Maintenance Bulletin - International H-Series

(1 1/4" to 3" NPT, BSPF, BSPT Sizes only)

MB-143

INSTALLATION

Finite H-Series filters should be installed in a level pipeline, mounted vertically, the bowl downward with one bowl length clearance for element removal. The filter should be installed at the highest pressure point available, and as near as possible to the equipment to be protected and have a drip leg immediately upstream. The coalescers and particulate filters should be visible and easily accessible for periodic draining and maintenance. Filters should be piped according to these instructions also following the flow direction label on the filters.

Filters up to and including 2" connection sizes flow as follows:

Coalescers/WS: from port 1 to port 2
Interceptors: from port 2 to port 1
Adsorbers: from port 2 to port 1.

Filters with connection sizes 2 1/2" and 3" flow as follows:

Coalescers/WS: from port 1 to port 2
Interceptors: from port 1 to port 2
Adsorbers: from port 1 to port 2.

The following are recommended filter locations relative to other compressed air equipment (unless specific instructions are given to the contrary):

(1) COALESCERS and WATER SEPARATORS (WS) (liquid removal) are placed before the dryer.
(2) The INTERCEPTOR (particulate removal) should be installed ahead of the COALESCER when prefiltration is required.
(3) The INTERCEPTOR (particulate removal) can also be installed downstream of desiccant dryers to prevent desiccant migration.
(4) The ADSORBER (vapor removal) is always preceded by a COALESCER.

When Coalescer or Interceptor differential pressure reaches clogged condition (6-10 PSID) replace element immediately. DO NOT ATTEMPT TO CLEAN FILTER TUBE. System contamination can result. DO NOT BY-PASS THE COALESCER unless the by-pass line is also filtered.

OPERATION

Air coalescing is a continuous, balanced, steady-state process occurring at or below rated flow, which depends on two factors for high performance: (1) The bowl must be kept free of waste liquid buildup and (2) The element must be replaced when the differential pressure reaches 6-10 psid, 12 psid Maximum. Differential pressure can be sensed at the inlet and outlet ports by two gauges, or by Finite's DPI-13 differential pressure indicator, DPG-15 differential pressure gage, or by observing system characteristics.

Bowl draining is accomplished by opening the manual drain valve (standard on all housings), at least once every 8 hours depending on the liquid load. The Finite Auto-Drain AD-12 is a useful tool that replaces manual draining. Finite has an assortment of electrically timed drain valves that can be used to drain the bowl automatically.

A Finite coalescer, under normal system conditions, will operate for 6 to 12 months before reaching its Maximum differential pressure. A "PU" series Interceptor, or a "QU" series coalescing element with a pleated prefilter can be employed ahead of the coalescer to increase its life. The interceptor should be replaced when its differential pressure reaches 8 - 10 PSID.

Finite coalescers are designed for nominal operation with 10-20 wt. oil. Any viscosity increase over that of 20 wt. oil must be offset by a proportionate oversizing of the filter element. Consult your Finite representative.

⚠ DANGER

Filter housings must be depressurized before performing any maintenance activities.

