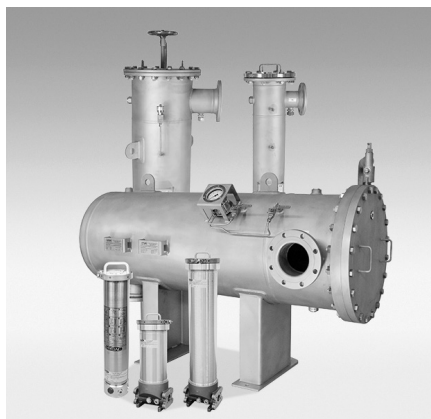




Description

The Low Viscosity Housing Filter LVH-F is mainly used to filter low-viscosity fluids. It is especially suitable for applications with large amounts of dirt that need to be removed in just a single pass.

The Optimicron® filter elements used here ensure that both the required cleanliness and a long service life are achieved.

Available in various sizes, the filters can be optimally integrated into new or existing systems.

The filters are designed according to AD2000 regulations as standard. Sizing according to ASME is possible.

Applications

- Diesel filtration for high flow rates

Advantages

- Excellent filtration performance in a single pass
- High contamination retention capacity and low pressure losses thanks to Helios pleat geometry
- Easy to service thanks to intelligent element design
- Easy to upgrade with coalescing and separation housings in order to remove water from diesel fuel

LowViscosity Housing Filter LVH-F

Technical specifications

General data			
Sizes	110 120	115 130	140 340 440 540 840
Housing material	Aluminium	Aluminium	Stainless steel or carbon steel*
Inlet / outlet connection	G 1"	SAE DN 50 SAE DN 80 SAE DN 100	DN 50 ... 300
Maximum operating pressure	10 bar	10 bar	10 bar
Permitted temperature range	-10 ... 60 °C	-10 ... 60 °C	-10 ... 60 °C
Seal material	FKM (FPM, Viton®)	FKM (FPM, Viton®)	FKM (FPM, Viton®)
Filter elements			
Filter elements used	Optimicron® Diesel	Optimicron® Diesel	Optimicron® Diesel

* Housing finish in carbon steel as per ISO 12944 class C3

Filter calculation

Size	Maximum flow rate	Orientation	Empty weight	Housing volume
LVH-F-110	40 l/min	Vertical	≈ 5 kg	≈ 3 litres
LVH-F-120	80 l/min	Vertical	≈ 6 kg	≈ 6 litres
LVH-F-115	270 l/min	Vertical	≈ 25 kg	≈ 13 litres
LVH-F-130	500 l/min	Vertical	≈ 37 kg	≈ 25 litres
LVH-F-140	800 l/min	Vertical	≈ 90 kg	≈ 55 litres
		Horizontal	≈ 130 kg	≈ 55 litres
LVH-F-340	1200 l/min	Vertical	≈ 205 kg	≈ 210 litres
		Horizontal	≈ 245 kg	≈ 210 litres
LVH-F-440	1800 l/min	Vertical	≈ 255 kg	≈ 276 litres
		Horizontal	≈ 315 kg	≈ 276 litres
LVH-F-540	2400 l/min	Vertical	≈ 340 kg	≈ 300 litres
		Horizontal	≈ 365 kg	≈ 300 litres
LVH-F-840	3600 l/min	Vertical	≈ 410 kg	≈ 540 litres
		Horizontal	≈ 500 kg	≈ 540 litres

Preferred models (with shorter delivery times)

Size	Part no.	Model code
LVH-F-110	4090926	LVH-F-110-AV-BD-FA
LVH-F-115	4085879	LVH-F-115-AV-BN-FA
LVH-F-120	4055370	LVH-F-120-AV-BD-FA
LVH-F-130	4085880	LVH-F-130-AV-BP1-FA
LVH-F-140	3798303	LVH-F-140-EV-BR-FA
LVH-F-340	3798325	LVH-F-340-EV-BV-FA
LVH-F-440	3935524	LVH-F-440-EV-BW-FA
LVH-F-540	3932817	LVH-F-540-EV-BW-FA

