Alfa Laval TL3

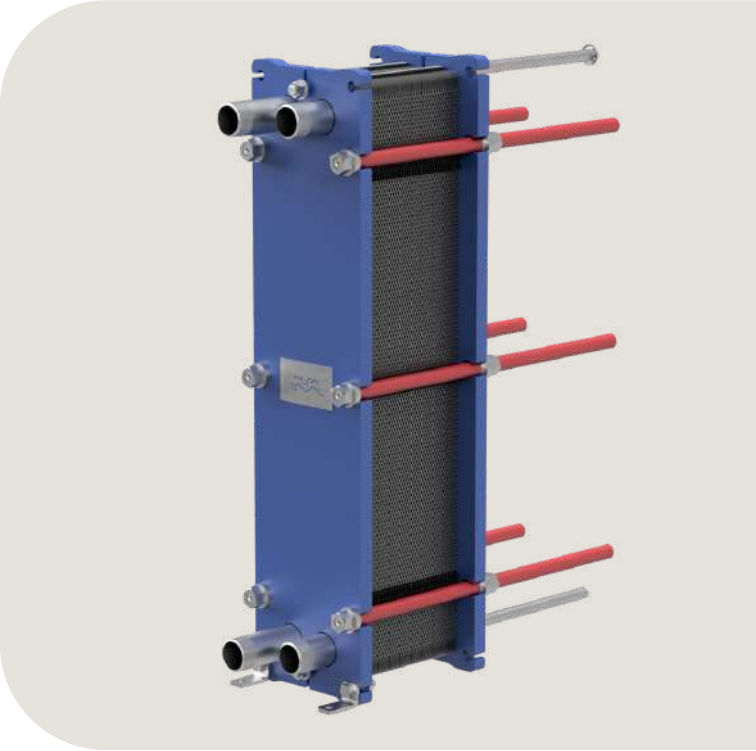
Gasketed plate heat exchanger for a wide range of applications

Introduction

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

The relatively tall plate makes this model suitable for duties with long temperature programs and when high heat recovery is appreciated. A large range of plate and gasket types is available.

In addition to normal single plate configuration, this model is also available with double wall plates. Double wall plates are used as an extra precaution to avoid intermixing of fluids.



Applications

- Biotech and Pharmaceutical
- Chemicals
- Energy and Utilities
- Food, Dairy and Beverages
- Home and Personal care
- HVAC and Refrigeration
- Machinery and Manufacturing
- Marine and Transportation
- Mining, Minerals and Pigments
- Pulp and Paper
- Semiconductor and Electronics
- Steel
- Water and Waste treatment

Benefits

- High energy efficiency – low operating cost
- Flexible configuration – heat transfer area can be modified
- Easy to install – compact design
- High serviceability – easy to open for inspection and cleaning and easy to clean by CIP
- Access to Alfa Laval's global service network

Features

Every detail is carefully designed to ensure optimal performance, maximum uptime and easy maintenance. Selection of available features, depending on configuration some features may not be applicable:

- Corner guided alignment system
- Clip-on gasket
- Offset gasket groove
- Leak chamber
- Fixed bolt head
- Key hole bolt opening
- Lifting lug
- Lining
- Lock washer
- Tightening bolt cover

Alfa Laval 360° Service Portfolio

Our extensive service offering ensure top performance from your Alfa Laval equipment throughout its life cycle. The Alfa Laval 360 Service Portfolio include installation services, cleaning and repair as well as spare parts, technical documentation and trouble shooting. We also offer replacement, retrofit, integrity testing, monitoring and much more.

