

MANN In-line filters



MANN In-line filters ...

MANN In-line Filters are fine filters used mainly in hydraulic systems for the filtration of motor and gearbox oils and in lube-oil circuits in the general machine construction. The fineness of the MANN micro-Top filter elements (star-pleated paper) is in the μm range.

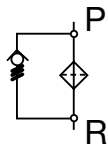


Design

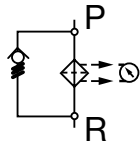
The filters consist of a filter head with two threads, mounting holes and a MANN micro-Top Spin-on filter

Versions available:

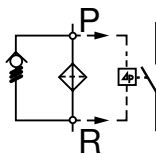
- with bypass valve, without service indicator



- with bypass valve and service indicator



- with bypass valve and service switch (make /break contact, convertible)



Operation

MANN In-line filters are mainly used as full-flow filters. All the liquid to be cleaned passes through every time it circulates. The filters can also be used for return flow.

Deposit of dirt particles on the paper element causes the flow resistance to increase. When a certain differential pressure has been reached (e.g. upon cold start or when the filter element is clogged), a bypass valve in the filter opens, ensuring sufficient and constant lubrication.

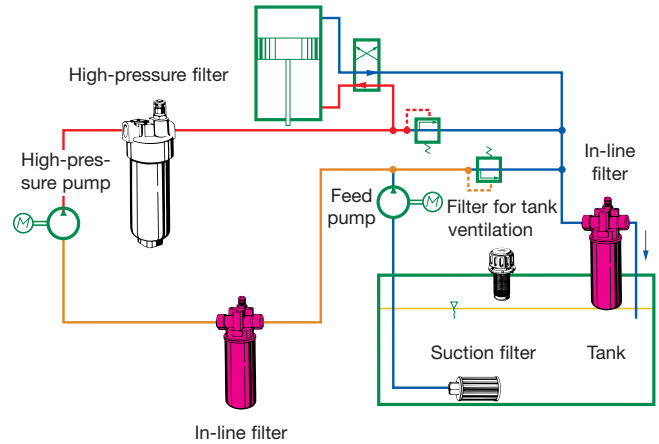
Service indicators or switches and bypass valves are combined to signal the need for filter service before the bypass valve opens.

... for full and return flow

Assembly and maintenance

The filters are installed in pipelines (refer to dimension table for threads). Attention must be paid to the flow direction, indicated on the threads by arrows. Maintenance is limited to the replacement of the clogged spin-on can: A service indicator or switch signals that a service is necessary. The MANN removal tool on page 12 helps in loosening the filter.

