

Heating Check Chart

HEAT PUMP CHARGING INSTRUCTIONS									
For use with units using R-410A refrigerant									
FIELD OPERATING PRESSURE CHARGING TABLE FIXED RESTRICTOR (HIGH PRESSURE @ VAPOR VALVE, SUCTION PRESSURE @ SUCTION SERVICE PORT)									
UNIT	INDOOR DRY BULB	OUTDOOR TEMP. °F DRY BULB/WET BULB							
			60/56	50/47	40/38	30/28	20/18	10/9	0/-1
24	60°	HIGH	405	357	310	281	252	237	222
		SUCT	140	121	101	85	68	55	41
	70°	HIGH	437	392	347	318	288	272	255
		SUCT	141	122	103	86	69	56	42
80°	HIGH	477	430	383	355	327	309	290	
	SUCT	142	123	103	86	70	56	42	
36	60°	HIGH	345	320	295	269	243	230	217
		SUCT	130	113	97	81	65	52	40
	70°	HIGH	387	359	331	305	278	264	251
		SUCT	132	115	98	82	65	53	40
80°	HIGH	434	400	367	342	317	302	287	
	SUCT	135	117	99	82	66	53	40	
48	60°	HIGH	385	359	333	301	270	253	236
		SUCT	120	109	97	82	67	54	42
	70°	HIGH	433	400	368	336	304	287	270
		SUCT	125	111	97	82	67	54	42
80°	HIGH	481	445	410	375	340	324	308	
	SUCT	129	114	99	83	68	55	43	
60	60°	HIGH	393	360	327	293	260	244	227
		SUCT	125	109	93	76	60	48	36
	70°	HIGH	433	395	358	326	295	278	262
		SUCT	128	111	95	78	61	49	37
80°	HIGH	479	438	398	365	333	317	300	
	SUCT	131	112	94	78	61	50	38	
CAUTION 1. Compressor damage may occur if system is over-charged. 2. Carefully recover refrigerant from this unit before final disposal or when servicing. 3. Never vent refrigerant to atmosphere. Use approved recovery equipment. 4. Wear safety glasses and gloves when handling refrigerant.									
OPERATION To check system operation during Heating or Cooling cycle use the appropriate table. Table indicates whether a correct relationship exists between system operating pressure and air temperature entering indoor and outdoor units. If pressure and temperature do not match on chart, system refrigerant charge may not be correct or other system abnormalities may exist. Do not use table to adjust refrigerant charge. When charging is necessary during heating season, weigh in total charge as indicated on unit rating plate. Rating plate charge is for systems with 15 ft. of line-set. Adjust charge 0.6 oz of refrigerant per foot of 3/8" liquid connecting tubing. Remove any refrigerant remaining in system before recharging if the system has lost complete charge, evacuate and recharge by weight.									

REQUIRED LIQUID LINE TEMPERATURE						
Liquid (PSIG) Pressure at Service Valve	Required Subcooling Temperature (°F)					
	6	8	10	12	14	16
251 259 266 274	78 80 82 84	76 78 80 82	74 76 78 80	72 74 76 78	70 72 74 76	68 70 72 74
283 291 299 308	86 88 90 92	84 86 88 90	82 84 86 88	80 82 84 86	78 80 82 84	76 78 80 82
317 326 335 345	94 96 98 100	92 94 96 98	90 92 94 96	88 90 92 94	86 88 90 92	84 86 88 90
354 364 374 384	102 104 106 108	100 102 104 106	98 100 102 104	96 98 100 102	94 96 98 100	92 94 96 98
395 406 416 427	110 112 114 116	108 110 112 114	106 108 110 112	104 106 108 110	102 104 106 108	100 102 104 106
439 450 462 474	118 120 122 124	116 118 120 122	114 116 118 120	112 114 116 118	110 112 114 116	108 110 112 114

COOLING ONLY CHARGING
PROCEDURE

1. Only use subcooling charging method when OD ambient is greater than 70°F and less than 100°F, indoor temp is greater than 70°F and less than 80°F, and line set is less than 80 ft.

2. Operate unit a minimum of 15 minutes before checking the charge.

3. Measure liquid service valve pressure by attaching an accurate gauge to the service port.

4. Measure the liquid line temperature by attaching an accurate thermistor type or electronic thermometer to the liquid line near the outdoor coil.

5. Refer to unit rating plate for required subcooling temperature.

6. Find the point where the required subcooling temperature intersects the measured liquid service valve pressure.

7. To obtain the required subcooling temperature at specific liquid line pressure, add refrigerant if liquid line temperature is higher than indicated. When adding refrigerant, charge in liquid form using a flow restricting device into suction service port. Recover refrigerant if temperature is lower. Allow a tolerance of +/- 3°F.



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Fig. 4 – 289BNA024-060