Model code

LVH - F - 3 40 - E V - B V - F A / Z

Type

LVH = LowViscosity Housing

Function

F = Filter

Size

1 = 1 filter element

3 = 3 filter elements

4 = 4 filter elements

5 = 5 filter elements

8 = 8 filter elements

Filter element length

10 = 10" (for 1 filter element only)

15 = 15" (for 1 filter element only)

20 = 20" (for 1 filter element only)

30 = 30" (for 1 filter element only)

40 = 40"

Housing material

A = Aluminium (only sizes 110, 115, 120, 130)

E = Stainless steel (only sizes 140 ... 840)

C = Carbon steel (only sizes 140 ... 840)

Version

V = Vertical

VD = Vertical (switchable) (only sizes 115, 130, 140)

H = Horizontal (only sizes 140 ... 840)

Pressure range

B = 10 bar

X = Others (on request)

Hydraulic connection

	110	115	120	130	140	340	440	540	840
D = G1"	●	-	●	-	-	-	-	-	-
J = DIN DN 50	-	-	-	-	●	●	●	●	●
L = SAE DN 50	-	●	-	●	-	-	-	-	-
N = SAE DN 80	-	●	-	●	-	-	-	-	-
P1 = SAE DN 100	-	●	-	●	-	-	-	-	-
P2 = SAE DN 100	-	●/⊙	-	●/⊙	⊙	-	-	-	-
R = DIN DN 100	-	-	-	-	●	●	●	●	●
V = DIN DN 150	-	-	-	-	-	●	●	●	●
W = DIN DN 200	-	-	-	-	-	-	○	○	○
Y = DIN DN 300	-	-	-	-	-	-	-	-	○

○ = dimensions available on request

⊙ = only for VD version

Version with ANSI flanges*

	110	115	120	130	140	340	440	540	840
3 = 2"	-	-	-	-	●	●	●	●	●
4 = 3"	-	-	-	-	●	●	●	●	●
5 = 4"	-	-	-	-	●	●	●	●	●
7 = 6"	-	-	-	-	-	●	●	●	●
8 = 8"	-	-	-	-	-	-	○	○	○
9 = 10"	-	-	-	-	-	-	-	-	○

○ = dimensions available on request

* -150 must be entered under supplementary details

Seal material

F = FKM (FPM, Viton®)

Clogging indicator

A = No indicator with holder G 1/2", for differential pressure indicator 2 bar

D43 = Differential pressure gauge, visual (only sizes 140 ... 840)

D44 = Differential pressure gauge, visual/electrical (only sizes 140 ... 840)

Z = Without holder for clogging indicator (only sizes 140 ... 840)

Supplementary details

(only for sizes 140 ... 840)

Z = Manufacturer certificate M to DIN 55350 Part 18
Test certificate 3.1 to EN 10204 (material certificate)

ZA = Manufacturer certificate M to DIN 55350 Part 18
Test certificate 3.1 to EN 10204 (material certificate)
+ calculation according to ASME

150 = 150 lbs (flange pressure range; for ASME housing design)

(only for VD version)

39 = Oppositely oriented inlet and outlet

Items supplied

– LVH-F (without filter elements)

– Installation and Maintenance Instructions

Filter elements must be ordered separately and installed on site before commissioning.

Filter elements LVH-F-110

Description	Part no.
N10ON-DF003-FA41F	3917981
N10ON-DF005-FA41F	3917982
N10ON-DF010-FA41F	3917983
N10ON-DF020-FA41F	4142790

Filter elements LVH-F-115

Description	Part no.
N16ON-DF003-FA42F	4079806
N16ON-DF005-FA42F	4055369
N16ON-DF010-FA42F	4142794
N16ON-DF020-FA42F	4142845

Filter elements LVH-F-120

Description	Part no.
N20ON-DF003-FA41F	3918332
N20ON-DF005-FA41F	3918333
N20ON-DF010-FA41F	3918334
N20ON-DF020-FA41F	4142793

