



Steam Filter Station FS Series

Description

- Line size separator and associated trap kit (Mod S1 or S12)
- 3A certified steam filter (Mod CSF16 w/ 5 micron element)
- Pressure gauge assemblies up and downstream of the filter to provide visual indication of when elements need to be cleaned and replaced
- Sample cooler for sampling steam downstream of the filter
- Stainless steel pipe downstream of the filter
- Sanitary check valve and sanitary components downstream
- Isolation valves at key points to enable ease of maintenance of the separator, trap, and steam filter

Sizes and pipe connections

NPT: ½", ¾", 1", 1½", and 2"

Note: Other sizes and connections available on request. Filter Station Compliant to 3A Accepted Practice 609-03.

Standards

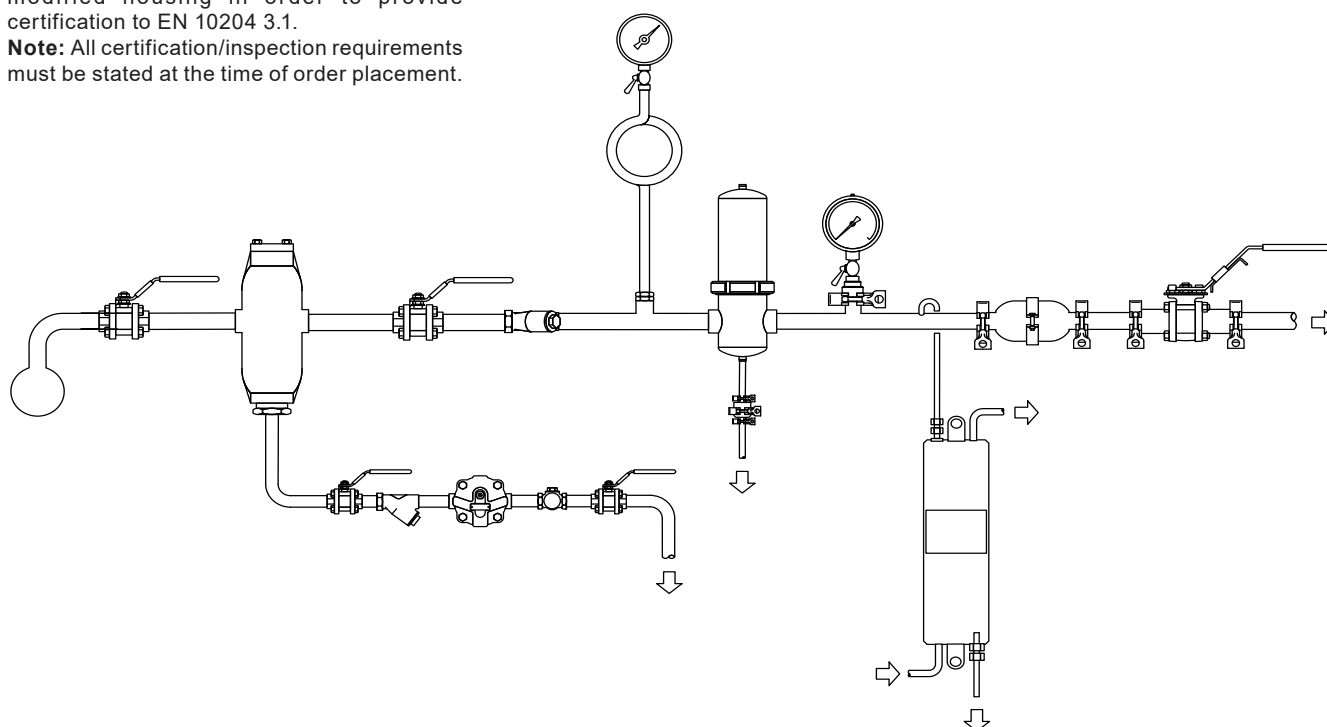
The CSF16, when fitted with a 5 micron element are capable of removing 95% of particles 2 microns and larger in size, in accordance with the requirements for the production of culinary steam to 3A accepted practice number 609-03. Accepted in the U.S. Department of Agriculture for use in federally inspected meat and poultry plants.

