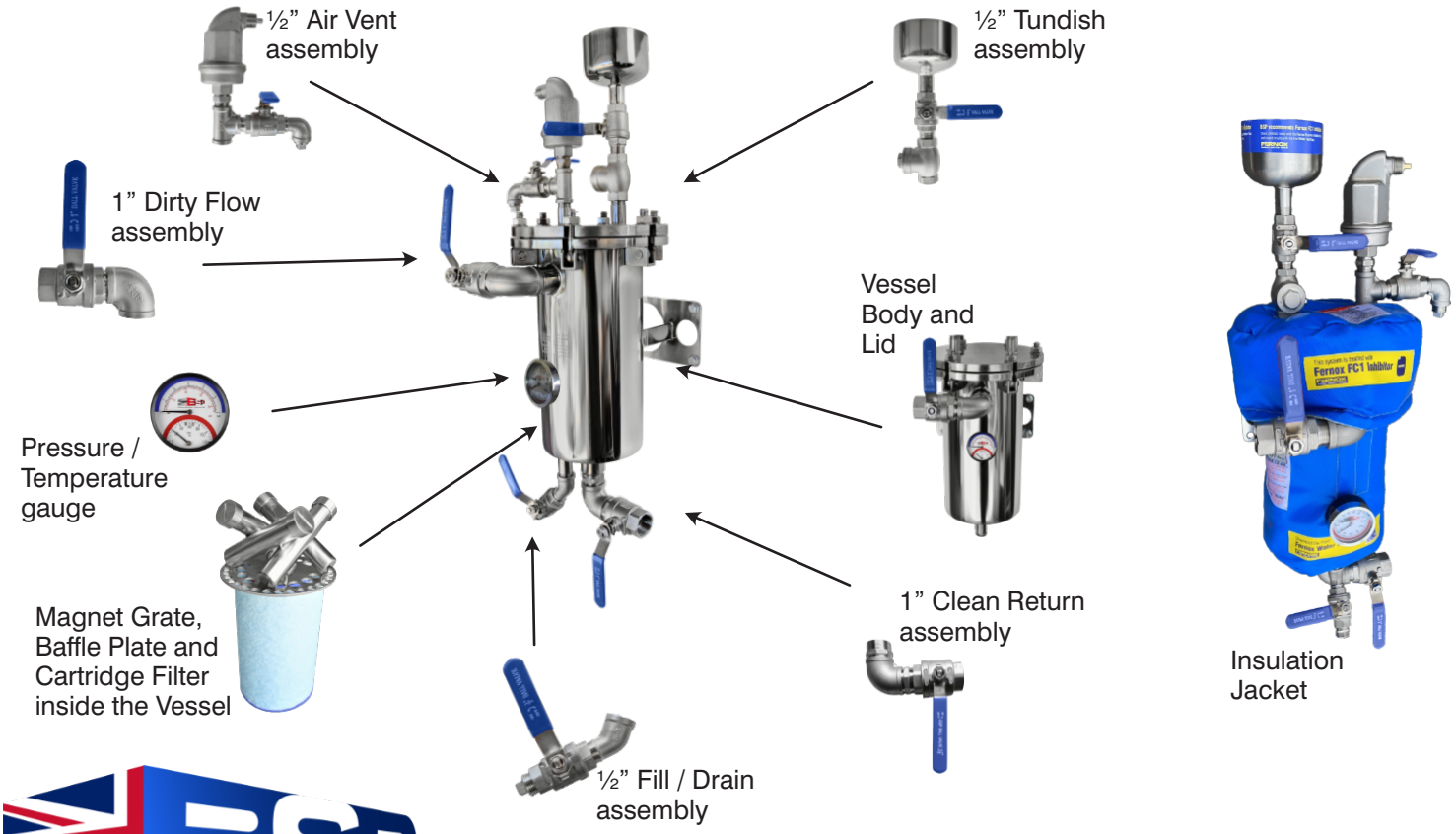
FILTER POT *Mini*

SIDE STREAM FILTRATION & DOSING UNIT

Data Sheet

Prod Code:	BSP Ref:	Description
FPM202011	BSP FILTER POT Mini	BSP Filter Pot Mini Side Stream Filter and Dosing Unit