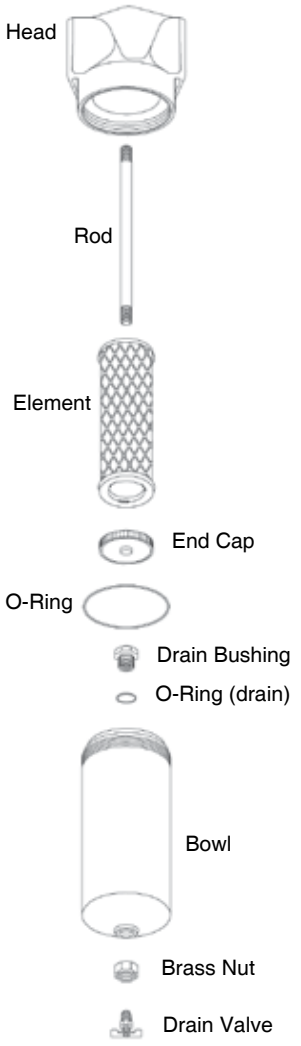
TROUBLESHOOTING CHART

Problem	Probable Cause	Solution
Too High Initial Pressure Drop	Air flow Excessive for housing size.	Install larger filter.
	Filter media grade too fine.	Install coarser element.
	Too much oil/water from compressor.	Precoalesce with grade 10 - oversize housing.
Premature Clogging (Air Flow Drops Off)	Lubricant improperly selected for compressor, causing varnish or carbonizing of lubricant.	Change oil, consult with lubricant supplier.
	Excessive inlet particulate contamination.	Prefilter with Interceptor.
	Excessive lubricants present on element caused by either high lubricant viscosity or very high inlet aerosol level.	Prefilter with Grade 10 and oversize coalescer to compensate.
	Oil/water emulsion forming on element.	Remove water by drip leg, aftercooler. Install mechanical separator upstream.
	Ice forming or oil viscosity too high due to Excessively low unit temperature.	Raise temperature.
Oil Present Downstream of Filter	Bowl not properly drained of waste liquids.	Drain regularly, use auto drain.
	Element not sealing.	Replace element.
	Filter piped backwards.	See "INSTALLATION"; Re-pipe.
	Filter being by-passed by valving.	Close valve.
	Contaminated air entering system from second source downstream.	Change pipe or relocate filter.
	Oil vapors condensing downstream.	Install an adsorber.
	Excessive inlet oil level.	Precoalesce with Grade 10 and possibly oversize.
	Element damaged, chemically attacked or not installed in housing.	Change and consult distributor or factory for other than neutral pH.
	Oil present in precontaminated downstream piping.	Clean piping.
	Excessive flow surges.	Relocate filter, precoalesce with grade 10 and oversize coalescers.

Parker Hannifin Corporation
Finite Filter Operation
Oxford, MI

Assembly Drawing/Parts List

1 1/4" to 3" NPT/BSPF/BSPT



Part Name Port Size	H_5S 1 1/4"	H_6S 1 1/2"	H_8E 2"	H_8S 2"	H_8L 2"	H_OL 2 1/2"	H_12L 3"
Head - NPT	41328	41329	41330	41330	41330	41331	41332
Head (DPI) - NPT*	41333	41334	41335	41335	41335	41336	41337
Head,△P Ports NPT	41338	41339	41340	41340	41340	41341	41342
Head - BSPF	41434	41435	41436	41436	41436	41437	41438
Head (DPI), BSPF	41444	41445	41446	41446	41446	41447	41448
Head,△P Ports BSPF	41452	41453	41454	41454	41454	41455	41456
Head - BSPT	41478	41479	41480	41480	41480	41481	41482
Head (DPI) - BSPT*	41488	41489	41490	41490	41490	41491	41492
Head,△P Ports BSPT	41498	41499	41500	41500	41500	41501	41502
Head (DPI) - SAE32	N/A	N/A	42106	42106	42106	N/A	N/A
Elements:							
☐CU	☐CU25-130			☐CU25-187	☐CU25-235	☐CU35-280	
☐DV	☐DV25-130			☐DV25-187	☐DV25-235	☐DV35-280	
☐QU	☐QU25-130			☐QU25-187	☐QU25-235	☐QU35-280	
7CVP	7CVP25-130			7CVP25-187	7CVP25-235	7CVP35-280	
3PU	3PU25-130			3PU25-187	3PU25-235	3PU35-280	
100WS	100WS25-130			100WS25-187	100WS25-235	100WS35-280	
AU	AU25-130			AU25-187	AU25-235	AU35-280	
Rod	41347			41348	41349	41350	
End Cap	45079					45080	
End Cap (high temp)	41040					45080	
O-Ring	76246					75046	
O-Ring (high temp)	76246V					75046V	
Brass Drain Bushing	23054						
O-Ring (drain)	76114V						
Bowl Only	41464			41465	41466	41467	
Bowl Assy. w/Manual Drain	41533			41534	41535	41536	
Brass Nut	23041						
Drain Valve	70010						
Manual Drain Kit (includes Drain Valve, Brass Nut, Brass Drain Bushing and O-Ring) EBD-12							

☐=insert grade 2, 4, 6, 8 or 10

* DPI-13 or DPG-15 Differential pressure indicator required.

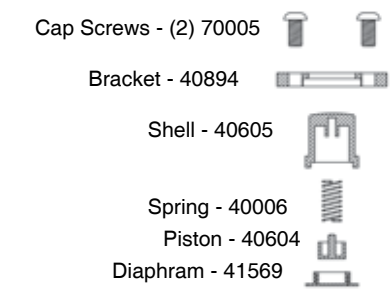
Optional Accessories

Differential Pressure Indicator Options

(When installed - Max. Operating pressure = 250 PSIG @ 175°F)
DPI-13 includes all parts listed out below plus a base plate (41117) for remote mounting.

Also available:
Kit 2095 (DPI hole block off kit)
Kit 2003 (contains all DPI-13 parts listed below)

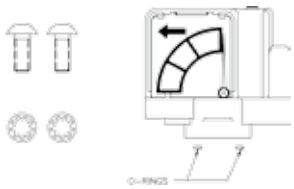
Also available DPI-13 Spare Parts:



Automatic Drain Valve
AD-12

(When installed - Max. Operating Pressure = 250 PSIG @ 175°F)

Differential Pressure Gauge
DPG-15
(When installed - Max. Operating Pressure = 500 PSIG @ 175°F)



Note: DPG-15 comes with two o-rings and two screws (shown above) for mounting.

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