

FHD series

Maximum working pressure up to 35 MPa (350 bar) - Flow rate up to 345 l/min



High Pressure filters

Duplex

Maximum working pressure up to 35 MPa (350 bar)

Flow rate up to 345 l/min

FHD is a range of high pressure duplex filter with integrated changeover function to allow the filter element replacement without the system shut-down.

They are directly connected to the lines of the system through the hydraulic fittings.

Available features:

- Female threaded connections up to 1 1/4" and flanged connections up to 1 1/2", for a maximum flow rate of 345 l/min
- Fine filtration rating, to get a good cleanliness level into the system
- Balancing valve, available for FHD051, FHD326 and FHD333, to equalize the housing pressure before the switch.
- Bypass valve, to relieve excessive pressure drop across the filter media
- Vent ports, to avoid air trapped into the filter going into the system
- Drain ports, to remove the fluid from the housing prior the maintenance work
- Low collapse filter element "N", for use with filters provided with bypass valve
- High collapse filter element "H", for use with filters not provided with bypass valve
- Low collapse filter element with external support "R", for filter element protection against the back pressure caused by the check valve or the reverse flow in filters provided with the bypass valve
- High collapse filter element with external support "S", for filter element protection against the back pressure caused by the check valve or the reverse flow in filters not provided with the bypass valve
- Visual, electrical and electronic differential clogging indicators

Common applications:

- System where shut-down causes high costs
- System where shut-down causes safety issues

Filter housing materials

- Head: Phosphatized cast iron
- Housing: Phosphatized steel
- Bypass valve: Steel

Pressure

- Test pressure: 52.5 MPa (525 bar)
- Burst pressure: 105 MPa (1050 bar)
- Pulse pressure fatigue test: 1 000 000 cycles with pressure from 0 to 35 MPa (350 bar)

Bypass valve

- Opening pressure 600 kPa (6 bar) ±10%
- Other opening pressures on request.

Δp element type

- Microfibre filter elements - series N: 20 bar
- Microfibre filter elements - series R: 20 bar (not available for FHD 021)
- Microfibre filter elements - series H: 210 bar (only for FHD 021)
- Microfibre filter elements - series S: 210 bar (not available for FHD 021)
- Wire mesh filter elements - series N: 20 bar
- Fluid flow through the filter element from OUT to IN

Seals

- Standard NBR series A
- Optional FPM series V

Temperature

From -25 °C to +110 °C

Connections

In-line Inlet/Outlet 90°

Note

FHD filters are provided for vertical mounting



Weights [kg] and volumes [dm³]

Filter series	Weights [kg]						Volumes [dm ³]					
	Length	1	2	3	4	5	Length	1	2	3	4	5
FHD 021	-	8.0	9.0	9.9	-	-	-	0.06	0.12	0.22	-	-
FHD 051	-	16.9	17.5	18.5	19.8	-	-	0.31	0.41	0.53	0.83	-
FHD 326	43.0	50.0	54.0	-	-	-	0.88	1.60	2.37	-	-	-
FHD 333	-	74.0	79.0	98.0	-	-	-	1.75	2.52	3.35	-	-

Filter series	Length	Filter element design - H Series					
		A03	A06	A10	A16	A25	M25
FHD 021	2	6	8	14	16	19	26
	3	10	12	18	20	22	27
	4	13	16	21	22	24	27

Filter series	Length	Filter element design - R Series						N Series	Filter element design - S Series				
		A03	A06	A10	A16	A25	M25		A03	A06	A10	A16	A25
FHD 051	2	39	41	51	54	59	64	35	37	48	51	58	
	3	45	46	54	56	61	65	41	43	52	54	60	
	4	50	52	58	58	62	65	47	49	56	56	61	
	5	56	57	61	62	63	65	53	53	57	59	63	
FHD 326	1	93	99	131	142	154	171	83	87	117	120	146	
	2	136	141	163	166	173	176	119	128	149	151	163	
	3	152	159	171	174	175	177	139	148	161	163	170	
FHD 333	2	175	184	224	230	245	249	147	162	199	201	225	
	3	204	217	241	245	247	252	179	196	221	224	238	
	4	216	224	242	247	253	255	196	204	223	225	239	

Maximum flow rate for a complete pressure filter with a pressure drop $\Delta p = 1.5$ bar.

