



International H-Series

Compressed Air & Gas Filters

- Coalescing, Particulate & Hydrocarbon Adsorption
- Flows from 10 to 1600 SCFM; 17 to 2822 m³/hr
- 1/4" to 3" NPT, BSPF & BSPT Ports

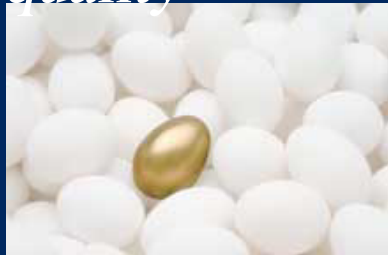
Compressed Air
and Gas Filters

Bulletin 1300 - 993C/USA



Finite[®]



focus*quality**service**innovation*

Finite® Filter focuses on what matters most—quality, service, innovation, and YOU - our customer. So when your compressed air or gas system challenges you, give the experts at Finite a call!

1-800-521-4357



Product rejects?
Lost production time?
Increased maintenance expense?

The real problem?

... dirty compressed air and gas

Why filter compressed air and gas?

Submicronic contaminants in compressed air systems plug orifices of sensitive pneumatic instrumentation, wear out seals, erode system components, reduce the absorptive capacity of desiccant air/gas dehydrators, foul heat transfer surfaces, reduce air tool efficiency, and damage finished products. The results include: product rejects, lost production time and increased maintenance expense. For example, trace amounts of submicronic oil can cause serious fish eye

blemishing in automotive finishing operations. Water left in air lines can freeze during exposure to cold, blocking flow or rupturing pipes. Compressor lubricant not captured in a coalescing filter will eventually collect in pneumatic components, causing premature component repair or replacement. Environmental concerns will be raised if oily, compressed air is continually discharged into the atmosphere through a pneumatic muffler.



The real solution?

...Finite's International H-Series

Finite Filter's International H-Series is the right solution for most compressed air/gas applications. The International H-Series housings are available with oil removal (coalescing), particulate and oil vapor removal elements.

This world class, world quality product can greatly improve your compressed air and gas systems.

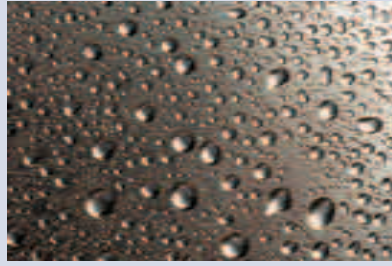
Finite's H-Series Offers...

- Coalescing, particulate and adsorption filter elements
- Optional indicators, gauges and drains
- Temperatures to 450° F
- Connection sizes from 1/4" to 3" NPT, BSPF & BSPT
- Flows from 10 to 1600 SCFM (17-2822 m³/hr)
- Pressures to 500 PSIG

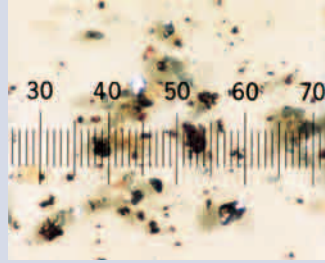
oil



water



solids



Actual pictomicrograph of particulate contaminants
(Magnified 100x Scale: 1 division = 20 microns (µm))

three contamination threats

The contaminants of greatest concern in precision compressed air systems are water, oil and solids. Water vapor is present in all compressed air; it becomes greatly concentrated by the compression process. While air dryer systems can be used effectively to remove water from compressed air, they will not remove the second major liquid contaminant – oil. Most oil comes from compressor lubrication carry-over, but even

the air produced by oil-free compressors has hydrocarbon contamination brought into the system through the intake.

The third contaminant found in compressed air is solid matter including rust and scale. Solid particulates, combined with aerosols of water and oil, can clog and shorten the life of air system components and can foul processes.



Typical Applications

(See Pages 12-13 for application drawings)

Coalescing (Oil Removal)

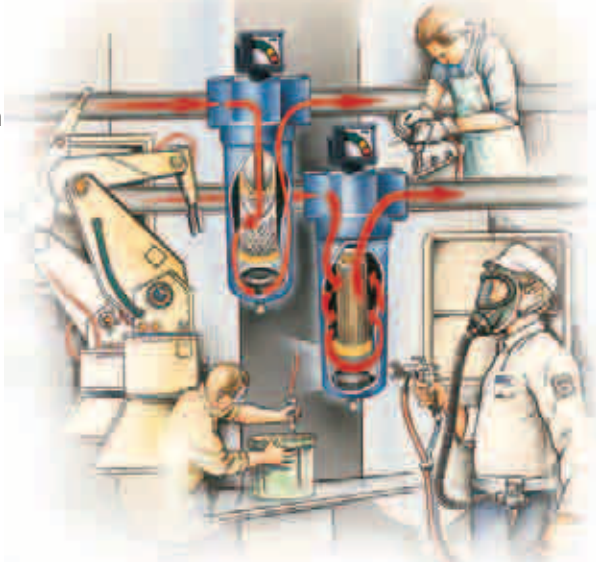
- Air dryer prefilter
- Paint spray booths
- Breathing air
- Tool protection
- Air valve protection
- Air cylinder protection
- Compressed air system protection

Adsorber (Vapor Removal)

- Odor removal
- Breathing air
- Food packaging machines
- High purity laboratory gases
- Hydrocarbon vapor removal

Interceptor (Particulate Removal)

- Desiccant dryer afterfilter
- Prefilter for coalescer
- Systems with high concentrations of solid contaminant
- Particulate protection for non-lubricated systems



Easy as...

4 Steps to clean, dry compressed air!

Compressed Air and Gas Filters

Step 1

Determine your application, media grade, media type and end seals.
Pages 14-15

Step 2

Choose your housing and replacement elements.
Pages 16-17

Step 3

Choose your accessories. Find out what's standard or choose what's best for your application.
Page 17

Step 4

How to Order. Build your own part number here!
Page 18

Does one of these applications describe your system?

