



THE **X** CONCEPT FOR OUR FILTERS

Protect the performance of your system with MYclean.
 Quality and efficiency are fundamental for MP Filtri:
 this exclusive new filter element possesses polygon shape geometry and specific seal
 that ensures only original spare parts can be used - ensuring correct operation and
 higher system reliability.

MRS**X** series

with **MYCLEAN** RS**X** Filter Element



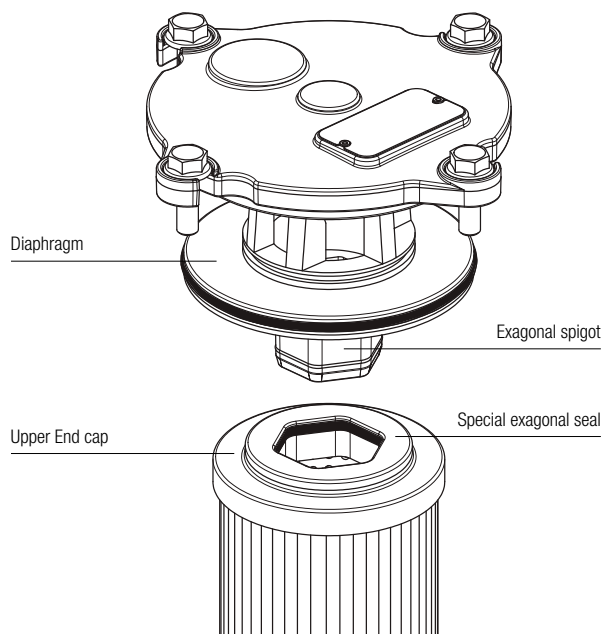
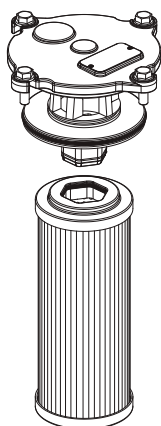
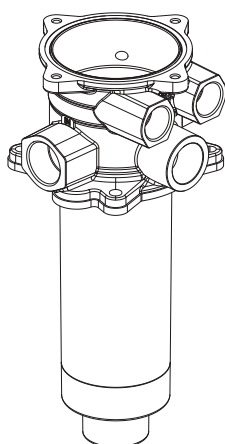
- ◆ **Protects the machine from improper use of non-original products.**
- ◆ **Safety of constant quality protection & reliability**

With exclusive filter element you are sure that only MP Filtri filter elements can be used, ensuring the best cleaning level of the oil due to the use of originals filter elements.



The products identified as MRSX are protected by:

- ◆ Italian Patent n° 102014902261205
- ◆ Canadian Patent n° 2,937,258
- ◆ European Patent n° 3 124 092 B1
- ◆ US Patent n° 20170030384 A1



MRSX series

Maximum working pressure up to 1 MPa (10 bar) - Flow rate up to 250 l/min



Description

Technical data

Return / Suction filter

Tank mounted

Maximum working pressure up to 1 MPa (10 bar)
Flow rate up to 250 l/min

MRSX is a range of suction/return filters for hydraulic systems with two or more circuits (both open and closed loops). They are able to provide pressurized oil cleaned by fine filtration to the feed pump of the hydrostatic systems.

They are directly fixed to the reservoir, in immersed or semi-immersed position.

The filter output must be always immersed into the fluid to avoid aeration or foam generation into the reservoir.

Available features:

- Female threaded return connections up to 1 1/4", for a maximum return flow rate of 250 l/min
- Multiple connections, to connect several return and suction lines
- Fine filtration rating, to get a good cleanliness level into the reservoir
- Bypass valve to the tank, to relieve excessive pressure drop across the filter media when the return flow is enough higher than the suction flow
- Bypass valve to the suction line with additional suction filter element, to relieve excessive pressure drop across the filter media when the return flow is not enough higher than the suction flow
- De-pressurization valve, to reduce the pressure inside the filter during the maintenance operations
- Anti-cavitation valve with additional suction filter element, to ensure fluid to the feed pump of the hydrostatic systems during cold starts or initial filling
- O-ring or Flat Seal to suit a variety of reservoir surfaces
- Reservoir side mounting, to save space in the machines
- Visual, electrical and electronic clogging indicators
- MYclean interface connection, to protect the product against non-original spare parts
- External protective wrap, to optimize the flow through the element and to save the element efficiency against non-proper handling

Common applications:

Mobile machines with hydrostatic systems on board
 (i.e. skid steer loaders, telehandlers, dumpers, road sweepers)

Filter housing materials

- Head: Aluminium

- Cover

Polyamide: MRSX 116

Aluminium: MRSX 165-166

- Bowl: Polyamide

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)

Filter element features

Filter MRSX		Filter element RSX
Δp Element type		
Element media	Construction	Δp
A - Microfiber	Standard	10 bar
<i>Please see ordering code tables to check element Δp series availability based on filter features.</i>		
Flow direction through the filter element:		
From OUT to IN		

