

Fast track by Alfa Laval

- Delivered in days.
- Delivers for decades.

Gasketed Plate Heat Exchangers

T-Series



The background of the document is a photograph of an industrial facility. It features large, complex machinery, including what appears to be a large cylindrical heat exchanger or reactor vessel in the upper left, and various pipes and structural elements. In the foreground, there are metal grates and more industrial components, suggesting a manufacturing or processing environment. The lighting is somewhat dim, with highlights on the metallic surfaces.

Fast Track by Alfa Laval

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Fast Track by Alfa Laval

Fast Track by Alfa Laval

- Delivered in Days
- Delivers for Decades

Delivered in days, delivering for decades

Fast track is the first standardized line of plate heat exchangers to guarantee fast, energy-efficient results without compromising on quality or lifecycles. Starting with fast and easy selection, Fast track eliminates the time spent waiting for calculations and making orders. Then, once you have made a decision in your own time, we promise to have your order packed and on its way within a matter of days.

How to contact Alfa Laval

Contact details for all countries are continually up- dated on our web site. Please visit www.alfalaval.com to access the information.

The world's most modern gasketed plate heat exchangers

Gasketed plate-and-frame heat exchangers are so well established that few could imagine major leaps in their development. At Alfa Laval, however, we don't believe in settling for status quo. That's why we introduced our line of next-generation gasketed plate heat exchangers for industrial applications – to meet your needs today, tomorrow and beyond.

New standards

In redeveloping our gasketed plate heat exchangers, we questioned every aspect and rethought every detail. The results are bold new standards in efficiency, reliability and serviceability. Continuously upgraded with new models, innovative features and new technical concepts, this is the world's most modern gasketed plate heat exchanger range with options for virtually any industry and application.

Boosting efficiency and sustainability – whatever the application

Our objective has been clear from the start: to solve existing customer challenges in a more sustainable and cost-efficient way. Development has therefore focused on improving thermal efficiency and operational performance, with an eye toward **reducing our customers' total cost of ownership**. Regardless of your industry, the application or the position of your heat exchanger, we want to help you save energy and minimize the environmental impact of your processes.

Manufacturing applications



Machining

Cutting/Forming/Pressing
Coolant oils



Heat treatment

Quenching/Annealing
Quench oils, Process water



Degreasing

Washing/Degreasing
Water Solvent



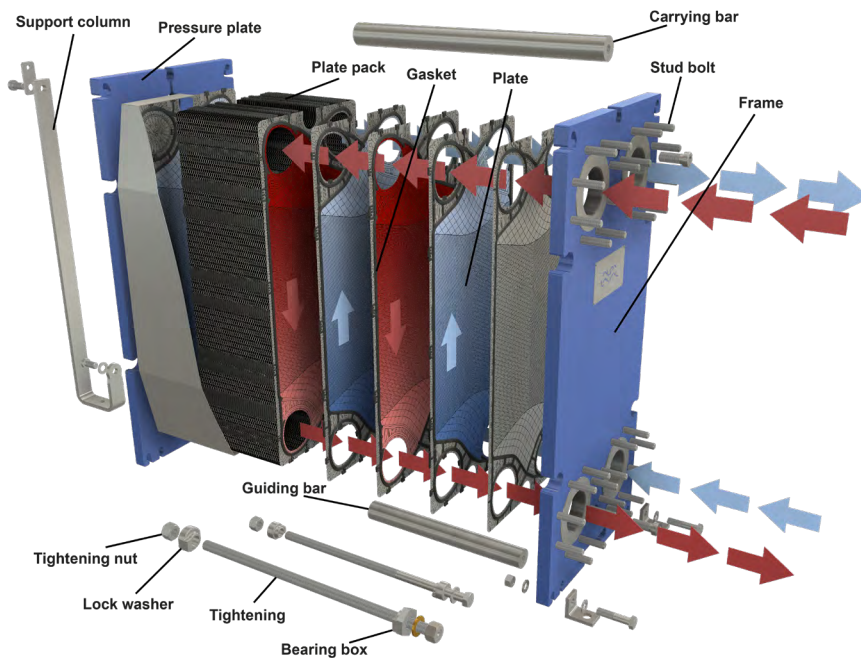
Surface treatment

Phosphating/Plating/
Anodizing/Painting
Acids, Paint



Automotive

Oil, Water, Air



How gasketed plate heat exchangers work

GPHEs are the most common type of compact heat exchanger. They are often used for food and drink processing, chemical production, and heating and cooling purposes.