From aeration in pharmaceutical and chemical processes to pneumatic power systems, the possibilities for applications are endless. Finite® has some example applications that may fit your needs. Let one of Finite's application engineers find a system that is right for you.

quality.

International Standard ISO8573-1 is fast becoming the industry standard method for specifying compressed air cleanliness. The following diagrams describe various systems in terms of their corresponding ISO classification.

International ISO Standards					
Notification as specified in ISO8573 - 1					
Class	Solid		Water		Oil
	Maximum particle size* (µm)	Maximum Concentration** ppm(mg/m³)	Maximum Pressure Dewpoint °F (°C)		Maximum Concentration** ppm(mg/m³)
1	0.1	0.08 (0.1)	-94 (-70)		0.008 (.01)
2	1	0.8 (1)	-40 (-40)		0.08 (.1)
3	5	4.2 (5)	-4 (-20)		.83 (1)
4	15	6.7 (8)	37 (+3)		4.2 (5)
5	40	8.3 (10)	45 (+7)		21 (25)
6	-	-	50 (+10)		-

* Particle size is based on a filtration ratio β20. The minimum accuracy of the measuring method used is 20% of the limiting value of the class.
 ** At 14.7 psi (1 bar) absolute pressure, +70°F (+20°C) and a relative humidity of 60%. It should be noted that at pressures above atmospheric, the contaminant concentration is higher.
 Notes:
 1. The quality of the air delivered by non-lubricated compressors is influenced by the quality of the intake air and the compressor design.
 2. The minimum accuracy of the measuring method used is 20% of the limiting value of the class.

ISO Class 2 3

Compressor Room (Source) Air Preparation Equipment:

Point-Of-Use Air Preparation Equipment:

Any compressor with aftercooler. Air intended for use with lubricated air tools, air motors, cylinders, shot blasting, non-frictional valves.

OTHER SPECS MET: Compressed Air & Gas Institute: CGA – G7.1 (Grades A & Ba1)

ISO Class 1 1

Compressor Room (Source) Air Preparation Equipment:

Point-Of-Use Air Preparation Equipment:

Any compressor with aftercooler and 2-stage coalescing. Air intended for use with lubricated control valves, cylinders and parts blow-down, etc.

OTHER SPECS MET: Mil. Std. 282 H.E.P.A., U.S.P.H.S. 3A Accepted particles for milk

ISO Class 1 1

Compressor Room (Source) Air Preparation Equipment:

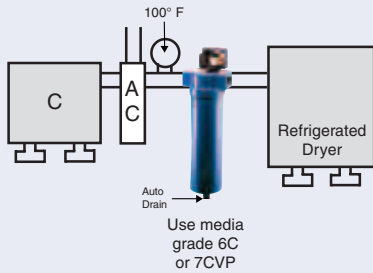
Point-Of-Use Air Preparation Equipment:

Any compressor with aftercooler, 2-stage coalescing and deliquescent dryer. Air intended for use with general pneumatic systems, body shop spray painting and components sensitive to high moisture content.

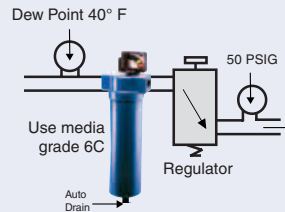
OTHER SPECS MET: Compressed Air & Gas Institute: CGA – G7.1 (Grade C)

ISO Class 1 4 1

Compressor Room (Source)
Air Preparation Equipment:



Point-Of-Use
Air Preparation Equipment:

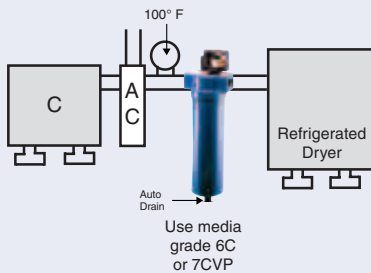


Any compressor with aftercooler, 2-stage coalescing and refrigerated dryer. Air intended for use with air-gauging, air conveyors, spray-painting, food processing, instrumentation, blow molding, cosmetics, film processing, bottling, pharmaceuticals, dairy, breweries, medical, robotics and close tolerance valves.

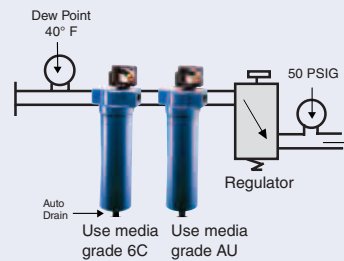
SPECS MET: CGA – G7.1 (Grades D & E) ISA#S7.3, Fed. Std. 209 (Class 100)

ISO Class 1 4 1

Compressor Room (Source)
Air Preparation Equipment:



Point-Of-Use
Air Preparation Equipment:

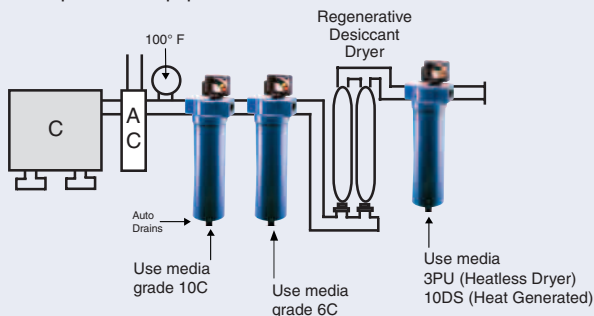


Any compressor with aftercooler, 2-stage coalescing, refrigerated dryer and carbon absorber. Air intended for use as industrial breathing air and decompression chambers. CAUTION: Always use high temperature synthetic lubricants and monitor (alarm for carbon monoxide concentrations exceeding 20ppm). This system will not eliminate toxic gases!