MANN In-line filters in hydraulic circuits



Technical data

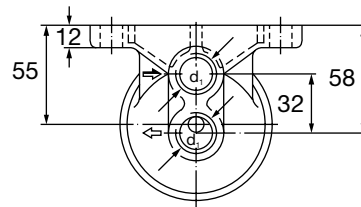
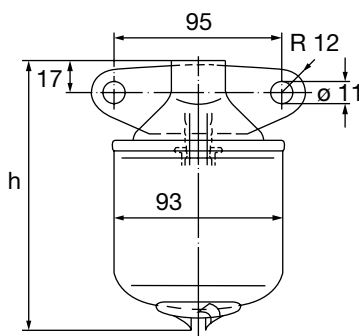
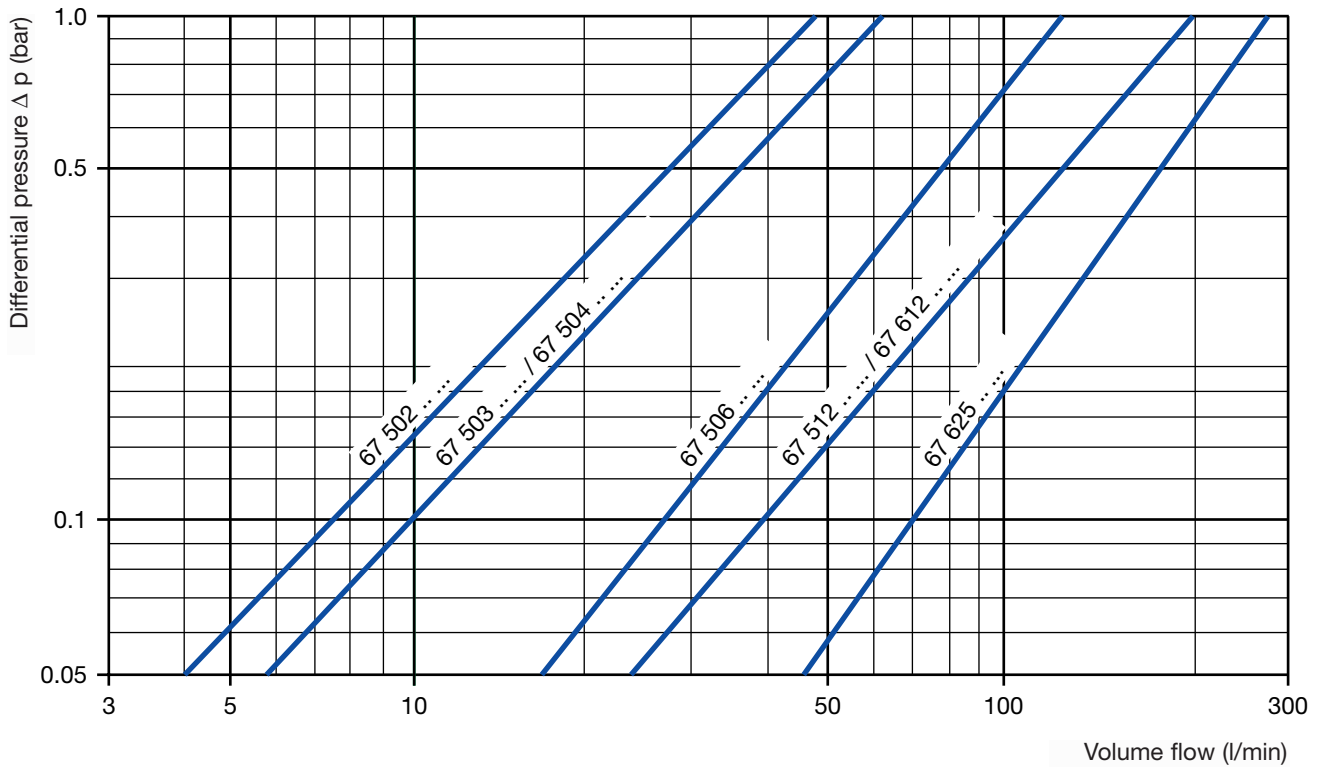
Filter fineness:	12 µm 50 % fractional separation efficiency (single pass) 30 µm 99 % fractional separation efficiency (single pass) Other filter fineness upon request
Nominal flow rate:	25 to 540 l/min
Operating pressure:	14; 20; 25 or 35 bar (1.4; 2; 2.5 or 3.5 MPa) For non-automotive applications, observe the regulations on the construction of pressure vessels
Operating temperature:	Max. 120 °C
Material:	Filter head made of cast aluminium
Bypass valve:	Opens at differential pressures of 2.5 or 3.5 bar (250 or 350 KPa) with or without non-return valve
Service indicator:	Indication through red signal ring at a differential pressure of 1.8 bar (180 KPa)
Service switch:	Switching at differential pressure of 1.8 bar (180 KPa) Electrical connections see page 53/54

MANN In-line filters

Nominal pressure 14 bar (1.4 MPa)

Characteristics

Flow resistance as per ISO 3968 at
36 mm²/sec.



Part No.	Nominal flow rate [l/min] ¹⁾	Spin-on filter	Dimensions in mm and inches		Weight approx. [kg]
			d ₁	h	
67 502 62 026	25	W 920	M 20x1.5	145	0.72
67 503 62 026	40	W 940	M 20x1.5	192	0.83
67 502 62 106	25	W 920	G 1/2	145	0.72
67 504 62 126	40	W 940	G 1/2	192	0.81

¹⁾ Flow rate values are only valid for liquids with 36 mm²/sec and flow resistance according to the above diagram.

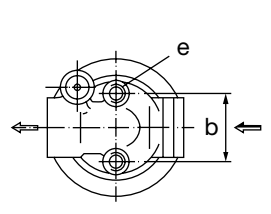
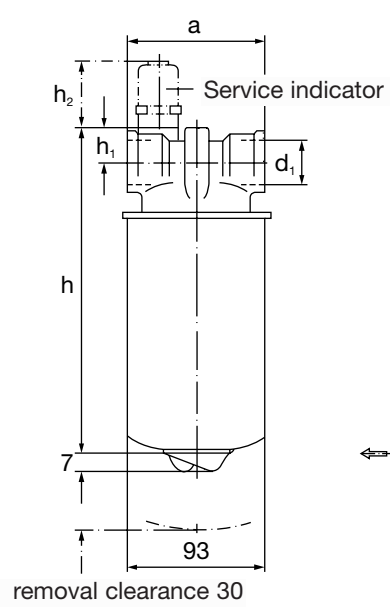