Feature:	Description:
Maximum system working pressure	10 bar
Suitable for system volumes up to	90,000 litres
Flow rate through the vessel	0.08 L/sec to 1.04 L/sec (4.8 l/min to 60 l/min)
Temperature range	0°C to 110°C
Filtration rate	Down to 0.5micron
Dirty flow inlet connection	1” BSP female
Clean return outlet connection	1” BSP male
Dosing capacity	5.5 litres
Filter body mounting	Wall mounted
Vessel body	304 SS (complies with PED SEP 2014/68/EU)
Magnets x 4No	Neodymium Rare Earth
Cartridge Filter (1No 0.5micron - supplied with Filter Pot Mini)	Nylon spun bonded fibre (50, 20, 5 and 0.5 micron available as spare replacements in packs of 2No
Isolation valves, NRV and fittings	304 SS
Automatic air vent	304 SS / 110°C / 10 bar max working pressure



Building Services Products Ltd

Building Services Products Limited reserves the right to change and/or amend details, specifications and/or dimensions of the BSP Filter Pot Mini at any time and without notice.

FILTER POT *Mini*

Data Sheet

Feature	Description
Compliance	Fully compliant with BSRIA guidelines BG29 and BG50 for side stream filtration, chemical dosing, corrosion inhibitor treatment, magnetic filtration, passive deaeration, fill water pre-treatment, solids removal and filtration, bacteria and bio-fouling inhibition, CPD dynamic filling, maintenance and inspection, dynamic flushing procedure and on-line cleaning.
Magnetic Filter	Removes magnetic system debris before reaching the Cartridge Filter below, helps to increase the lifespan of the boiler, chiller and cooling system components, reduces carbon emissions, increases fuel efficiency and increases the lifespan of the Cartridge Filter.
Anti-Microbial Nylon Cartridge Filter	BSP's Anti-Microbial Spun Cartridge Filters remove non-magnetic system debris, available in 50, 20, 5 and 0.5 micron filtration rates, ensures coalescence micro-bubble formation on the surface of the Filter and surpasses BSRIA guidance for filtration rates. They are typically used in instances when the water has a heavy degree of particles. BSP Cartridge Filters can catch and hold a large volume of particles before they become clogged. The nylon filtration media is impregnated with Silver Ions which block the bacterial respiratory system of bacteria thereby destroying the energy production of the cell, leading to the bursting of the cell membrane and neutralising of the bacteria. Max working temperature is 110°C.
Automatic Air Vent	Ensures the system micro-bubbles and air are emitted from the system, helps reduce noisy pipework and decreases stress on system components.
5.5L Dosing Pot capacity	Enables installers and maintenance personnel to quickly dose the system with water treatment chemicals.
1" BSP Dirty Flow and Clean Return Connections	Suitable for all types of LTHW heating and cooling water systems up to 90,000 Litres in volume.
½" BSP System Fill and Drain Connection	Using the System Fill feature with the BSP Anti-Microbial 0.5micron Cartridge reduces the possibility of bacteria, dirt and debris entering the system. Further, the fill feature can also be used to add larger volumes of inhibitor when an external pump is required for dosing. The dedicated ½" Drain Connection ensures the system water is drained from the vessel during filter cleaning, leading to faster filter replacement time.
4No 8,500 Gauss Neodymium Magnet Bars	Each magnet is fully encased in a 304SS shell, easily removable from the 316SS Magnet Grate for cleaning and fully submerged into the system flow for increased filtration.