Metallic plates are pressed into packs to facilitate heat transfer between two fluids. These plates can be made from a range of different metals, including stainless steel and titanium, but selection will ultimately depend on the type of fluid that is being processed. Note 'fluid' does not necessarily mean liquid; gases can also be processed in a GPHE.

Plate packs are suspended from a carrying bar and set by a lower guiding bar before being sandwiched and compressed between a frame plate and a pressure plate. They are then tightened with bolts that run across the length of the GPHE.

In a gasketed plate heat exchanger (GPHE), the metal plates are fitted with elastomeric gaskets which seal and direct each fluid into alternate channels. Hot channels will be placed against cool channels with each fluid flowing counter or co-currently to facilitate thermal transfer. GPHEs are prized for their high efficiency rate afforded by a large surface area.⁴ They are much easier to deconstruct and clean than brazed or welded designs, making them favourable in hygiene-critical environments as well as in high fouling applications.

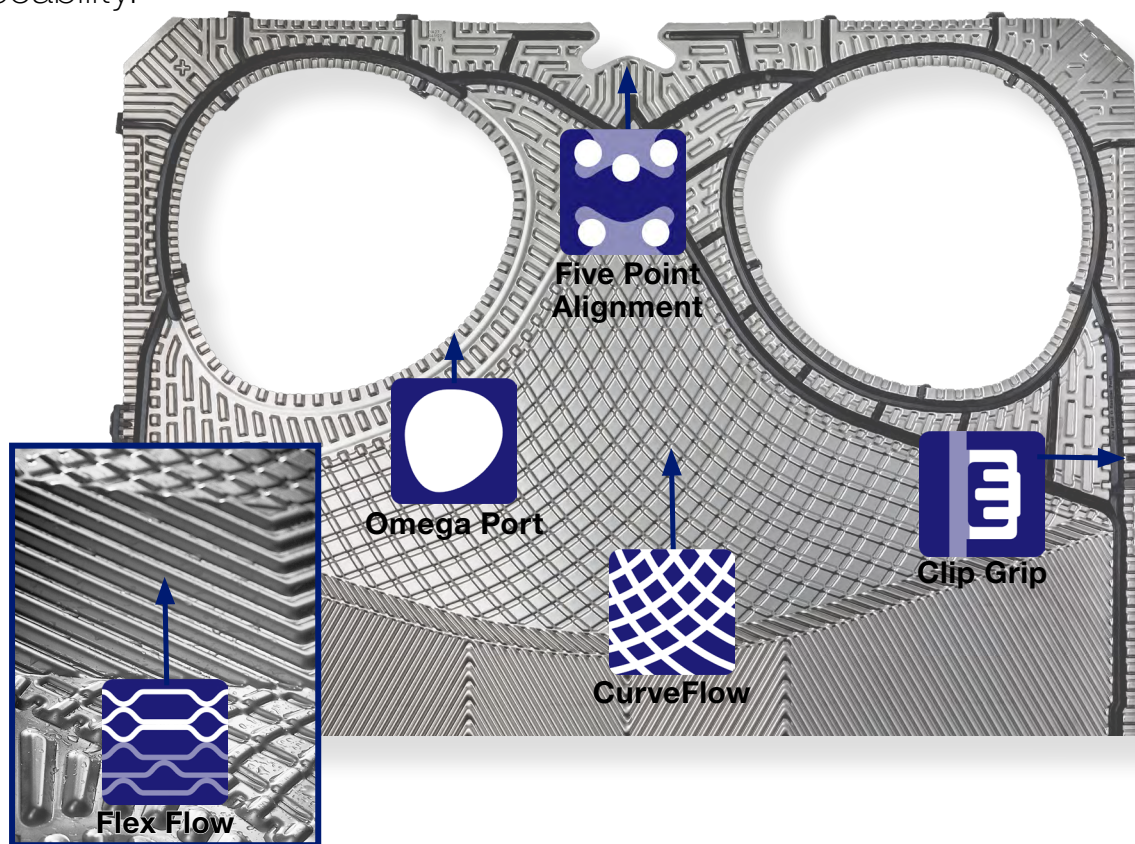
GPHEs are used in many HVAC applications to indirectly connect chillers, boilers and cooling towers to central plant systems. They are also used to effectively remove excess heat produced by chillers while they are in operation. It is then redistributed to another part of the process where heating is required.⁵

