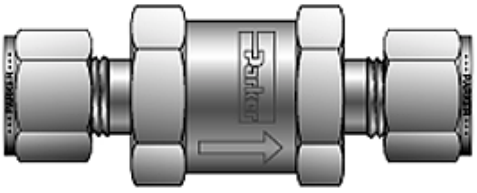
Maintenance Instructions

MI-106 Revision -

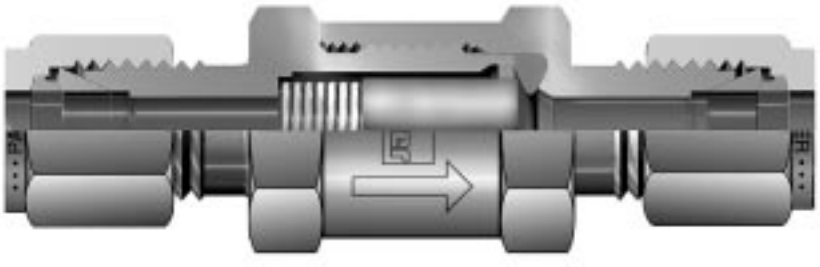
F Series Filter



MAXIMUM ALLOWABLE WORKING PRESSURE

Filter Size	Brass Body	Stainless Steel Body
F2, F4, F6, F8 & F12	3000 Psig at 70 °F 20.7 MPa at 21 °C	6000 Psig at 70 °F 41.4 MPa at 21 °C
F16	3000 Psig at 70 °F 20.7 MPa at 21 °C	5000 Psig at 70 °F 34.5 MPa at 21 °C

Always consult your authorized Parker representative if questions arise. The arrow on the Filter Cap indicates the normal direction of flow



F Series Filter Cross Sectional View

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Instrumentation Valve Division
Jacksonville, Alabama

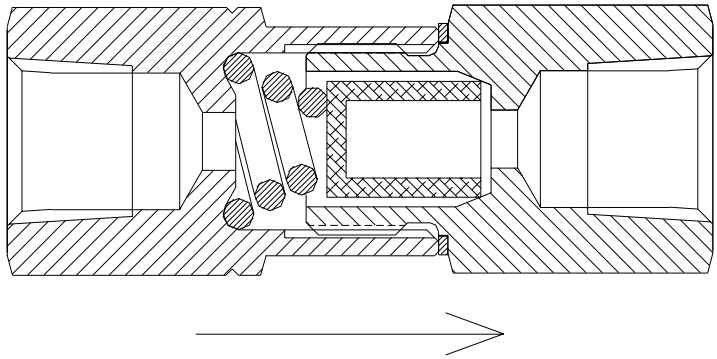

Figure 1: Inline Filter with Sintered Element Cross Sectional View purchased prior to July 1, 1993

IMPORTANT NOTICE

To improve the Inline Filter, the components and assembly procedures were changed on July 1, 1993.
All Inline Filters assembled prior to July 1, 1993 should use Procedure A for disassembly and re-assembly. These can be identified by an external gasket at the joint between the Cap and Body.
All Inline Filters assembled on or after July 1, 1993 should use Procedure B. These can be identified by the absence of an external gasket at the joint between the Cap and Body.
F2 Series Inline Filters kits contain two style seats. Inspect your existing components to determine which style seat should be used. Refer to Figure 7.

PROCEDURE A

WARNING: MAKE CERTAIN THE SYSTEM IN WHICH THE FILTER IS INSTALLED IS DRAINED AND/OR EXHAUSTED OF ALL PRESSURE BEFORE STARTING FILTER REMOVAL OR DISASSEMBLY, FAILURE TO DO SO CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

1. Verify that the Inline Filter Maintenance Kit being used is appropriate for the Filter's size, the filter micron rating, and the service requirements. Always contact your authorized Parker representative if any questions arise.
2. Clamp the Inline Filter Body (next to the flow symbol's arrow) at its hex-flats. Vertical orientation of the Inline Filter in a vise for maintenance or repair (with flow arrow pointing DOWN) is recommended.
3. Loosen the Body from the Cap by turning counterclockwise with the following size hex wrench:

F2 Filters	5/8 inch
F4 Filters	3/4 inch
F6 Filters	1 inch
F8 Filters	1-1/4 inch

4. Remove the Gasket, Filter Element and the Spring. Discard each of these components.

REASSEMBLY

1. Make certain all parts are free of dirt or other contamination before starting reassemble of the Filter.
2. Apply a small amount of lubricant, as consistent with the Filter's service requirements, on both sides of the new Gasket. Always consult your authorized Parker representative if any questions arise.
3. Refer to Figures 1 and 2. Place the Gasket on the outer diameter face of the Body, to allow for the later assembly of the Cap to the Body sub-assembly.

CAUTION: The Gasket must be flush with the entire hex face before tightening.

4. Place the new Filter Element inside the Body. The new Filter Element's closed end must be face out.
5. Place the new Spring on top of the Filter. The Spring's "small diameter" end must sit on the Filter.
6. Carefully install the Cap onto the Body Sub-Assembly by turning clockwise with the following size hex wrench to the following specified torque:

INLINE FILTER TORQUE REQUIREMENTS
-DO NOT OVER TORQUE-

Filter Size	Wrench	Brass Body	Stainless Steel Body
F2	5/8	13 Ft-lbs. 17.6 N-m	20 Ft-lbs. 27.1 N-m
F4	3/4	17 Ft-lbs. 23.0 N-m	27 Ft-lbs. 36.5 N-m
F6	1	22 Ft-lbs. 29.8 N-m	32 Ft-lbs. 43.3 N-m
F8	1-1/4	55 Ft-lbs. 74.4 N-m	110 Ft-lbs. 148.9 N-m

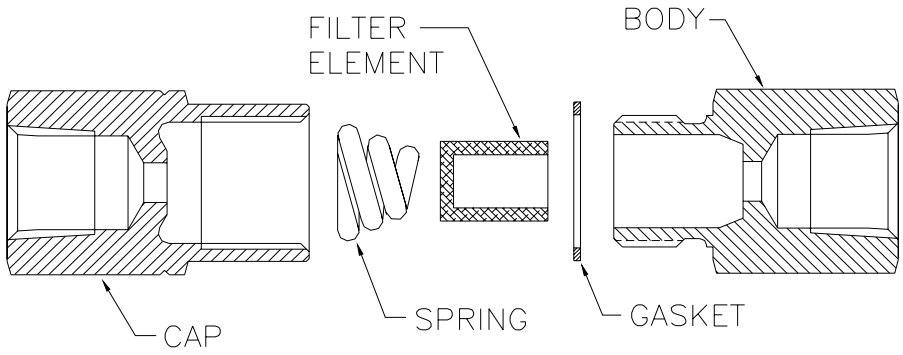

Figure 2: Inline Filter with Sintered Element Exploded View purchased prior to July 1, 1993

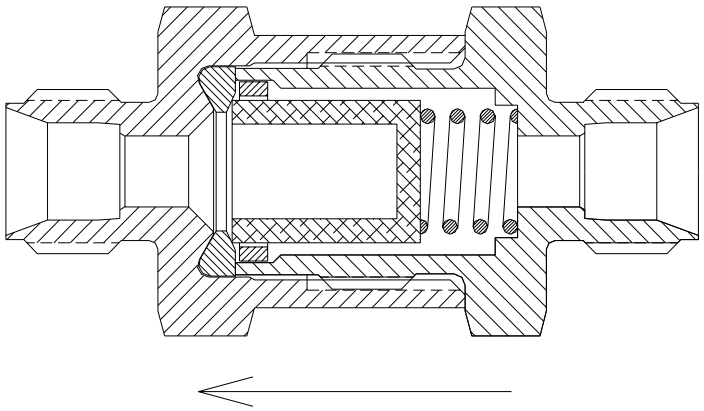

Figure 3: Inline Filter with Sintered Element Cross Sectional View purchased after July 1, 1993

