

Installation and Startup Checklist

HASKRIS LX-SERIES, R-SERIES, WW-SERIES, WA-SERIES

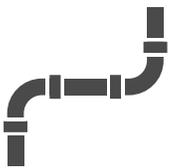
Section 1: Location



[Reference Appendix A for air-cooled units]

- Locate the unit in a clean indoor environment. Avoid dusty areas.
- Units include leveling legs and/or casters. Adjust as necessary.
- Position the system for clear access to the control panel on the front.
- Access to the top and side panels is required for filling the tank and performing maintenance or repairs.

Section 2: Fluid Connections



[Reference Appendix B for water-cooled units]

- Size all interconnecting hose and piping equal to, or larger than, the fluid connections provided.
- Insulate piping to minimize condensation.
- All piping should comply with local codes.
- Short runs: Use opaque, 150 psi (10.3 bar) minimum rated reinforced EPDM hose. Do NOT use clear braided hose.
- Long runs: Use copper piping. Terminate beginning and end of copper runs with a short segment of hose to absorb vibration.

Section 3: Electrical Power



Contact a licensed electrician to perform the electrical installation.

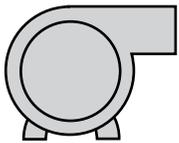
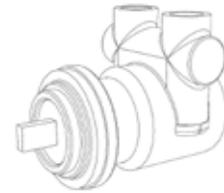
- Refer to the nameplate label on the rear of the unit for electrical requirements.
- A wiring diagram can be found on the electrical box lid or in an envelope on the tank lid.
- The electrician should verify that the wiring is adequate in the installation room/area.
- Use a dedicated service disconnect switch and time delay fusing according to the wiring diagram and nameplate.
- For units WITH a power cord: Hardwire to an electrical service disconnect or add a plug with the appropriate rating.
- For units WITHOUT a power cord: Haskris attaches a tag labeled "Main Power" to the compressor contactor for easy identification. Connect incoming power to the top of this contactor.
- Units designed for 3-phase power include a phase monitor. Refer to the fault indicators provided on the phase monitor and contact a licensed electrician to correct any faults.

Section 4: Filling the Unit



- 1.** Carefully remove any packaging material from inside the tank.
- 2.** Fill the tank with clean, potable (drinkable), distilled water.
- 3.** Stop filling when the water level is just below the black fittings on the tank wall (R-Series & WW-Series), or when the water level is just below the cap at the top of the tank (LX-Series).
- NOTE:** Some units are designed for compatibility with other fluids. Contact Haskris if you are unsure what fluids are compatible with your unit.

Section 5: Priming the Pump



Turbine Pumps

- 1.** Locate the drain plug at base of the pump head. Place a rag or towel under the plug.
- 2.** Loosen the 7/16" plug to allow water to exit without removing the plug.
- 3.** If water immediately begins to drain, the pump is sufficiently primed. Tighten the plug and proceed to Section 6. If not, continue to step 4.
- 4.** Disconnect the hose from the strainer located in the tank.
- 5.** Pour potable, distilled water into the hose to fill the pump. Continue pouring until there is a steady drip from the plug. Tighten the plug.
- 6.** Reattach the strainer and place it in the tank.

Positive Displacement Pumps

- 1.** Disconnect the hose from the strainer located in the tank.
- 2.** Pour potable, distilled water into the hose to fill the pump.
- 3.** When water reaches the top of the hose, place your thumb over the end of the hose, and submerge the hose into the water. This ensures that the water stays in the hose.
- 4.** Reattach the strainer while the hose is submerged.

Section 6: System Startup



- 1.** Leave the electrical service disconnect ON (energized) for a minimum of 12 hours prior to start up. This will energize the crankcase heater to ensure refrigerant is vaporized in the compressor.

If unable to energize for the full 12 hours, energize for a minimum of 1 hour, switch the unit ON and wait until the compressor starts. Cycle the unit OFF and ON 3 to 4 times before leaving the unit switched ON.

- 2.** Once the unit is ON, the water pump will fill the piping with water. As piping fills with water, the level in the tank will drop. Have water available to replenish

the tank level as necessary. If the water level in the tank drops below the float switch, the unit may shut down.

- 3.** Verify that flow and pressure through the system piping meet the application requirements. The pressure gauge mounted near the pump indicates the running pressure.
- 4.** Check to make sure all external piping is leak-tight and that the system is operating satisfactorily.
- 5.** If debris from the lines is deposited into the tank, drain the tank, and re-fill with clean water.
- 6.** Allow a minimum of 15 minutes for temperature to stabilize following adjustments.