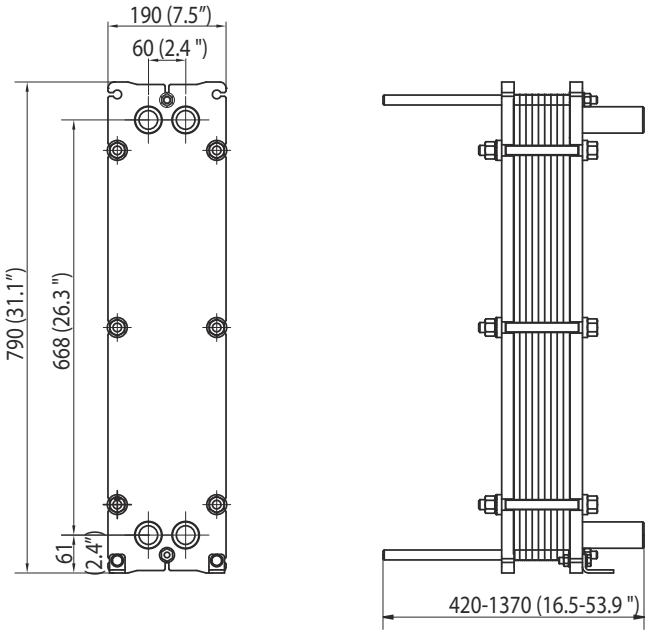
For information about our complete service offering and how to contact us - please visit www.alfalaval.com/service.

General remarks for technical information

- The global offering presented in this leaflet may not be available for all regions
- All combinations may not be configurable

Dimensional drawing

Measurements mm (inches)



Technical data

Plates	Type	Free channel, mm (inches)
B	Single plate	1.8 (0.07)
P	Single plate	3.0 (0.12)
BD	Double wall plate	1.8 (0.07)

Materials	
Heat transfer plates	304/304L, 316/316L, 254 Ti
Field gaskets	NBR, EPDM, FKM
Pipe connections	Stainless steel, titanium
Frame and pressure plate	Carbon steel, epoxy painted

Other materials may be available on request.

Operational data

Frame type	Max. design pressure barg (psig)	Max. design temperature °C (°F)
FG, pvcALS	16.0 (232)	180 (356)
FG, ASME	10.3 (150)	180 (356)
FG, PED	16.0 (232)	180 (356)

Extended pressure and temperature rating may be available on request.

Pipe connections

Connection type	Connection standard
Threaded port	ISO 228 - G 1 1/4
External tapered threaded	ISO 7 - R 1 1/4 1 1/4 - 11.5 NPT

Other connection types may be available on request.

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

Alfa Laval TL6

Gasketed plate heat exchanger for a wide range of applications

Introduction

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

The relatively tall plate makes this model suitable for duties with long temperature programs and when high heat recovery is appreciated. A large range of plate and gasket types is available.

Applications

- Biotech and Pharmaceutical
- Chemicals
- Energy and Utilities
- Food, Dairy and Beverages
- Home and Personal care
- HVAC and Refrigeration
- Machinery and Manufacturing
- Marine and Transportation
- Mining, Minerals and Pigments
- Pulp and Paper
- Semiconductor and Electronics
- Steel
- Water and Waste treatment

Benefits

- High energy efficiency – low operating cost
- Flexible configuration – heat transfer area can be modified
- Easy to install – compact design
- High serviceability – easy to open for inspection and cleaning and easy to clean by CIP
- Access to Alfa Laval's global service network

Features

Every detail is carefully designed to ensure optimal performance, maximum uptime and easy maintenance. Selection of available features, depending on configuration some features may not be applicable:

- Corner guided alignment system
- Chocolate pattern distribution area
- Clip-on gasket
- Offset gasket groove
- Leak chamber
- Compact frame
- Fixed bolt head
- Key hole bolt opening
- Lifting lug
- Lining
- Lock washer
- Tightening bolt cover

Alfa Laval 360° Service Portfolio

Our extensive service offering ensure top performance from your Alfa Laval equipment throughout its life cycle. The Alfa Laval 360 Service Portfolio include installation services, cleaning and repair as well as spare parts, technical documentation and trouble shooting. We also offer replacement, retrofit, integrity testing, monitoring and much more.

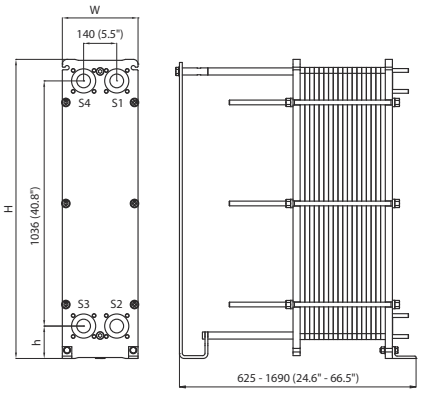
For information about our complete service offering and how to contact us - please visit www.alfalaval.com/service.