Seals

- Standard NBR series A
- Optional FPM series V

Temperature

From -25 °C to +110 °C

Flow rates [l/min]

Filter series	Length	A10	A16	A25
MRSX 116	1	74	82	87
	2	108	113	124
MRSX 165 - 166	1	155	166	178
	2	187	196	200
	3	201	205	217

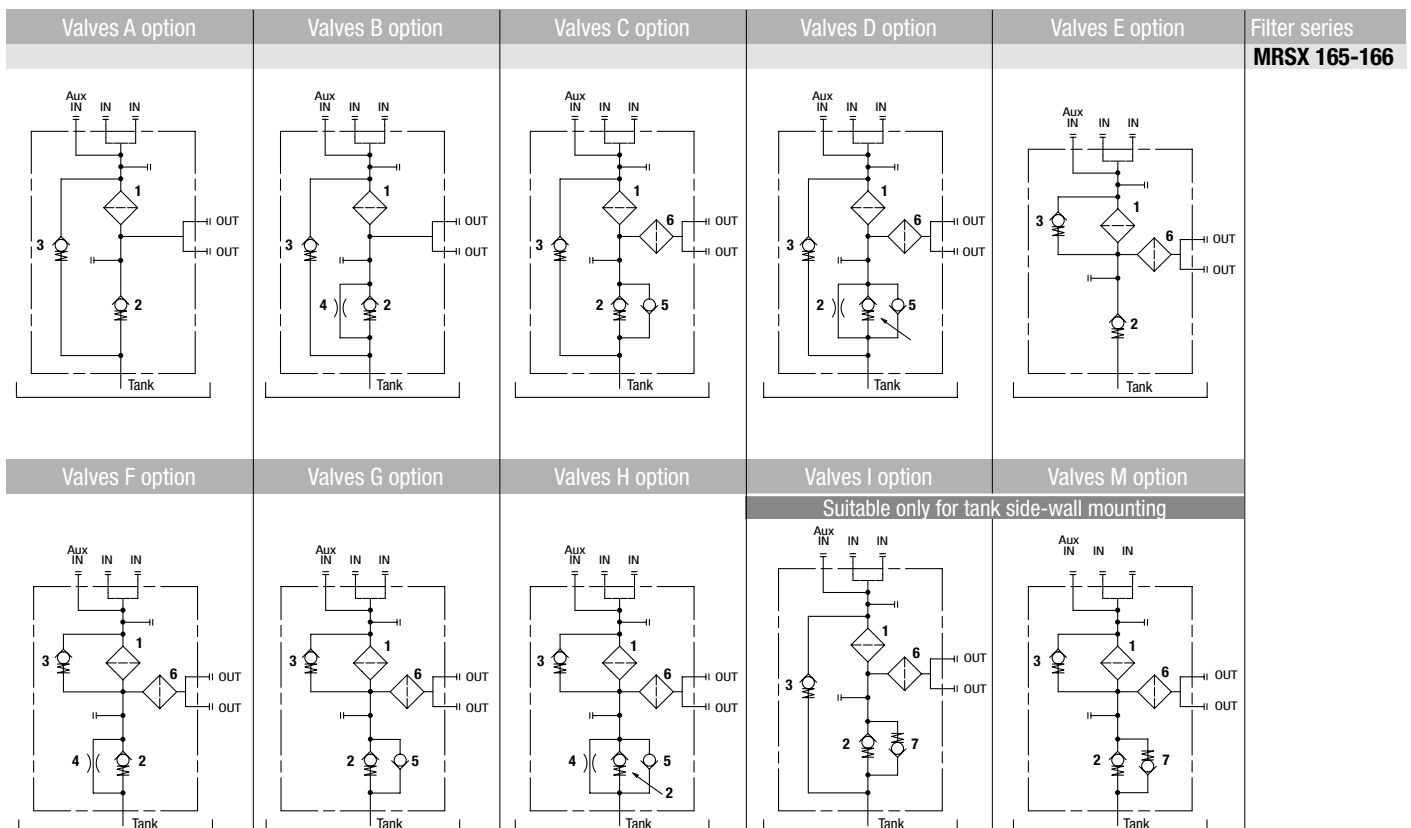
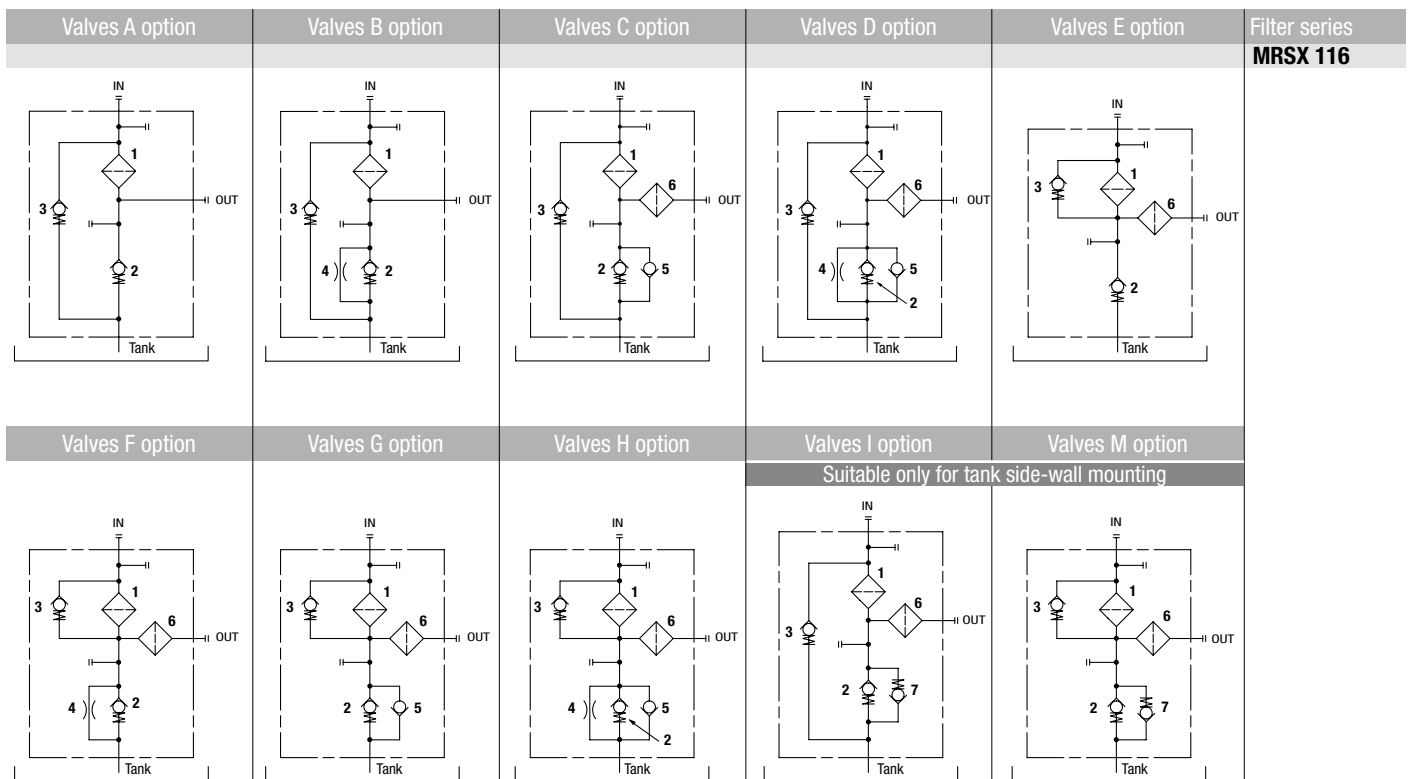
Maximum flow rate for a complete return/suction filter with a pressure drop Δp = 1 bar.