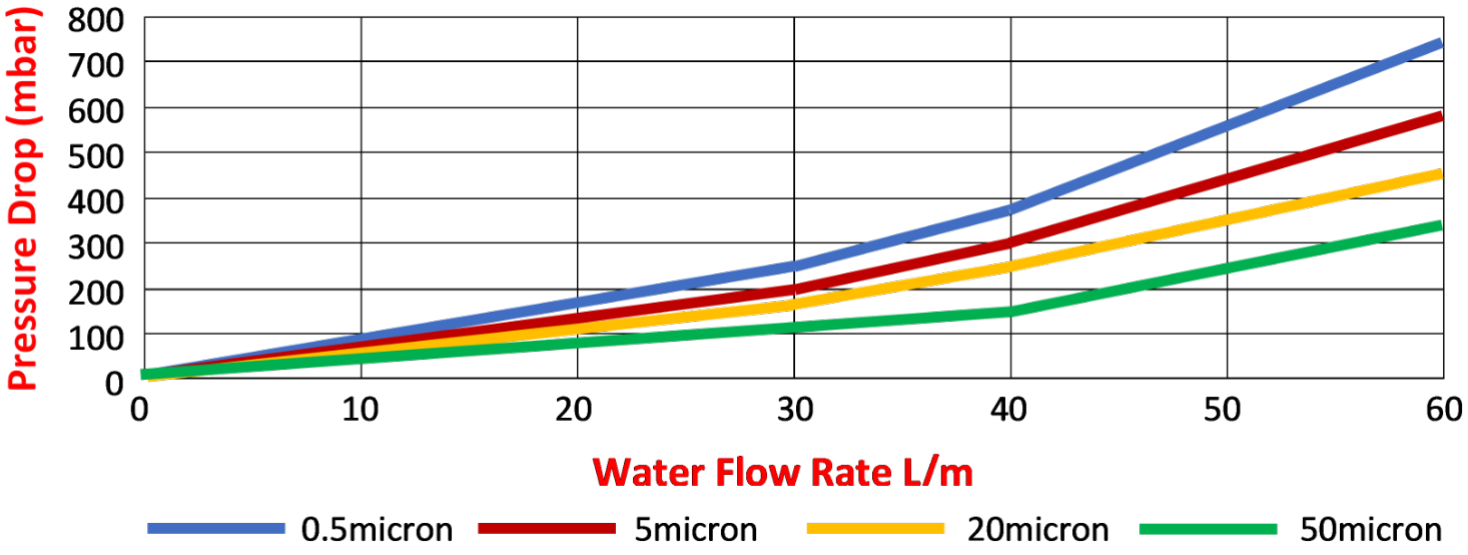
Building Services Products Limited reserves the right to change and/or amend details, specifications and/or dimensions of the BSP Filter Pot Mini at any time and without notice.

FILTER POT *Mini*

Data Sheet

Feature	Description
Installation	Complete with backing plate for simple installation to wall or frame (4 x M12 holes)
Servicing	The cleaning of the filters can be simply achieved without the need to shut the main system down and the dosing of water treatment chemicals is achieved simply and safely, again without the need to shut the system down.
Unblockable System	Even if the filters are never serviced the ingenious design ensures that the filter will not inhibit system performance.
Stainless Steel Components	All components are manufactured from 304SS or 316SS for easy cleaning and servicing of the the filter.
Pressure / Temperature Gauge	A 0-10 Bar pressure and 0-120°C temperature gauge is included on the front of the vessel to give extra reassurance that the vessel is empty and safe to open and remove the lid before cleaning the filters.
Polished Inner Surface of Vessel	The inner surface of the Vessel is highly polished to remove any crevices. Metal 'eating' bacteria habitate crevices within pipework.
Full Bore Flat Face Isolation Valves	The 304SS isolation valves do not restrict system flow and increases ease of installation.
Bespoke Insulation Jacket	The bespoke insulation jacket ensures heat loss is minimised.
Warranty	10 years from date of first installation (refer to the warranty document).

Flow DP of Filter Pot Mini Cartridge Filter including the Magnet Grate and Vessel Body



Building Services Products Limited reserves the right to change and/or amend details, specifications and/or dimensions of the BSP Filter Pot Mini at any time and without notice.