General remarks for technical information

- The global offering presented in this leaflet may not be available for all regions
- All combinations may not be configurable

Dimensional drawing

Measurements mm (inches)



Frame type	H	W	h
FM	1264 (49.8")	320 (12.6")	137 (5.4")
FG	1264 (49.8")	320 (12.6")	137 (5.4")
FG, ASME	1299 (51.1")	320 (12.6")	142 (5.6")
FD	1264 (49.8")	330 (13.0")	137 (5.4")
FD, ASME	1308 (51.5")	330 (13.0")	142 (5.6")

The number of tightening bolts may vary depending on pressure rating.

Technical data

Plates	Type	Free channel, mm (inches)
B	Single plate	1.8 (0.071)

Materials	
Heat transfer plates	304, 316, Ni Ti
Field gaskets	NBR, EPDM, FKM, HeatSeal
Flange connections	Carbon steel Metal lined: stainless steel, titanium Rubber lined: NBR, EPDM
Pipe connections	Stainless steel
Frame and pressure plate	Carbon steel, epoxy painted

Other materials may be available on request.

Operational data

Frame type	Max. design pressure barg (psig)	Max. design temperature °C (°F)
FM, PED	10.0 (145)	180 (356)
FM, pvcALS	10.0 (145)	180 (356)
FG, pvcALS	16.0 (232)	180 (356)
FG, ASME	10.3 (150)	250 (482)
FG, PED	16.0 (232)	180 (356)
FD, pvcALS	25.0 (362)	180 (356)
FD, ASME	20.7 (300)	250 (482)
FD, PED	25.0 (362)	180 (356)

Extended pressure and temperature rating may be available on request.

Flange connections

Frame type	Connection standard
FM, pvcALS	EN 1092-1 DN50 PN16 EN 1092-1 DN65 PN16 ASME B16.5 Class 150 NPS 2 JIS B2220 10K 50A JIS B2220 10K 65A
FM, PED	EN 1092-1 DN50 PN16 EN 1092-1 DN65 PN16 ASME B16.5 Class 150 NPS 2
FG, pvcALS	EN 1092-1 DN50 PN16 EN 1092-1 DN65 PN16 ASME B16.5 Class 150 NPS 2 JIS B2220 10K 50A JIS B2220 10K 65A JIS B2220 16K 50A JIS B2220 16K 65A
FG, ASME	ASME B16.5 Class 150 NPS 2
FG, PED	EN 1092-1 DN50 PN16 EN 1092-1 DN65 PN16 ASME B16.5 Class 150 NPS 2
FD, pvcALS	EN 1092-1 DN50 PN40 EN 1092-1 DN65 PN40 ASME B16.5 Class 300 NPS 2 JIS B2220 20K 50A JIS B2220 20K 65A
FD, ASME	ASME B16.5 Class 300 NPS 2 (Rectangular Loose Flange)
FD, PED	EN 1092-1 DN50 PN40 EN 1092-1 DN65 PN40 ASME B16.5 Class 300 NPS 2 (Rectangular Loose Flange)

Standard EN1092-1 corresponds to GOST 12815-80 and GB/T9124.1.

Pipe connections

Connection type	Connection standard
Threaded port	ISO 228 - G 2
External parallel threaded	ISO 228 - G 2 B
External tapered threaded	ISO 7 - R 2
Radial grooved pipe	NPS 2
External thread	2 - 11.5 NPT

Other connection types may be available on request.

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

Alfa Laval TL10

Gasketed plate heat exchanger for a wide range of applications

Introduction

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

The relatively tall plate makes this model suitable for duties with long temperature programs and when high heat recovery is appreciated. A large range of plate and gasket types is available.

