

FRB-GLY-50-240

Water Glycol Purification System

User Manual



June 2023

V1.01

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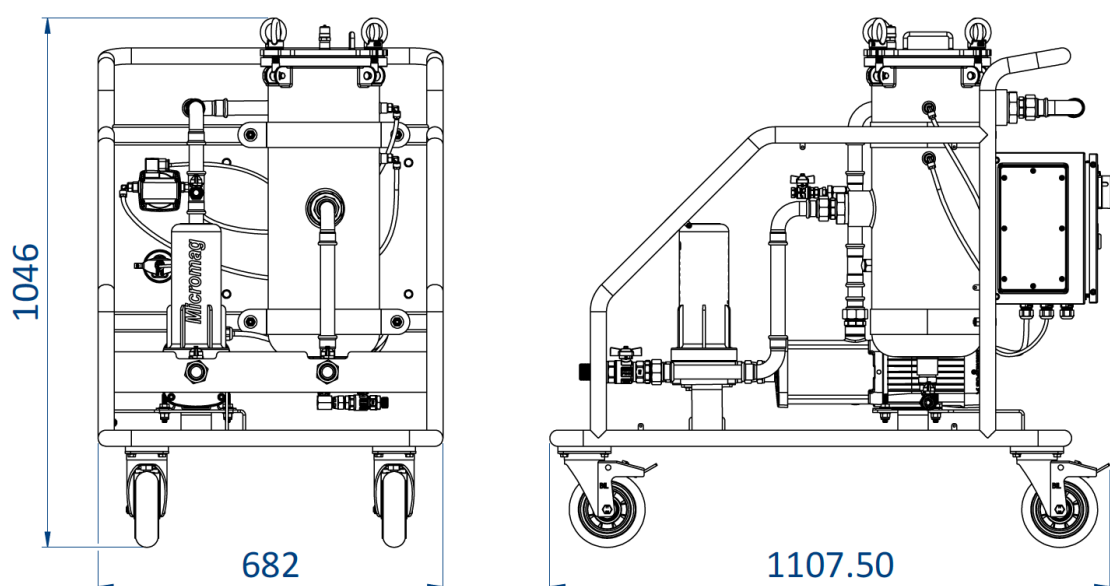
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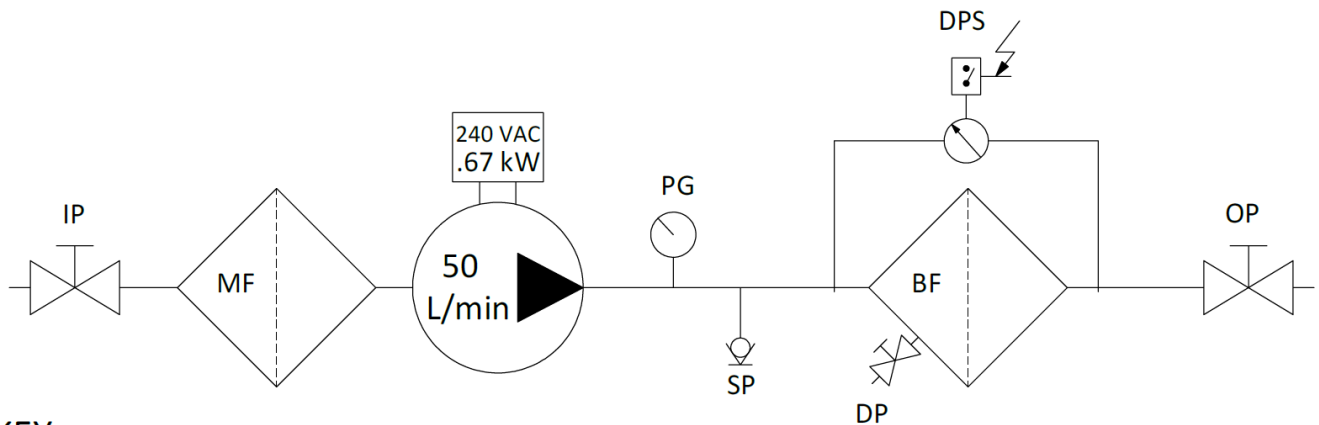
Specifications

