



Alfa Laval Filter (ALF)

Filtration for cooling systems using low-quality water

Introduction

The Alfa Laval Filter (ALF) is an automatic self-cleaning filter which is designed to maintain the thermal performance of plate heat exchangers and tubular condensers. It is used in various industries where cooling systems use low-quality water. The filter removes undesirable particles, marine life, and debris and protects plate heat exchangers from clogging, fouling and corrosion. The heat transfer surface is secured using the ALF, which reduces energy consumption and CO₂ emissions. Additionally, the risk of unplanned downtime is decreased and service intervals of downstream equipment are prolonged.

Applications

- Petrochemical
- Data centers
- Marine
- Power generation
- HVAC
- Steel
- Energy and Utilities
- Food and Beverages
- Pulp and Paper
- Water and Waste treatment
- Mining, Minerals and Pigments

Benefits

- Compact and robust design
- Proven and reliable technology
- Protection against clogging and fouling of downstream equipment
- Automatic backflush of filtered debris without interrupting the filtering process
- Easy installation and low maintenance
- High filtering capacity with low pressure drop
- Customizable product to meet customer needs
- High serviceability

Design and standard configuration

The ALF is designed to be placed directly in the pipe system in almost any position, horizontally or vertically. The filter can be regenerated at regular intervals without interrupting the filtering process. The regeneration process can be started either automatically or manually from a control panel, which can be installed close to the filter. The service opening is placed on the opposite side of the inlet, providing easy service



access with no need to remove the filter from the pipe connection.

Energy efficiency is in our DNA

Up to 2.5% of the world's CO₂ emissions could be prevented if heat exchangers performed optimally. For information about how we accelerate our hunt for waste energy and help you save energy today, visit www.alfalaval.com/energyhunter.

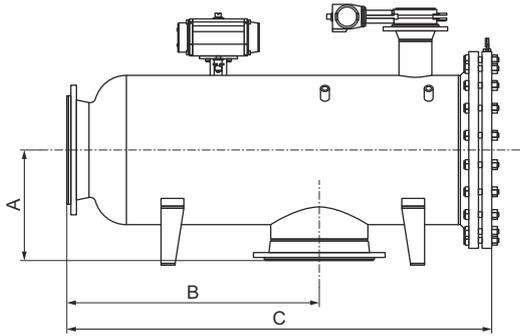
Alfa Laval 360° Service Portfolio

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



ALF type/ Design code	Size	A mm (in)	B mm (in)	C mm (in)
ALF-B/ EN13445	ALF 10B	146 (5.7)	411 (16.2)	696 (27.4)
	ALF 15B	210 (8.3)	567 (22.3)	948 (37.3)
	ALF 20B	277 (10.9)	649 (25.6)	1107 (43.6)
ALF-P/ EN13121	ALF 30B	375 (14.8)	852 (33.5)	1454 (57.2)
	ALF 10P	250 (9.8)	530 (20.9)	881 (34.7)
	ALF 15P	300 (11.8)	685 (27.0)	1155 (45.5)
ALF-R/ EN13445	ALF 20P	350 (13.8)	840 (33.1)	1450 (57.1)
	ALF 30P	520 (20.5)	1130 (44.5)	1872 (73.7)
	ALF 40P	570 (22.4)	1150 (45.3)	2112 (83.1)
ALF-S/ EN13445	ALF 20R	325 (12.8)	720 (28.3)	1230 (48.4)
	ALF 30R	425 (16.7)	950 (37.4)	1606 (63.2)
	ALF 40R	500 (19.7)	1150 (45.3)	1961 (77.2)
ASME VIII, div. 1	ALF 50R	600 (23.6)	1400 (55.1)	2370 (93.3)
	ALF 60R	700 (27.6)	1650 (65.0)	2595 (102.2)
	ALF 80R	905 (35.6)	2082 (82.0)	3728 (146.8)
ASME VIII, div. 1	ALF 10S	175 (6.9)	450 (17.7)	740 (29.1)
	ALF 15S	250 (9.8)	595 (23.4)	978 (38.5)
	ALF 20S	300 (11.8)	720 (28.3)	1230 (48.4)
	ALF 30S	400 (15.7)	950 (37.4)	1612 (63.5)

Dimensions may vary depending on the flange connection type and whether the orientation of the filter is vertical or horizontal.