Applications

- Biotech and Pharmaceutical
- Chemicals
- Energy and Utilities
- Food, Dairy and Beverages
- Home and Personal care
- HVAC and Refrigeration
- Machinery and Manufacturing
- Marine and Transportation
- Mining, Minerals and Pigments
- Pulp and Paper
- Semiconductor and Electronics
- Steel
- Water and Waste treatment

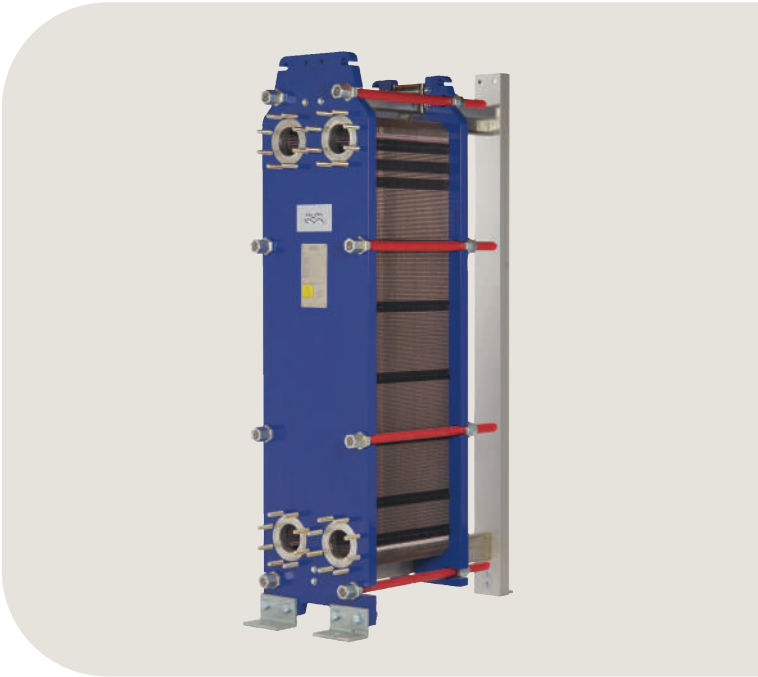
Benefits

- High energy efficiency – low operating cost
- Flexible configuration – heat transfer area can be modified
- Easy to install – compact design
- High serviceability – easy to open for inspection and cleaning and easy to clean by CIP
- Access to Alfa Laval's global service network

Features

Every detail is carefully designed to ensure optimal performance, maximum uptime and easy maintenance. Selection of available features, depending on configuration some features may not be applicable:

- Five-point alignment
- Corner guided alignment system
- Chocolate pattern distribution area
- Glued gasket
- Clip-on gasket
- Offset gasket groove



- Leak chamber
- Fixed bolt head
- Key hole bolt opening
- Lifting lug
- Lining
- Lock washer
- Pressure plate roller
- Tightening bolt cover

Alfa Laval 360° Service Portfolio

Our extensive service offering ensure top performance from your Alfa Laval equipment throughout its life cycle. The Alfa Laval 360 Service Portfolio include installation services, cleaning and repair as well as spare parts, technical documentation and trouble shooting. We also offer replacement, retrofit, integrity testing, monitoring and much more.

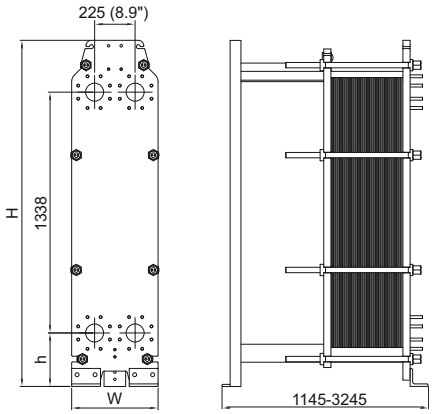
For information about our complete service offering and how to contact us - please visit www.alfalaval.com/service.

General remarks for technical information

- The global offering presented in this leaflet may not be available for all regions
- All combinations may not be configurable

Dimensional drawing

Measurements mm (inches)



Frame type	H	W	h
FM	1885 (74.2")	480 (18.9")	255 (10.0")
FG	1981 (78.0")	480 (18.9")	297 (11.7")
FD	1981 (78.0")	480 (18.9")	297 (11.7")
FS	1981 (78.0")	510 (20.1")	297 (11.7")

The number of tightening bolts may vary depending on pressure rating.

