

FILTER POT MEGA

FLOWIO

SUSTAINABLE BUILDING SOLUTIONS

THE ALL-IN-ONE SIDE STREAM FILTER AND DOSING UNIT



INCORPORATING:

- BSRIA compliant side stream filtration
- BSRIA compliant dosing pot with 250L capacity
- Magnetic particle removal with rare earth magnets
- Non-magnetic particle removal with 3-stage depth cartridge filtration
- Anti-microbial cartridge filtration range: 50µm, 20µm, 5µm and 0.5µm
- Air removal, including micro-bubbles
- All stainless steel construction, including all valves and fittings
- Suitable for systems up to 2,000,000L, 30Bar working pressure and maximum working temperature up to 100°C
- Unique drain and fill feature
- Combined temperature and pressure gauge as standard
- Insulation jacket included

DID YOU KNOW?

Side-stream filtration is suitable for most systems and strongly recommended for systems over 2,500 litres. (BSRIA BG29)

In Partnership With



THE POWER AND BSRIA COMPLIANCE OF THE FILTER POT MEGA



The Filter Pot complies with the intent of the BSRIA Guidelines BG29/2020 and BG50/2021

Description	BG29 Section	BG50 Section
Side Stream Filtration	2.3.8	3.4.2 & 5.3
Chemical Dosing	2.3.8 & 7.2.6	3.4.3
Corrosion Inhibitor Treatment		5.1.3
Magnetic Filtration	2.3.8	5.3.2
Disposable Media Filtration		5.3.3
Passive Deaeration		5.4.1
Fill Water Pre-Treatment	4.3.4	3.4.1
Solids Removal & Filtration	2.3.8	3.4.2
Bacteria & Bio-fouling Inhibition	2.3.8	4.2 & 5.2
CPD Dynamic Filling	6.1	
Maintenance & Inspection	7.3	3.4.4
Dynamic Flushing Procedure	5.2.1	
On-Line Cleaning	2.3.8	6.4.1

DID YOU KNOW?

There's a simple reason why the All-In-One FILTER POT MEGA is the number 1 choice. It contains ALL the functions of Dosing Pots, Dirt & Air Separators, Magnetic In-Line Filters and Cartridge Filters, including the many other features within the BSRIA Guidelines as listed above.



The bespoke insulation jacket for the FILTER POT is supplied as standard with every unit.

DID YOU KNOW?

“Magnetic filtration is frequently used on small heating systems to remove abrasive iron-oxides (magnetite) from circulating water. In larger systems, some form of side-stream filtration (that can remove solids) is preferred.” (BSRIA BG29)

FILTER POT MEGA



PRODUCTION CODE:
FPM202013*

FLOWIO REFERENCE:
FILTER POT MEGA

DESCRIPTION:
FILTER POT MEGA
Side Stream & Filtration Unit

Tundish for dosing water treatment chemicals

SS Auto Air Vent removes system gasses and microbubbles, lowering the rate of system corrosion

Manual Air Vent used during the speedy dosing of water treatment chemicals

Combined Temperature/Pressure Gauge



18 x Rare Earth Magnetic Rods & 3 x 316SS Magnetic Grates all located within the vessel



DN100 (MEGA 4") or DN150 (MEGA 6")
Dirty water flow connection



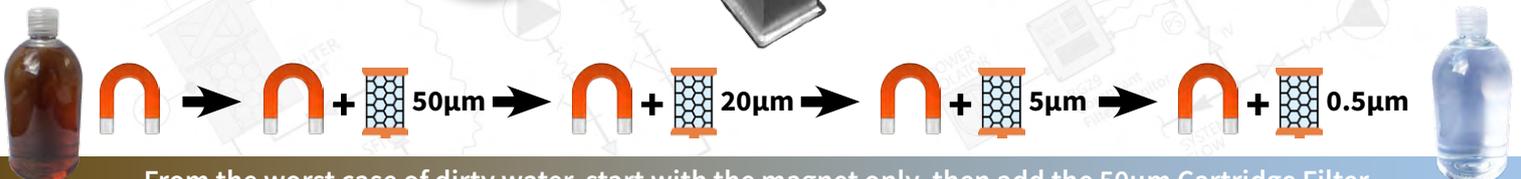
3 x 0.5µm Anti-Microbial Filters and Baffle Plates are supplied standard with the unit.

Unique Drain and Fill Feature
Guaranteed drainage even when the Cartridge Filter is blocked. System filling feature using the Anti-Microbial Cartridge Filter as a pre-treatment filter

DN100 (MEGA 4") or DN150 (MEGA 6")
Clean water return connection



Floor Mounting Brackets for quick, easy and secure installation



From the worst case of dirty water, start with the magnet only, then add the 50µm Cartridge Filter and by working your way down to the 0.5µm Cartridge Filter to achieve a polished clear water sample.