Fig. 1

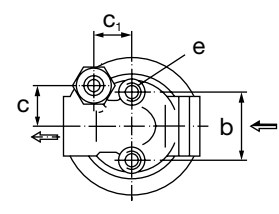


Fig. 2

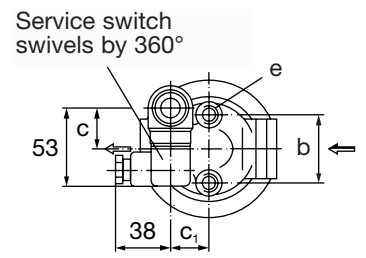


Fig. 3

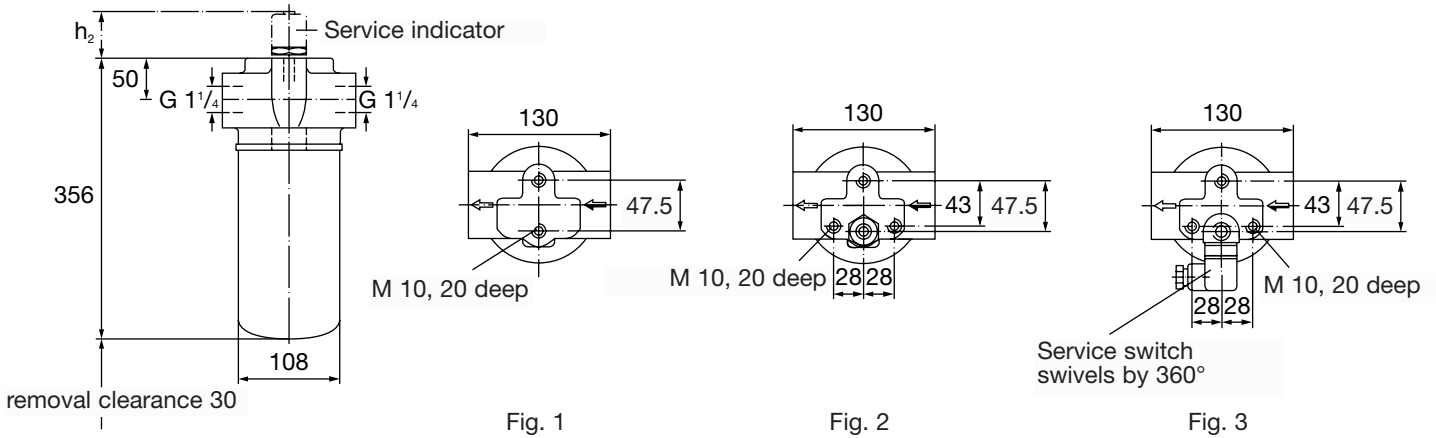
Part No.	Fig.	Spin-on filter	Dimensions in mm and inches									Service indication	Weight approx. [kg]
			a	b	c	c ₁	d ₁ ¹⁾	e	h	h ₁	h ₂		
Nominal flow rate: 25 l/min													
67 502 62 256	1	W 920	90	40	–	–	G 1/2	M 8,	147	22	–	–	1.2
67 502 62 236	2	W 920	90	40	21.5	24	G 1/2	16	147	22	46	optical	1.2
67 502 62 226	3	W 920	90	40	21.5	24	G 1/2	deep	147	22	62	electrical	1.3
Nominal flow rate: 40 l/min													
67 503 62 306	1	W 940	90	40	–	–	G 1/2	M 8,	194	22	–	–	1.2
67 503 62 276	2	W 940	90	40	21.5	24	G 1/2	16	194	22	46	optical	1.2
67 503 62 266	3	W 940	90	40	21.5	24	G 1/2	deep	194	22	62	electrical	1.3
Nominal flow rate: 70 l/min													
67 506 62 706	1	W 962/2	95	47.5	–	–	G 1	M 8,	269	25	–	–	1.6
67 506 62 666	2	W 962/2	95	47.5	28.5	26	G 1	16	269	25	46	optical	1.6
67 506 62 676	3	W 962/2	95	47.5	28.5	26	G 1	deep	269	25	62	electrical	1.7

1) Other threads upon request.

2) Flow rate values are only valid for liquids with 36 mm²/sec and flow resistance according to the diagram on page 44.

