PHHD Series

DESCRIPTION

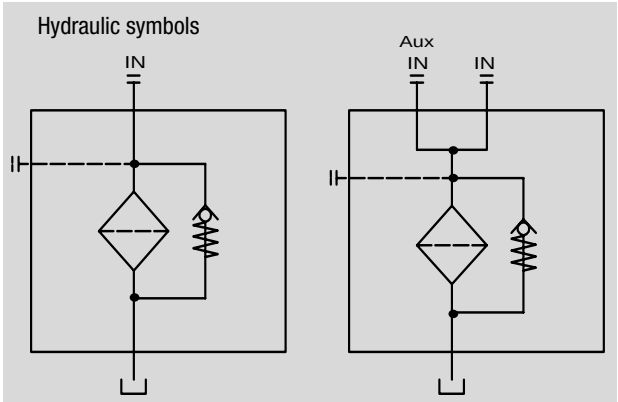
Return filter
Connection type and size:
Threaded connection: 1/2" 3/4" 1" 1-1/4" 1-1/2" 2"
SAE Flange connection: 1-1/2" 2"
Maximum flow rate up to 880 l/min

TECHNICAL PARAMETER

Maximum working pressure: 8 bar
Bypass valve opening pressure: 3 bar
Transmitter opening pressure: 2 bar
Temperature range: -25℃ to +110℃

MATERIALS

Head: Cast aluminium
Filter bowl: Polyamide
Seals: NBR nitrile rubber (standard)
Or FKM fluororubber (customizable)
Filter element material: Fiberglass



MEDIA COMPATIBILITY

Suitable for mineral oil, lubricating oil, fire-resistant oil, and rapidly biodegradable media.
(If used for water-based or special media, please consult our sales department.)

Weights [kg] and volumes dm^3

Filter series	Weights [kg]					Volumes [dm^3]				
	Length	1	2	3	4	Length	1	2	3	4
PHHD 030		0.40	-	-	-		0.29	-	-	-
PHHD 100		0.61	0.64	0.67	0.74		0.64	0.85	1.20	1.65
PHHD 181		2.20	3.00	-	-		2.50	4.00	-	-
PHHD 184		2.55	3.45	-	-		2.65	4.45	-	-
PHHD 400		3.35	3.65	3.90	-		3.70	4.60	5.40	-

FILTER ASSEMBLY SIZING

Flow rates（l/min）

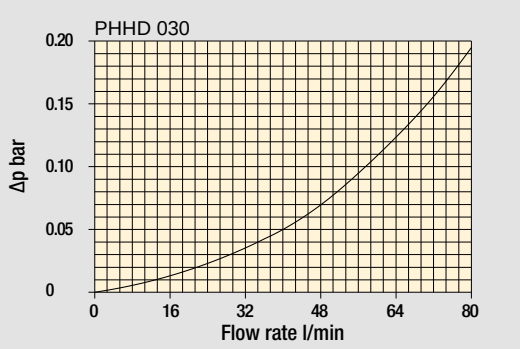
Filter series	Length	Filter element design - F series					Filter element design - W series		
		F03	**F05**	**F10**	**F20**	**F30**	**W25**	**W60**	**W90**
PHHD 030	**1**	7	10	24	29	47	60	66	84
PHHD 100	**1**	18	20	53	56	65	87	96	153
	2	28	38	65	75	95	111	123	158
	3	48	55	125	135	169	224	251	289
	4	79	89	180	185	198	264	289	306
PHHD 181	**1**	127	148	235	243	278	285	299	441
	2	231	262	358	382	388	404	412	472
PHHD 184	**1**	127	148	235	243	278	285	299	441
	2	231	262	358	382	388	404	412	472
PHHD 400	**1**	150	171	294	304	350	370	390	585
	2	237	252	454	462	589	619	645	868
	3	248	288	553	609	621	680	703	885

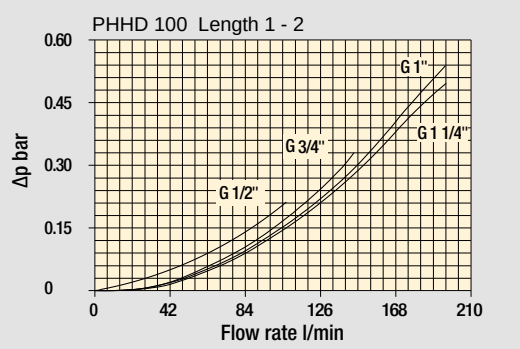
Maximum **fl**ow rate for a complete return **fi**lter with a pressure drop **Δ**p= 0.5 bar.

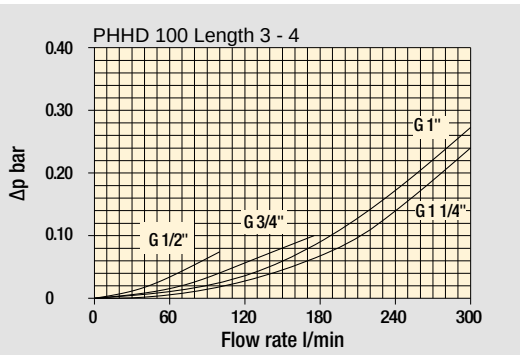
The reference fluid has a kinematic viscosity of 30 mm^2/s (cSt) and a density of 0.86 kg/dm^3 .