The reference fluid has a kinematic viscosity of 30 mm²/s (cSt) and a density of 0.86 kg/dm³.

For different pressure drop or fluid viscosity we recommend to use our selection software available on www.mpfiltri.com.

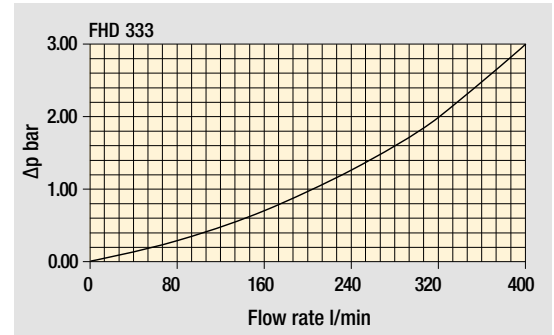
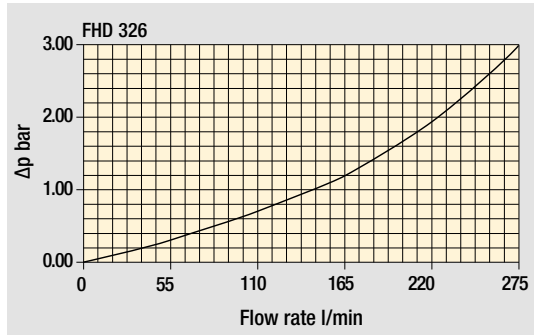
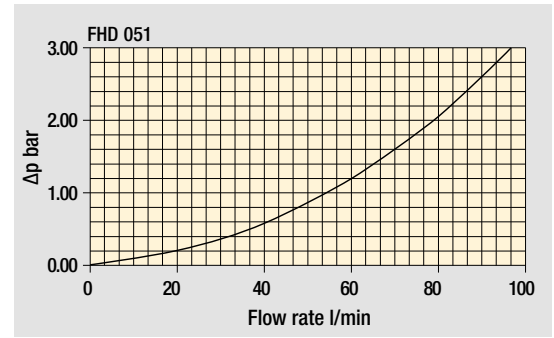
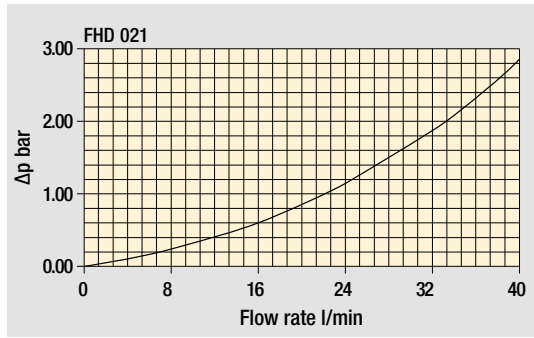
You can also calculate the right size using the formulas present on the FILTER SIZING paragraph at the beginning of the full catalogue or at the beginning of the filter family brochure. Please, contact our Sales Department for further additional information.