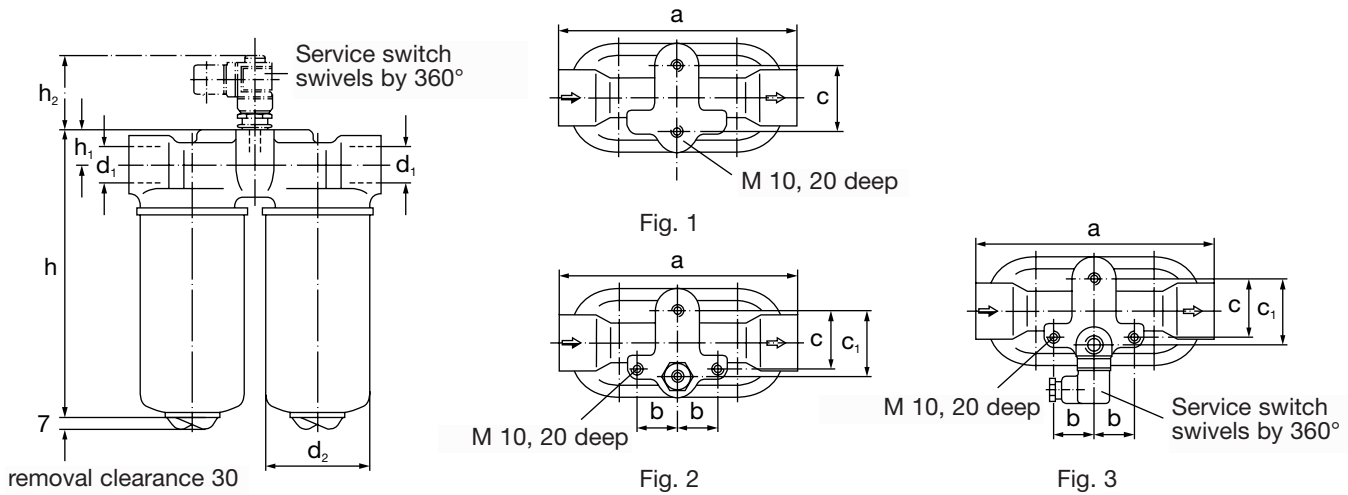
MANN In-line filters

Nominal pressure 14 bar (1.4 MPa)



Part No.	Fig.	Nominal flow rate [l/min] ¹⁾	Spin-on filter	h ₂ [mm]	Service indication	Weight approx. [kg]
67 612 62 146	1	120	W 11 102	–	–	4.1
67 612 62 176	2	120	W 11 102	46	optical	4.2
67 612 62 166	3	120	W 11 102	62	electrical	5.2

1) Flow rate values are only valid for liquids with 36 mm²/sec and flow resistance according to the diagram on page 44.



Part No.	Fig.	Nom. flow rate [l/min] ³⁾	Spin-on filter	Dimensions in mm and inches									Service indication	Weight approx. [kg]
				a	b	c	c ₁	d ₁ ²⁾	d ₂	h	h ₁	h ₂		
67 512 62 106	1	120	2x W 962/2	200	–	47.5	–	G 1	93	275	30	–	–	2.8
67 512 62 136	2	120	2x W 962/2	200	40	43	47.5	G 1	93	275	30	46	optical	2.8
67 512 62 126	3	120	2x W 962/2	200	40	43	47.5	G 1	93	275	30	62	electrical	4.2
67 625 62 106¹⁾	1	180	2x W 11 102	270	–	70	–	G 1 1/2	108	337	35	–	–	4.6
67 625 62 116¹⁾	2	180	2x W 11 102	270	45	65	70	G 1 1/2	108	337	35	46	optical	4.8
67 625 62 126¹⁾	3	180	2x W 11 102	270	45	65	70	G 1 1/2	108	337	35	62	electrical	4.7

1) Filters supplied without release cam.

2) Other threads upon request.

3) Flow rate values are only valid for liquids with 36 mm²/sec and flow resistance according to the diagram on page 44.

MANN In-line filters

Nominal pressure 35/25/20 bar (3.5/2.5/2.0 MPa)

Characteristics

Flow resistance as per ISO 3968 at 36 mm²/sec.

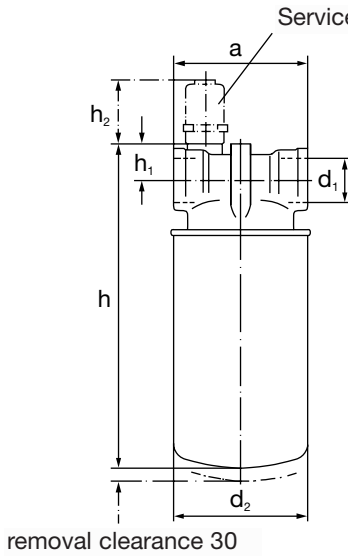
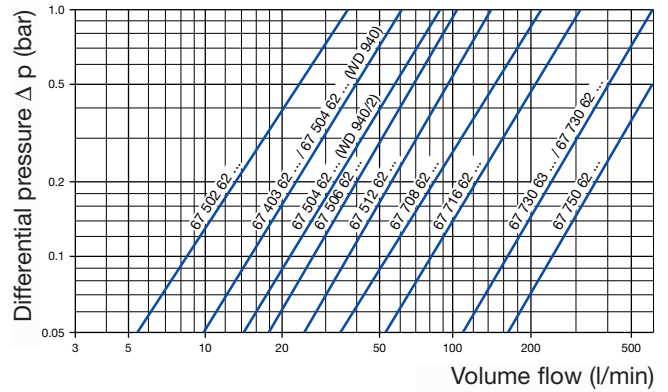


