



ASME Coded Vessels

Compressed Air & Gas Filters

- Coalescing, Bulk Liquid Removal, Particulate & Hydrocarbon Adsorption
- Flows up to 37,000 SCFM (62,000 m³/hr)
- 3" NPT to 16" Flange

Bulletin 1300 - 400/USA



Finite[®]

Finite® Large Capacity

ASME Vessels

Finite Filter's large capacity ASME filter vessels have been designed specifically for our coalescing elements and incorporate large sump capacities and generous exit cavities for maximum performance with low differential pressures.

All units are "U" stamped and conform to ASME Section VIII standard code for pressure vessels. With flow capacities to 37,000 SCFM and optional materials of construction, most compressor source filtration requirements can be met.

Specifications:

Porting to: 16" Flange

Flows to: 37,000 SCFM (63,000 m³/hr)

Design: ASME Code/CRN (Canadian Registration)

Available Options:

- High Temperature
- High Pressure
- All Stainless Construction
- P.E.D. Compliant



Typical Applications

Coalescing (Oil Removal)

- Compressed air system protection
- Dryer protection
- Paint spray booths
- Microelectronics quality air prefiltration

Interceptor (Particulate Removal)

- Natural gas systems
- Desiccant dryer afterfilter
- Prefilter for coalescer
- Systems with high particulate concentration
- Particulate protection for non-lubricated systems

Adsorber (Vapor Removal)

- Odor removal
- Food packaging
- Powder paint systems
- Blow molding

Applications & International ISO Standards

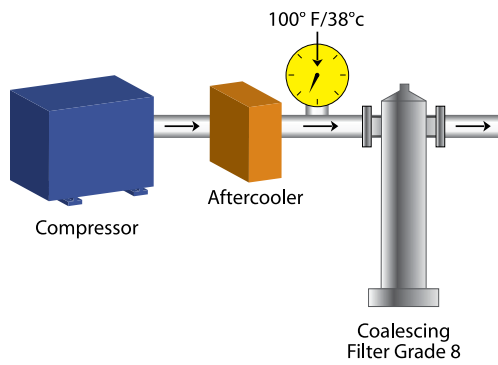
International Standard ISO8573-1 is fast becoming the industry standard method for specifying compressed air cleanliness. The chart to the right details the specifications of the classes. The diagrams below describe various systems in terms of their corresponding ISO classification.

Notification as specified in ISO8573 - 1; 1991

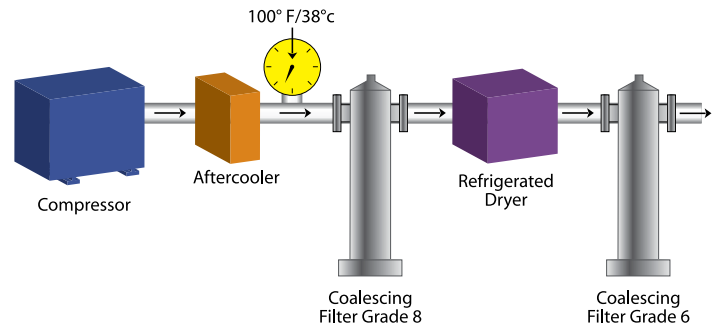
Class	Solid		Water		Oil	
	Maximum particle size (µm)	Maximum Concentration ppm (mg/m ³)	Maximum Pressure Dew point °F	Maximum Pressure Dew point (°C)	Maximum Concentration ppm (mg/m ³)	Maximum Concentration ppm (mg/m ³)
1	0.1	0.08 (0.1)	-94	(-70)	0.008	(0.01)
2	1	0.8 (1)	-40	(-40)	0.08	(0.1)
3	5	4.2 (5)	-4	(-20)	0.83	(1)
4	15	6.7 (8)	37	(+3)	4.2	(5)
5	40	8.3 (10)	45	(+7)	21	(25)
6	-	-	50	(+10)	-	-

