Rohrbündel Wärmetauscher / tube heat exchanger

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Industrial Shell & Tube Heat Exchangers - Series 300

Hydraulic Oil Coolers - Series 300

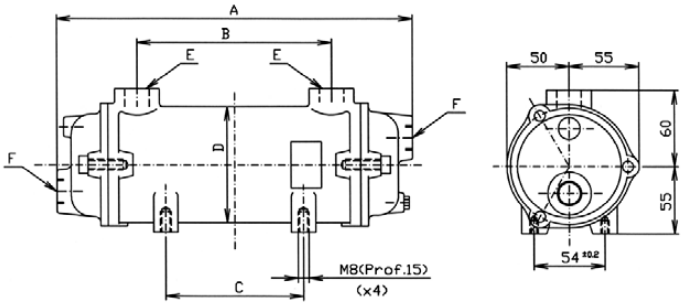
HENNLICH Shell and Tube Heat Exchangers are designed in a three passes tube stack arrangement with cooling fluid inlet and outlet in opposite sides and counter current fluids. Tube stack is fully floating type thus thermal stresses are minimised while maintenance operations are eased. HENNLICH HCT range of Industrial Shell & Tube Heat Exchangers are suitable for any sort of heat transfer fluids, heating or cooling process fluids. Its use is restricted to liquid phase fluids and material compatibility should be observed.

MAWP: oil 14 bar, water 10 bar * MAWT: 120ºC (180ºC with VITON seals)
* Testing Standard: BS6755 Stabillity Test performed at 20 bar, Sealing Leakage Test at 14 bar.

Dimensions

Model	A	B	C	D	E-F	Weight
301	195	72	38	Ø86	3/4"	3
302	263	138	103	Ø86	3/4"	3,5
303	349	225	189	Ø86	3/4"	4
304	448	326	288	Ø86	3/4"	4,7
306	576	450	415	Ø86	3/4"	5,5

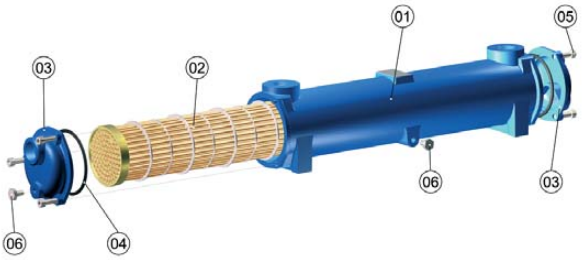
Length Units expressed in mm, Diametres in Inches / Weight in Kgs
General Arrangement Drawings pdf or Auto-Cad formats are available on request.



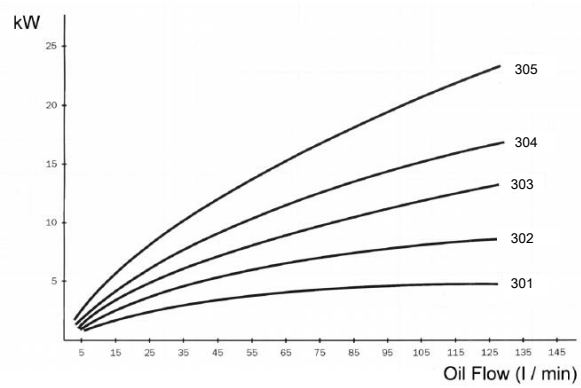
Parts and Materials

Part	Name	Material
1	Shell	**Aluminium** /Bronze/Cast Iron
2	Tube Stack	
2.1	Tubes	**Copper** / Copper-Nickel / St. Steel
2.2	Tube plates	**Brass** / Bronze
2.3	Baffles	Aluminium
2.4	Welding	Tin welded 60/40
3	End caps	**Brass** / Bronze
4	Seals	**NBR** / Viton
5	Cover screws	Steel
6	Drain plugs	Brass

Remarked materials denote standard construction for Industrial Units.



Performance Graphs



Graphs were plotted using the parametres shown in the right side table.
For oil pressure drop graphs see separated sheet.

Flow Rate

Model	Heat dissipated (kW)	Oil flow (l/min)	Water flow (l/min)	Oil pressure drop (bar)	Water pressure drop (bar)	Surface (m2)
301	3	30	15	0,10	0,02	0,13
302	6	46	23	0,19	0,05	0,22
303	9	56	28	0,36	0,09	0,32
304	13	64	32	0,60	0,13	0,46
305	16	56	28	0,56	0,12	0,68

Maximal Fresh Water Flow Rate Capacity: 50 l/min (35 l/min if sea water).This table means a typical performance of the shown units at given average process data of oil outlet temperature : 50ºC; Water Inlet Temperature: 25ºC, Viscosity of Oil: 38Cst with SAE 30 type and 50ºC. Any other change in the chosen parametres could result in a different oil cooler selection.

Temperature Correction Factors

When temperature gap between oil outlet and water inlet exceeds the given 25ºC the following correction factors should be used: 10ºC: 0.4 / 15ºC: 0.6 / 20ºC: 0.8 / 30ºC: 1.2 / 35ºC: 1.4 / 40ºC: 1.6 (multiply KW by the suitable correction factor).

Flow Rate Correction Factors

For water flow rates other than 50% of the oil flow rate, the following correction factors should be used:
25%: 0.8 / 100%: 1.2 (multiply the flow rate by the suitable correction factor).