Specification	Detail
Dimensions	(w)682mm x (d)1107.5 mm x (h)1046 mm
Weight	95 Approx
Finish	Powder Coated: RAL 5004 Blue Black
Frame material	Plain Carbon Steel
Voltage	240 VAC
Frequency	50 Hz \pm 2%
Current	16 Amp supply
Power	.67 kW Motor
Duty cycle	Continuous
Noise level	<70dB @ 1 meter
Fluid compatibility	Water/Glycol
Motor protection	Automatic thermal switch
Filtration	Particulate removal
System bypass	N/A
Filter indicators	Mechanical DP Gauge display & Front Panel LED's
Operational Pressure	Up To 5 Bar
Fluid temperature	80°C Max
Flow	Approx 50 L/min
Fluid type	Water/Glycol
Environment	IP55
Connections	1" BSPM Connections c/w Ball Valve Isolation

Dimensions



Fluid Circuit Diagram



KEY:

IP.....INLET PORT-1" BSP MALE C/W BALLVALVE
 MF.....MAGNET FILTER
 PG.....PRESSURE GAUGE
 SP.....SAMPLING POINT
 BF.....BAG FILTER
 DP.....BAG FILTER DRAIN PORT 1/2" BSP M C/W BALL VALVE
 DPS.....DIFFERENTIAL PRESSURE GAUGE/SWITCH
 OP.....OUTLET PORT-1" BSP MALE C/W BALL VALVE

Product Overview

The FRB-GLY-50-240 is a bespoke built water/Glycol purification system, the frame is fabricated from plain carbon steel and is powder coated: RAL 5004 (Blue Black) with braked swivel wheels for mobility.

The multi-stage centrifugal pump draws contaminated fluid into the system through a 1" BSPM connections c/w ball valve and is passed through the magnet filter and then on through 1 x size 1 filter vessel.

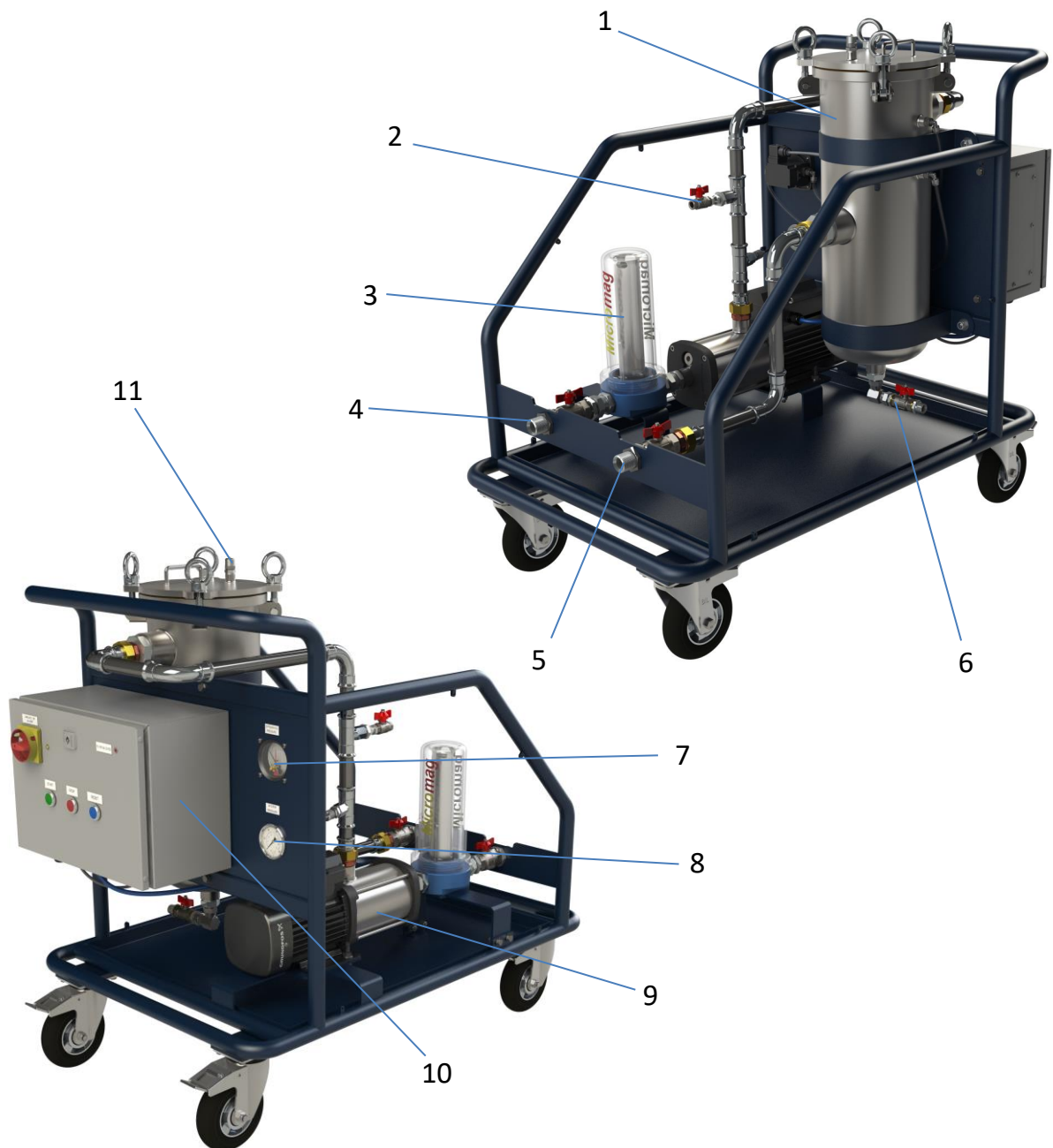
A differential pressure gauge/switch is fitted across the bag filter vessel to allow the operator to monitor the filter media life via a traffic light type display.