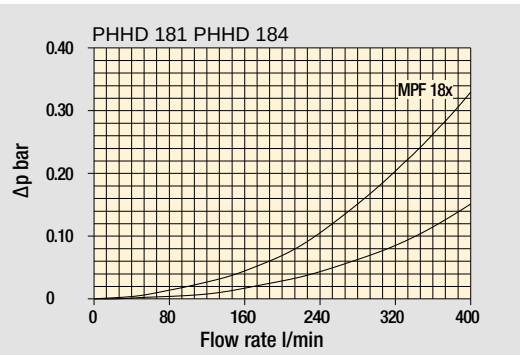
The curves are plotted using mineral oil with density of 0.86 kg/dm^3 in compliance with ISO 3968 **Δ**p varies proportionally with density.

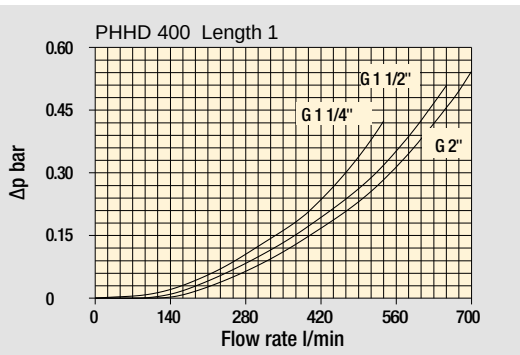
Filter housings Δp pressure drop

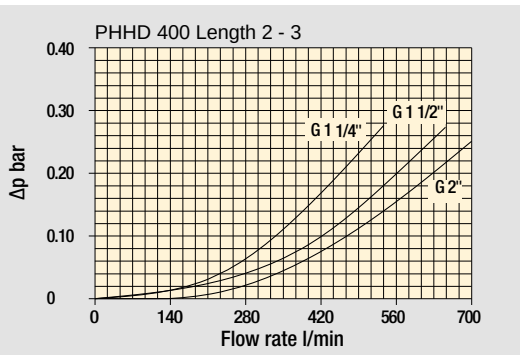




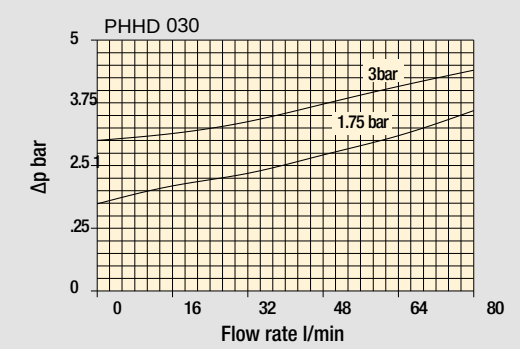


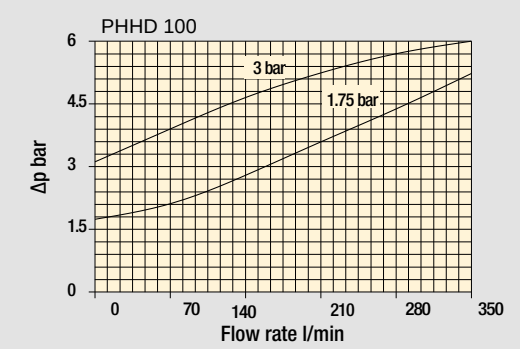


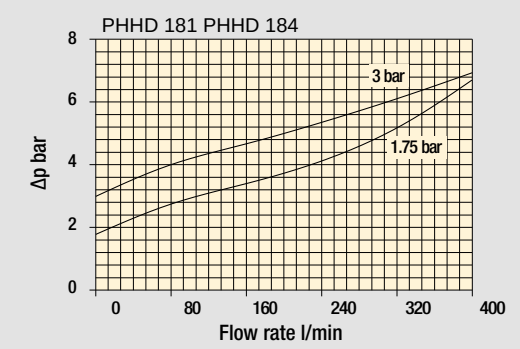


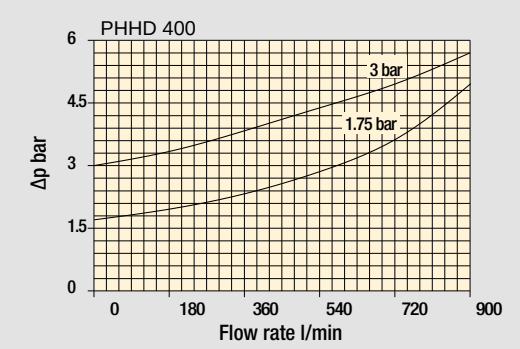


Bypass valve pressure drop









Ordering Options Table

PHHD 30 1 G1 F 10 N A B

Filter type

Filter specification

30

Length

1 2

Connection type and size

G1=G1/2"

