

# BPA Variable Refrigerant Flow Specification

Version 10/1/2017



Applicable to: Commercial Variable Refrigerant Flow (VRF) Retrofits

Note: Selected equipment must meet both cooling and heating Tier requirements (if listed)

Specification last updated 4/2017

## VRF Multisplit Air Conditioner - Air Cooled

Equipment Size (Btu/h)	Mode	Heating Type	Subcategory	Tier 1 (High Efficiency)	Tier 2 (Highest Efficiency)
<65,000	Cooling Mode	All	Multisplit System	15 SEER	16 SEER
≥65,000 and <135,000		Electric Resistance (or None)	Multisplit System	14.9 IEER	N/A
≥135,000 and <240,000		Electric Resistance (or None)	Multisplit System	14.4 IEER	N/A
≥240,000		Electric Resistance (or None)	Multisplit System	13 IEER	N/A

## VRF Multisplit Heat Pump - Air Source

Equipment Size (Btu/h)	Mode	Heating Type	Subcategory	Tier 1 (High Efficiency)	Tier 2 (Highest Efficiency)
<65,000	Cooling Mode	All	Multisplit System	15 SEER	16 SEER
	Heating Mode	-	Multisplit System	8.5 HSPF	9.0 HSPF
≥65,000 and <135,000	Cooling Mode	Electric Resistance (or None)	Multisplit System	14.2 IEER	N/A
			Multisplit System with Heat Recovery	14 IEER	N/A
	Heating Mode	-	47°F db/43°F wb Outdoor Air	3.4 COP	N/A
			17°F db/15°F wb Outdoor Air	2.4 COP	N/A
≥135,000	≥135,000 and <240,000 Cooling Mode	Electric Resistance (or None)	Multisplit System	13.7 IEER	N/A
			Multisplit System with Heat Recovery	13.5 IEER	N/A
	For ≥240,000 Cooling Mode	Electric Resistance (or None)	Multisplit System	12.5 IEER	N/A
			Multisplit System with Heat Recovery	12.3 IEER	N/A
	For all ≥135,000 Heating Mode	-	47°F db/43°F wb Outdoor Air	3.2 COP	N/A
			17°F db/15°F wb Outdoor Air	2.1 COP	N/A

## VRF Multisplit Heat Pump - Water Source

Equipment Size (Btu/h)	Mode	Heating Type	Subcategory	Tier 1 (High Efficiency)	Tier 2 (Highest Efficiency)
<135,000	Cooling Mode	All	Multisplit System 86° Entering Water	14 EER	N/A
			Multisplit System with Heat Recovery 86° Entering Water	13.8 EER	N/A
	Heating Mode	-	68° Entering Water	4.6 COP	N/A

SEER—Seasonal Energy Efficiency Ratio

HSPF— Heating Seasonal Performance Factor

db—Dry Bulb

EER—Energy Efficiency Ratio

IEER—Integrated Energy Efficiency Ratio

wb—Wet Bulb

COP—Coefficient of Performance

The BPA specification is based on the Consortium for Energy Efficiency (CEE) Commercial Unitary Air-conditioning and Heat Pumps Specification, last updated January 12, 2016. BPA is a member of the CEE High Efficiency Commercial Unitary Air-conditioning and Heat Pump Initiative. As part of this Initiative, BPA has adopted CEE's Tier 1 and Tier 2 convention, in addition to a part-load metric in order to focus on energy efficiency savings rather than peak energy savings. More information about CEE can be found at <http://www.cee1.org/>