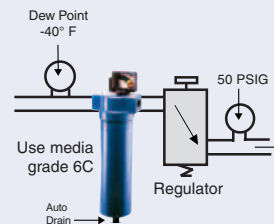
OTHER SPECS MET: O.S.H.A. 29CFR 1910.134

ISO Class 1 2 1

Compressor Room (Source)
Air Preparation Equipment:



Point-Of-Use
Air Preparation Equipment:



Any compressor with aftercooler, two-stage and double coalescing and a regenerative-type desiccant dryer. Air intended for use in applications involving rapid expansion of compressed air, critical instrumentation, high purity gases, computer chip drying, etc.

CAUTION: This air is too dry for respiratory use.

SPECS MET: CGA – G7.1 (Grade F)

Step 1

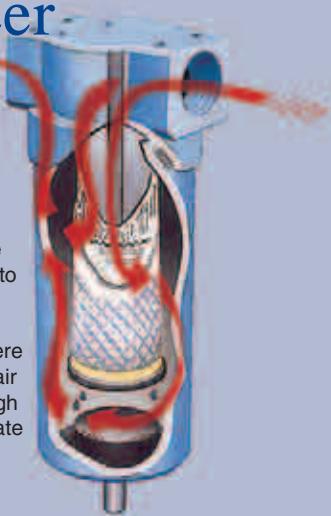
Determine your application, media grade, media type and end seals.

Find your (or similar) application in the chart below, from the basic application circuits on the previous page, or consult a Finite® application engineer. Determine media grade, media type, and end seal required. If your application requires a coalescing element, use the information listed below. For other media types, please see the following page.

Coalescing (Liquid and Particulate Removal) Filter Media

How does a coalescer work?

This filter housing cutaway depicts the coalescing process. Air enters the housing and flows through the filter media passing from the inside element surface to the outside. Coalesced liquid, water and oil, collects in the bowl where it is drained and clean air exits the housing through the outlet port. Particulate contaminants are captured and held in the media.



Coalescing elements are wrapped in color netting corresponding to media grades below, or will have the media grade printed on the element.

APPLICATIONS: Very high-efficiency coalescer; for elevated pressures up to **500 PSIG** (34 bar) or when removing aerosols from lighter weight gases. Protection of pneumatic systems and critical modulating systems such as flow and temperature controllers.

STANDARD

6 □ □

APPLICATIONS: General air coalescing applications when total removal of liquid aerosols and suspended fines is required in all pressure ranges. Protection of air dryers, air gauging, air logic, modulating systems, critical air conveying, most breathing air systems, etc.

7CVP

APPLICATIONS: High efficiency and very low pressure drop, even when wetted by oil and water, makes this pleated coalescing media an excellent choice for medium efficiency applications. Large surface area means long life and a high tolerance for heavy liquid aerosol contamination. Prefilter for refrigerated air dryer.

8 □ □

APPLICATIONS: Good air coalescing efficiency in combination with high flow rate and long element life. Protection of noncritical circuit components such as valves, cylinders, etc. Prefilter for refrigerated air dryer.

10 □ □

APPLICATIONS: Precoalescer or prefilter for Grade 6 to remove gross amounts of water and oil, or tenacious aerosols which are difficult to remove. Upgrading existing particulate equipment to coalescing without increase in pressure drop.

Choose your media type



C: Micro-glass coalescer



Q: Micro-glass coalescer with built-in pleated prefilter



7CVP: Micro-glass pleated coalescer



D: High temperature micro-glass coalescer up to 450° F (232° C)

Media Specifications

Grade Designation	Coalescing Efficiency .3 to .6 Micron Particles	Maximum Oil Carryover ¹ PPM w/w	Micron Rating	Pressure Drop (PSID) @ Rated Flow ²	
				Media Dry	Media Wet With 10-20 wt. oil
4	99.995%	.003	.01	1.25	3-4
6	99.97%	.008	.01	1.0	2-3
7	99.5%	.09	.5	.25	.5 - .7
8	98.5%	.2	.5	.5	1-1.5
10	95%	.85	1.0	.5	.5

¹Tested per ADF-400 at 40 ppm inlet.

²Add dry + wet for total pressure drop.

Coalescer End Seals:

Blank: No end seals - Elements are self-sealing.

Standard on filters with 1/4" to 1" connection sizes.

U: Molded urethane, Standard on all filters with 1 1/4" to 3" connection sizes.

S: Molded silicone rubber end seals used for high-temperature elements up to **450°F** (232°C).

V: Fluorocarbon gasket bonded to metal end cap. Optional seal used for high temperature **450°F** (232°C) elements. Available on 1 1/4" NPT and larger. Standard on all 7CVP media.

Water Separator Filter Media

Grade Designation	Filter Efficiency Rating	Pressure Drop (PSID) @ Rated Flow Media Dry
100WS	100µm	<.25

Water Separator End Seals:

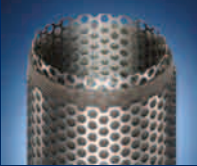
Blank: Fluorocarbon gasket bonded to metal end cap. Standard on filters with 1 1/4" to 3" connection sizes.

U: Molded urethane. Standard on all filters with 1/4" to 1" connection sizes.

100WS

APPLICATIONS: Reduction and elimination of excess liquids in gas streams. Excellent prefiltration for coalescing grades 6 and 10 when extreme quantities of liquid contaminants are present.

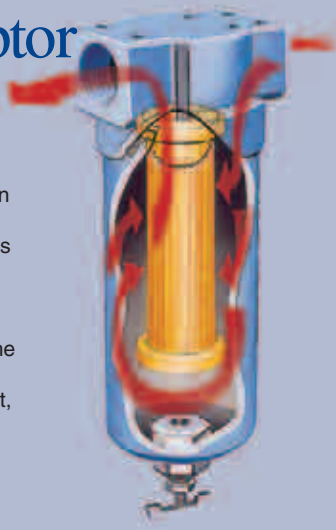
media type



100WS: Rolled Stainless Steel Mesh

Interceptor (Particulate Removal) Filter Media

How does an **interceptor** work?



This filter housing cutaway depicts an interceptor element in a housing. Air enters the housing and flows through the filter media passing from the outside of the element surface to the inside. Particles collect in the element, while clean air exits the housing through the outlet port.

