

FrontLine™ Plate Heat Exchangers

Alfa Laval FrontLine™

Applications

- Pasteurisation
- General cooling/heating of dairy, brewery, beverage and food products
- Heating/cooling in the pharmaceutical industry.

Working principle

A Plate Heat Exchanger consists of a pack of corrugated metal plates with port holes for the passage of two fluids between which heat transfer will take place.

The plate pack is assembled between a fixed frame plate and a movable pressure plate and compressed by tightening bolts.

The plates are fitted with a gasket which seals the inter-plate channel and directs the fluids into alternate channels. The number of plates is determined by the flow rate, physical properties of the fluids and the temperature program. Connections may be located in frame plate and pressure plate.

Technical Data

Mechanical design pressure (g) / Temperature

FRM solid stainless steel	10 bar/150 °C
FRH* solid stainless steel	16 bar/150 °C
FRD solid stainless steel	21 bar/150 °C
RM cladded stainless steel	10 bar/150 °C
RH cladded stainless steel	16 bar/150 °C
RD cladded stainless steel	21 bar/150 °C
RMS surface coated	10 bar/150 °C
RHS surface coated	16 bar/150 °C

Complies with the European Pressure equipment Directive (PED). May carry the CE mark depending on the design conditions. Complies with Alfa Laval Sound Engineering Standard (ALS).

* Not applicable for Front 15

Connections

DIN, SMS, Tri-CLAMP, B.S./RJT and IDF/ISO male parts. Others on request



Standard Materials

Frame

Frame and pressure plate in solid or cladded stainless steel or surface coated. All wetted parts in acid proof stainless steel. Other surfaces in various grades of stainless steel. Movable nuts on tightening bolts in chromium plated brass.

Plate Types

Front6, Front8, Front10 and Front15.

Other plates of the FrontLine™ series are the WideStream® and Gemini plates.

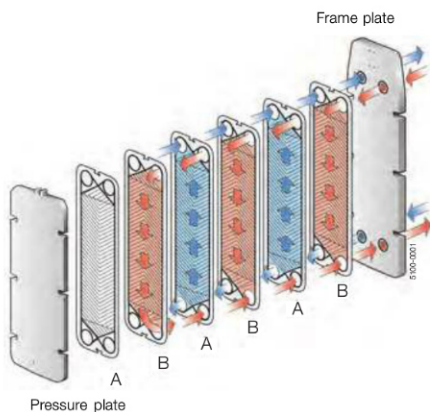
Plates

Stainless steel AISI 316 or Titanium

Gaskets

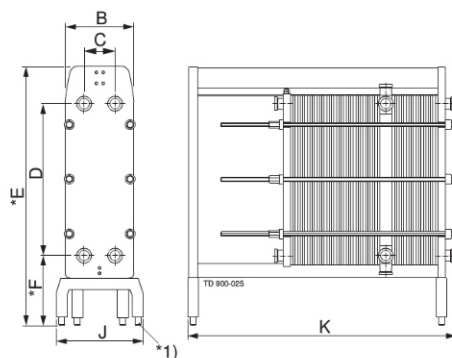
Nitrile-FDA or EPDM-FDA.

The FrontLine™ plates are supplied with glue-free Clip-On gaskets, which are easy to replace even with the plates still hanging in the frame. The material of gaskets are selected for safe use in connection with pharmaceutical and food products.



Flow principle of FrontLine plate heat exchanger

Dimensions



	Front 6	Front 8	Front 10	Front 15
Measurements [mm]				
B	370	492	670	803
C	129	220	324	400
D	859	1,095	1,324	1,524
E*	1,420	1,850	2,167	2,605
F*	400	500	500	700
J	520	670	850	970
K* min	1,000	1,440	1,400	1,588
K* max	2,500	3,860	5,000	6,400

* Variable dimension depending on various components.

1) Adjustable feet \pm 40 mm

Connection [mm]				
Diameter	51	76	76/101.6	101.6/150
Capacity [l/h]				
Pasteurization	15,000	35,000	65,000	100,000
Heating/Cooling	15,000	35,000	65,000	150,000
Water	30,000	75,000	130,000	200,000
Plates				
Plate pattern	Chevron	Chevron	Chevron	Chevron
Surface [m ²]	0.18	0.38	0.62	0.91
Overall dim. [mm]	1,000 x 250	1,250 x 375	1,500 x 500	1,750 x 625
Port dim. [mm]	55	80	105	150
Thickness [mm]	0.5/0.6/0.7	0.5/0.6/0.7	0.5/0.6/0.7	0.5/0.6/0.7

Overall length varies depending on numbers of plates and connecting plates. Recommended free space around the unit is 1.5 meter at sides and frame head end.