lb/ton	3.19 lb/ton
Residential Packaged HP	R-410A	3.39 lb/ton	3.39 lb/ton
Ductless Mini Split HP	R-410A	2.45 lb/ton	2.45 lb/ton
Packaged Terminal HP (PTHP) Units*	R-410A	2.33 lb/ton	N/A
Window HP	R-410A	No data available	N/A
Portable HP*	R-410A	1.41 lb/ton	1.41 lb/ton
Dehumidifiers ⁹	R-410A; R-32	0.63 lb each	0.63 lb each

* [Average refrigerant charge values for these HVAC equipment categories are based on equipment data from less than three manufacturers.](#)

[Table 7](#) shows the existing categories and the charge amounts assumed in the current RACC tool. These charge values are based on the CARB, Staff Report, which can be found in [Appendix Table 23](#).

Table 7: RACC Tool Average refrigerant charge for existing HVAC equipment categories.

Existing HVAC Equipment Category	Baseline Refrigerant	RACC Refrigerant Charge Size per unit
Residential Unitary AC	R-410A	3.20 lb/ton
Residential Heat Pumps	R-410A	3.50 lb/ton
Window/Room/Wall AC and Packaged Terminal AC (PTAC) Units, residential	R-410A; R-32	1.54 lb each
Portable AC	R-410A; R-32	1.54 lb each
Dehumidifiers	R-410A; R-32	1.00 lb each

Source: RACC-FSC_v3.1 '0 Refrig Research' (CPUC 2024)

[Table 8](#) compares *recommended* refrigerant charge per unit for both current and legacy refrigerants and *existing* refrigerant charge per unit by HVAC equipment category. HVAC equipment categories with a “N/A” value under recommended R-410A charge values did not have enough data available to

⁹ The recommended charge values for dehumidifiers are calculated using a blended average of equipment using R-32 and R-410A refrigerants. These values are a calculated average of lb of refrigerant per each as dehumidifiers are not rated in tons. Therefore, a lb of refrigerant per ton value cannot be calculated.

conclusively recommend an accurate, updated charge value. For these equipment types marked with an “N/A” value, the research team recommends using the existing RACC charge values.

Table 8: Average refrigerant charge for recommended residential HVAC equipment categories.

HVAC Equipment Category	Recommended Refrigerant Charge per unit (R-32/R-454B)	Calculated Average Refrigerant Charge per unit (R-410A)	Recommended Refrigerant Charge per unit (R-410A)	Existing Refrigerant Charge per unit (R-410A)
Residential Split System AC	2.11 lb/ton	2.46 lb/ton	2.46 lb/ton	3.20 lb/ton
Residential Packaged AC	2.00 lb/ton	1.87 lb/ton	1.87 lb/ton	3.20 lb/ton
Ductless Mini Split AC	2.50 lb/ton	2.30 lb/ton	2.30 lb/ton	3.20 lb/ton
Window AC	0.87 lb/ton	0.93 lb/ton	N/A	1.54 lb each
Portable AC	0.96 lb/ton	No data available	N/A	1.54 lb each
Packaged Terminal AC (PTAC) Units	1.47 lb/ton	2.10 lb/ton	N/A	1.54 lb each
Residential Split System HP	2.62 lb/ton	3.19 lb/ton	3.19 lb/ton	3.50 lb/ton
Residential Packaged HP	2.32 lb/ton	3.39 lb/ton	3.39 lb/ton	3.50 lb/ton
Ductless Mini Split HP	2.39 lb/ton	2.45 lb/ton	2.45 lb/ton	3.50 lb/ton
Packaged Terminal HP (PTHP) Units	1.93 lb/ton	2.33 lb/ton	N/A	1.54 lb each
Window HP	2.54 lb/ton	No data available	N/A	1.54 lb each
Portable HP	0.99 lb/ton	1.41 lb/ton	1.41 lb/ton	1.54 lb each
Dehumidifiers	0.63 lb each	0.63 lb each	0.63 lb each	1.00 lb each

Source: [Table 5](#), [Table 6](#), [Table 7](#).

[Table 9](#) provides the recommended updates to refrigerant charge values if HVAC equipment categories are not updated to the research team’s recommended HVAC equipment categories.

Table 9: Recommended refrigerant charge for existing HVAC equipment categories. ¹⁰

Existing HVAC Equipment Category	Recommended Refrigerant Charge per unit (R-32/R-454B)	Recommended Refrigerant Charge per unit (R-410A)
Residential Unitary AC	2.11 lb/ton	2.26 lb/ton
Residential Heat Pumps	2.50 lb/ton	3.01 lb/ton
Window/Room/Wall AC and Packaged Terminal AC (PTAC) Units, residential	1.20 lb/ton	1.72 lb/ton
Portable AC	0.97 lb/ton	1.41 lb/ton
Dehumidifiers	0.63 lb each	0.63 lb each

Refrigerant Charge Trends

The research team analyzed trends in factory refrigerant charge data collected for this study. This section reviews results for trends in charge size by rated capacity of residential HVAC equipment, equipment type, and refrigerant type.

RATED CAPACITY

To understand the overall trend in refrigerant charge for each type of equipment, a regression curve was fit to the collected data with capacity as the independent variable and refrigerant charge as the dependent variable. The regression curve estimate for the refrigerant charge at even steps in capacity is listed in [Table 10](#) and 11. These data are only intended to show the general trend and are not intended to be used in the RACC tool or other calculations. These data are only intended to show the general trend and are not intended to be used in the RACC tool or other calculations. The data demonstrates that refrigerant charge size increases with rated capacity, as expected. There are a few exceptions to this trend with split systems seeing a small increase at 2.0 tons and packaged AC systems decreasing at 4.0 tons. However, these differences can be attributed to system designs and other efficiency margins and they do not discount the research team’s recommendation of using charge per ton as a unit of measure to improve the accuracy of RACC Tool calculations. This recommendation applies to all recommended HVAC equipment categories excluding dehumidifiers, which we recommend a unit of lb per unit, since dehumidifier capacity is typically measured in pints per day.

¹⁰ The recommended refrigerant charge values shown in Table 9 represent the most accurate values that considers all data collected throughout the project. Values shown in this table differ by an average of 0.9% and a maximum of 3.3% from the previous values.

Table 10: Average refrigerant charge per equipment type by rated capacity (R-32/R-454B).¹¹

HVAC Equipment Category	0.5 ton	0.75 ton	1.0 ton	1.25 ton	1.5 ton	2.0 ton	2.5 ton	3.0 ton	3.5 ton	4.0 ton	5.0 ton
Residential Split System AC	-	-	-	-	4.14	5.29	4.93	5.93	6.34	7.72	8.45
Residential Packaged AC	-	-	-	-	-	4.94	5.26	5.91	7.04	6.35	8.74
Ductless Mini Split AC	2.03	2.24	2.17	2.54	3.39	4.19	-	-	-	-	-
Window AC	0.44	-	0.90	0.94	1.50	1.84	-	-	-	-	-
Portable AC	0.46	0.44	0.71	-	-	-	-	-	-	-	-
Packaged Terminal AC (PTAC) Units	-	1.45	1.32	2.13	-	-	-	-	-	-	-
Residential Split System HP	-	-	-	-	5.57	6.30	5.76	7.28	8.40	10.18	10.54
Residential Packaged HP	-	-	-	-	-	5.69	6.19	7.33	7.70	8.30	9.48
Ductless Mini Split HP	-	2.13	2.25	2.81	3.55	4.40	5.29	7.05	-	-	-
Packaged Terminal HP (PTHP) Units	-	1.46	1.72	1.80	-	-	-	-	-	-	-

Table 11 shows similar information—demonstrating refrigerant charge size increases with rated capacity—but for the refrigerant R-410A.

¹¹ Data is not included in the table for equipment categories with one or zero capacities collected. Only common equipment capacities are shown to reduce the number of columns within the table. Cells marked as “-” do not contain data.

Table 11: Average refrigerant charge per equipment type by rated capacity (R-410A).

HVAC Equipment Category	Average Total Factory Charge by Rated Capacity (R-410A)									
	0.75 ton	1.0 ton	1.25 ton	1.5 ton	2.0 ton	2.5 ton	3.0 ton	3.5 ton	4.0 ton	5.0 ton
Residential Split System AC	-	-	-	4.18	5.69	5.45	6.43	8.55	10.13	11.49
Residential Packaged AC	-	-	-	-	4.40	4.75	6.09	6.65	6.44	7.84
Ductless Mini Split AC	1.77	2.14	3.20	3.94	3.90	5.88	6.52	-	10.50	10.50
Packaged Terminal AC (PTAC) Units	1.79	1.73	1.95	-	-	-	-	-	-	-
Residential Split System HP	-	-	-	6.07	6.66	7.05	8.34	10.31	13.50	15.44
Residential Packaged HP	-	-	-	6.40	7.60	9.65	9.80	10.55	13.80	12.70
Ductless Mini Split HP	2.16	2.25	-	3.67	4.66	6.06	7.50	-	-	-
Packaged Terminal HP (PTHP) Units	1.96	2.05	-	-	-	-	-	-	-	-

EQUIPMENT TYPE

The research team found that equipment categories that were previously included within a single equipment category have refrigerant charge values that are independent of each other and should be separated into individual categories. The research team also found that heat pump systems typically require more refrigerant charge than AC systems ([Table 9](#)). These findings highlight the value of updating the existing equipment categories to accurately estimate the refrigerant charge of each recommended equipment category.

REFRIGERANT TYPE AND CHARGE

The research team found that newer systems charged with R-32 and R-454B tend to require less refrigerant than equipment charged with R-410A ([Table 12](#)). This conclusion is not universally true for all system types, as packaged unitary residential systems and dehumidifiers were found to have an increase in refrigerant.

Refrigerant charge data for Window/Portable/Packaged Terminal AC units charged with R-410A are difficult to source due to current market conditions highly favoring the use of R-32 in these equipment categories. However, since the available refrigerant charge data reflects existing estimated charge values for these categories, the research team estimates a similar trend for these system types.

Table 12: Average refrigerant charge size per equipment type by refrigerant type.

HVAC Equipment Category	Average Total Factory Charge by Refrigerant Type (lbs)	
	R-410A	R-32/R-454B
Residential Split System AC	7.64	6.27
Residential Packaged AC	6.03	6.26
Ductless Mini Split AC	4.45	3.02
Window AC	0.98	0.83
Portable AC	-	0.65
Packaged Terminal AC (PTAC) Units	1.77	1.31
Residential Split System HP	9.93	8.04
Residential Packaged HP	10.07	7.40
Ductless Mini Split HP	3.45	3.18
Packaged Terminal HP (PTHP) Units	2.00	1.63
Window HP	-	1.91

HVAC Equipment Category	Average Total Factory Charge by Refrigerant Type (lbs)	
	R-410A	R-32/R-454B
Portable HP	1.41	1.06
Dehumidifiers	0.45	0.75

Recommendations

The research team has developed the *ET25SWE0036(37)_RACC-FSC_v3.1 Update Guide*¹² as a supplementary guide to support the implementation of the research team’s recommendations. These recommendations involve updating the underlying HVAC Equipment Categories and refrigerant charge value tables used in the RACC-FSC_v3.1 Tool to reflect the following:

- ‘0 Refrig Research’ sheet, columns B and C: Update the residential HVAC Equipment Categories to the Recommended HVAC Equipment Categories in [Table 3](#) and the corresponding refrigerant types in [Table 5](#).
- ‘0 Refrig Research’ sheet, columns E and F: Update the refrigerant charge values to reflect the results of the data analysis for each residential HVAC Equipment Category. The values associated with each HVAC Equipment Category can be found in [Table 8](#).
- ‘CARB_RefrigLeaks_DEER’ sheet, column B: Update the residential HVAC Equipment Categories to the Recommended HVAC Equipment Categories in [Table 3](#).
 - Verify leakage rates are accurate (see *ET25SWE0036(37)_RACC-FSC_v3.1 Update Guide*¹²)
- ‘CARB_RefrigLeaks_DEER’ sheet, column F: Update the refrigerant charge values to reflect the results of the data analysis for each residential HVAC Equipment Category. The values associated with each HVAC Equipment Category can be found in [Table 8](#).
- ‘1 Device Builder’ sheet, column K: Update default refrigerant charge values for default device type templates in [Table 3](#).

If the residential HVAC Equipment Categories are to remain as existing:

- ‘0 Refrig Research’ sheet, columns E and F: Update the refrigerant charge values to reflect the results of the data analysis for the existing HVAC Equipment Categories. These values are included in [Table 9](#).
- ‘CARB_RefrigLeaks_DEER’ sheet, column F: Update the refrigerant charge values to reflect the results of the data analysis for the existing HVAC Equipment Categories. These values are included in [Table 9](#).

While the scope of this study was to collect refrigerant charge values for low-GWP refrigerants (R454B and R32), the research team also collected charge values for the legacy refrigerant R410A where available. While new equipment must use the low-GWP refrigerants, RACC tool users may still

¹² (TRC Companies 2025)

use the legacy refrigerant charge values in their assumptions for existing equipment for determining baseline impacts. The existing RACC tool uses refrigerant charge values for R410A that are outdated, since they are based on values from a 2016 study. This report recommends updated values for R410A in equipment types when there was sufficient data available. . For equipment types where data was not sufficient to conclusively recommend an accurate, updated charge value for example, window heat pump units), the research team recommends using the existing RACC charge values. Note that the R410A charge values gathered by the research team generally show *lower* charge values than in the existing RACC tool. If the IOUs incorporate these recommended updated values for R410A, it will show lower emissions estimates from baseline equipment and therefore less GHG savings from the new equipment with low-GWP refrigerants. By updating the R410A assumptions in the RACC tool, the GHG savings assumptions will be more conservative.

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Appendix A: Average Charge Size Data by Equipment Type

Appendix A categorizes all relevant refrigerant charge data collected for this report. This appendix contains manufacturer and average refrigerant charge per capacity for each equipment category of the systems analyzed. The values in this appendix are derived from data contained in [Appendix C](#).

Appendix Table 1: Residential Split System AC average refrigerant charge (R-454b/R-32).

Tonnage	Carrier	Daikin	Rheem	Trane	Lennox
1.50	4.10	3.54	4.00	5.13	4.00
2.00	4.66	4.19	5.47	6.50	5.32
2.50	5.43	4.22	4.56	4.98	7.88
3.00	6.49	4.85	6.78	6.49	6.04
3.50	7.00	5.78	7.00	6.52	-
4.00	6.79	6.92	7.38	8.86	9.50
5.00	7.91	7.69	11.41	8.61	9.63

Appendix Table 2: Residential Split System AC average refrigerant charge (R-410a).

Tonnage	Daikin	Rheem	Trane
1.50	4.14	4.38	-
2.00	5.56	4.88	7.38
2.50	5.46	5.38	-
3.00	6.20	6.63	7.88
3.50	8.69	7.88	-
4.00	10.29	7.56	11.56
5.00	11.29	11.63	12.75

Appendix Table 3: Residential Packaged AC average refrigerant charge (R-454b/R-32).

Tonnage	Daikin	Trane	Lennox
2.00	3.66	5.71	4.38
2.5	3.23	6.96	4.56
3	4.90	7.03	4.50
3.5	7.38	7.37	5.38
4	5.13	6.91	5.31
5	6.25	9.59	7.81

Appendix Table 4: Residential Packaged AC average refrigerant charge (R-410a).