Fig. 1

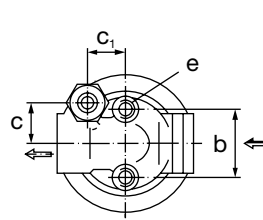


Fig. 2

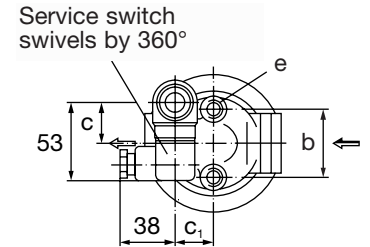


Fig. 3

Part No.	Fig.	Nominal flow rate [l/min] ³⁾	Spin-on filter	Dimensions in mm and inches										Service indication	Weight approx. [kg]	
				a	b	c	c ₁	d ₁ ¹⁾	d ₂	e	h	h ₁	h ₂			
Operating pressure 35 bar (3.5 MPa)																
67 403 62 246	1	20	WD 724/3	90	40	-	-	G 1/2	76	M 8, 16 deep	192	22	-	-	0.9	
Operating pressure 25 bar (2.5 MPa)																
67 502 62 246	1	25	WD 920	90	40	-	-	G 1/2	93		149	22	-	-	0.73	
67 502 62 216	2	25	WD 920	90	40	21.5	24	G 1/2	93		149	22	46	optical	0.83	
67 502 62 206	3	25	WD 920	90	40	21.5	24	G 1/2	93		149	22	62	electric.	0.83	
67 504 62 436	1	40	WD 940	90	40	-	-	G 1/2	93		196	22	-	-	1.3	
67 504 62 456	2	40	WD 940	90	40	21.5	24	G 1/2	93		196	22	46	optical	1.4	
67 504 62 446	3	40	WD 940	90	47.5	21.5	24	G 1/2	93		196	22	62	electric.	1.4	
67 504 62 426	1	35	WD 940/2	95	47.5	-	-	G 1	93		M 10, 20 deep	203	25	-	-	0.87
67 504 62 416	2	35	WD 940/2	95	47.5	28.5	26	G 1	93			203	25	46	optical	0.97
67 504 62 406	3	35	WD 940/2	95	47.5	28.5	26	G 1	93			203	25	62	electric.	0.97
67 506 62 756	1	70	WD 962	95	47.5	-	-	G 3/4	93			271	25	-	-	2.7
67 506 62 696	1	70	WD 962	95	47.5	-	-	G1	93	271		25	-	-	2.7	
67 506 62 656	2	70	WD 962	95	47.5	28.5	26	G1	93	271		25	46	optical	2.8	
67 506 62 646	3	70	WD 962	95	47.5	28.5	26	G1	93	271		25	62	electric.	2.8	
Operating pressure 20 bar (2.0 MPa)																
67 708 62 146 ²⁾	1	95	WD 1374	135	56	-	-	G 1 1/4	136	M 10, 20 deep		246	28	-	-	3.0
67 708 62 156 ²⁾	2	95	WD 1374	135	56	30	26	G 1 1/4	136			246	28	46	optical	3.1
67 708 62 166 ²⁾	3	95	WD 1374	135	56	30	26	G 1 1/4	136			246	28	62	electric.	3.1
67 716 62 216	1	180	WD 13 145	135	56	-	-	G 1 1/4	136			371	28	-	-	3.4
67 716 62 226	2	180	WD 13 145	135	56	30	26	G 1 1/4	136		371	28	46	optical	3.5	
67 716 62 236	3	180	WD 13 145	135	56	30	26	G 1 1/4	136		371	28	62	electric.	3.5	

1) Other threads upon request.

2) Without bypass valve.

3) Flow rate values are only valid for liquids with 36 mm²/sec and flow resistance according to the above diagram.

MANN In-line filters

Nominal pressure 25/20 bar (2.5/2.0 MPa)