3P U

APPLICATIONS: Particulate removal where very high dirt-holding capacity is required. Safety afterfilter for desiccant dryer, pore matched prefilter for coalescer or as general use for final instrument air protection.

Media Specifications

Grade Designation	Filter Efficiency Rating	Pressure Drop (PSID) @ Rated Flow Media Dry
3P	3µm	.25

media type

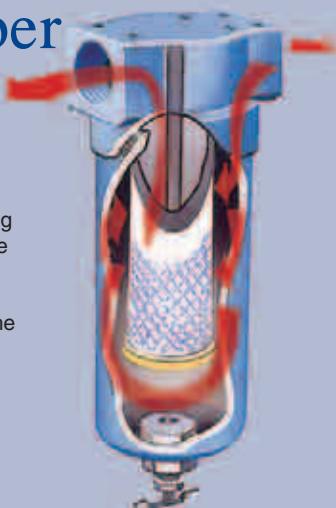


3P: Pleated Cellulose

Interceptor End Seals: **U** = Molded urethane. Standard on all 3P pleated cellulose filter elements.

Adsorption (Vapor Removal) Filter Media

How does an **adsorber** work?



This filter housing cutaway depicts the adsorption process. Air enters the housing and flows through the filter media passing from the outside element surface to the inside. Hydrocarbon vapors collect in the filter element, while clean air exits the housing through the outlet port.

A U

APPLICATIONS: Polishing gas stream of final trace amounts of hydrocarbon contaminants, usually .5 to 2 ppm inlet concentrations. Preparation for breathing air; hydrocarbon vapor removal.

Media Specifications

Grade Designation	Oil Vapor Removal Efficiency	Pressure Drop (PSID) @ Rated Flow Media Dry
A	99%+	1

media type



A: Activated Carbon

Adsorber End Seals: **U** = Molded urethane. Standard on all activated carbon filter elements.

Step 2

Determine your Housing.

Find desired flow rate under appropriate media grade column. For pressures other than 100 PSIG or temperatures other than 70°F, please see Alternate Housing Selection Chart, Step 2a, on following page.

= Insert Port Type. See page 18 for options. For example: Insert "N" for an NPT Port thread style.

Housing Selection Chart

Rated Flows: SCFM @ 100 PSIG (m³/hr @ 7 bar)

For other pressures, please see Step 2a on following page

Housing Assembly	Port Size	4 Coalescer	STANDARD 6 Coalescer	7CVP Coalescer	8 Coalescer	10 Coalescer	3PU Interceptor	100WS Water Separator	A Adsorber
H <input type="checkbox"/> 1S	1/4"	11 (19)	15 (26)	N/A	20 (34)	25 (43)	25 (43)	50 (85)	15 (26)
H <input type="checkbox"/> 15S	3/8"	15 (26)	20 (34)	N/A	27 (46)	33 (56)	33 (56)	66 (112)	20 (34)
H <input type="checkbox"/> 2S	1/2"	19 (32)	25 (43)	N/A	34 (58)	42 (71)	42 (71)	83 (141)	25 (43)
H <input type="checkbox"/> 1L	1/4"	23 (39)	30 (51)	N/A	41 (68)	50 (85)	50 (85)	50 (85)	30 (51)
H <input type="checkbox"/> 15L	3/8"	30 (51)	40 (68)	N/A	55 (94)	66 (112)	66 (112)	66 (112)	40 (68)
H <input type="checkbox"/> 2L	1/2"	38 (65)	50 (85)	N/A	68 (116)	83 (141)	83 (141)	83 (141)	50 (85)
H <input type="checkbox"/> 3S	3/4"	61 (104)	80 (136)	N/A	109 (185)	133 (226)	133 (226)	133 (226)	80 (136)
H <input type="checkbox"/> 4S	1"	76 (129)	100 (170)	N/A	136 (231)	166 (282)	166 (282)	232 (394)	100 (170)
H <input type="checkbox"/> 4L	1"	106 (180)	140 (238)	N/A	191 (325)	232 (394)	232 (394)	232 (394)	140 (238)
H <input type="checkbox"/> 5S	1 1/4"	190 (323)	250 (425)	415 (706)	330 (461)	415 (706)	415 (706)	415 (706)	250 (425)
H <input type="checkbox"/> 6S	1 1/2"	260 (442)	350 (595)	600 (1020)	465 (791)	600 (1020)	600 (1020)	600 (1020)	350 (595)
H <input type="checkbox"/> 8E	2"	260 (442)	350 (595)	600 (1020)	465 (791)	600 (1020)	600 (1020)	600 (1020)	350 (595)
H <input type="checkbox"/> 8S	2"	340 (578)	450 (765)	750 (1275)	600 (1020)	750 (1275)	750 (1275)	750 (1275)	450 (765)
H <input type="checkbox"/> 8L	2"	470 (799)	625 (1063)	1035 (1760)	830 (1411)	1035 (1760)	1035 (1760)	1035 (1760)	625 (1063)
H <input type="checkbox"/> 0L	2 1/2"	600 (1020)	800 (1360)	1330 (2261)	1060 (1802)	1330 (2261)	1330 (2261)	1330 (2261)	800 (1360)
H <input type="checkbox"/> 12L	3"	750 (1275)	1000 (1700)	1660 (2822)	1330 (2261)	1660 (2822)	1660 (2822)	1660 (2822)	1000 (1700)