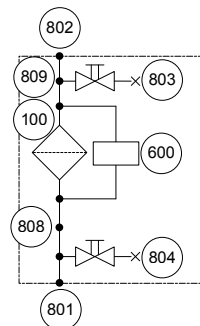
Filter elements LVH-F-130

Description	Part no.
N32ON-DF003-FA42F	4079813
N32ON-DF005-FA42F	4047853
N32ON-DF010-FA42F	4142846
N32ON-DF020-FA42F	4142847

Filter elements LVH-F-x40

Description	Part no.
N42ON-DF003-FA40F	3965085
N42ON-DF005-FA40F	3916691
N42ON-DF010-FA40F	4055947
N42ON-DF020-FA40F	4066928

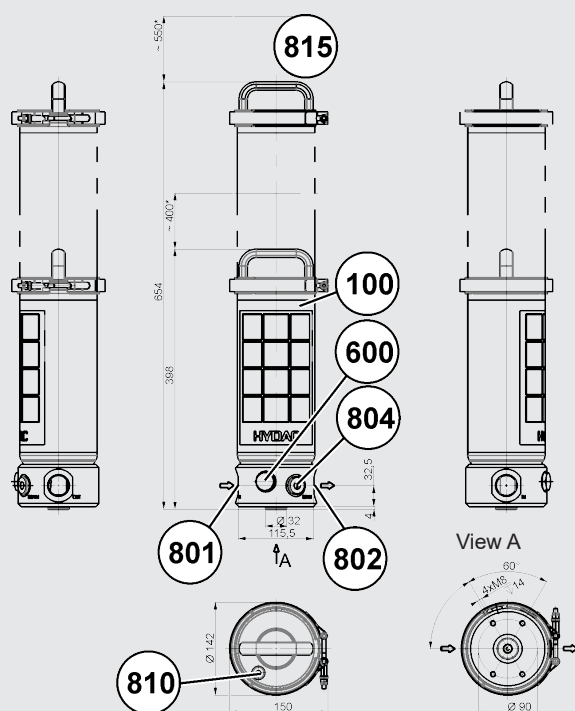
Hydraulic circuit diagram



Item	Description
100	Filter housing
600	Clogging indicator
801	Inlet (IN)
802	Outlet (OUT)
803	Drain, clean side (DRAIN)
804	Drain, contaminated side (DRAIN)
808	Measurement point (IN)
809	Measurement point (OUT)

Dimensions

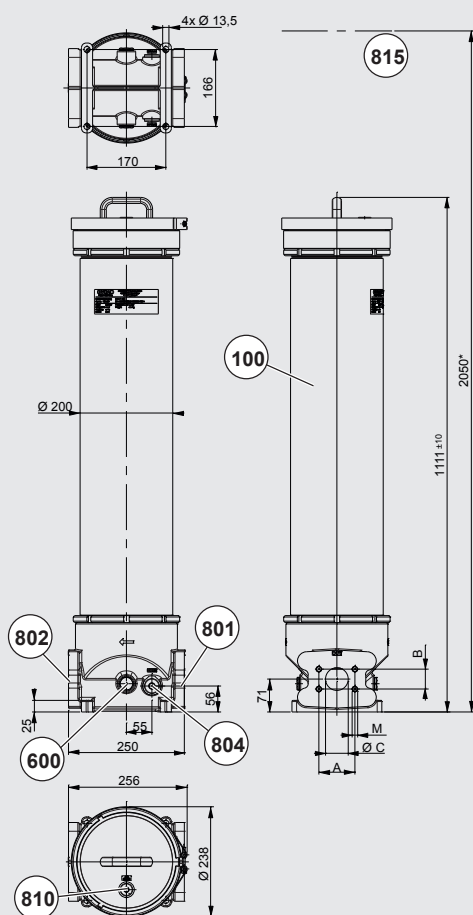
LVH-F-110-AV-Bx-xx LVH-F-120-AV-Bx-xx



All dimensions in mm

Dimensions

LVH-F-115-AV-B(L/N/P1)-xx LVH-F-130-AV-B(L/N/P1)-xx



All dimensions in mm

Legend

Item	Description
100	Filter housing
600	Clogging indicator (optional)
801	Inlet (IN)
802	Outlet (OUT)
804	Drain
810	Air bleed
815	Maintenance space for changing the filter elements