4. <https://www.sciencedirect.com/topics/engineering/plate-heat-exchangers>

5. <https://theengineeringmindset.com/plate-heat-exchanger-applications/#:~:text=You'll find a gasketed plate, cooling load on the chillers.>

Features that help you achieve a new standard

Alfa Laval's next-generation gasketed plate heat exchangers contain unique features to help your business achieve new levels of efficiency, reliability and serviceability.



Efficiency



CurveFlow™ distributor area Improves media flow and minimizes the risk of fouling



OmegaPort™ non circular port holes Ensures media flow and thermal efficiency



Offset Gasket Groove Ensures plate utilization for maximum heat transfer efficiency



FlexFlow™ plate design Improves thermal efficiency and optimizes pressure drop utilization

Reliability



Five-point alignment Ensures reliable plate positioning and easy service of large units



Steerlock™ plate alignment Ensures reliable plate positioning and easy service



PowerArc™ plate pattern divider Improves plate rigidity for longer lifetime



RefTight™ sealing system High-performance gasket sealing for high-pressure duties

Serviceability



ClipGrip™ gasket attachment Ensures perfect seal and trouble-free maintenance



Bearing boxes Guarantees an easy-to-open unit for smoother, more efficient maintenance



T-bar roller Provides a lower unit that is easy to service



Compact frame Facilitates maintenance and minimizes service area requirement

Alfa Laval Industrial Line

Our wide range of industrial gasketed plate heat exchangers includes models that are suitable for all types of industries. We can support applications ranging from heating, cooling and heat recovery to condensation and evaporation, and we are constantly looking to expand and upgrade with new performance criteria and greater flexibility.



Alfa Laval's next-generation of gasketed plate heat exchangers feature a range of unique innovations that break new barriers in industrial heating and cooling applications.

Scope of Alfa Laval Industrial line*

Dimensions	From	To
Port size mm (in)	20 (0.79)	500 (19.7)
Height mm (in)	380 (15)	4095 (161)
Width mm (in)	180 (5.5)	1550 (61)

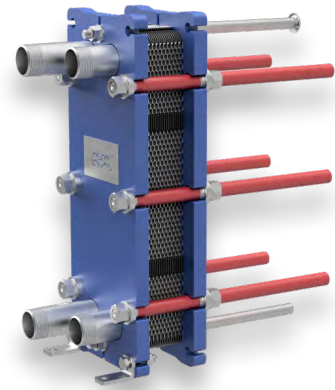
Design limitations	Up to	
Maximum flow capacity (m ³ /hour)	-	4946
Max design pressure barg (psig)	-	35 (507)
Max temperature °C (°F)	-	180 (356)

The table contains values with the intention of providing a general overview. Actual values vary depending on the frame, plates and gasket materials used in the final configuration. Contact your local sales representative for more specific details.

	Hydraulic Oil ISO VG 46/Water	General Cooling Water/Water	General Heating Water/Water
TempIn Hot(°F)	140	100	176
TempOut Hot(°F)	100	80	140
TempIn Cold (°F)	75	65	130
TempOut Cold (°F)	90	85	165
Max PSIG Hot/Cold	10	10	10

Temperature In
Temperature Out chart.