Tonnage	Carrier	Daikin	Trane
2	4.50	4.09	5.24
2.5	4.80	4.00	6.94
3	6.80	5.48	7.20
3.5	5.70	6.75	7.30
4	6.30	6.13	7.50
5	7.50	7.36	9.65

Appendix Table 5: Ductless Mini Split AC average refrigerant charge (R-454b/R-32).

Tonnage	Carrier	Rheem	Samsung
0.5	2.03	-	-
0.75	2.20	2.38	2.13
1.00	2.20	-	2.13
1.25	-	-	2.54
1.50	3.46	-	3.31
2.00	3.97	-	4.41
2.75	5.45	-	-

Appendix Table 6: Ductless Mini Split AC average refrigerant charge (R-410a).

Tonnage	Carrier	Daikin	Lennox
0.75	-	1.63	1.85
1.00	-	2.09	2.16
1.25	-	3.20	-
1.50	7.50	3.20	2.53
2.00	6.80	3.86	2.47
2.5	8.70	3.64	5.31
3	9.40	3.64	-
4	10.50	-	-
5	10.50	-	-

Appendix Table 7: Window AC average refrigerant charge (R-454b/R-32).

Tonnage	LG	Toshiba	Midea	Vissani
0.42	0.38	-	-	-
0.50	0.43	-	-	0.49
0.67	0.59	0.57	0.60	-
0.83	0.63	-	-	-
1.00	0.90	-	-	-
1.17	0.91	-	-	-
1.25	0.94	-	-	-
1.50	1.50	-	-	-
2.00	1.84	-	-	-

Appendix Table 8: Window AC average refrigerant charge (R-410a).

Tonnage	Toshiba Corporation
0.83	0.75
1.00	0.90
1.17	1.12

Appendix Table 9: Portable AC average refrigerant charge (R-454b/R-32).

Tonnage	LG	Toshiba	Vissani
0.42	0.45	-	-
0.50	0.46	-	-
0.58	0.57	-	-
0.67	0.71	-	-
0.75	-	-	0.44
0.83	0.85	-	-
1.00	-	0.71	-
1.17	0.78	-	-

Appendix Table 10: Packaged Terminal AC (PTAC) average refrigerant charge (R-454b/R-32).

Tonnage	LG	General Electric	Midea
0.58	-	1.63	-
0.75	-	1.69	1.21
0.83	0.90	-	-
1.00	0.95	2.00	1.72
1.17	1.14	-	-
1.25	-	2.13	-

Appendix Table 11: Residential Split System HP average refrigerant charge (R-454b/R-32).

Tonnage	Carrier	Daikin	Rheem	Trane	Lennox	Bosch
1.50	6.50	4.74	5.19	6.50	-	-
2.00	5.40	5.70	7.48	6.70	6.63	4.81
2.5	6.10	5.14	6.19	6.34	-	-
3	7.60	6.56	9.06	7.53	6.69	5.69
3.5	7.30	7.94	8.13	9.62	-	-
4	10.50	10.10	10.61	10.01	10.19	-
5	8.70	10.95	13.05	9.84	10.44	8.13

Appendix Table 12: Residential Split System HP average refrigerant charge (R-410a).

Tonnage	Carrier	Daikin	Trane
1.50	5.90	6.13	-
2.00	6.30	6.57	7.38
2.5	9.00	6.40	-
3	9.00	7.77	9.94
3.5	9.90	10.44	-
4	10.80	14.72	11.31
5	13.70	16.45	13.13

Appendix Table 13: Residential Packaged HP average refrigerant charge (R-454b/R-32).

Tonnage	Daikin	Trane	Lennox
2.00	5.74	5.91	5.06
2.5	6.19	6.26	6.06
3	7.63	7.24	6.31
3.5	7.47	7.32	9.38

Tonnage	Daikin	Trane	Lennox
4	8.75	7.10	8.94
5	9.46	9.51	-
7.5	-	-	9.38

Appendix Table 14: Residential Packaged HP average refrigerant charge (R-410a).

Tonnage	Carrier	Daikin	Trane
1.50	6.40	-	-
2.00	7.70	-	7.50
2.5	11.50	-	7.80
3	12.40	-	7.20
3.5	12.40	-	8.70
4	13.80	-	-
5	16.20	9.19	-

Appendix Table 15: Ductless Mini Split HP average refrigerant charge (R-454b/R-32).

Tonnage	Carrier	Rheem	Trane	Lennox	Mitsubishi
0.75	2.03	2.15	2.27	2.13	2.00
1.00	2.06	2.31	2.96	2.13	2.00
1.25	-	-	-	3.00	2.25
1.50	3.00	3.38	3.52	4.08	3.00
2.00	4.40	4.48	3.97	4.46	-
3	7.05	7.05	-	-	-

Appendix Table 16: Ductless Mini Split HP average refrigerant charge (R-410a).

Tonnage	Carrier	Trane	Lennox
0.75	2.10	2.88	1.56
1.00	2.16	3.06	1.81
1.50	3.53	4.63	3.00
2.00	4.83	5.06	3.94
2.5	6.06	-	-
3	7.50	-	-

Appendix Table 17: Packaged Terminal HP (PTHP) average refrigerant charge (R-454b/R-32).

Tonnage	Trane	GE	Midea
0.58	1.70	1.66	1.08
0.75	1.50	1.75	1.10
1.00	1.80	1.91	1.37
1.25	1.85	2.13	1.35

Appendix Table 18: Packaged Terminal HP (PTHP) average refrigerant charge (R-410).

Tonnage	Friedrich
0.58	-
0.75	1.96
1.00	2.05
1.25	-

Appendix Table 19: Window HP average refrigerant charge (R-454b/R-32).

Tonnage	Midea	Gree	Gradient
0.75	2.02	1.87	1.72

Appendix Table 20: Portable HP average refrigerant charge (R-454b/R-32/R-410).

Tonnage	Toshiba	Midea	Cooper & Hunter
1.00	1.06	-	1.41
1.17	-	1.06	-

Appendix Table 21: Dehumidifier average refrigerant charge (R-454b/R-32).

Unit	Carrier	AprilAire
each	0.86	0.71

Appendix Table 22: Dehumidifier average refrigerant charge (R-410a).

Unit	Amana	Midea	GE
each	0.53	0.43	0.41

Appendix B: Existing Baseline Characteristics

[Appendix Table 23](#) shows the existing refrigerant charge assumptions in the RACC tool. These are based on a CARB, Staff Report from 2020 (R. D. CARB 2020). [Table 7](#) references [Table 24. Baseline characteristics for stationary AC](#) of the CARB, Staff Report (*not to be confused with Appendix Table 24 in [Appendix C](#)) to determine baseline refrigerant and average charge size.

Appendix Table 23: Existing baseline characteristics for Stationary AC.

HVAC Equipment Category	Baseline Refrigerant	Average Charge Size (lbs)
Room AC – window/wall	R-410A; R-32	1.54
Room AC – portable	R-410A; R-32	1.54
Room AC – PTAC/PTHP	R-410A; R-32	1.0
Room AC – dehumidifiers	R-410A	1.0
Residential AC	R-410A	8.157
Residential HP	R-410A	7.5
Non-residential AC ($\geq 65k$ to $< 135,000k$ Btu/hr)	R-410A	25
Non-residential AC ($\geq 135,000k$ Btu/hr)	R-410A	60

Source: Table 24 (R. D. CARB 2020)

Table 24. Baseline characteristics for stationary AC

System Type	Baseline Refrigerant	Baseline GWP (100-year, AR4)	Lifetime (Years)	Average Charge Size (lbs.)	Average Annual Leak Rate (%)	Average End-of-Life Leak Rate (%)
Room AC – window/wall	R-410A; R-32	1,382	12	1.54	2.0%	98.5%
Room AC – portable	R-410A; R-32	1,382	10	1.54	1.0%	98.5%
Room AC – PTAC/PTHP	R-410A; R-32	1,382	12	1.0	2.0%	98.5%
Room AC – dehumidifiers	R-410A	2,088	5	1.0	1.0%	98.5%
Residential AC	R-410A	2,088	15	8.157	5.3%	80.0%
Residential HP	R-410A	2,088	15	7.5	5.0%	80.0%
Non-residential AC ($\geq 65k$ to $< 135,000k$ Btu/hr)	R-410A	2,088	20	25	10.0%	56.0%
Non-residential AC ($\geq 135,000k$ Btu/hr)	R-410A	2,088	20	60	7.0%	20.0%

Source: (R. D. CARB 2020)

Appendix C: Data Collection

The following table compiles all data collected for the study. Databases accessed to collect this data are listed below and are publicly available:

- (Airtek Canada 2025)
- (AprilAire 2025)
- (Bosch Thermotechnology Corp. 2025)
- (CE 2025)
- (Carrier 2025)
- (Cooper&Hunter 2025)
- (Daikin Comfort Technologies North America, Inc. 2025)
- (Ferguson Enterprise LLC 2025)
- (Friedrich 2025)
- (GE Appliances 2025)
- (Gradient 2025)
- (Home Depot 2000-2025)
- (LG Electronics U.S.A., Inc. 2025)
- (Lennox International Inc. 2025)
- (Midea 2025)
- (Mitsubishi Electric Trane HVAC US LLC 2025)
- (Rheem Manufacturing Company 2004-2025)
- (Samsung HVAC, LLC 2025)
- (Toshiba Lifestyle Products and Services Corporation 2025)
- (Trane Supply 2025)
- (Trane 2025)

Appendix Table 24: Residential HVAC equipment database (N/A not applicable)

Manufacturer	Model Number	Capacity (ton)	Existing Equipment Category	Refrigerant Type	Refrigerant Charge (lb)	Refrigerant Charge per Ton	Unit	Recommended Equipment Category
Carrier Corporation	DEHXXCDA1080	N/A	Dehumidifiers	HFC-32	0.83	N/A	ea	Dehumidifiers
Carrier Corporation	DEHXXCDA1100	N/A	Dehumidifiers	HFC-32	0.88	N/A	ea	Dehumidifiers
AprilAire	E080	N/A	Dehumidifiers	HFC-32	0.54	N/A	ea	Dehumidifiers
AprilAire	E070	N/A	Dehumidifiers	HFC-32	0.38	N/A	ea	Dehumidifiers
AprilAire	E100	N/A	Dehumidifiers	HFC-32	0.84	N/A	ea	Dehumidifiers
AprilAire	E130	N/A	Dehumidifiers	HFC-32	1.06	N/A	ea	Dehumidifiers
Amana	D950EP	N/A	Dehumidifiers	R-410A	0.53	N/A	ea	Dehumidifiers
General Electric	ADEW50LPQ1	N/A	Dehumidifiers	R-410A	0.44	N/A	ea	Dehumidifiers
General Electric	ADKW30LNQ1	N/A	Dehumidifiers	R-410A	0.38	N/A	ea	Dehumidifiers
Midea	MAD50C1AWS	N/A	Dehumidifiers	R-410A	0.43	N/A	ea	Dehumidifiers
LG Electronics	LP0525WFR	0.42	Portable AC	HFC-32	0.48	1.14	lb/ton	Portable AC
LG Electronics	LP0625WFR	0.5	Portable AC	HFC-32	0.49	0.99	lb/ton	Portable AC

Manufacturer	Model Number	Capacity (ton)	Existing Equipment Category	Refrigerant Type	Refrigerant Charge (lb)	Refrigerant Charge per Ton	Unit	Recommended Equipment Category
LG Electronics	LP0725WSSM	0.58	Portable AC	HFC-32	0.51	0.87	lb/ton	Portable AC
LG Electronics	LP0825WSSM	0.67	Portable AC	HFC-32	0.64	0.96	lb/ton	Portable AC
LG Electronics	LP1025WSSM	0.83	Portable AC	HFC-32	0.89	1.07	lb/ton	Portable AC
LG Electronics	LP1025WHSM	0.83	Portable AC	HFC-32	0.89	1.07	lb/ton	Portable AC
LG Electronics	LP0825WFR	0.67	Portable AC	HFC-32	0.58	0.88	lb/ton	Portable AC
LG Electronics	LP0524WFR	0.42	Portable AC	HFC-32	0.41	0.98	lb/ton	Portable AC
LG Electronics	LP0624WFR	0.5	Portable AC	HFC-32	0.45	0.9	lb/ton	Portable AC
LG Electronics	LP0723WSR	0.58	Portable AC	HFC-32	0.52	0.89	lb/ton	Portable AC
LG Electronics	LP0823GSSM	0.67	Portable AC	HFC-32	0.61	0.91	lb/ton	Portable AC
LG Electronics	LP1023BSSM	0.83	Portable AC	HFC-32	0.82	0.98	lb/ton	Portable AC
LG Electronics	LP0824IVSM	0.67	Portable AC	HFC-32	0.78	1.16	lb/ton	Portable AC
LG Electronics	LP0623WSR	0.5	Portable AC	HFC-32	0.39	0.78	lb/ton	Portable AC
LG Electronics	LP1419IVSM	1.17	Portable AC	HFC-32	0.78	0.66	lb/ton	Portable AC
LG Electronics	LP0621WSR	0.5	Portable AC	HFC-32	0.51	1.01	lb/ton	Portable AC
LG Electronics	LP0721WSR	0.58	Portable AC	HFC-32	0.68	1.17	lb/ton	Portable AC
LG Electronics	LP1021BHSM	0.83	Portable AC	HFC-32	0.88	1.06	lb/ton	Portable AC
LG Electronics	LP0821GSSM	0.67	Portable AC	HFC-32	0.89	1.34	lb/ton	Portable AC
LG Electronics	LP1021BSSM	0.83	Portable AC	HFC-32	0.82	0.98	lb/ton	Portable AC
LG Electronics	LP1022FVSM	0.83	Portable AC	HFC-32	0.78	0.93	lb/ton	Portable AC
LG Electronics	LT0816CER	0.67	Portable AC	HFC-32	0.73	1.09	lb/ton	Portable AC
Vissani	VAP06R1AWTS	0.75	Portable AC	HFC-32	0.44	0.59	lb/ton	Portable AC
Toshiba Corporation	RAC-PX0812CWURU	1	Portable AC	HFC-32	0.71	0.71	lb/ton	Portable AC
Toshiba Corporation	RAC-PT1412HVWRU	1	Portable AC	HFC-32	1.06	1.06	lb/ton	Portable HP
Midea	MAP14HS1TBL	1.17	Portable AC	HFC-32	1.06	0.91	lb/ton	Portable HP
Cooper&Hunter	CH-PDH14AC2	1	Portable AC	R-410A	1.41	1.41	lb/ton	Portable HP
Trane Technologies	M4THS23	2	Residential HP	R-454B	3.97	1.98	lb/ton	Ductless Mini Split HP
Trane Technologies	M4THS23	0.75	Residential HP	R-454B	2.27	3.03	lb/ton	Ductless Mini Split HP
Trane Technologies	M4THS23	1	Residential HP	R-454B	2.96	2.96	lb/ton	Ductless Mini Split HP
Trane Technologies	M4THS23	1.5	Residential HP	R-454B	3.52	2.35	lb/ton	Ductless Mini Split HP

