

Alfa Laval SHE Medium

Spiral heat exchangers for liquid-to-liquid duties

Engineered for liquid-to-liquid duties, the Alfa Laval SHE Medium is a spiral heat exchanger with curved channels to provide optimum heat transfer and flow conditions for a wide variety of fluids. This spiral heat exchanger range offers a broad spectrum of standard models with a wide variety of diameters and heat transfer surface areas. These versatile heat exchangers may be used to handle fouling fluids at medium pressures.

Application

The Alfa Laval SHE Medium range is used for heating, cooling and heat recovery in applications where there is a risk of fouling.

Benefits

- Drastically reduced fouling due to the single channel design with its self-cleaning effect
- Easy inspection and mechanical cleaning (hydro-blasting) of the heat transfer surface
- Minimal operational downtime due to the longer intervals between cleaning and the ease of putting the unit back into operation after cleaning
- Highly efficient heat recovery due to true countercurrent flow
- Compact, flexible design that can be mounted horizontally or vertically

Working principle

The spiral heat exchanger consists of two concentric spiral flow channels in which the media are in a full countercurrent flow arrangement. The hot medium generally enters at the centre of the unit and flows from the inside outwards, exiting at the periphery. The cold fluid normally enters at the periphery and flows inward towards the centre, thereby achieving true countercurrent flow. This makes it possible to obtain the close temperature approach and temperature cross necessary to realize high process efficiencies.

Design

With its single channel, self-cleaning design, the Alfa Laval SHE Medium features standardized components with standard ANSI or DIN connections. Pre-configured designs using standardized, stocked components makes this range highly competitive in terms of both pricing and delivery.

With its high heat transfer efficiency, this spiral heat exchanger



is an excellent choice to replace shell-and-tube or other types of heat exchangers where the risk of fouling and/or minimized operational downtime for cleaning are critical.

Unlike multi-channel heat exchangers in which partial clogging redirects the flow through other channels, the flow through the single channel of the Alfa Laval SHE Medium helps increase the velocity of the liquid, creating a scrubbing effect that eliminates the build-up of deposits on the plate. This drastically reduces fouling and eliminates flow bypass. Chemical cleaning is also very efficient since the cleaning solution cannot be directed into other channels.

Operational data

Minimum design temperature	-10°C
Max. design temperature, °C	250°C
Max. design pressure, barg	11
Pressure vessel code	PED and ASME VIII Div.1

For higher pressure or temperature, please contact Alfa Laval.

Options

- Supports
 - Flat horizontal support saddle
 - Vertical trunnion mount
- Cable secured hook-bolts
- Earthing lug
- Insulation lugs
- Hinges

Архангельск (8182)63-90-72
Астана +7(7172)727-132
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89
Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395) 279-98-46

Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
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Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12

Новокузнецк (3843)20-46-81
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
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Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
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Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Тверь (4822)63-31-35
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Уфа (347)229-48-12
Хабаровск (4212)92-98-04
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Киргизия (996)312-96-26-47

Казахстан (772)734-952-31

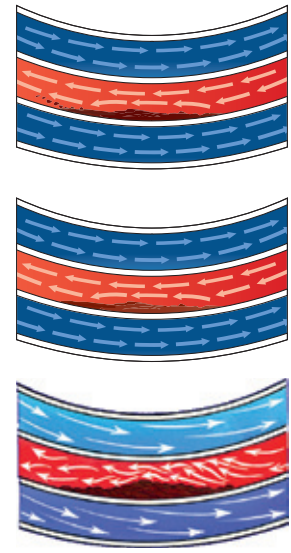
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Эл. почта: afm@nt-rt.ru || Сайт: <http://alfa-laval.nt-rt.ru>