PROCEDURE B

WARNING: MAKE CERTAIN THE SYSTEM IN WHICH THE FILTER IS INSTALLED IS DRAINED AND/OR EXHAUSTED OF ALL PRESSURE BEFORE STARTING FILTER REMOVAL OR DISASSEMBLY. FAILURE TO DO SO CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE

1. Verify that the Inline Filter Maintenance Kit being used is appropriate for the Filter's size, the filter micron rating, and the service requirements. Always contact your authorized Parker representative if any questions arise.
2. Clamp the Inline Filter Cap (next to the flow symbol's arrow) at its hex-flats. Vertical orientation of the Inline Filter in a vise for maintenance or repair (with flow arrow pointing DOWN) is recommended.
3. Loosen the Body from the Cap by turning counterclockwise with the following size hex wrench:

F2 Filters	5/8 inch
F4 Filters	3/4 inch
F6 Filters	1 inch
F8 Filters	1-1/4 inch
F12 Filters	1-3/8 inch
F16 Filters	1-5/8 inch

4. Remove and discard the Spring and the Filter Element. Gently remove and discard the elastomeric Seal at the bottom of the Cap cavity, exercising care not to damage or scratch the Cap's interior.

REASSEMBLY

1. Make certain all parts are free of dirt or other contamination before starting reassemble of the Filter.
2. Apply a moderate amount of lubricant to the face of the Seal, as consistent with the Filter's service requirements. Always consult your authorized Parker representative if any questions arise.
3. Refer to Figure 3. Place the new Seal in the Cap, exercising care not to damage or scratch the Cap's interior.

NOTE: Correct orientation of the Seal per Figure 8 is required for proper Filter operation.

4. While holding the body upright, place the new Spring in the Body. Ensure the Spring is properly positioned in the pocket as shown in Figure 3.
5. Install the Filter Element over the Spring. The new Filter Element's open and must face out.
6. Install the Filter's Guide over the Filter Element.
7. With the body sub-assembly still in the vertical position, install the Cap sub-assembly to the Body until finger tight. Engage by turning clockwise with the following size hex wrench to the following specified torque:

INLINE FILTER TORQUE REQUIREMENTS
- DO NOT OVER TORQUE-

Filter Size	Wrench	Brass Body	Stainless Steel Body
F2	5/8	40 in-lbs. 4.5 N-m	60 in-lbs. 6.8 N-m
F4	3/4	50 in-lbs. 5.7 N-m	70 in-lbs. 7.9 N-m
F6	1	55 in-lbs. 6.2 N-m	75 in-lbs. 8.5 N-m
F8	1-1/4	65 in-lbs. 7.3 N-m	90 in-lbs. 10.2 N-m
F12	1-3/8	65 in-lbs. 7.3 N-m	90 in-lbs. 10.2 N-m
F16	1-5/8	65 in-lbs. 7.3 N-m.	90 in-lbs 10.2 N-m

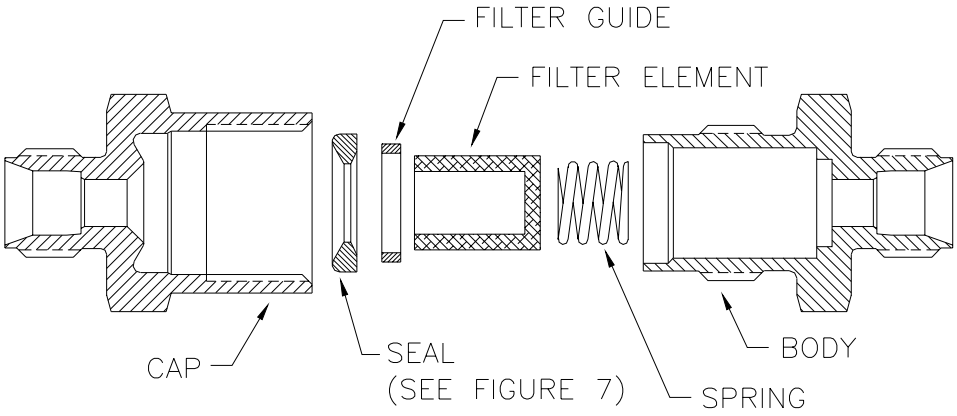

Figure 4: Inline Filter with Sintered Element Exploded View purchased after July 1, 1993

