MDH series

Maximum working pressure up to 1 MPa (10 bar) - Flow rate up to 500 l/min

MDH GENERAL INFORMATION

Description

Return filter

Maximum working pressure up to 1 MPa (10 bar)
Flow rate up to 500 l/min

MDH, is a technically advanced filtration product line for efficient and compact, hydraulic reservoir management. Designed to ensure overall system cleanliness, the filters are either installed in a semi immersed or fully immersed position. This new design reduces the volume of the air coming into the tank space and dramatically reduces the velocity of the air through the filter which in turn allows the separation of the air from the fluid. This insures that the system is protected against the effects caused by air contamination such as incorrect system response, cavitation, foaming and fluid degradation. The filtration from inside to outside allows for a cleaner filter element replacement which insures that any contaminated fluid remains within the used filter element.

Available features:

- Female threaded connections up to 1 1/2" and flanged connections up to 1 1/2", for a maximum flow rate of 500 l/min
- Multiple connections, to connect several return lines or drains
- In to Out filtration, to reduce the risk of residual contamination going into the system during the maintenance works
- Fine filtration rating, to get a good cleanliness level into the reservoir
- Bypass valve, to relieve excessive pressure drop across the filter media
- Flat Seal to suit a variety of reservoir surfaces
- Oil dipstick, to easily check the level of the fluid into the reservoir (separate item)
- Anti-drain membrane, to reduce the volume of air coming to the tank
- Optimized flow path, to reduce the speed of the fluid through the filter
- Diffuser with optimized output, to promote the air separation and to reduce the risk of foaming and noise
- Optional filler plug, to fill cleaned fluid into the tank without an additional plug
- Visual, electrical and electronic clogging indicators and differential pressure clogging indicators

Common applications:

Heavy duty industrial equipment
Large mobile machines with limited space for the tank

Technical data

Filter housing materials

- Head and cover: Aluminium
- Anti-drain membrane: Polyamide
- Diffuser: AISI 430
- Valve: Polyamide / Steel

Pressure

- Test pressure: 1.5 MPa (15 bar)
- Min. Burst pressure: 3 MPa (30 bar)
- Pulse pressure fatigue test: 1 000 000 cycles with pressure from 0 to 1 MPa (10 bar)

Bypass valve

- Opening pressure 0.175 MPa (1.75 bar) ±10%
- Opening pressure 0.3 MPa (3 bar) ±10%

Filter element features

Filter		Filter element
MDH		DH
Δp Element type		
Element media	Construction	Δp
A - Microfiber	Standard	10 bar
M - Wire mesh	Standard	10 bar
P - Paper	Standard	10 bar
Please see ordering code tables to check element Δp series availability based on filter features.		
Flow direction through the filter element: From IN to OUT		

Seals

- Standard NBR series A
- Optional FPM series V

Temperature

From -25 °C to +110 °C

Note

MDH filters are provided for vertical mounting

Weights [kg] and volumes [dm³]

Filter series	Weights [kg]			Volumes [dm³]		
	Length	2	4	Length	2	4
MDH 250		3.80	4.55		4.65	6.90

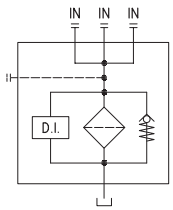
Flow rates [l/min]

Filter series	Length	A03	A06	A10	A16	A25	M25 M60 M90	P10	P25
MDH 250	**2**	134	120	244	255	303	480	326	370
	4	217	256	338	419	487	465	437	694

Maximum flow rate for a complete return filter with a pressure drop Δp = 0.5 bar.
The reference fluid has a kinematic viscosity of 30 mm^2/s (cSt) and a density of 0.86 kg/dm^3.
For different pressure drop or fluid viscosity we recommend to use our selection software available on www.mpfiltri.com.
You can also calculate the right size using the formulas present on the FILTER SIZING paragraph at the beginning of the full catalogue or at the beginning of the filter family brochure.
Please, contact our Sales Department for further additional information.

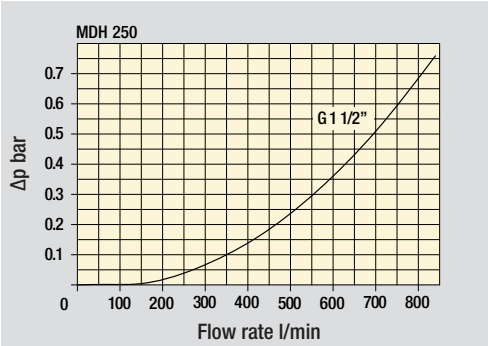
Filter series	Style B
MDH 250	•

Hydraulic symbols

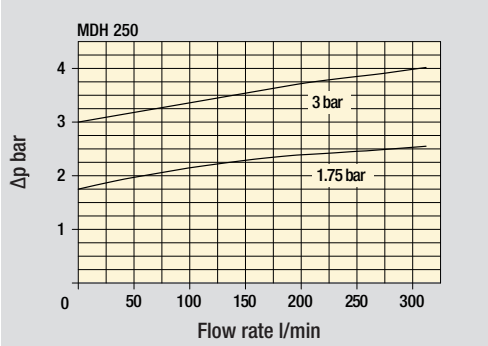


Pressure drop

Filter housings Δp pressure drop



Bypass valve pressure drop



The curves are plotted using mineral oil with density of 0.86 kg/dm^3 in compliance with ISO 3968. Δp varies proportionally with density.

