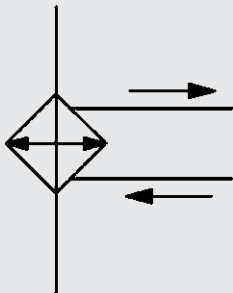


HYDAC

INTERNATIONAL



Symbol



Brazed
Plate Heat Exchangers
HYDAC HEX Sxxx

Operating data

Plate material	Stainless steel 1.4401 (AISI 316)
Braze material	Copper (standard), nickel
Pressures	Copper braze: max. 30 bar (test pressure 45 bar) Nickel braze: max. 10 bar Other pressures on request
Media	<ul style="list-style-type: none">● Hydraulic oil, lubrication oil, rolling oil, engine oil● HFC, HFA, HFD, pressure fluids● Water, water glycol● Refrigerant Use nickel-brazed plate heat exchangers with corrosive fluids: e.g. ammonia, sulphides and sulphates, deionised or demineralised water Other fluids on request
Temperature range	up to +200 °C (freezing point and boiling point must be taken into consideration)
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 drop
Water quality	The following ions are not corrosive under normal conditions: phosphate, nitrate, nitrite, manganese, sodium and potassium See table on water quality
Connections	Female thread (standard) Optional: male thread, soldered connection, SAE connection
Accessories	Installation: HYDAC clamping bands (standard), optional: bolts on the front plate or the end plate Insulation

General

With plate heat exchangers, the heat from the fluid being cooled is transferred to a cooling fluid. The advantage is that they can maintain the fluid temperature at a very low and stable level – depending on the temperature of coolant. Brazed heat exchangers therefore ensure efficient heat transfer combined with compact dimensions and low weight.

Product Features

Brazed heat exchangers consist of a stack of stamped heat transfer plates with connections in stainless steel. The plates are vacuum brazed with copper or nickel.

The plates have smoothed edges and the end plate is provided with edge protection.

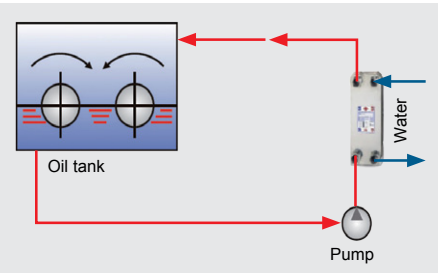
The special stamp pattern of the plates induces a turbulent flow which is necessary for optimum heat transfer and which in addition has a self-cleaning effect because the high level of wall friction reduces deposits on the surface.

Application Field

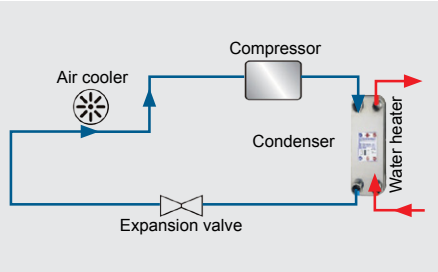
Cooling circuits operated using water, coolant, HFC operating fluid or oil.

Typical applications are:

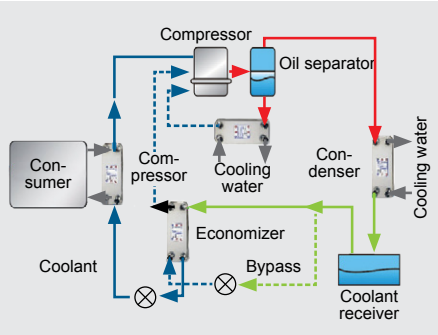
- Machine tools
- Presses
- Injection moulding machines
- Motors/engines
- Test rigs
- Generators



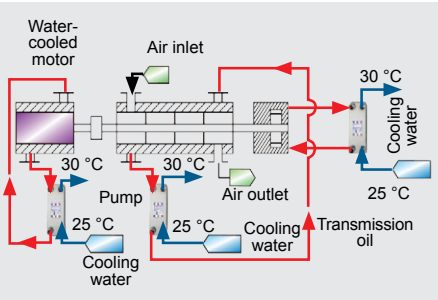
Oil cooling



Heat pump



Chiller



Vacuum pump

Model Type

<div>HYDAC HEX S400 -10 -00NI / G3/4"</div>																	
<div>Size</div>																	
<div>HYDAC HEX S400</div>																	
<div>HYDAC HEX S610</div>																	
<div>HYDAC HEX S615</div>																	
<div>HYDAC HEX S522</div>																	
<div>HYDAC HEX S722</div>																	
<div>HYDAC HEX Z800</div>																	
<div>Other sizes on request</div>																	
<div>Number of plates</div>																	
<div><div></div><div>10142030405060708090100120150160180190</div></div>																	
<div>HYDAC HEX S400</div> <div></div>																	
<div>HYDAC HEX S610</div> <div></div>																	
<div>HYDAC HEX S615</div> <div></div>																	
<div>HYDAC HEX S722</div> <div></div>																	
<div>HYDAC HEX S522</div> <div></div>																	
<div>Version with nickel braze (optional)</div>																	
<div>Connections (standard)</div>																	

Connections (standard)

HYDAC HEX S400: 4 x G3/4" female thread

HYDAC HEX S610 and HYDAC HEX S615: 4 x G1" female thread

HYDAC HEX S722: 4 x G1½" female thread

HYDAC HEX S522: 4 x G1½" female thread

Male threaded, soldered and SAE connections are also available as an option.

The pipes must be connected so that connections are stress-free.

Linear expansion and vibrations from the pipes to the heat exchanger must be avoided.

Water Quality

The following limits refer to copper-brazed plate heat exchangers and a water temperature of + 60°C:

Substances dissolved in water	Concentration (ppm)	Stainless steel	Copper
pH value	<6.0	0	0
	6.0 – 9.0	+	+
	>9.0	+	0
Electrical conductivity	<10 [µ S/cm]	+	0
	10 – 500 [µ S/cm]	+	+
	>500 [µ S/cm]	+	0
Cl ⁻	<300	+	+
SO ₄ ⁻²	<50	+	+
	50 – 300	+	0
	>300	0	0
CaCO ₃	<50	+	+
Fe	<0.3	+	+
	>0.3	+	0
NH ₃	<2	+	+
	>2	+	0
NO ₃	<100	+	+
	>100	+	0
S ⁻²	Not suitable		
SiO ₂	<30	+	+
NH ₄ ⁺	<0.1	+	+
Free chlorine	<0.1	+	+
CO ₃ ⁻²	<0.4	+	+
H ₂ S	<0.05	+	+
	>0.05	+	0

0: Corrosive
+: Suitable

For nickel-brazed versions, please contact the technical sales department.