Model M-3

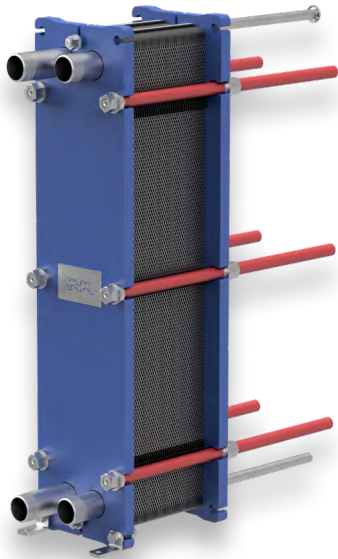


Height	18.9"
Width	7.09"
Min Length	16.5"
Max Length	24.4"
Type of Connection	Stainless Steel Pipe
Connection Size	1-1/4" NPT
Plate Material	316 Stainless Steel
Plate Thickness	0.50mm

Model	Plates	Part #	Oil Cooling		General Cooling		General Heating	
			Capacity (kbtu/h)	Flow Rate (GPM)	Capacity (kbtu/h)	Flow Rate (GPM)	Capacity (kbtu/h)	Flow Rate (GPM)
M3	15	8240170849	3	1	75	7	50	3
M3	20	8240171381	7	1	100	10	65	4
M3	25	8240171385	10	1	125	13	80	5
M3	30	8240171386	10	1	150	15	100	6
M3	35	8240171388	14	2	175	18	125	7
M3	40	8240171391	17	2	200	20	150	9
M3	45	8240171392	17	2	225	22	165	10

See Temperature In / Temperature Out table on page 7.

Model TL-3



Height	31.1"
Width	7.5"
Min Length	16.5"
Max Length	53.9"
Type of Connection	Stainless Steel Pipe
Connection Size	1-1/4" NPT
Plate Material	316 Stainless Steel
Plate Thickness	0.50mm

Model		Plates	Part #	Oil Cooling		General Cooling		General Heating	
				Capacity (kbtu/h)	Flow Rate (GPM)	Capacity (kbtu/h)	Flow Rate (GPM)	Capacity (kbtu/h)	Flow Rate (GPM)
Small Pressing Depth	TL3B	10	8240171407	20	3	100	10	75	4
	TL3B	15	8240171409	34	6	150	15	125	7
	TL3B	20	8240171411	51	8	200	20	200	11
	TL3B	25	8240171412	61	10	250	25	250	14
	TL3B	30	8240171414	68	11	300	30	300	17
	TL3B	35	8240171415	85	14	350	35	350	20
	TL3B	40	8240171418	102	17	400	40	400	23
	TL3B	45	8240171419	119	20	450	45	475	27
	TL3B	50	8240171421	136	23	500	50	550	31
Medium Pressing Depth	TL3P	10	8240171425	10	1	90	9	40	2
	TL3P	15	8240171427	27	5	120	12	100	5
	TL3P	20	8240171428	34	6	170	17	150	8
	TL3P	25	8240171430	51	8	220	22	175	10
	TL3P	30	8240171431	61	10	270	27	200	11
	TL3P	35	8240171432	68	11	330	33	250	14
	TL3P	40	8240171434	75	12	370	37	325	18
	TL3P	45	8240171436	85	14	420	42	350	20
	TL3P	50	8240171437	102	17	480	48	400	23

See Temperature In / Temperature Out table on page 7.

Model T-5

Height	29"
Width	9.7"
Min Length	5.9"
Max Length	13.8"
Type of Connection	Stainless Steel Pipe
Connection Size	2" NPT
Plate Material	316 Stainless Steel
Plate Thickness	0.50mm



Model		Plates	Part #	Oil Cooling		General Cooling		General Heating	
				Capacity (kbtu/h)	Flow Rate (GPM)	Capacity (kbtu/h)	Flow Rate (GPM)	Capacity (kbtu/h)	Flow Rate (GPM)
Small Pressing Depth	T5B	15	8240152917	68	10	200	20	100	6
	T5B	20	8240152918	89	12	300	30	150	9
	T5B	25	8240152920	119	17	400	40	200	11
	T5B	30	8240152921	136	19	500	50	250	14
	T5B	35	8240152922	167	23	500	50	300	17
	T5B	40	8240152923	188	26	600	60	350	20
	T5B	45	8240152924	218	31	700	70	400	23
	T5B	50	8240152926	235	33	800	80	450	25
	T5B	60	8240152927	287	40	1000	100	575	33
	T5B	70	8240152928	334	47	1200	120	675	38
Large Pressing Depth	T5M	15	8240152929	17	2	250	25	175	10
	T5M	20	8240152930	27	4	275	27	250	14
	T5M	25	8240152931	34	5	350	35	300	17
	T5M	30	8240152932	44	6	425	40	400	23
	T5M	35	8240152933	51	7	550	55	450	25
	T5M	40	8240152934	61	9	700	70	550	31
	T5M	50	8240152935	78	11	850	85	700	40