Typical Applications

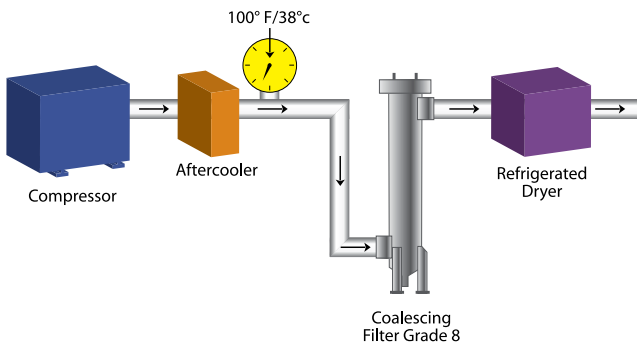
ISO Class Solid Water Oil



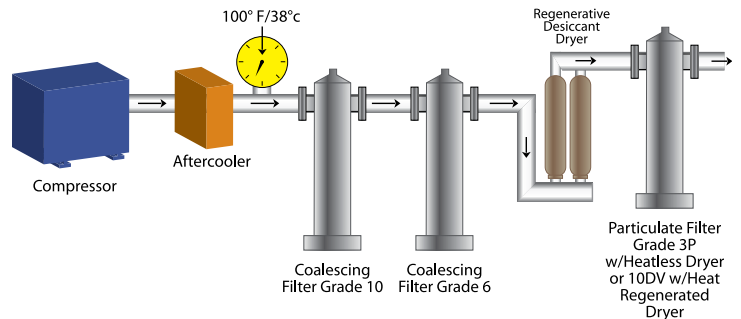
ISO Class Solid Water Oil



ISO Class Solid Water Oil



ISO Class Solid Water Oil

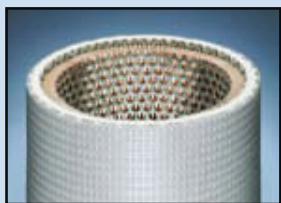


Note: In the pictorial examples shown above, the contribution of hydrocarbon vapors has not been taken into account in determining the oil class category.

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

Find your (or similar) application from the descriptions 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 Elements (removal of liquids and particulate)

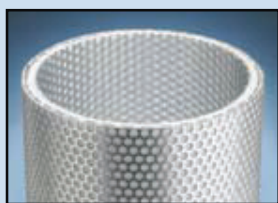


Media type C or Q

Available in grades 6, 8 or 10
Air Flow: Inside to Outside

This coalescing element is composed of an epoxy saturated, borosilicate glass micro-fiber tube. Type Q has a pleated cellulose inner layer as a built-in prefilter. This element is metal retained for added strength, and includes a synthetic fabric layer to aid in draining liquids away from the coalescing layer.

Media type Q is shown here. Media type C has the same coalescing outer layer, without the inner pleated layer.



Media type D

Available in grades 6, 8 or 10
Air Flow: Inside to Outside

The type D element is composed of a binderless micro-glass coalescer layer surrounded by two metal retainers. These metal retainers, coupled with a glass drain layer and an outer perforated metal handling layer, make this a robust element designed to handle high temperatures.

This element is typically used as a high temperature coalescer, or the particulate afterfilter for a heated regenerative desiccant dryer.



Media type ME

Air Flow: Inside to Outside

Finite's Mist Eliminator (ME) media consists of two filtration layers pleated together. The outer layer consists of a dense matrix of glass fibers. This coalescing layer provides highly efficient aerosol removal and very low pressure drop. The inner layer effectively traps dirt particles, protecting and extending the life of the outer layer. This element is metal retained for added strength, and includes a synthetic fabric layer to aid in draining liquids away from the coalescing layer.

The Finite ME element maintains its high efficiency rating even at low flow rates, allowing the user to specify Finite housings that are oversized for the application, greatly extending the life of the element. Due to the stainless steel components used in the ME element, it is ideally suited for long life service or corrosive environments.

Type ME elements are great prefilters for all types of air dryers. This element maintains dryer efficiency by removing oil before it damages costly desiccant or membranes. It also protects refrigerated dryers by preventing coating of coils with oil or varnish.



Media type 7CVP

Air Flow: Inside to Outside

Finite's 7CVP media consists of two layers. The outer layer consists of a dense matrix of glass fibers. This coalescing layer provides highly efficient aerosol removal and very low pressure drop. The inner layer effectively traps dirt particles, protecting and extending the life of the outer layer. This element is metal retained for added strength, and includes a synthetic fabric layer to aid in draining liquids away from the coalescing layer.