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.mpfiltr.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.



LEGEND

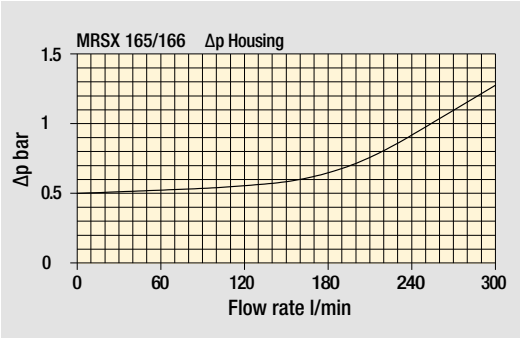
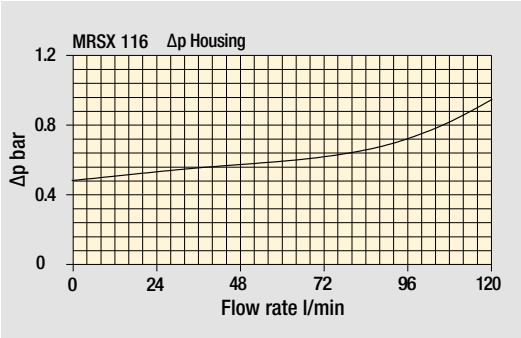
- 1 - Filter element
- 2 - Back-Pressure valve: opening pressure 0.5 bar $\pm$ 10%
- 3 - Bypass valve: opening pressure 2.5 bar $\pm$ 10%
- 4 - Depressurization valve

- 5 - Anti-Cavitation valve
- 6 - Safety filter element (wire mesh 60 μ m)
- 7 - Anti-Cavitation valve / Anti-Emptying valve

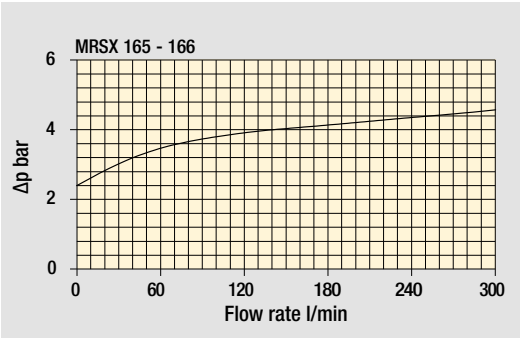
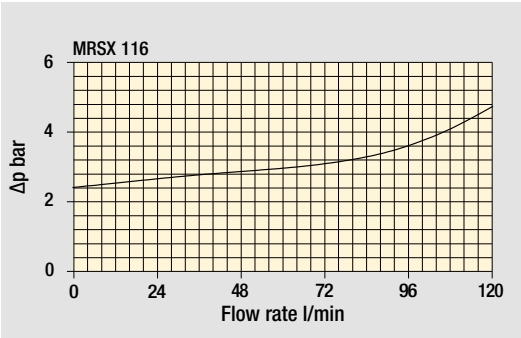
MRSX GENERAL INFORMATION

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.