Filter element material

F: Fiberglass W:Stainless steel wire mesh

Filter finenes(μm)

F: 03 05 10 20 30
W: 25 60 90

Seals

N: NBR V: FKM

Differential pressure transmitter

A: Steel blanking plug in indicator port
E: Vacuum gauge indicator
BM: Visual (Automatic reset)
B: Visual (Automatic reset)
CM: Electrical indicator
C: Electrical indicator
CL: Visual and electrical indicators

Bypass valve opening pressure

B = 1.75 bar
E = 3 bar

Filter Element

PYHD 30 1 F 10 N B

Filter element type

Filter element specification

30

Length

1 2

Filter element material

F: Fiberglass

W:Stainless steel wire mesh

Filter fineness(μm)

F: 03 05 10 20 30

W: 25 60 90

Seals O-ring

N: NBR V: FKM

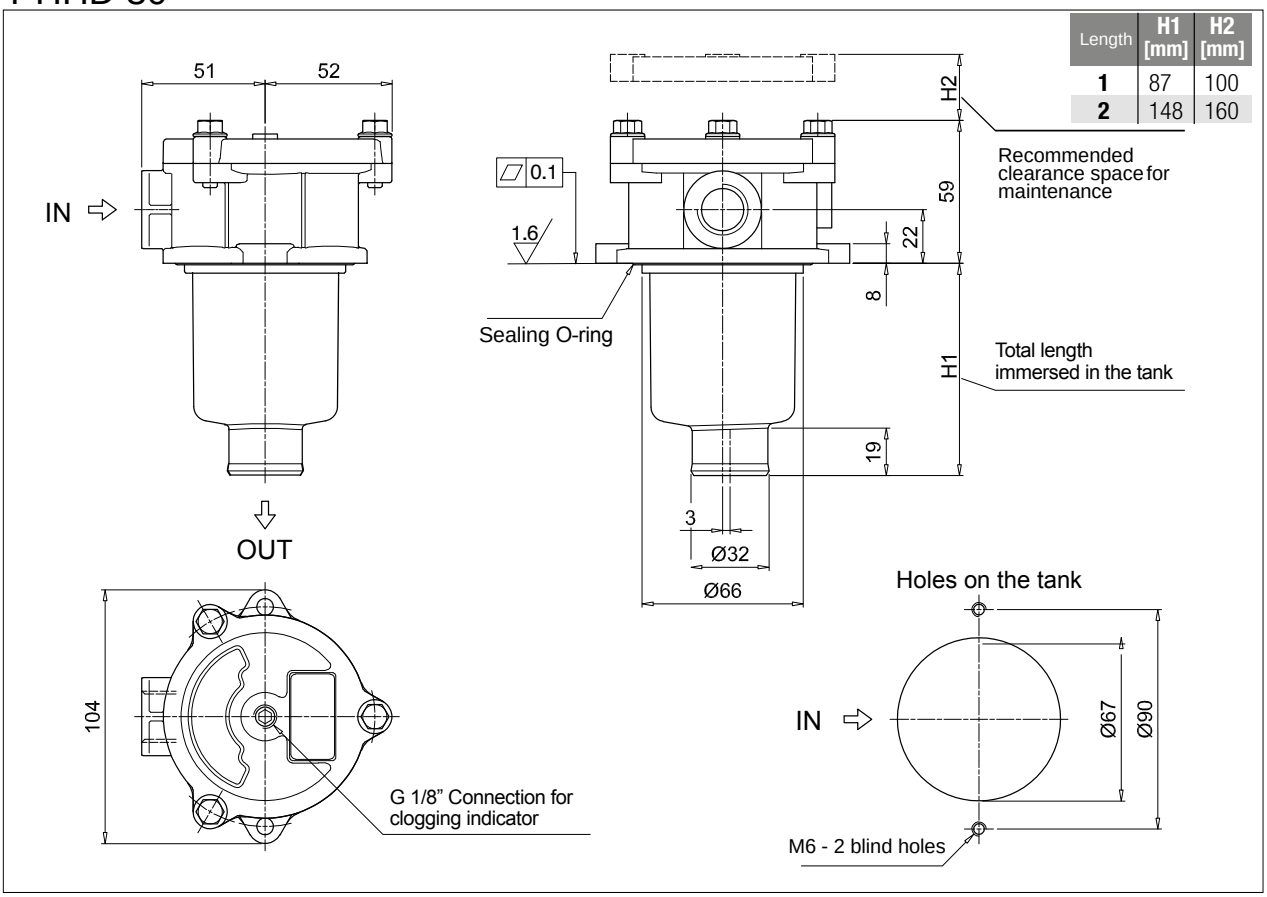
Bypass valve opening pressure

B = 1.75 bar

E = 3 bar

DIMENSIONS

PHHD 30



Ordering Options Table

PHHD 100 2 G1 F 10 N A B

Filter type

Filter specification

100

Length

1 2 3 4

Connection type and size

Type	Connection	Filter specification 100
G1	G1/2"	●
G3	G3/4"	●
G4	G1"	●

Filter element material

F: Fiberglass
W: Stainless steel wire mesh

Filter fineness(μm)