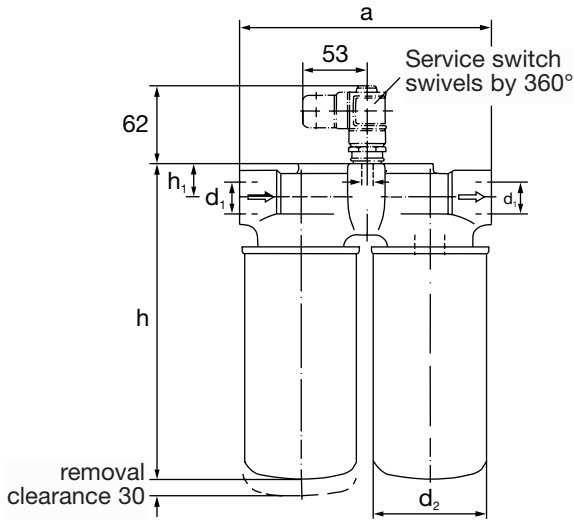


Fig. 1

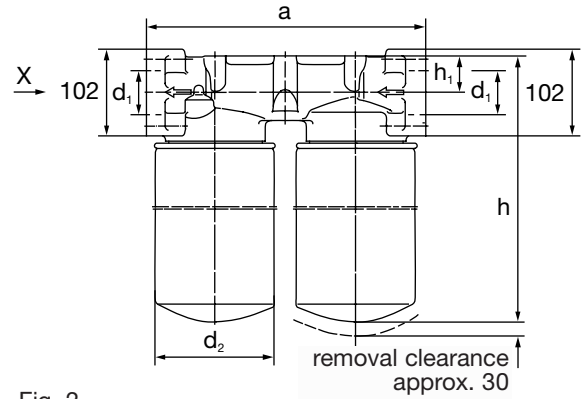


Fig. 2

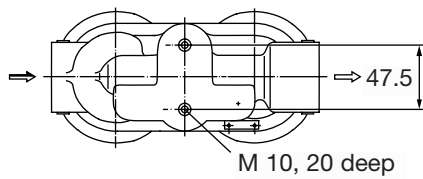


Fig. 1.1

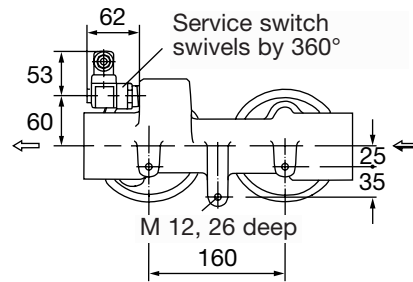
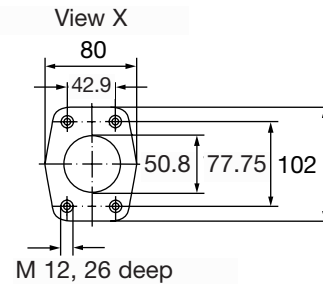
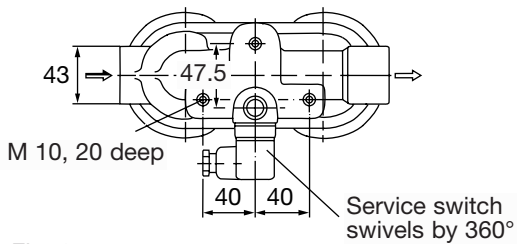


Fig. 1.2



Part No.	Fig.	Nominal flow rate [l/min] ³⁾	Spin-on filter	Dimensions in mm and inches					Operating pressure [bar] [MPa]		Service indication	Weight approx. [kg]
				a	d ₁ ²⁾	d ₂	h	h ₁				
67 512 62 156	1.1	120	2 x WD 962	200	G 1	93	277	30	25	2.5	-	4.1
67 512 62 166	1.2	120	2 x WD 962	200	G 1	93	277	30	25	2.5	optical	4.2
67 512 62 176	1.2	120	2 x WD 962	200	G 1	93	277	30	25	2.5	electrical	4.2
67 730 63 126	2	360	2 x WD 13 145	320	SAE ¹⁾	136	402	42	20	2	-	6.8
67 730 63 116	2	360	2 x WD 13 145	320	SAE ¹⁾	136	402	42	20	2	optical	6.9
67 730 63 106	2	360	2 x WD 13 145	320	SAE ¹⁾	136	402	42	20	2	electrical	6.9
67 730 62 296	2	360	2 x WD 13 145	320	G 2	136	402	42	20	2	-	6.8
67 730 62 266	2	360	2 x WD 13 145	320	G 2	136	402	42	20	2	optical	6.9
67 730 62 256	2	360	2 x WD 13 145	320	G 2	136	402	42	20	2	electrical	6.9

1) Available upon request: 1 counterflange (with 4 screws and 4 spring washers), Part No. 22 078 21 101.

2) Other threads upon request.

3) Flow rate values are only valid for liquids with 36 mm²/sec and flow resistance according to the diagram on page 47.

