ZGA/ZCA048 All-Aluminum 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:

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- 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 charging curve to determine a target liquid temperature.

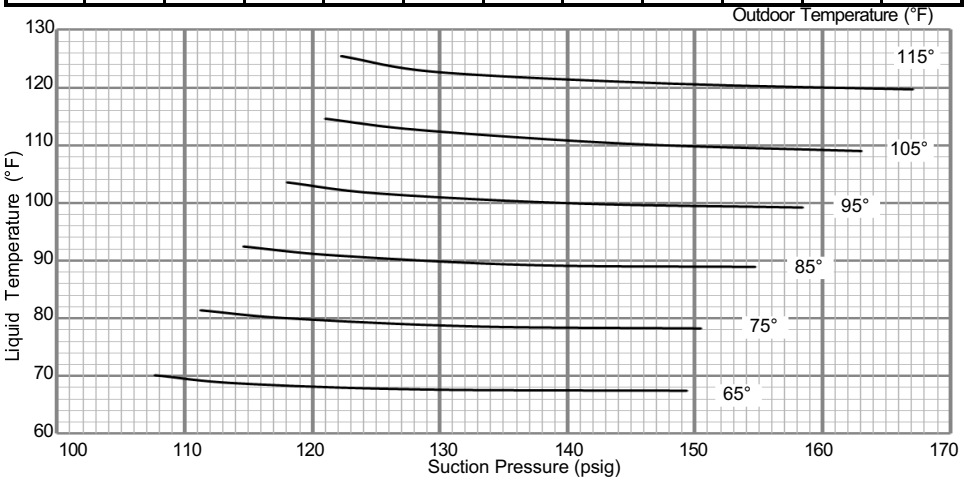
Note - Pressures are listed for sea level applications.

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.

Normal Operating Pressures											
Outdoor Coil Entering Air Temperature											
65 °F		75 °F		85 °F		95 °F		105 °F		115 °F	
Suc psig	Disc psig	Suct psig	Disc psig	Suct psig	Disc psig	Suct psig	Disc psig	Suct psig	Disc psig	Suct psig	Disc psig
108	254	111	295	115	338	118	386	121	437	122	491
114	259	118	299	122	344	125	392	129	445	130	502
128	273	133	314	137	358	141	408	145	462	148	524
149	310	150	342	155	388	158	436	163	474	167	556



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: At 95°F outdoor ambient and a measured suction pressure of 130psig, the target liquid temperature is 101°F. For a measured liquid temperature of 106°F, add charge in increments until measured liquid temperature agrees with the target liquid temperature.

580546-01

ZGA/ZCA048 All-Aluminum 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:

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- 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 charging curve to determine a target liquid temperature.

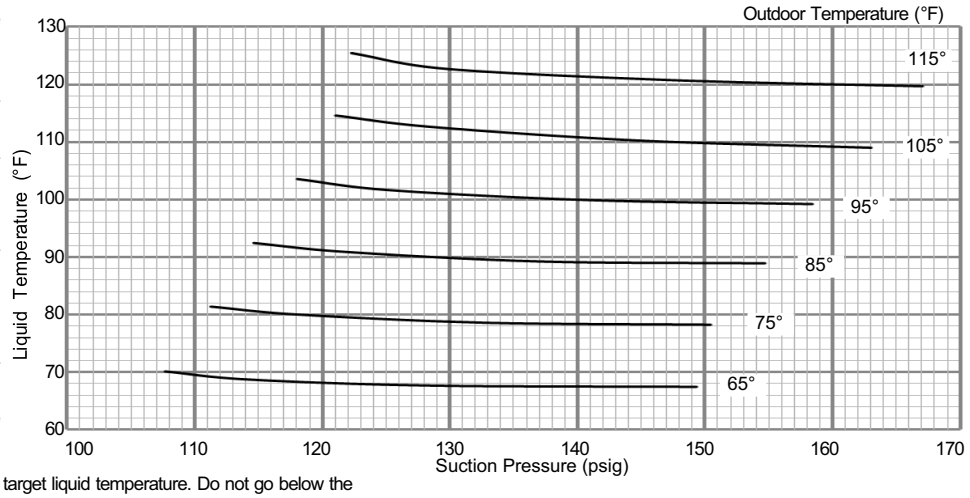
Note - Pressures are listed for sea level applications.

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.

Normal Operating Pressures											
Outdoor Coil Entering Air Temperature											
65 °F		75 °F		85 °F		95 °F		105 °F		115 °F	
Suc psig	Disc psig	Suct psig	Disc psig	Suct psig	Disc psig	Suct psig	Disc psig	Suct psig	Disc psig	Suct psig	Disc psig
108	254	111	295	115	338	118	386	121	437	122	491
114	259	118	299	122	344	125	392	129	445	130	502
128	273	133	314	137	358	141	408	145	462	148	524
149	310	150	342	155	388	158	436	163	474	167	556



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: At 95°F outdoor ambient and a measured suction pressure of 130psig, the target liquid temperature is 101°F. For a measured liquid temperature of 106°F, add charge in increments until measured liquid temperature agrees with the target liquid temperature.

580546-01