

Cetetherm Cetetube



Shell and tube heat exchanger

The Cetetube range of liquid/liquid heat exchangers comprises a number of sizes, with ratings of up to around 5 MW. The Cetetube is manufactured in three different basic thermal lengths. So it is easy to find a heat exchanger that will offer optimum properties for most operating conditions.

THERMALLY OPTIMIZED

A Cetetube coil consists of finned copper tubes. The finned tube is designed to provide flow areas to suit modern operating conditions in heat exchange technology. Due to the fins, the outside heat transfer area of the tube is many times larger and they also serve as distinct spacers between the tube rows to ensure stability of the coil. Due to the stability and thus the repeatability in production, every Cetetube heat exchanger maintains the specified output.

The heat exchanger is designed to ensure turbulent flow both inside and outside the tubes. The turbulent flow is favourable from the heat exchange viewpoint and makes the heat exchangers self-cleaning, with little risk of fouling of the heat transfer surfaces.

FOR A VARIETY OF OPERATING CONDITIONS

The Cetetube is designed for the same pressures and temperatures on both sides. The same heat exchanger type can be used for different operating conditions, and all of them can be used in heating, ventilation and hot water systems. In order to put the heat transfer capacity of the heat exchanger to maximum use, the higher flow rate is routed through the shell. However, for domestic hot water, the tap water flow must always be connected to the coil side.

BENEFITS

- Large high turbulence transfer surface: High power - Small space
- Low pressure drop, high ΔT
- No gaskets: No maintenance
- Ideal solution for high Primary/Secondary differential of temperature
- Up to 16 bar & up to 160°C with normalized flanges connections

SHELL

The shell is made of pressure vessel steel and conforms to the relevant pressure vessel standards.

COIL

The coil is made of spiral-round, seamless copper tube with area-extending fins.

MAXIMUM OPERATING PRESSURE

The maximum operating pressure is 1.6 MPa (gauge) on shell side and 2.5 MPa (gauge) on tube side.

MAXIMUM OPERATING TEMPERATURE

The corresponding maximum operating temperature is 150 °C on shell side and 160 °C on tube side.

INSULATION

The insulation consists of 80 mm mineral wool clad with tough Aluminium structural plate. The insulation is easy to remove and refit.

CONNECTIONS

The tube coil and the shell are equipped with flange connections PN40 on tube side and PN16 on shell side.

INSTALLATION

The Cetetube heat exchangers are provided with tubular legs with adjustable feet.

CONNECTION

See the flow diagram for the relevant heat exchanger type. As a general rule, the liquid at the lower flow rate should be routed through the coil. N.B. However, domestic hot water must always flow through the coil.

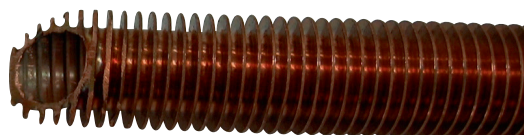


The tube coil inside the shell

QUALITY STANDARD/ APPROVAL

All sizes are designed and rated according to PED 2014/68/EU, approved by German TÜV.

The Cetetube is manufactured in 8 sizes, with size designations ranging between 460 and 4200. Every size is manufactured in three different thermal lengths, to suit most operating conditions. In addition, also non-standard units are available on request. For further information, see the data sheet for each size and thermal length.



The finned copper tube

Operating limits	Design temperature	Design pressure
Tube side	160°C	25 bar
Shell side	150°C	16 bar

Model	Volume Shell (L)	Volume tube (L)	PN16 connection shell (DN)	PN40 connection tube (DN)	Average* height (mm)	Average* width (mm)	Weight	Article no.
460 - M	8	3	40	25	1235	385 x 320	48	720211
460 - H	9	4	40	25	1400	385 x 320	55	720213
460 - EH	13	5	40	25	1695	385 x 320	78	720214
700 - M	12	4	50	32	1345	415 x 360	75	720102
700 - H	16	5	50	32	1460	415 x 360	95	720104
700 - EH	21	6	50	32	1775	415 x 360	105	720105
1050 - M	50	9	65	50	1525	635 x 430	125	720033
1050 - H	58	11	65	50	1705	635 x 430	135	720035
1050 - EH	73	14	65	50	1975	635 x 430	150	720036
1400 - M	50	9	65	50	1525	635 x 430	125	720047
1400 - H	58	11	65	50	1705	635 x 430	135	720053
1400 - EH	73	14	65	50	1975	635 x 430	150	720056
2100 - M	45	12	65	50	1525	635 x 430	135	720048
2100 - H	53	15	65	50	1705	635 x 430	150	720054
2100 - EH	66	19	65	50	1975	635 x 430	165	720057
2800 - M	41	15	65	50	1525	635 x 430	150	720049
2800 - H	46	19	65	50	1705	635 x 430	160	720055
2800 - EH	57	23	65	50	1975	635 x 430	175	720058
3500 - M	95	20	125	65	1600	635 x 723	260	720111
3500 - H	111	25	125	65	1780	635 x 723	285	720119
3500 - EH	139	32	125	65	2050	635 x 723	315	720076
4200 - M	90	23	125	65	1600	635 x 723	270	720112
4200 - H	106	29	125	65	1780	635 x 723	300	720120
4200 - EH	132	32	125	65	2050	635 x 723	315	720124

* Average due to adjustable foot