Weights [kg] and volumes [dm³]

Filter series	Weights [kg]				Volumes [dm ³]			
	Length	1	2	3	Length	1	2	3
MRSX 116		1.30	1.40	-		0.80	1.00	-
MRSX 165		3.40	3.80	4.10		2.00	2.60	3.00
MRSX 166		3.40	3.80	4.10		2.00	2.60	3.00

Designation & Ordering code

COMPLETE FILTER

Series and size		Configuration example: MRSX116 1 B A G1 0 A16 B P01											
MRSX116 Filter featuring MYCLEAN Filter Element													
Length													
1 2													
Hydraulic diagram configuration - see page 275													
		Bypass valve to tank					Bypass valve to OUT						
A	B	C	D										
E	F	G	H										
I													
M													
Seals and treatments													
A	NBR, O-Ring on head			B	NBR, flat seal on head								
V	FPM, O-Ring on head			D	FPM, flat seal on head								
Connections IN		Connections OUT											
G1	G 3/4"			G 3/4"									
G2	G 1"			G 1"									
G3	3/4" NPT			3/4" NPT									
G4	1" NPT			1" NPT									
G5	SAE 12 - 1 1/16" - 12 UN			SAE 12 - 1 1/16" - 12 UN									
G6	SAE 16 - 1 5/16" - 12 UN			SAE 16 - 1 5/16" - 12 UN									
D1	G 1"			G 3/4"									
D2	1" NPT			3/4" NPT									
D3	SAE 16 - 1 5/16" - 12 UN			SAE 12 - 1 1/16" - 12 UN									
Aux IN connection													
0 Without aux IN connection													
Filtration rating (filter media)													
A10	Inorganic microfiber 10 µm												
A16	Inorganic microfiber 16 µm												
A25	Inorganic microfiber 25 µm												
Valves configuration													
Mounting position		A	B	C	D	E	F	G	H	I	M		
S	Standard	•	•	•	•	•	•	•	•	-	-		
B	Tank side-wall mounting	•	•	-	-	•	•	-	-	•	•		
Execution													
P01 MP Filtri standard													
Pxx Customized													

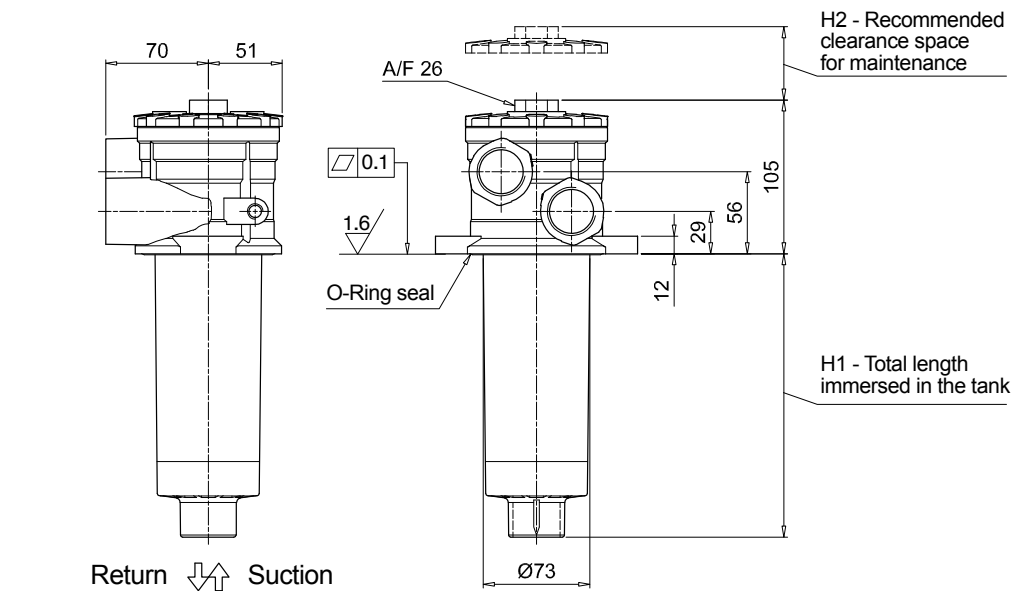
FILTER ELEMENT

Element series and size		Configuration example: RSX116 1 A16 A P01			
RSX116 Filter Element with MYCLEAN feature					
Element length					
1 2					
Filtration rating (filter media)					
A10	Inorganic microfiber 10 µm				
A16	Inorganic microfiber 16 µm				
A25	Inorganic microfiber 25 µm				
Seals					
A	NBR				
V	FPM				
Execution					
P01 MP Filtri standard					
Pxx Customized					