See Temperature In / Temperature Out table on page 7.

Model T-6



Height	35"
Width	12.6"
Min Length	18.7"
Max Length	54.2"
Type of Connection	Stainless Steel Lined
Connection Size	2" Studded Port
Pressure Rating	150#
Plate Material	316 Stainless Steel
Plate Thickness	0.50mm

Model		Plates	Part #	Oil Cooling		General Cooling		General Heating	
				Capacity (kbtu/h)	Flow Rate (GPM)	Capacity (kbtu/h)	Flow Rate (GPM)	Capacity (kbtu/h)	Flow Rate (GPM)
Small Pressing Depth	T6B	15	8240152969	102	14	350	35	250	14
	T6B	20	8240152971	130	18	450	45	350	20
	T6B	25	8240152972	171	24	650	65	500	28
	T6B	30	8240152974	205	29	750	75	600	34
	T6B	35	8240152975	246	34	950	95	700	40
	T6B	40	8240152976	273	38	1150	115	850	48
	T6B	45	8240152977	314	44	1250	125	1000	57
	T6B	50	8240152978	348	49	1350	135	1100	63
	T6B	55	8240152979	416	58	1450	145	1200	68
	T6B	60	8240152980	485	68	1550	155	1300	75
Medium Pressing Depth	T6B	70	8240152981	560	78	1650	165	1600	91
	T6P	15	8240152960	68	11	300	30	200	11
	T6P	20	8240152959	85	14	500	50	300	17
	T6P	25	8240152961	102	17	700	70	400	22
	T6P	30	8240152962	136	23	800	80	500	28
	T6P	35	8240152963	157	26	900	90	600	34
	T6P	40	8240152964	191	32	1000	100	700	40
	T6P	45	8240152965	205	34	1200	120	800	45
	T6P	50	8240152966	239	39	1400	140	850	48
	T6P	60	8240152967	293	48	1500	150	1100	62
	T6P	70	8240152968	341	56	1600	160	1300	74

See Temperature In / Temperature Out table on page 7.

Model TL-6

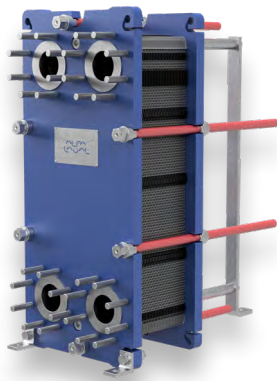


Height	49.8"
Width	12.6"
Min Length	24.6"
Max Length	66.5"
Type of Connection	Stainless Steel Lined
Connection Size	2" Studed Port
Pressure Rating	150#
Plate Material	316 Stainless Steel
Plate Thickness	0.50mm

Model	Plates	Part #	Oil Cooling		General Cooling		General Heating	
			Capacity (kbtu/h)	Flow Rate (GPM)	Capacity (kbtu/h)	Flow Rate (GPM)	Capacity (kbtu/h)	Flow Rate (GPM)
TL6B	20	8240152994	78	11	550	55	600	35
TL6B	30	8240152995	78	11	800	80	1000	57
TL6B	40	8240152996	123	17	1100	110	1500	85
TL6B	50	8240152997	171	24	1350	135	1750	105
TL6B	60	8240152998	198	28	1600	160	2150	123
TL6B	70	8240152999	212	30	1800	180	2500	145
TL6B	80	8240153000	259	36	2100	210	2900	165
TL6B	90	8240153001	290	41	2300	230	3200	185
TL6B	100	8240153002	341	52	2500	250	3500	200

See Temperature In / Temperature Out table on page 7.