MDH250

Designation & Ordering code

COMPLETE FILTER

Configuration example: MDH250 | 2 | C | F | S | A | B | 2 | A10 | P01

Series and size
MDH250

Length
2 | **4**

Bypass valve
C 1.75 bar
E 3 bar

Diffuser
F With diffuser

Air breather
S Without air breather

Seals and treatments		Filtration rating Axx	Mxx	Pxx
A	NBR	•	•	•
V	FPM	•	•	•
W	NBR head anodized	•	•	-
Z	FPM head anodized	•	•	-

Connections

	Front	Left	Right
A	G 1 1/2"	1 1/2" SAE 3000 psi/M + G 1 1/4"	1 1/4" SAE 3000 psi/M + G 1"
B	1 1/2" NPT	1 1/2" SAE 3000 psi/UNC + 1 1/4" NPT	1 1/4" SAE 3000 psi/UNC + 1" NPT
C	SAE 24 - 1 7/8" - 12 UN	1 1/2" SAE 3000 psi/UNC + SAE 20 - 1 5/8" - 12 UN	1 1/4" SAE 3000 psi/UNC + SAE 16 - 1 5/16" - 12 UN

Connection indicator
1 Without connection
2 With 2 plugged connections (pressure indicator + diff. pressure indicator)

Filtration rating (filter media)

A03	Inorganic microfiber 3 µm	**M25**	Wire mesh 25 µm
A06	Inorganic microfiber 6 µm	**M60**	Wire mesh 60 µm
A10	Inorganic microfiber 10 µm	**M90**	Wire mesh 90 µm
A16	Inorganic microfiber 16 µm	**P10**	Resin impregnated paper 10 µm
A25	Inorganic microfiber 25 µm	**P25**	Resin impregnated paper 25 µm

Execution
P01 MP Filtri standard
Pxx Customized

FILTER ELEMENT

Configuration example: DH250 | 2 | A10 | A | P01

Element series and size
DH250

Element length
2 | **4**

Filtration rating (filter media)

A03	Inorganic microfiber 3 µm	**M25**	Wire mesh 25 µm
A06	Inorganic microfiber 6 µm	**M60**	Wire mesh 60 µm
A10	Inorganic microfiber 10 µm	**M90**	Wire mesh 90 µm
A16	Inorganic microfiber 16 µm	**P10**	Resin impregnated paper 10 µm
A25	Inorganic microfiber 25 µm	**P25**	Resin impregnated paper 25 µm

Seals
A NBR
V FPM

Execution
P01 MP Filtri standard
Pxx Customized

CLOGGING INDICATORS

See page 720-721

BVA	**BVE**	Axial pressure gauge
BVR	**BVH**	Radial pressure gauge
BVP	**BVN**	Visual pressure indicator with automatic reset
BVQ	**BVO**	Visual pressure indicator with manual reset

BEA	Electrical pressure indicator
BEM	Electrical pressure indicator
BLA	Electrical / visual pressure indicator
DES	Electrical differential pressure indicator
DVS	Visual differential pressure indicator

