

# Maintenance Bulletin - International H-Series

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

MB-143

Compressed Air  
and Gas Filters

## 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

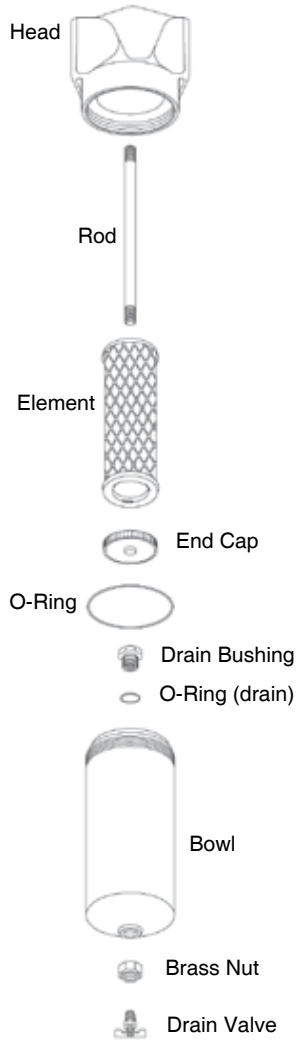
Filter housings must be depressurized before performing any maintenance activities.

## TROUBLESHOOTING CHART

Problem	Probable Cause	Solution
Too High Initial Pressure Drop	Air flow Excessive for housing size. Filter media grade too fine.	Install larger filter. 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.
Oil Present Downstream of Filter	Ice forming or oil viscosity too high due to Excessively low unit temperature.	Raise temperature.
	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.

## 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, Δ 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, Δ 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, Δ 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	41585		
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:

Cap Screws - (2) 70005



Bracket - 40894



Shell - 40605



Spring - 40006



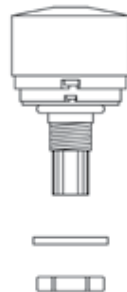
Piston - 40604



Diaphragm - 41569



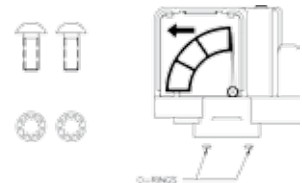
### Automatic Drain Valve AD-12



(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.