ASME U-designator available on request.

Technical data

Materials		
Filter body	ALF-B	Rubber-lined carbon steel EN P355GH/ASTM A516 Gr70 or equivalent
	ALF-P	Fiberglass reinforced polyester (FRP)
	ALF-R	Rubber-lined carbon steel EN P265GH/ASTM A516 Gr60
	ALF-S	Stainless Steel EN 1.4404/ASTM 316L
Basket	Perforated plate	Stainless steel, Super stainless steel (SMO), Titanium
	Wedge wire	Stainless steel, Duplex, Super Duplex

Filtration rating	Mesh size mm (in)
Perforated plate design	1.0, 1.5, 2.0, 2.5
	(0.04, 0.06, 0.08, 0.1)
Wedge wire design	0.1, 0.3, 0.5, 1.0
	(0.004, 0.01, 0.02, 0.04)

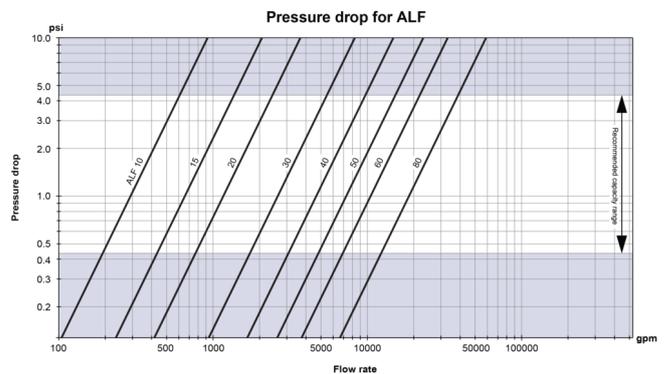
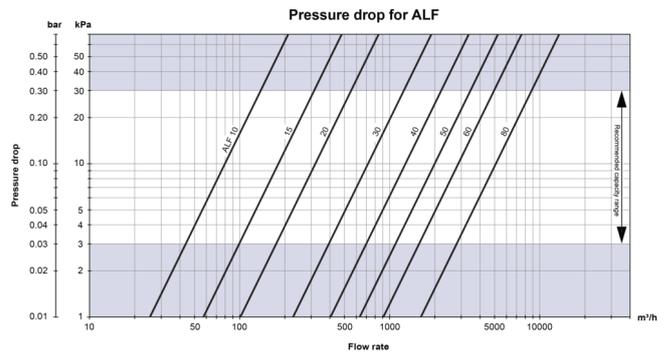
Control panel	
Power supply	110–240 VAC, 50–60 Hz, 1 phase, 16 A max
Control Voltage	24 VDC
Actuators operation	Pneumatic / Electric
Protection class	IP65
Filters controlled	1 to 4

ATEX certification available on request.

Operational data

ALF type	Max. design pressure barg (psig)	Max. design temperature °C (°F)
ALF-B	10 (150)	65.0 (149.0)
ALF-P	10 (150)	50.0 (122.0)
ALF-R	10 (150)	65.0 (149.0)
ALF-S	10 (150)	65.0 (149.0)

ALF size	Min. flow rate m ³ /h (gpm)	Max. flow rate m ³ /h (gpm)
ALF-10	45 (198)	140 (616)
ALF-15	100 (440)	310 (1364)
ALF-20	180 (792)	550 (2420)
ALF-30	400 (1760)	1240 (5456)
ALF-40	700 (3080)	2210 (9724)
ALF-50	1110 (4840)	3450 (15180)
ALF-60	1600 (7040)	5000 (22000)
ALF-80	2800 (12320)	8840 (38896)



Recommended pressure drop and capacity range.

Extended pressure and temperature design available on request.

Connections

ALF type	Connection standard	Size main inlet-outlet DN mm (NPS in)
ALF-B	EN1092-1 type 11 PN10	100–300 (4-12)
ALF-P	EN1092-1 type 11 PN10	100–400 (4-16)
	ASME B16.5, Class 150	
ALF-R	EN1092-1 type 11 PN10	200–800 (8-32)
	ASME B16.5, Class 150	
ALF-S	ASME B16.47, Series B Class 150	100–300 (4-12)
	EN1092-1 type 02 PN10	
	ASME B16.5, Class 150	

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