

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 integrated in the changeover lever, 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) $\pm 10\%$
- 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

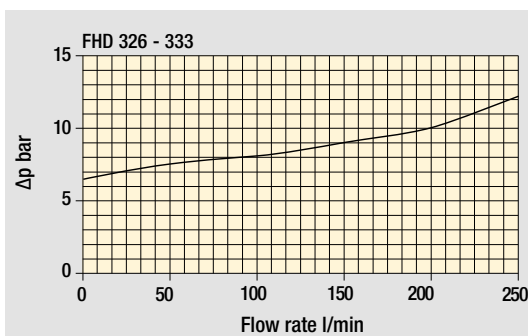
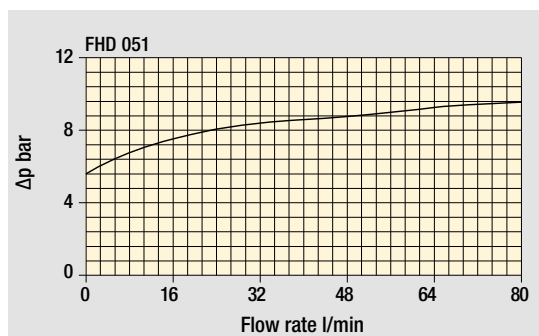
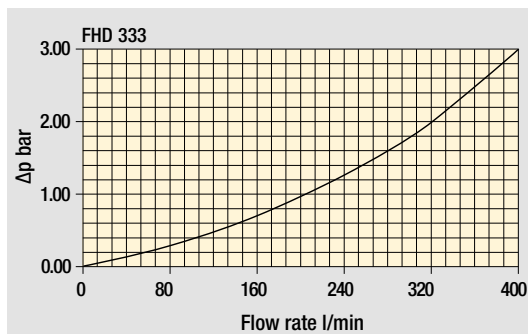
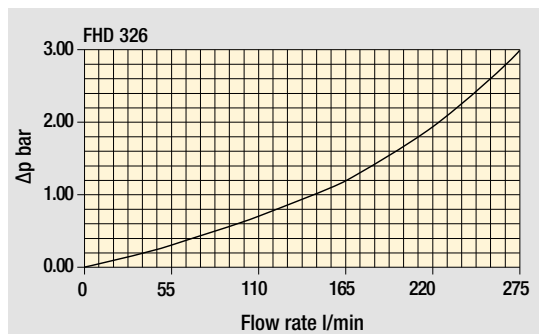
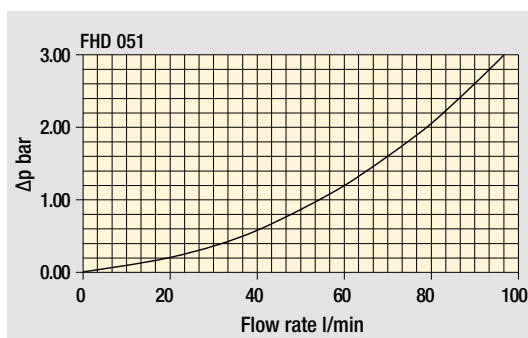
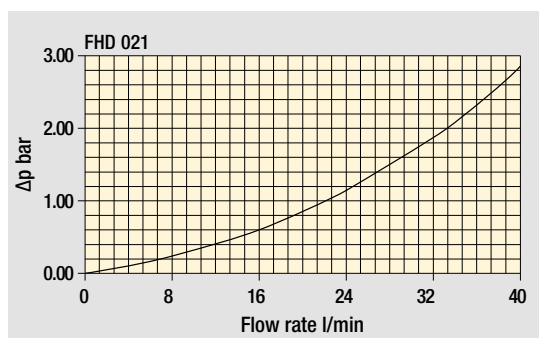
FHD filters are provided for vertical mounting



Weights [kg] and volumes [dm³]

Filter series	Weights [kg]					Volumes [dm³]						
	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 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.

FHD GENERAL INFORMATION

Flow rates [l/min]

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		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.