Hydraulic symbols

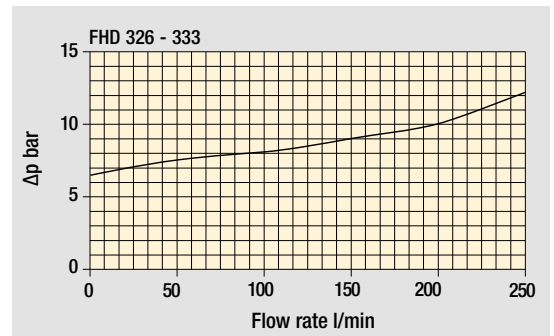
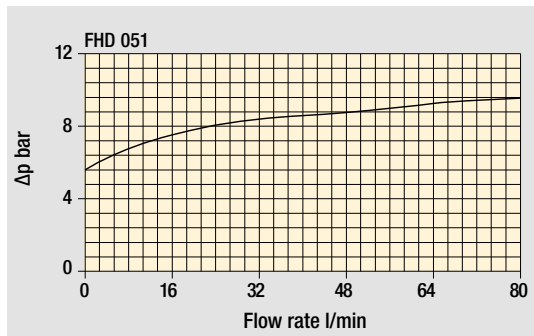
Filter series	Style S	Style B	Style B
FHD 021	•		
FHD 051	•	•	
FHD 326	•		•
FHD 333	•		•

Pressure drop

Filter housings Δp pressure drop



Bypass valve pressure drop



The curves are plotted using mineral oil with density of 0.86 kg/dm³ in compliance with ISO 3968. Δp varies proportionally with density.

Designation & Ordering code

COMPLETE FILTER

Series and size FHD021	Configuration example: FHD021 4 S A G1 A06 H P01
Length 2 3 4	
Valves S Without bypass	
Seals A NBR V FPM	
Connections G1 G 1/2" G2 1/2" NPT G3 SAE 8 - 3/4" - 16 UNF	
Filtration rating (filter media)	
A03 Inorganic microfiber 3 µm	A16 Inorganic microfiber 16 µm
A06 Inorganic microfiber 6 µm	A25 Inorganic microfiber 25 µm
A10 Inorganic microfiber 10 µm	M25 Wire mesh 25 µm

Element Δp	Filtration rating		Execution
	Axx	M25	
N 20 bar		•	P01 MP Filtri standard
H 210 bar	•		Pxx Customized

