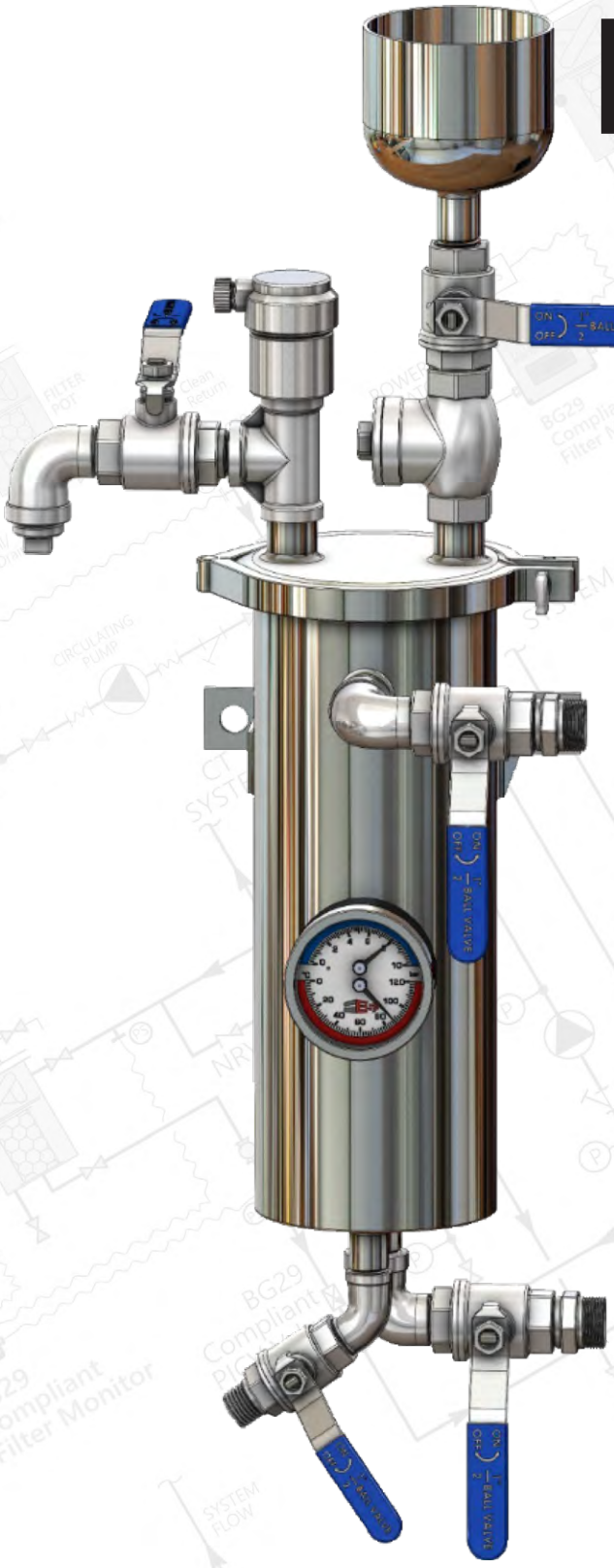
FILTER POT MICRO

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 2.1L capacity
- Magnetic particle removal with rare earth magnets
- Non-magnetic particle removal with 3-stage depth cartridge filtration
- Anti-microbial cartridge filtration range: 20µm, 5µm and 0.5µm
- Air removal, including micro-bubbles
- All stainless steel construction, including all valves and fittings
- Suitable for systems up to 12,500L, 4Bar working pressure and maximum working temperature up to 90°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

BSP Building Services Products Ltd

BSRIA Member

THE POWER AND BSRIA COMPLIANCE OF THE FILTER POT MICRO

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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 MICRO 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.

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 prefered." (BSRIA BG29)