Manufacturer	Model Number	Capacity (ton)	Existing Equipment Category	Refrigerant Type	Refrigerant Charge (lb)	Refrigerant Charge per Ton	Unit	Recommended Equipment Category
Rheem Manufacturing Company	FPFW**3D	0.75	Residential HP	R-454B	2.21	2.94	lb/ton	Ductless Mini Split HP
Rheem Manufacturing Company	FPFW**3D	1	Residential HP	R-454B	2.38	2.38	lb/ton	Ductless Mini Split HP
Rheem Manufacturing Company	FPFW**3D	1.5	Residential HP	R-454B	3.31	2.21	lb/ton	Ductless Mini Split HP
Rheem Manufacturing Company	FPFW**3D	2	Residential HP	R-454B	4.41	2.21	lb/ton	Ductless Mini Split HP
Rheem Manufacturing Company	FPFW**1C	0.75	Residential HP	R-454B	2.09	2.79	lb/ton	Ductless Mini Split HP
Rheem Manufacturing Company	FPFW**1C	1	Residential HP	R-454B	2.21	2.21	lb/ton	Ductless Mini Split HP
Rheem Manufacturing Company	FPHD**3D	1	Residential HP	R-454B	2.38	2.38	lb/ton	Ductless Mini Split HP
Rheem Manufacturing Company	FPHD**3D	1.5	Residential HP	R-454B	3.53	2.35	lb/ton	Ductless Mini Split HP
Rheem Manufacturing Company	FPHD**3D	2	Residential HP	R-454B	4.63	2.32	lb/ton	Ductless Mini Split HP
Rheem Manufacturing Company	FPHD**3D	3	Residential HP	R-454B	7.05	2.35	lb/ton	Ductless Mini Split HP
Rheem Manufacturing Company	FPHW**1C	0.75	Residential HP	R-454B	2.09	2.79	lb/ton	Ductless Mini Split HP
Rheem Manufacturing Company	FPHW**1C	1	Residential HP	R-454B	2.21	2.21	lb/ton	Ductless Mini Split HP
Rheem Manufacturing Company	FPHW**3D	0.75	Residential HP	R-454B	2.21	2.94	lb/ton	Ductless Mini Split HP
Rheem Manufacturing Company	FPHW**3D	1	Residential HP	R-454B	2.38	2.38	lb/ton	Ductless Mini Split HP

Manufacturer	Model Number	Capacity (ton)	Existing Equipment Category	Refrigerant Type	Refrigerant Charge (lb)	Refrigerant Charge per Ton	Unit	Recommended Equipment Category
Rheem Manufacturing Company	FPHW**3D	1.5	Residential HP	R-454B	3.31	2.21	lb/ton	Ductless Mini Split HP
Rheem Manufacturing Company	FPHW**3D	2	Residential HP	R-454B	4.41	2.21	lb/ton	Ductless Mini Split HP
Lennox International	MWPD	0.75	Residential HP	HFC-32	2.13	2.83	lb/ton	Ductless Mini Split HP
Lennox International	MWPD	1	Residential HP	HFC-32	2.13	2.13	lb/ton	Ductless Mini Split HP
Lennox International	MWPD	1.25	Residential HP	HFC-32	3.31	2.65	lb/ton	Ductless Mini Split HP
Lennox International	MWPD	1.5	Residential HP	HFC-32	4.44	2.96	lb/ton	Ductless Mini Split HP
Lennox International	MWPD	2	Residential HP	HFC-32	4.44	2.22	lb/ton	Ductless Mini Split HP
Lennox International	MWLD	0.75	Residential HP	HFC-32	2.13	2.83	lb/ton	Ductless Mini Split HP
Lennox International	MWLD	1	Residential HP	HFC-32	2.13	2.13	lb/ton	Ductless Mini Split HP
Lennox International	MWLD	1.25	Residential HP	HFC-32	3.13	2.5	lb/ton	Ductless Mini Split HP
Lennox International	MWLD	1.5	Residential HP	HFC-32	4.5	3	lb/ton	Ductless Mini Split HP
Lennox International	MWLD	2	Residential HP	HFC-32	4.5	2.25	lb/ton	Ductless Mini Split HP
Lennox International	MHB	0.75	Residential HP	R-410A	1.56	2.08	lb/ton	Ductless Mini Split HP
Lennox International	MHB	1	Residential HP	R-410A	1.81	1.81	lb/ton	Ductless Mini Split HP
Lennox International	MHB	1.5	Residential HP	R-410A	3	2	lb/ton	Ductless Mini Split HP
Lennox International	MHB	2	Residential HP	R-410A	3.94	1.97	lb/ton	Ductless Mini Split HP
Lennox International	MWHD	0.75	Residential HP	HFC-32	2.13	2.83	lb/ton	Ductless Mini Split HP
Lennox International	MWHD	1	Residential HP	HFC-32	2.13	2.13	lb/ton	Ductless Mini Split HP
Lennox International	MWHD	1.25	Residential HP	HFC-32	2.56	2.05	lb/ton	Ductless Mini Split HP
Lennox International	MWHD	1.5	Residential HP	HFC-32	3.31	2.21	lb/ton	Ductless Mini Split HP
Lennox International	MWHD	2	Residential HP	HFC-32	4.44	2.22	lb/ton	Ductless Mini Split HP
Carrier Corporation	38MHRCQ12AA1	1	Residential HP	R-410A	1.79	1.79	lb/ton	Ductless Mini Split HP
Carrier Corporation	38MHRCQ09AA3	0.75	Residential HP	R-410A	1.59	2.12	lb/ton	Ductless Mini Split HP
Carrier Corporation	38MHRCQ12AA3	1	Residential HP	R-410A	1.79	1.79	lb/ton	Ductless Mini Split HP
Carrier Corporation	38MHRCQ18AA3	1.5	Residential HP	R-410A	2.98	1.99	lb/ton	Ductless Mini Split HP
Carrier Corporation	38MHRCQ24AA3	2	Residential HP	R-410A	3.92	1.96	lb/ton	Ductless Mini Split HP
Mitsubishi	MSZ-EX09NLB	0.75	Residential HP	R-454B	2	2.67	lb/ton	Ductless Mini Split HP
Mitsubishi	MSZ-EX12NLB	1	Residential HP	R-454B	2	2	lb/ton	Ductless Mini Split HP

Manufacturer	Model Number	Capacity (ton)	Existing Equipment Category	Refrigerant Type	Refrigerant Charge (lb)	Refrigerant Charge per Ton	Unit	Recommended Equipment Category
Mitsubishi	MSZ-EX15NLB	1.25	Residential HP	R-454B	2.25	1.8	lb/ton	Ductless Mini Split HP
Mitsubishi	MSZ-EX18NLB	1.5	Residential HP	R-454B	3	2	lb/ton	Ductless Mini Split HP
Carrier Corporation	37MARA12AA1	1	Residential HP	R-454B	2.09	2.09	lb/ton	Ductless Mini Split HP
Carrier Corporation	37MARA09AA3	0.75	Residential HP	R-454B	2.03	2.71	lb/ton	Ductless Mini Split HP
Carrier Corporation	37MARA12AA3	1	Residential HP	R-454B	2.03	2.03	lb/ton	Ductless Mini Split HP
Carrier Corporation	37MARA18AA3	1.5	Residential HP	R-454B	3	2	lb/ton	Ductless Mini Split HP
Carrier Corporation	37MARA24AA3	2	Residential HP	R-454B	4.4	2.2	lb/ton	Ductless Mini Split HP
Carrier Corporation	37MARA30AA3	2.5	Residential HP	R-454B	5.29	2.12	lb/ton	Ductless Mini Split HP
Carrier Corporation	37MARA36AA3	3	Residential HP	R-454B	7.05	2.35	lb/ton	Ductless Mini Split HP
Carrier Corporation	38MARBQ12AA1	1	Residential HP	R-410A	2.47	2.47	lb/ton	Ductless Mini Split HP
Carrier Corporation	38MARBQ09AA3	0.75	Residential HP	R-410A	2.6	3.47	lb/ton	Ductless Mini Split HP
Carrier Corporation	38MARBQ12AA3	1	Residential HP	R-410A	2.6	2.6	lb/ton	Ductless Mini Split HP
Carrier Corporation	38MARBQ18AA3	1.5	Residential HP	R-410A	4.08	2.72	lb/ton	Ductless Mini Split HP
Carrier Corporation	38MARBQ24AA3	2	Residential HP	R-410A	5.73	2.87	lb/ton	Ductless Mini Split HP
Carrier Corporation	38MARBQ30AA3	2.5	Residential HP	R-410A	6.06	2.42	lb/ton	Ductless Mini Split HP
Carrier Corporation	38MARBQ36AA3	3	Residential HP	R-410A	7.5	2.5	lb/ton	Ductless Mini Split HP
Trane Technologies	4TXK3809	0.75	Residential HP	R-410A	2.88	3.83	lb/ton	Ductless Mini Split HP
Trane Technologies	4TXK3812	1	Residential HP	R-410A	3.06	3.06	lb/ton	Ductless Mini Split HP
Trane Technologies	4TXK3818	1.5	Residential HP	R-410A	4.63	3.08	lb/ton	Ductless Mini Split HP
Trane Technologies	4TXK3824	2	Residential HP	R-410A	5.06	2.53	lb/ton	Ductless Mini Split HP
Trane Technologies	5WCC4024A1000AA	2	Residential HP	R-454B	4.76	2.38	lb/ton	Residential Packaged HP
Trane Technologies	5WCC4042A1000AA	3.5	Residential HP	R-454B	7.13	2.04	lb/ton	Residential Packaged HP
Trane Technologies	5WCZ5024A1000AA	2	Residential HP	R-454B	7.05	3.53	lb/ton	Residential Packaged HP
Trane Technologies	5WCZ5030A1000AA	2.5	Residential HP	R-454B	6.83	2.73	lb/ton	Residential Packaged HP
Trane Technologies	5WCZ5042A1000AA	3.5	Residential HP	R-454B	7.51	2.15	lb/ton	Residential Packaged HP
Trane Technologies	5WCC4030A1000AA	2.5	Residential HP	R-454B	5.68	2.27	lb/ton	Residential Packaged HP
Trane Technologies	5WCC4060A1000AA	5	Residential HP	R-454B	9.96	1.99	lb/ton	Residential Packaged HP
Trane Technologies	5WCZ5060A1000AA	5	Residential HP	R-454B	9.06	1.81	lb/ton	Residential Packaged HP
Trane Technologies	5WCC4036A1000AA	3	Residential HP	R-454B	7.42	2.47	lb/ton	Residential Packaged HP
Trane Technologies	5WCZ5036A1000AA	3	Residential HP	R-454B	7.05	2.35	lb/ton	Residential Packaged HP

Manufacturer	Model Number	Capacity (ton)	Existing Equipment Category	Refrigerant Type	Refrigerant Charge (lb)	Refrigerant Charge per Ton	Unit	Recommended Equipment Category
Trane Technologies	5WCZ5048A1000AA	4	Residential HP	R-454B	7.2	1.8	lb/ton	Residential Packaged HP
Trane Technologies	5WCC4048A1000AA	4	Residential HP	R-454B	7	1.75	lb/ton	Residential Packaged HP
Lennox International	LRP13HPK	2	Residential HP	R-454B	5.06	2.53	lb/ton	Residential Packaged HP
Lennox International	LRP13HPK	2.5	Residential HP	R-454B	6.06	2.43	lb/ton	Residential Packaged HP
Lennox International	LRP13HPK	3	Residential HP	R-454B	6.31	2.1	lb/ton	Residential Packaged HP
Lennox International	LRP13HPK	3.5	Residential HP	R-454B	9.38	2.68	lb/ton	Residential Packaged HP
Lennox International	LRP13HPK	4	Residential HP	R-454B	8.94	2.23	lb/ton	Residential Packaged HP
Lennox International	LRP13HPK	7.5	Residential HP	R-454B	9.38	1.25	lb/ton	Residential Packaged HP
Daikin Industries	DP3HH	2	Residential HP	HFC-32	4.25	2.13	lb/ton	Residential Packaged HP
Daikin Industries	DP3HH	2.5	Residential HP	HFC-32	4.94	1.98	lb/ton	Residential Packaged HP
Daikin Industries	DP3HH	3	Residential HP	HFC-32	6.5	2.17	lb/ton	Residential Packaged HP
Daikin Industries	DP3HH	3.5	Residential HP	HFC-32	6.94	1.98	lb/ton	Residential Packaged HP
Daikin Industries	DP3HH	4	Residential HP	HFC-32	8.81	2.2	lb/ton	Residential Packaged HP
Daikin Industries	DP3HH	5	Residential HP	R-410A	9.19	1.84	lb/ton	Residential Packaged HP
Daikin Industries	DP3HM	2	Residential HP	HFC-32	6.19	3.09	lb/ton	Residential Packaged HP
Daikin Industries	DP3HM	2.5	Residential HP	HFC-32	5.88	2.35	lb/ton	Residential Packaged HP
Daikin Industries	DP3HM	3	Residential HP	HFC-32	6	2	lb/ton	Residential Packaged HP
Daikin Industries	DP3HM	3.5	Residential HP	HFC-32	6.88	1.96	lb/ton	Residential Packaged HP
Daikin Industries	DP3HM	4	Residential HP	HFC-32	9.56	2.39	lb/ton	Residential Packaged HP
Daikin Industries	DP3HM	5	Residential HP	HFC-32	8.06	1.61	lb/ton	Residential Packaged HP
Daikin Industries	DP5HH	2	Residential HP	HFC-32	6.13	3.06	lb/ton	Residential Packaged HP
Daikin Industries	DP5HH	2.5	Residential HP	HFC-32	6.19	2.48	lb/ton	Residential Packaged HP
Daikin Industries	DP5HH	3	Residential HP	HFC-32	9	3	lb/ton	Residential Packaged HP
Daikin Industries	DP5HH	3.5	Residential HP	HFC-32	7.56	2.16	lb/ton	Residential Packaged HP
Daikin Industries	DP5HH	4	Residential HP	HFC-32	8.06	2.02	lb/ton	Residential Packaged HP
Daikin Industries	DP5HH	5	Residential HP	HFC-32	8.75	1.75	lb/ton	Residential Packaged HP
Daikin Industries	DP5HM	2	Residential HP	HFC-32	6.38	3.19	lb/ton	Residential Packaged HP
Daikin Industries	DP5HM	2.5	Residential HP	HFC-32	7.75	3.1	lb/ton	Residential Packaged HP
Daikin Industries	DP5HM	3	Residential HP	HFC-32	9	3	lb/ton	Residential Packaged HP
Daikin Industries	DP5HM	3.5	Residential HP	HFC-32	8.5	2.43	lb/ton	Residential Packaged HP