Legend

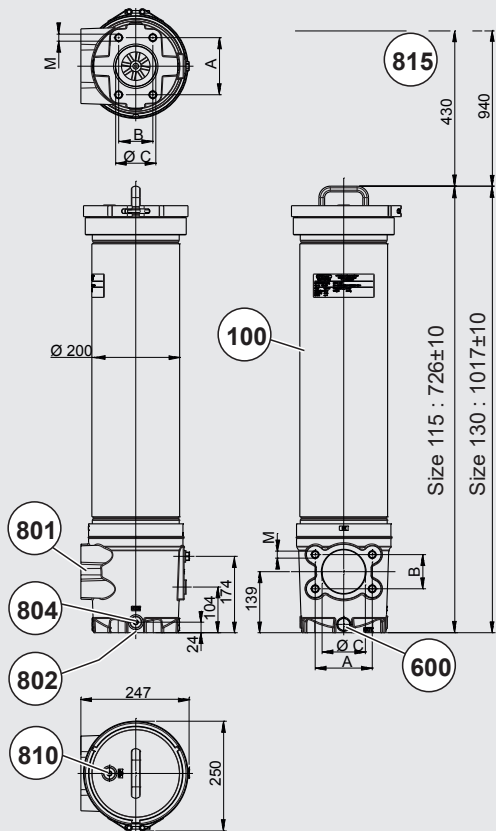
Item	Description
100	Filter housing
600	Clogging indicator (optional)
801	Inlet (IN)
802	Outlet (OUT)
804	Drain (DRAIN)
810	Air bleed
815	Maintenance space for changing the filter elements