Once the filter media is fully blocked, the pressure switch will shut the system down alerting the operator via the red LED on the control panel.

Health, Safety & Environmental Considerations

- This equipment should only be used for its intended purpose by competent and authorised persons, inappropriate use of electrical and mechanical equipment could cause serious injury or death.
- Children and minors should NEVER be permitted to operate or move this equipment.
- Do not attempt to open the electrical panel unless you are qualified to do so, risk of electric shock or death.
- Prolonged contact with oil or diesel fuel can cause damage to the skin. Appropriate PPE (personal protective equipment) should be worn when operating the unit e.g. protective gloves, safety glasses, safety shoes etc. Always observe local health and safety requirements.
- The unit should only be used on a flat, even surface and be attended at all times.
- Do not operate switches with wet hands.
- The unit must always be disconnected from the mains supply before carrying out any routine maintenance or repairs.
- Never start or stop the unit by inserting/removing the power supply or other plugs.
- Electrical cables and tubes should be checked for any signs of damage before starting the unit.
- Ensure a spill kit is available in case of any accidental spills.
- Used samples must be disposed of in accordance with local environmental requirements.
- Ensure any water drained from this equipment is disposed of in a responsible manner and in accordance with local environmental requirements.

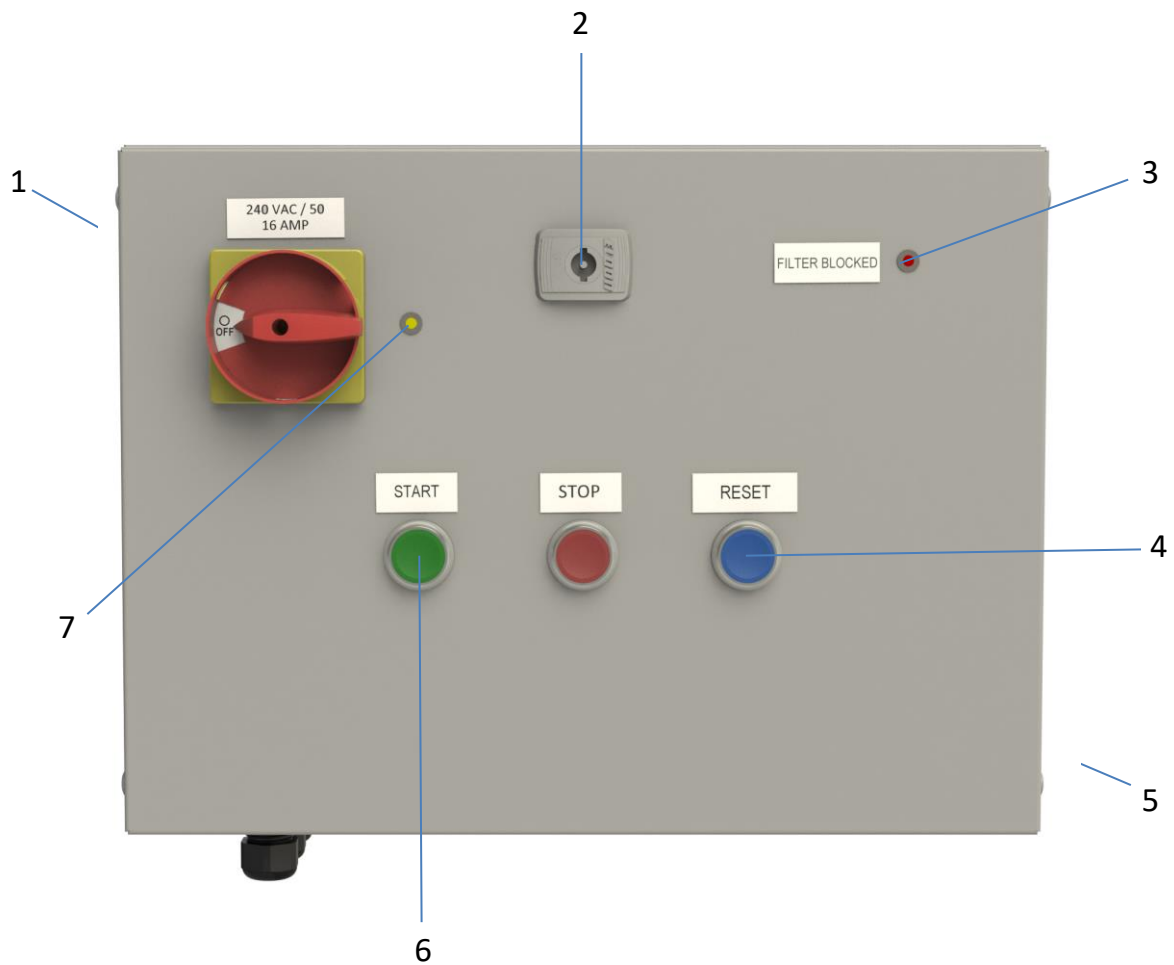
Component Identification



Key:

1.) Size 1 Filter Vessel	7.) Magnet Filter
2.) Sample Point-Post Filtration	8.) Outlet Port – 1 ¼" BSPM c/w Ball Valve
3.) Magnet Filter	9.) System Pressure Gauge
4.) Inlet Port- 1" BSP Male Connection c/w Ball Valve	10.) Control Panel
5.) Outlet Port- 1" BSP Male Connection c/w Ball Valve	11.) Differential Pressure Gauge/Switch
6.) FILTER Vessel Drain Port-1/2" BSPM c/w Ball Valve	

Control Panel



Key:

1.) Mains Isolator 240 VAC	5.) Stop Button (Red)
2.) Control Panel Door Lock	6.) Start Button (Green) (Blue)
3.) Filter Blocked Indicator (Red)	7.) Supply On Indicator (Yellow)
4.) Reset Button (Blue)	

Starting & Stopping

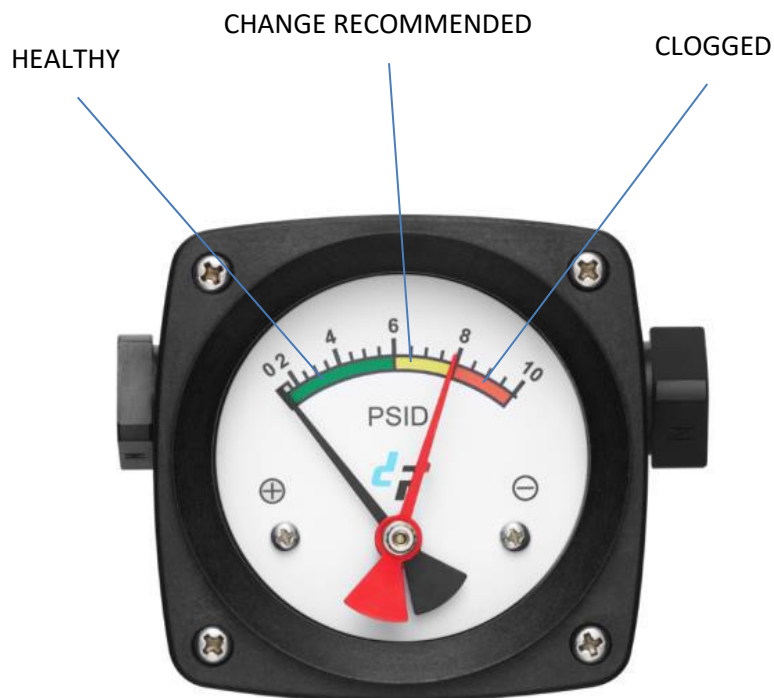
- Ensure that the system is connected to a suitable 240 VAC - 16 Amp Supply.
- Ensure all wet connections are made and the appropriate valves are open.
- Press the GREEN start button to run the system.
- Press the RED stop button to turn the system off.

