Description
Heat exchangers are used to exchange heat between two fluids. Plate heat exchangers are high performance components and provide a high level of efficiency combined with compact dimensions and low weight. Their efficiency reduces the amount of cooling water required for heat transfer which results in low operating costs.

Features
Plates and connections are manufactured from stainless steel to AISI 316, 1.4401, vacuum–brazed with copper. The special molding of the plates produces the turbulent flow necessary for effective heat transfer and provides the plate heat exchanger with a high level of mechanical strength. Nickel brazed option available.

Operating Details
**Medium:**
- Water glycol *(coolants)*
- HFC operating fluids
- Water
- Oil

**Contamination:**
The quantity of particles in suspension should be less than 10 mg/l. Particle size < 0.6 mm *(spherical)*.
Thread–like particles cause a rapid rise in pressure drops.

**Temperature Range:**
- 50° to 437° F (10° to 225°C) *(freezing point and boiling point must be taken into consideration!)*

**Pressure:**
- max. 435 psi (30bar) *(static)*
- Test pressure: 650 psi

**Corrosion:**
The following limits refer to a pH value of 7
- free chlorine, CL₂ < 0.5 ppm
- chloride ions CL⁻ < 700 ppm at 20 °C
  < 200 ppm at 50 °C

**Other Limits:**
- ph 7 – 10
- sulphate SO₄ 2⁻ <100 ppm
- [H CO₃ –] / [SO₄ 2–] >1
- ammonia, NH₃ <10 ppm
- free CO < 10 ppm

The following ions are not corrosive under normal conditions: phosphate, nitrate, nitrite, iron, manganese, sodium and potassium
**Model Code**

**Series**
- HEX 610
- HEX 615
- HEX 422

**Number of Plates**

<table>
<thead>
<tr>
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<th>10</th>
<th>20</th>
<th>30</th>
<th>40</th>
<th>50</th>
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*other number of plates available - consult factory.*

**Port Type**

- NPT = 610 + 615 series w/ 1” NPT; 422 series w/ 1-½” NPT
- G = 610 + 615 series w/ G1”; 422 series w/ G1-½”

*other port types available - consult factory.*

*Mounting brackets must be ordered separately.*

*Note: Pipes must be connected so that connections are stress free. Linear expansion and vibrations from the pipes to the heat exchanger must be avoided.*

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**Pressure drop across heat exchanger**

This table is based on an ISO VG45 oil at 130˚F and shows the pump flows with the 1,800 RPM motors. If other grades of oil are to be used, consult the sizing software. When using the 72 psi clogging indicator the pressure drop should not exceed 15 psi max across the heat exchanger. When using the 29 psi clogging indicator the pressure drop should not exceed 30 psi max across the heat exchanger.

<table>
<thead>
<tr>
<th>Heat Exchanger Size</th>
<th>Pump 3.5 (6.3 l/min)</th>
<th>Pump 7 (12.6 l/min)</th>
<th>Pump 10 (18 l/min)</th>
<th>Pump 15 (19 l/min)</th>
<th>Pump 20 (18 l/min)</th>
<th>Pump 30 (23.5 l/min)</th>
<th>Pump 40 (23.5 l/min)</th>
<th>Pump 50 (34 l/min)</th>
<th>Pump 70 (47.5 l/min)</th>
<th>Pump 100 (47.5 l/min)</th>
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HEX Series
Technical Data
Size 610

The cooling capacity is also dependent on the viscosity class. At a lower viscosity class the cooling capacity increases, at a higher viscosity class it decreases. In order to make an accurate calculation, the following details are required:

- type of oil
- permissible tank temperature
- required outlet temperature of the oil or necessary cooling capacity
- inlet temperature of the water and maximum water quantity.

Selection Program
The cooler selection program calculates the correct heat exchanger in the case of non-standard operating data.

Please contact our technical sales department.
Dimensions

Size 610

Mounting Bracket
610 Mounting Bracket (PN# 268524)

DIN912-M8x70

Size 615

Mounting Bracket
615 Mounting Bracket (PN# 3014029)

DIN912-M8x70

Size 422

Mounting Bracket
422 Mounting Bracket (PN# 3013884)

DIN912-M8x70

Dimensions are for general information only, all critical dimensions should be verified by requesting a certified print. Dimensions are in inches/(mm).

Please note: For mounting heat exchangers with 60 plates and above, two clamps are recommended.

PN#02085359 / 8.14 / 1303-1506

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