Technical data

Plates	Type	Free channel, mm (inches)
B	Single plate	2.0 (0.079)
P	Single plate	3.0 (0.12)

Materials	
Heat transfer plates	304/304L, 316/316L, 254 Alloy C276 Ni, Ti, TiPd
Field gaskets	NBR, EPDM, FKM, HeatSeal
Flange connections	Carbon steel Metal lined: stainless steel, Alloy 254, Alloy C276, nickel, titanium Rubber lined: NBR, EPDM
Frame and pressure plate	Carbon steel, epoxy painted

Other materials may be available on request.

Operational data

Frame type	Max. design pressure barg (psig)	Max. design temperature °C (°F)
FM, PED		
FM, pvcALS	10.0 (145)	180 (356)
FG, pvcALS	16.0 (232)	180 (356)
FG, ASME	10.3 (150)	250 (482)
FG, PED	16.0 (232)	180 (356)
FD, pvcALS	24.5 (355)	180 (356)
FD, PED	25.0 (362)	180 (356)
FS, ASME	27.6 (400)	250 (482)

Extended pressure and temperature rating may be available on request.

Flange connections

Frame type	Connection standard
FM, pvcALS	EN 1092-1 DN100 PN10 ASME B16.5 Class 150 NPS 4 JIS B2220 10K 100A
FG, pvcALS	EN 1092-1 DN100 PN16 ASME B16.5 Class 150 NPS 4 JIS B2220 16K 100A
FG, Marine [1]	
FG, ASME	ASME B16.5 Class 150 NPS 4
FG, PED	EN 1092-1 DN100 PN16 ASME B16.5 Class 150 NPS 4
FD, pvcALS	EN 1092-1 DN100 PN25 ASME B16.5 Class 150 NPS 4 JIS B2220 20K 100A
FD, PED	EN 1092-1 DN100 PN25 ASME B16.5 Class 300 NPS 4 Special squared flange
FS, ASME	Special squared flange

[1] Marine includes the standards: ABS, BV, CCS, DNV, ClassNK, KR, LR, RINA, and RMRS.

Standard EN1092-1 corresponds to GOST 12815-80 and GB/T9124.1.

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

Alfa Laval TL15

Gasketed plate heat exchanger for a wide range of applications

Introduction

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

The relatively tall plate makes this model suitable for duties with long temperature programs and when high heat recovery is appreciated. A large range of plate and gasket types is available.

Applications

- Biotech and Pharmaceutical
- Chemicals
- Energy and Utilities
- Food, Dairy and Beverages
- Home and Personal care
- HVAC and Refrigeration
- Machinery and Manufacturing
- Marine and Transportation
- Mining, Minerals and Pigments
- Pulp and Paper
- Semiconductor and Electronics
- Steel
- Water and Waste treatment

Benefits

- High energy efficiency – low operating cost
- Flexible configuration – heat transfer area can be modified
- Easy to install – compact design
- High serviceability – easy to open for inspection and cleaning and easy to clean by CIP
- Access to Alfa Laval's global service network

Features

Every detail is carefully designed to ensure optimal performance, maximum uptime and easy maintenance. Selection of available features, depending on configuration some features may not be applicable:

- Five-point alignment
- Corner guided alignment system
- Chocolate pattern distribution area
- Clip-ad gasket
- Offset gasket groove
- Leak chamber
- Bearing boxes
- Fixed bolt head
- Key hole bolt opening
- Lifting lug
- Lining
- Lock washer
- Pressure plate roller
- Tightening bolt cover

Alfa Laval 360° Service Portfolio

Our extensive service offering ensure top performance from your Alfa Laval equipment throughout its life cycle. The Alfa Laval 360 Service Portfolio include installation services, cleaning and repair as well as spare parts, technical documentation and trouble shooting. We also offer replacement, retrofit, integrity testing, monitoring and much more.