All materials meet the requirements as stipulated by the US FDA Regulations.

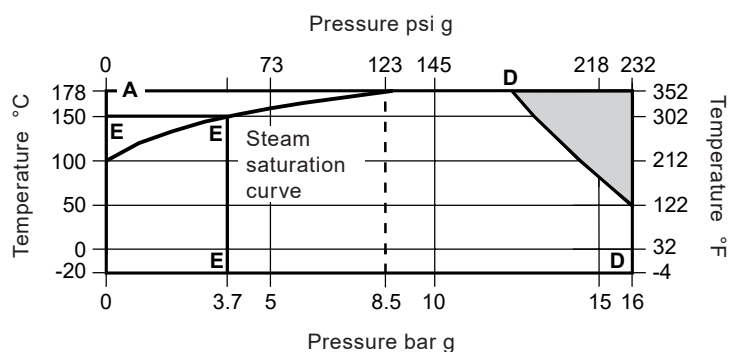
Certification

These products can be supplied with a modified housing in order to provide certification to EN 10204 3.1.

Note: All certification/inspection requirements must be stated at the time of order placement.



Pressure/temperature limits



The product **must not** be used in this region.

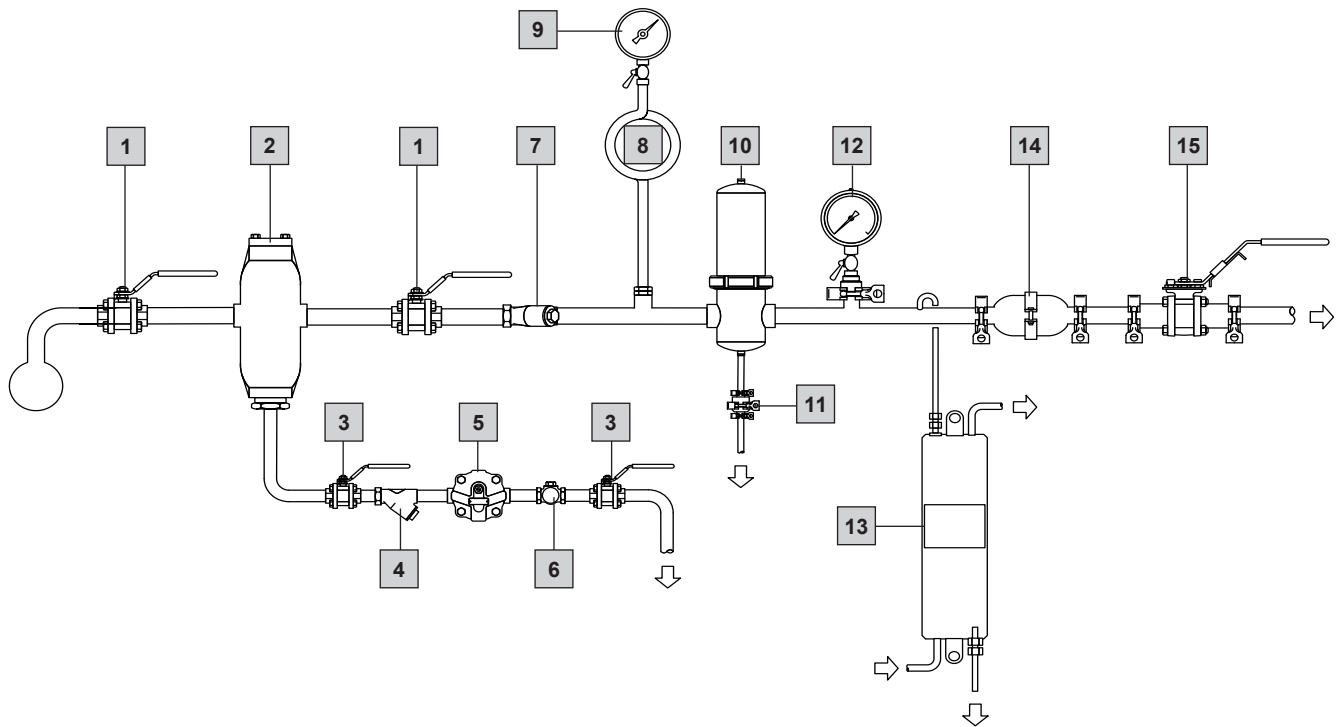
Steam Filter Station	FS- $\frac{1}{2}$	FS- $\frac{3}{4}$	FS-1	FS-1 $\frac{1}{2}$	FS-2
Line Size	$\frac{1}{2}$ "	$\frac{3}{4}$ "	1"	1 $\frac{1}{2}$ "	2"
Steam Supply Pressure (psi g)	Saturated Steam Capacity (lb/hr)				
10	35	65	110	270	445
20	50	90	150	370	615
30	60	110	190	470	780
40	75	135	230	565	945
50	90	160	270	660	1105
60	100	185	310	755	1265
70	115	210	350	850	1420
80	125	230	385	950	1580
90	140	255	425	1040	1740
100	150	280	460	1130	1895
110	165	300	500	1230	2050
120	175	325	540	1320	2210