Replacement Element Part Numbers

Housing Assembly	Media Type (* Insert selected grade 4, 6, 8, 10)							
	Coalescer	Coalescer w/ inner retainer	High Temperature	Coalescer w/ built-in prefilter	7CVP Pleated Coalescer	3PU Interceptor	100WS Water Separator	AU Adsorber
H <input type="checkbox"/> 1S	*C10-025	*IU10-025	*DS10-025	*QU10-025	N/A	3PU10-025	100WSU10-025	AU10-025
H <input type="checkbox"/> 15S	*C10-025	*IU10-025	*DS10-025	*QU10-025	N/A	3PU10-025	100WSU10-025	AU10-025
H <input type="checkbox"/> 2S	*C10-025	*IU10-025	*DS10-025	*QU10-025	N/A	3PU10-025	100WSU10-025	AU10-025
H <input type="checkbox"/> 1L	*C10-050	*IU10-050	*DS10-050	*QU10-050	N/A	3PU10-050	100WSU10-025	AU10-050
H <input type="checkbox"/> 15L	*C10-050	*IU10-050	*DS10-050	*QU10-050	N/A	3PU10-050	100WSU10-025	AU10-050
H <input type="checkbox"/> 2L	*C10-050	*IU10-050	*DS10-050	*QU10-050	N/A	3PU10-050	100WSU10-025	AU10-050
H <input type="checkbox"/> 3S	*C15-060	*IU15-060	*DS15-060	*QU15-060	N/A	3PU15-060	100WSU15-060	AU15-060
H <input type="checkbox"/> 4S	*C15-060	*IU15-060	*DS15-060	*QU15-060	N/A	3PU15-060	100WSU15-060	AU15-060
H <input type="checkbox"/> 4L	*C15-095	*IU15-095	*DS15-095	*QU15-095	N/A	3PU15-095	100WSU15-060	AU15-095
H <input type="checkbox"/> 5S	*CU25-130	*CU25-130	*DV25-130	*QU25-130	7CVP25-130	3PU25-130	100WS25-130	AU25-130
H <input type="checkbox"/> 6S	*CU25-130	*CU25-130	*DV25-130	*QU25-130	7CVP25-130	3PU25-130	100WS25-130	AU25-130
H <input type="checkbox"/> 8E	*CU25-130	*CU25-130	*DV25-130	*QU25-130	7CVP25-130	3PU25-130	100WS25-130	AU25-130
H <input type="checkbox"/> 8S	*CU25-187	*CU25-187	*DV25-187	*QU25-187	7CVP25-187	3PU25-187	100WS25-187	AU25-187
H <input type="checkbox"/> 8L	*CU25-235	*CU25-235	*DV25-235	*QU25-235	7CVP25-235	3PU25-235	100WS25-235	AU25-235
H <input type="checkbox"/> 0L	*CU35-280	*CU35-280	*DV35-280	*QU35-280	7CVP35-280	3PU35-280	100WS35-280	AU35-280
H <input type="checkbox"/> 12L	*CU35-280	*CU35-280	*DV35-280	*QU35-280	7CVP35-280	3PU35-280	100WS35-280	AU35-280

Step 2a

Alternate Housing Selection Chart

for applications with pressures other than 100 PSIG and 70°F (standard conditions)

Compressed Air
and Gas Filters

Converting Actual Application Conditions to Standardized Conditions

Because the required size of a filter is affected not only by flow, but also by operating pressure and operating temperature, it is necessary to convert those actual conditions to standardized conditions (100 PSIG and 70°F). The calculated adjusted flow rate can then be used to choose the appropriate filter in the chart on page 16. When using the chart, choose the closest flow rate from the appropriate media grade column.

Equation:

$$\text{Actual System Flow Rate (SCFM)} \times \frac{(100 \text{ PSIG} + 14.7 \text{ PSIG})}{(\text{System Pressure (PSIG)} + 14.7 \text{ PSIG})} \times \frac{(\text{System Temp } ^\circ\text{F} + 460^\circ\text{F})}{(70^\circ\text{F} + 460^\circ\text{F})} \times \sqrt{\text{specific gravity}} = \text{Adjusted Flow Rate (At 100 PSIG and 70^\circ\text{F})}$$

Example: For grade 6C filter, with an actual flow rate of 60 SCFM, an actual pressure of 50 PSIG and an actual temperature of 175°F, the equation would go as follows:

system pressure = 50

system temperature = 175

$$\frac{(100\text{PSIG} + 14.7 \text{ PSIG})}{(50 \text{ PSIG} + 14.7 \text{ PSIG})}$$

$$\frac{(175 \text{ }^\circ\text{F} + 460^\circ\text{F})}{(70^\circ\text{F} + 460^\circ\text{F})}$$

$$\frac{(114.7)}{(64.7)} = 1.77$$

$$\frac{(635)}{(530)} = 1.19$$

Note: Take the square root of your specific gravity. If this is for a compressed air application, skip this step because the specific gravity of air equals one. Please consult Finite® if you do not know your specific gravity.

Now go to the chart on page 16, look down the media grade 6 column for a flow of 126.4 SCFM, you will see the correct housing is the HN4L.

$$60 \text{ SCFM} \times 1.77 \times 1.19 \times 1 = 126.4 \text{ SCFM}$$

Pre-Installed Accessory Options

Step 3

Choose your accessories.

Consult Finite® when choosing pre-installed accessories for special gases.

Accessory Designator	Auto Drain	DPI Indicator	DPG Gauge	High Temp	DP Ports	Fluorocarbon O-Rings	No Accessories	Pressure/Temp		Pressure/Temp	
								PSIG	Degrees °F	bar	Degrees °C
A								250	175°	17	79°
D								250	175°	17	79°
G								500	175°	34	79°
J								250	450°	17	232°
N								500	175°	34	79°
P								250	175°	17	79°
V								500	175°	34	79°
W								250	175°	17	79°
X								250	175°	17	79°
Y								250	175°	17	79°

Pre-installed Accessories



Other Compatible Accessories



	DPI Indicator	AD-12 Automatic Drain Valve (Internal)	DPG-15 Differential Pressure Gauge	TV-50 Timed Drain Valve	ZLD-10 Zero Loss Drain	VS-50 Visual Sump Drain (not shown: Standard Bowl Guard)	MS-50 Metal Sump Drain (External)
Designator	D, W	A, W, X, Y	G, Y				
Temp. °F/°C	175°/79°	175°/79°	175°/79°	210°/99°	175°/79°	125°/52°	175°/79°
Pressure	250 PSIG/17 Bar	250 PSIG/17 Bar	500 PSIG/34 Bar	300 PSIG/20 Bar	250 PSIG/17 Bar	150 PSIG/10 Bar	250 PSIG/17 Bar
Port Size (NPT)	N/A	N/A	N/A	1/2" NPT	1/2" NPT	1/2" NPT	1/2" NPT

How to Order

Use the steps below to build your own part number.