Manufacturer	Model Number	Capacity (ton)	Existing Equipment Category	Refrigerant Type	Refrigerant Charge (lb)	Refrigerant Charge per Ton	Unit	Recommended Equipment Category
Daikin Industries	DP5HM	4	Residential HP	HFC-32	8.56	2.14	lb/ton	Residential Packaged HP
Daikin Industries	DP5HM	5	Residential HP	HFC-32	11.56	2.31	lb/ton	Residential Packaged HP
Trane Technologies	4HWC4024	2	Residential HP	R-410A	7.5	3.75	lb/ton	Residential Packaged HP
Trane Technologies	4HWC4030	2.5	Residential HP	R-410A	7.8	3.12	lb/ton	Residential Packaged HP
Trane Technologies	4HWC4036	3	Residential HP	R-410A	7.2	2.4	lb/ton	Residential Packaged HP
Trane Technologies	4HWC4042	3.5	Residential HP	R-410A	8.7	2.49	lb/ton	Residential Packaged HP
Carrier Corporation	PH4ANG018	1.5	Residential HP	R-410A	6.4	4.27	lb/ton	Residential Packaged HP
Carrier Corporation	PH4ANG024	2	Residential HP	R-410A	7.7	3.85	lb/ton	Residential Packaged HP
Carrier Corporation	PH4ANG030	2.5	Residential HP	R-410A	11.5	4.6	lb/ton	Residential Packaged HP
Carrier Corporation	PH4ANG036	3	Residential HP	R-410A	12.4	4.13	lb/ton	Residential Packaged HP
Carrier Corporation	PH4ANG042	3.5	Residential HP	R-410A	12.4	3.54	lb/ton	Residential Packaged HP
Carrier Corporation	PH4ANG048	4	Residential HP	R-410A	13.8	3.45	lb/ton	Residential Packaged HP
Carrier Corporation	PH4ANG060	5	Residential HP	R-410A	16.2	3.24	lb/ton	Residential Packaged HP
Trane Technologies	5TWR4018A1000AA	1.5	Residential HP	R-454B	6.5	4.33	lb/ton	Residential Split System HP
Trane Technologies	5TWR4024A1000AA	2	Residential HP	R-454B	6.37	3.19	lb/ton	Residential Split System HP
Trane Technologies	5TWR4030A1000AA	2.5	Residential HP	R-454B	6.34	2.54	lb/ton	Residential Split System HP
Trane Technologies	5TWR4036A1000AA	3	Residential HP	R-454B	7.36	2.45	lb/ton	Residential Split System HP
Trane Technologies	5TWR4042A1000AA	3.5	Residential HP	R-454B	9.62	2.75	lb/ton	Residential Split System HP
Trane Technologies	5TWR4048A1000AA	4	Residential HP	R-454B	10.28	2.57	lb/ton	Residential Split System HP
Trane Technologies	5TWR4059A1000AA	5	Residential HP	R-454B	8.39	1.68	lb/ton	Residential Split System HP
Trane Technologies	5TWR4060A1000AA	5	Residential HP	R-454B	10.1	2.02	lb/ton	Residential Split System HP
Trane Technologies	5TWR5018A1000AA	1.5	Residential HP	R-454B	6.5	4.33	lb/ton	Residential Split System HP
Trane Technologies	5TWR5024A1000AA	2	Residential HP	R-454B	6.37	3.19	lb/ton	Residential Split System HP
Trane Technologies	5TWR5030A1000AA	2.5	Residential HP	R-454B	6.34	2.54	lb/ton	Residential Split System HP
Trane Technologies	5TWR5036A1000AA	3	Residential HP	R-454B	7.36	2.45	lb/ton	Residential Split System HP
Trane Technologies	5TWR5042A1000AA	3.5	Residential HP	R-454B	9.62	2.75	lb/ton	Residential Split System HP
Trane Technologies	5TWR5048A1000AA	4	Residential HP	R-454B	10.28	2.57	lb/ton	Residential Split System HP
Trane Technologies	5TWR5060A1000AA	5	Residential HP	R-454B	10.1	2.02	lb/ton	Residential Split System HP
Trane Technologies	5TWR7024A1000AA	2	Residential HP	R-454B	5.7	2.85	lb/ton	Residential Split System HP
Trane Technologies	5TWR7036A1000AA	3	Residential HP	R-454B	5.95	1.98	lb/ton	Residential Split System HP

Manufacturer	Model Number	Capacity (ton)	Existing Equipment Category	Refrigerant Type	Refrigerant Charge (lb)	Refrigerant Charge per Ton	Unit	Recommended Equipment Category
Trane Technologies	5TWR7048A1000AA	4	Residential HP	R-454B	7.7	1.93	lb/ton	Residential Split System HP
Trane Technologies	5TWR7060A1000AA	5	Residential HP	R-454B	7.7	1.54	lb/ton	Residential Split System HP
Trane Technologies	5TWV0X24A1000AA	2	Residential HP	R-454B	8.2	4.1	lb/ton	Residential Split System HP
Trane Technologies	5TWV0X36A1000AA	3	Residential HP	R-454B	11.2	3.73	lb/ton	Residential Split System HP
Trane Technologies	5TWV0X48A1000AA	4	Residential HP	R-454B	12.7	3.18	lb/ton	Residential Split System HP
Trane Technologies	5TWV0X60A1000AA	5	Residential HP	R-454B	13.33	2.67	lb/ton	Residential Split System HP
Trane Technologies	5TWV8X24A1000AA	2	Residential HP	R-454B	8.2	4.1	lb/ton	Residential Split System HP
Trane Technologies	5TWV8X48A1000AA	4	Residential HP	R-454B	11.14	2.79	lb/ton	Residential Split System HP
Trane Technologies	5TWV8X60A1000AA	5	Residential HP	R-454B	11.33	2.27	lb/ton	Residential Split System HP
Trane Technologies	5TWX5018A1000AA	1.5	Residential HP	R-454B	6.5	4.33	lb/ton	Residential Split System HP
Trane Technologies	5TWX5024A1000AA	2	Residential HP	R-454B	6.37	3.19	lb/ton	Residential Split System HP
Trane Technologies	5TWX5030A1000AA	2.5	Residential HP	R-454B	6.34	2.54	lb/ton	Residential Split System HP
Trane Technologies	5TWX5036A1000AA	3	Residential HP	R-454B	7.36	2.45	lb/ton	Residential Split System HP
Trane Technologies	5TWX5042A1000AA	3.5	Residential HP	R-454B	9.62	2.75	lb/ton	Residential Split System HP
Trane Technologies	5TWX5048A1000AA	4	Residential HP	R-454B	10.28	2.57	lb/ton	Residential Split System HP
Trane Technologies	5TWX5060A1000AA	5	Residential HP	R-454B	10.1	2.02	lb/ton	Residential Split System HP
Trane Technologies	5TWX7024A1000AA	2	Residential HP	R-454B	5.7	2.85	lb/ton	Residential Split System HP
Trane Technologies	5TWX7036A1000AA	3	Residential HP	R-454B	5.95	1.98	lb/ton	Residential Split System HP
Trane Technologies	5TWX7048A1000AA	4	Residential HP	R-454B	7.7	1.93	lb/ton	Residential Split System HP
Trane Technologies	5TWX7060A1000AA	5	Residential HP	R-454B	7.7	1.54	lb/ton	Residential Split System HP
Lennox International	EL21KLV	2	Residential HP	R-454B	6.63	3.31	lb/ton	Residential Split System HP
Lennox International	EL21KLV	3	Residential HP	R-454B	6.69	2.23	lb/ton	Residential Split System HP
Lennox International	EL21KLV	4	Residential HP	R-454B	10.19	2.55	lb/ton	Residential Split System HP
Lennox International	EL21KLV	5	Residential HP	R-454B	10.44	2.09	lb/ton	Residential Split System HP
Daikin Industries	DH4SEA	1.5	Residential HP	HFC-32	4.44	2.96	lb/ton	Residential Split System HP
Daikin Industries	DH4SEA	2	Residential HP	HFC-32	4.38	2.19	lb/ton	Residential Split System HP
Daikin Industries	DH4SEA	2.5	Residential HP	HFC-32	4.88	1.95	lb/ton	Residential Split System HP
Daikin Industries	DH4SEA	3	Residential HP	HFC-32	5.19	1.73	lb/ton	Residential Split System HP
Daikin Industries	DH4SEA	3.5	Residential HP	HFC-32	8.69	2.48	lb/ton	Residential Split System HP
Daikin Industries	DH4SEA	4	Residential HP	HFC-32	10.88	2.72	lb/ton	Residential Split System HP

Manufacturer	Model Number	Capacity (ton)	Existing Equipment Category	Refrigerant Type	Refrigerant Charge (lb)	Refrigerant Charge per Ton	Unit	Recommended Equipment Category
Daikin Industries	DH4SEA	5	Residential HP	HFC-32	12.13	2.43	lb/ton	Residential Split System HP
Daikin Industries	DH4SQA	1.5	Residential HP	HFC-32	4.38	2.92	lb/ton	Residential Split System HP
Daikin Industries	DH4SQA	2	Residential HP	HFC-32	4.38	2.19	lb/ton	Residential Split System HP
Daikin Industries	DH4SQA	2.5	Residential HP	HFC-32	5.06	2.03	lb/ton	Residential Split System HP
Daikin Industries	DH4SQA	3	Residential HP	HFC-32	5.19	1.73	lb/ton	Residential Split System HP
Daikin Industries	DH4SQA	3.5	Residential HP	HFC-32	8.69	2.48	lb/ton	Residential Split System HP
Daikin Industries	DH4SQA	4	Residential HP	HFC-32	10.88	2.72	lb/ton	Residential Split System HP
Daikin Industries	DH4SQA	5	Residential HP	HFC-32	12.13	2.43	lb/ton	Residential Split System HP
Daikin Industries	DH5SEA	1.5	Residential HP	HFC-32	5.5	3.67	lb/ton	Residential Split System HP
Daikin Industries	DH5SEA	2	Residential HP	HFC-32	5.19	2.59	lb/ton	Residential Split System HP
Daikin Industries	DH5SEA	2.5	Residential HP	HFC-32	5.88	2.35	lb/ton	Residential Split System HP
Daikin Industries	DH5SEA	3	Residential HP	HFC-32	5.94	1.98	lb/ton	Residential Split System HP
Daikin Industries	DH5SEA	3.5	Residential HP	HFC-32	8.69	2.48	lb/ton	Residential Split System HP
Daikin Industries	DH5SEA	4	Residential HP	HFC-32	10.88	2.72	lb/ton	Residential Split System HP
Daikin Industries	DH5SEA	5	Residential HP	HFC-32	11.56	2.31	lb/ton	Residential Split System HP
Daikin Industries	DH6VSA	1.5	Residential HP	HFC-32	4.63	3.08	lb/ton	Residential Split System HP
Daikin Industries	DH6VSA	2	Residential HP	HFC-32	4.63	2.31	lb/ton	Residential Split System HP
Daikin Industries	DH6VSA	2.5	Residential HP	HFC-32	4.75	1.9	lb/ton	Residential Split System HP
Daikin Industries	DH6VSA	3	Residential HP	HFC-32	5.19	1.73	lb/ton	Residential Split System HP
Daikin Industries	DH6VSA	3.5	Residential HP	HFC-32	6.25	1.79	lb/ton	Residential Split System HP
Daikin Industries	DH6VSA	4	Residential HP	HFC-32	6.25	1.56	lb/ton	Residential Split System HP
Daikin Industries	DH6VSA	5	Residential HP	HFC-32	7.38	1.48	lb/ton	Residential Split System HP
Daikin Industries	DH7TCA	2	Residential HP	HFC-32	6.44	3.22	lb/ton	Residential Split System HP
Daikin Industries	DH7TCA	3	Residential HP	HFC-32	8.06	2.69	lb/ton	Residential Split System HP
Daikin Industries	DH7TCA	4	Residential HP	HFC-32	14.31	3.58	lb/ton	Residential Split System HP
Daikin Industries	DH7TCA	5	Residential HP	HFC-32	12.38	2.48	lb/ton	Residential Split System HP
Daikin Industries	DH7VSA	2	Residential HP	HFC-32	4.75	2.38	lb/ton	Residential Split System HP
Daikin Industries	DH7VSA	3	Residential HP	HFC-32	6.25	2.08	lb/ton	Residential Split System HP
Daikin Industries	DH7VSA	3.5	Residential HP	HFC-32	7.38	2.11	lb/ton	Residential Split System HP
Daikin Industries	DH7VSA	4	Residential HP	HFC-32	7.38	1.84	lb/ton	Residential Split System HP

Manufacturer	Model Number	Capacity (ton)	Existing Equipment Category	Refrigerant Type	Refrigerant Charge (lb)	Refrigerant Charge per Ton	Unit	Recommended Equipment Category
Daikin Industries	DH7VSA	5	Residential HP	HFC-32	10.13	2.03	lb/ton	Residential Split System HP
Daikin Industries	DH9VSA	2	Residential HP	HFC-32	10.13	5.06	lb/ton	Residential Split System HP
Daikin Industries	DH9VSA	3	Residential HP	HFC-32	10.13	3.38	lb/ton	Residential Split System HP
Daikin Industries	DZ4SE	1.5	Residential HP	R-410A	5.88	3.92	lb/ton	Residential Split System HP
Daikin Industries	DZ4SE	2	Residential HP	R-410A	5.38	2.69	lb/ton	Residential Split System HP
Daikin Industries	DZ4SE	2.5	Residential HP	R-410A	5.88	2.35	lb/ton	Residential Split System HP
Daikin Industries	DZ4SE	3	Residential HP	R-410A	7.13	2.38	lb/ton	Residential Split System HP
Daikin Industries	DZ4SE	3.5	Residential HP	R-410A	10.44	2.98	lb/ton	Residential Split System HP
Daikin Industries	DZ4SE	4	Residential HP	R-410A	13.88	3.47	lb/ton	Residential Split System HP
Daikin Industries	DZ4SE	5	Residential HP	R-410A	16.81	3.36	lb/ton	Residential Split System HP
Daikin Industries	DZ4SQ	1.5	Residential HP	R-410A	5.88	3.92	lb/ton	Residential Split System HP
Daikin Industries	DZ4SQ	2	Residential HP	R-410A	5.75	2.88	lb/ton	Residential Split System HP
Daikin Industries	DZ4SQ	2.5	Residential HP	R-410A	5.88	2.35	lb/ton	Residential Split System HP
Daikin Industries	DZ4SQ	3	Residential HP	R-410A	7.13	2.38	lb/ton	Residential Split System HP
Daikin Industries	DZ4SQ	3.5	Residential HP	R-410A	10.44	2.98	lb/ton	Residential Split System HP
Daikin Industries	DZ4SQ	4	Residential HP	R-410A	13.88	3.47	lb/ton	Residential Split System HP
Daikin Industries	DZ4SQ	5	Residential HP	R-410A	16.81	3.36	lb/ton	Residential Split System HP
Daikin Industries	DZ5SEA	1.5	Residential HP	R-410A	6.63	4.42	lb/ton	Residential Split System HP
Daikin Industries	DZ5SEA	2	Residential HP	R-410A	7.38	3.69	lb/ton	Residential Split System HP
Daikin Industries	DZ5SEA	2.5	Residential HP	R-410A	7.44	2.98	lb/ton	Residential Split System HP
Daikin Industries	DZ5SEA	3	Residential HP	R-410A	7.13	2.38	lb/ton	Residential Split System HP
Daikin Industries	DZ5SEA	3.5	Residential HP	R-410A	10.44	2.98	lb/ton	Residential Split System HP
Daikin Industries	DZ5SEA	4	Residential HP	R-410A	13.88	3.47	lb/ton	Residential Split System HP
Daikin Industries	DZ5SEA	5	Residential HP	R-410A	17.25	3.45	lb/ton	Residential Split System HP
Daikin Industries	DZ7TCA	2	Residential HP	R-410A	7.75	3.88	lb/ton	Residential Split System HP
Daikin Industries	DZ7TCA	3	Residential HP	R-410A	9.69	3.23	lb/ton	Residential Split System HP
Daikin Industries	DZ7TCA	4	Residential HP	R-410A	17.25	4.31	lb/ton	Residential Split System HP
Daikin Industries	DZ7TCA	5	Residential HP	R-410A	14.94	2.99	lb/ton	Residential Split System HP
Carrier Corporation	27SCA518	1.5	Residential HP	R-454B	6.5	4.33	lb/ton	Residential Split System HP
Carrier Corporation	27SCA524	2	Residential HP	R-454B	5.4	2.7	lb/ton	Residential Split System HP