Installation and Startup Checklist

Appendix A: Air-Cooled Unit Specifications

Record chiller clearances and ambient temperature ranges.

Recorded	Front Clearance:	_____	inch / cm
Data:	Rear Clearance:	_____	inch / cm
	Left-Side Clearance:	_____	inch / cm
	Right-Side Clearance:	_____	inch / cm
	Ambient Temp. Range:	_____ to _____	°F / °C

Confirm air flow clearances and ambient temperature ranges (see table below).

Air-Cooled Units			
Model	Air Flow Clearances		Standard Ambient Temperature Ranges
	Sides and Rear	Front	
LX005 thru LX3	6 inch (16 cm)	36 inch (92 cm)	+55°F to +90°F (+13°C to +32°C)
R033 thru R175	24 inch (61 cm)		
R250 thru R1000	24 inch (61 cm)		+40°F to +100°F (+4°C to +37°C)
WW1 thru WW4	6 inch (16 cm)		Consult factory
WA1	6 inch (16 cm)		

- Units reject heat into the air surrounding the chiller.
Total heat rejection equals the heat removed from the application plus 30% additional heat.
- Some Haskris units are custom designed for other environmental conditions.
Contact Haskris if you have questions about custom design features.

Appendix B: Water-Cooled Unit Specifications

- Install a hand valve in an accessible location on the facility water inlet and outlet.
- Install an 80 mesh “Y” strainer on the facility water inlet. Do NOT install filters.
- Record the inlet pressure, outlet pressure, inlet temperature, and flow rate for the facility water.

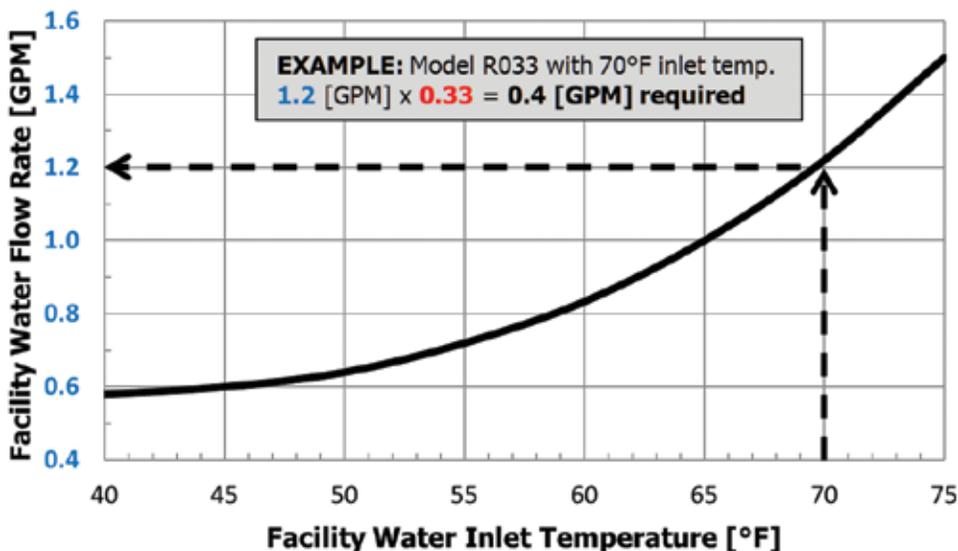
Recorded	Inlet Pressure: _____ psi / bar	Inlet Temp: _____ °F / °C
Data:	Outlet Pressure: _____ psi / bar	Flow Rate: _____ GPM / LPM

- Confirm facility water temperature and pressure requirements (see table below).

Water-Cooled Units			
Model	Standard Facility Water Source Requirements		
	Differential Pressure	Max. Inlet Pressure	Facility Water Temperature Range
LX1 thru LX3	10 psi to 50 psi (0.7 bar to 3.4 bar)	150 psi (10.3 bar)	+40°F to +75°F (+4°C to +24°C)
R033 thru R1000	25 psi to 50 psi (1.7 bar to 3.4 bar)	100 psi (6.9 bar)	
WW1 thru WW4	15 psi to 50 psi (1.0 bar to 3.4 bar)	100 psi (6.9 bar)	20°F (11.1°C) below supply water temperature

- Some Haskris units are custom designed for other facility water conditions. Contact Haskris if you have questions about custom design features.

- Confirm facility water flow requirements (see chart below).



Model	Multiplier
R033	0.33
R050	0.5
R075	0.75
R100	1.0
R175	1.75
R250	2.5
R300	3.0
R400	4.0
R550	5.5
R750	7.5
R1000	10.0

LX1	0.9
LX2	1.3
LX3	2.9