For any permutation not mentioned below, please consult factory at 1-800-521-4357.

Step 2 or 2a

H

Series Name

N

Port Type

N - NPT
F - BSPF
S - SAE*
T - BSPT

*SAE-32
2" connection only

1 2

Port (Connection) Size

1 - 1/4"
15 - 3/8"
2 - 1/2"
3 - 3/4"
4 - 1"
5 - 1 1/4"
6 - 1 1/2"
8 - 2"
0 - 2 1/2"
12 - 3"

L

Bowl

S - Standard
L - Long
E - Economy (short bowl)*

*Short bowl is only available on 2" connection size

Note: Bowl length is determined by the flow rate required. See page 16, Housing Selection Chart, for flow rates.

6

Element Grade

4
6
8
10

C

Element Type

C

U

End Seal

Blank = No end seal, Standard on 1/4" to 1" connection sizes
U = Urethane, Standard on 1 1/4" to 3" connection sizes
S = Molded Silicone Rubber
V = Fluorocarbon, Available 1 1/4" to 3" connections only

Q

U = Urethane, Standard all connection sizes
S = Molded Silicone Rubber
V = Fluorocarbon, Available 1 1/4" to 3" connections only

D

S = Molded Silicone Rubber, Standard on all connection sizes
V = Fluorocarbon, Available 1 1/4" to 3" connection sizes only

7CVP

Blank = Fluorocarbon, Standard on all 7CVP elements; elements available 1 1/4" to 3" connections only

I

U = Urethane, Standard on 1/4" to 1" connection sizes

3P

U = Urethane, Standard on all connection sizes
S = Molded Silicone Rubber
V = Fluorocarbon, Available 1 1/4" to 3" connections only

100WS

U = Urethane, Standard on 1/4" to 1" connection sizes
Blank = Fluorocarbon, Standard on 100WS elements 1 1/4" to 3" connections only

A

U = Urethane, Standard on all connection sizes
S = Molded Silicone Rubber

Step 3

G

Accessory Designator for preinstalled accessories

A - Auto Drain
D - DPI Indicator
G - DPG Gauge (Standard on 3/4" & up)
J - High Temperature (450°F)
N - No Accessories
P - 1/8" Differential (3/4" & up) Sensing Ports
V - Fluorocarbon Seals
W - A + D
X - A + P
Y - A + G

Note: For max. pressures and temperatures related to **Accessories**, please see chart on previous page.

Examples on How to Order

Example 1:

HN12L-6CUY

What am I ordering?

An H-Series, with a 3" NPT connection, long bowl, standard grade 6 coalescing element with urethane end seals, an auto drain and a standard DPG gauge.

Example 2:

HN15L-8CA

What am I ordering?

An H-Series, with a 3/8" NPT connection, long bowl, grade 8 coalescing element without end seals, and an auto drain.

Example 3:

HN8S-7CVPG

What am I ordering?

An H-Series, with a 2" NPT connection, standard bowl, a 7CVP coalescing element with standard fluorocarbon end seals and standard DPG gauge.

Example 4:

HN8E-10DVJ

What am I ordering?

An H-Series, with a 2" NPT connection, economy short bowl, grade 10 high-temp coalescing element, with the standard fluorocarbon end seals and "J" as an accessory. This high temperature option converts all materials to be capable of handling temperatures of 450°F.

Example 5:

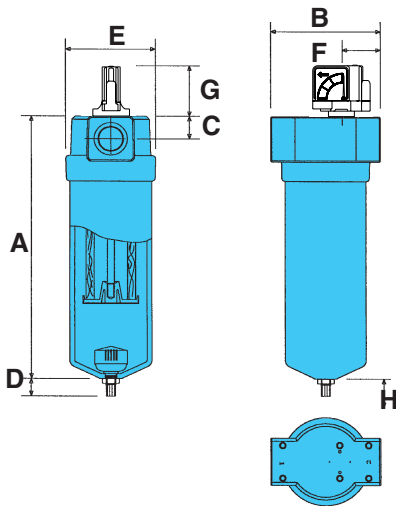
HN2S-AUN

What am I ordering?

An H-Series, with a 1/2" NPT connection, short bowl, adsorber element, with standard urethane end seals and no accessories.

Drawings, Dimensions & Specifications

1/4" to 1" Housings



Specifications

Max. Pressure: **500 PSIG** (34 bar)
 Safety Factor: Burst to max operating: 4:1
 Max Temp.: **175°F** (79°C) with option to **450°F** (232°C)
 Seals: Nitrile Std./Fluorocarbon optional
 Materials: Aluminum - 380 Die cast heads;
 6061 Drawn bowls
 Coatings: Chromated heads and bowls;
 Powder painted exterior
 Design: In-line threaded bowl to head

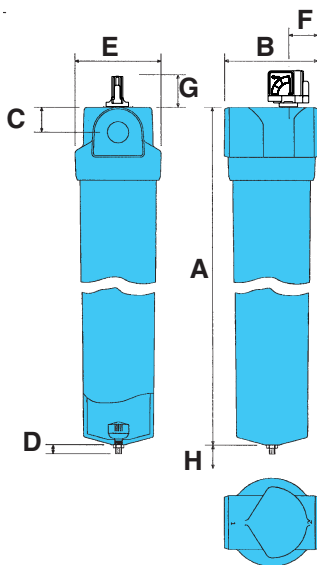
Note: Manual Drain Port is 1/8" FNPT when tee valve is removed from drain bushing.