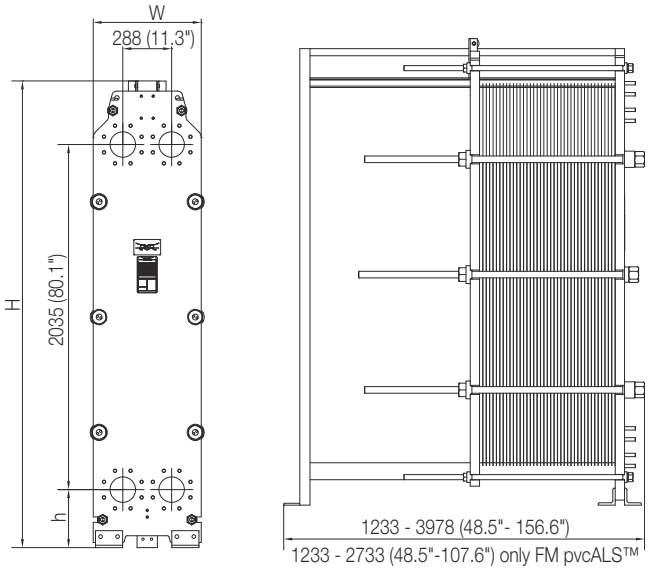
For information about our complete service offering and how to contact us - please visit www.alfalaval.com/service.

General remarks for technical information

- The global offering presented in this leaflet may not be available for all regions
- All combinations may not be configurable

Dimensional drawing

Measurements mm (inches)



Frame type	H	W	h
FM	2752 (108.3")	610 (24.0")	342 (13.5")
FG	2752 (108.3")	637 (25.1")	342 (13.5")
FG, ASME	2752 (108.3")	646 (25.4")	342 (13.5")
FD, ASME	2752 (108.3")	646 (25.4")	342 (13.5")
FG	2752 (108.3")	646 (25.4")	342 (13.5")
FS, ASME	2752 (108.3")	646 (25.4")	342 (13.5")

Technical data

Plates	Type	Free channel, mm (inches)
B	Single plate	1.9 (0.075)

Materials	
Heat transfer plates	304/304L, 316/316L Ti
Field gaskets	NBR, EPDM, HNBR
Flange connections	Carbon steel Metal lined: stainless steel, titanium Rubber lined: NBR, EPDM
Frame and pressure plate	Carbon steel, epoxy painted

Other materials may be available on request.

Operational data

Frame type	Max. design pressure barg (psig)	Max. design temperature °C (°F)
FM, PED		
FM, pvcALS	10.0 (145)	180 (356)
FG, pvcALS	20.0 (290)	200 (392)
FG, ASME	10.3 (150)	250 (482)
FG, PED	20.0 (290)	200 (392)
FD, ASME	20.7 (300)	250 (482)
FS, pvcALS	35.0 (507)	200 (392)
FS, ASME	31.7 (460)	250 (482)
FS, PED	35.0 (507)	200 (392)

Extended pressure and temperature rating may be available on request.

Flange connections

Frame type	Connection standard
FM, pvcALS	EN 1092-1 DN150 PN10 ASME B16.5 Class 150 NPS 6 JIS B2220 10K 150A
FG, pvcALS	EN 1092-1 DN150 PN16 EN 1092-1 DN150 PN25 ASME B16.5 Class 150 NPS 6 JIS B2220 10K 150A JIS B2220 16K 150A
FG, ASME	ASME B16.5 Class 150 NPS 6
FG, PED	EN 1092-1 DN150 PN16 EN 1092-1 DN150 PN25 ASME B16.5 Class 150 NPS 6
FD, ASME	ASME B16.5 Class 300 NPS 6
FS, pvcALS	EN 1092-1 DN150 PN25 EN 1092-1 DN150 PN40 ASME B16.5 Class 400 NPS 6 JIS B2220 10K 150A JIS B2220 20K 150A
FS, ASME	ASME B16.5 Class 400 NPS 6
FS, PED	EN 1092-1 DN150 PN25 EN 1092-1 DN150 PN40 ASME B16.5 Class 400 NPS 6

Standard EN1092-1 corresponds to GOST 12815-80 and GB/T9124.1.

