**Heat Exchanger Specifications**

**AHRI**

The plate heat exchangers shall be AHRI-certified in accordance with the AHRI Liquid to Liquid Heat Exchangers Certification Program.

**“AHRI certificate to be included with technical specification/submission”**

**“The PHE specifications as selected, shall be verified and registered by AHRI before purchase”**

**General**

* Supplier of the plate heat exchanger is Alfa Laval by Masterflow (phone 02 9748 2022) or equivalent.
* Supplier shall provide 2 and 3D drawings and instruction manuals in local language for each heat exchanger.
* All heat exchangers shall be produced in production facilities that are environmentally certified according to ISO 14001.
* All heat exchangers shall be tested with test pressure before delivery. Test sequence shall be 30 minutes on each side. Both sides shall be tested.

**Plate-Specific details:**

* Plate material in contact with fluids on hot and cold sides shall be in alloy 316, 0.5mm thick.
* Each plate shall have an efficient flow distribution area, to maximise use of pumping power for efficient heat transfer. This will help reduce the heat transfer area installed and avoid dead spots for longer operation lifetime.
* All plates shall be single-step pressed to secure uniform thickness, have no weak spots and give accurate seating of gasket in the gasket groove. This enables the plate pack to better handle pressure shocks, vibrations, plate fatigue, high operating pressures and high differential pressures.
* The plates shall not have holes for attaching of the gasket.
* All plates shall be marked with a charge number for full traceability.
* Fluid inlet and outlet connections should be positioned in parallel on the frame plate and not diagonal to allow ease of installation.
* All plates are being washed after pressing to avoid greasy plates reducing heat transfer.
* For 150 mm connection and above:
	+ Each plate shall have a built-in five-point alignment system to accurately locate the plates in the frame assembly to prevent lateral plate movement under pressure. Five-point alignments also give superior sealing throughout the plate pack and make closing of the heat exchanger after service easier.

**Gasket specifications:**

* Gaskets must not be glued on the plate.
* Gasket material to be NBR Clip Grip for temperatures of 120 °C and below,
* All gaskets shall be locked into the groove.
* Gaskets shall have a roof top or ribbed top cross section design to ensure superior sealing performance.
* Gasket profile tailored to fit the plate type and thickness – longer lifetime of gaskets and plates.
* All gaskets shall be marked with a colour code for identification of gasket material from the outside of an assembled plate heat exchanger.

**Frame specifications:**

* Frame plate shall have flange stud bolts or threaded pipes assembled around the connections.
* External threaded pipe connections shall not be welded onto the frame plate.
* Frame and pressure plate shall have side slot tilted bolt hole geometry (not holes in frame) to allow small footprint, easier and safer maintenance.
* Frame and pressure plate, tightening bolts/nuts and pipe connections shall be market with charge number for full traceability.
* Frame and pressure plate shall have lifting holes in the upper corners.
* The unit should have feet supplied for fixing at front and back.
* For 150 mm connection and above:
	+ The main tightening bolts shall have bearing boxes to support easy opening and closing of the heat exchanger.
	+ Pressure plate shall have Stainless Steel roller sliding on the carrying bar to enable easy opening and closing.
	+ The tightening bolts shall have lock washers to support easy opening and closing by one person.
	+ The tightening bolts shall have fixed bolt head.
	+ The tightening bolts shall have plastic cover over the threads.