FILTER ELEMENT

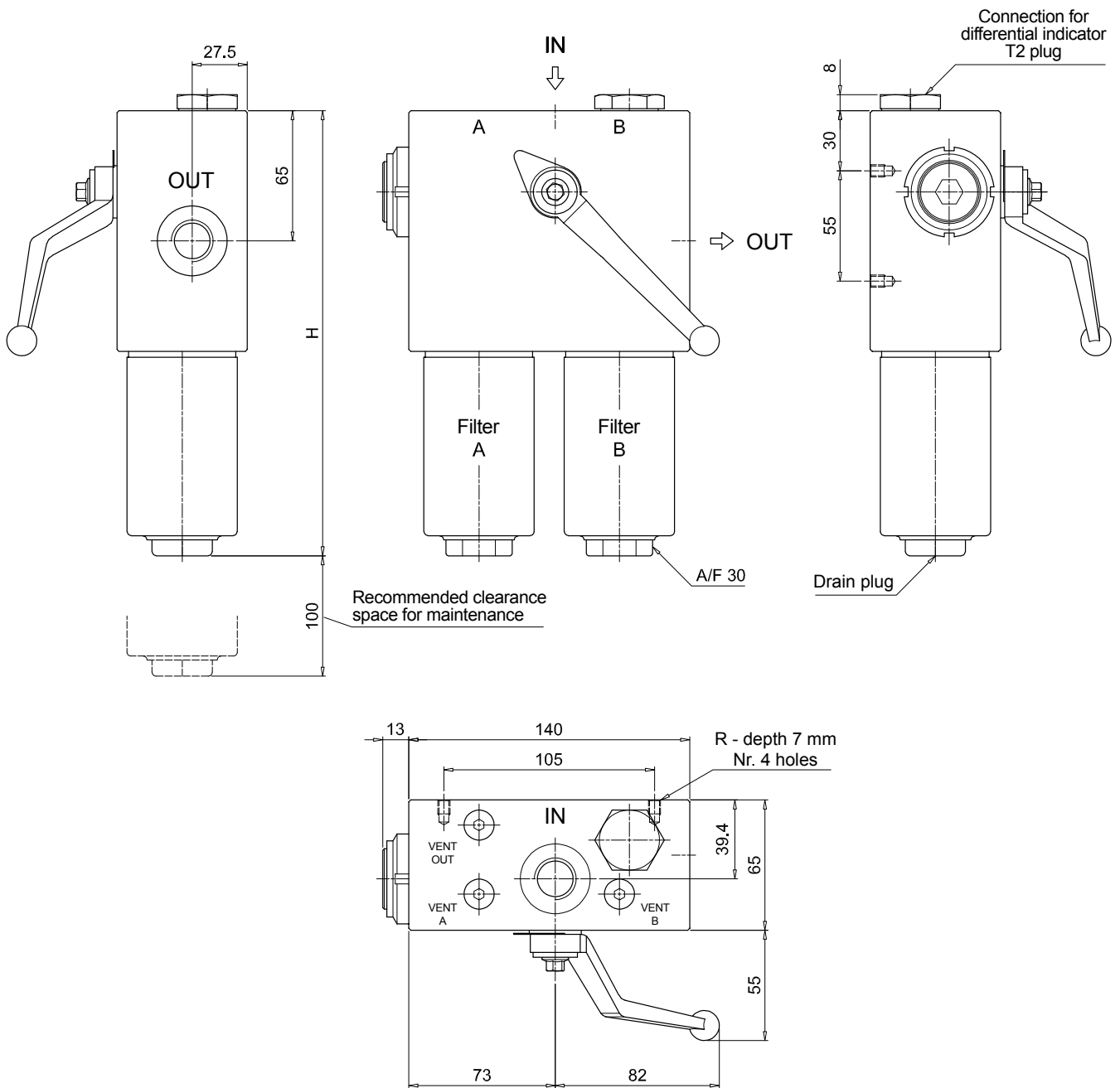
Element series and size HP011	Configuration example: HP011 4 A06 A H P01
Element length 2 3 4	
Filtration rating (filter media)	
A03 Inorganic microfiber 3 µm	A16 Inorganic microfiber 16 µm
A06 Inorganic microfiber 6 µm	A25 Inorganic microfiber 25 µm
A10 Inorganic microfiber 10 µm	M25 Wire mesh 25 µm

Seals	Element Δp	Filtration rating		Execution
		Axx	M25	
A NBR	N 20 bar		•	P01 MP Filtri standard
V FPM	H 210 bar	•	•	Pxx Customized

ACCESSORIES

Additional features	page
DEA Electrical differential indicator	567
DEH Hazardous area electronic differential indicator	567-568
DEM Electrical differential indicator	568-569
DLA Electrical / visual differential indicator	569-570
DLE Electrical / visual differential indicator	570
DTA Electronic differential indicator	571
DVA Visual differential indicator	571
DVM Visual differential indicator	571
T2 Plug	572

FHDO21	
Filter length	H [mm]
2	172
3	222
4	272
Connections	R
G1	M6
G2 - G3	1/4" UNC



FHD FHD051 - FHD326 - FHD333

Designation & Ordering code

COMPLETE FILTER

Series and size Configuration example: **FHD326** | **3** | **S** | **A** | **G1** | **M25** | **N** | **P01**

FHD051 | FHD326 | FHD333

Length	FHD051	FHD326	FHD333
1		•	
2	•	•	•
3	•	•	•
4	•		•
5	•		

Valves

S Without bypass
B With bypass 6 bar

Seals

A NBR
V FPM

Connections	FHD051	FHD326	FHD333
G1	G 3/4"	G 1 1/4"	-
G2	3/4" NPT	1 1/4" NPT	-
G3	G 1/2"	SAE 20 - 1 5/8" - 12 UN	-
G4	1/2" NPT	-	-
G5	SAE 8 - 3/4" - 16 UNF	-	-
G6	SAE 12 - 1 1/16" - 12 UN	-	-
F1	-	-	1 1/2" 6000 psi/M
F2	-	-	1 1/2" 6000 psi/UNC