Fault Notification

- FILTER BLOCKED (Red)

There is a differential pressure gauge (see below) fitted to the system, this uses a traffic light style colour display to determine the filter media life, If the needle is in the green there is life in the filter media, if the needle moves into the yellow it is recommended to change the media, and if the needle is in the red the media is blocked. A switch within the gauge will shut the system down when either of the filters become clogged.

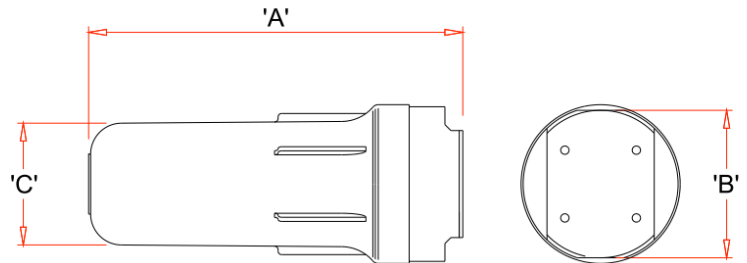
To correct the fault, carry out the filter media change instructions (pg.10) and press the blue 'RESET' button. Then press the 'START' button to continue.



Magnet Filter

Benefits:

- Sub-micron Filtration
- High Intensity rare earth magnetic material
- Suitable for all machining applications
- No consumables
- Large holding capacity
- Clear Bowl
- Clear Bowl
- Environmentally responsible



Product number	Flow rate ltrs/min	Contamination Capacity Kgs	Connection BSP	Temp Range °C	Weight Kg's	Construction	Dimensions		
							A	B	C
MM5	70	1	1	5-50	3.15	SAN housing Aluminium lid	190	105	95
MM10	100	2	1	5-50	5.2		315	125	100
MM20	150	4	1 1/2	5-50	9.7		605	135	100



How the magnet filter works:




Contaminated fluid enters the inlet port where flow is equally split via tapered radial flow channels which lowers the flow velocity ready for the fluid to be filtered.

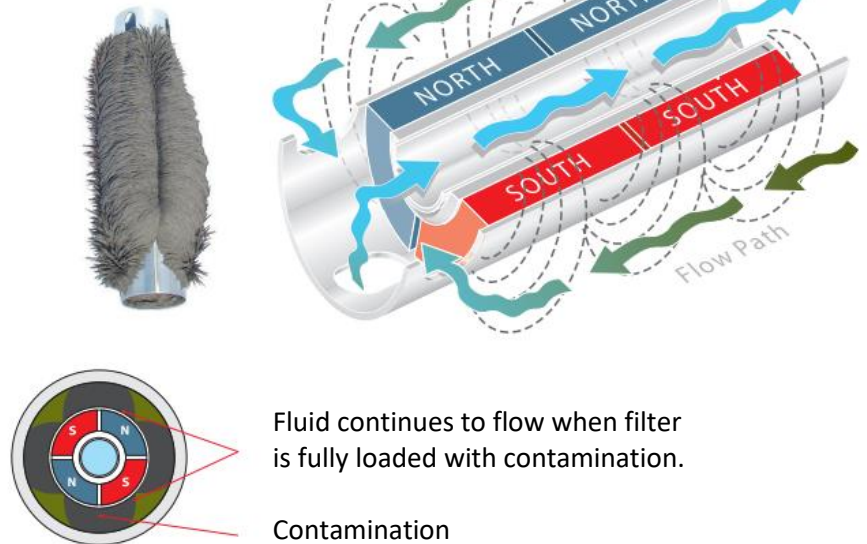
It then passes up the outside of the centrally mounted 'Rare Earth' magnetic core where contamination particles are attracted and retained.

The magnetic flux circuit geometry ensures a controlled build-up of contamination so the filter can never block.

Filtered fluid then flows through slots at the top of the core then down and through the centre of the core, exiting through the outlet port.

KEY

-  Contaminated fluid
-  Filtered fluid
-  Magnetic flux lines



Fluid continues to flow when filter is fully loaded with contamination.