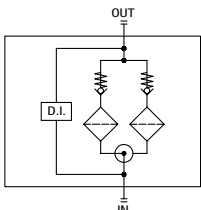
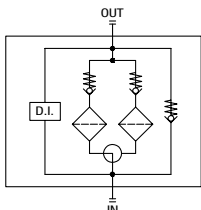
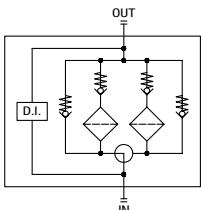
The reference fluid has a kinematic viscosity of 30 mm²/s (cSt) and a density of 0.86 kg/dm³.

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

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	•		•

Designation & Ordering code

COMPLETE FILTER

Configuration example: **FHD021**

Series and size
FHD021

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
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

Filtration rating
Axx **M25**

Execution
P01 MP Filtri standard
Pxx Customized

FILTER ELEMENT

Element series and size

HP011

Element length

2 | 3 | 4 |

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

A NBR

V FPM

Element Δp

N 20 bar

H 210 bar

Filtration rating

Axx

M25

Execution

P01 MP Filtri standard

Pxx Customized

Configuration example:

HP011

4

A06

A

H

P01

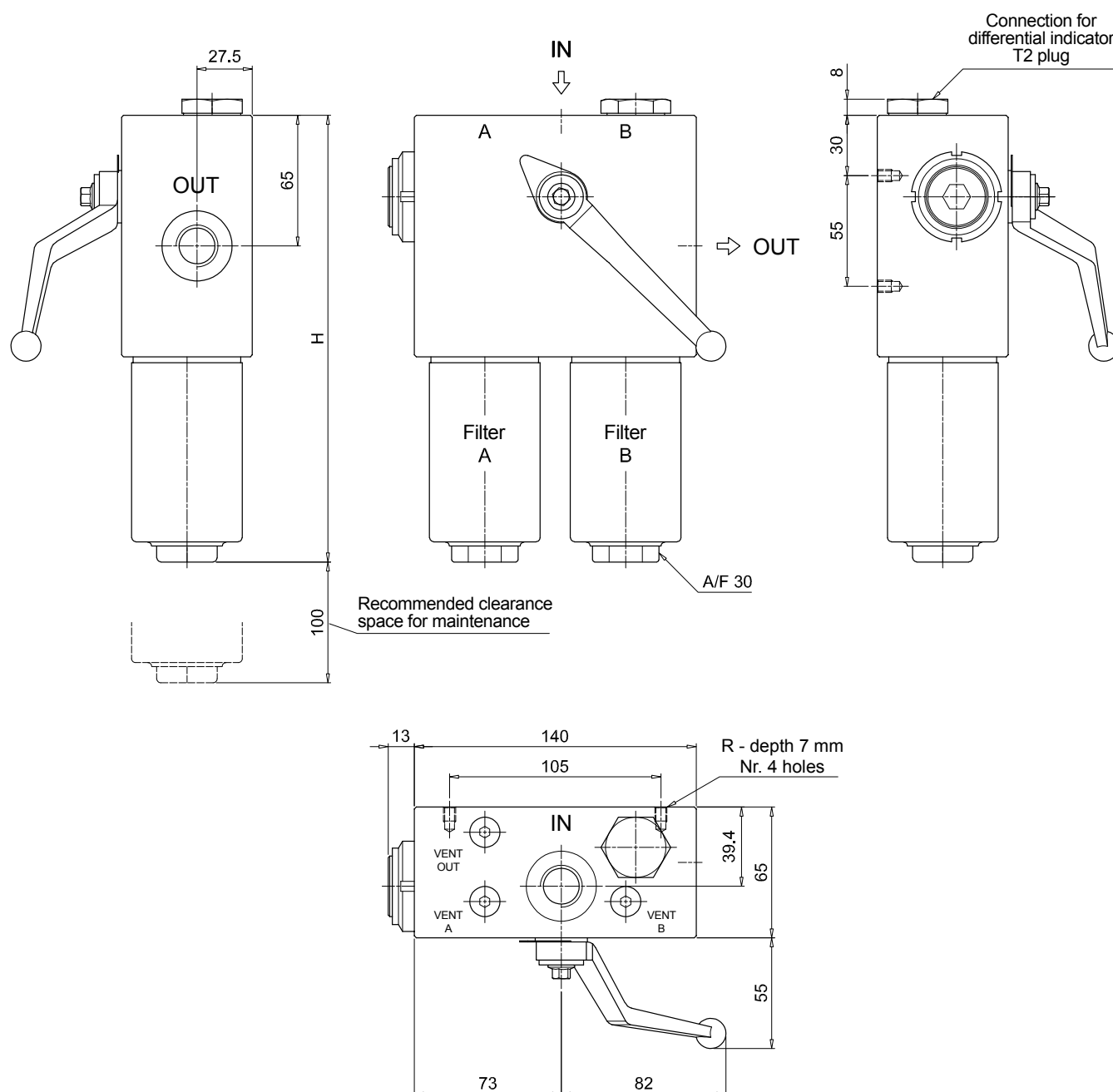
ACCESSORIES

Differential indicators		page			page