Model T-8



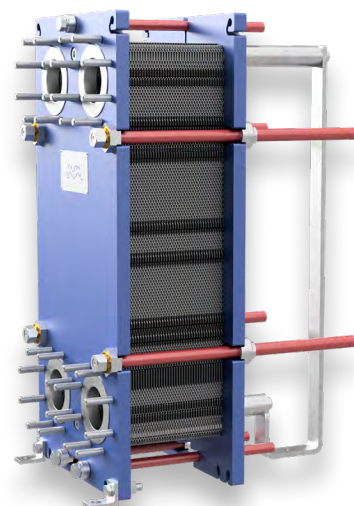
Height	35"
Width	15.78"
Min Length	18.86"
Max Length	66.38"
Type of Connection	Stainless Steel Lined
Connection Size	3" Studded Port
Pressure Rating	150#
Plate Material	316 Stainless Steel
Plate Thickness	0.50mm

	Model	Plates	Part #	Oil Cooling		General Cooling		General Heating	
				Capacity (kbtu/h)	Flow Rate (GPM)	Capacity (kbtu/h)	Flow Rate (GPM)	Capacity (kbtu/h)	Flow Rate (GPM)
Small Pressing Depth	T8B	20	8240152989	102	14	600	60	400	23
	T8B	30	8240152990	157	14	900	90	600	34
	T8B	40	8240152991	218	22	1300	130	900	51
	T8B	50	8240152992	280	31	1600	160	1100	62
	T8B	60	8240152993	334	39	2000	200	1350	77
Large Pressing Depth	T8M	20	8240152982	27	4	450	45	350	20
	T8M	25	8240152983	34	5	550	55	450	25
	T8M	30	8240152984	48	5	650	65	550	31
	T8M	35	8240152985	55	7	950	95	650	37
	T8M	40	8240152986	61	8	1000	100	750	43
	T8M	45	8240152987	68	9	1100	110	850	49
	T8M	50	8240152988	82	10	1200	120	950	55

See Temperature In / Temperature Out table on page 7.

Model T-10

Height	41.5"
Width	18.5"
Min Length	16.14"
Max Length	76"
Type of Connection	Stainless Steel Lined
Connection Size	4" Studded Port
Pressure Rating	150#
Plate Material	316 Stainless Steel
Plate Thickness	0.50mm



Model		Plates	Part #	Oil Cooling		General Cooling		General Heating	
				Capacity (kbtu/h)	Flow Rate (GPM)	Capacity (kbtu/h)	Flow Rate (GPM)	Capacity (kbtu/h)	Flow Rate (GPM)
Small Pressing Depth	T10B	20	8240153010	198	28	950	95	400	23
	T10B	30	8240153011	307	43	1200	120	700	40
	T10B	40	8240153012	427	60	1700	170	950	54
	T10B	50	8240153013	546	77	2200	220	1300	75
	T10B	60	8240153014	665	93	2700	270	1550	88
	T10B	70	8240153015	785	110	3200	320	1800	103
	T10B	80	8240153016	904	127	3700	370	2000	114
	T10B	90	8240153018	1024	143	4200	420	2300	131
	T10B	100	8240153019	1143	160	4700	470	3500	200
	T10B	110	8240153020	1228	172	5200	520	3800	217
Large Pressing Depth	T10M	20	8240153003	51	7	500	50	450	25
	T10M	30	8240153004	78	11	800	80	650	37
	T10M	40	8240153005	109	15	1100	110	900	51
	T10M	50	8240153006	136	19	1400	140	1250	71
	T10M	60	8240153007	164	23	1700	170	1750	97
	T10M	70	8240153008	198	28	2000	200	1900	108

See Temperature In / Temperature Out table on page 7.



Choosing the right gasket material

Creating the right rubber compound for each type of installation can involve selecting five to 15 different substances from around 1,700 polymer grades, vulcanising chemicals and processing materials. While it might appear a straightforward process, gasketing a GPHE requires a high level of technical expertise and solid understanding of how chemicals interact.