Contamination

Cleaning:

It is recommended to start the system and loosen the magnet filter bowl slightly to allow air into the system, this will empty the magnet filter of fluid, once the fluid has drained stop the pump, remove the filter bowl followed by the magnetic core.

Using the supplied tool, a fully contaminated core can be cleaned in under 30 seconds. Only metallic particles are removed from the filter, and these can be easily disposed of. There are no dirty cartridges.

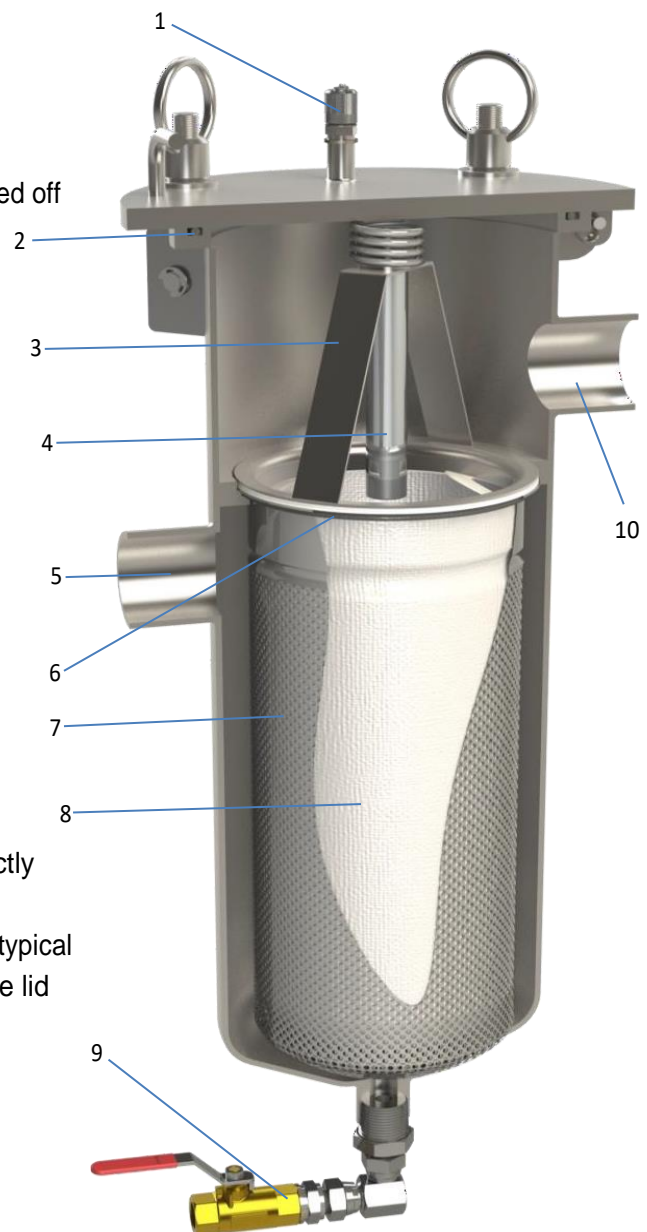


Filter Cell Housing

Changing a Filter Cell

As a guideline the following procedure can be used for changing a filter cell:

1. Ensure inlet and outlet pipework has been closed off to prevent siphoning.
2. Relieve any excess pressure by briefly opening the drain valve or vent.
3. Loosen the 4 swing bolts and open the lid.
4. Remove the filter securing bracket (if the optional magnet is included, clean off any rust).
5. Lift out the filter cell via the strap handle. It is likely the filter basket will also come out.
6. Remove the filter cell from the basket and replace with a clean filter.
7. Refit the filter basket, making sure the basket O-ring is still in place and correctly seated.
8. Refit the filter securing bracket, making sure the spring is attached.
9. Close the lid, making sure the lid O-ring is correctly seated.
10. Gradually tighten each of the 4 swing bolts in a typical star/cross sequence to allow even seating of the lid onto the O-ring seal.