Filtration rating (filter media)

A03 Inorganic microfiber	3 µm
A06 Inorganic microfiber	6 µm
A10 Inorganic microfiber	10 µm
A16 Inorganic microfiber	16 µm
A25 Inorganic microfiber	25 µm
M25 Wire mesh	25 µm

Element Δp	Filtration rating		Execution
	Axx	M25	
N 20 bar		•	P01 MP Filtri standard
R 20 bar	•	•	Pxx Customized
S 210 bar	•	•	

FILTER ELEMENT

Element series and size Configuration example: **HP320** | **3** | **M25** | **A** | **N** | **P01**

FHD051 | FHD326 | FHD333

HP050	•		
HP320		•	•

Element length	HP050	HP320
1		•
2	•	•
3	•	•
4	•	•
5	•	

Filtration rating (filter media)

A03 Inorganic microfiber	3 µm
A06 Inorganic microfiber	6 µm
A10 Inorganic microfiber	10 µm
A16 Inorganic microfiber	16 µm
A25 Inorganic microfiber	25 µm
M25 Wire mesh	25 µm

Seals	Filtration rating		Execution
	Axx	M25	
A NBR		•	P01 MP Filtri standard
V FPM	•	•	Pxx Customized
	•	•	

ACCESSORIES

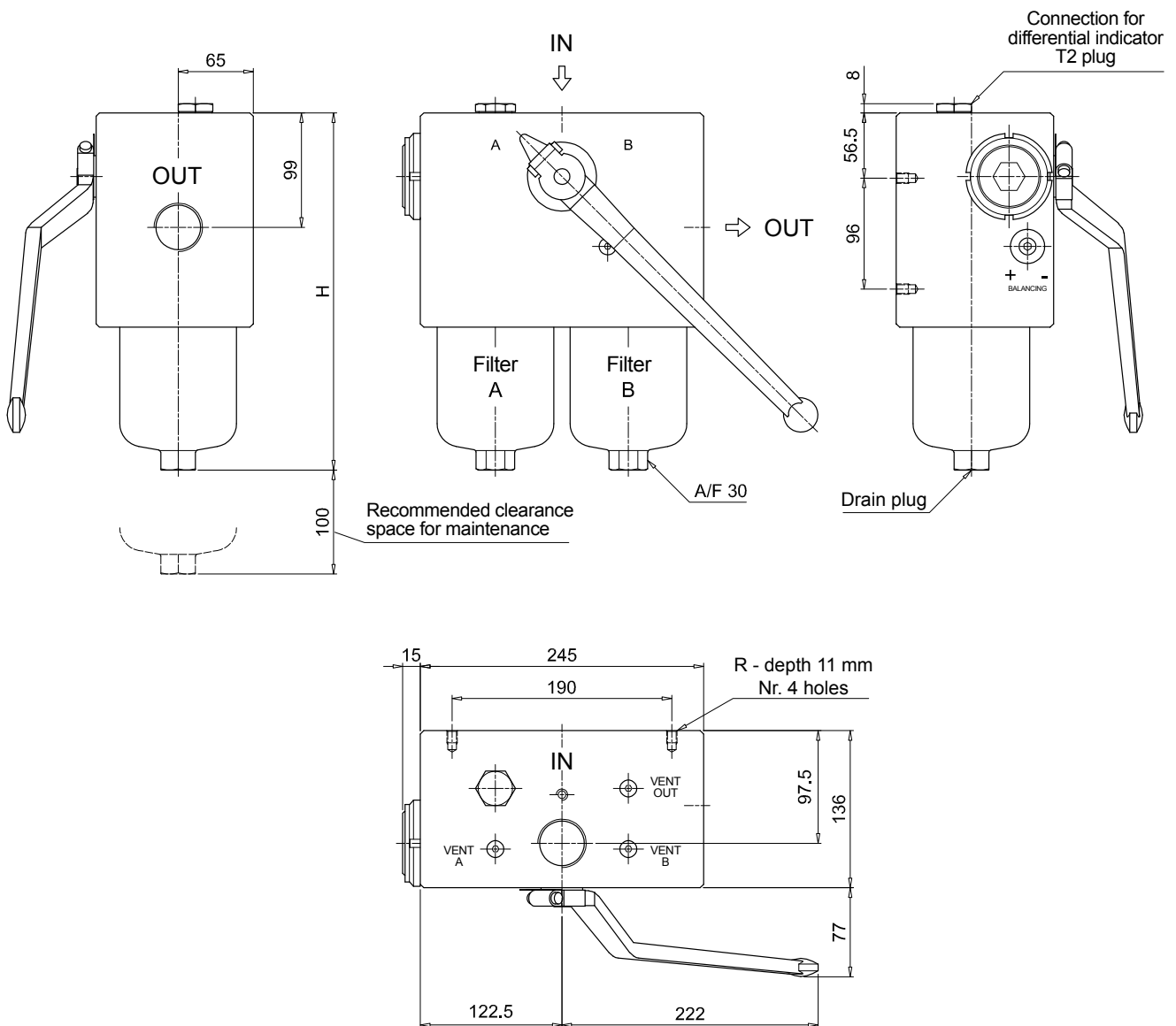
Differential indicators	page		page
DEA Electrical differential indicator	567	DLE Electrical / visual differential indicator	570
DEH Hazardous area electronic differential indicator	567-568	DTA Electronic differential indicator	571
DEM Electrical differential indicator	568-569	DVA Visual differential indicator	571
DLA Electrical / visual differential indicator	569-570	DVM Visual differential indicator	571