FILTER POT MEGA



CARTRIDGE FILTER PRODUCT CODES

- 0.5µm CFR 202045
- 5µm CFR 202046
- 20µm CFR 202047
- 50µm CFR 202048

CARTRIDGE FILTER CONSTRUCTION MATERIALS:

- Filter Media: Nylon infused with Silver Ions
- End Caps: Nylon
- Gasket: EDPM



Rare Earth Magnetic Rods housed within a 316SS Magnetic Grate

Magnetic Removal of Corrosion Debris

At the core of the FILTER POT MEGA lies a total of three 316SS Magnetic Grates each containing six extremely powerful Rare Earth Magnetic Rods for a total of 18. These Magnetic Grates have been designed to optimise the fluid dynamics required to capture magnetic corrosion particles as they enter the vessel body before the system water flows down to the Cartridge Filter below.



Magnetite collected on the external surface of the Rare Earth Magnetic Grate

Non-Magnetic Debris Removal by the Anti-Microbial Cartridge Filter

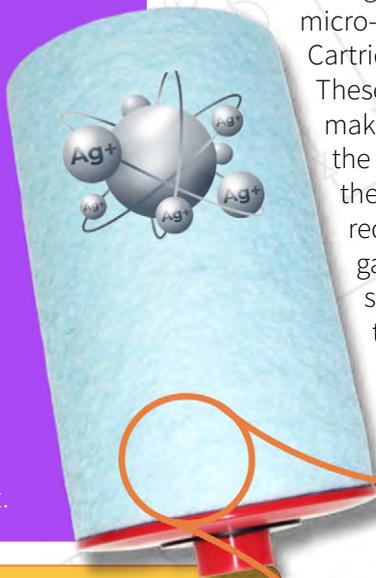
Not only is the new FILTER POT MEGA filtration cartridge excellent at capturing dirt down to 0.5µm, but the vessel promotes a pressure drop within, resulting in coalescence occurring and producing micro-bubbles on the Cartridge Filter surface. These micro-bubbles make their way out of the vessel by way of the stainless steel AAV, reducing the overall gas levels in the system water and thereby reducing the overall corrosion rate.



Non-magnetic dirt and debris captured by the Anti-Microbial Cartridge Filter

DID YOU KNOW?

The new BSP Anti-Microbial Depth Filtration Cartridges utilise a layer of nylon infused anti-bacterial additive to effectively trap and retain variously sized particulates down to a class leading 0.5µm, but they also inhibit the growth of trapped bacteria and microbes within the filter. This prevents premature blocking from bio-film by using Silver-Ion technology with anti-microbial properties to neutralise bacteria so keeping the filter core open to capture more dirt.



DID YOU KNOW?

According to Henry's Law at a constant temperature, the solubility of a gas in a liquid is directly proportional to the pressure of the gas. (In layman's terms, as the pressure drops, the liquid cannot hold as much gas, so the excess gas bubbles out of the solution.)

DID YOU KNOW?

The Polypropylene filtration media is impregnated with Silver Ions and a new preparatory ingredient which increases the bio-degradable breakdown of the filtration media by 250 times! (Effectively 3 years down from 750 years).

FILTER POT MEGA

THE TECHNICAL BITS

SIZING THE CORRECT PIPEWORK TO/FROM THE FILTER POT MEGA AND SETTING THE DANFOSS PICV TO COMPLY WITH BSRIA GUIDANCE

To size the pipework to comply with BSRIA Guidance to/from a FILTER POT MEGA and to control the flow rate is simple and can be broken down into three easy steps:

1. PRESSURE

Make sure the system working pressure is below 16Bar for the FILTER POT MEGA.

2. SYSTEM WATER VOLUME

The BSRIA guide advises the total system water volume of the system water should pass through the FILTER POT MEGA in a 24-hour period.

3. Once you confirm the system volume, then the chart below will confirm the pipe size to/from the FILTER POT MEGA.

If you know the system volume:

Total volume of system	Pipework size to/from system
53,100L to 90,000L	DN25 - 1" pipe to the FILTER POT MEGA-4
90,100L to 103,000L	DN32 - 1¼" pipe to the FILTER POT MEGA-4
103,100L to 141,000L	DN40 - 1½" pipe to the FILTER POT MEGA-4
141,000L to 213,000L	DN50 - 2" pipe to the FILTER POT MEGA-4
213,100L to 375,000L	DN65 - 2½" pipe to the FILTER POT MEGA-4
375,100L to 518,000L	DN80 - 3" pipe to the FILTER POT MEGA-4
518,100L to 907,000L	DN100 - 4" pipe to the FILTER POT MEGA-4
907,100L to 1,416,000L	DN125 - 5" pipe to the FILTER POT MEGA-6
1,416,100L to 2,000,000L	DN150 - 6" pipe to the FILTER POT MEGA-6