This media is used in bulk coalescing applications and when relatively high efficiency and low pressure drop are required.

Type 7CVP elements are great prefilters for refrigerated air dryers, where low differential pressure is a requirement. This element maintains dryer efficiency by preventing the coating of heat exchanger coils with oil and varnish.

For a high temperature version of this element, specify type **7DVP**.

For types C, Q and D... Choose your grade...

Grade 6 filters are used when "total removal of liquid aerosols and suspended fines" is required. Because of its overall performance characteristics, this grade is most often recommended.

A grade 6 element is great prefilter protection for desiccant air dryers. This element prevents oil or varnish from coating the desiccant, while maintaining the dryer efficiency.

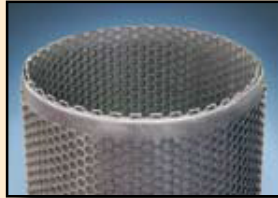
Grade 8 filters combine high efficiency with high flow rate and long element life. A separate prefilter is not required for "normal to light" particulate loading.

A grade 8 element is great prefilter protection for refrigerated air dryers. This element maintains dryer efficiency by preventing coating of coils with oil or varnish.

Grade 10 filters are used as prefilters for grades 6 or 8 to remove gross amounts of liquid aerosols or tenacious aerosols which are difficult to drain. This grade is often referred to as a coarse coalescer.

A grade 10 element coupled with media type D is a recommended afterfilter for heat regenerated type dryers.

Water Separator Element
(removal of bulk liquids)



Media type 100WS

Air Flow: Inside to Outside

This all stainless steel mesh element has two metal retainers with rolled mesh steel in between. It is an extremely robust design.

This media is used for the 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.

Interceptor Element
(removal of particulate)



Media type 3P

Air Flow: Outside to Inside

This particulate element is constructed of pleated cellulose with a 3 micron rating. It is metal retained for added strength and includes an outer handling layer.

3P particulate interceptor elements are used where high dirt holding capacity and relatively fine pore structure are required.

Adsorption Element
(removal of odor)



Media type A

Air Flow: Outside to Inside

This hydrocarbon vapor removal element consists of an ultrafine grained, highly concentrated, activated carbon sheet media. It is metal retained for added strength and includes an outer synthetic fabric layer.

This media is used to remove hydrocarbon vapor and particulate fines down to 3µ in diameter.

Finite® Media Specifications

Grade Designation	Coalescing Efficiency 0.3 to 0.6 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
6	99.97%	0.008	0.01	1.5	4.0
ME	99.95%	0.02	0.3	0.5	1.0
7	99.5%	0.09	0.5	0.25	0.5
8	98.5%	0.2	0.5	1.0	3.5
10	95%	0.85	1.0	0.75	2.5
100WS	N/A	N/A	100	<0.25	<0.50
3P	N/A	N/A	3.0	0.25	N/A

¹Tested per ADF-400 at 40 ppm inlet.

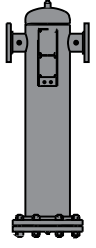
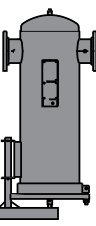
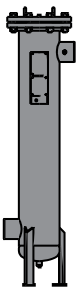
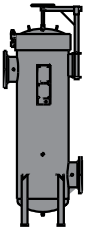
²Add dry + wet for total pressure drop.

³Oil vapor removal efficiency is given for A media.