Additional features	page
T2 Plug	572

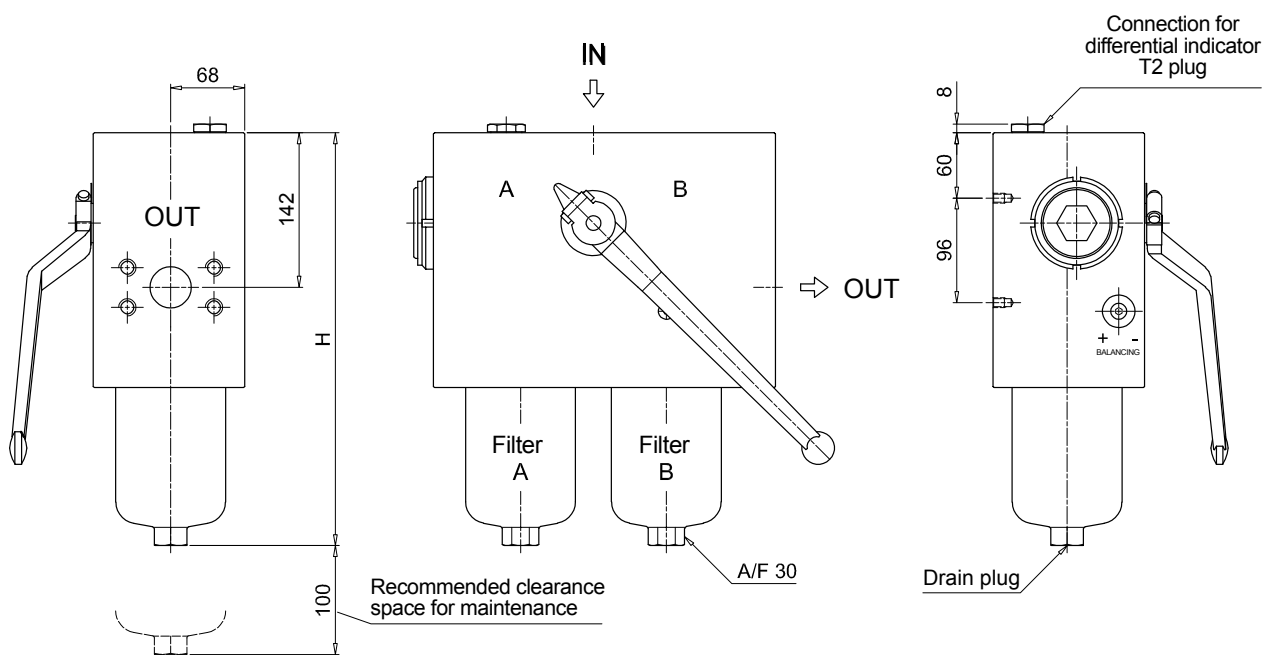
FHD FHD051 - FHD326 - FHD333

Dimensions

FHD326	
Filter length	H [mm]
1	309
2	432
3	564
Connections	R
G1	M10