If you know the MW rating of the heating system:

Total heating system MW	Pipework size to/from heating system
4.4MW to 7.5MW	DN25 - 1" pipe to the FILTER POT MEGA-4
7.5MW to 8.5MW	DN32 - 1¼" pipe to the FILTER POT MEGA-4
8.5MW to 11.75MW	DN40 - 1½" pipe to the FILTER POT MEGA-4
11.75MW to 17.75MW	DN50 - 2" pipe to the FILTER POT MEGA-4
17.75MW to 30.75MW	DN65 - 2½" pipe to the FILTER POT MEGA-4
30.75MW to 43.15MW	DN80 - 3" pipe to the FILTER POT MEGA-4
43.15MW to 75.5MW	DN100 - 4" pipe to the FILTER POT MEGA-4
75.5MW to 118.0MW	DN125 - 5" pipe to the FILTER POT MEGA-6
118.0MW to 167.0MW	DN150 - 6" pipe to the FILTER POT MEGA-6

If you know the MW rating of the cooling system:

Total cooling system MW	Pipework size to/from cooling system
3.5MW to 6.0MW	DN25 - 1" pipe to the FILTER POT MEGA-4
6.0MW to 6.9MW	DN32 - 1¼" pipe to the FILTER POT MEGA-4
6.9MW to 9.4MW	DN40 - 1½" pipe to the FILTER POT MEGA-4
9.4MW to 14.2MW	DN50 - 2" pipe to the FILTER POT MEGA-4
14.2MW to 25.0MW	DN65 - 2½" pipe to the FILTER POT MEGA-4
25.0MW to 34.5MW	DN80 - 3" pipe to the FILTER POT MEGA-4
34.5MW to 60.5MW	DN100 - 4" pipe to the FILTER POT MEGA-4
60.5MW to 94.4MW	DN125 - 5" pipe to the FILTER POT MEGA-6
94.4MW to 133MW	DN150 - 6" pipe to the FILTER POT MEGA-6

4. FLOW RATE CONTROL

To control the flow rate through the FILTER POT MEGA, use the following calculation:

$$\frac{\text{Total Volume of System}}{86,400} = \text{L/sec}$$

Example:
 $\frac{835,000}{86,400} = 9.67 \text{ L/sec}$ through DN100 pipework to/from the FILTER POT MEGA



Note: You can estimate the system volume by multiplying the kW rating:

Heating kW x 12 = Litres
 Cooling kW x 15 = Litres

You can then set the Danfoss PICV (within the BG29 Compliant Valve Pack) to a flow rate of 9.67L/sec. This will now limit the flow through the FILTER POT MEGA to comply with BSRIA regulations.

FILTER POT MEGA

FEATURES & DESCRIPTION



Product Code	Reference	Description
FPM202013*	FILTER POT MEGA	FILTER POT MEGA Side Stream Filter and Dosing Unit

Description	BG29 Section
Maximum system working pressure	10 Bar, 20 Bar or 30 Bar
Suitable for system volumes up to	900,000 Litres for DN100 Connections - MEGA-4 Unit 2,000,000 Litres for DN150 Connections - MEGA-6 Unit
Flow rate through the vessel	0.08 L/sec to 23.15 L/sec (1.481 L/min to 1,389 L/min)
Temperature range	0°C to 110°C (Magnet Only) 0°C to 90°C (Heating Systems)
Filtration rate	Down to 0.5 micron
Dirty flow inlet connection	DN100 Flanged - MEGA-4 Unit , DN150 Flanged - MEGA-6 Unit
Clean return outlet connection	DN100 Flanged - MEGA-4 Unit , DN150 Flanged - MEGA-6 Unit
Dosing capacity	250 Litres
Filter body mounting	Floor mounted
Vessel body	304 SS (complies with SEP for Group 2 Liquids) & ATEX Certified: CE EX II 2 GD cx
Magnets x 18No	Neodymium Rare Earth located within 3No 316SS Magnet Grates
Cartridge Filter (4No 0.5micron - supplied with FILTER POT MEGA)	Polypropylene Melt Blown Anti-Microbial + Bio-Degradable Spun Bonded Fibre available in 50, 20, 5 and 0.5 micron as spare replacements
Isolation valves, NRV and fittings	304 SS
Automatic air vent	304 SS / 110°C / <30 Bar Max Working Pressure
Weight	250kg (empty) 500kg (full)

The manufacturer reserves the right to change and/or amend details, specifications and/or dimensions of the FILTER POT MIDI at any time and without notice. Worldwide Patent Pending.



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