End Seals available:

End Seals	Available on Media type:	Max temp of element with end seal
U: Molded Urethane (standard)	C	225°F (107°C)
	Q	
	3P	
S: Molded Silicone Rubber	C	350°F (177°C)
	Q	350°F (177°C)
	D	450°F (232°C)
	3P	350°F (177°C)
V: Fluorocarbon gaskets on metal end caps	C	350°F (177°C)
	Q	350°F (177°C)
	D	450°F (232°C)
	ME	225°F (107°C)
	7CVP	225°F (107°C)
	7DVP	400°F (204°C)
	100WS	350°F (177°C)
	3P	350°F (177°C)
	A	225°F (107°C)

Housing Selection Chart

Housing Assembly	Replacement Element Number	Port Size (Inches)	Port Type	Number of Elements	Rated Flows: SCFM @ 100 PSIG (m ³ hr @ 7 bar)			
					Grade 6/A	Grade 8	Grade ME/7CVP/10/100WS/3P	
Line Mount Vessels								
	HT3-801	51-280	3	NPT	1	1500 (2540)	1800 (3050)	2490 (4230)
	FT3-801	51-280	3	FLANGE	1	1500 (2540)	1800 (3050)	2490 (4230)
	FT4-1201	85-250	4	FLANGE	1	2000 (3390)	2400 (4070)	3320 (5640)
	FT6-1201	85-360	6	FLANGE	1	3000 (5090)	3600 (6110)	4980 (8460)
	FT6-1603	51-280	6	FLANGE	3	4500 (7640)	5400 (9170)	7470 (12690)
Floor Mount Vessels								
	HF3-801	51-280	3	NPT	1	1500 (2540)	1800 (3050)	2490 (4230)
	FF3-801	51-280	3	FLANGE	1	1500 (2540)	1800 (3050)	2490 (4230)
	FF4-1201	85-250	4	FLANGE	1	2000 (3390)	2400 (4070)	3320 (5640)
	FF6-1201	85-360	6	FLANGE	1	3000 (5090)	3600 (6110)	4980 (8460)
	FF6-1603	51-280	6	FLANGE	3	4500 (7640)	5400 (9170)	7470 (12690)
	FF8-1804	51-280	8	FLANGE	4	6000 (10190)	7200 (12230)	9960 (16920)
	FF10-2207	51-280	10	FLANGE	7	10500 (17830)	12600 (21400)	17430 (29610)
	FF12-3011	51-280	12	FLANGE	11	16500 (28030)	19800 (33640)	27390 (46530)
	FF16-3615	51-280	16	FLANGE	15	22500 (38220)	27000 (45870)	37350 (63450)

How to Order

F	F	6	-	12	01	-	6	Q	U	
Port Type	Config.	Port Size		Filter Body (O.D. nom.)	Number of Elements		Media Grade	Media Type	End Seals	
H - NPT F - Flange	F - Floor Mount T - Line Mount	3 - 3" 4 - 4" 6 - 6" 8 - 8" 10 - 10" 12 - 12" 16 - 16"		8 - 8" 12 - 12" 16 - 16" 18 - 18" 22 - 22" 30 - 30" 36 - 36"	01 - 1 Element 03 - 3 Elements 04 - 4 Elements 07 - 7 Elements 11 - 11 Elements 15 - 15 Elements		6 8 10	C - Microglass coalescer Q - Coalescer w/built in prefilter D - High Temp. microglass	U - Urethane Can be used for media types: C, Q, 3P S - Silicone Can be used for media types: C, Q, D, 3P V - Fluorocarbon Can be used for media types: C, Q, D, 3P Standard on: ME, 7CVP, 7DVP, 100WS, A	
See chart on previous page for information on housing assemblies.				See chart on previous page for more information.				ME	Leave Blank for ME	
								7CVP	Leave Blank for 7CVP	
								100WS	Leave Blank for 100WS	
								3P	Leave Blank for 3P	
								A	Leave Blank for A	

Example: FF6-1201-6QU

See pages 4-5 for more information on media grades and types.

How to order replacement elements:

1. Choose the media grade, type and end seals that you need.
2. Look in the Housing Selection Chart on the previous page and find the respective Replacement Element Number.
3. Put 1 & 2 together. For example: 6QU51-280 or 7CVP85-250.

We make special ASME vessels to fit your applications!