DEA	Electrical differential indicator	563	DLE	Electrical / visual differential indicator	566
DEH	Hazardous area electronic differential indicator	563-564	DTA	Electronic differential indicator	567
DEM	Electrical differential indicator	564-565	DVA	Visual differential indicator	567
DLA	Electrical / visual differential indicator	565-566	DVM	Visual differential indicator	567
Additional features		page			
T2	Plug	568			

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

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

ACCESSORIES

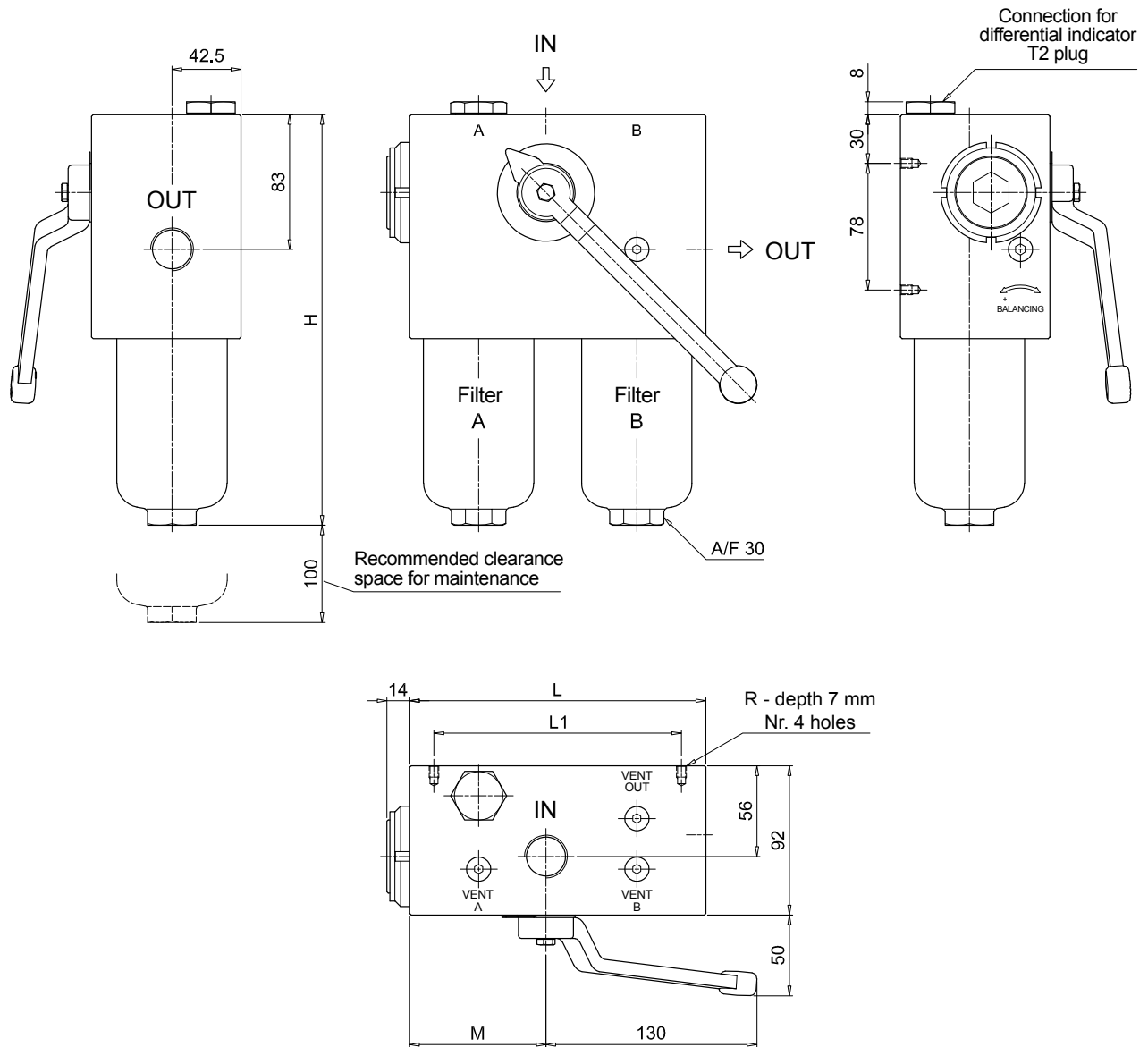
Differential indicators		page			page
DEA	Electrical differential indicator	563	DLE	Electrical / visual differential indicator	566
DEH	Hazardous area electronic differential indicator	563-564	DTA	Electronic differential indicator	567
DEM	Electrical differential indicator	564-565	DVA	Visual differential indicator	567
DLA	Electrical / visual differential indicator	565-566	DVM	Visual differential indicator	567
Additional features		page			
T2	Plug	568			