Manufacturer	Model Number	Capacity (ton)	Existing Equipment Category	Refrigerant Type	Refrigerant Charge (lb)	Refrigerant Charge per Ton	Unit	Recommended Equipment Category
Carrier Corporation	27SCA530	2.5	Residential HP	R-454B	6.1	2.44	lb/ton	Residential Split System HP
Carrier Corporation	27SCA536	3	Residential HP	R-454B	7.6	2.53	lb/ton	Residential Split System HP
Carrier Corporation	27SCA542	3.5	Residential HP	R-454B	7.3	2.09	lb/ton	Residential Split System HP
Carrier Corporation	27SCA548	4	Residential HP	R-454B	10.5	2.63	lb/ton	Residential Split System HP
Carrier Corporation	27SCA560	5	Residential HP	R-454B	8.7	1.74	lb/ton	Residential Split System HP
Robert Bosch GmbH	BOVA15-24	2	Residential HP	R-454B	4.81	2.41	lb/ton	Residential Split System HP
Robert Bosch GmbH	BOVA15-36	3	Residential HP	R-454B	5.69	1.9	lb/ton	Residential Split System HP
Robert Bosch GmbH	BOVA15-60	5	Residential HP	R-454B	8.13	1.63	lb/ton	Residential Split System HP
Trane Technologies	4TWV0X24	2	Residential HP	R-410A	7.38	3.69	lb/ton	Residential Split System HP
Trane Technologies	4TWV0X36	3	Residential HP	R-410A	9.94	3.31	lb/ton	Residential Split System HP
Trane Technologies	4TWV0X48	4	Residential HP	R-410A	11.31	2.83	lb/ton	Residential Split System HP
Trane Technologies	4TWV0X60	5	Residential HP	R-410A	13.13	2.63	lb/ton	Residential Split System HP
Rheem Manufacturing Company	RP19AY	2	Residential HP	R-454B	12.5	6.25	lb/ton	Residential Split System HP
Rheem Manufacturing Company	RP19AY	3	Residential HP	R-454B	12.5	4.17	lb/ton	Residential Split System HP
Rheem Manufacturing Company	RP19AY	4	Residential HP	R-454B	12.5	3.13	lb/ton	Residential Split System HP
Rheem Manufacturing Company	RP19AY	5	Residential HP	R-454B	13.13	2.63	lb/ton	Residential Split System HP
Rheem Manufacturing Company	RD18AY	2	Residential HP	R-454B	4.75	2.38	lb/ton	Residential Split System HP
Rheem Manufacturing Company	RD18AY	3	Residential HP	R-454B	8.81	2.94	lb/ton	Residential Split System HP
Rheem Manufacturing Company	RD18AY	4	Residential HP	R-454B	12.13	3.03	lb/ton	Residential Split System HP
Rheem Manufacturing Company	RD18AY	5	Residential HP	R-454B	13.88	2.78	lb/ton	Residential Split System HP

Manufacturer	Model Number	Capacity (ton)	Existing Equipment Category	Refrigerant Type	Refrigerant Charge (lb)	Refrigerant Charge per Ton	Unit	Recommended Equipment Category
Rheem Manufacturing Company	RP14AY	1.5	Residential HP	R-454B	5.19	3.46	lb/ton	Residential Split System HP
Rheem Manufacturing Company	RP14AY	2	Residential HP	R-454B	5.19	2.59	lb/ton	Residential Split System HP
Rheem Manufacturing Company	RP14AY	2.5	Residential HP	R-454B	6.19	2.48	lb/ton	Residential Split System HP
Rheem Manufacturing Company	RP14AY	3	Residential HP	R-454B	5.88	1.96	lb/ton	Residential Split System HP
Rheem Manufacturing Company	RP14AY	3.5	Residential HP	R-454B	8.13	2.32	lb/ton	Residential Split System HP
Rheem Manufacturing Company	RP14AY	4	Residential HP	R-454B	7.19	1.8	lb/ton	Residential Split System HP
Rheem Manufacturing Company	RP14AY	5	Residential HP	R-454B	12.13	2.43	lb/ton	Residential Split System HP
Carrier Corporation	GH5SAN418	1.5	Residential HP	R-410A	5.9	3.93	lb/ton	Residential Split System HP
Carrier Corporation	GH5SAN424	2	Residential HP	R-410A	6.3	3.15	lb/ton	Residential Split System HP
Carrier Corporation	GH5SAN430	2.5	Residential HP	R-410A	9	3.6	lb/ton	Residential Split System HP
Carrier Corporation	GH5SAN436	3	Residential HP	R-410A	9	3	lb/ton	Residential Split System HP
Carrier Corporation	GH5SAN442	3.5	Residential HP	R-410A	9.9	2.83	lb/ton	Residential Split System HP
Carrier Corporation	GH5SAN448	4	Residential HP	R-410A	10.8	2.7	lb/ton	Residential Split System HP
Carrier Corporation	GH5SAN460	5	Residential HP	R-410A	13.7	2.74	lb/ton	Residential Split System HP
Samsung Electronics	Windfree Standard	0.75	Residential Unitary AC	HFC-32	2.13	2.83	lb/ton	Ductless Mini Split AC
Samsung Electronics	Windfree Standard	1	Residential Unitary AC	HFC-32	2.13	2.13	lb/ton	Ductless Mini Split AC
Samsung Electronics	Windfree Standard	1.25	Residential Unitary AC	HFC-32	2.54	2.03	lb/ton	Ductless Mini Split AC
Samsung Electronics	Windfree Standard	1.5	Residential Unitary AC	HFC-32	3.31	2.2	lb/ton	Ductless Mini Split AC
Samsung Electronics	Windfree Standard	2	Residential Unitary AC	HFC-32	4.41	2.21	lb/ton	Ductless Mini Split AC

Manufacturer	Model Number	Capacity (ton)	Existing Equipment Category	Refrigerant Type	Refrigerant Charge (lb)	Refrigerant Charge per Ton	Unit	Recommended Equipment Category
Rheem Manufacturing Company	FPHD**3D	0.75	Residential Unitary AC	R-454B	2.38	3.18	lb/ton	Ductless Mini Split AC
Lennox International	MCB	0.75	Residential Unitary AC	R-410A	1.31	1.75	lb/ton	Ductless Mini Split AC
Lennox International	MCB	1	Residential Unitary AC	R-410A	1.44	1.44	lb/ton	Ductless Mini Split AC
Lennox International	MCB	1.5	Residential Unitary AC	R-410A	2	1.33	lb/ton	Ductless Mini Split AC
Lennox International	MCB	2	Residential Unitary AC	R-410A	1.38	0.69	lb/ton	Ductless Mini Split AC
Lennox International	MS8	0.75	Residential Unitary AC	R-410A	2.38	3.17	lb/ton	Ductless Mini Split AC
Lennox International	MS8	1	Residential Unitary AC	R-410A	2.88	2.88	lb/ton	Ductless Mini Split AC
Lennox International	MS8	1.5	Residential Unitary AC	R-410A	3.06	2.04	lb/ton	Ductless Mini Split AC
Lennox International	MS8	2	Residential Unitary AC	R-410A	3.56	1.78	lb/ton	Ductless Mini Split AC
Lennox International	MS8	2.5	Residential Unitary AC	R-410A	5.31	2.13	lb/ton	Ductless Mini Split AC
Daikin Industries	FTX	1.5	Residential Unitary AC	R-410A	3.2	2.13	lb/ton	Ductless Mini Split AC
Daikin Industries	FTXB	0.75	Residential Unitary AC	R-410A	1.63	2.17	lb/ton	Ductless Mini Split AC
Daikin Industries	FTX	1	Residential Unitary AC	R-410A	2.09	2.09	lb/ton	Ductless Mini Split AC
Daikin Industries	FTX	2	Residential Unitary AC	R-410A	3.86	1.93	lb/ton	Ductless Mini Split AC
Daikin Industries	FTX	1.25	Residential Unitary AC	R-410A	3.2	2.56	lb/ton	Ductless Mini Split AC
Daikin Industries	FTX	2.5	Residential Unitary AC	R-410A	3.64	1.46	lb/ton	Ductless Mini Split AC
Daikin Industries	FTX	3	Residential Unitary AC	R-410A	3.64	1.21	lb/ton	Ductless Mini Split AC
Carrier Corporation	37MAHA06	0.5	Residential Unitary AC	R-454B	2.03	4.06	lb/ton	Ductless Mini Split AC
Carrier Corporation	37MAHA09	0.75	Residential Unitary AC	R-454B	2.2	2.93	lb/ton	Ductless Mini Split AC
Carrier Corporation	37MAHA12	1	Residential Unitary AC	R-454B	2.2	2.2	lb/ton	Ductless Mini Split AC
Carrier Corporation	37MAHA18	1.5	Residential Unitary AC	R-454B	3.46	2.31	lb/ton	Ductless Mini Split AC
Carrier Corporation	37MAHA24	2	Residential Unitary AC	R-454B	3.97	1.99	lb/ton	Ductless Mini Split AC
Carrier Corporation	37MAHA33	2.75	Residential Unitary AC	R-454B	5.45	1.98	lb/ton	Ductless Mini Split AC
Carrier Corporation	315SAN01800W	1.5	Residential Unitary AC	R-410A	7.5	5	lb/ton	Ductless Mini Split AC
Carrier Corporation	315SAN02400W	2	Residential Unitary AC	R-410A	6.8	3.4	lb/ton	Ductless Mini Split AC
Carrier Corporation	315SAN03000W	2.5	Residential Unitary AC	R-410A	8.7	3.48	lb/ton	Ductless Mini Split AC
Carrier Corporation	315SAN03600W	3	Residential Unitary AC	R-410A	9.4	3.13	lb/ton	Ductless Mini Split AC
Carrier Corporation	315SAN04800W	4	Residential Unitary AC	R-410A	10.5	2.63	lb/ton	Ductless Mini Split AC
Carrier Corporation	315SAN06000W	5	Residential Unitary AC	R-410A	10.5	2.1	lb/ton	Ductless Mini Split AC

Manufacturer	Model Number	Capacity (ton)	Existing Equipment Category	Refrigerant Type	Refrigerant Charge (lb)	Refrigerant Charge per Ton	Unit	Recommended Equipment Category
Trane Technologies	5DCZ5024A1060AA	2	Residential Unitary AC	R-454B	7.05	3.53	lb/ton	Residential Packaged AC
Trane Technologies	5DCZ5042A1090AA	3.5	Residential Unitary AC	R-454B	7.51	2.15	lb/ton	Residential Packaged AC
Trane Technologies	5DCZ5048A1090AA	4	Residential Unitary AC	R-454B	7.2	1.8	lb/ton	Residential Packaged AC
Trane Technologies	5DCZ5060A1115AA	5	Residential Unitary AC	R-454B	9.06	1.81	lb/ton	Residential Packaged AC
Trane Technologies	5YCZ5030A1070AA	2.5	Residential Unitary AC	R-454B	7.05	2.82	lb/ton	Residential Packaged AC
Trane Technologies	5TCC4060A1000AA	5	Residential Unitary AC	R-454B	9.75	1.95	lb/ton	Residential Packaged AC
Trane Technologies	5YCC4042A1090AA	3.5	Residential Unitary AC	R-454B	7.3	2.09	lb/ton	Residential Packaged AC
Trane Technologies	5YCC4030A1070AA	2.5	Residential Unitary AC	R-454B	6.97	2.79	lb/ton	Residential Packaged AC
Trane Technologies	5YCZ5042A1090AA	3.5	Residential Unitary AC	R-454B	7.36	2.1	lb/ton	Residential Packaged AC
Trane Technologies	5TCC4036A1000AA	3	Residential Unitary AC	R-454B	7.2	2.4	lb/ton	Residential Packaged AC
Trane Technologies	5TCC4042A1000AA	3.5	Residential Unitary AC	R-454B	7.3	2.09	lb/ton	Residential Packaged AC
Trane Technologies	5DCZ5030A1070AA	2.5	Residential Unitary AC	R-454B	6.83	2.73	lb/ton	Residential Packaged AC
Trane Technologies	5TCC4024A1000AA	2	Residential Unitary AC	R-454B	4.4	2.2	lb/ton	Residential Packaged AC
Trane Technologies	5TCC4048A1000AA	4	Residential Unitary AC	R-454B	6.6	1.65	lb/ton	Residential Packaged AC
Trane Technologies	5DCZ5036A1070AA	3	Residential Unitary AC	R-454B	7.05	2.35	lb/ton	Residential Packaged AC
Trane Technologies	5YCC4024A1060AA	2	Residential Unitary AC	R-454B	4.4	2.2	lb/ton	Residential Packaged AC
Trane Technologies	5TCC4030A1000AA	2.5	Residential Unitary AC	R-454B	6.97	2.79	lb/ton	Residential Packaged AC
Trane Technologies	5YCZ5060A1115AA	5	Residential Unitary AC	R-454B	9.8	1.96	lb/ton	Residential Packaged AC
Trane Technologies	5YCC4036A1070AA	3	Residential Unitary AC	R-454B	7.2	2.4	lb/ton	Residential Packaged AC
Trane Technologies	5YCZ5048A1090AA	4	Residential Unitary AC	R-454B	7.23	1.81	lb/ton	Residential Packaged AC
Trane Technologies	5YCZ5024A1060AA	2	Residential Unitary AC	R-454B	7	3.5	lb/ton	Residential Packaged AC
Trane Technologies	5YCC4048A1070AA	4	Residential Unitary AC	R-454B	6.6	1.65	lb/ton	Residential Packaged AC
Trane Technologies	5YCC4060A1090AA	5	Residential Unitary AC	R-454B	9.75	1.95	lb/ton	Residential Packaged AC
Trane Technologies	5YCZ5036A1070AA	3	Residential Unitary AC	R-454B	6.67	2.22	lb/ton	Residential Packaged AC
Lennox International	LRP13ACK	2	Residential Unitary AC	R-454B	4.38	2.19	lb/ton	Residential Packaged AC
Lennox International	LRP13ACK	2.5	Residential Unitary AC	R-454B	4.56	1.83	lb/ton	Residential Packaged AC
Lennox International	LRP13ACK	3	Residential Unitary AC	R-454B	4.5	1.5	lb/ton	Residential Packaged AC
Lennox International	LRP13ACK	3.5	Residential Unitary AC	R-454B	5.38	1.54	lb/ton	Residential Packaged AC
Lennox International	LRP13ACK	4	Residential Unitary AC	R-454B	5.31	1.33	lb/ton	Residential Packaged AC
Lennox International	LRP13ACK	5	Residential Unitary AC	R-454B	7.81	1.56	lb/ton	Residential Packaged AC