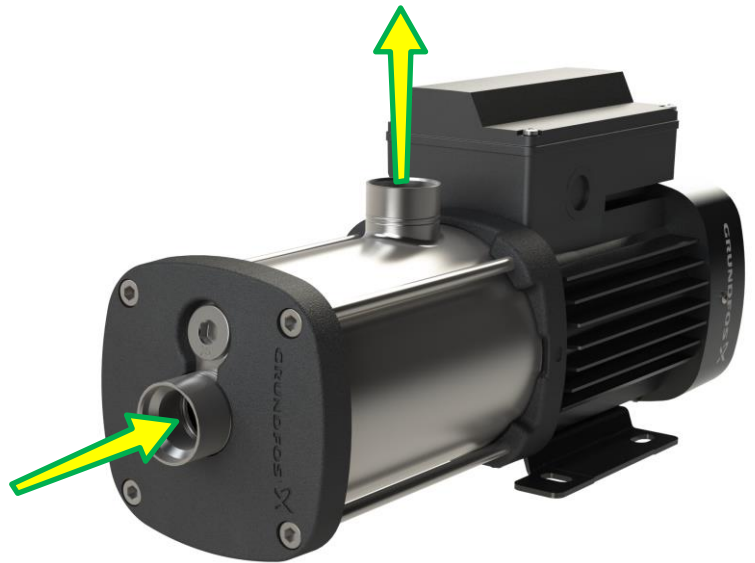


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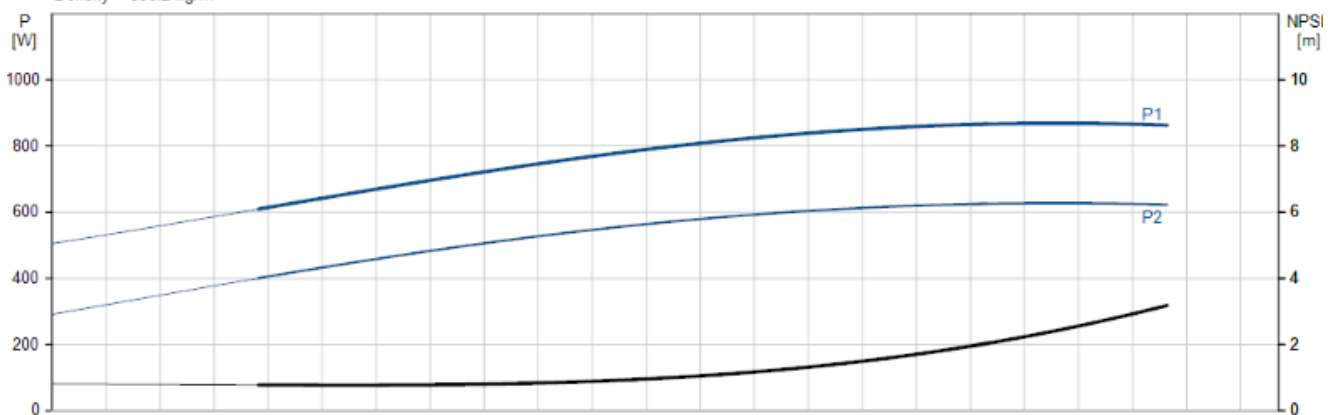
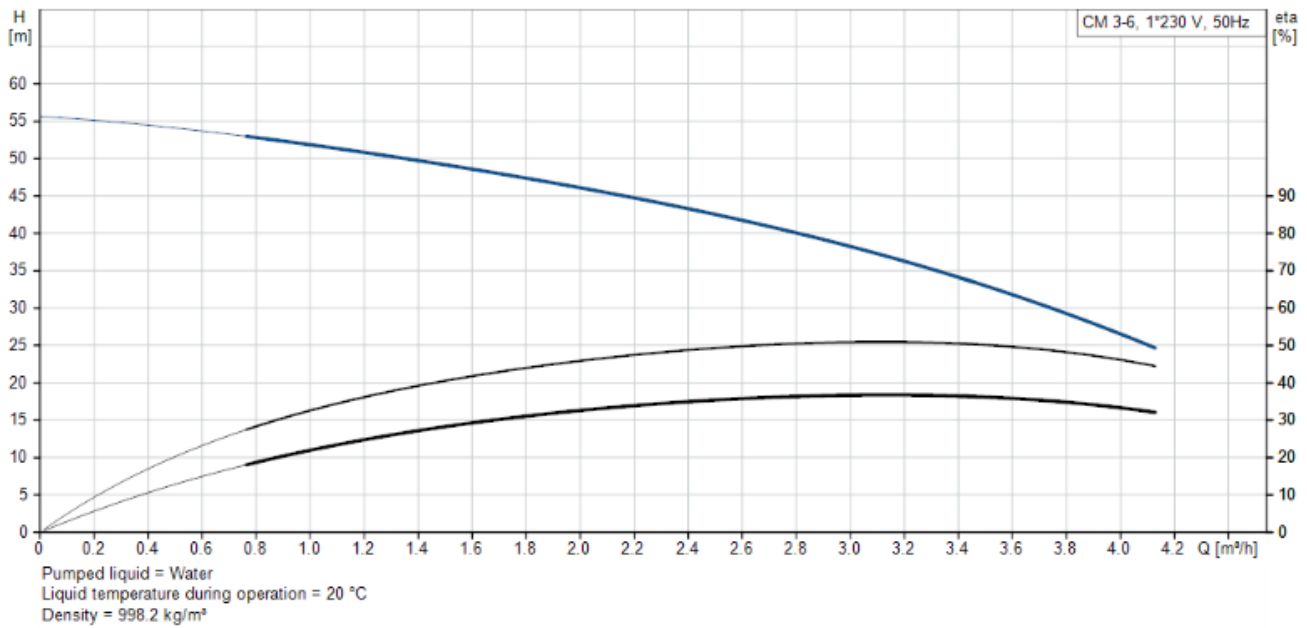
1.) Vent (1620 test point)	6.) Filter basket O-ring
2.) Lid O-ring	7.) Filter basket
3.) Filter securing bracket	8.) Filter cell
4.) Magnet (optional)	9.) Drain port
5.) Outlet port	10.) Inlet port