F: 03 05 10 20 30
W: 25 60 90

Seals O-ring

N: NBR V: FKM

Differential pressure transmitter

A: Steel blanking plug in indicator port
E: Vacuum gauge indicator
BM: Visual (Automatic reset)
B: Visual (Automatic reset)
CM: Electrical indicator
C: Electrical indicator
CL: Visual and electrical indicators

Bypass valve opening pressure

B = 1.75 bar
E = 3 bar

Filter Element

PYHD 100 2 F 10 N B

Filter element type

Filter element specification

100

Length

1 2 3 4

Filter element material

F: Fiberglass
W: Stainless steel wire mesh

Filter fineness(μm)

F: 03 05 10 20 30
W:25 60 90

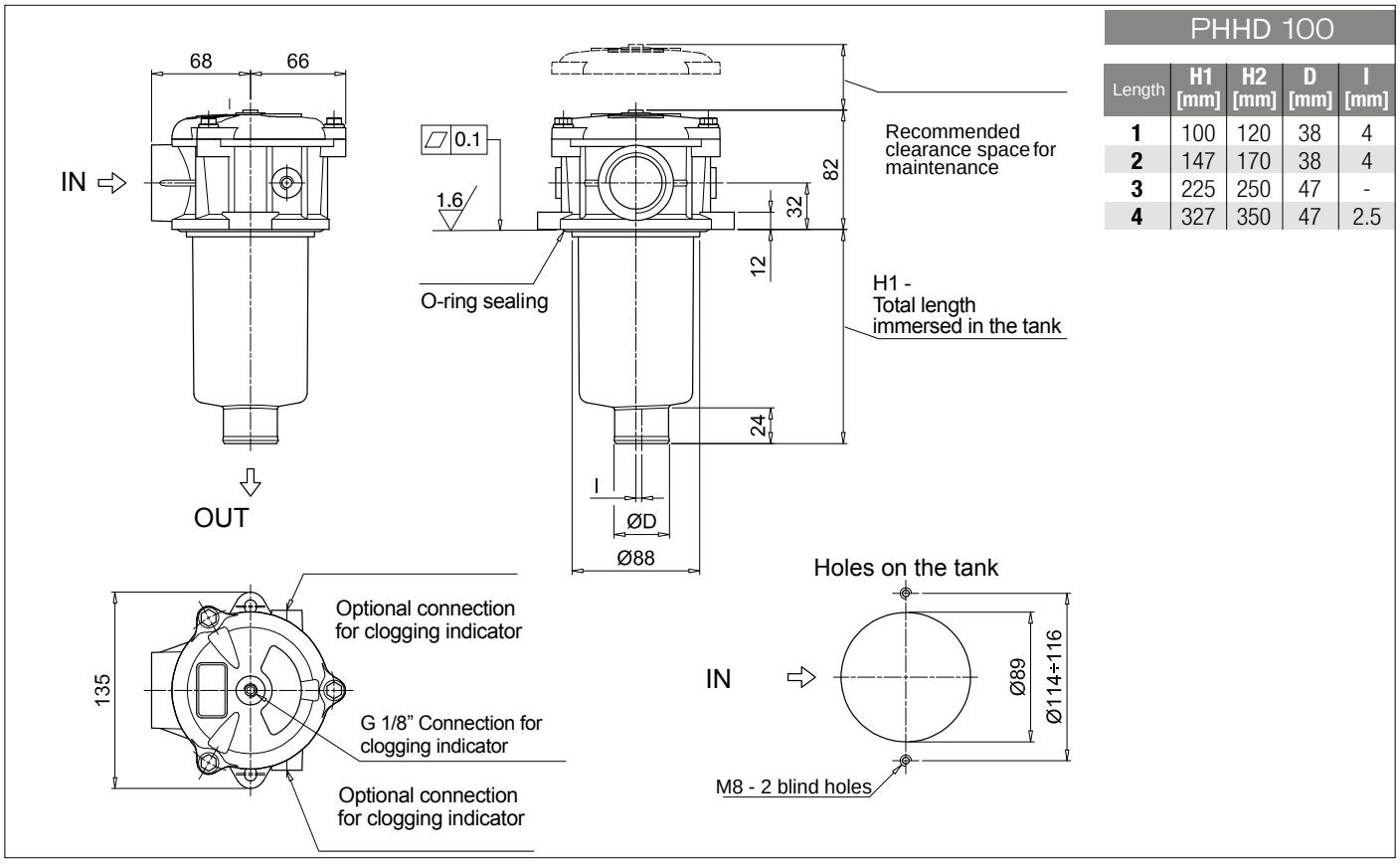
Seals O-ring

N: NBR V: FKM

Bypass valve opening pressure

B = 1.75 bar
E = 3 bar

DIMENSIONS



PHHD 100

Length	H1 [mm]	H2 [mm]	D [mm]	I [mm]
1	100	120	38	4
2	147	170	38	4
3	225	250	47	-
4	327	350	47	2.5