PLUGS

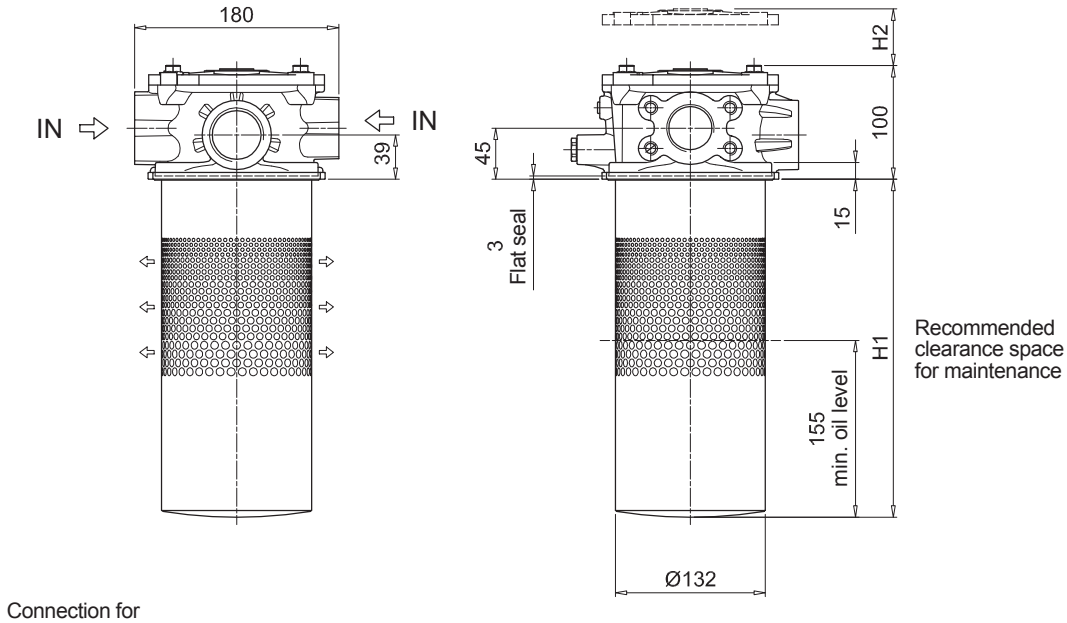
See page 747

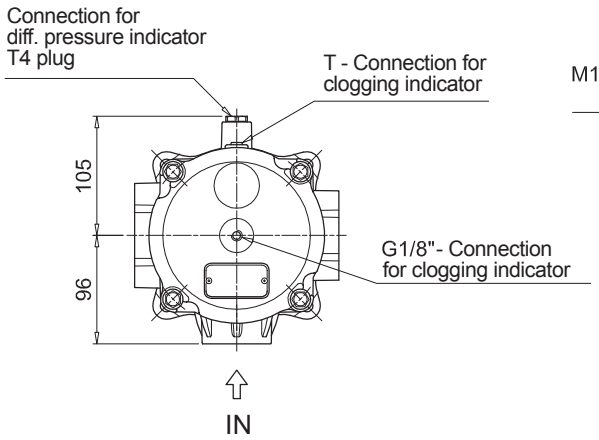
T4 Plug

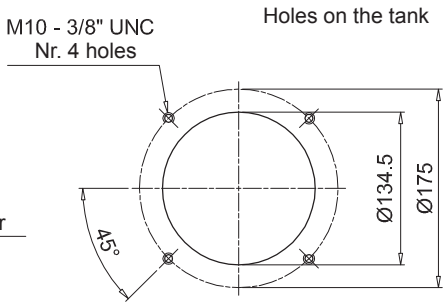
Dimensions

MDH250		
Filter length	**H1 [mm]**	**H2 [mm]**
2	300	380
4	485	565

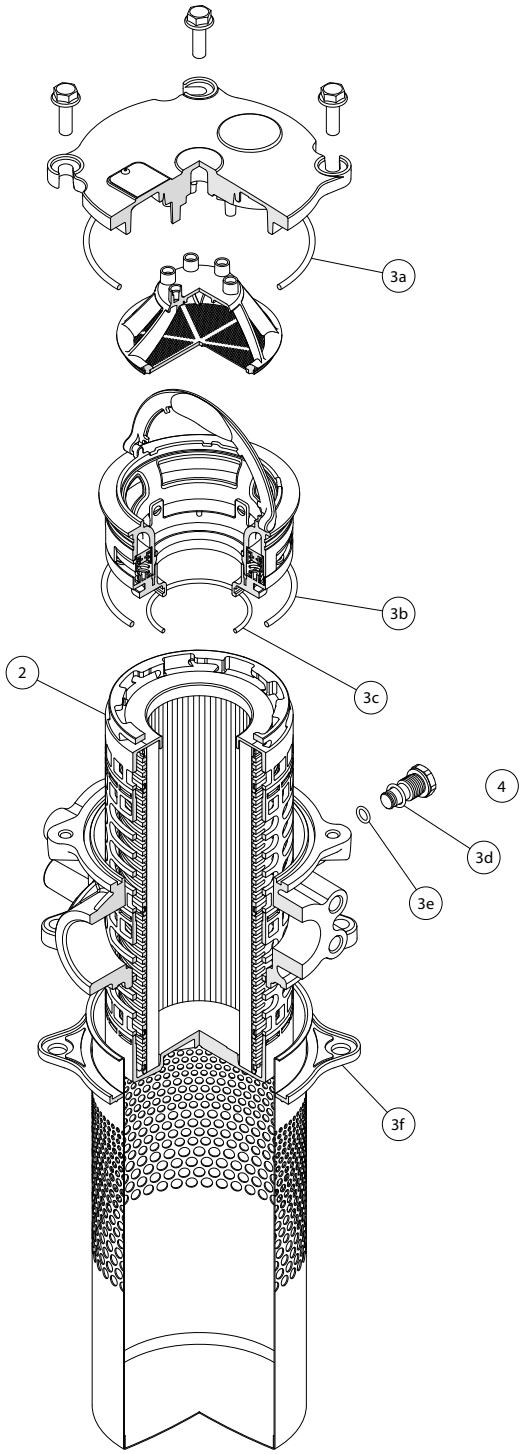
Connections	T
A	G 1/8"
B-C	1/8" NPT







Order number for spare parts



Item:	Q.ty: 1 pc. 2	Q.ty: 1 pc. 3 (3a ÷ 3f)		Q.ty: 1 pc. 4
Filter series	**Filter element**	**Seal Kit code number NBR**	**FPM**	**Indicator connection plug NBR**
MDH 250	See order table	02050850	02050851	T4A