FHD051

Filter length	H [mm]
2	253
3	295
4	343
5	465

Connections	R
G1	M6
G2	1/4" UNC
G3	M6
G4-G5-G6	1/4" UNC

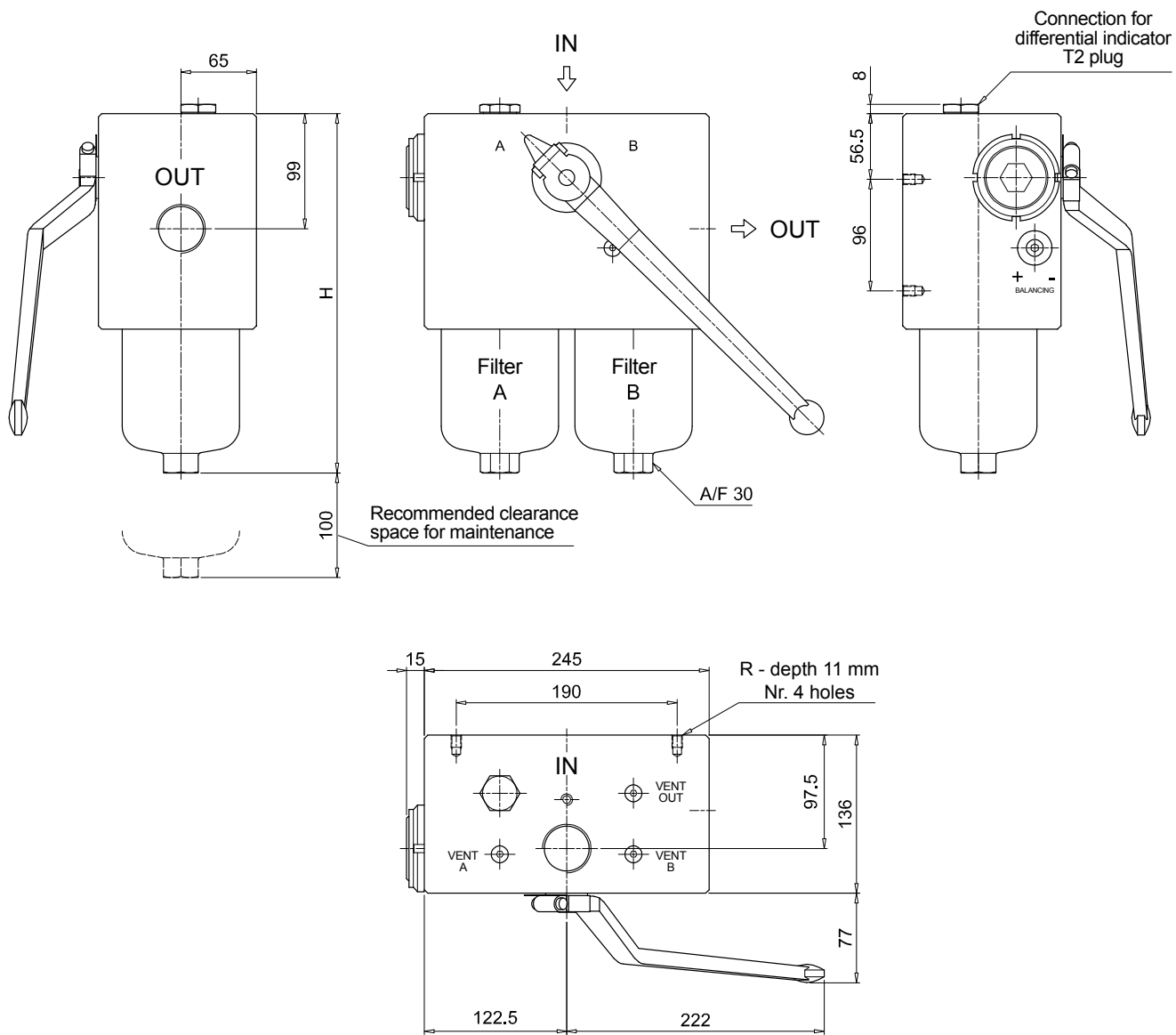
Valves	L [mm]	L1 [mm]	M [mm]
S	168	138	84
B	182.5	152.5	98.5