Rubber type	Applications	Maximum temperature
Nitrile butadiene rubber (NBRP)	Compatible with oil and fats. Low chemical resistance to acids and bases	140°C (284°F)
Hydrogenated nitrile butadiene rubber (HNBR)	Better chemical resistance compared to NBR. Compatible with hydrocarbons, oils and fats	160°C (320°F)
EPDM	Better chemical resistance to acids and bases	180°C (356°F)
FKMG	Strong chemical resistance and compatibility with oils	150°C (302°F)
FKMT	Performance grade, especially for high temperatures. Slightly lower chemical resistance than FKMG	180°C (356°F)
FEPM	Suitable for gas sweetening applications	160°C (320°F)
Q (Silicone performance grade)	Medical grade, for applications with ultra-pure water	100°C (212°F)
Chloroprene/paraprene	Ammonia applications	110°C (230°F)

Nomenclature

Generation name

The first letter in the name designates what generation the heat exchanger is.

T - is the latest generation of plate heat exchangers.

M - is the previous generation.

Connection size

Designates connection size in centimeters.

Frame type

Last two letters designate the frame type and pressure capacities.

Examples:

FM	1001	PSIG
FG	1501	PSIG
FD	3001	PSIG
FS	4001	PSIG

T L 10 - P FG

Frame height

The second letter in the name designates the height of the frame.

L - is long

X - is also long

S - is short

K - is short

Plate pressing

This letter designates the type of pressing on the plate

B - Small pressing depth, i.e. narrow channel (-2mm)

P - Medium pressing depth (-3mm)

M - Large pressing depth (-4mm)

Plate Type

After pressing information there can be an additional letter designating a specialty unit type.

No extra letter - Regular gasketed plates

D - Double wall unit

W - Semi-welded unit.

S - Widegap unit

SM - Wide gap unit

X - Widegap unit



02

Features & Benefits

Alfa Laval Industrial line is a wide product range that is used in virtually all types of industry.

Designed for high throughput, this model delivers excellent thermal performance. A large selection of plate and gasket types is available.

Applications:

- HVAC heating and cooling
- Refrigeration
- Oil cooling
- Industrial heating and cooling

Key benefits of the demand new standards features

- up to 15% higher efficiency
- 24% higher flow capacity
- up to 40% improved self-cleaning capability

Alfa Laval's advantage

Towards new standards in efficiency, reliability and serviceability

- High energy efficiency
- Flexible - configureable for broad range of applications
- Ensures optimal performance in specific applications based on specific needs
- Easy to install
- High serviceability

Our industrial plate heat exchangers are energy efficient, compact, simple to maintain, easy to adjust for capacity changes and represent a relatively low capital investment. The vast range of options when it comes to size, plate and gasket material and add-ons means they can be specifically designed and configured for your application, from the simplest of duties to the most demanding where requirements on both performance and documentation are high.

03

Conclusion

Key to efficient heat transfer

High performance is better than more surface area.

- ✓ Distribution of the fluids across the plate, and the plate pack.
- ✓ The use of all of the available pressure drop on the heat transfer surfaces.
- ✓ Getting the maximum value of your heat transfer surface, not the amount of heat transfer surface you have.



This is Alfa Laval

Alfa Laval is active in the areas of Energy, Marine, and Food & Water, offering its expertise, products, and service to a wide range of industries in some 100 countries. The company is committed to optimizing processes, creating responsible growth, and driving progress – always going the extra mile to support customers in achieving their business goals and sustainability targets.

Alfa Laval's innovative technologies are dedicated to purifying, refining, and reusing materials, promoting more responsible use of natural resources. They contribute to improved energy efficiency and heat recovery, better water treatment, and reduced emissions. Thereby, Alfa Laval is not only accelerating success for its customers, but also for people and the planet. Making the world better, every day. It's all about Advancing better™.

in @Alfa Laval

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How to contact Alfa Laval

Contact details for all countries are continually up- dated on our web site. Please visit www.alfalaval.com to access the information.

For more information, or to book a call with an engineer, please visit: alfalaval.us

Literature Code