Dimensions

	A	B	ØC	M
SAE DN50	77.8	42.9	50	M12x15
SAE DN80	106.4	62.9	75	M16x24
SAE DN100	130.2	77.8	100	M16x24

Dimensions

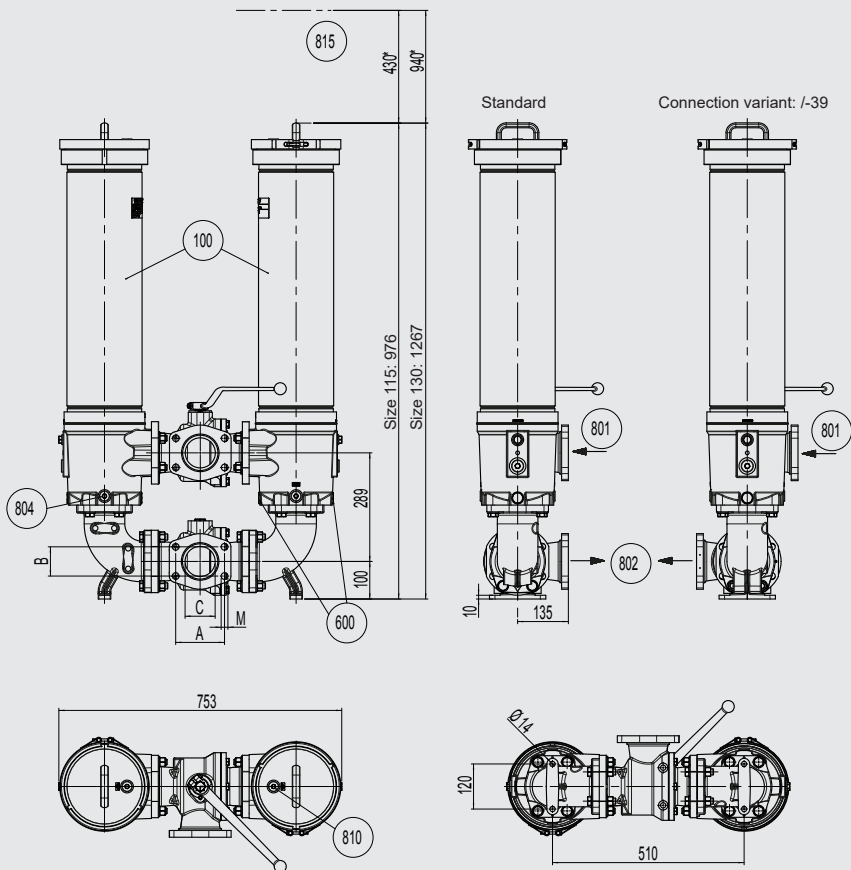
LVH-F-115-AV-BP2-xx
LVH-F-130-AV-BP2-xx



All dimensions in mm

Dimensions

LVH-F-115/130-AVD-BP2-xx



All dimensions in mm

Legend

Item	Description
100	Filter housing
600	Clogging indicator (optional)
801	Inlet (IN)
802	Outlet (OUT)
804	Drain (DRAIN)
810	Air bleed
815	Maintenance space for changing the filter elements

Dimensions

	A	B	ØC	M
SAE DN100	130.2	77.8	100	M16x24

All dimensions in mm

Legend

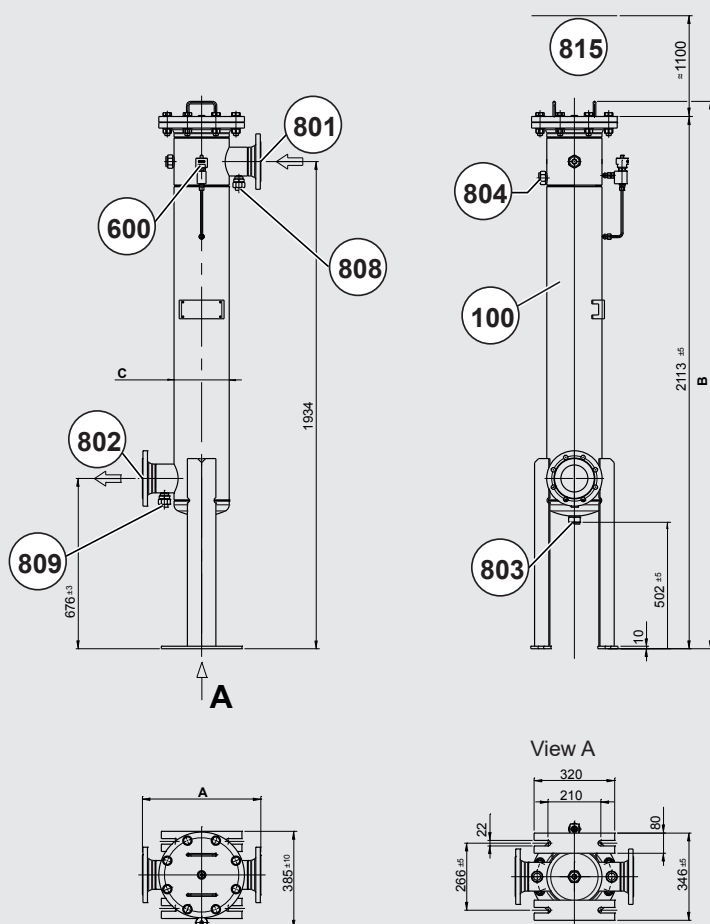
Item	Description
100	Filter housing
600	Clogging indicator (optional)
801	Inlet (IN)
802	Outlet (OUT)
804	Drain (DRAIN)
810	Air bleed
815	Maintenance space for changing the filter elements