G2 - G3	3/8" UNC



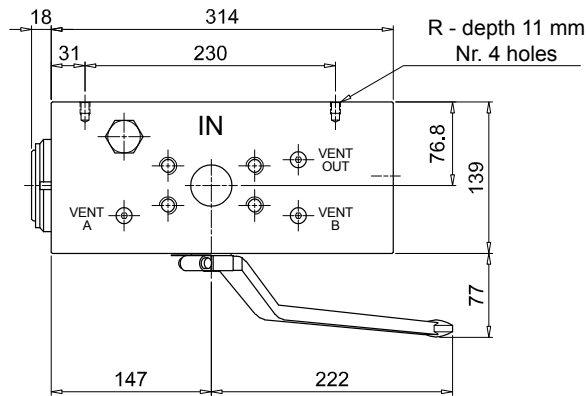
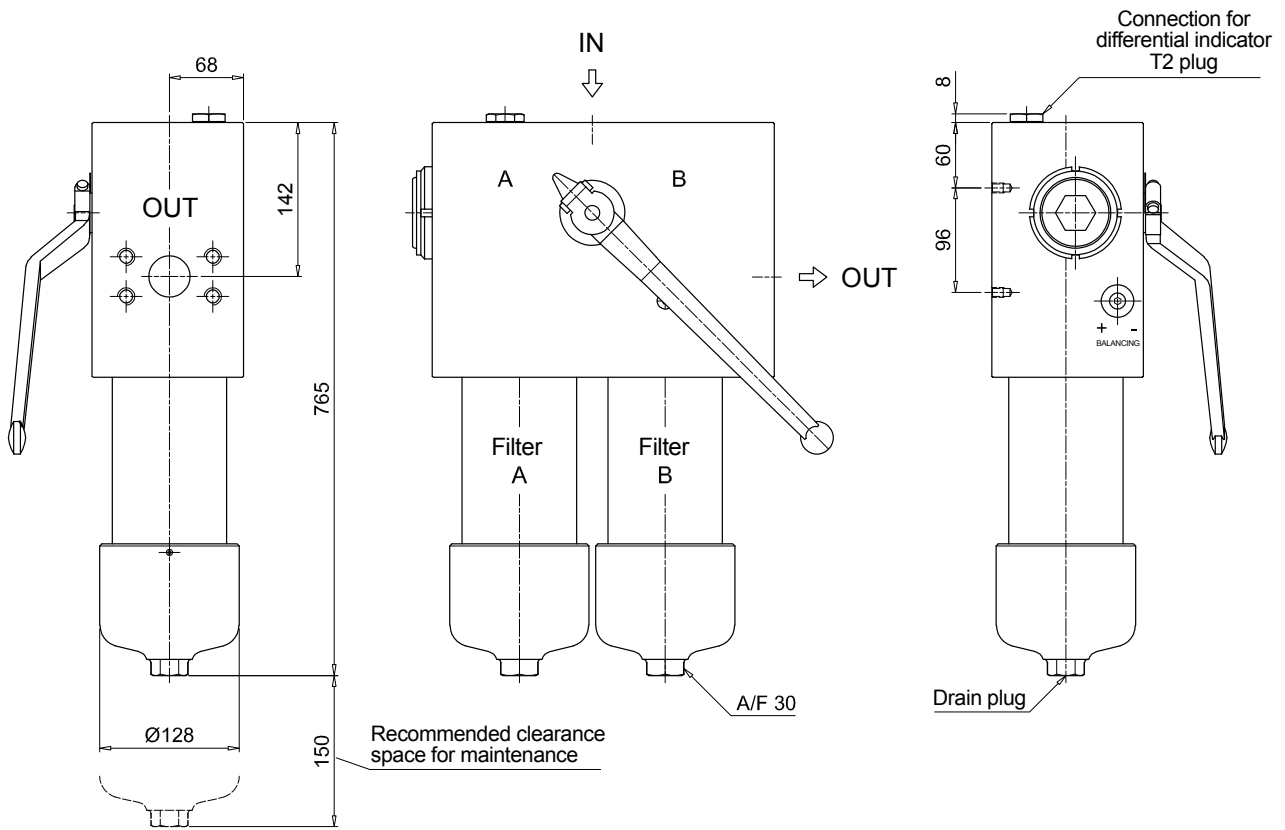
FHD333	
Length 2 - 3	
Filter length	H [mm]
2	479
3	612
Connections	
F1	R
F1	M10
F2	3/8" UNC