Custom options include:

- Stainless steel vessels (304 & 316 SS options)
- High pressure
- Corrosion allowance
- Non-standard port orientation
- Sight glass ports
- Custom name plates
- Liquid level control connections

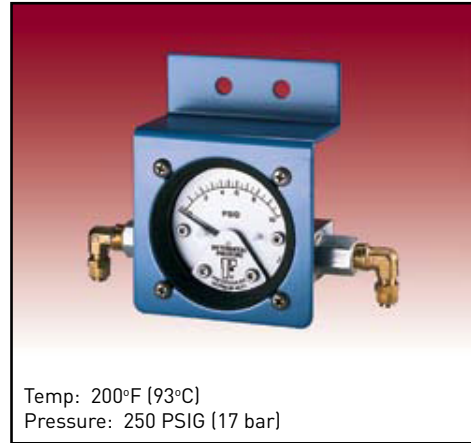
Call 1-800-521-4357 and ask for our technical department to get pricing on our custom ASME vessels.

Accessories



Temp: 200°F (93°C)
Pressure: 250 PSIG (17 bar)

KBDPG-15
Differential Pressure Gauge Kit



Temp: 200°F (93°C)
Pressure: 250 PSIG (17 bar)

KBDPI-25
Differential Pressure Gauge Kit



Temp: 450°F (232°C)
Pressure: 150 PSIG (10 bar)

ADT-50
Float Actuated Drain Trap



Temp: 140°F (60°C)
Pressure: 250 PSIG (17 bar)

ZLD-10
Zero Air Loss Condensate Drain



Temp: 210°F (99°C)
Pressure: 300 PSIG (20 bar)

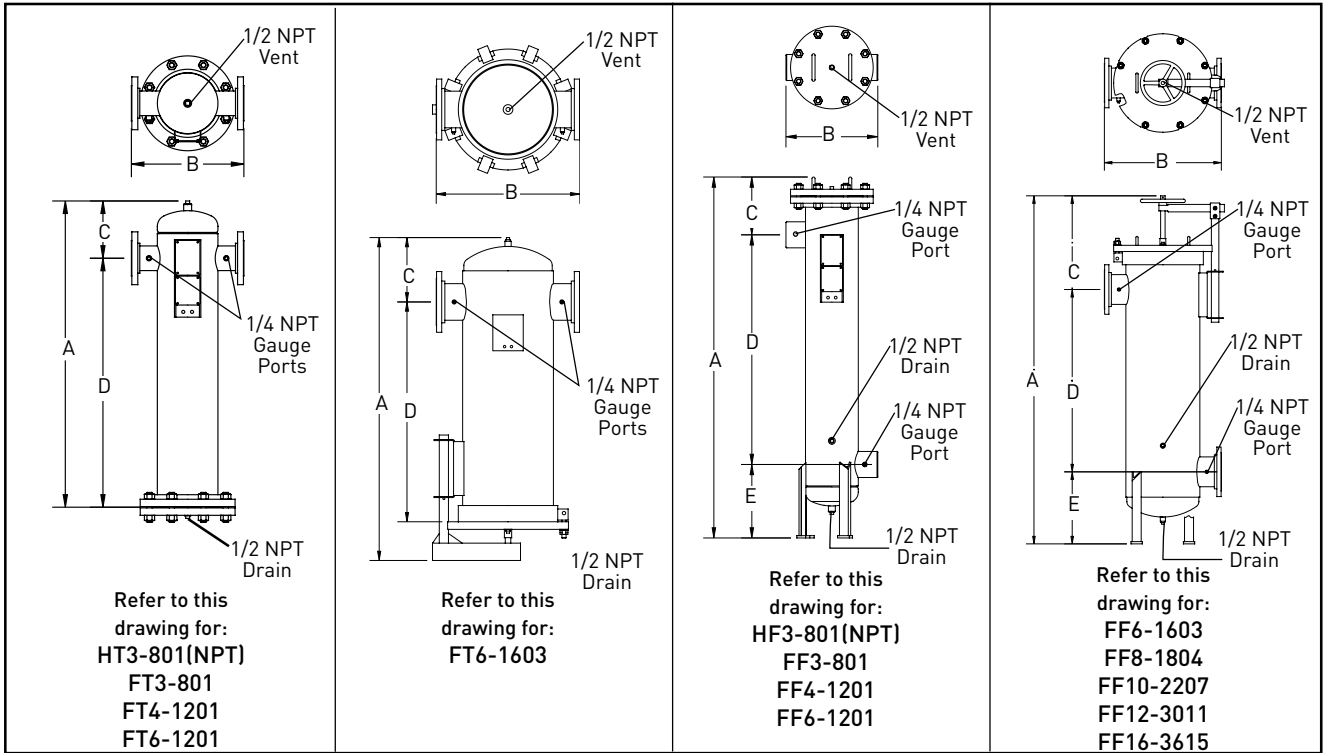
TV-50
Timed Solenoid Valve Drain Trap
Note: All accessories are sold separately.