Manufacturer	Model Number	Capacity (ton)	Existing Equipment Category	Refrigerant Type	Refrigerant Charge (lb)	Refrigerant Charge per Ton	Unit	Recommended Equipment Category
Daikin Industries	DP3CH	2	Residential Unitary AC	R-410A	3.19	1.59	lb/ton	Residential Packaged AC
Daikin Industries	DP3CH	2.5	Residential Unitary AC	R-410A	3.13	1.25	lb/ton	Residential Packaged AC
Daikin Industries	DP3CH	3	Residential Unitary AC	R-410A	3.56	1.19	lb/ton	Residential Packaged AC
Daikin Industries	DP3CH	3.5	Residential Unitary AC	R-410A	4.88	1.39	lb/ton	Residential Packaged AC
Daikin Industries	DP3CH	4	Residential Unitary AC	R-410A	5.44	1.36	lb/ton	Residential Packaged AC
Daikin Industries	DP3CH	5	Residential Unitary AC	R-410A	6.44	1.29	lb/ton	Residential Packaged AC
Daikin Industries	DP3GM	2	Residential Unitary AC	HFC-32	3.69	1.84	lb/ton	Residential Packaged AC
Daikin Industries	DP3GM	2.5	Residential Unitary AC	HFC-32	3.56	1.43	lb/ton	Residential Packaged AC
Daikin Industries	DP3GM	3	Residential Unitary AC	HFC-32	4.69	1.56	lb/ton	Residential Packaged AC
Daikin Industries	DP3UM	2	Residential Unitary AC	R-410A	4.69	2.34	lb/ton	Residential Packaged AC
Daikin Industries	DP3UM	2.5	Residential Unitary AC	R-410A	4.88	1.95	lb/ton	Residential Packaged AC
Daikin Industries	DP3UM	3	Residential Unitary AC	R-410A	5.75	1.92	lb/ton	Residential Packaged AC
Daikin Industries	DP3UM	3.5	Residential Unitary AC	R-410A	6.44	1.84	lb/ton	Residential Packaged AC
Daikin Industries	DP3UM	4	Residential Unitary AC	R-410A	6.69	1.67	lb/ton	Residential Packaged AC
Daikin Industries	DP3UM	5	Residential Unitary AC	R-410A	6.25	1.25	lb/ton	Residential Packaged AC
Daikin Industries	DP5GM	2	Residential Unitary AC	R-410A	4.38	2.19	lb/ton	Residential Packaged AC
Daikin Industries	DP5GM	2.5	Residential Unitary AC	R-410A	4	1.6	lb/ton	Residential Packaged AC
Daikin Industries	DP5GM	3	Residential Unitary AC	R-410A	7.13	2.38	lb/ton	Residential Packaged AC
Daikin Industries	DP5GM	3.5	Residential Unitary AC	R-410A	8.94	2.55	lb/ton	Residential Packaged AC
Daikin Industries	DP5GM	4	Residential Unitary AC	R-410A	6.25	1.56	lb/ton	Residential Packaged AC
Daikin Industries	DP5GM	5	Residential Unitary AC	R-410A	9.38	1.88	lb/ton	Residential Packaged AC
Daikin Industries	DP5GM	2	Residential Unitary AC	HFC-32	3.63	1.81	lb/ton	Residential Packaged AC
Daikin Industries	DP5GM	2.5	Residential Unitary AC	HFC-32	3.06	1.23	lb/ton	Residential Packaged AC
Daikin Industries	DP5GM	3	Residential Unitary AC	HFC-32	5	1.67	lb/ton	Residential Packaged AC
Daikin Industries	DP5GM	3.5	Residential Unitary AC	HFC-32	7.38	2.11	lb/ton	Residential Packaged AC
Daikin Industries	DP5GM	4	Residential Unitary AC	HFC-32	5.13	1.28	lb/ton	Residential Packaged AC
Daikin Industries	DP5GM	5	Residential Unitary AC	HFC-32	6.25	1.25	lb/ton	Residential Packaged AC
Daikin Industries	DP5UM	2.5	Residential Unitary AC	HFC-32	3.06	1.23	lb/ton	Residential Packaged AC
Daikin Industries	DP5UM	3	Residential Unitary AC	HFC-32	5	1.67	lb/ton	Residential Packaged AC
Trane Technologies	4TCC4024A1000A	2	Residential Unitary AC	R-410A	5.24	2.62	lb/ton	Residential Packaged AC

Manufacturer	Model Number	Capacity (ton)	Existing Equipment Category	Refrigerant Type	Refrigerant Charge (lb)	Refrigerant Charge per Ton	Unit	Recommended Equipment Category
Trane Technologies	4TCC4030A1000A	2.5	Residential Unitary AC	R-410A	6.94	2.78	lb/ton	Residential Packaged AC
Trane Technologies	4TCC4036A1000A	3	Residential Unitary AC	R-410A	7.2	2.4	lb/ton	Residential Packaged AC
Trane Technologies	4TCC4042A1000A	3.5	Residential Unitary AC	R-410A	7.3	2.09	lb/ton	Residential Packaged AC
Trane Technologies	4TCC4048A1000A	4	Residential Unitary AC	R-410A	7.5	1.88	lb/ton	Residential Packaged AC
Trane Technologies	4TCC4060A1000A	5	Residential Unitary AC	R-410A	9.65	1.93	lb/ton	Residential Packaged AC
Carrier Corporation	50ZP024	2	Residential Unitary AC	R-410A	4.5	2.25	lb/ton	Residential Packaged AC
Carrier Corporation	50ZP030	2.5	Residential Unitary AC	R-410A	4.8	1.92	lb/ton	Residential Packaged AC
Carrier Corporation	50ZP036	3	Residential Unitary AC	R-410A	6.8	2.27	lb/ton	Residential Packaged AC
Carrier Corporation	50ZP042	3.5	Residential Unitary AC	R-410A	5.7	1.63	lb/ton	Residential Packaged AC
Carrier Corporation	50ZP048	4	Residential Unitary AC	R-410A	6.3	1.58	lb/ton	Residential Packaged AC
Carrier Corporation	50ZP060	5	Residential Unitary AC	R-410A	7.5	1.5	lb/ton	Residential Packaged AC
Trane Technologies	5TTR3018A1000AA	1.5	Residential Unitary AC	R-454B	4.57	3.05	lb/ton	Residential Split System AC
Trane Technologies	5TTR3024A1000AA	2	Residential Unitary AC	R-454B	4.31	2.16	lb/ton	Residential Split System AC
Trane Technologies	5TTR3030A1000AA	2.5	Residential Unitary AC	R-454B	4.63	1.85	lb/ton	Residential Split System AC
Trane Technologies	5TTR3036A1000AA	3	Residential Unitary AC	R-454B	4.59	1.53	lb/ton	Residential Split System AC
Trane Technologies	5TTR3042A1000AA	3.5	Residential Unitary AC	R-454B	6.23	1.78	lb/ton	Residential Split System AC
Trane Technologies	5TTR3048A1000AA	4	Residential Unitary AC	R-454B	6.44	1.61	lb/ton	Residential Split System AC
Trane Technologies	5TTR3060A1000AA	5	Residential Unitary AC	R-454B	6.87	1.37	lb/ton	Residential Split System AC
Trane Technologies	5TTR4018A1000AA	1.5	Residential Unitary AC	R-454B	5.31	3.54	lb/ton	Residential Split System AC
Trane Technologies	5TTR4024A1000AA	2	Residential Unitary AC	R-454B	5.2	2.6	lb/ton	Residential Split System AC
Trane Technologies	5TTR4030A1000AA	2.5	Residential Unitary AC	R-454B	5.09	2.04	lb/ton	Residential Split System AC
Trane Technologies	5TTR4036A1000AA	3	Residential Unitary AC	R-454B	5.02	1.67	lb/ton	Residential Split System AC
Trane Technologies	5TTR4042A1000AA	3.5	Residential Unitary AC	R-454B	6.61	1.89	lb/ton	Residential Split System AC
Trane Technologies	5TTR4048A1000AA	4	Residential Unitary AC	R-454B	8.18	2.05	lb/ton	Residential Split System AC
Trane Technologies	5TTR4060A1000AA	5	Residential Unitary AC	R-454B	7.45	1.49	lb/ton	Residential Split System AC
Trane Technologies	5TTR5018A1000AA	1.5	Residential Unitary AC	R-454B	5.31	3.54	lb/ton	Residential Split System AC
Trane Technologies	5TTR5024A1000AA	2	Residential Unitary AC	R-454B	5.2	2.6	lb/ton	Residential Split System AC
Trane Technologies	5TTR5030A1000AA	2.5	Residential Unitary AC	R-454B	5.09	2.04	lb/ton	Residential Split System AC
Trane Technologies	5TTR5036A1000AA	3	Residential Unitary AC	R-454B	5.02	1.67	lb/ton	Residential Split System AC
Trane Technologies	5TTR5042A1000AA	3.5	Residential Unitary AC	R-454B	6.61	1.89	lb/ton	Residential Split System AC

Manufacturer	Model Number	Capacity (ton)	Existing Equipment Category	Refrigerant Type	Refrigerant Charge (lb)	Refrigerant Charge per Ton	Unit	Recommended Equipment Category
Trane Technologies	5TTR5048A1000AA	4	Residential Unitary AC	R-454B	8.18	2.05	lb/ton	Residential Split System AC
Trane Technologies	5TTR5060A1000AA	5	Residential Unitary AC	R-454B	7.45	1.49	lb/ton	Residential Split System AC
Trane Technologies	5TTR7024A1000AA	2	Residential Unitary AC	R-454B	5.5	2.75	lb/ton	Residential Split System AC
Trane Technologies	5TTR7036A1000AA	3	Residential Unitary AC	R-454B	5.75	1.92	lb/ton	Residential Split System AC
Trane Technologies	5TTR7048A1000AA	4	Residential Unitary AC	R-454B	7.5	1.88	lb/ton	Residential Split System AC
Trane Technologies	5TTR7060A1000AA	5	Residential Unitary AC	R-454B	7.5	1.5	lb/ton	Residential Split System AC
Trane Technologies	5TTV0X24A1000AA	2	Residential Unitary AC	R-454B	8	4	lb/ton	Residential Split System AC
Trane Technologies	5TTV0X25A1000AA	2	Residential Unitary AC	R-454B	11.56	5.78	lb/ton	Residential Split System AC
Trane Technologies	5TTV0X36A1000AA	3	Residential Unitary AC	R-454B	12.81	4.27	lb/ton	Residential Split System AC
Trane Technologies	5TTV0X48A1000AA	4	Residential Unitary AC	R-454B	13.94	3.49	lb/ton	Residential Split System AC
Trane Technologies	5TTV0X60A1000AA	5	Residential Unitary AC	R-454B	13.5	2.7	lb/ton	Residential Split System AC
Trane Technologies	5TTV8X24A1000AA	2	Residential Unitary AC	R-454B	8	4	lb/ton	Residential Split System AC
Trane Technologies	5TTV8X36A1000AA	3	Residential Unitary AC	R-454B	7.94	2.65	lb/ton	Residential Split System AC
Trane Technologies	5TTV8X48A1000AA	4	Residential Unitary AC	R-454B	10.94	2.74	lb/ton	Residential Split System AC
Trane Technologies	5TTV8X60A1000AA	5	Residential Unitary AC	R-454B	11.13	2.23	lb/ton	Residential Split System AC
Trane Technologies	5TTX5018A1000AA	1.5	Residential Unitary AC	R-454B	5.31	3.54	lb/ton	Residential Split System AC
Trane Technologies	5TTX5024A1000AA	2	Residential Unitary AC	R-454B	5.2	2.6	lb/ton	Residential Split System AC
Trane Technologies	5TTX5030A1000AA	2.5	Residential Unitary AC	R-454B	5.09	2.04	lb/ton	Residential Split System AC
Trane Technologies	5TTX5036A1000AA	3	Residential Unitary AC	R-454B	5.02	1.67	lb/ton	Residential Split System AC
Trane Technologies	5TTX5042A1000AA	3.5	Residential Unitary AC	R-454B	6.61	1.89	lb/ton	Residential Split System AC
Trane Technologies	5TTX5048A1000AA	4	Residential Unitary AC	R-454B	8.18	2.05	lb/ton	Residential Split System AC
Trane Technologies	5TTX5060A1000AA	5	Residential Unitary AC	R-454B	7.45	1.49	lb/ton	Residential Split System AC
Trane Technologies	5TTX7024A1000AA	2	Residential Unitary AC	R-454B	5.5	2.75	lb/ton	Residential Split System AC
Trane Technologies	5TTX7036A1000AA	3	Residential Unitary AC	R-454B	5.75	1.92	lb/ton	Residential Split System AC
Trane Technologies	5TTX7048A1000AA	4	Residential Unitary AC	R-454B	7.5	1.88	lb/ton	Residential Split System AC
Trane Technologies	5TTX7060A1000AA	5	Residential Unitary AC	R-454B	7.5	1.5	lb/ton	Residential Split System AC
Rheem Manufacturing Company	RA16AY	2	Residential Unitary AC	R-454B	6.44	3.22	lb/ton	Residential Split System AC
Rheem Manufacturing Company	RA16AY	3	Residential Unitary AC	R-454B	6.81	2.27	lb/ton	Residential Split System AC

Manufacturer	Model Number	Capacity (ton)	Existing Equipment Category	Refrigerant Type	Refrigerant Charge (lb)	Refrigerant Charge per Ton	Unit	Recommended Equipment Category
Rheem Manufacturing Company	RA16AY	4	Residential Unitary AC	R-454B	8.31	2.08	lb/ton	Residential Split System AC
Rheem Manufacturing Company	RA16AY	5	Residential Unitary AC	R-454B	11.81	2.36	lb/ton	Residential Split System AC
Rheem Manufacturing Company	RA13NZ	1.5	Residential Unitary AC	R-410A	4.38	2.92	lb/ton	Residential Split System AC
Rheem Manufacturing Company	RA13NZ	2	Residential Unitary AC	R-410A	4.88	2.44	lb/ton	Residential Split System AC
Rheem Manufacturing Company	RA13NZ	2.5	Residential Unitary AC	R-410A	5.38	2.15	lb/ton	Residential Split System AC
Rheem Manufacturing Company	RA13NZ	3	Residential Unitary AC	R-410A	6.63	2.21	lb/ton	Residential Split System AC
Rheem Manufacturing Company	RA13NZ	3.5	Residential Unitary AC	R-410A	7.88	2.25	lb/ton	Residential Split System AC
Rheem Manufacturing Company	RA13NZ	4	Residential Unitary AC	R-410A	7.56	1.89	lb/ton	Residential Split System AC
Rheem Manufacturing Company	RA13NZ	5	Residential Unitary AC	R-410A	11.63	2.33	lb/ton	Residential Split System AC
Rheem Manufacturing Company	RA13NY	1.5	Residential Unitary AC	R-454B	4	2.67	lb/ton	Residential Split System AC
Rheem Manufacturing Company	RA13NY	2	Residential Unitary AC	R-454B	4.5	2.25	lb/ton	Residential Split System AC
Rheem Manufacturing Company	RA13NY	2.5	Residential Unitary AC	R-454B	4.56	1.83	lb/ton	Residential Split System AC
Rheem Manufacturing Company	RA13NY	3	Residential Unitary AC	R-454B	6.75	2.25	lb/ton	Residential Split System AC
Rheem Manufacturing Company	RA13NY	3.5	Residential Unitary AC	R-454B	7	2	lb/ton	Residential Split System AC