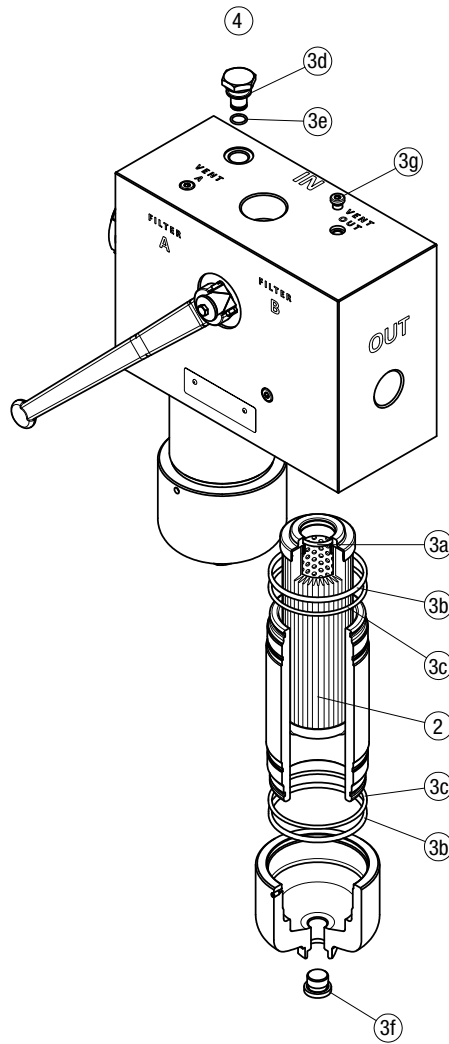
FHD FHD051 - FHD326 - FHD333

Dimensions

FHD333	
Length 4	
Connections	R
F1	M10
F2	3/8" UNC



FHD 021 - 051 - 326 - 333



Item:	Q.ty: 1 pc.	Q.ty: 1 pc.		Q.ty: 1 pc.	
Filter series	Filter element	Seal Kit code number		Indicator connection plug	
FHD 021	See order table	NBR	FPM	NBR	FPM
FHD 051	See order table	02050511	02050512	T2H	T2V
FHD 326-333	See order table	02050420	02050421		
		02050377	02050378		