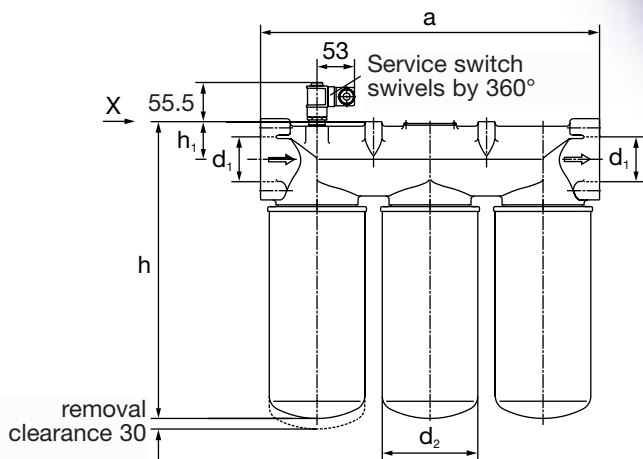
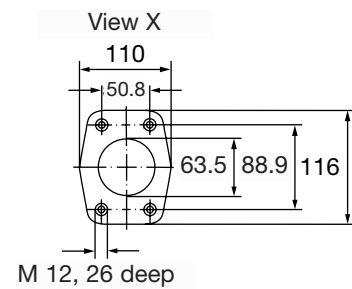
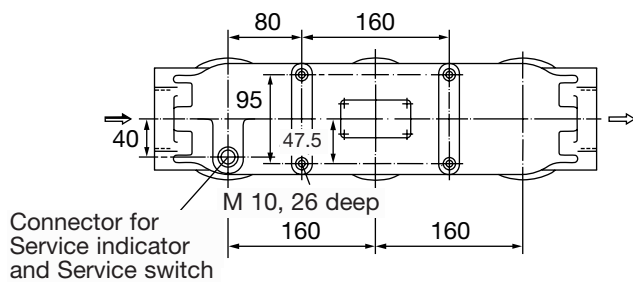


Fig. 1



Part No.	Fig.	Nominal flow rate [l/min] ¹⁾	Spin-on filter	Dimensions in mm					Operating pressure [bar] [MPa]		Service indication	Weight approx. [kg]
				a	d ₁	d ₂	h	h ₁				
67 750 62 106	1	540	3 x WD 13 145	480	SAE 136	424.5	53.5	20	2	–	10.2	
67 750 62 116	1	540	3 x WD 13 145	480	SAE 136	424.5	53.5	20	2	optical	10.2	
67 750 62 126	1	540	3 x WD 13 145	480	SAE 136	424.5	53.5	20	2	electrical	10.2	

¹⁾ Flow rate values are only valid for liquids with 36 mm²/sec and flow resistance according to the diagram on page 47.

MANN In-line filters, selectable duplex

Nominal pressure 25/20/10 bar (2.5/2.0/1.0 MPa)

Switching filter halves allows maintenance of the filter without turning off the unit.

Characteristics

Flow resistance as per ISO 3968 at 36 mm²/sec.

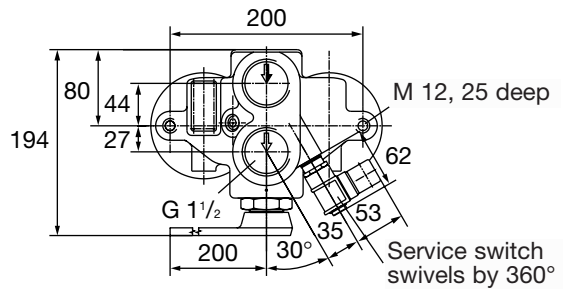
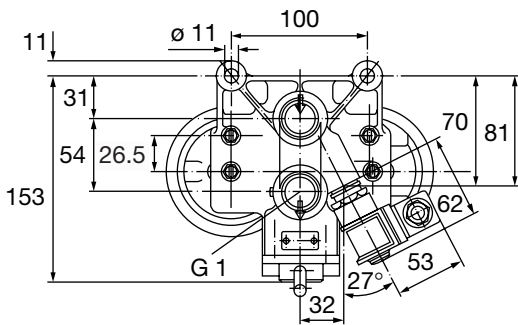
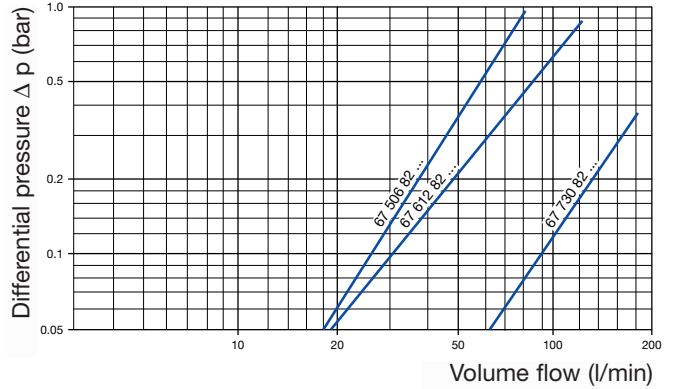
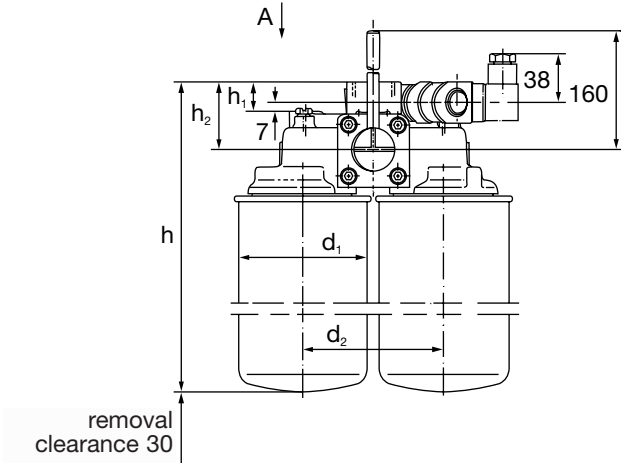