FILTER POT MICRO

PRODUCTION CODE:
FPM202010

FLOWIO REFERENCE:
FILTER POT MICRO

DESCRIPTION:
FILTER POT MICRO
Side Stream & Filtration Unit

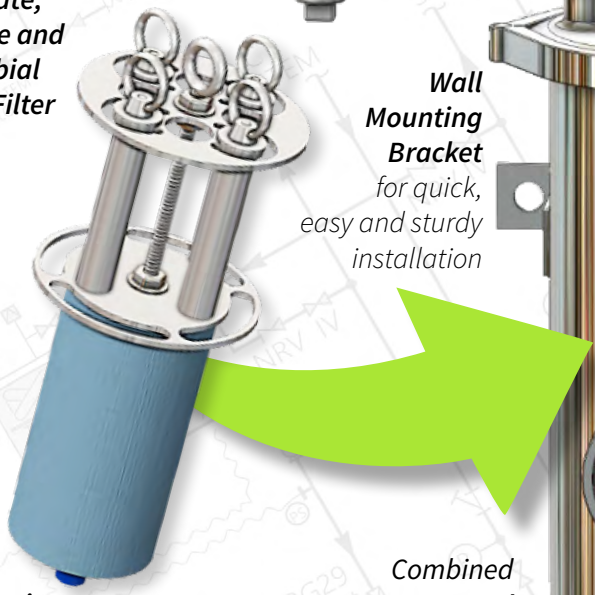
Tundish *for dosing water treatment chemicals*

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*

Magnet Grate, Baffle Plate and Anti-Microbial Cartridge Filter *all located within the vessel*

Wall Mounting Bracket *for quick, easy and sturdy installation*



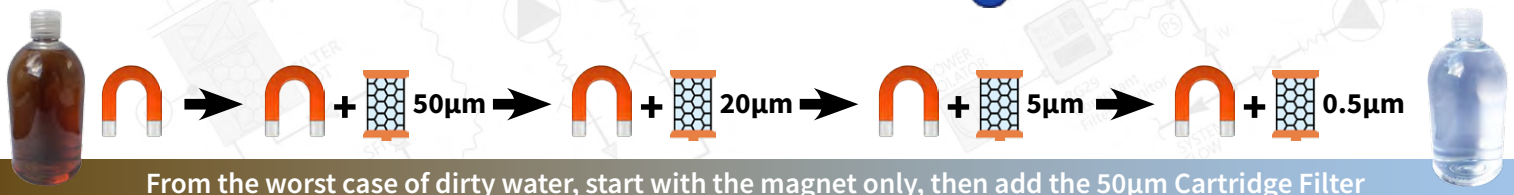
Dirty Water In Connection
Dirty system water enters the Filter Pot

A 0.5µm Anti-Microbial Filter *is supplied standard with the unit.*

Combined ***Pressure and Temperature Gauge***

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

Clean Water Out Connection
Cleaned water exits the Filter Pot



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 MICRO

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CARTRIDGE FILTER PRODUCT CODES

0.5µm	CFR 202045
5µm	CFR 202046
20µm	CFR 202047

CARTRIDGE FILTER CONSTRUCTION MATERIALS:

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

Neodymium Rare Earth Magnets
housed within a 316SS Shell

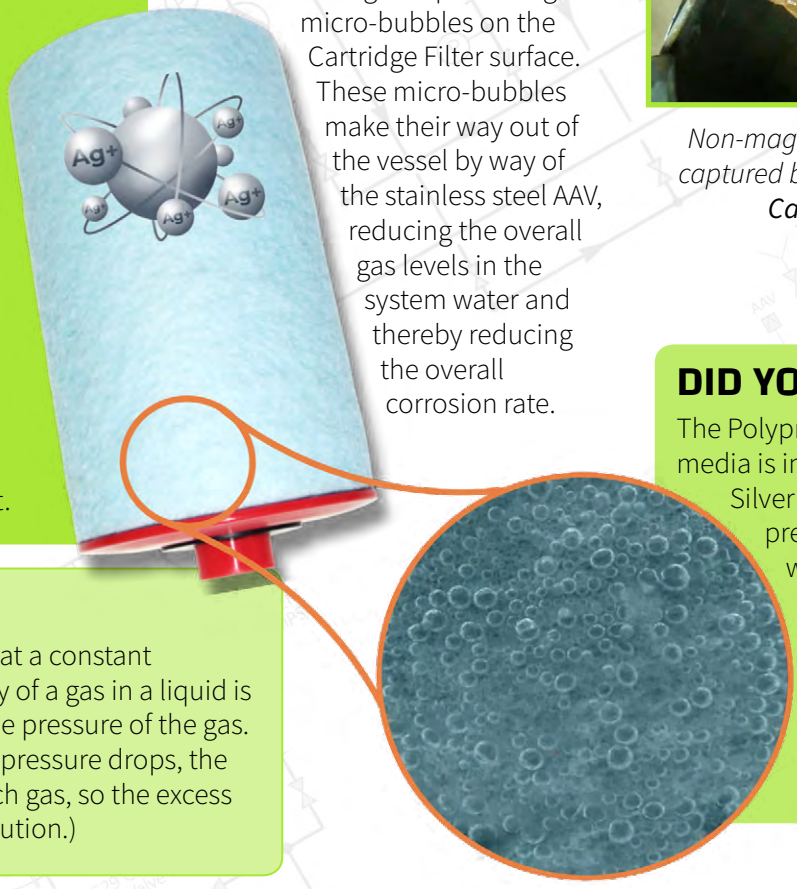
Magnetic Removal of Corrosion Debris

At the core of the FILTER POT MICRO lies a 316SS Magnetic Grate containing four extremely powerful Neodymium Rare Earth Magnets. The Magnet Grate has 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***

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.



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

Not only is the new FILTER POT MICRO 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?

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 MICRO
THE TECHNICAL BITS

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SUSTAINABLE BUILDING SOLUTIONS

CALCULATE THE CORRECT FLOW RATE TO/FROM THE FILTER POT MICRO AND SETTING THE DANFOSS PICV TO COMPLY WITH BSRIA GUIDANCE

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

1. **PRESSURE**
   Make sure the system working pressure is below 4Bar for the FILTER POT MICRO.
2. **SYSTEM WATER VOLUME**
   The BSRIA guide advises the total system water volume of the system water should pass through the FILTER POT MICRO in a 24-hour period.
3. The Dirty Flow flex pipework is determined by the boiler / chiller output or the total system volume (as below):

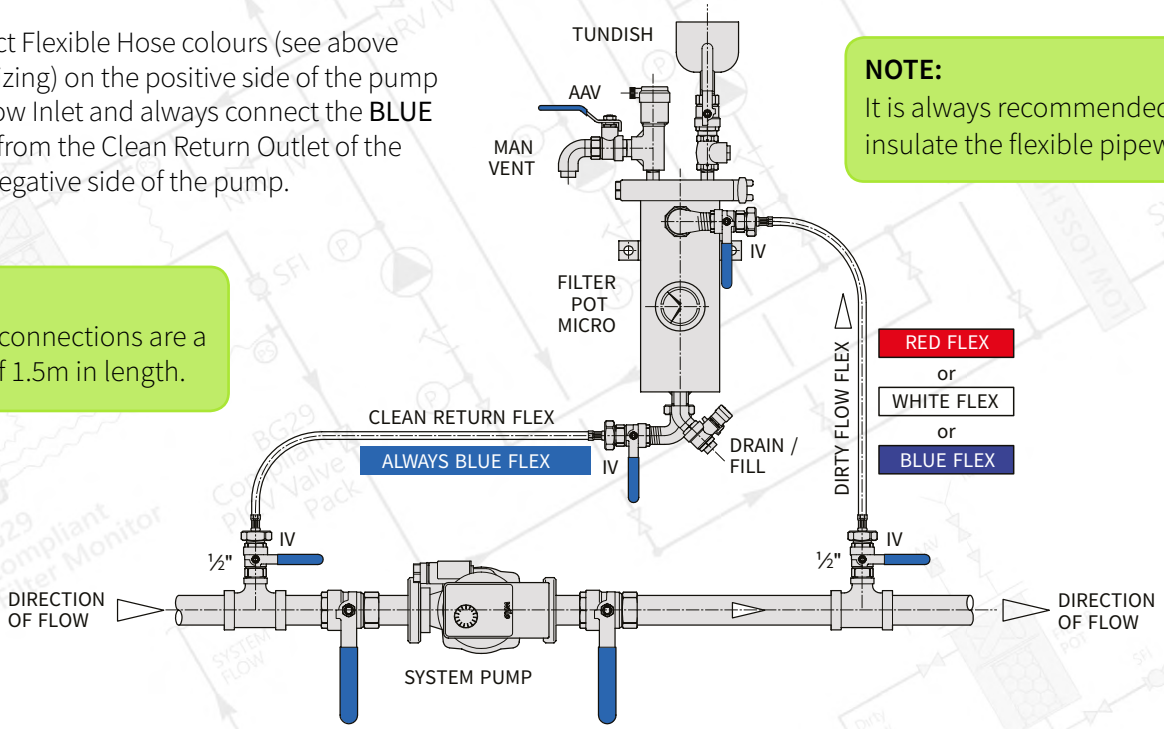
RED FLEX	=	85kW - 275kW Output 1,000 - 3,300Ltrs Vol.
WHITE FLEX	=	275kW - 555kW Output 3,300 - 6,650Ltrs Vol.
BLUE FLEX	=	555kW - 1,000kW Output 6,650 - 12,500Ltrs Vol.