The use of any steam filter without adequate preconditioning of the steam will reduce performance, resulting in frequent element cleanings or replacement, and subsequent high maintenance costs. Spirax Sarco steam filter station kits include a line size separator with an associated strainer and steam trap. These components will remove residual condensate and water droplets carried in suspension within the steam. Installed prior to the CSF16 steam filter, a line size pipeline strainer will remove larger solid particles, thus prolonging periods between filter cleaning. Each steam filter station kit also includes an isolating ball valve and a thermostatic steam trap for the steam filter drain.

The selection table gives a description of the included components. If pressure regulation is required, product information is available upon request.

Note: Interconnecting pipework is not supplied. All system components are threaded NPT. Full technical details for each product contained in a Steam Filter Station Kit are available upon request.

Materials



No.	Part	½" line size item	¾" line size item	1" line size item	1½" line size item	2" line size item
1	Ball valves	½" M10S2FB (QTY 2)	¾" M10S2FB (QTY 2)	1" M10S2FB (QTY 2)	1½" M10S2FB (QTY 2)	2" M10S2FB (QTY 2)
2	Separator	½" S1	¾" S1	1" S1	1½" S12	2" S12
3	Ball valves	½" M10S2RB (QTY 2)				
4	Separator strainer	½" IT				
5	Separator trap	½" FTI-125				
6	Separator check valve	½" LCV1				
7	Main line strainer	½" IT 100 mesh	¾" IT 100 MESH	1" IT 100 MESH	1½" IT 100 MESH	2" IT 100 MESH
8	PG syphon	Pigtail black syphon				
9	Pressure gauges	SS Singlescale PG 0-100 psi g				
10	Filter	½" CSF16	¾" CSF16	1" CSF16	1½" CSF16	2" CSF16
10	Filter element	½" 5 MICRON ELEMENT	¾" 5 MICRON ELEMENT	1" 5 MICRON ELEMENT	1½" 5 MICRON ELEMENT	2" 5 MICRON ELEMENT
11	Filter trap	¼" MST21				
12	Pressure gauges	Sanitary PG, 0-100 PSI				
13	Sample cooler	SC20				
14	Sanitary check valve	½" CVS10	¾" CVS10	1" CVS10	1½" CVS10	2" CVS10
15	Ball valves	½" M70i	¾" M70i	1" M70i	1½" M70i	2" M70i

Safety information, installation and maintenance

For full details of the M10S Ball Valves see the Installation and Maintenance Instructions (IM-P133-16) supplied with the product.

