

BULLETIN

October 15, 2024

TO: Greenheck Representatives

FROM: Jacob Bamke
Product Manager – Dedicated Outdoor Air Systems

SUBJECT: DOAS R-454B Maximum Allowable Charge Changes



We have recently increased the maximum allowable circuit refrigerant charge values on all RV, RVE, and RVC Packaged DX and Air-Source Heat Pump DOAS units. This charge is based on the largest circuit in the unit. We do expect the units to perform effectively at the circuit charge that we documented initially, but we added an additional buffer onto the updated charge to protect the end user if charge needs to be added in the field. Compliance with building codes and listed product installation requirements is dependent on the actual refrigerant charge in the equipment. Greenheck provides maximum allowable circuit charge values in our specifications and on our product labels to help coordinate A2L refrigerant requirements in the design phase and to help service contractors maintain safe refrigerant charge values when servicing equipment. For designers, this maximum allowable circuit charge is helpful to determine if the unit's largest refrigerant charge is acceptable based on the total conditioned room area that it will be serving according to UL 60335-2-40, ASHRAE-15, or local building codes.

If you have ordered any R-454B units, please reference the tables below to verify the new maximum allowable charge. You can reference the RV/RVE/RVC IOM to determine the minimum total conditioned room area that would be required with these new values according to UL-60335-2-40. To ensure your most recent selections are using the correct values in the submittal, please repopulate your cooling grid in CAPS® and reselect the unit. Doing this will ensure the updated values are pulled in correctly.

Packaged DX

Maximum Allowable Circuit Charge (lbs) - Packaged DX					
Cabinet	Tonnage	Previous Hot Gas Reheat	Updated Hot Gas Reheat	Previous No Hot Gas Reheat	Updated No Hot Gas Reheat
RV-10 RVE-20	3	6.7	7.6	5.9	6.8
	4	6.7	7.6	5.9	6.8
	5	7.2	8.2	6.2	7
	6	8.3	9.4	6.9	7.9
	7	9.1	10.4	7.2	8.1
RV-25 RVE-40 RVC-35	5	13.5	15.4	13	14.8
	7	13.8	15.6	13	14.8
	10	15.2	17.3	13.9	15.8
	12.5	17.7	20.1	16.7	19
	15	20	22.8	18.7	21.3
RV-45 RVE-85 RVC-65	15	37.8	43	35.9	40.8
	17.5	38	43.1	36.2	41.1
	20	42.8	48.6	40.2	45.6
	25	43.9	49.9	41.3	46.9
	30	43.8	49.8	41.1	46.8
	25	30.4	34.5	25.1	28.5

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RV-75 RVE-150	30	30.4	34.5	25	28.4
	40	48.7	55.4	43.8	49.8
	50	48.8	55.5	43.9	49.9
	60	53.7	61	48.3	54.9
	70	53.7	61	48.3	54.9

Air-Source Heat Pump

Maximum Allowable Circuit Charge (lbs) - Air-Source Heat Pump			
Cabinet	Tonnage	Previous Hot Gas Reheat	Updated Hot Gas Reheat
RV-25 RVE-40 RVC-35	5	18.7	21.3
	7	18.7	21.3
	10	29	33
	12.5	29	33
	15	29.4	33.4
RV-45 RVE-85 RVC-65	15	33.1	37.6
	17.5	35.5	40.4
	20	59.2	67.3
	25	59.5	67.6
	30	60	68.1

With most DOAS units serving multiple spaces or large areas, we do not expect much impact on customers with the increase in minimum total conditioned room area due to the updated charges, however, it is important to verify. Also, these values are for planning purposes only and the code operates on actual refrigerant charges. We expect the units to operate well on the initial values provided. As a reminder, if the minimum total conditioned room area is not met based on the maximum allowable charge, additional leak mitigation strategies may be required as part of the building design.

If you have any questions or concerns, please reach out to DOAS@greenheck.com or 1-866-478-2574 option 2. We apologize for any inconvenience this may cause.