Dimensions

	A	B	ØC	M
SAE DN100	130.2	77.8	100	M16x24

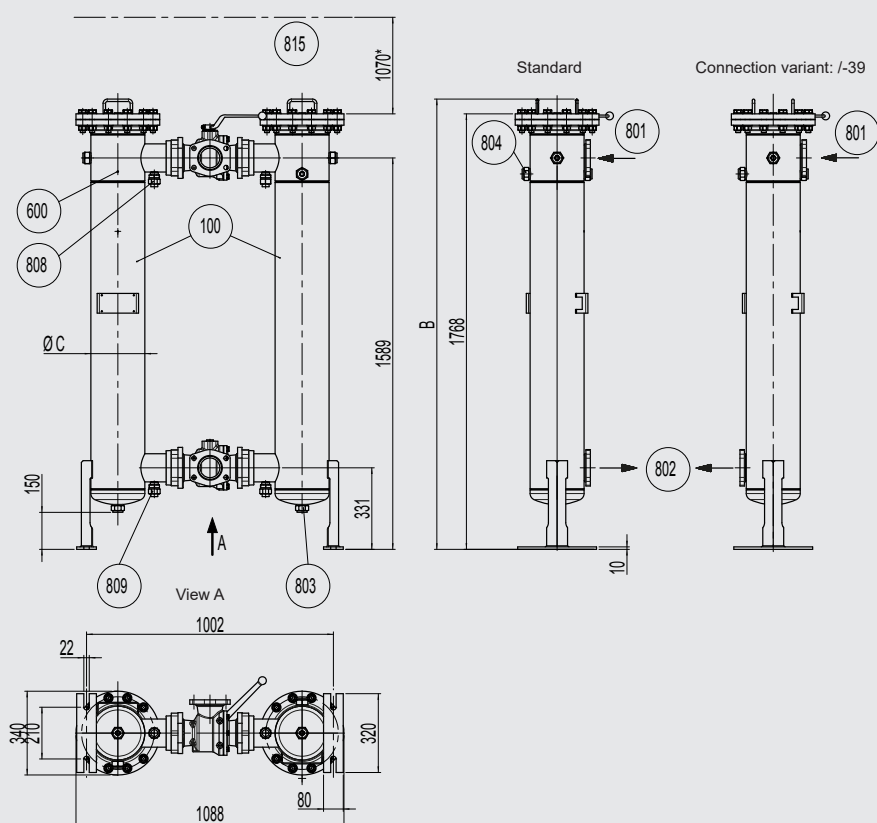
All dimensions in mm

Dimensions LVH-F-140-xV-Bx-xx



All dimensions in mm

Dimensions LVH-F-140-xVD-BP2-xx



All dimensions in mm

Legend

Item	Description
100	Filter housing
600	Clogging indicator (optional)
801	Inlet (IN)
802	Outlet (OUT)
803	Drain, clean side (DRAIN)
804	Drain, contaminated side (DRAIN)
808	Measurement point (IN)
809	Measurement point (OUT)
815	Maintenance space for changing the filter elements

Dimensions

LVH-F	A	B	C
140	470	2173	219

All dimensions in mm

Legend

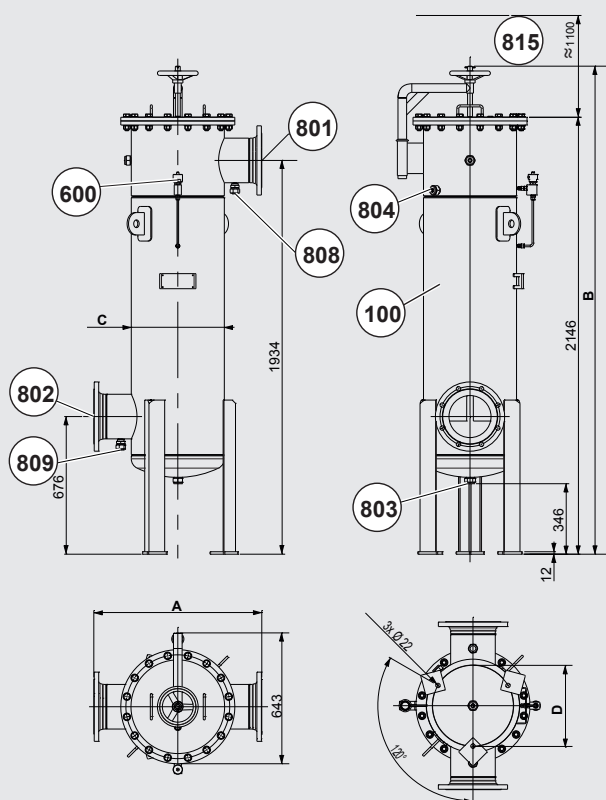
Item	Description
100	Filter housing
600	Clogging indicator (optional)
801	Inlet (IN)
802	Outlet (OUT)
803	Drain, clean side (DRAIN)
804	Drain, contaminated side (DRAIN)
808	Measurement point (IN)
809	Measurement point (OUT)
815	Maintenance space for changing the filter elements