Manufacturer	Model Number	Capacity (ton)	Existing Equipment Category	Refrigerant Type	Refrigerant Charge (lb)	Refrigerant Charge per Ton	Unit	Recommended Equipment Category
Rheem Manufacturing Company	RA13NY	4	Residential Unitary AC	R-454B	6.44	1.61	lb/ton	Residential Split System AC
Rheem Manufacturing Company	RA13NY	5	Residential Unitary AC	R-454B	11	2.2	lb/ton	Residential Split System AC
Lennox International	ML13KC1	1.5	Residential Unitary AC	R-454B	4	2.67	lb/ton	Residential Split System AC
Lennox International	ML13KC1	2	Residential Unitary AC	R-454B	4.44	2.22	lb/ton	Residential Split System AC
Lennox International	ML13KC1	2.5	Residential Unitary AC	R-454B	7.88	3.15	lb/ton	Residential Split System AC
Lennox International	ML13KC1	3	Residential Unitary AC	R-454B	5.63	1.88	lb/ton	Residential Split System AC
Lennox International	EL18KCV	2	Residential Unitary AC	R-454B	6.19	3.09	lb/ton	Residential Split System AC
Lennox International	EL18KCV	3	Residential Unitary AC	R-454B	6.44	2.15	lb/ton	Residential Split System AC
Lennox International	EL18KCV	4	Residential Unitary AC	R-454B	9.5	2.38	lb/ton	Residential Split System AC
Lennox International	EL18KCV	5	Residential Unitary AC	R-454B	9.63	1.93	lb/ton	Residential Split System AC
Daikin Industries	DC3SEN	1.5	Residential Unitary AC	HFC-32	3.25	2.17	lb/ton	Residential Split System AC
Daikin Industries	DC3SEN	2	Residential Unitary AC	HFC-32	3.34	1.67	lb/ton	Residential Split System AC
Daikin Industries	DC3SEN	2.5	Residential Unitary AC	HFC-32	3.41	1.37	lb/ton	Residential Split System AC
Daikin Industries	DC3SEN	3	Residential Unitary AC	HFC-32	3.75	1.25	lb/ton	Residential Split System AC
Daikin Industries	DC3SEN	3.5	Residential Unitary AC	HFC-32	4.63	1.32	lb/ton	Residential Split System AC
Daikin Industries	DC3SEN	4	Residential Unitary AC	HFC-32	5.25	1.31	lb/ton	Residential Split System AC
Daikin Industries	DC3SEN	5	Residential Unitary AC	HFC-32	5.69	1.14	lb/ton	Residential Split System AC
Daikin Industries	DC3SQN	1.5	Residential Unitary AC	HFC-32	3.31	2.21	lb/ton	Residential Split System AC
Daikin Industries	DC3SQN	2	Residential Unitary AC	HFC-32	3.31	1.66	lb/ton	Residential Split System AC
Daikin Industries	DC3SQN	2.5	Residential Unitary AC	HFC-32	3.75	1.5	lb/ton	Residential Split System AC
Daikin Industries	DC3SQN	3	Residential Unitary AC	HFC-32	3.75	1.25	lb/ton	Residential Split System AC
Daikin Industries	DC3SQN	3.5	Residential Unitary AC	HFC-32	4.63	1.32	lb/ton	Residential Split System AC
Daikin Industries	DC3SQN	4	Residential Unitary AC	HFC-32	5.25	1.31	lb/ton	Residential Split System AC
Daikin Industries	DC3SQN	5	Residential Unitary AC	HFC-32	5.69	1.14	lb/ton	Residential Split System AC
Daikin Industries	DC4SE	1.5	Residential Unitary AC	HFC-32	3.38	2.25	lb/ton	Residential Split System AC
Daikin Industries	DC4SE	2	Residential Unitary AC	HFC-32	3.63	1.81	lb/ton	Residential Split System AC
Daikin Industries	DC4SE	2.5	Residential Unitary AC	HFC-32	4	1.6	lb/ton	Residential Split System AC
Daikin Industries	DC4SE	3	Residential Unitary AC	HFC-32	4.31	1.44	lb/ton	Residential Split System AC

Manufacturer	Model Number	Capacity (ton)	Existing Equipment Category	Refrigerant Type	Refrigerant Charge (lb)	Refrigerant Charge per Ton	Unit	Recommended Equipment Category
Daikin Industries	DC4SE	3.5	Residential Unitary AC	HFC-32	5.19	1.48	lb/ton	Residential Split System AC
Daikin Industries	DC4SE	4	Residential Unitary AC	HFC-32	5.69	1.42	lb/ton	Residential Split System AC
Daikin Industries	DC4SE	5	Residential Unitary AC	HFC-32	5.88	1.18	lb/ton	Residential Split System AC
Daikin Industries	DC4SQ	1.5	Residential Unitary AC	HFC-32	3.31	2.21	lb/ton	Residential Split System AC
Daikin Industries	DC4SQ	2	Residential Unitary AC	HFC-32	3.31	1.66	lb/ton	Residential Split System AC
Daikin Industries	DC4SQ	2.5	Residential Unitary AC	HFC-32	3.94	1.58	lb/ton	Residential Split System AC
Daikin Industries	DC4SQ	3	Residential Unitary AC	HFC-32	4.31	1.44	lb/ton	Residential Split System AC
Daikin Industries	DC4SQ	3.5	Residential Unitary AC	HFC-32	5.19	1.48	lb/ton	Residential Split System AC
Daikin Industries	DC4SQ	4	Residential Unitary AC	HFC-32	5.69	1.42	lb/ton	Residential Split System AC
Daikin Industries	DC4SQ	5	Residential Unitary AC	HFC-32	5.88	1.18	lb/ton	Residential Split System AC
Daikin Industries	DC5SEA	1.5	Residential Unitary AC	HFC-32	3.38	2.25	lb/ton	Residential Split System AC
Daikin Industries	DC5SEA	2	Residential Unitary AC	HFC-32	4.06	2.03	lb/ton	Residential Split System AC
Daikin Industries	DC5SEA	2.5	Residential Unitary AC	HFC-32	5.44	2.18	lb/ton	Residential Split System AC
Daikin Industries	DC5SEA	3	Residential Unitary AC	HFC-32	5.5	1.83	lb/ton	Residential Split System AC
Daikin Industries	DC5SEA	3.5	Residential Unitary AC	HFC-32	8.81	2.52	lb/ton	Residential Split System AC
Daikin Industries	DC5SEA	4	Residential Unitary AC	HFC-32	8.63	2.16	lb/ton	Residential Split System AC
Daikin Industries	DC5SEA	5	Residential Unitary AC	HFC-32	10.44	2.09	lb/ton	Residential Split System AC
Daikin Industries	DC6VSS	1.5	Residential Unitary AC	HFC-32	4.63	3.08	lb/ton	Residential Split System AC
Daikin Industries	DC6VSS	2	Residential Unitary AC	HFC-32	4.63	2.31	lb/ton	Residential Split System AC
Daikin Industries	DC6VSS	2.5	Residential Unitary AC	HFC-32	4.75	1.9	lb/ton	Residential Split System AC
Daikin Industries	DC6VSS	3	Residential Unitary AC	HFC-32	5.19	1.73	lb/ton	Residential Split System AC
Daikin Industries	DC6VSS	3.5	Residential Unitary AC	HFC-32	6.25	1.79	lb/ton	Residential Split System AC
Daikin Industries	DC6VSS	4	Residential Unitary AC	HFC-32	6.25	1.56	lb/ton	Residential Split System AC
Daikin Industries	DC6VS	5	Residential Unitary AC	HFC-32	7.38	1.48	lb/ton	Residential Split System AC
Daikin Industries	DC7TCA	2	Residential Unitary AC	HFC-32	6.5	3.25	lb/ton	Residential Split System AC
Daikin Industries	DC7TCA	3	Residential Unitary AC	HFC-32	5.75	1.92	lb/ton	Residential Split System AC
Daikin Industries	DC7TCA	4	Residential Unitary AC	HFC-32	11.25	2.81	lb/ton	Residential Split System AC
Daikin Industries	DC7TCA	5	Residential Unitary AC	HFC-32	10.44	2.09	lb/ton	Residential Split System AC
Daikin Industries	DC9VSA	2	Residential Unitary AC	HFC-32	4.75	2.38	lb/ton	Residential Split System AC
Daikin Industries	DC9VSA	3	Residential Unitary AC	HFC-32	6.25	2.08	lb/ton	Residential Split System AC

Manufacturer	Model Number	Capacity (ton)	Existing Equipment Category	Refrigerant Type	Refrigerant Charge (lb)	Refrigerant Charge per Ton	Unit	Recommended Equipment Category
Daikin Industries	DC9VSA	4	Residential Unitary AC	HFC-32	7.38	1.84	lb/ton	Residential Split System AC
Daikin Industries	DC9VSA	5	Residential Unitary AC	HFC-32	10.13	2.03	lb/ton	Residential Split System AC
Daikin Industries	DX3SE	1.5	Residential Unitary AC	R-410A	3.88	2.58	lb/ton	Residential Split System AC
Daikin Industries	DX3SE	2	Residential Unitary AC	R-410A	4.69	2.34	lb/ton	Residential Split System AC
Daikin Industries	DX3SE	2.5	Residential Unitary AC	R-410A	4.88	1.95	lb/ton	Residential Split System AC
Daikin Industries	DX3SE	3	Residential Unitary AC	R-410A	4.44	1.48	lb/ton	Residential Split System AC
Daikin Industries	DX3SE	3.5	Residential Unitary AC	R-410A	7.19	2.05	lb/ton	Residential Split System AC
Daikin Industries	DX3SE	4	Residential Unitary AC	R-410A	7.5	1.88	lb/ton	Residential Split System AC
Daikin Industries	DX3SE	5	Residential Unitary AC	R-410A	8.13	1.63	lb/ton	Residential Split System AC
Daikin Industries	DX3SQ	1.5	Residential Unitary AC	R-410A	4.06	2.71	lb/ton	Residential Split System AC
Daikin Industries	DX3SQ	2	Residential Unitary AC	R-410A	4.44	2.22	lb/ton	Residential Split System AC
Daikin Industries	DX3SQ	2.5	Residential Unitary AC	R-410A	4.88	1.95	lb/ton	Residential Split System AC
Daikin Industries	DX3SQ	3	Residential Unitary AC	R-410A	4.44	1.48	lb/ton	Residential Split System AC
Daikin Industries	DX3SQ	3.5	Residential Unitary AC	R-410A	7.19	2.05	lb/ton	Residential Split System AC
Daikin Industries	DX3SQ	4	Residential Unitary AC	R-410A	7.5	1.88	lb/ton	Residential Split System AC
Daikin Industries	DX3SQ	5	Residential Unitary AC	R-410A	8.13	1.63	lb/ton	Residential Split System AC
Daikin Industries	DX4SE	1.5	Residential Unitary AC	R-410A	4	2.67	lb/ton	Residential Split System AC
Daikin Industries	DX4SE	2	Residential Unitary AC	R-410A	4.5	2.25	lb/ton	Residential Split System AC
Daikin Industries	DX4SE	2.5	Residential Unitary AC	R-410A	6.31	2.53	lb/ton	Residential Split System AC
Daikin Industries	DX4SE	3	Residential Unitary AC	R-410A	6.38	2.13	lb/ton	Residential Split System AC
Daikin Industries	DX4SE	3.5	Residential Unitary AC	R-410A	11.06	3.16	lb/ton	Residential Split System AC
Daikin Industries	DX4SE	4	Residential Unitary AC	R-410A	11.25	2.81	lb/ton	Residential Split System AC
Daikin Industries	DX4SE	5	Residential Unitary AC	R-410A	13.06	2.61	lb/ton	Residential Split System AC
Daikin Industries	DX5SEA	1.5	Residential Unitary AC	R-410A	4	2.67	lb/ton	Residential Split System AC
Daikin Industries	DX5SEA	2	Residential Unitary AC	R-410A	4.5	2.25	lb/ton	Residential Split System AC
Daikin Industries	DX5SEA	2.5	Residential Unitary AC	R-410A	6.31	2.53	lb/ton	Residential Split System AC
Daikin Industries	DX5SEA	3	Residential Unitary AC	R-410A	6.38	2.13	lb/ton	Residential Split System AC
Daikin Industries	DX5SEA	3.5	Residential Unitary AC	R-410A	11.06	3.16	lb/ton	Residential Split System AC
Daikin Industries	DX5SEA	4	Residential Unitary AC	R-410A	11.25	2.81	lb/ton	Residential Split System AC
Daikin Industries	DX5SEA	5	Residential Unitary AC	R-410A	13.06	2.61	lb/ton	Residential Split System AC

Manufacturer	Model Number	Capacity (ton)	Existing Equipment Category	Refrigerant Type	Refrigerant Charge (lb)	Refrigerant Charge per Ton	Unit	Recommended Equipment Category
Daikin Industries	DX6VSS	1.5	Residential Unitary AC	R-410A	4.75	3.17	lb/ton	Residential Split System AC
Daikin Industries	DX6VSS	2	Residential Unitary AC	R-410A	4.75	2.38	lb/ton	Residential Split System AC
Daikin Industries	DX6VSS	2.5	Residential Unitary AC	R-410A	4.94	1.98	lb/ton	Residential Split System AC
Daikin Industries	DX6VSS	3	Residential Unitary AC	R-410A	5.31	1.77	lb/ton	Residential Split System AC
Daikin Industries	DX6VSS	3.5	Residential Unitary AC	R-410A	6.94	1.98	lb/ton	Residential Split System AC
Daikin Industries	DX6VSS	4	Residential Unitary AC	R-410A	6.94	1.73	lb/ton	Residential Split System AC
Daikin Industries	DX6VSS	5	Residential Unitary AC	R-410A	8.19	1.64	lb/ton	Residential Split System AC
Daikin Industries	DX7TCA	2	Residential Unitary AC	R-410A	6.56	3.28	lb/ton	Residential Split System AC
Daikin Industries	DX7TCA	3	Residential Unitary AC	R-410A	6.81	2.27	lb/ton	Residential Split System AC
Daikin Industries	DX7TCA	4	Residential Unitary AC	R-410A	12.19	3.05	lb/ton	Residential Split System AC
Daikin Industries	DX7TCA	5	Residential Unitary AC	R-410A	13.06	2.61	lb/ton	Residential Split System AC
Daikin Industries	DX9VCA	2	Residential Unitary AC	R-410A	9.5	4.75	lb/ton	Residential Split System AC
Daikin Industries	DX9VCA	3	Residential Unitary AC	R-410A	9.63	3.21	lb/ton	Residential Split System AC
Daikin Industries	DX9VCA	4	Residential Unitary AC	R-410A	15.38	3.84	lb/ton	Residential Split System AC
Daikin Industries	DX9VCA	5	Residential Unitary AC	R-410A	15.38	3.08	lb/ton	Residential Split System AC
Carrier Corporation	26TPA8	2	Residential Unitary AC	R-454B	5.32	2.66	lb/ton	Residential Split System AC
Carrier Corporation	26SPA6	1.5	Residential Unitary AC	R-454B	4.2	2.8	lb/ton	Residential Split System AC
Carrier Corporation	26SCA5	1.5	Residential Unitary AC	R-454B	4.2	2.8	lb/ton	Residential Split System AC
Carrier Corporation	26SCA4	1.5	Residential Unitary AC	R-454B	3.9	2.6	lb/ton	Residential Split System AC
Carrier Corporation	26TPA8	3	Residential Unitary AC	R-454B	7.25	2.42	lb/ton	Residential Split System AC
Carrier Corporation	26TPA8	4	Residential Unitary AC	R-454B	8.65	2.16	lb/ton	Residential Split System AC
Carrier Corporation	26TPA8	5	Residential Unitary AC	R-454B	9.42	1.88	lb/ton	Residential Split System AC
Carrier Corporation	26SPA6	2	Residential Unitary AC	R-454B	4.7	2.35	lb/ton	Residential Split System AC
Carrier Corporation	26SPA6	2.5	Residential Unitary AC	R-454B	5.5	2.2	lb/ton	Residential Split System AC
Carrier Corporation	26SPA6	3	Residential Unitary AC	R-454B	6.9	2.3	lb/ton	Residential Split System AC
Carrier Corporation	26SPA6	3.5	Residential Unitary AC	R-454B	7.2	2.06	lb/ton	Residential Split System AC
Carrier Corporation	26SPA6	4	Residential Unitary AC	R-454B	5.7	1.43	lb/ton	Residential Split System AC
Carrier Corporation	26SPA6	5	Residential Unitary AC	R-454B	7.9	1.58	lb/ton	Residential Split System AC
Carrier Corporation	26SCA5	2	Residential Unitary AC	R-454B	4.7	2.35	lb/ton	Residential Split System AC
Carrier Corporation	26SCA5	2.5	Residential Unitary AC	R-454B	5.5	2.2	lb/ton	Residential Split System AC