For full details of the S1 and S12 SG Iron Separators see the Installation and Maintenance Instructions (IM-P023-55) supplied with the product.

For full details of the IT Cast Iron Strainer see the Installation and Maintenance Instructions (IM-7-436-US) supplied with the product.

For full details of the Cast Iron FTI-125 Float and Thermostatic Steam Trap see the Installation and Maintenance Instructions (IM-P038-06-US) supplied with the product.

For full details of the LCV1 Bronze Lift Check Valve see the Installation and Maintenance Instructions (IM-P029-06) supplied with the product.

For full details of the Stainless Steel Pressure Gauge see the Installation and Maintenance Instructions (IM-P027-02-US) supplied with the product.

For full details of the CSF16T Stainless Steel Steam Filters see the Installation and Maintenance Instructions (IM-P180-42) which is supplied with the product.

For full details of the MST21 Stainless Steel Balanced Pressure Thermostatic Steam Traps see the Installation and Maintenance Instructions (IM-P125-07) supplied with the product.

For full details of the SC20 Sample Cooler see the Installation and Maintenance Instructions (IM-P403-14) supplied with the product.

For full details of the CVS10 Sanitary Check Valve see the Installation and Maintenance Instructions (IM-P029-11) supplied with the product.

For full details of the M70i ISO Stainless Steel Ball Valve see the Installation and Maintenance Instructions (IM-P182-07-US) supplied with the product.

Installation note

Install the S1 or S12 Separator in a horizontal pipeline with the drain directly below.

Note: To ensure that any separated liquid is drained away quickly, a suitable liquid drainer/steam trap must be connected to the drain connection - consult Spirax Sarco for further details.

The strainer should be installed with the flow direction as indicated on the body, in a vertical down or horizontal pipeline.

The strainer must be accessible for periodic removal of accumulated debris, by either blowing down or removal and cleaning of the screen.

Always install the LCV1 Bronze Lift Check Valve horizontally with the flow in the direction indicated on the body.

The Spirax Sarco pressure gauge must be protected from heat by the use of a syphon tube and ball valve. To protect live steam from entering the bourdon tube, the provided syphon is to be filled with water and installed between the gauge and the process line. Care should be taken if the installation is exposed to frost as gauges can burst. Tighten the gauge with care using a 22 mm A/F spanner not by twisting the gauge case.

The MST21 is designed for installation with the capsule in a vertical line with the inlet at the top and the outlet at the bottom. This will ensure it is self-draining.

Disposal

This product is recyclable. No ecological hazard is anticipated with the disposal of this product providing due care is taken.

How to order

Example: 1 off FS-1 Clean Steam Filter Station Kit, Assembly Required

Spare parts

For available spare parts, refer to the corresponding Technical Information sheets.

For the M10S Ball Valves, refer to TI-P133-06.

For the S1 and S12 SG Iron Separators, there are no available spare parts.

For the IT Cast Iron Strainer, refer to TI-P201-05-US.

For the Cast Iron FTI-125 Float and Thermostatic Steam Trap, refer to TI-P021-02-US.

For the LCV1 Bronze Lift Check Valve, refer to TI-P029-01.

For the Stainless Steel Pressure Gauge, refer to TI-P112-03-US.

For the CSF16T Stainless Steel Steam Filter, refer to TI-P180-43.

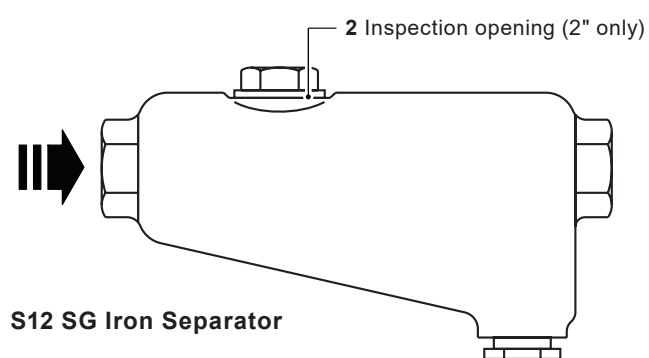
For the MST21 Stainless Steel Balanced Pressure Thermostatic Steam Traps, refer to TI-P125-08.