Temp: 450°F (232°C)
Pressure: 250 PSIG (17 bar)

ADS-50
Float Actuated Stainless Steel
Drain Trap

Drawings, Dimensions & Specifications



Dimension ¹	A	B	C	D	E	Element Removal Clearance	Sump Capacity ²	Weight ³
HT3-801	43.1 (109.5)	15.0 (38.1)	7.7 (19.5)	35.4 (89.9)		28 (71.1)	0.81 (3)	190 (86)
FT3-801	43.1 (109.5)	16.0 (40.6)	7.7 (19.5)	35.4 (89.9)		28 (71.1)	0.81 (3)	190 (86)
FT4-1201	42.7 (108.5)	20.0 (50.8)	9.7 (24.6)	33.0 (83.8)		25 (63.5)	2.0 (7)	380 (173)
FT6-1201	56.4 (143.3)	20.0 (50.8)	11.4 (29.0)	45.0 (114.3)		36 (91.4)	2.0 (7)	380 (173)
FT6-1603	57.8 (146.8)	26.0 (66.0)	11.0 (27.9)	39.8 (101.1)		28 (71.1)	2.0 (7)	340 (155)
HF3-801	58.9 (149.6)	15.0 (38.1)	9.4 (23.8)	37.5 (95.2)	12.0 (30.4)	28 (71.1)	1.1 (4)	190 (86)
FF3-801	58.9 (149.6)	16.0 (40.6)	9.4 (23.8)	37.5 (95.2)	12.0 (30.4)	28 (71.1)	1.2 (4)	200 (91)
FF4-1201	63.3 (160.7)	20.0 (50.8)	12.3 (31.2)	35.0 (88.9)	16.0 (40.6)	25 (63.5)	4.2 (16)	370 (168)
FF6-1201	75.3 (191.2)	20.0 (50.8)	12.3 (31.2)	47.0 (119.3)	16.0 (40.6)	36 (91.4)	3.6 (14)	410 (186)
FF6-1603	77.3 (196.3)	26.0 (66.0)	20.8 (52.8)	40.5 (102.8)	16.0 (40.6)	28 (71.1)	5.0 (19)	340 (155)
FF8-1804	87.3 (221.7)	30.0 (76.2)	25.8 (65.5)	42.5 (108.0)	19.0 (48.3)	28 (71.1)	8.7 (33)	550 (250)
FF10-2207	96.0 (243.8)	34.0 (86.3)	28.5 (72.4)	45.5 (115.5)	22.0 (55.8)	28 (71.1)	14.8 (56)	750 (341)
FF12-3011	101.0 (256.5)	44.0 (111.7)	27.5 (69.8)	47.5 (120.6)	26.0 (66.0)	28 (71.1)	25.5 (97)	1300 (591)
FF16-3615	112.0 (284)	52.0 (132.0)	32.0 (81.3)	50.0 (127.0)	30.0 (76.2)	28 (71.1)	56.2 (231)	1700 (773)

¹Dimensions are in inches (centimeters.) ²Sump Capacity is in gallons (liters.) ³Weight is in pounds (kilograms.)

Materials of Construction

- Body:** Carbon Steel
- Paint:** Epoxy Enamel (Gray)
- Internals:** Epoxy powder painted carbon steel
- Max Temperature:** 450°F (232°C)
- Seals:** Inorganic flange gasket (single element vessels)
Fluorocarbon o-ring (multi element vessels)
- Internal Coating:** Epoxy enamel

Specifications

- Max Pressure:** 185 PSIG (12.5 bar)
- Meets** A.S.M.E. Code, Section VIII, Division 1
- Note: Consult factory for special requirements.