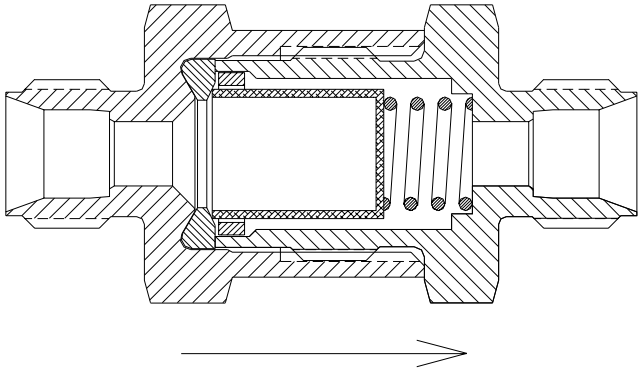

Figure 5: Inline Filter with Wire Cloth Element Cross Sectional View

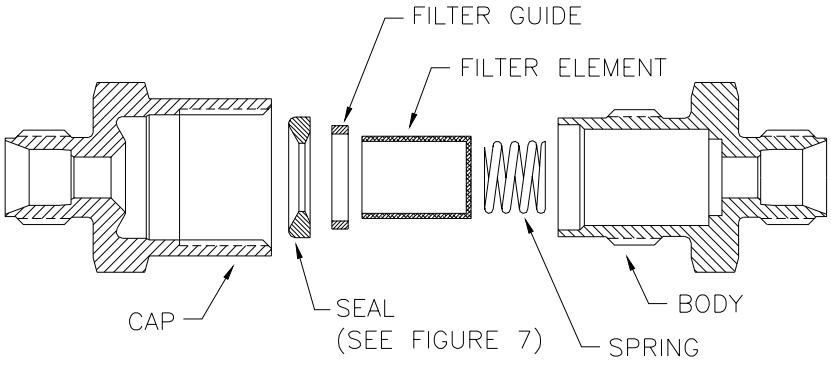

Figure 6: Inline Filter with Wire Cloth Element Exploded View

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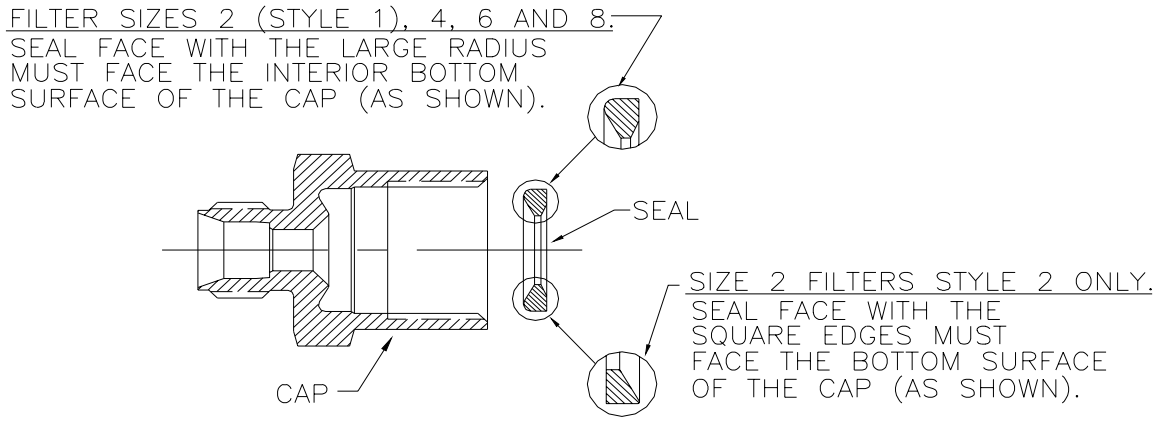

Figure 7: Proper Assembly of Seal in valves purchased after July 1, 1993

WIRE CLOTH FILTER ELEMENTS

The disassembly and reassemble of Filters that have wire cloth elements is the same as valves with the sintered elements. The only difference may be seen in the direction of flow as related to the orientation of the element. This is illustrated in Figures 3 and 5.