Ordering Options Table

PHHD 181 1 G5 F 10 N A B

Filter type

Filter specification

181

Length

1 2

Connection type and size

Type	Connection	Filter specification 181	191
G5	G1 1/4"	●	●
G6	G1 1/2"	●	●

Filter element material

F: Fiberglass
W: Stainless steel wire mesh

Filter fineness(μm)

F: 03 05 10 20 30
W: 25 60 90

Seals O-ring

N: NBR V: FKM

Differential pressure transmitter

A: Steel blanking plug in indicator port
E: Vacuum gauge indicator
BM: Visual (Automatic reset)
B: Visual (Automatic reset)
CM: Electrical indicator
C: Electrical indicator
CL: Visual and electrical indicators

Bypass valve opening pressure

B = 1.75 bar
E = 3 bar

Ordering Options Table

PHHD 184 2 F22 F 10 N A B

Filter type

Filter specification

184

Length

1 2

Connection type and size

Type	Connection	Main Connections	Rear connections
G5	G1 1/4"	●	●
G6	G1 1/2"	●	●
F4	1-1/2" SAE	●	●
G25	G1 - 1/4"	●	●
G26	G1 - 1/2"	●	●
F24	1- 1/2" SAE	●	●

"●Optional"

Filter element material

F: Fiberglass
W: Stainless steel wire mesh

Filter fineness(μm)

F: 03 05 10 20 30
W: 25 60 90

Seals O-ring

N: NBR V: FKM

Differential pressure transmitter

A: Steel blanking plug in indicator port
E: Vacuum gauge indicator
BM: Visual (Automatic reset)
B: Visual (Automatic reset)
CM: Electrical indicator
C: Electrical indicator
CL: Visual and electrical indicators

Bypass valve opening pressure

B = 1.75 bar
E = 3 bar

Filter Element

PYHD 180 1 F 10 N B

Filter element type

Filter element specification

180

Length

1 2

Filter element material

F: Fiberglass
W:Stainless steel wire mesh

Filter fineness(μm)

