

## Operation and Installation Instructions for GMS 170 Filter Membrane Housings

Revised Feb 2015

### Warning

Filter housing is a pressure vessel; it must never be used above its stated maximum allowable working pressure and must be used within its stated temperature range. Ensure that these items are used in well-designed piping systems with suitable indicators to warn users and servicing personnel of the presence of pressure and high temperatures, wherever possible use pressure limiting or safety devices. Remember that the pressure rating is reduced at high temperatures. Consult Headline Filters for guidance.

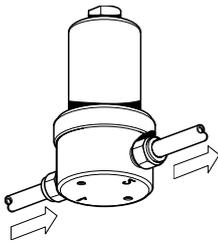
It is the responsibility of the user to ensure that the materials of construction of the filter housing, gasket and filter media are suitable for the intended application. During every servicing, a visual inspection must be made of the surfaces of the housing for signs of corrosion, erosion or general wear. The housing must be removed from service if any of these signs are evident as there is no corrosion allowances used in the design of these filters. It is not recommended that these filters be used on unstable fluids.

The following items have not been taken into account during the design of the filter housing -

- Static pressure and mass of contents
- Traffic, wind and earthquake loading
- Reaction forces and moments resulting from mounting
- Corrosion, erosion and fatigue
- Decomposition of unstable fluids.
- External fire

### Installing the Filter Housing

As the filter housing is a pressure vessel the system connections and accessory outlets must be leak tight. It is normally good practice to use a pipe sealant on the fittings prior to connecting to the filter housing ports. This will allow disassembly at a later time, if required. Any sealant such as PTFE tape, paste or other compound may be used if compatible with the filtered media. The torque value of the fittings will depend upon the quality of the fittings and the type of sealant used but should typically be between 40Nm and 75Nm. Ensure the fittings get inspected during servicing and re-tightened if necessary. It is not recommended that heads and bowls from different filter assemblies are swapped. Wherever possible, installation of filter housings should be made using an appropriate mounting bracket to avoid excessive loads on the piping.



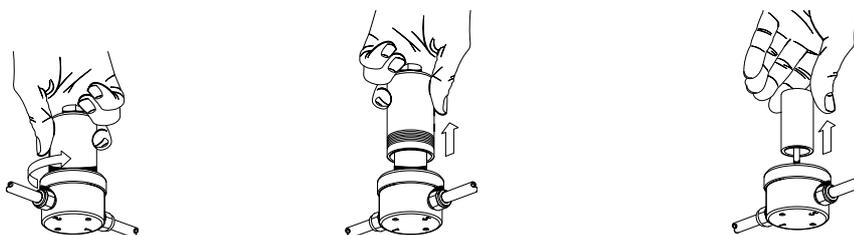
The flow direction of the membrane housings is indicated by the engraving on the Head:

IN, OUT and "Dr" for Drain

### Changing the Filter Element and Membrane

This design of housing allows the filter element and membrane to be changed without the need to disassemble any of the process connections.

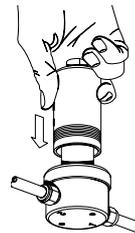
Ensure there is no pressure in the housing. Unscrew the filter Bowl, unscrew the Element Retainer and remove filter element.



The membrane itself is contained in the Element Retainer assembly. Slacken the 3 stainless steel grub screws on the Retaining Cap using a 1.5mm hex key; remove the Retaining cap to expose the o-ring and membrane underneath. Remove and discard the old o-ring and membrane. The sintered disc supporting the membrane can now be removed, cleaned or replaced as necessary.

Very carefully pull the new membrane across the top of the element support until it sits centrally over the sintered disc and o-ring groove. Gently fit a new o-ring and carefully press this fully into its groove. Replace the stainless steel Retaining Cap and tighten the grub screws to secure it. Install a new coalescing filter element and re-fit the retainer assembly. Disposable filter elements are sealed by compression against a flat surface and gaskets are not required.

Before replacing the housing bowl ensure that the mating threads and sealing faces are clean and damage free. It is recommended that the threads and sealing faces are lubricated with a small amount of silicone grease before assembly. In the case of 'S' type stainless steel housings fitted with a solid PTFE gasket the bowl should be tightened to a torque of between 30Nm and 40Nm.



### Service Intervals

A disposable microfibre filter element continues to filter at its original efficiency as long as it is kept in service. The life of the element is determined by the increase in flow resistance caused by trapped solids in the element. The element should be changed when the flow falls below an acceptable level, or the pressure drop becomes too high. In any case the element should be replaced before the pressure drop across it reaches 0.7 Bar. The disposable microfibre filter elements cannot be cleaned as the solids are trapped within the depth of the element not on the surface.

Ensure that gaskets are changed at suitable intervals. The interval time will depend on service and operating conditions, but it should be at least every three months.

### Explanation of Housing Label



Housing type    Maximum pressure



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