



JOHNSON PUMP
AN SPX BRAND

Instruction Manual

TopFilter TFOV

Single Filters



Read and understand this manual prior to operating or servicing this product.

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SPX®

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1.0 Installation

Installation and maintenance should be undertaken by a competent person. National and Local Codes of Practice, Environmental Regulations and Health and Safety Directives must be adhered to and take precedence over any stated or implied practices in this document. All TopFilters are hydrostatically pressure tested prior to delivery.

Fit the filter assembly into the pipeline ensuring:

- There is no undue stress on the unit – support large filters appropriately.
- The unit is installed using suitable flange bolting materials and gaskets.
- The flow direction is correct.
- The unit is vertical with the cover at the top and the basket (element) is fitted.
- The unit is protected by suitable safety devices (pressure relief valves, earthing straps etc.) as appropriate within the system that it is installed.
- There is enough space available for maintenance operations.
- The fluid is compatible with the materials of construction *).
- The filter is being operated within its pressure/temperature performance envelope and within the flange drilling pressure/temperature limits *).
- The filter is clean, including (if appropriate) the removal of corrosion preventative liquids applied during manufacture.
- The cover(s), drain plug and any other attachments are secure.

Fill the filter with fluid, bleed air from the unit via the bleed screw(s), and check for leaks.

**) See Doc-23 Chemical Compatibility and Doc-24 / Doc-34 Pressure/Temperature Limits which are available on the Johnson Pump brand web site: www.johnson-pump.com.*

2.0 Operation & Maintenance

The pressure drop across the basket(s) should not exceed 1.4 bar (20 psi).

To clean or inspect the basket(s), stop the fluid flow (isolate the filter if necessary) relieve the pressure and remove the drain plug to drain the filter chamber. Slacken the cover nuts and rotate the cover(s) to expose the basket(s). Lift out the basket(s) and clean thoroughly. When cleaning baskets with fine mesh linings care should be taken not to damage the lining by the use of sharp objects or high pressure wash jets. Paper/fibreglass and other disposable elements cannot be successfully cleaned. They should be replaced by new clean elements.

Ensure there is no debris below the basket register (as this is the clean side of the filter). Replace the drain plug and sealing washer. Refit the basket(s) (and basket O-ring, if fitted) ensuring they are correctly located on the register.

Note: *When refitting the baskets in the DN 200 (8") and DN 250 (10") multi-basket filters ensure that the baskets marked 'A' are on the inlet side of the filter and baskets marked 'B' are on the outlet side.*

Lift and swing the cover(s) into position ensuring that the cover O-ring is not damaged. Progressively and evenly hand tighten the nuts to clamp the cover.

Bleed the air from the filter via the bleed screw(s) and check for leaks. The filter is now ready to re-use.

Periodically inspect the filter assembly for corrosion and other deterioration that may affect the integrity of the vessel.

3.0 Specifications

Model	TFOV	TFOV/S	TFOV/S A300	TFOV/GM	TFOV/SS	TFOV/SS A300
Body & cover material	Cast Iron EN1561 EN-JL 1030	Cast steel EN 10213-2 1.0625	Cast steel EN10213-2 1.0625	Gunmetal (Bronze) BS 1400 LG4C	Stainless Steel BS 1504 316 C16	Stainless steel BS1504 316 C16
Maximum working pressure	17 bar at 50°C	22 bar at 50°C	50 bar at 50°C	22 bar at 50°C *)	22 bar at 50°C	48 bar at 50°C
Baskets	Stainless Steel — Basket & Mesh Lining BS1449 Grade 316 S31					
Drain plug	Brass	Stainless Steel	Stainless Steel	Gunmetal (Bronze)	Stainless Steel	Stainless Steel
Vent	Stainless Steel	Stainless Steel	Stainless Steel	Phosphor Bronze	Stainless Steel	Stainless Steel
Standard seals	Viton®	Viton®	Viton®	Viton®	Viton®	Viton®
Body colour	Grey	Silver	Silver	Natural	Natural	Natural

*) Gunmetal (bronze) DN 20, 25 & 40 filters are rated at 13.8 bar at 50°C
 DN 200 & DN 250 filters are rated at 13.8 bar at 50°C (Standard Range).

Viton is a registered trademark of DuPont Performance Elastomers.

4.0 Hazardous Fluids & Pressures

- The filters, when despatched from SPX, do not contain substances specifically hazardous to health, but may have a thin coating of oil based corrosion preventative on all internal surfaces.
- If the fluid to be filtered is in any way hazardous, the operator and the environment should be suitably protected. Care should be exercised if the fluid at atmospheric conditions is above its boiling point.
- Relieve the pressure in the filter before opening the filter cover.
- Do not make any adjustments whilst the filter is pressurised.
- If a filter is to be stored or transported, ensure that the filter is clean, suitably protected (including corrosion protection if appropriate) and does not contain substances that could be hazardous to health.