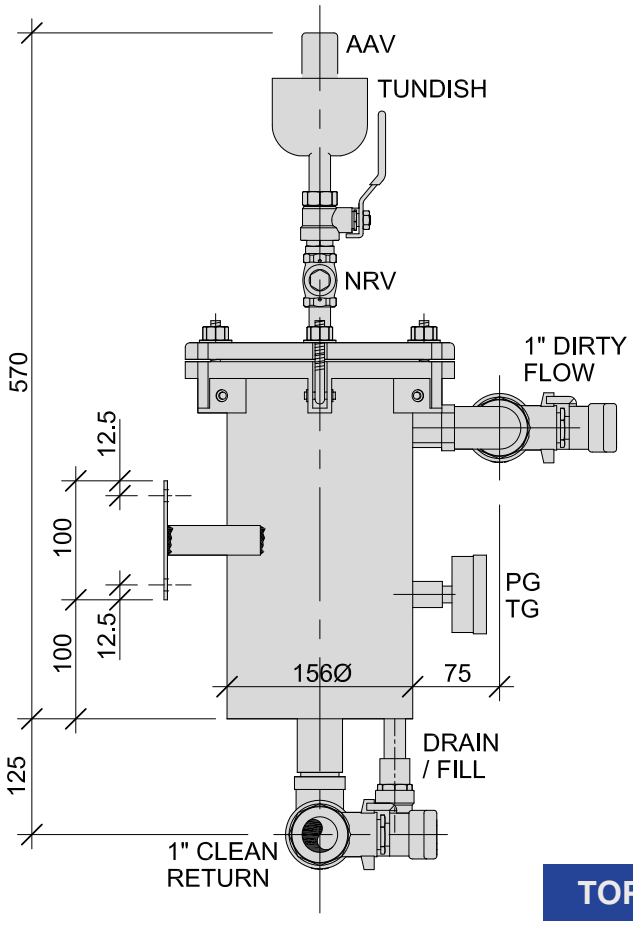
Version 2.3 05/2024

FILTER POT *Mini*

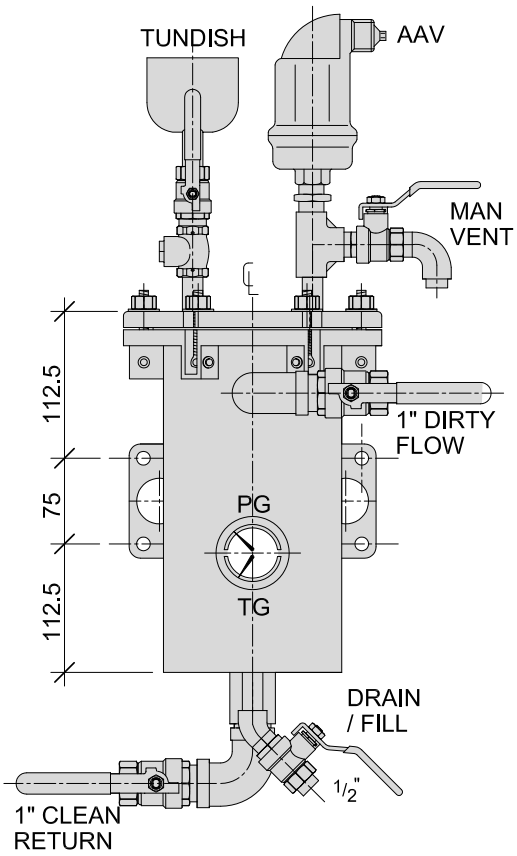
Data Sheet

LINE DRAWINGS

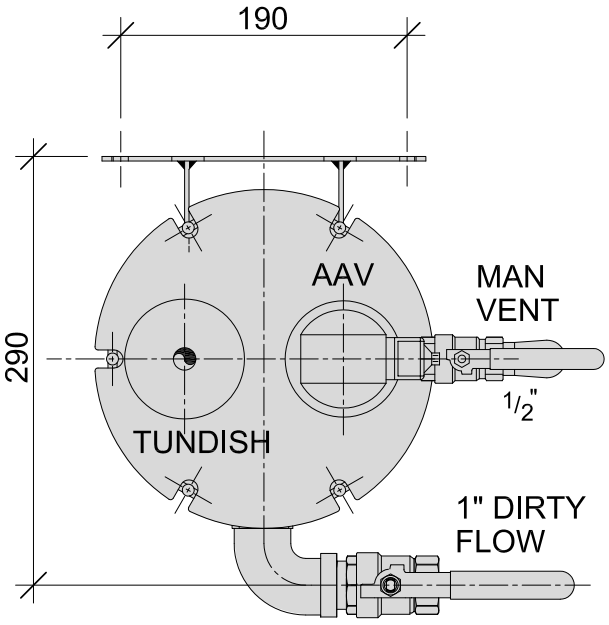
SIDE VIEW



FRONT VIEW



TOP VIEW



Building Services Products Limited reserves the right to change and/or amend details, specifications and/or dimensions of the BSP Filter Pot Mini at any time and without notice.