VALVE CONNECTOR MAKE-UP INSTRUCTIONS

MALE AND FEMALE PIPE PORTS

Wrench flats are provided on the Valve Body. It is recommended a smooth- jawed wrench or vise be used to grip the Valve Body.

1. On the male threaded part of the connection, apply a high quality pipe joint compound or PTFE tape made for this purpose. When PTFE tape is used, it is recommended two full turns of tape be applied. PTFE tape should not be overhanging or covering the first thread
2. Engage the Valve and the other component part together, until hand-tight.
3. With a proper wrench, holding both the Valve and the component part, continue to tighten to achieve a leak-tight joint.

ULTRASEAL CONNECTIONS

1. Insert the proper O-Ring into the UltraSeal fitting's O-Ring groove. Position the UltraSeal gland sealing face against the O-Ring, and then advance the Nut to a finger-tight position.
2. A positive seal is obtained by advancing the Nut no less than 1/4 turn from the finger-tight position. Proper UltraSeal make-up is achieved when a sharp rise in required application torque occurs, which indicates proper seal face contact and O-Ring seal compression into the UltraSeal groove.

VACUSEAL CONNECTIONS

1. A positive seal is obtained by advancing the Nut 1/8 turn from the finger-tight position.
2. A new gasket should be installed upon each fitting re-make to insure system pressure integrity.

TUBE FITTING CONNECTIONS

1. Insert the tube into the Valve port until the tube bottoms out in the Valve Body. Care should be exercised to insure the tube is properly aligned with the Valve Body and port.
2. Normal make-up for US Customary port sizes 1 thru 3 (1/16 thru 3/16 inch) and SI port sizes 2 thru 4 (2 thru 4 mm) is 3/4 turn from finger tight. Normal make-up for US Customary port sizes 4 thru 16 (1/4 thru 1 inch) and SI port sizes 5 thru 25 (5 thru 25 mm) is 1 1/4 turn from finger tight. For larger port sizes consult Parker Ferrule Presetting Tool Instructions.

PLEASE FOLLOW THE ABOVE DIRECTIONS FOR COUNTING THE NUMBER OF TURNS FOR PROPER FITTING MAKE-UP. DO NOT MAKE-UP TUBE FITTINGS BY TORQUE OR "FEEL". VARIABLES SUCH AS TUBING AND FITTING TOLERANCES, TUBE WALL THICKNESS, AND THE LUBRICITY OF NUT LUBRICANTS CAN RESULT IN AN IMPROPERLY ASSEMBLED TUBE FITTING CONNECTION.

A -Two ferrule A-LOK® compression port

Z -Single ferrule CPI™ compression port

F -ANSI/ASME B1.20.1 Internal pipe threads

V -VacuSeal face seal port

Q -UltraSeal face seal port

M -ANSI/ASME B1.20.1 External pipe threads

Parker Instrumentation

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WARNING

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application and review the information concerning the product or system in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.

The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.

ALL PARKER VALVES MUST PASS A RIGID OPERATIONAL AND LEAKAGE TEST BEFORE LEAVING THE FACTORY. IT IS RECOMMENDED AFTER ANY REASSEMBLY, THE VALVE SHOULD BE TESTED BY THE USER FOR OPERATION AND LEAKAGE. IF THESE INSTRUCTIONS ARE NOT FULLY COMPLIED WITH, THE REPAIRED PRODUCT MAY FAIL AND CAUSE DAMAGE TO PROPERTY OR INJURY TO PERSONS. PARKER HANNIFIN CANNOT ASSUME RESPONSIBILITY FOR PERFORMANCE OF A CUSTOMER SERVICED VALVE.

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