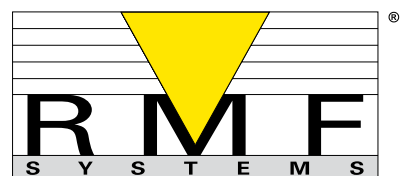


Managing your oil contamination

RMF SYSTEMS
Radial
Micro
Filtration





By-pass filters

RMF systems

RMF Systems radial micro filter units are characterized by their extremely efficient filter elements with a fineness of 0.5 micron. If required, different micron sizes are available to suit any specific application.

The By-pass filters can also be equipped with an additional special water absorbing prefilter. In case of extreme water contamination, these water absorbing spin-on cans will remove most of the water prior to the fluid reaching the cellulose element.

RMF By-pass filters are specially designed for mobile hydraulic installations and are available in single or double units which are equally suitable for OEM use and retro-fitting. The By-pass filter comes equipped with an integrated pressure compensated flow control valve. This valve bleeds oil from the main hydraulic system, passes this through the filter after which it is returned to the hydraulic reservoir. The amount of oil extracted from the main system at any time is insignificant ensuring that it will not affect the working of the main system. Most commonly used biodegradable oils in the mobile sector are suitable for filtration with RMF filter elements.

Economical

The hydraulic market accepts that 80% of mechanical failures are caused by contamination in the system. The RMF By-pass filters attack this contamination at source and in addition to solid particles, these filters are also capable of removing water from the oil. This prevents the catalytic reaction of water and solid particle contamination, resulting in extended useable oil life.

The use of RMF filters means less defects, less maintenance, and less wear and tear of the hydraulic components.

Applications

RMF By-pass filter units can be fitted to every imaginable mobile application where hydraulic and/or transmission systems are present. Installation is very simple, the filter housing provides mounting slots on all four sides and the pressure and return connections are available on the side and the back of the By-Pass unit.

In recent years RMF Systems have developed a great deal of experience in cleaning and keeping clean hydraulic and transmission systems on: excavators, wheel loaders, forestry machines, asphalt machines, concrete pumps, aviation ground support equipment and agricultural machines.

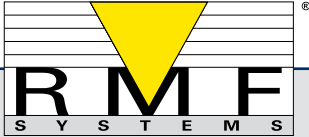
Advantages

- Extremely clean oil due to high filtration efficiency.
- Prevention of channel forming by radial filtration direction.
- Large dirt and water holding capacity.
- Compact and easy-maintenance design.
- Environmentally friendly elements available.
- Longer usage life for oil and components.
- Reduces cost of ownership.



TECHNICAL DATA BY-PASS UNITS

Filter model	BPU05A20...	BPU1A30...	BPU2A30....	BPU1B30....
No. of filter housings	1	1	2	1
Material filter housing	Anodised aluminium			
Seal material	Buna-N standard			
Nominal flow	1.4 l/min	2.1 l/min	4.2 l/min	4.2 l/min
By-pass opening pressure	6.2 bar (at 0 bar back pressure)			
No. of filter elements	1	1	2	2
Length filter elements	200 mm	300 mm (standard)		
Operating pressure flow control valve (min. - max.)	12 - 420 bar			
Max. pressure filter housing	20 bar			
Max. oil temperature	80 °C			
Dirt indicator	Pressure gauge (0-10 bar, green/yellow/red zones)			
Connection pressure port	1/4" BSP female			
Diameter hose pressure side	3/8"			
Connection return port	1/2" BSP female			
Diameter hose return side	3/8" (1/2" if you have to use long hoses)			
Max. tank volume	approx. 300 l	approx. 750 l	approx. 1,500 l	approx. 1,500 l
Dimensions h x w x d (mm)	300 x 131 x 160	400 x 131 x 160	400 x 280 x 160	710 x 131 x 160
Minimum overhead clearance for element removal	300 mm	400 mm	400 mm	700 mm
Sample port connections: P1 filter inlet side (red) P2 filter inlet side (yellow)	Test connector M16x2 Test connector M16x2			
Approximate weight	5.0 kg	6.0 kg	13.0 kg	10.0 kg
Weight (optional) bracket	0.5 kg	0.5 kg	Incl.	Incl.



