



ALSHE LTL

Standard spiral heat exchangers for liquid/liquid applications

Applications

The Alfa Laval ALSHE LTL spiral heat exchangers are a series of standardised Spiral heat exchangers for liquid to liquid applications available in various sizes. They are used essentially for heating, cooling and liquid/liquid heat recovery when there is a risk of fouling.

Advantages

- Drastically reduced fouling thanks to its single channel design
- Very easy in depth hydro blasting or mechanical cleaning by removing the covers
- Reduced down time operation (very easy and fast to put back into operation)
- True counter current, ideal for heat recovery
- Vertical or horizontal mounting because of built in supports

Operating principles

The ALSHE LTL spiral is made of two concentric spiral flow channels in which the media are in full counter current flow. The hot medium generally enters at the centre of the unit and flows from the inside outwards to exit at the periphery. The cold fluid enters normally at the periphery and flows towards the centre, thereby achieving counter flow. This permits temperature crosses and close temperature approach.

Self-cleaning

The single channel design reduces drastically fouling and eliminates bypassing. Unlike multi pass heat exchangers in which partial clogging redirects the flow through the remaining open channels, the velocity in the single channel spiral increases until deposits are scrubbed away. Chemical cleaning is also very efficient since the cleaning solution cannot bypass into open tubes.

Process Efficiency

Counter current flow combined with optimal flow conditions in both channels obtains higher heat transfer coefficients than in many other types of heat exchangers. Close temperature approaches and temperature crosses are easily achieved.

Small space requirement

The wrapped cylindrical arrangement of a minimized heat transfer area results in an extremely compact unit, which can be installed horizontally or vertically. This really compact design ensures lower capital and installation costs. Easy access and maintenance

The entire heat transfer surface is accessible for inspection, hydro blasting or mechanical cleaning simply by removing the



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covers. The covers hook bolt fixation allows a very fast and independent covers disassembly and re-assembly.

Deliveries from stock

The ALSHE LTL series are available in various sizes and are delivered directly off the shelf. They are suitable for fast track replacement of existing heat exchangers or for new installations.

Their high heat transfer efficiency often make them suitable for replacing shell & tube or other types of heat exchangers where fouling risk or down time operation for cleaning are important.

MAWP / Maximum Working Pressure (psig)

	200	300	400	500	600	700	752	°F
2S	174	160	150	136	126	103	87	psig
2L	174	160	150	136	126	103	87	psig
4S	152	152	150	136	126	103	87	psig
4L	152	152	150	136	126	103	87	psig
8S	152	152	150	136	126	103	87	psig
8L	152	152	150	136	126	103	87	psig
13S	152	152	150	136	126	103	87	psig
30L	152	152	143	129	120	103	87	psig

With full vacuum

Minimum design temperature -40°C

For higher pressure or temperature please contact Alfa Laval

Design according to ASME VIII Div. 1

Available for PED, U stamp, and many other regulations

Material: SS 316L except covers in Carbon steel lined with 316L

Dimensions

ALSHE	Eff. HTA m ²	Ø body Dy	Body width	Spacing		Nozzels	
LTL				SA	SB	A1/A2	B1/B2
2S	2	425	200	5	5	50	50
2L	2.1	425	300	8	8	50	50
4S	4.3	480	300	5	5	50	50
4L	4	480	400	8	8	80	80
8S	8	540	400	5	5	50	50
8L	8.8	540	625	8	8	80	80
13S	13.5	645	500	6	6	80	80
30L	29.3	825	1000	12	10	100	100

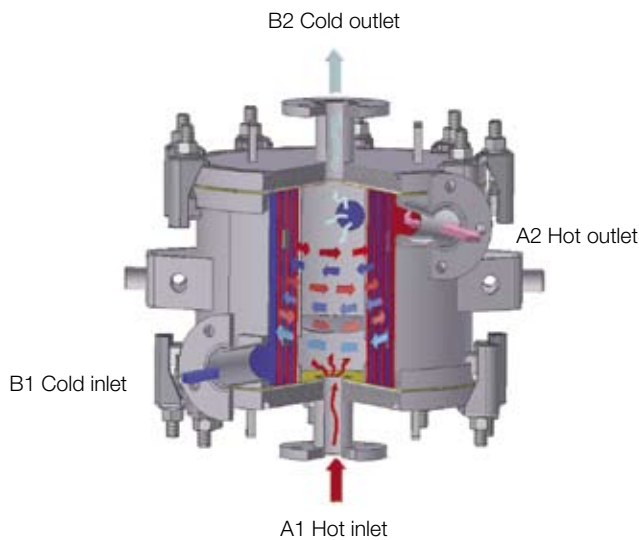
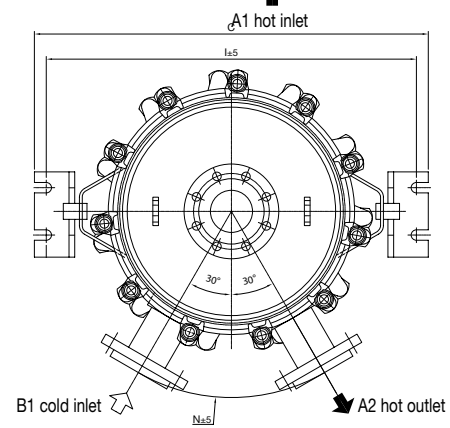
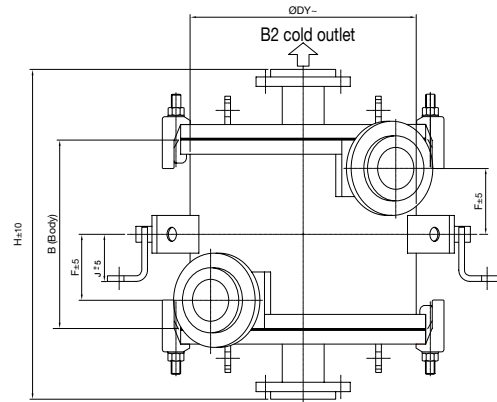
ALSHE	C	F	H	I	J	Radius N	Weight empty kg	Volume VA /VB
LTL								
2S	775	60	500	725	100	360	185	10/12
2L	775	110	600	725	100	360	195	13/22
4S	835	110	600	785	100	385	285	16/24
4L	835	140	700	785	100	385	290	23/37
8S	900	160	700	850	100	415	420	27/43
8L	900	253	925	850	100	415	460	43/72
13S	1010	190	800	960	100	465	680	50/70
30L	1180	0*	1400	1130	100	630	1380	205/230

* Nozzles are in line

Flange specification

Flange EN 1092-1 01 A / ANSI B16.5 SO 150 LBS / JIS 10K

Material SS 316L



PCT00002ENUS 0806

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How to contact Alfa Laval

Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com