F: 03 05 10 20 30
W: 25 60 90

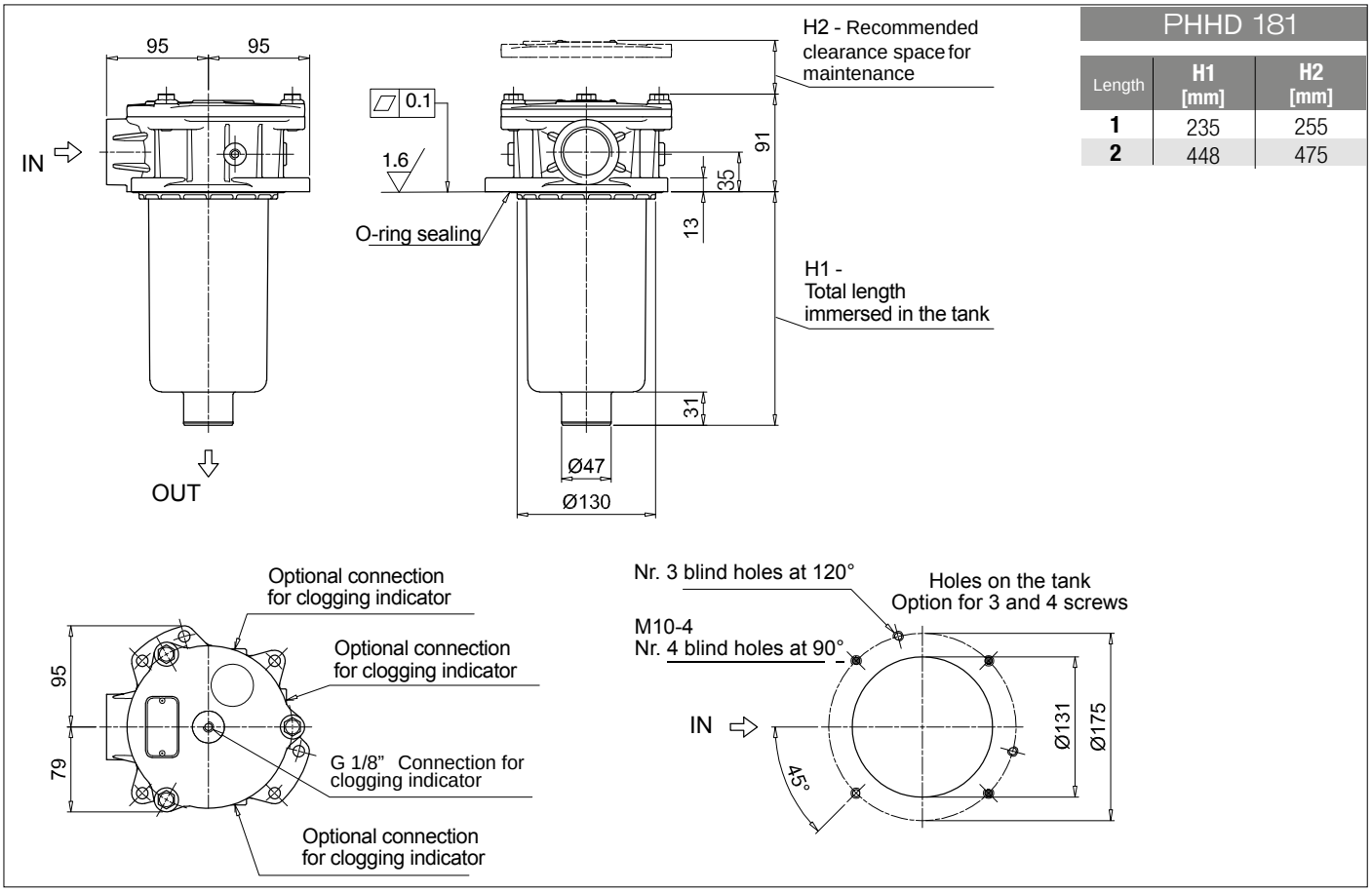
Seals O-ring

N: NBR V: FKM

Bypass valve opening pressure

B = 1.75 bar
E = 3 bar

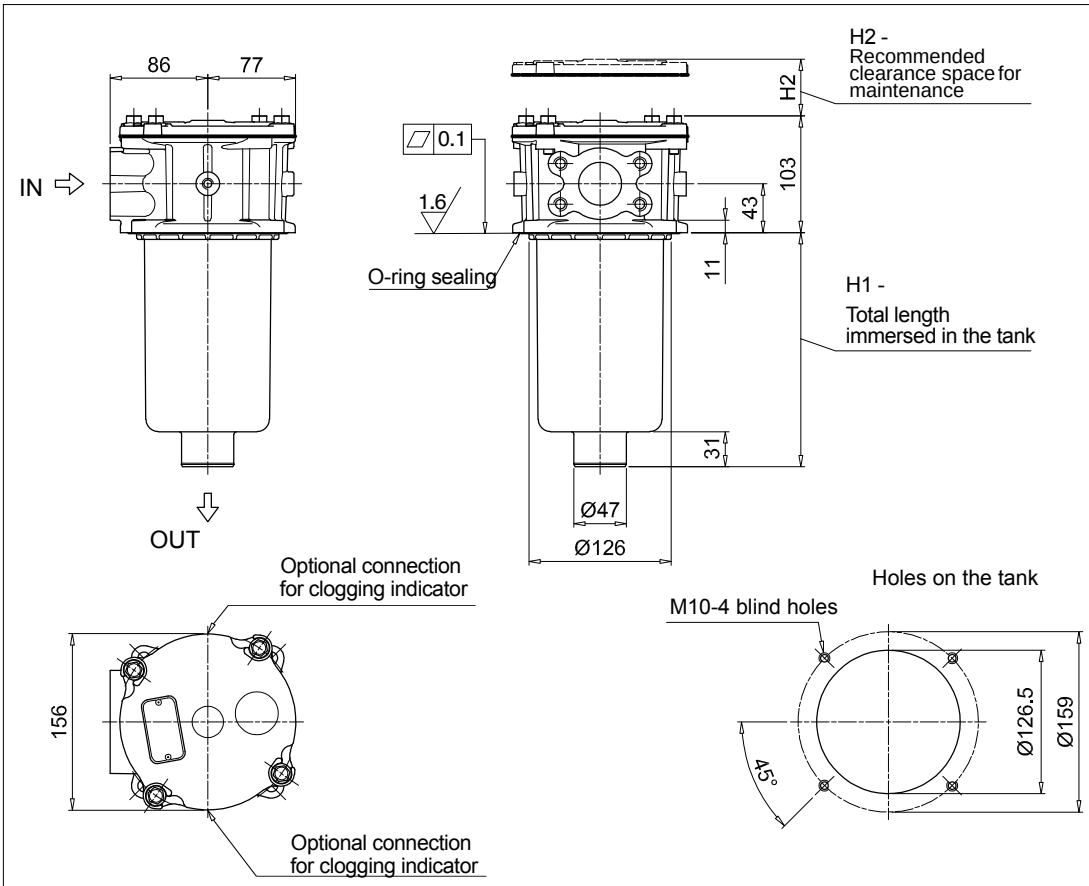
DIMENSIONS



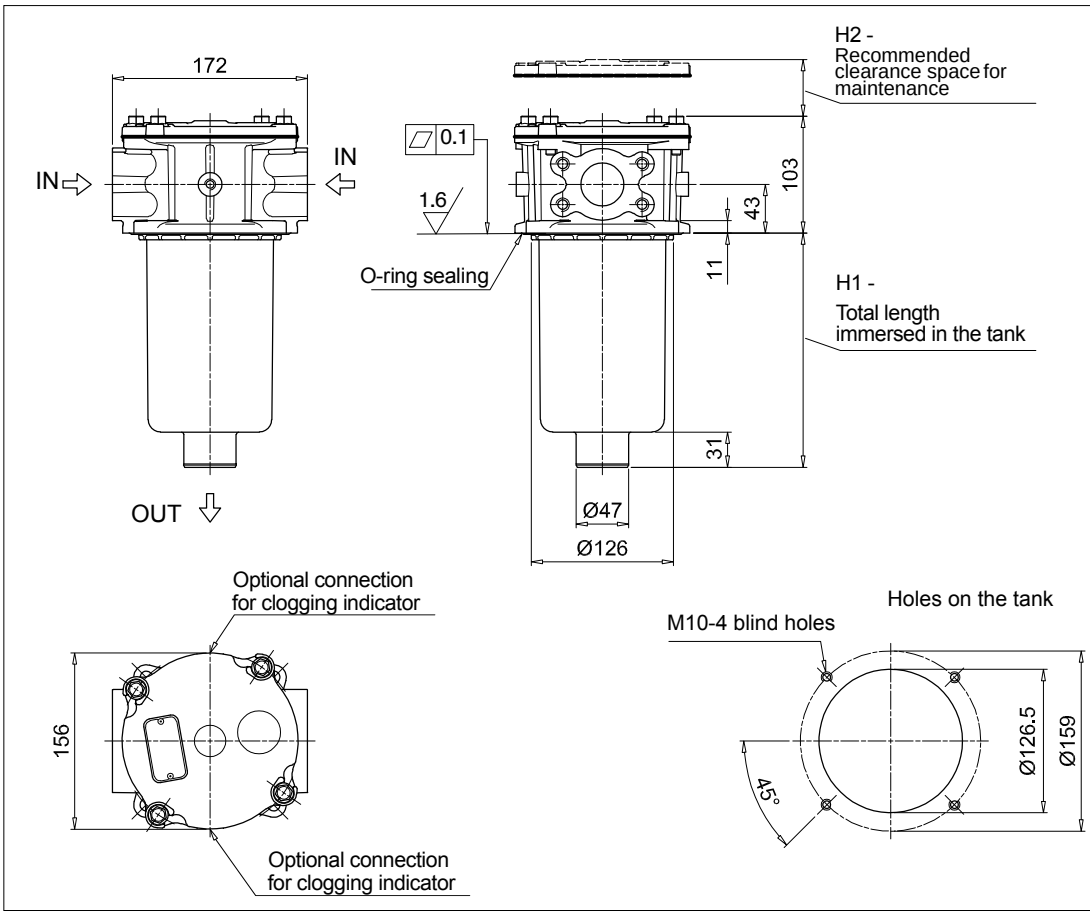
PHHD 181

Length	H1 [mm]	H2 [mm]
1	235	255
2	448	475

DIMENSIONS



PHHD 184		
1 connection port		
Length	H1 [mm]	H2 [mm]
1	232	260
2	445	480



PHHD 184		
2 connection port		
Length	H1 [mm]	H2 [mm]
1	232	260
2	445	480

Ordering Options Table

PHHD 400 2 G5 F 10 N A E

Filter type

Filter specification

400

Length

1 2 3

Connection type and size

Type	Connection	Filter specification 400
G4	G1"	-
G5	G1 - 1/4"	●
G6	G1 - 1/2"	●
G7	G2"	●

Filter element material

F: Fiberglass
W:Stainless steel wire mesh

Filter fineness(μm)

F: 03 05 10 20 30
W: 25 60 90

Seals O-ring

N: NBR V: FKM

Differential pressure transmitter

A: Steel blanking plug in indicator port
E: Vacuum gauge indicator
BM: Visual (Automatic reset)
B: Visual (Automatic reset)
CM: Electrical indicator
C: Electrical indicator
CLVisual and electrical indicators

Bypass valve opening pressure

B = 1.75 bar
E = 3 bar

Filter Element

PYHD 400 1 F 10 N E

Filter element type

Filter element specification

400

Length

1 2 3

Filter element material

F: Fiberglass

W: Stainless steel wire mesh

Filter fineness(μm)