For the SC20 Sample Cooler, there are no available spare parts.

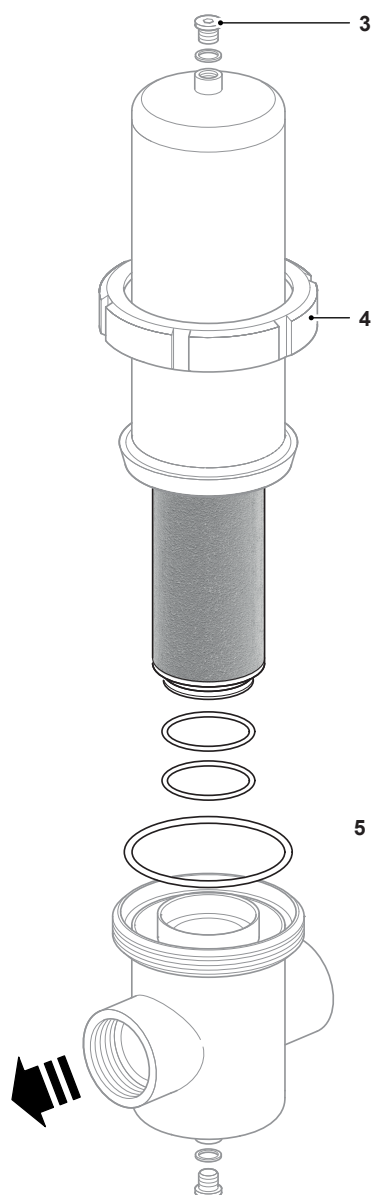
For the CVS10 Sanitary Check Valve, there are no available spare parts.

For the M70i Forged Stainless Steel Ball Valve, refer to TI-P182-05.

Recommended tightening torques



CSF16T Stainless Steel Steam Filter



MST21 Stainless Steel Balanced Pressure Thermostatic Steam Trap

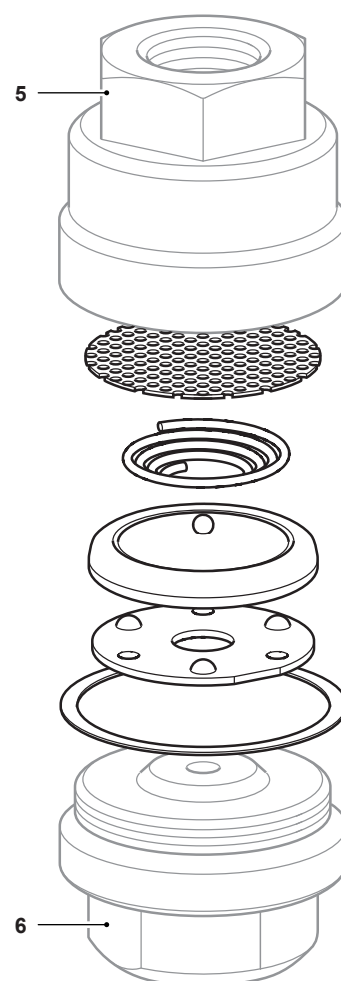




Table 1 Recommended tightening torques

Item	Part		or mm		N m	(lbf ft)
2	S12	46 A/F		M56	150 - 165	(110 - 121)
3	CSF16T	6 mm Hex		G $\frac{1}{4}$ "	55	(40)
4	CSF16T	use C spanner			as required	
5 and 6	MST21	22			100 - 110	(74 - 81)