Dimensions

LVH-F... VD ...	B	C
140	1828	219

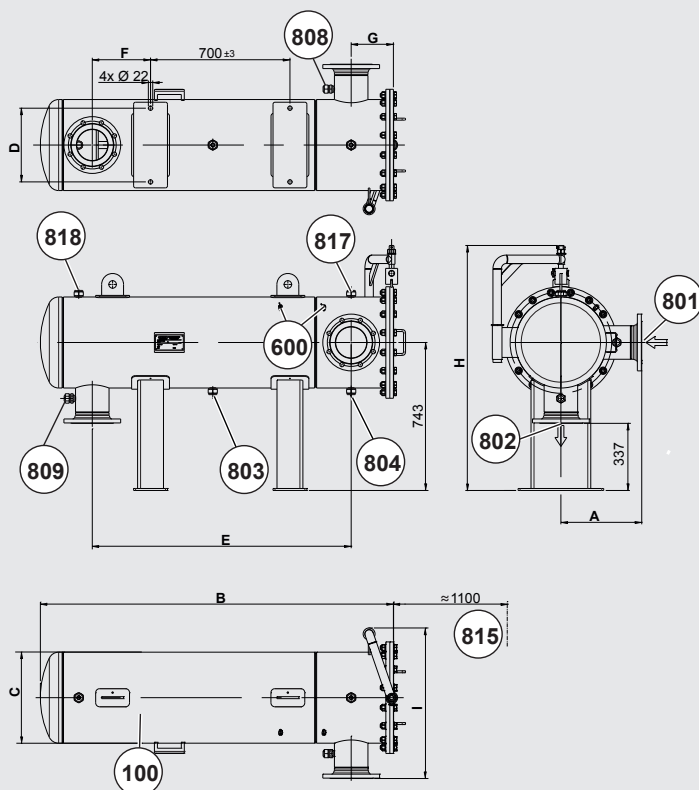
All dimensions in mm

Dimensions LVH-F-(3/4/5/8)40-xV-Bx-xx



All dimensions in mm
Dimensions not valid for connection sizes marked with ○ in the table under model code

Dimensions LVH-F-(1/3/4/5/8)40-xH-Bx-xx



All dimensions in mm
Dimensions not valid for connection sizes marked with ○ in the table under model code

Legend

Item	Description
100	Filter housing
600	Clogging indicator (optional)
801	Inlet (IN)
802	Outlet (OUT)
803	Drain, clean side (DRAIN)
804	Drain, contaminated side (DRAIN)
808	Measurement point (IN)
809	Measurement point (OUT)
815	Maintenance space for changing the filter elements

Dimensions

LVH-F	A	B	C	D
340	780	2400	406	345
440	830		457	400
540	880		508	450
840	1140	2500	610	555

All dimensions in mm

Legend

Item	Description
100	Filter housing
600	Clogging indicator (optional)
801	Inlet (IN)
802	Outlet (OUT)
803	Drain, clean side (DRAIN)
804	Drain, contaminated side (DRAIN)
808	Measurement point (IN)
809	Measurement point (OUT)
815	Maintenance space for changing the filter elements
817	Air bleed at inlet (IN)
818	Air bleed at outlet (OUT)