FILTER POT *Mini*

Data Sheet

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

To size the pipe to/from a Filter Pot Mini and control the flow rate, this can be broken down into three simple steps:

1. PRESSURE
   Make sure the system working pressure is below 10bar for the Filter Pot Mini unit.
2. SYSTEM WATER VOLUME
   The BSRIA guide advises the total system water volume of the system should pass through the Filter Pot Mini in a 24-hour period.
3. If you don't know the system volume, you can estimate the system volume by multiplying the kW rating:
   For example: Heating kW x 12 = Litres or for Cooling kW x 15 = Litres

Once you confirm the system volume, then the chart below will confirm the pipe size to/from the Filter Pot.

If you know the system volume:

Total volume of system	Pipe size to/from system
2,000L to 36,000L	½" pipe to the Filter Pot Mini
36,100L to 53,000L	¾" pipe to the Filter Pot Mini
53,100L to 90,000L	1" pipe to the Filter Pot Mini

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.

If you know the kW rating of the heating system:

Total heating system kW	Pipe size to/from heating system
660kW to 3,000kW	½" pipe to the Filter Pot Mini
3,000kW to 4,400kW	¾" pipe to the Filter Pot Mini
4,400kW to 7,500kW	1" pipe to the Filter Pot Mini

If you know the kW rating of the cooling system:

Total cooling system kW	Pipe size to/from cooling system
530kW to 2,400kW	½" pipe to the Filter Pot Mini
2,400kW to 3,500kW	¾" pipe to the Filter Pot Mini
3,500kW to 6,000kW	1" pipe to the Filter Pot Mini

4. FLOW RATE CONTROL
   To control the flow rate through the Filter Pot Mini, use the following calculation:

$$\frac{\text{Total Volume of System}}{86400} = \text{L/sec}$$

Example:

$$\frac{37{,}500\text{L}}{86400} = 0.43\ \text{L/sec}$$

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

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

You can then set the Danfoss PICV (within the BSP BG29 Compliant Valve Pack) to 0.43L/sec. This will now limit the flow through the Filter Pot to comply with BSRIA regulations (see typical installation drawings on page 6).

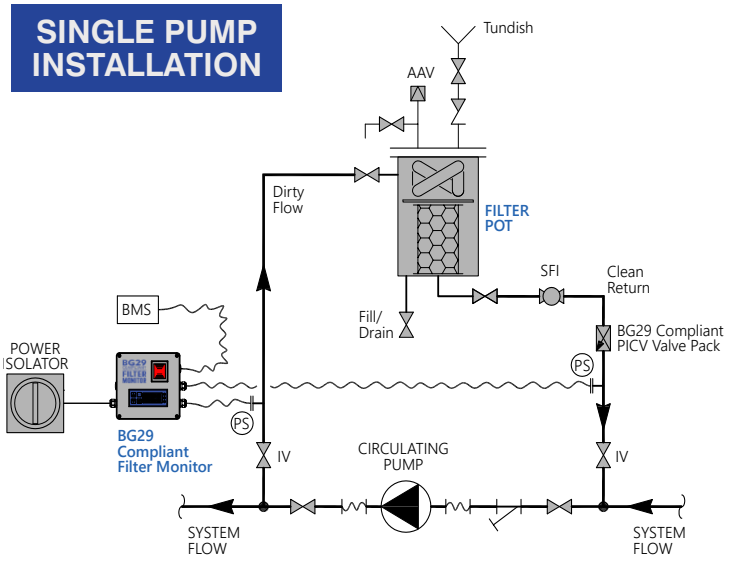
Building Services Products Limited reserves the right to change and/or amend details, specifications and/or dimensions of the BSP Filter Pot Mini at any time and without notice.