CLOGGING INDICATORS

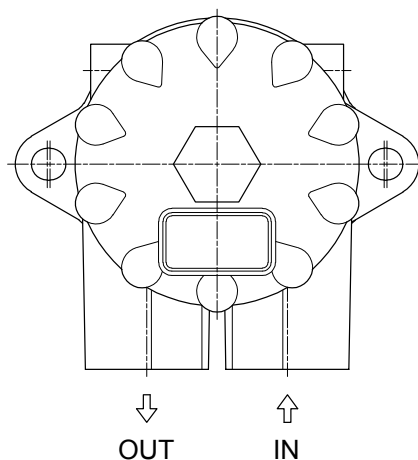
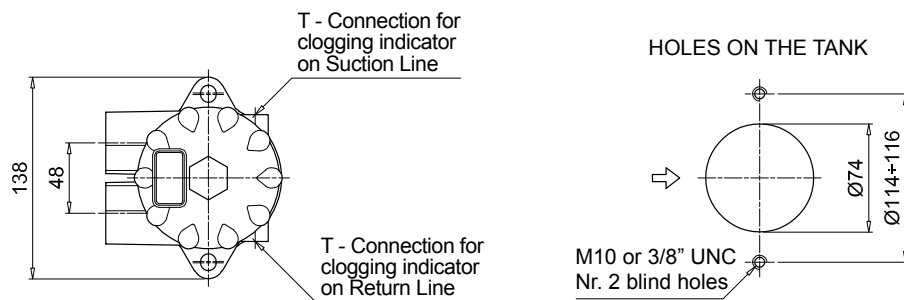
See pages 778-780

Indicators on Return Line			
BVA	Axial pressure gauge	BEA	Electrical pressure indicator
BVR	Radial pressure gauge	BEM	Electrical pressure indicator
BVP	Visual pressure indicator with automatic reset	BET	Electrical pressure indicator
BVQ	Visual pressure indicator with manual reset	BLA	Electrical / visual pressure indicator
Indicators on Suction Line			
VVB	Axial vacuum gauge	VEB	Electrical vacuum indicator
VVS	Radial vacuum gauge	VLB	Electrical / visual vacuum indicator



MRSX116		
Filter length	H1 [mm]	H2 [mm]
1	203	240
2	263	300

Connections	T
G1 - G2	G 1/8"
G3 - G4	1/8" NPT
G5 - G6	1/8" NPT
D1	G 1/8"
D2 - D3	1/8" NPT



MRSX MRSX165 - MRSX166

Designation & Ordering code

COMPLETE FILTER

Series and size Configuration example: **MRSX166** **2** **C** **V** **G3** **1** **A10** **S** **P01**

MRSX165 **MRSX166** Filter featuring **MYCLEAN** Filter Element

Length
1 **2** **3**

Hydraulic diagram configuration - see page 275

A	B	C	D	Bypass valve to tank	Bypass valve to OUT
E	F	G	H	-	•
I				•	-
M				-	•

Seals and treatments

A	NBR, O-Ring on head	B	NBR, flat seal on head
V	FPM, O-Ring on head	D	FPM, flat seal on head

Connections

	IN (size 165)	IN (size 166)	Aux IN	OUT
G1	G 1 1/4"	G 1"	G 1 1/4"	G 1"
G2	1 1/4" NPT	1" NPT	1 1/4" NPT	1" NPT
G3	SAE 20 - 1 5/8" - 12 UN	SAE 16 - 1 5/16" - 12 UN	SAE 20 - 1 5/8" - 12 UN	SAE 16 - 1 5/16" - 12 UN

Aux IN connection

	MRSX 165	MRSX 166
0	Without aux IN connection	•
1	With aux IN connection - see previous table	•

Filtration rating (filter media)

A10	Inorganic microfiber	10 µm
A16	Inorganic microfiber	16 µm
A25	Inorganic microfiber	25 µm

Valves configuration

Mounting position	A	B	C	D	E	F	G	H	I	M
S Standard	•	•	•	•	•	•	•	•	-	-
B Tank side-wall mounting	•	•	-	-	•	•	-	-	•	•

Execution

P01	MP Filtri standard
Pxx	Customized

FILTER ELEMENT

Element series and size Configuration example: **RSX165** **2** **A10** **V** **P01**

RSX165 Filter Element with **MYCLEAN** feature

Element length
1 **2** **3**

Filtration rating (filter media)

A10	Inorganic microfiber	10 µm
A16	Inorganic microfiber	16 µm
A25	Inorganic microfiber	25 µm

Seals

A	NBR
V	FPM

Execution

P01	MP Filtri standard
Pxx	Customized

CLOGGING INDICATORS

See pages 778-780

Indicators on Return Line

BVA	Axial pressure gauge
BVR	Radial pressure gauge
BVP	Visual pressure indicator with automatic reset
BVQ	Visual pressure indicator with manual reset