Dimensions

LVH-F	A	B	C	D	E
140	260	1587	219	220	1260
340	406	1763	406	320	1300
440		1770	457	370	
540		1785	508		
840		1876	610	470	

LVH-F	F	G	H	I
140	330	180	1120	480
340	290	215	1200	730
440			1230	760
540			1260	790
840		260	1310	870

Housing Δp : Housing pressure drop graphs

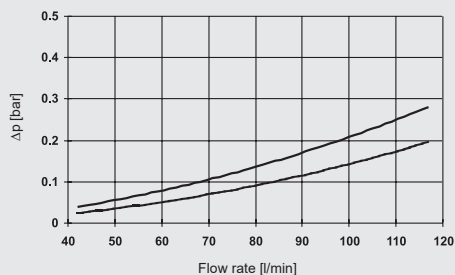
The upper housing curves apply to mineral oil with a density of 0.86 kg/dm^3 and a kinematic viscosity of $30 \text{ mm}^2/\text{s}$.

The lower housing curves apply to diesel at 20°C .

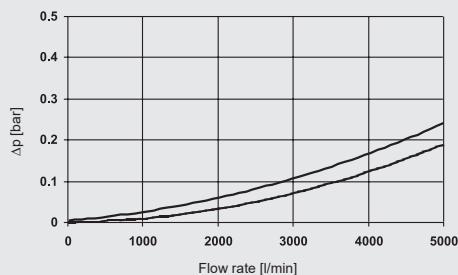
For turbulent flow, the differential pressure will change proportionally to the density;
for laminar flow, it will change proportionally to the density and viscosity.

The flow velocity should not exceed 3 m/s at the filter inlet for oil and 4 m/s for diesel.

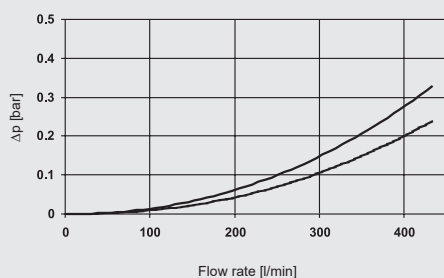
**Pressure drop curve
LVH-F-110 / LVH-F-120**



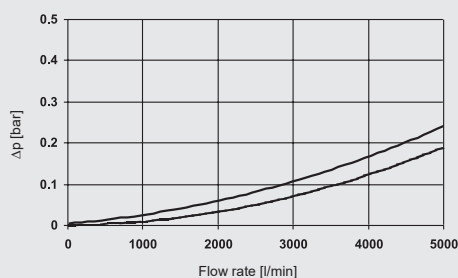
**Pressure drop curve
LVH-F-440**



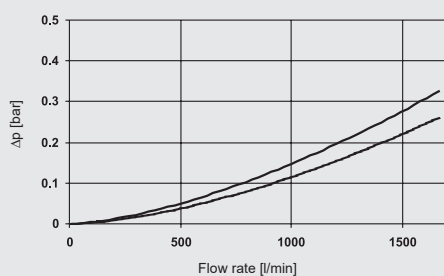
**Pressure drop curve
LVH-F-115 / LVH-F-130**



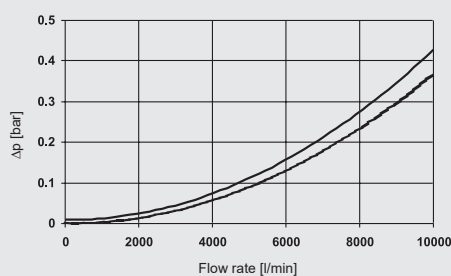
**Pressure drop curve
LVH-F-540**



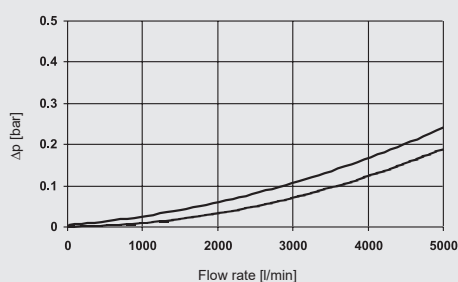
**Pressure drop curve
LVH-F-140**



**Pressure drop curve
LVH-F-840**



**Pressure drop curve
LVH-F-340**



Note

The information in this brochure relates to the operating conditions and applications described.

For applications or operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.

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