Pump Information

- Weight 15.1Kg
- Motor Size .67 Kw
- Voltage 240 VAC
- Max Flow Approx 50 L/min
- Max Head 97m
- Material Pump Housing- Stainless Steel
- Impellers: Stainless Steel



Pump Curves



Warranty Statement

All products manufactured or distributed by Filtertechnik Ltd are subject to the following, and only the following, Limited Express Warranties, and no others:

For a period of one (1) year from and after the date of delivery of a new Filtertechnik product, Filtertechnik warrants and guarantees only to the original purchaser/user that such a product shall be free from defects of materials and workmanship in the manufacturing process. The warranty period for pumps and motors is specifically limited to ninety (90) days from the date of delivery. A product claimed to be defective must be returned to the place of purchase. Filtertechnik, at its sole option, shall replace the defective product with a comparable new product or repair the defective product. This express warranty shall be inapplicable to any product damaged or impaired by external forces or used for any purpose other than that for which it was originally sold.

THIS IS THE EXTENT OF WARRANTIES AVAILABLE ON THIS PRODUCT. FILTERTECHNIK SHALL HAVE NO LIABILITY WHATSOEVER FOR CONSEQUENTIAL DAMAGES FOLLOWING THE USE OF ANY DEFECTIVE PRODUCT OR BY REASON OF THE FAILURE OF ANY PRODUCT. FILTERTECHNIK SPECIFICALLY DISAVOWS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED INCLUDING, WITHOUT LIMITATION, ALL WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE (EXCEPT FOR THOSE WHICH APPLY TO PRODUCT OR PART THEREOF THAT IS USED OR BOUGHT FOR USE PRIMARILY FOR PERSONAL, FAMILY OR HOUSEHOLD PURPOSES), WARRANTIES OF DESCRIPTION, WARRANTIES OF MERCHANTABILITY, TRADE USE OR WARRANTIES OF TRADE USAGE.

EC Declaration Of Conformity



EC DECLARATION OF CONFORMITY

Machinery Description

Machine Type:

Serial Number:

Applicable directives

Low voltage Directive 73/23/EEC (as amended by 93/68/EEC)

Electromagnetic Compatibility Directive 2004/108/EC

Machinery Directive 98/37/EC

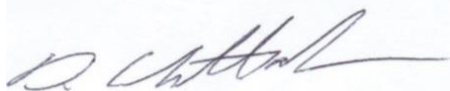
Declaration

We, Filtertechnik Limited, declare that the above referenced product(s), to which the declaration relates, is in conformity with the provisions of the Directives listed above

IMPORTANT

This declaration is only valid when the machinery has been installed, operated and maintained in accordance with the applicable installation, Operation and Maintenance Instructions and safety guidelines contained within as well as instructions supplied for equipment assembled with or intended for use with this equipment.

The technical construction file for this product is maintained at the address given below.



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