BEA	Electrical pressure indicator
BEM	Electrical pressure indicator
BET	Electrical pressure indicator
BLA	Electrical / visual pressure indicator

Indicators on Suction Line

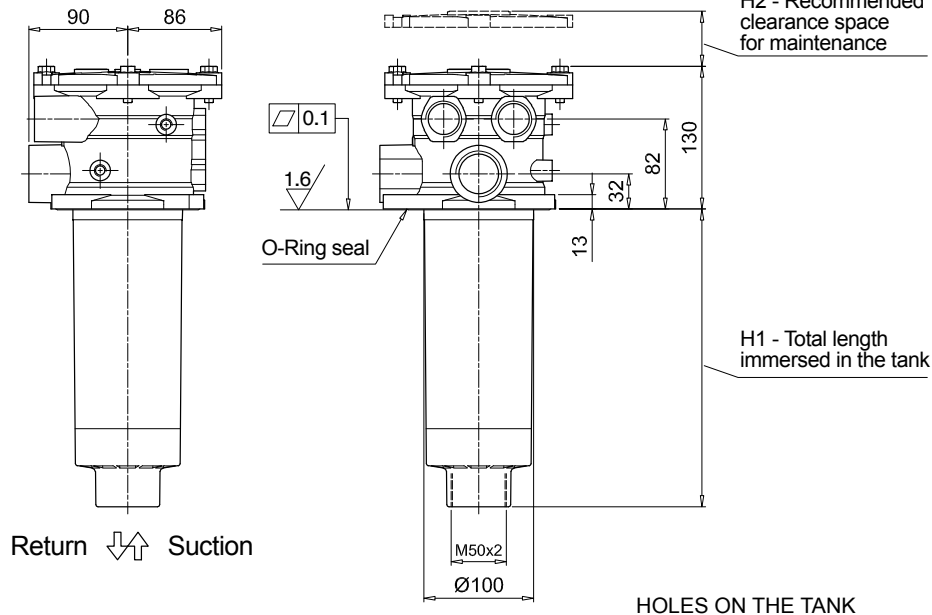
VVB	Axial vacuum gauge
VVS	Radial vacuum gauge

VEB	Electrical vacuum indicator
VLB	Electrical / visual vacuum indicator

MRSX165

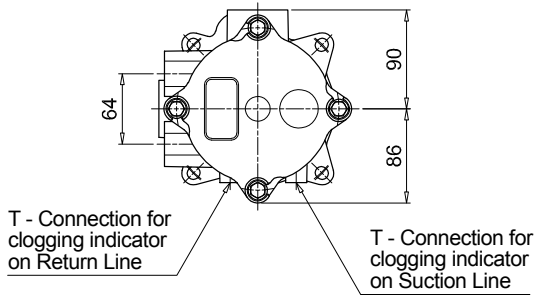
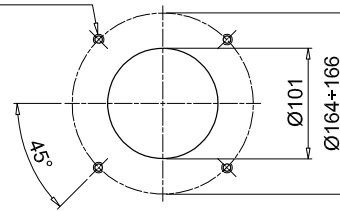
Filter length	H1 [mm]	H2 [mm]
1	270	320
2	378	430
3	445	500