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

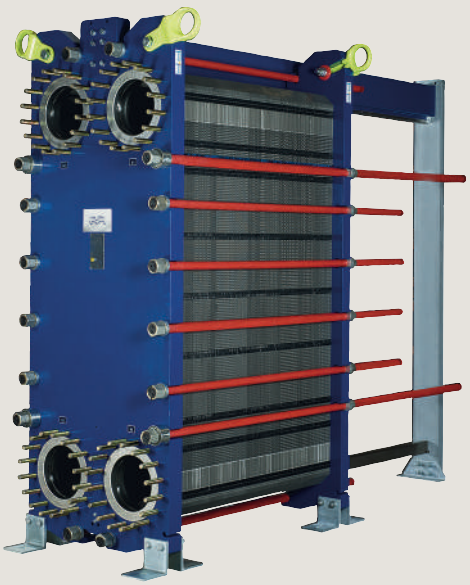
Alfa Laval TL35

Gasketed plate heat exchanger for a wide range of applications

Introduction

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

The relatively tall plate makes this model suitable for duties with long temperature programs and when high heat recovery is appreciated. A large range of plate and gasket types is available.



Applications

- Biotech and Pharmaceutical
- Chemicals
- Energy and Utilities
- Food, Dairy and Beverages
- Home and Personal care
- HVAC and Refrigeration
- Machinery and Manufacturing
- Marine and Transportation
- Mining, Minerals and Pigments
- Pulp and Paper
- Semiconductor and Electronics
- Steel
- Water and Waste treatment

Benefits

- High energy efficiency – low operating cost
- Flexible configuration – heat transfer area can be modified
- Easy to install – compact design
- High serviceability – easy to open for inspection and cleaning and easy to clean by CIP
- Access to Alfa Laval's global service network

Features

Every detail is carefully designed to ensure optimal performance, maximum uptime and easy maintenance. Selection of available features, depending on configuration some features may not be applicable:

- Five-point alignment
- Reinforced hanger
- Chocolate pattern distribution area
- T-bar roller
- Glued gasket
- Clip-on gasket
- Offset gasket groove
- Leak chamber
- Bearing boxes
- Fixed bolt head
- Key hole bolt opening
- Lifting lug
- Lining
- Lock washer
- Tightening bolt cover

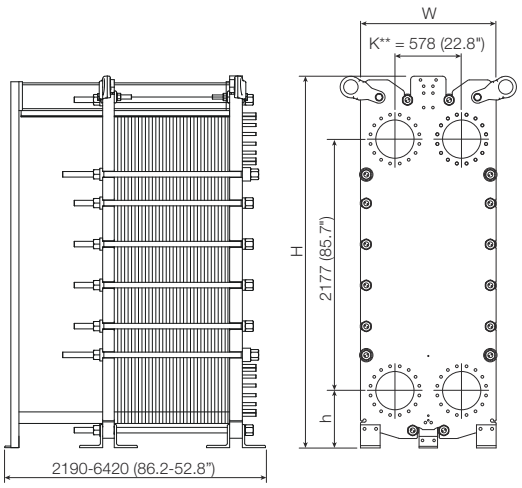
Alfa Laval 360° Service Portfolio

Our extensive service offering ensure top performance from your Alfa Laval equipment throughout its life cycle. The Alfa Laval 360 Service Portfolio include installation services, cleaning and repair as well as spare parts, technical documentation and trouble shooting. We also offer replacement, retrofit, integrity testing, monitoring and much more.

For information about our complete service offering and how to contact us - please visit www.alfalaval.com/service.

Dimensional drawing

Measurements mm (inches)



Frame type	H	W	h
FM	3210 (126.4")	1154 (45.4")	488 (19.2")
FG	3210 (126.4")	1154 (45.4")	488 (19.2")
FD	3218 (126.7")	1174 (46.2")	496 (19.5")
FS	3218 (126.7")	1174 (46.2")	496 (19.5")

K** = 578 mm (22.8") except for following		
584 (23.0")	FS PED	Size 350 DN40
589 (23.2")	FD PED, pvcALS, ASME	Size 14" ASME class 300
589 (23.2")	FS PED, ASME	Size 14" ASME class 300 or 400

The number of tightening bolts may vary depending on pressure rating.