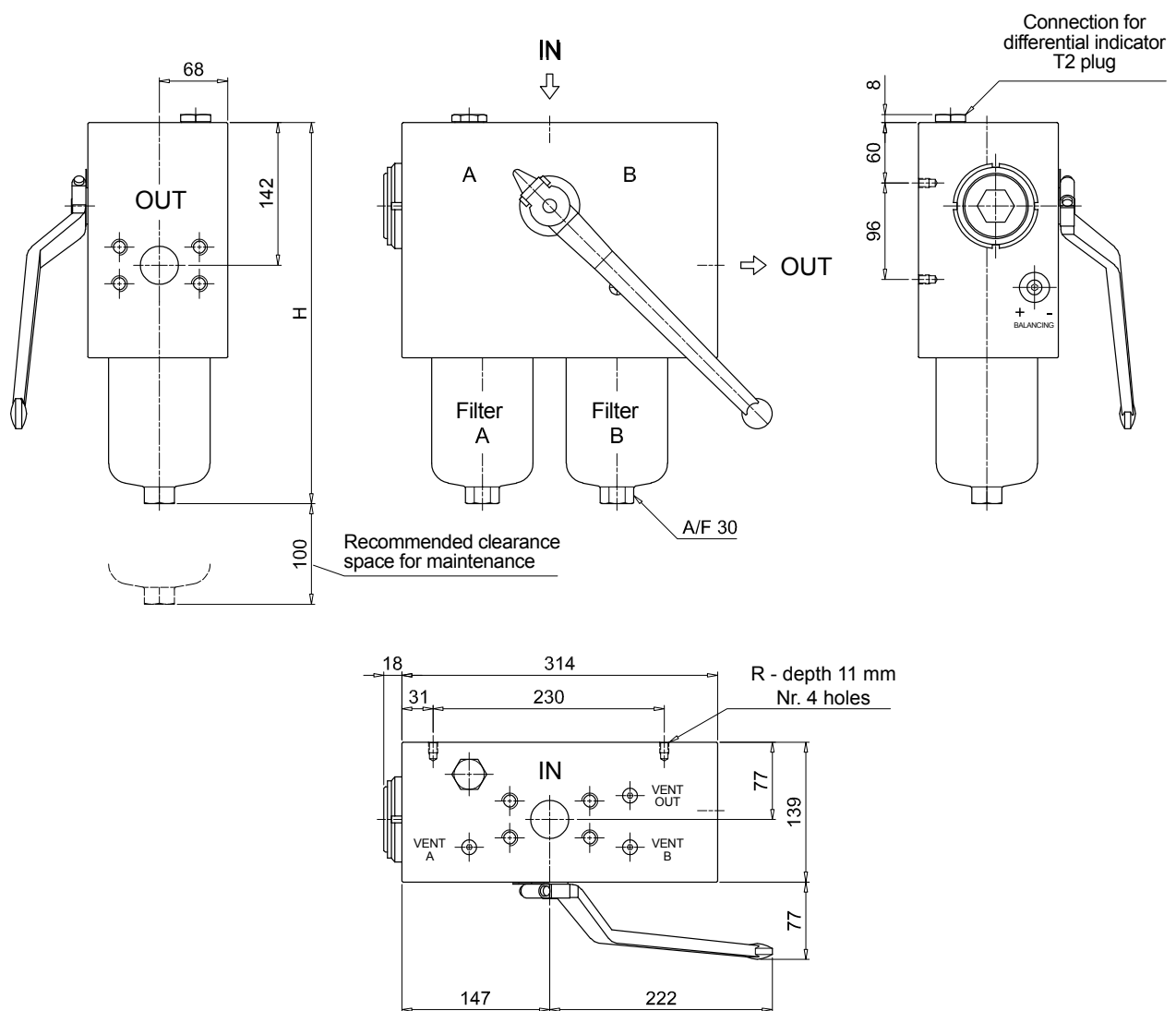
FHD FHD051 - FHD326 - FHD333

Dimensions

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