Connections	T
G1	G 1/8"
G2 - G3	1/8" NPT

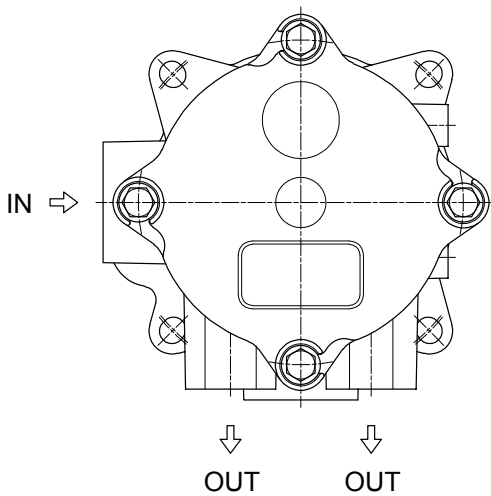


HOLES ON THE TANK

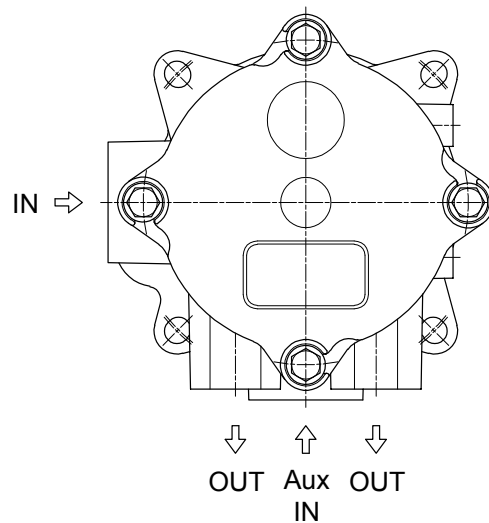
M10 or 3/8" UNC
Nr. 4 blind holes



Without
Aux IN connection

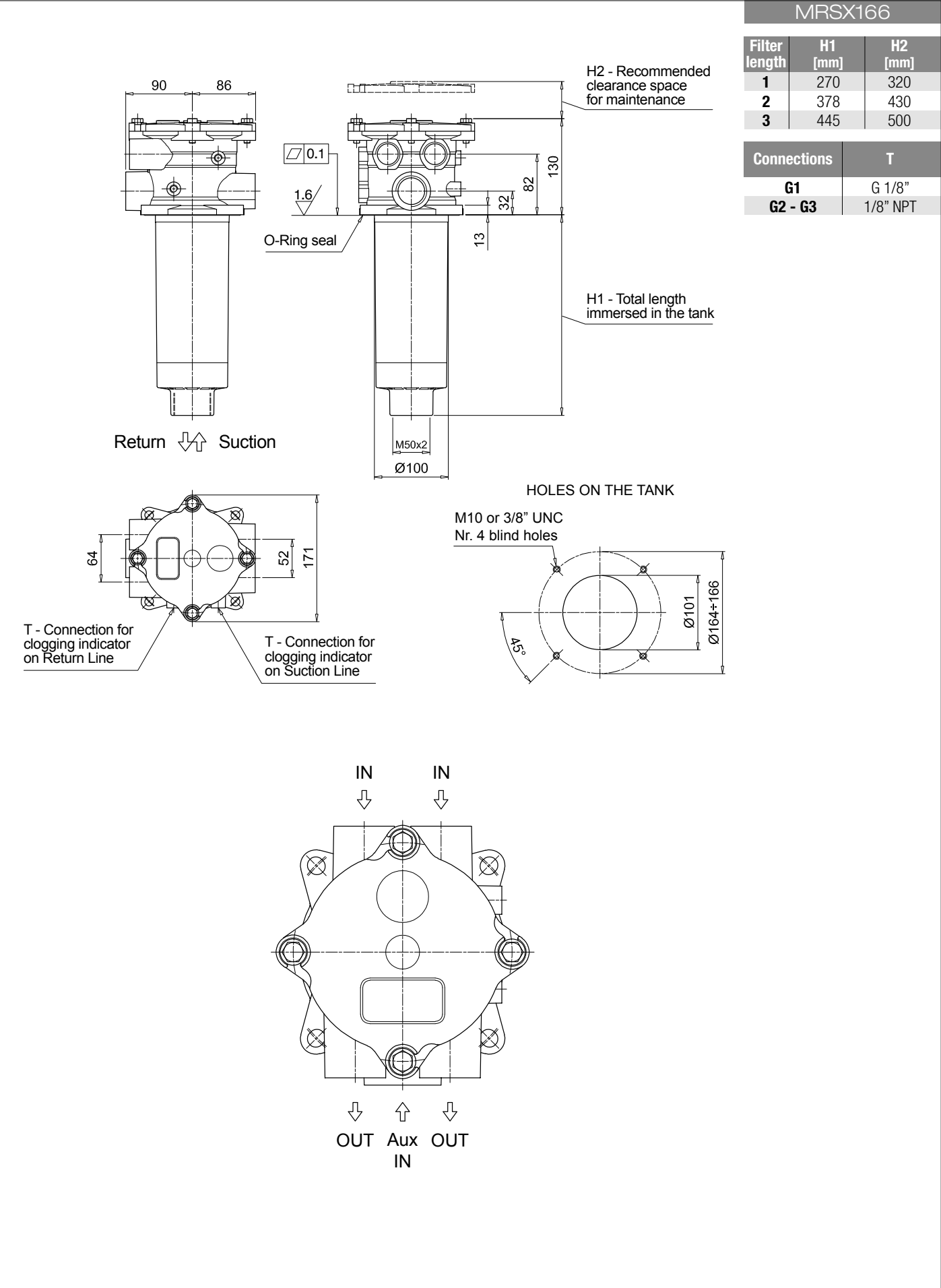


With
Aux IN connection



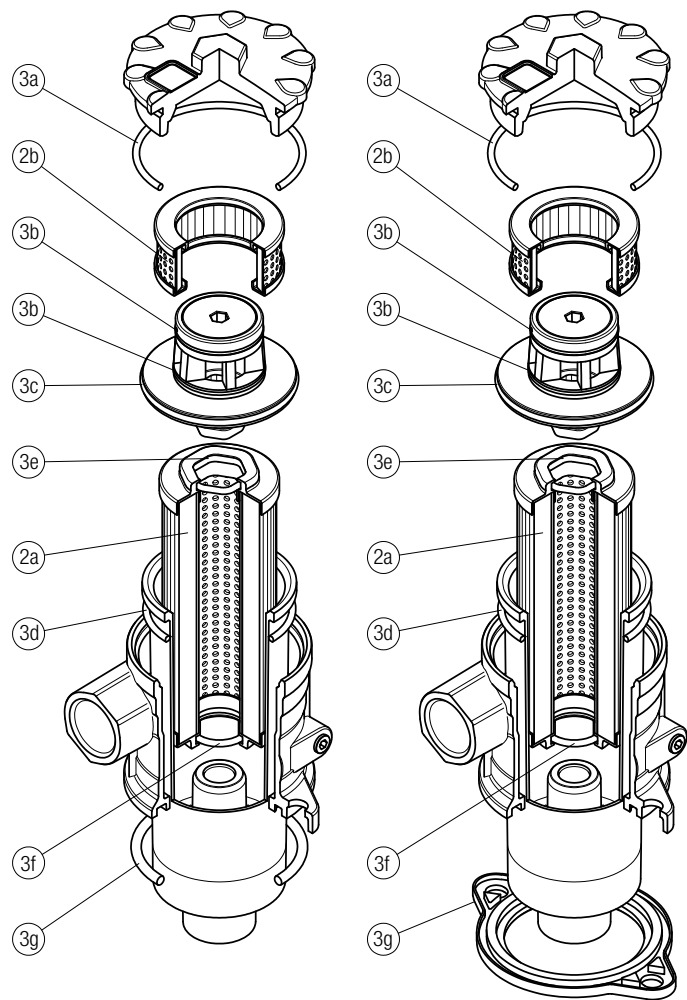
MRSX MRSX165 - MRSX166

Dimensions



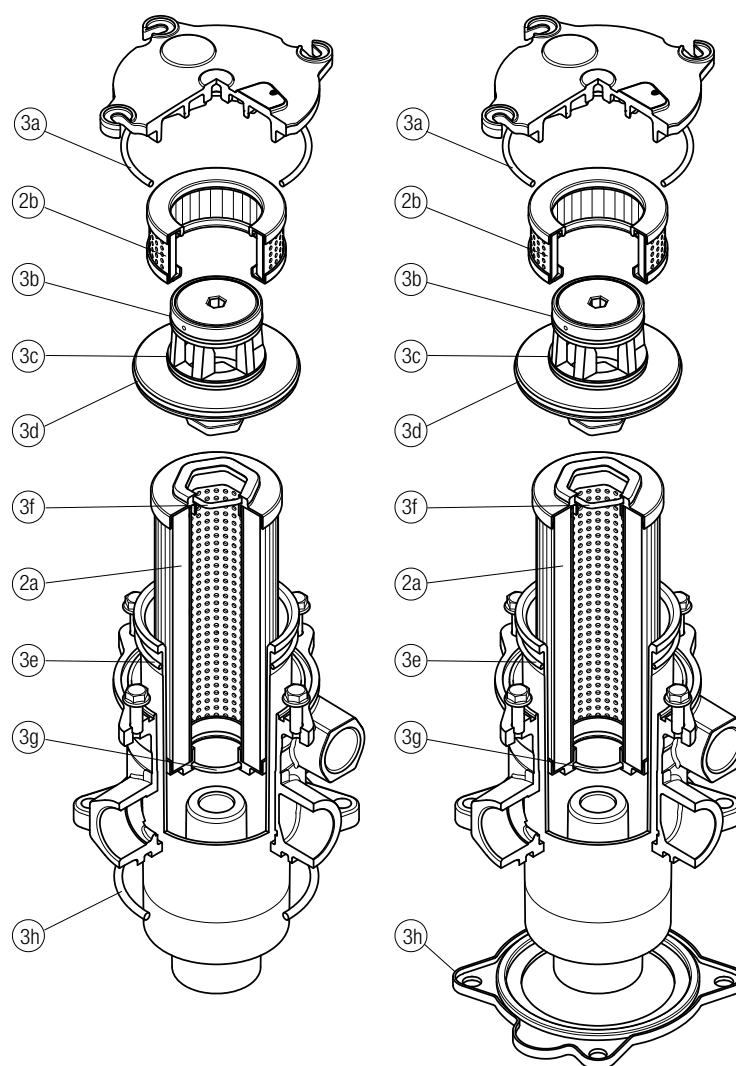
Order number for spare parts

MRSX 116



Item:	Q.ty: 1 pc.		O-RING SEAL		FLAT SEAL	
	2a	2b	3 (3a ÷ 3g)		3 (3a ÷ 3g)	
Filter series	Filter element	Safety filter element	Seal Kit code number		Seal Kit code number	
			NBR	FPM	NBR	FPM
MRSX 116	See order table	S116M60P01	02050617	02050619	02050618	02050620

MRSX 165 - 166



Item:	Q.ty: 1 pc. 2a	Q.ty: 1 pc. 2b	O-RING SEAL Q.ty: 1 pc. 3 (3a ÷ 3h)		FLAT SEAL Q.ty: 1 pc. 3 (3a ÷ 3h)	
Filter series	Filter element	Safety filter element	Seal Kit code number NBR	Seal Kit code number FPM	Seal Kit code number NBR	Seal Kit code number FPM
MRSX 165	See order table	S165M60P01	02050627	02050630	02050628	02050631
MRSX 166			02050627	02050630	02050629	02050632