1. Always connect the **BLUE TAGGED** hose onto the ½" Clean Return Connection.
2. Dependent on the kW rating or the System Volume, connect either the **RED**, **WHITE** or **BLUE** tagged hose onto the ½" Dirty Flow Connection (See kW outputs or System Volumes sizing to the left.)

Affix the correct Flexible Hose colours (see above and right for sizing) on the positive side of the pump to the Dirty Flow Inlet and always connect the **BLUE** Flexible Hose from the Clean Return Outlet of the micro to the negative side of the pump.

NOTE:
It is always recommended to insulate the flexible pipework.

NOTE:
The flexible connections are a maximum of 1.5m in length.



If the system volume is between 2,000L and 7,300L the minimum flow rate is to be no less than 0.085L/s through ½" pipework.

4. **FLOW RATE CONTROL**
   To control the flow rate through the FILTER POT MICRO, use the following calculation:

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

Example:

$$\frac{12{,}500}{86{,}400} = 0.14 \text{ L/sec sec through DN15 pipework to/from the FILTER POT MICRO}$$

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 0.14L/sec. This will now limit the flow through the FILTER POT MICRO to comply with BSRIA regulations.

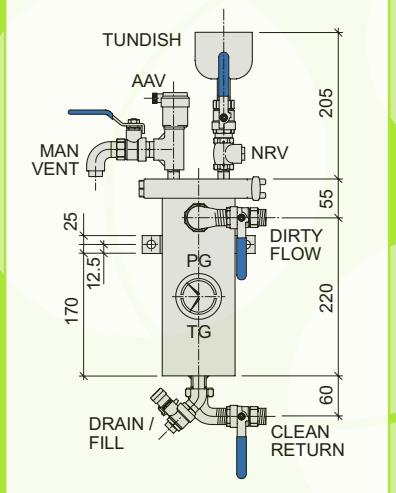
FILTER POT MICRO
FEATURES & DESCRIPTION

Product Code	Reference	Description
FPM202010	FILTER POT MICRO	FILTER POT MICRO Side Stream Filter and Dosing Unit

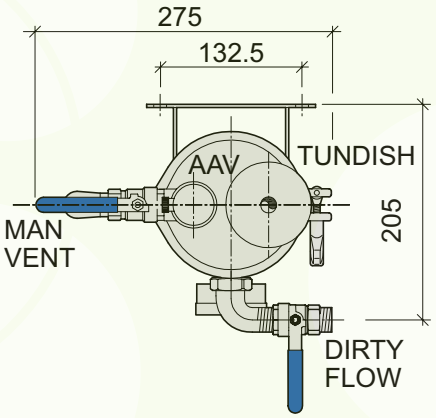
Description	BG29 Section
Maximum system working pressure	4 Bar
Suitable for system volumes up to	30 litres to 12,500 litres
Flow rate through the vessel	2.31 l/min to 8.68 l/min (Dependent upon flex colour)
Temperature range	0°C to 90°C
Filtration rate	Down to 0.5micron
Dirty flow inlet connection	½" BSP male
Clean return outlet connection	½" BSP male
Dosing capacity	22.1 litres
Filter body mounting	Wall mounted
Vessel body	Polished 304 SS (complies with PED Sep 2014/68/EU)
Magnets x 4No	Neodymium Rare Earth encased in 316 SS shell
Cartridge Filter (1No 0.5micron - supplied with FILTER POT MIDI)	Nylon spun bonded fibre (20, 5 and 0.5 micron available as spare replacements in packs of 2Nos
Isolation valves, NRV and fittings	304 SS
Automatic air vent	304 SS / 110°C / 10 bar max working pressure

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.

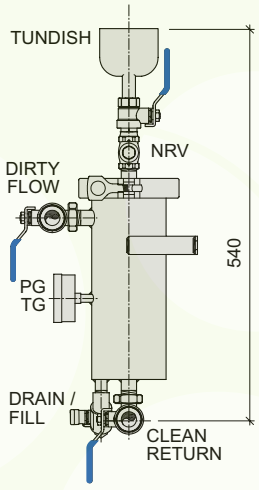
FRONT VIEW



TOP VIEW



SIDE VIEW



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