5.0 Pressure/Temperature Ratings

The filter should be used within the flange drilling pressure/temperature limits and the filter body limits. Discuss higher temperature pressure ratings with SPX *)

Filter Material	Standard Range	A300 Range
Cast Iron	17 bar at 50°C	Not available
Cast Steel	22 bar at 50°C	50 bar at 50°C
Stainless Steel	22 bar at 50°C	48 bar at 50°C
Gunmetal (bronze) (DN 50-150)	22 bar at 50°C	Not available

DN 200 & DN 250 filters are rated at 13.8 bar at 50°C (Standard Range).

Gunmetal (bronze) DN 20, 25 & 40 filters are rated at 13.8 bar at 50°C (Standard Range).

All pressures are non-shock.

6.0 'O' seal temperature limits

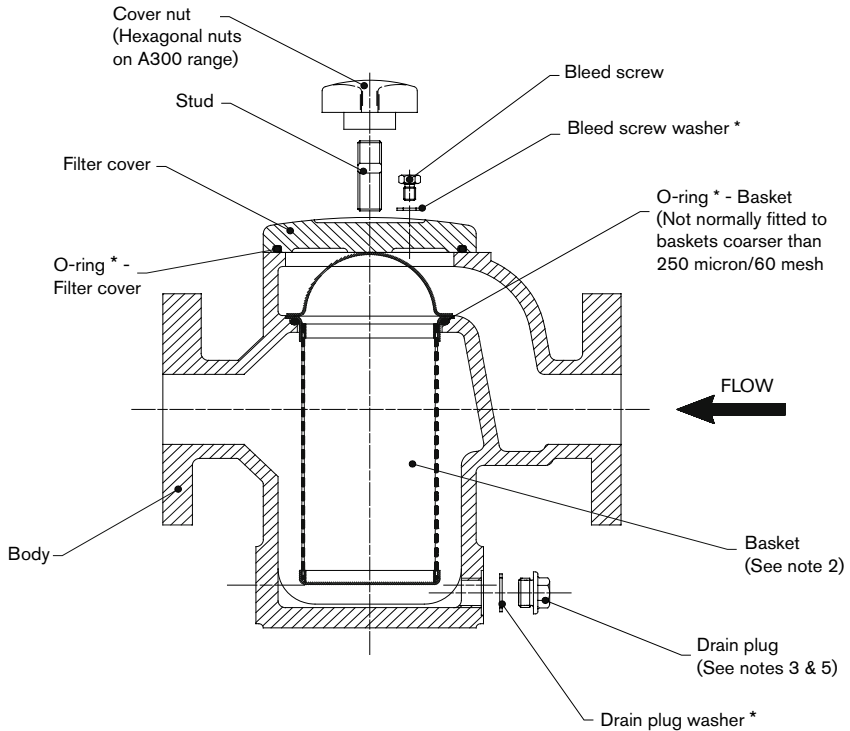
Viton®	-20°C to +200°C	PTFE encapsulated Viton: -20°C to +200°C
Ethylene propylene:	-50°C to +150°C	PTFE encapsulated silicone: -55°C to +260°C

The above values are guidelines based upon absolute compatibility with the fluid and are not binding due to unaccountable factors that may be detrimental to the performance of the 'O' seals.

Note: *As SPX has no control over the use or operating conditions we cannot be held responsible for any damage to/by the filter, or any subsequent costs incurred. It is essential that the user satisfy themselves of the suitability of the equipment for the intended application.*

*) See Doc-23 Chemical Compatibility and Doc-24 / Doc-34 Pressure/Temperature Limits which are available on the Johnson Pump brand web site: www.johnson-pump.com.

7.0 Spares Identification Drawing



Notes

- 1) Items marked * are only available as part of a 'seal kit'.
- 2) DN 200 and DN 250 (8" and 10" NB) filters are multi-basket filters have 4 baskets and 5 baskets respectively. Baskets marked 'A' are fitted towards the 'inlet' side of the filter, whilst baskets marked 'B' are fitted towards the 'outlet' side of the filter.
- 3) All filters have 1/2" drain plugs with the exception of DN 200 and DN 250 (8" and 10" NB) filters which have 1" drain plugs.
- 4) Filters with threaded inlet/outlet ports can be either NPT or BSP threads.
- 5) The drain port can be threaded NPT or BSP.
- 6) When ordering spares please define (as appropriate):
 - Filter size and body material.
 - Seal kit material (e.g. Viton® or EPDM).
 - Basket mesh size.
- 7) An Differential Pressure Indicator (DPI) may be fitted to indicate when the basket needs cleaning.

The illustrations shown are not binding. The right to change specification without notice is reserved.