Technical data

Plates	Type	Free channel, mm (inches)
B	Single plate	2.5 (0.098)

Materials	
Heat transfer plates	304/304L, 316/316L, 254, D205, Ni Alloy C276 Ti
Field gaskets	NBR, EPDM, FKM, HeatSeal
Flange connections	Carbon steel Metal lined: stainless steel, Alloy C-276, titanium
Frame and pressure plate	Carbon steel, epoxy painted

Other materials may be available on request.

Operational data

Frame type	Max. design pressure barg (psig)	Max. design temperature °C (°F)
FM, PED	10.0 (145)	180 (356)
FM, pvcALS	10.0 (145)	180 (356)
FM, ASME	6.9 (100)	177 (350)
FG, pvcALS	16.0 (232)	180 (356)
FG, ASME	10.3 (150)	177 (350)
FG, PED	16.0 (232)	180 (356)
FD, pvcALS	25.0 (362)	160 (320)
FD, ASME	20.7 (300)	177 (350)
FD, PED	25.0 (362)	180 (356)
FS, ASME	27.6 (400)	177 (350)
FS, PED	30.0 (435)	180 (356)
FT, PED		

Extended pressure and temperature rating may be available on request.

General remarks for technical information

- The global offering presented in this leaflet may not be available for all regions
- All combinations may not be configurable

Flange connections

Frame type	Connection standard
FM, pvcALS	EN 1092-1 DN300 PN10 EN 1092-1 DN350 PN10 ASME B16.5 Class 150 NPS 12 ASME B16.5 Class 150 NPS 14 JIS B2220 10K 300A JIS B2220 10K 350A
FM, ASME	ASME B16.5 Class 150 NPS 12 ASME B16.5 Class 150 NPS 14
FM, PED	EN 1092-1 DN300 PN10 EN 1092-1 DN350 PN10 ASME B16.5 Class 150 NPS 12 ASME B16.5 Class 150 NPS 14
FG, pvcALS	EN 1092-1 DN300 PN16 EN 1092-1 DN350 PN16 ASME B16.5 Class 150 NPS 12 ASME B16.5 Class 150 NPS 14 JIS B2220 16K 300A JIS B2220 16K 350A
FG, Marine [1]	
FG, ASME	ASME B16.5 Class 150 NPS 12 ASME B16.5 Class 150 NPS 14
FG, PED	EN 1092-1 DN300 PN16 EN 1092-1 DN350 PN16 ASME B16.5 Class 150 NPS 12 ASME B16.5 Class 150 NPS 14
FD, pvcALS	EN 1092-1 DN300 PN25 EN 1092-1 DN350 PN25 ASME B16.5 Class 300 NPS 12 ASME B16.5 Class 300 NPS 14 JIS B2220 20K 300A JIS B2220 20K 350A
FD, ASME	ASME B16.5 Class 300 NPS 12 ASME B16.5 Class 300 NPS 14
FDc, ASME	
FD, PED	EN 1092-1 DN300 PN25 EN 1092-1 DN350 PN25 ASME B16.5 Class 300 NPS 12 ASME B16.5 Class 300 NPS 14
FS, ASME	ASME B16.5 Class 300 NPS 12 ASME B16.5 Class 300 NPS 14 ASME B16.5 Class 400 NPS 12 ASME B16.5 Class 400 NPS 14
FS, PED	EN 1092-1 DN300 PN25 EN 1092-1 DN350 PN25 EN 1092-1 DN300 PN40 EN 1092-1 DN350 PN40 ASME B16.5 Class 300 NPS 12 ASME B16.5 Class 300 NPS 14 ASME B16.5 Class 400 NPS 12 ASME B16.5 Class 400 NPS 14

[1] Marine includes the standards: ABS, BV, CCS, DNV, ClassNK, KR, LR, RINA, and RMRS.

Standard EN1092-1 corresponds to GOST 12815-80 and GB/T9124.1.