Model	A	B	C	D	E	F	G	H*	Sump (ml)	Weight
H□1S	6.63 (168)	3.12 (79)	.63 (16)	.79 (20)	2.98 (76)	1.56 (39.5)	2.6 (66)	2.99 (76)	150	1.49 (.68)
H□15S	6.63 (168)	3.12 (79)	.63 (16)	.79 (20)	2.98 (76)	1.56 (39.5)	2.6 (66)	2.99 (76)	150	1.47 (.66)
H□2S	6.63 (168)	3.12 (79)	.63 (16)	.79 (20)	2.98 (76)	1.56 (39.5)	2.6 (66)	2.99 (76)	150	1.44 (.65)
H□1L	9.02 (229)	3.12 (79)	.63 (16)	.79 (20)	2.98 (76)	1.56 (39.5)	2.6 (66)	5.51 (140)	140	1.89 (.86)
H□15L	9.02 (229)	3.12 (79)	.63 (16)	.79 (20)	2.98 (76)	1.56 (39.5)	2.6 (66)	5.51 (140)	140	1.87 (.85)
H□2L	9.02 (229)	3.12 (79)	.63 (16)	.79 (20)	2.98 (76)	1.56 (39.5)	2.6 (66)	5.51 (140)	140	1.85 (.84)
H□3S	10.86 (276)	4.65 (118)	.96 (24)	.79 (20)	3.68 (93.5)	1.73 (44)	2.6 (66)	6.5 (165)	270	3.56 (1.61)
H□4S	10.86 (276)	4.65 (118)	.96 (24)	.79 (20)	3.68 (93.5)	1.73 (44)	2.6 (66)	6.5 (165)	270	3.29 (1.49)
H□4L	14.36 (365)	4.65 (118)	.96 (24)	.79 (20)	3.68 (93.5)	1.73 (44)	2.6 (66)	10.00 (254)	270	4.11 (1.86)

Special Note: Dimensions are in **inches** (millimeters); weight is in **pounds** (kilograms).

* Clearance required to remove bowl.

1 1/4" to 3" Housings



Specifications

Max. Pressure: **500 PSIG** (34 bar)
 Safety Factor: Burst to max operating: 4:1
 Max Temp.: **175°F** (79°C) with option to **450°F** (232°C)
 Seals: Nitrile Std./Fluorocarbon optional
 Materials: Aluminum - 356 Sand cast heads;
 6061 Drawn bowls
 Coatings: Chromated heads and bowls;
 Powder painted exterior
 Design: In-line threaded bowl to head

Note: Manual Drain Port is 1/8" FNPT when tee valve is removed from drain bushing.

Model	A	B	C	D	E	F	G	H*	Sump (ml)	Weight
H□5S	18.60 (472)	6.0 (152)	1.65 (42)	.83 (21)	5.67 (144)	1.85 (47)	2.6 (66)	13.50 (343)	440	12.11 (5.49)
H□6S	18.60 (472)	6.0 (152)	1.65 (42)	.83 (21)	5.67 (144)	1.85 (47)	2.6 (66)	13.50 (343)	440	11.97 (5.43)
H□8E	18.60 (472)	6.0 (152)	1.65 (42)	.83 (21)	5.67 (144)	1.85 (47)	2.6 (66)	13.50 (343)	440	11.97 (5.43)
H□8S	24.23 (615)	6.0 (152)	1.65 (42)	.83 (21)	5.67 (144)	1.85 (47)	2.6 (66)	19.25 (489)	530	14.00 (6.35)
H□8L	29.23 (742)	6.0 (152)	1.65 (42)	.83 (21)	5.67 (144)	1.85 (47)	2.6 (66)	24.02 (610)	620	15.99 (7.25)
H□0L	36.02 (915)	8.0 (203)	2.40 (61)	.83 (21)	7.24 (184)	2.36 (60)	2.6 (66)	28.50 (724)	880	35.00 (15.87)
H□12L	36.02 (915)	8.0 (203)	2.40 (61)	.83 (21)	7.24 (184)	2.36 (60)	2.6 (66)	28.50 (724)	880	34.14 (15.48)

Special Note: Dimensions are in **inches** (millimeters); weight is in **pounds** (kilograms).

* Clearance required to remove bowl.

Notes:



www.finitefilter.com

finitefilter@parker.com

Maintenance Bulletin - International H-Series

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

MB-141

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.

The filters should be piped in accordance with the instruction tags, flow arrows or "IN" and "OUT." Should these tags become unreadable, install the coalescer so that flow passes through the filter tube from inside-to-outside. Plumb particulate and adsorber filters so that flow passes through the filter from outside-to-inside. The various filter locations relative to other equipment should be as follows (unless specific instructions are given to the contrary): (1) COALESCERS and WATER SEPARATORS are placed before the dryer. (2) The INTERCEPTOR (Particulate) goes ahead of the COALESCER when pre-filtration is required. (3) The INTERCEPTOR is installed downstream of desiccant dryers to prevent desiccant migration. (4) The ADSORBER 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 ATTEMPT TO RESEAT A FILTER TUBE. New serrated indentations can be formed causing leakage. 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 build-up 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 gages, or by Finite's DPI-13 differential pressure indicator, DPG-15 differential pressure gauge, 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's timed drain valve 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.

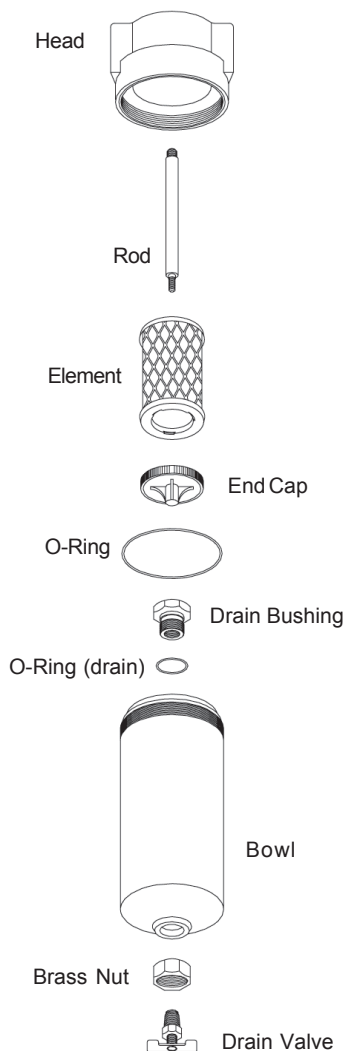
TROUBLESHOOTING CHART

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.	Pre-coalesce 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 pre-contaminated downstream piping.	Clean piping.	
Excessive flow surges.	Relocate filter, pre-coalesce with grade 10 and oversize coalescers.	