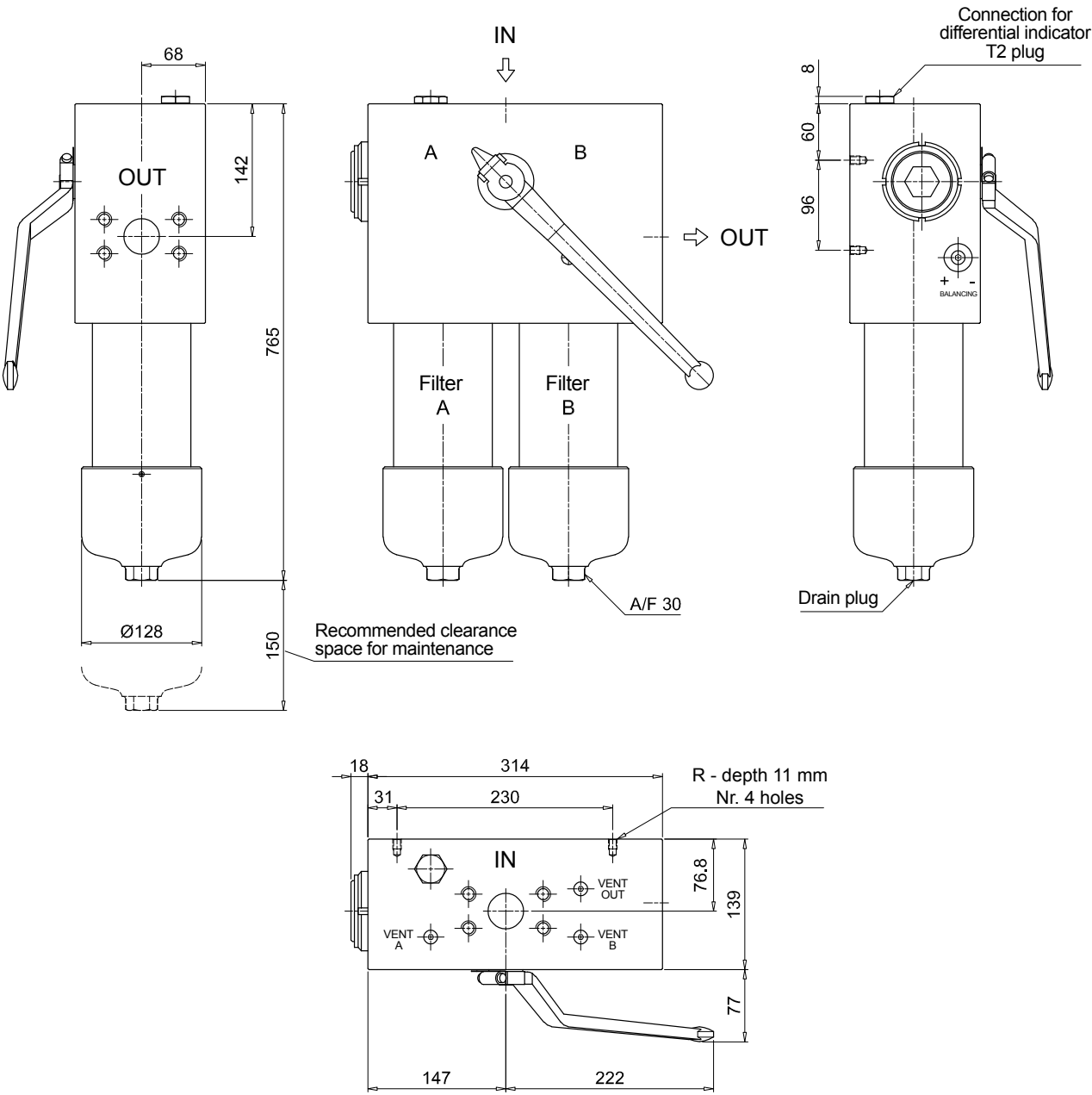
FHD333	
Length 2 - 3	
Filter length	H [mm]
2	479
3	612
Connections	R
F1	M10
F2	3/8" UNC