FILTER POT *Mini*

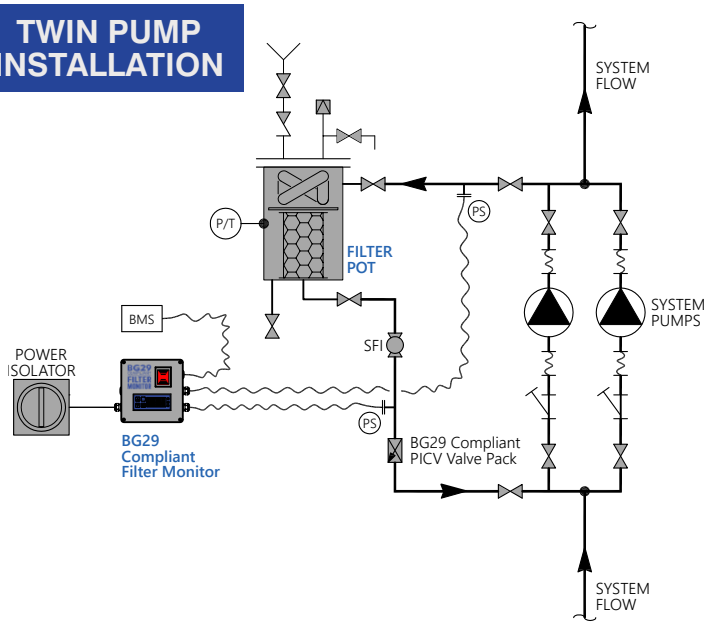
Data Sheet

TYPICAL INSTALLATION SCHEMATICS

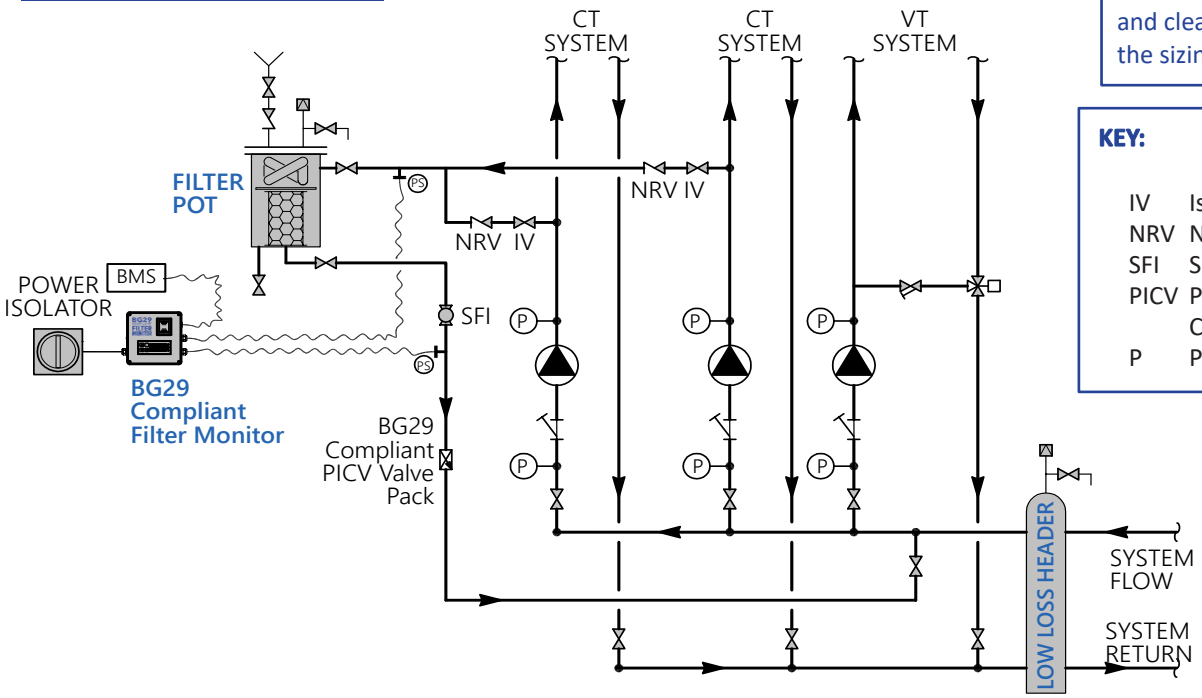
SINGLE PUMP INSTALLATION



TWIN PUMP INSTALLATION



LOW LOSS HEADER INSTALLATION



For the sizing of the dirty flow and clean return pipework, see the sizing details on page 5.

KEY:

IV	Isolation Valve
NRV	Non-Return Valve
SFI	Sight Flow Indicator
PICV	Pressure Independent Control Valve
P	Pressure Gauge

NOTE: These schematics are indicative of pipework schematics only.

Building Services Products Ltd

VIP House, Chaddock Lane, Astley,
Manchester, M29 7JT

Building Services Products Limited reserves the right to change and/or amend details, specifications and/or dimensions of the BSP Filter Pot Mini at any time and without notice.

Version 2.3 05/2024