Assembly Drawing/Parts List

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

Compressed Air
and Gas Filters



Part Name Port Size	H_1S 1/4"	H_15S 3/8"	H_2S 1/2"	H_1L 1/4"	H_15L 3/8"	H_2L 1/2"	H_3S 3/4"	H_4S 1"	H_4L 1"	
Head - NPT	41508	41509	41510	41508	41509	41510	41511	41512		
Head (DPI) - NPT*	41513	41514	41515	41513	41514	41515	41516	41517		
Head (P Ports) NPT							41518	41519		
Head - BSPF	41429	41430	41431	41429	41430	41431	41432	41433		
Head (DPI) - BSPF*	41439	41440	41441	41439	41440	41441	41442	41443		
Head (P Ports) BSPF							41450	41451		
Head - BSPT							41540	41541		
Head (DPI) - BSPT*							41544	41545		
Head (P Ports) BSPT							41548	41549		
Elements:										
□C	□C10-025		□C10-050		□C15-060		□C15-095			
□CU	□CU10-025		□CU10-050		□CU15-060		□CU15-095			
□IU	□IU10-025		□IU10-050		□IU15-060		□IU15-095			
□DS	□DS10-025		□DS10-050		□DS15-060		□DS15-095			
□QU	□QU10-025		□QU10-050		□QU15-060		□QU15-095			
3PU	3PU10-025		3PU10-050		3PU15-060		3PU15-095			
100WSU	100WSU10-025		100WSU10-025		100WSU15-060					
AU	AU10-025		AU10-050		AU15-060		AU15-095			
Rod	40076		40077		45068		45069			
End Cap							45076		45077	
End Cap (high temp)							41359		41038	
O-Ring							76143		76235	
O-Ring (high temp)							76143V		76235V	
Brass Drain Bushing							23054			
O-Ring (drain)							76114V			
Bowl Only	41520		41521		41522		41523			
Bowl Assy. w/Manual Drain	41529		41530		41531		41532			
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 2003
(contains all DPI-13 parts listed below)


Also available DPI-13 Spare Parts:


Cap Screws - (2) 70005 

Bracket - 40894 

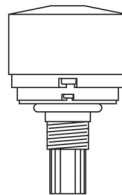
Shell - 40605 

Spring - 40006 

Piston - 40604 

Diaphragm - 41569 

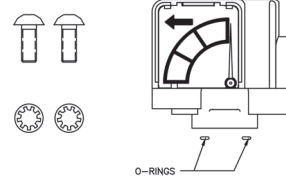
Automatic Drain Valve AD-12



(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.

Mounting Brackets

BK-1
(1/4" - 1/2")

BK-3
(3/4" - 1")

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.

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 gages, 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.

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.



DANGER

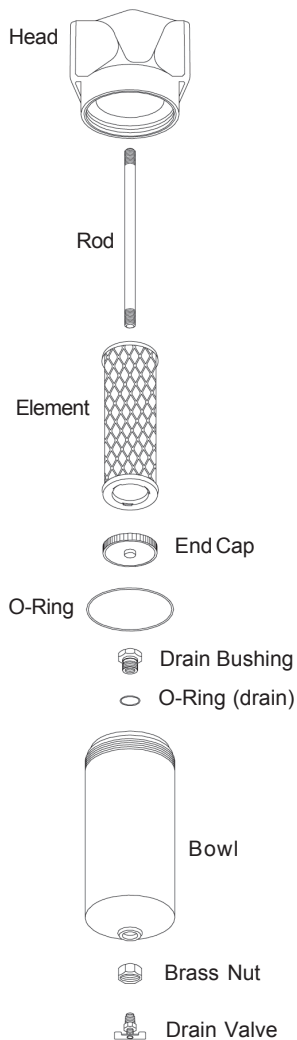
Filter housings must be depressurized before performing any maintenance activities.

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.	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, ΔP 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, ΔP 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, ΔP Ports BSPT	41498	41499	41500	41500	41500	41501	41502
Head (DPI) - SAE32	N/A	N/A	42106	42106	42106	N/A	N/A
Elements:							
<input type="checkbox"/> CU		<input type="checkbox"/> CU25-130		<input type="checkbox"/> CU25-187	<input type="checkbox"/> CU25-235	<input type="checkbox"/> CU35-280	
<input type="checkbox"/> DV		<input type="checkbox"/> DV25-130		<input type="checkbox"/> DV25-187	<input type="checkbox"/> DV25-235	<input type="checkbox"/> DV35-280	
<input type="checkbox"/> QU		<input type="checkbox"/> QU25-130		<input type="checkbox"/> QU25-187	<input type="checkbox"/> QU25-235	<input type="checkbox"/> 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 2003

(contains all DPI-13 parts listed below)

Also available DPI-13 Spare Parts:

Cap Screws - (2) 70005

Bracket - 40894

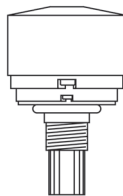
Shell - 40605

Spring - 40006

Piston - 40604

Diaphragm - 41569

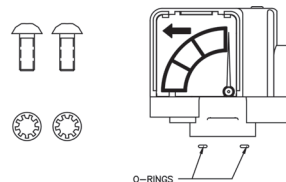
Automatic Drain Valve AD-12



(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.