**Ordering codes:
RMF By-Pass units**

**Filtertype:
BPU units**

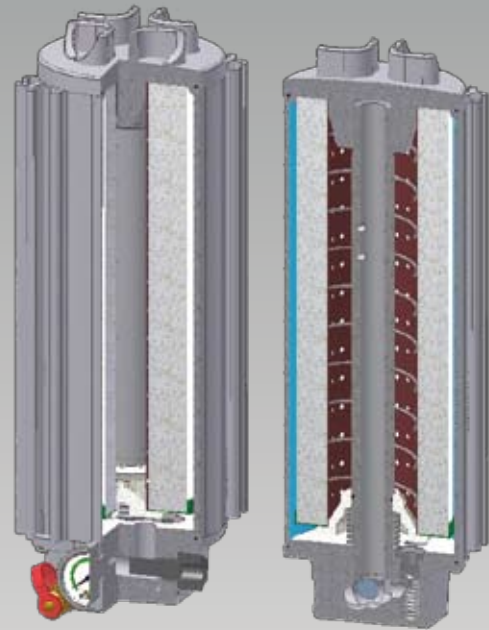


Table 1	Table 2	Table 3	Table 4	Table 5	Table 6	Table 7	Table 8
BPU							

Table 1	Basic configuration	
BPU	By-pass unit	Mobile applications

Table 2	Housing configuration	Typical reservoir size	Number of elements
05A	Single housing (short version)	Suitable for 500 l reservoir	1 pcs element (200 mm)
1A	Single housing (single length)	Suitable for 750 l reservoir	1 pcs element (300 mm)
2A	Twin housing (single length)	Suitable for 1,500 l reservoir	2 pcs element (300 mm)
1B	Single housing (double length)	Suitable for 1,500 l reservoir	2 pcs element (300 mm)

Table 3	Length element	
20	L = 200 mm	
30	L = 300 mm	Standard

Table 4	Filter material
H	Cellulose 0.5 micron, silicon bottom seal
N	Cellulose 0.5 micron, NO silicon bottom seal
G1*	Glass fibre, 1 micron, $\beta_1 \geq 200$
G3*	Glass fibre, 3 micron, $\beta_3 \geq 200$
A5	Glass fibre with polymer, 5 micron $\beta_5 \geq 200$
*	<i>G1 and G3 also suitable for water glycol</i>

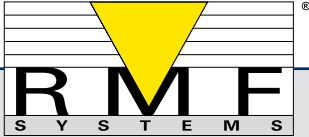
Table 5	Seal material	
B	Buna-N	Standard
V	Viton	Optional



Table 6	Indicator	
0	Pressure gauge	Standard
1	Additional electr. indicator	Optional
2	No pressure gauge mounted	

Table 7	Options	
0	No options	
1	Without flow control valve	
2	Needle valve - NO flow control valve	
5	Non standard flow / 2.1 l/min	
7	Non standard flow / 1.4 l/min	
8	Non standard flow / 4.2 l/min	

Table 8	Bracket options	
0	No options	
1	With standard foot / bulk head mounting bracket	
2	With 'bulk head mounting only' bracket (only for single length / single housing available)	
3	With standard 'OLU' wall mounting bracket (single length = 1 bracket, double length = 2 brackets)	



**Ordering codes:
RMF By-pass units with H₂O sorb**

**Filtertype:
BPUW units**

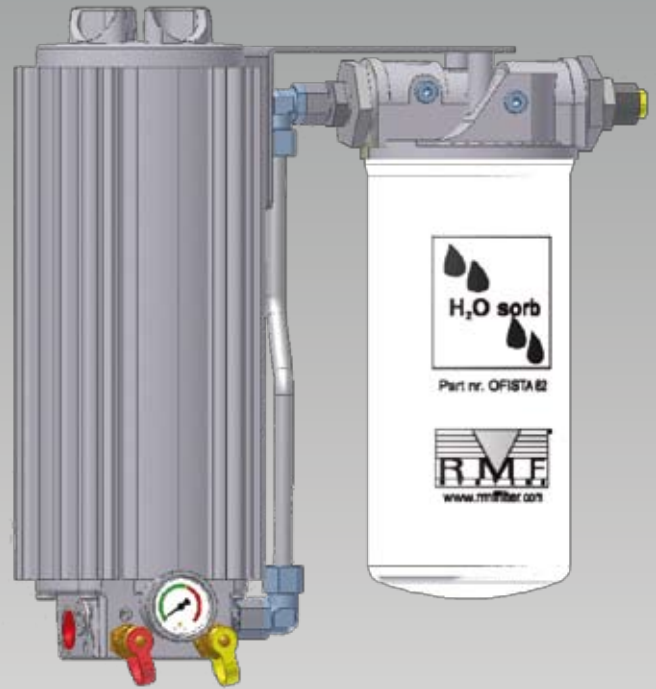


Table 1	Table 2	Table 3	Table 4	Table 5	Table 6	Table 7	Table 8	Table 9
BPUW								

Table 1	Basic configuration	
BPUW	By-pass unit + water sorb pre-filter	Mobile applications

Table 2	Housing configuration	Typical reservoir size	Number of elements
1A	Single housing (single length)	Suitable for 750 l reservoir	1 pcs element (300 mm)
2A	Twin housing (single length)	Suitable for 1,500 l reservoir	2 pcs element (300 mm)
1B	Single housing double length)	Suitable for 1,500 l reservoir	2 pcs element (300 mm)