Fig. 1

Fig. 2

Part No.	Fig.	Nominal flow rate ²⁾ [l/min]	Spin-on filter	Dimensions in mm					Operating pressure [bar] [MPa]		Service indication	Weight approx. [kg]
				d ₁	d ₂	h	h ₁	h ₂				
67 506 82 176 ³⁾	1	80	2 x WD 962	93	102	294	22	50	25	2.5	–	4.3
67 506 82 166	1	80	2 x WD 962	93	102	294	22	50	25	2.5	optical	4.4
67 506 82 136	1	80	2 x WD 962	93	102	294	22	50	25	2.5	electrical	4.4
67 612 82 116	2	120	2 x W 11 102 ¹⁾	108	130	373	53	71	10	1	–	7.3
67 612 82 146	2	120	2 x W 11 102 ¹⁾	108	130	373	53	71	10	1	electrical	7.3

1) With non-return valve.

2) The flow rates indicated apply to liquids with a viscosity of 36 mm²/sec. (cSt) given a flow resistance of 0.4 to 0.6 bar (40 to 60 KPa). Nominal flow rate of a filter half.

3) Selector lever SW 24, Part No. 02 086 01 024.

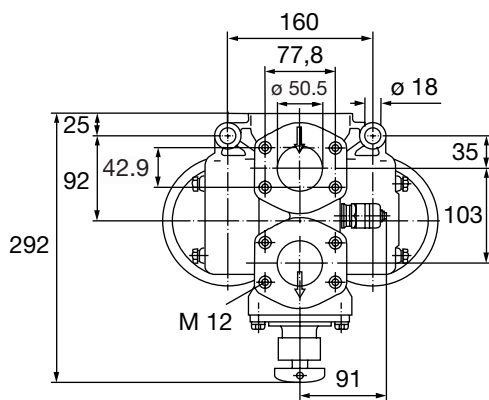
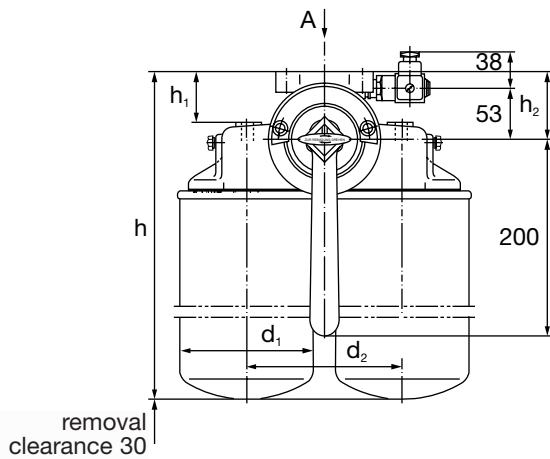


Fig. 1

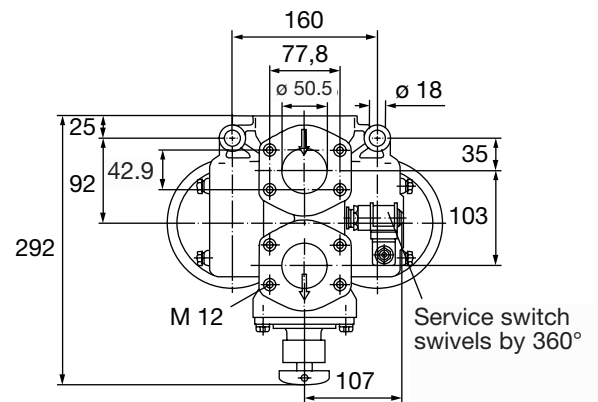


Fig. 2

Part No.	Fig.	Nominal flow rate ²⁾ [l/min]	Spin-on filter	Dimensions in mm					Operating pressure [bar] [MPa]	Service indication	Weight approx. [kg]
				d ₁	d ₂	h	h ₁	h ₂			
67 730 82 106 ¹⁾	1	180	2 x WD 13 145	136	160	424	52	70	20 2	-	9.7
67 730 82 126 ¹⁾	1	180	2 x WD 13 145	136	160	424	52	70	20 2	optical	9.8
67 730 82 116 ¹⁾	2	180	2 x WD 13 145	136	160	424	52	70	20 2	electrical	9.8

1) Available upon request: 1 counterflange (with 4 screws and 4 spring washers), Part N° 22 078 21 101.

2) The flow rates indicated apply to liquids with a viscosity of 36 mm²/sec. (cSt) given a flow resistance of 0.4 to 0.6 bar (40 to 60 KPa). Nominal flow rate of a filter half.