

Nortrax
190 David Manchester Road, Ottawa
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HEAT EXCHANGERS

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PART 1 - GENERAL

1.1. WORK INCLUDED

- .1 Comply with Division 1, General Requirements and all documents referred to therein.
- .2 Provide all labour, materials, products, equipment and services to supply and install heat exchangers as indicated on the Drawings and specified in this Section of the Specifications.

1.2. REFERENCE STANDARDS

- .1 Design and construction shall be in accordance with requirements of ASME Code for working pressure of {862 kPa} [125 psig]. Label accordingly.

PART 2 - PRODUCTS

2.1. PLATE AND FRAME HEAT EXCHANGER

- .1 Units shall be Xylem Bell & Gossett or other approved manufacturer as detailed herein and shall be factory tested and name-plated before shipment. Heat exchanger manufacturer shall be ISO-9001 certified.
- .2 Heat exchangers shall meet types, sizes, capacities, and characteristics as noted on the Equipment Schedule or drawings.
- .3 Units shall be specifically designed for chilled or hot water heating systems as indicated on the drawings.
- .4 Plate and frame heat exchangers shall be AHRI 400 certified.
- .5 Units shall be of single pass design.
- .6 All connections shall be located on the fixed head frame plate, allowing the movable head pressure plate, to slide back. Assembly shall permit plates to be added, removed, or replaced from the plate pack without disturbing the connections or associated piping.
- .7 The unit shall be provided with an aluminum or stainless steel OSHA splash shield.
- .8 The frame plate and pressure plate shall be carbon steel SA 516 grade 70 with sufficient thickness to meet the ASME design pressure. Stiffeners or support brackets are not allowed.
- .9 Carbon steel frame components shall be painted with grey epoxy paint.
- .10 Units with three-inch or greater connections shall be unlined or alloy lined studded ports to mate with raised face or flat faced ANSI flanges. Rubber liners will not be permitted. Units with smaller connections shall have carbon steel female tapped NPT or male NPT connections
- .11 Units with connections greater than 2-inch require that the thermal plates be supported by the carry bar, top bar. The carry and guide bar plate contact surfaces shall be stainless steel. Smaller units shall allow the plates to be supported by the guide bar, bottom bar. Carry and guide bars are to be steel with a zinc chromate coating.

- .12 Tightening bolts shall be zinc plated carbon steel with captive working nuts at the pressure plate, and rear head such that the unit can be opened and closed with one wrench from the front of the unit.
- .13 Plates shall use an integral rolled edge hanging system to provide a rigid hanger device between the plate, carry bar and guide bar. Welded hanging brackets or stiffeners are not acceptable.
- .14 The plate pack shall use a positive plate to plate alignment system to ensure proper plate to gasket seals throughout the plate pack. The positive alignment system shall be a gasket lug which fits within a plate recess on the preceding plate (tongue in groove) to align successive plates, or an extended rolled edge hanger which nests successive plates through direct contact around the entire plate hanger. Plate designs which only offer alignment through contact with the carry and guide bar are unacceptable.
- .15 Gaskets shall be a one-piece construction with a double gasket barrier at the port region. The area isolated by the double gasket shall be vented to the atmosphere, so that a gasket failure is detected by leakage to the exterior prior to any possible cross contamination. All gaskets except the gasket on the first plate shall be identical.
- .16 Do not exceed the specified pressure losses which are total across the heat exchangers including nozzle losses.
- .17 Provide frame to accommodate 20% additional plates.
- .18 Stamp all heat exchanger connections to show clearly, directions of flow and duty.

PART 3 - EXECUTION

3.1. INSTALLATION

- .1 Meet manufacturer's installation requirements.
- .2 Provide all accessories such as expansion chambers, relief valves, drains, vents, support and automatic system fill.

END OF SECTION