ZH 102S Refrigerant Charge and Check

WARNING-Do not exceed nameplate charge under any condition.

This unit is factory charged and should require no further adjustment. If the system requires additional refrigerant, *reclaim the charge, evacuate the system,* and *add required nameplate charge.*

*NOTE - System charging is not recommended below 60° F (15° C). In temperatures below 60° F (15° C), the charge **must** be weighed into the system.*

If weighing facilities are not available, or to check the charge, use the following procedure:

IMPORTANT - Charge unit in standard cooling mode.

1- Make sure outdoor coil is clean. Attach gauge manifolds and operate unit at full CFM in cooling mode with economizer disabled until system stabilizes (approximately five minutes). Make sure all outdoor air dampers are closed.

2- Check each system separately with all stages operating. Compare the normal operating pressures to the pressures obtained from the gauges. Check unit components if there are significant differences.

3- Measure the outdoor ambient temperature and the suction pressure. Refer to the appropriate circuit charging curve to determine a target liquid temperature.

Note - Pressures are listed for sea level applications.

4- Use the same thermometer to accurately measure the liquid temperature (in the outdoor section).

- If measured liquid temperature is higher than the target liquid temperature, add refrigerant to the system.
- If measured liquid temperature is lower than the target liquid temperature, recover some refrigerant from the system.

5- Add or remove charge in increments. Allow the system to stabilize each time refrigerant is added or removed.

6- Continue the process until measured liquid temperature agrees with the target liquid temperature. Do not go below the target liquid temperature when adjusting charge. Note that suction pressure can change as charge is adjusted.

7- Example Circuit 1: At 95°F outdoor ambient and a measured suction pressure of 130psig, the target liquid temperature is 108°F. For a measured liquid temperature of 106°F, remove charge in increments until measured liquid temperature agrees with the target liquid temperature.

Normal Operating Pressures

	Outdoor Coil Entering Air Temperature											
	65 °F		75 °F		85 °F		95 °F		105 °F		115 °F	
	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)
Circuit 1	105	250	107	287	111	330	114	375	116	425	120	487
	113	256	117	296	119	337	120	383	121	430	127	491
	124	265	132	309	137	355	141	405	145	459	145	515
	129	268	138	312	146	363	153	415	159	472	160	530
Circuit 2	116	260	119	298	123	340	126	385	131	437	136	405
	125	266	128	306	131	347	137	398	140	447	145	503
	136	271	142	313	148	359	152	409	155	462	157	519
	144	271	152	321	159	370	166	421	171	477	172	534