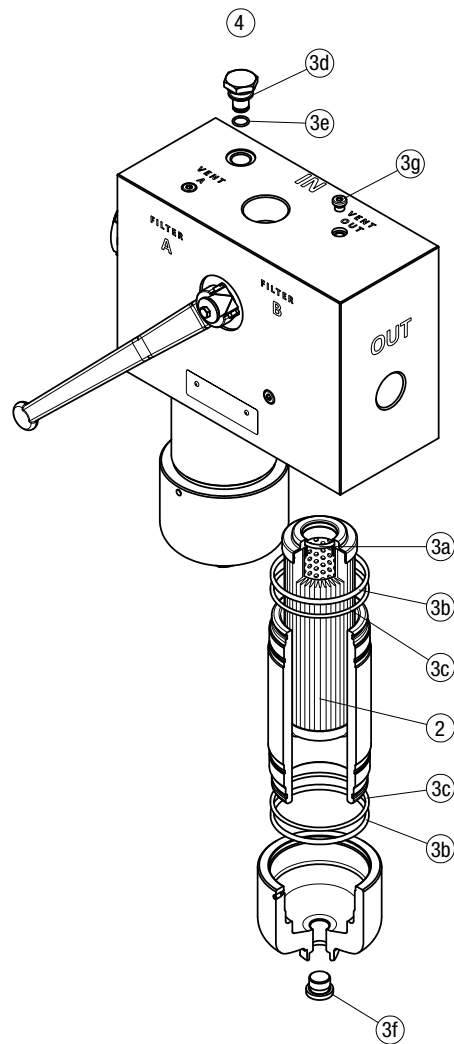
FHD FHD051 - FHD326 - FHD333

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.	
		2		3 (3a ÷ 3g)		4	
Filter series	Filter element	Seal Kit code number		Indicator connection plug			
		NBR	FPM	NBR	FPM		
FHD 021	See order table	02050511	02050512	T2H	T2V		
FHD 051		02050420	02050421				
FHD 326-333		02050377	02050378				