Manufacturer	Model Number	Capacity (ton)	Existing Equipment Category	Refrigerant Type	Refrigerant Charge (lb)	Refrigerant Charge per Ton	Unit	Recommended Equipment Category
Carrier Corporation	26SCA5	3	Residential Unitary AC	R-454B	6.9	2.3	lb/ton	Residential Split System AC
Carrier Corporation	26SCA5	3.5	Residential Unitary AC	R-454B	7.2	2.06	lb/ton	Residential Split System AC
Carrier Corporation	26SCA5	4	Residential Unitary AC	R-454B	5.7	1.43	lb/ton	Residential Split System AC
Carrier Corporation	26SCA5	5	Residential Unitary AC	R-454B	7.9	1.58	lb/ton	Residential Split System AC
Carrier Corporation	26SCA4	2	Residential Unitary AC	R-454B	3.9	1.95	lb/ton	Residential Split System AC
Carrier Corporation	26SCA4	2.5	Residential Unitary AC	R-454B	5.3	2.12	lb/ton	Residential Split System AC
Carrier Corporation	26SCA4	3	Residential Unitary AC	R-454B	4.9	1.63	lb/ton	Residential Split System AC
Carrier Corporation	26SCA4	3.5	Residential Unitary AC	R-454B	6.6	1.89	lb/ton	Residential Split System AC
Carrier Corporation	26SCA4	4	Residential Unitary AC	R-454B	7.1	1.78	lb/ton	Residential Split System AC
Carrier Corporation	26SCA4	5	Residential Unitary AC	R-454B	6.4	1.28	lb/ton	Residential Split System AC
Trane Technologies	4TTV8X24A1000A	2	Residential Unitary AC	R-410A	7.38	3.69	lb/ton	Residential Split System AC
Trane Technologies	4TTV8X36A1000A	3	Residential Unitary AC	R-410A	7.88	2.63	lb/ton	Residential Split System AC
Trane Technologies	4TTV8X48A1000A	4	Residential Unitary AC	R-410A	11.56	2.89	lb/ton	Residential Split System AC
Trane Technologies	4TTV8X60A1000A	5	Residential Unitary AC	R-410A	12.75	2.55	lb/ton	Residential Split System AC
LG Electronics	LT1016CER	0.83	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.93	1.11	lb/ton	PTAC
LG Electronics	LT1036CER	0.83	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.93	1.11	lb/ton	PTAC
LG Electronics	LT12124CNR	1	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.93	0.93	lb/ton	PTAC
LG Electronics	LT1236CER	1	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	1.06	1.06	lb/ton	PTAC
LG Electronics	LT1430CNR	1.17	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	1.14	0.98	lb/ton	PTAC
LG Electronics	LT1033HNR	0.83	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.84	1.01	lb/ton	PTAC
LG Electronics	LT1233HNR	1	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.88	0.88	lb/ton	PTAC
General Electric	AZES07DCXXA	0.58	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	R-454B	1.63	2.79	lb/ton	PTAC
General Electric	AZES09DCXXA	0.75	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	R-454B	1.69	2.25	lb/ton	PTAC
General Electric	AZES12DCXXA	1	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	R-454B	2	2	lb/ton	PTAC

Manufacturer	Model Number	Capacity (ton)	Existing Equipment Category	Refrigerant Type	Refrigerant Charge (lb)	Refrigerant Charge per Ton	Unit	Recommended Equipment Category
General Electric	AZES15DCXXA	1.25	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	R-454B	2.13	1.7	lb/ton	PTAC
Midea	MP09EMB33	0.75	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	1.21	1.62	lb/ton	PTAC
Midea	MP12EMB33	1	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	1.72	1.72	lb/ton	PTAC
General Electric	AZHS07	0.58	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	R-454B	1.66	2.84	lb/ton	PTHP
General Electric	AZHS09	0.75	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	R-454B	1.75	2.33	lb/ton	PTHP
General Electric	AZHS12	1	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	R-454B	1.91	1.91	lb/ton	PTHP
General Electric	AZHS15	1.25	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	R-454B	2.13	1.7	lb/ton	PTHP
Midea	MP07EMB32	0.58	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	1.08	1.85	lb/ton	PTHP
Midea	MP09EMB32	0.75	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	1.1	1.47	lb/ton	PTHP
Midea	MP12EMB32	1	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	1.37	1.37	lb/ton	PTHP
Midea	MP15EMB32	1.25	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	1.35	1.08	lb/ton	PTHP
Trane Technologies	PTHG0701GAA	0.58	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	1.7	2.91	lb/ton	PTHP
Trane Technologies	PTHG0901GAA	0.75	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	1.5	2	lb/ton	PTHP
Trane Technologies	PTHG1201GAA	1	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	1.8	1.8	lb/ton	PTHP
Trane Technologies	PTHG1501GAA	1.25	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	1.9	1.52	lb/ton	PTHP
Trane Technologies	PTHG0702GAA	0.58	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	1.7	2.91	lb/ton	PTHP
Trane Technologies	PTHG0902GAA	0.75	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	1.5	2	lb/ton	PTHP
Trane Technologies	PTHG1202GAA	1	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	1.8	1.8	lb/ton	PTHP
Trane Technologies	PTHG1502GAA	1.25	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	1.8	1.44	lb/ton	PTHP

Manufacturer	Model Number	Capacity (ton)	Existing Equipment Category	Refrigerant Type	Refrigerant Charge (lb)	Refrigerant Charge per Ton	Unit	Recommended Equipment Category
LG Electronics	LW6023IVSM	0.5	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.66	1.33	lb/ton	Window AC
LG Electronics	LW8022IVSM	0.67	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.66	0.99	lb/ton	Window AC
LG Electronics	LW1022IVSM	0.83	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.66	0.8	lb/ton	Window AC
LG Electronics	LW1022FVSM	0.83	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.66	0.8	lb/ton	Window AC
LG Electronics	LW1222IVSM	1	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.96	0.96	lb/ton	Window AC
LG Electronics	LW1522IVSM	1.25	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.96	0.77	lb/ton	Window AC
LG Electronics	LW1522FVSM	1.25	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.96	0.77	lb/ton	Window AC
LG Electronics	LW1822IVSM	1.5	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	1.41	0.94	lb/ton	Window AC
LG Electronics	LW2422IVSM	2	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	1.41	0.71	lb/ton	Window AC
LG Electronics	LW8024IVSM	0.67	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.96	1.43	lb/ton	Window AC
LG Electronics	LW1224IVSM	1	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.96	0.96	lb/ton	Window AC
LG Electronics	VW5025R	0.42	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.39	0.95	lb/ton	Window AC
LG Electronics	VW5024	0.42	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.39	0.95	lb/ton	Window AC
LG Electronics	LW5024	0.42	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.39	0.95	lb/ton	Window AC
LG Electronics	LW5025R	0.42	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.39	0.95	lb/ton	Window AC
LG Electronics	VW6024R	0.5	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.39	0.79	lb/ton	Window AC
LG Electronics	LW6024RY	0.5	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.39	0.79	lb/ton	Window AC
LG Electronics	LW6024R	0.5	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.39	0.79	lb/ton	Window AC
LG Electronics	LW8024RSMY	0.67	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.49	0.73	lb/ton	Window AC

Manufacturer	Model Number	Capacity (ton)	Existing Equipment Category	Refrigerant Type	Refrigerant Charge (lb)	Refrigerant Charge per Ton	Unit	Recommended Equipment Category
LG Electronics	LW8024RSM	0.67	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.49	0.73	lb/ton	Window AC
LG Electronics	LW8024R	0.67	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.49	0.73	lb/ton	Window AC
LG Electronics	LW1025RSMY	0.83	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.59	0.71	lb/ton	Window AC
LG Electronics	LW1025RSM	0.83	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.59	0.71	lb/ton	Window AC
LG Electronics	LW1025R	0.83	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.59	0.71	lb/ton	Window AC
LG Electronics	LW1025RSMX	0.83	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.59	0.71	lb/ton	Window AC
LG Electronics	LW5023	0.42	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.35	0.84	lb/ton	Window AC
LG Electronics	LW6017R	0.5	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.39	0.79	lb/ton	Window AC
LG Electronics	LW5023Y	0.42	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.35	0.84	lb/ton	Window AC
LG Electronics	LW6023R	0.5	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.38	0.75	lb/ton	Window AC
LG Electronics	LW8023ERSM	0.67	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.59	0.89	lb/ton	Window AC
LG Electronics	LW1023ERSM	0.83	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.66	0.8	lb/ton	Window AC
LG Electronics	LW1223ERSM	1	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.86	0.86	lb/ton	Window AC
LG Electronics	LW1523ERSM	1.25	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.91	0.73	lb/ton	Window AC
LG Electronics	LW1822ERSM	1.5	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	1.48	0.98	lb/ton	Window AC
LG Electronics	LW2522ERSM	2	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	1.98	0.99	lb/ton	Window AC
LG Electronics	LW8023HRSM	0.67	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.59	0.89	lb/ton	Window AC
LG Electronics	LW1223HRSM	1	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.93	0.93	lb/ton	Window AC
LG Electronics	LW1823HRSM	1.5	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	1.58	1.05	lb/ton	Window AC

Manufacturer	Model Number	Capacity (ton)	Existing Equipment Category	Refrigerant Type	Refrigerant Charge (lb)	Refrigerant Charge per Ton	Unit	Recommended Equipment Category
LG Electronics	LW2423HRSM	2	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	1.83	0.92	lb/ton	Window AC
LG Electronics	LW8023HR	0.67	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.59	0.89	lb/ton	Window AC
LG Electronics	LW1223HR	1	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.93	0.93	lb/ton	Window AC
LG Electronics	LW1823HR	1.5	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	1.58	1.05	lb/ton	Window AC
LG Electronics	LW2423HR	2	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	1.83	0.92	lb/ton	Window AC
LG Electronics	LW8017ERSM1	0.67	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.59	0.89	lb/ton	Window AC
LG Electronics	LW1017ERSM1	0.83	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.66	0.8	lb/ton	Window AC
LG Electronics	LW1217ERSM1	1	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.86	0.86	lb/ton	Window AC
LG Electronics	LW1521ERSM1	1.25	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.91	0.73	lb/ton	Window AC
LG Electronics	LW1821ERSM	1.5	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	1.48	0.98	lb/ton	Window AC
LG Electronics	LW2521ERSM	2	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	1.98	0.99	lb/ton	Window AC
LG Electronics	LW8024RD	0.67	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.59	0.89	lb/ton	Window AC
LG Electronics	LW1024RD	0.83	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.66	0.8	lb/ton	Window AC
LG Electronics	LW1224RD	1	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.86	0.86	lb/ton	Window AC
LG Electronics	LW1424RD	1.17	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.91	0.78	lb/ton	Window AC
LG Electronics	LW1824RD	1.5	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	1.48	0.98	lb/ton	Window AC
LG Electronics	LW2524RD	2	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	1.98	0.99	lb/ton	Window AC
LG Electronics	LW5024X	0.42	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.39	0.95	lb/ton	Window AC
LG Electronics	LW6024RSMX	0.5	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.39	0.79	lb/ton	Window AC

Manufacturer	Model Number	Capacity (ton)	Existing Equipment Category	Refrigerant Type	Refrigerant Charge (lb)	Refrigerant Charge per Ton	Unit	Recommended Equipment Category
LG Electronics	LW8024RSMX	0.67	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.49	0.73	lb/ton	Window AC
LG Electronics	LW1024RSMX	0.83	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.66	0.8	lb/ton	Window AC
LG Electronics	LW1224RSMX	1	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.86	0.86	lb/ton	Window AC
Toshiba Corporation	RAC-PD0811CRU	0.83	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	R-410A	0.75	0.9	lb/ton	Window AC
Toshiba Corporation	RAC-PD1011CRU	1	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	R-410A	0.82	0.82	lb/ton	Window AC
Toshiba Corporation	RAC-PD1211CRU	1	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	R-410A	0.97	0.97	lb/ton	Window AC
Toshiba Corporation	RAC-PD1411CRU	1.17	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	R-410A	1.12	0.96	lb/ton	Window AC
Toshiba Corporation	RAC-PD1411CWU	1.17	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	R-410A	1.12	0.96	lb/ton	Window AC
Toshiba Corporation	RAC-PD1411HRU	1.17	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	R-410A	1.12	0.96	lb/ton	Window AC
Midea	MAW08V1QWT	0.67	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.6	0.89	lb/ton	Window AC
Toshiba Corporation	RAC-WK0813CWURU	0.67	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.57	0.86	lb/ton	Window AC
Vissani	VAW06R1AWT	0.5	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	0.49	0.97	lb/ton	Window AC
Midea	MWCUPWHP-09HEFN8-BCL1	0.75	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	2.02	2.69	lb/ton	Window HP
Midea	MAH09B1AGR	0.75	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	2.02	2.69	lb/ton	Window HP
Gree Electric Appliances	GJH09BW-A6DRNL1A	0.75	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	1.87	2.5	lb/ton	Window HP
Gradient Comfort	CCHP11	0.75	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	HFC-32	1.72	2.29	lb/ton	Window HP
Amana	PTH093	0.75	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	R-410A	2.25	3	lb/ton	PTAC
Amana	PTH123	1	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	R-410A	2.11	2.11	lb/ton	PTAC
Friedrich	PVH09K	0.75	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	R-410A	1.9	2.53	lb/ton	PTHP

Manufacturer	Model Number	Capacity (ton)	Existing Equipment Category	Refrigerant Type	Refrigerant Charge (lb)	Refrigerant Charge per Ton	Unit	Recommended Equipment Category
Friedrich	PVH09R	0.75	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	R-410A	2.01	2.68	lb/ton	PTHP
Friedrich	PVH12K	1	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	R-410A	2.05	2.05	lb/ton	PTHP
Friedrich	PVH12R	1	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	R-410A	2.05	2.05	lb/ton	PTHP
LG Electronics	LP073CDUC	0.58	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	R-410A	1.63	2.8	lb/ton	PTAC
LG Electronics	LP093CDUC	0.75	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	R-410A	1.33	1.77	lb/ton	PTAC
LG Electronics	LP123CDUC	1	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	R-410A	1.34	1.34	lb/ton	PTAC
LG Electronics	LP153CDUC	1.25	Window/Room/Wall AC and Packaged Terminal AC (PTAC)	R-410A	1.95	1.56	lb/ton	PTAC

Source: OEM product submittals