

25HPA4 Performance™ Series Heat Pump with Puron® Refrigerant 1-1/2 to 5 Nominal Tons (Sizes 18 To 60)



Turn to the Experts.™

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							
		60/57	50/47	40/38	30/28	20/18	10/9	0/-1	
018	60°	HIGH	354	320	286	263	240	226	212
		SUCT	136	117	98	81	64	51	38
	70°	HIGH	392	355	318	296	274	259	244
		SUCT	137	117	96	80	64	52	39
80°	HIGH	436	399	361	336	311	295	278	
	SUCT	138	118	98	82	65	52	39	
024	60°	HIGH	367	338	308	284	260	242	223
		SUCT	130	113	96	80	64	54	44
	70°	HIGH	413	380	346	323	300	277	254
		SUCT	127	112	96	80	64	55	45
80°	HIGH	461	424	387	359	330	310	289	
	SUCT	132	115	97	81	65	55	45	
030	60°	HIGH	417	372	326	296	265	249	232
		SUCT	133	114	95	81	66	55	43
	70°	HIGH	455	411	367	333	299	282	265
		SUCT	135	116	97	82	66	55	44
80°	HIGH	501	455	408	372	335	318	300	
	SUCT	137	118	99	82	65	55	45	
036	60°	HIGH	344	322	299	281	262	247	232
		SUCT	111	99	87	77	66	55	44
	70°	HIGH	390	369	348	323	297	281	264
		SUCT	116	106	95	81	67	56	45
80°	HIGH	437	412	387	361	334	316	298	
	SUCT	121	109	97	83	68	57	46	
042	60°	HIGH	354	327	300	280	260	244	228
		SUCT	107	97	87	74	60	51	41
	70°	HIGH	402	372	342	318	293	277	260
		SUCT	112	101	89	76	62	52	41
80°	HIGH	448	421	394	363	331	312	293	
	SUCT	116	104	92	78	64	53	41	
048	60°	HIGH	353	327	300	271	242	233	224
		SUCT	121	106	91	72	52	45	37
	70°	HIGH	396	367	337	310	283	270	257
		SUCT	125	109	93	75	57	48	38
80°	HIGH	442	409	375	349	323	308	292	
	SUCT	129	111	93	77	61	50	38	
060	60°	HIGH	334	310	285	260	235	224	212
		SUCT	110	98	86	71	56	47	37
	70°	HIGH	376	348	319	297	275	260	244
		SUCT	114	100	86	73	59	48	37
80°	HIGH	408	379	350	331	311	295	279	
	SUCT	112	99	85	73	61	49	37	

REQUIRED LIQUID LINE TEMPERATURE						
Liquid (PSIG) Pressure at Service Valve	Required Subcooling Temperature (°F)					
	6	8	10	12	14	16
189	60	58	56	54	52	50
195	62	60	58	56	54	52
202	64	62	60	58	56	54
208	66	64	62	60	58	56
215	68	66	64	62	60	58
222	70	68	66	64	62	60
229	72	70	68	66	64	62
236	74	72	70	68	66	64
243	76	74	72	70	68	66
251	78	76	74	72	70	68
259	80	78	76	74	72	70
266	82	80	78	76	74	72
274	84	82	80	78	76	74
283	86	84	82	80	78	76
291	88	86	84	82	80	78
299	90	88	86	84	82	80
308	92	90	88	86	84	82
317	94	92	90	88	86	84
326	96	94	92	90	88	86
335	98	96	94	92	90	88
345	100	98	96	94	92	90
354	102	100	98	96	94	92
364	104	102	100	98	96	94
374	106	104	102	100	98	96
384	108	106	104	102	100	98
395	110	108	106	104	102	100
406	112	110	108	106	104	102
416	114	112	110	108	106	104
427	116	114	112	110	108	106
439	118	116	114	112	110	108
450	120	118	116	114	112	110
462	122	120	118	116	114	112
474	124	122	120	118	116	114
486	126	124	122	120	118	116
499	128	126	124	122	120	118
511	130	128	126	124	122	120

COOLING ONLY CHARGING PROCEDURE						
1.	Operate unit a minimum of 10 minutes before checking the charge.					
2.	Measure liquid service valve pressure by attaching an accurate gauge to the service port.					
3.	Measure the liquid line temperature by attaching an accurate thermistor type or electronic thermometer to the liquid line near the outdoor coil.					
4.	Refer to unit rating plate for required subcooling temperature.					
5.	Find the point where the required subcooling temperature intersects the measured liquid service valve pressure.					
6.	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.					

* If PressureGuard™ kit is installed, it will not allow pressures to stabilize at these conditions. To check the charge at these ambients operate in cooling or lower the indoor dry bulb temperature.

CAUTION

- Compressor damage may occur if system is over-charged.
- Carefully recover refrigerant from this unit before final disposal or when servicing.
- Never vent refrigerant to atmosphere. Use approved recovery equipment.

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.

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Fig. 2 – 25HPA4018-060

