



SERVICE AND APPLICATION NOTES

C-15-06
July 7, 2015

Revised Charging Sticker Values for the 13ACDN018-230-15 Air Conditioner (RFC Metering Device Only)

AFFECTED PRODUCT:

13ACDN018-230-15 outdoor air conditioner units equipped with an RFC metering device.

ISSUE:

During an audit of the affected product, it was discovered that the **RFC metering device** superheat values on the factory charge sticker were incorrect. Use of the incorrect values could result in reduced system efficiency.

CORRECTIVE ACTION:

A new charging sticker has been created for this combination of unit and metering device. Shown are the correct superheat values to be used to charge the unit. The new sticker is shown below and is also available on PIRL as Form # 580795-01.

13ACDN018-230-15 HCFC-22 CHARGING INFORMATION

FOR COMPLETE CHARGING PROCEDURES, REFER TO THE APPLICABLE INSTALLATION OR SERVICE MANUAL

AIRFLOW CHECK - Both airflow and refrigerant charge must be monitored for a proper system set-up. It may be necessary to alternately check and adjust the airflow and the refrigerant charge.

NOTE - Be sure that filters and indoor and outdoor coils are clean before testing.

To determine temperature drop across indoor coil (Delta-T), measure the entering air dry bulb (DB) and wet bulb (WB) temperatures at the indoor coil. Find Delta-T in table 1. Measure coil's leaving air DB and subtract that value from entering air DB. The measured difference should be within $\pm 3^{\circ}\text{F}$ ($\pm 1.8^{\circ}\text{C}$) of table value; if too low, decrease the indoor fan speed (refer to indoor unit for information). If the Delta-T is too high, increase the indoor fan speed. Repeat charging procedure and Delta-T (air flow adjustment) procedure until both are correct.

Example: assume entering air DB - 72, WB - 64, leaving DB - 53. Therefore, Delta-T should be 15 (per table); delta across coil is 72 - 53 or 19 (which is 4°F higher than table value); action necessary: increase fan speed.

Table 1. Evaporator Coil Delta-T

Dry bulb temperature of air entering indoor coil (°F)	80	24	24	24	23	23	22	22	22	20	19	18	17	16	15
	78	23	23	23	22	21	21	20	19	18	17	16	15	14	14
	76	22	22	22	21	21	20	19	19	18	17	16	15	14	13
	74	21	21	21	20	19	19	18	17	16	16	15	14	13	12
	72	20	20	19	18	17	17	16	15	15	14	13	12	11	10
	70	19	19	18	18	17	17	16	15	15	14	13	12	11	10
	57	58	59	60	61	62	63	64	65	66	67	68	69	70	

[Wet bulb temperature of air entering indoor coil]

Table 2. Superheat (SH) Value (RFC System)

Suction Line Saturation Temperature Minus Suction Line Temperature at OD Service Valve									
Outdoor Temp (°F)	65	70	75	80	85	90	95	100	105
Superheat (°F)	26	22	19	16	13	10	7	4	2
All measurements are at the service valves and are based on 80db / 67wb indoor temperature.									

Table 3. Normal Operating Pressures - Fixed Orifice (RFC)

Liquid Line ± 10 PSIG / Vapor Line ± 5 PSIG		
Outdoor Temp. (°F)	PSIG*	
65	140 / 71	*Pressures at OD Service Valves Typical pressures: indoor evaporator match up, indoor air quality and evaporator load will cause the pressures to vary.
70	151 / 74	
75	163 / 76	
80	176 / 78	
85	190 / 80	
90	205 / 82	
95	220 / 83	
100	236 / 84	
105	252 / 85	
110	269 / 86	
115	288 / 87	

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