Table 3	Length element	
30	L = 300 mm	Standard

Table 4	Filter material
H	Cellulose 0.5 micron, silicon bottom seal
N	Cellulose 0.5 micron, NO silicon bottom seal
G1*	Glass fibre, 1 micron, $\beta_1 \geq 200$
G3*	Glass fibre, 3 micron, $\beta_3 \geq 200$
A5	Glass fibre with polymer, 5 micron $\beta_5 \geq 200$
*	<i>G1 and G3 also suitable for water glycol</i>

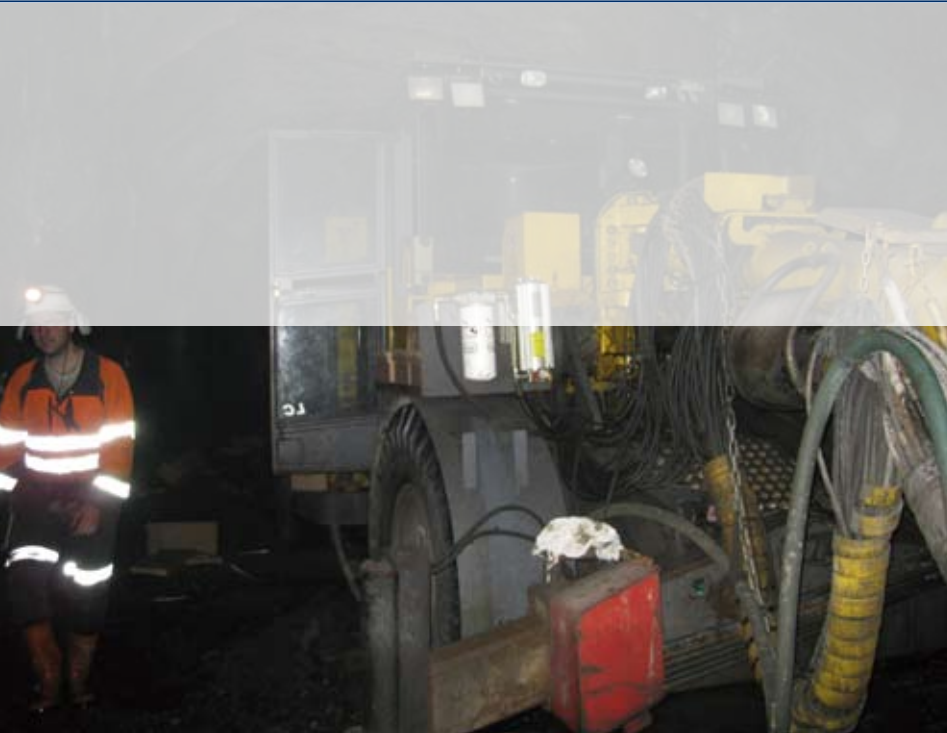
Table 5	Seal material	
B	Buna-N	Standard
V	Viton	Optional

Table 6	Indicator
0	Standard pressure gauge
1	Additional electr. indicator (5.5 bar rising)

Table 7	Options
0	No options
5	Non standard flow / 2.1 l/min
7	Non standard flow / 1.4 l/min
8	Non standard flow / 4.2 l/min

Table 8	Bracket options
0	No options
1	With standard foot / bulk head mounting bracket
2	With 'bulk head mounting only' bracket
3	With standard 'OLU' wall mounting bracket

Table 9	Water absorption element	H ₂ O capacity
A	Single H ₂ O-sorb element, left mount	540 ml
B	Single H ₂ O-sorb element, right mount	540 ml



TECHNICAL DATA BY-PASS UNITS WITH WATERSORB

Filter model	BPUW1A30...	BPUW2A30....	BPUW1B30....
No. of filter housings	1	2	1
Material filter housing	Anodised aluminium		
Seal material	Buna-N standard		
Nominal flow	2.1 l/min	4.2 l/min	4.2 l/min
By-pass opening pressure	6.2 bar (at 0 bar back pressure)		
No. of filter elements	1	2	2
Length filter elements	300 mm (standard)		
Operating pressure flow control valve (min. - max.)	12 - 420 bar		
Max. pressure filter housing	20 bar		
Max. oil temperature	80 °C		
Dirt indicator	Pressure gauge (0-10 bar, green / yellow / red zones)		
Connection pressure port	¼" BSP female		
Diameter hose pressure side	¾"		
Connection return port	½" BSP female		
Diameter hose return side	¾" (½" if you have to use long hoses)		
Max. tank volume	Approx. 750 l	Approx. 1,500 l	Approx. 1,500 l
Dimensions h x w x d (mm)	400 x 385 x 160	400 x 340 x 320	710 x 385 x 160
Minimum overhead clearance for element removal	400 mm	400 mm	700 mm
Sample port connections: P1 filter inlet side (red) P2 filter inlet side (yellow)	Test connector M16x2 Test connector M16x2		
Approximate weight	10.0 kg	17.0 kg	14.0 kg
Weight (optional) bracket	Incl.	Incl.	Incl.



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