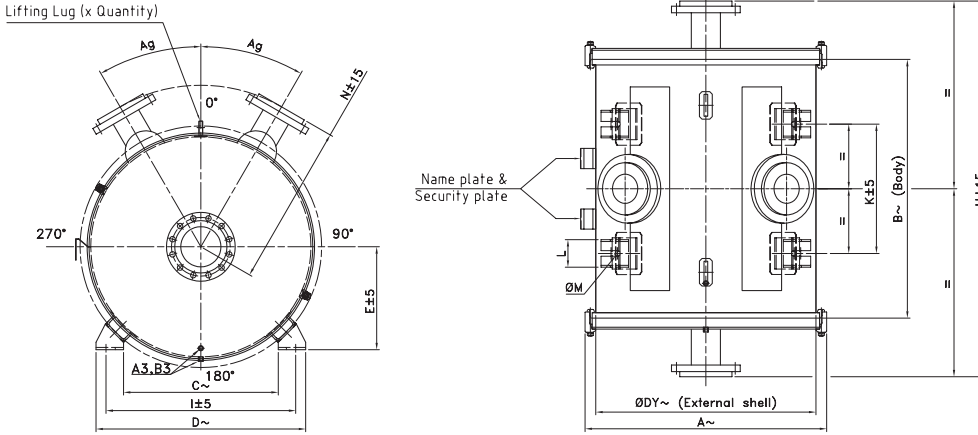
Technical data

Materials

Heat transfer surface	Stainless steel 316L and Duplex
Gaskets	Nitrile-bonded fibre (max. 150°C), GYLON® Fawn (above 150°C)
Drains and vents	1/2" NPT
Connections	Standard ANSI or DIN
Flange specifications	ASME B16.5 WNRF 150 lbs. EN1092-1 11-B PN16



Self-cleaning design
The single channel of the Alfa Laval SHE Medium helps increase the velocity of the liquid, creating a scrubbing effect that eliminates the build-up of deposits on the plate.



Product model	Dimensions, mm				Spacing, mm*	Area, m²	Connections DN
	Body diameter (DY)	Width (B)	H, mm	N, mm			
ISS/YSS	800	500	1,000	715	5 to 18	9.8 - 28	80 - 100
IMS/YMS		750	1,250			14.7 - 42	80 - 100 - 150
IIS/YIS		1,000	1,500			19.6 - 56	80 - 100 - 150
ILS/YLS		1,250	1,750			24.5 - 70	80 - 100 - 150
ISM/YSM	1,000	500	1,000	815	5 to 18	16.6 - 48	80 - 100
IMM/YMM		750	1,250			24.9 - 72	80 - 100 - 150
IIM/YIM		1,000	1,500			33 - 96	80 - 100 - 150
ILM/YLM		1,250	1,750			41.5 - 120	80 - 100 - 150
IEM/YEM	1,200	1,500	2,000	915	5 to 18	49.8 - 144	100 - 150 - 200
IYM/YYM		2,000	2,500			66 - 192	100 - 150 - 200
III/YII		1,000	1,500			50 - 143	80 - 100 - 150
ILI/YLI		1,250	1,750			63 - 179	80 - 100 - 150
IEI/YEI	1,400	1,500	2,000	1015	5 to 18	75 - 215	100 - 150 - 200
IYI/YYI		2,000	2,500			100 - 287	100 - 150 - 200
IIL/YIL		1,000	1,500			69 - 201	80 - 100 - 150
ILL/YLL		1,250	1,750			86 - 252	80 - 100 - 150
IEL/YEL	1,600	1,500	2,000	1115	5 to 18	103 - 302	100 - 150 - 200
IYL/YYL		2,000	2,500			138 - 403	100 - 150 - 200
IIE/YIE		1,000	1,500			93 - 267	80 - 100 - 150
ILE/YLE		1,250	1,750			116.9 - 333	80 - 100 - 150
IEE/YEE	1,600	1,500	2,000	1115	5 to 18	140 - 400	100 - 150 - 200
IYE/YYE		2,000	2,500			187 - 534	100 - 150 - 200

*Plate spacing available: 5, 6, 8, 10, 12, 14, 16 and 18

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