F: 03 05 10 20 30
W: 25 60 90

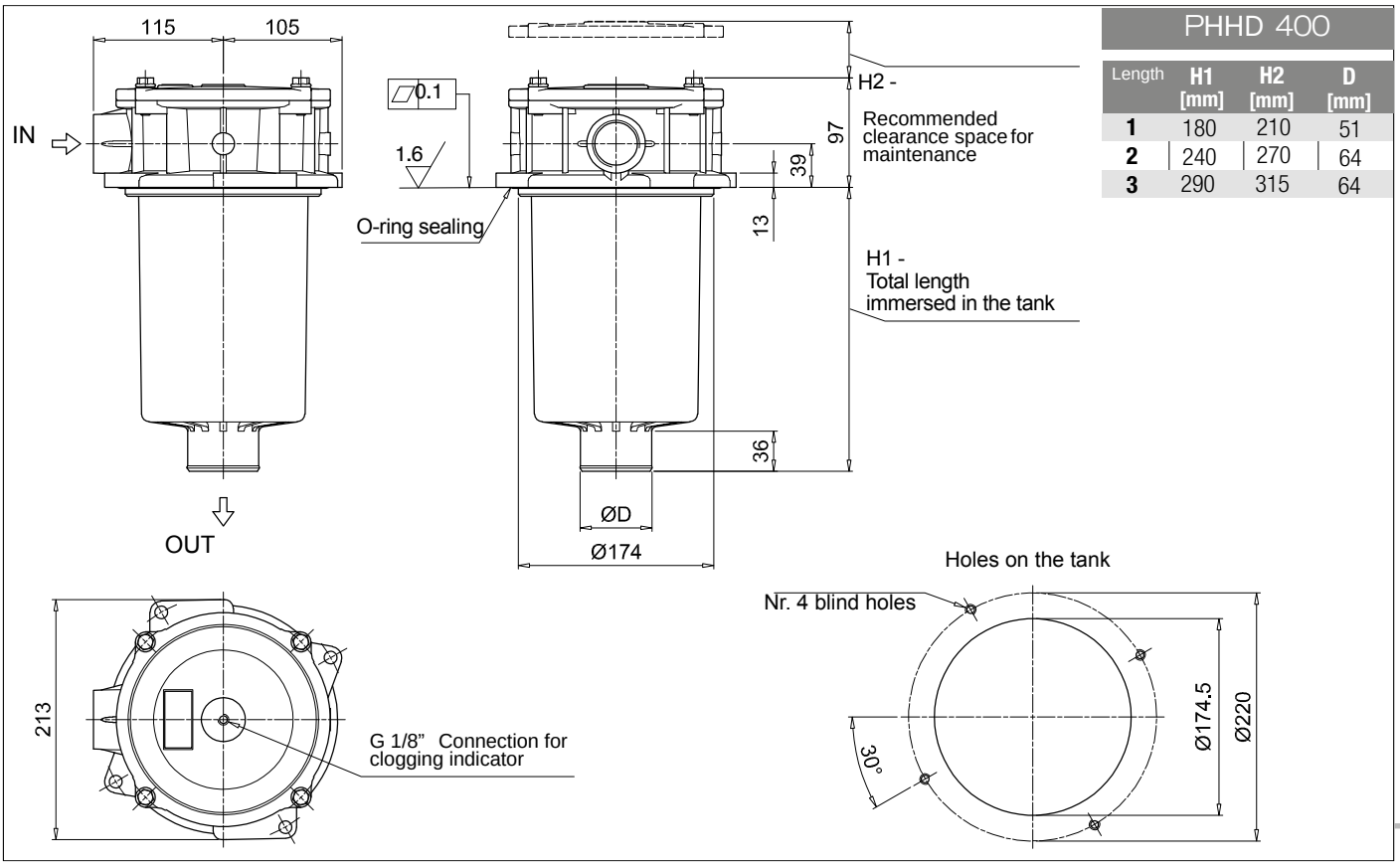
Seals O-ring

N: NBR, V: FKM

Bypass valve opening pressure

B = 1.75 bar
E = 3 bar

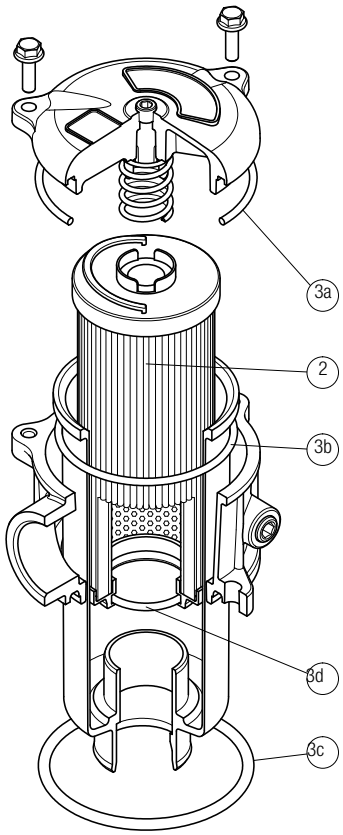
DIMENSIONS



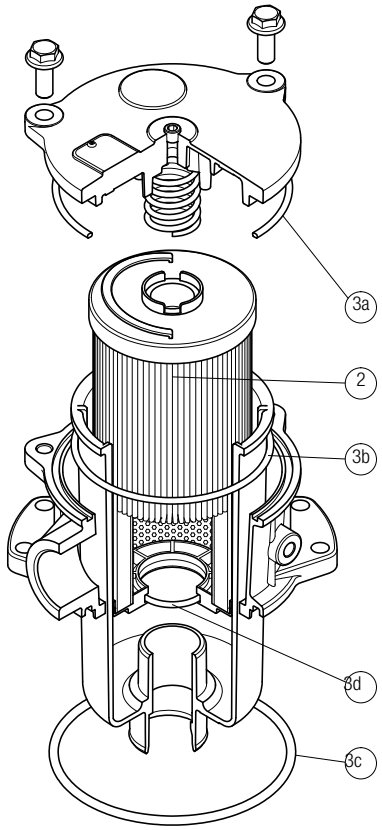
PHHD 400

Length	H1 [mm]	H2 [mm]	D [mm]
1	180	210	51
2	240	270	64
3	290	315	64

PHHD 100



PHHD 181



O-RING SEALING