

Filters

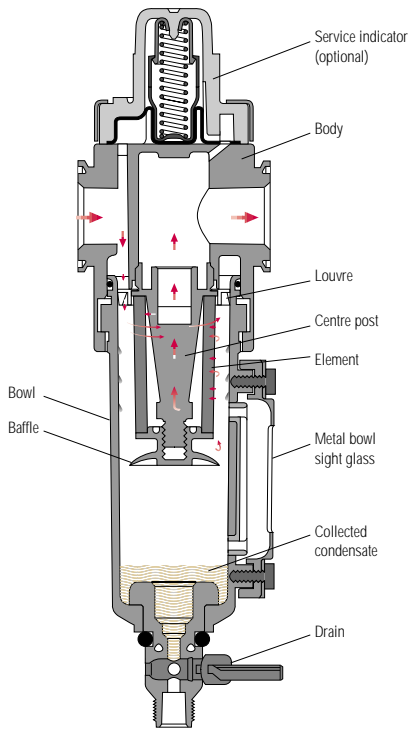
**General Purpose Filters, Oil
Removal (Coalescing) Filters, Oil
Vapor Removal (Adsorbing)
Filters, and Compressed Air
Membrane Dryers**

Filter OverviewALE-Filter
General Purpose FiltersALE-1-1
Oil Removal (Coalescing) FiltersALE-2-1
Oil Vapor Removal (Adsorbing) FiltersALE-3-1



1.1 GENERAL OVERVIEW

GENERAL PURPOSE FILTER



Three main types of filters exist: The general purpose filter for water and particles, the coalescing oil removal filter for oil aerosols and the activated carbon filter for the removal of oil vapors.

The general purpose filter is used for most filter applications and is available from 1/8" to 2" pipe sizes. Uses are main headers, branch lines, tools, cylinders, valves and valve circuits, air agitators etc. Oil removal filters are used where very clean, oil-free air is required, such as for the supply to fluidic devices, instrumentation, air gauging equipment and air bearings.

Activated Carbon filters are used for systems where the oil vapors in the air are not acceptable; such as instrumentation and paint spraying.

1.1.1 How Do General Purpose Filters Work?

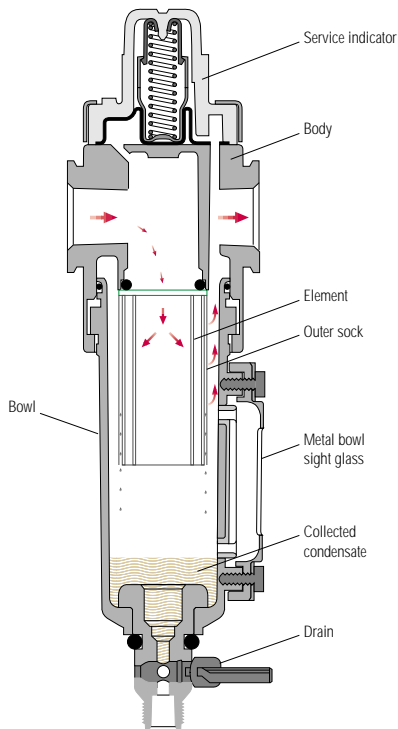
The dirt and moisture-laden air enters the inlet port and is directed into the louvers which centrifugally separate the entrained liquids and dirt which fall to the bottom of the bowl. Near the bottom of the bowl a baffle creates a quiet zone, preventing the turbulent air re-entraining the contaminants. The air, now free of water droplets and large dirt particles, passes through the filter element which removes small dirt particles. Solid particles eventually plug the element necessitating replacement.

1.1.2 How Do Oil Removal Filters Work?

Air enters the filter and passes through the element from inside to outside, where oil aerosols impinge on the borosilicate micro-fibers and are coalesced into larger drops. The drops are carried through the element until they reach the outer porous sock. The outer sock, because of its cellular construction, retains these liquids and allows them to drain by gravity to the bottom of the bowl.

Solid particles are retained in the element and cause the pressure drop to slowly increase through the working life of the element. When the pressure drop across the element reaches 10 psid, the service life indicator on top of the filter will show more red than green and the element should be replaced.

COALESCING FILTER



1.1.3 How do Vapor removal Filters Work?

Carbon filters are used to remove oil vapors and odors. The activated carbon has a porous structure which results in a large surface area. The oil vapors are attracted and adhere to this surface. There is usually a small sintered medium included in an activated carbon element to prevent the carbon particles from migrating downstream. The carbon filter reduces the maximum oil content of air leaving the filter to 0.003ppm at 70°F, i.e. To ISO 8573 class 1.7.1. If protected upstream by general and oil removal filters life is between 400 and 1000 hours.

1.1.4 Why use a Pre-Filter?

A pre-filter is simply a general purpose filter placed upstream of a higher grade filter to remove the majority of the water and larger particle contaminants and thus lengthen the life of the higher grade filter element.

A 5 micron pre-filter should always be used ahead of an oil removal filter.

An oil removal (coalescing) filter must be used ahead of a vapor removal adsorbing filter.

1.2 AIR QUALITY

1.2.1 What is ISO 8573?

(See ALE-1-G for specification)

This is an international standard on air quality. It covers compressed air for general industrial use.

The air quality is specified using a 3 digit code expressing the remaining content of a specific contaminant after the filter (or dryer).

1.2.2 Air Classes for Norgren Filters:

Particulate filters condition compressed air to different degrees, dependent on the micron rating of the filter. The finer filter, 5 µm, will achieve ISO 8573 class 3.7. or class 3. Applying a 40 µm filter will result in ISO 8573 class 5.7. or class 5 air.

Coalescing filters improve the quality of downstream air to ISO 8573 class 1.7.2, the particle size is reduced down to 0.01µm, with a remaining oil content of less than 0.01ppm. Coalescing filters cannot remove oil which is in the vapor state in the supply air. One way to remove vapor is to reduce the temperature of the air flow allowing the vapor to condense, alternatively remove the vapor chemically using an activated carbon filter.



1.2.3 What Micron Ratings are Available?

The standard Norgren general purpose elements are 40 and 5 microns, with 40 microns being suitable for most industrial applications. Certain industries have 25 or 75 micron as a standard and some product ranges have these options available.

For a given element size, the smaller the micron rating the higher the pressure drop across the filter. The service life between cleaning is also less for the smaller micron filters, as small holes plug more quickly than bigger holes.

Figure 1. (See "Rating Filter Elements and ISO Standard 8573-1" in this section.

RECOMMENDED FILTRATION LEVELS.

Application	Typical Quality Classes	
	Oil	Dirt
Air agitation	1	3
Air bearings	2	2
Air gauging	2	2
Air motors	4	4
Brick and glass machines	5	4
Cleaning of machine parts	3	4
Construction	4	5
Conveying, granular products	2	4
Conveying, powder products	1	3
Fluidics, power circuits	2	5
Fluidics, sensors	2	3
Foundry machines	4	5
Food and beverages	1	1
Hand operated air tools	5	5
Machine tools	5	4
Mining	5	5
Micro-electronics manufacture	1	1
Packaging and textile machines	5	3
Photographic film processing	1	2
Pneumatic cylinders	3	5
Pneumatic tools	5	4
Pneumatic tools (high speed)	4	3
Process control instruments	2	3
Paint spraying	1	1
Sand Blasting	4	5
Welding machines	5	5
General Workshop air	5	4

1.2.4 How do Service Life Indicators Work?

The service life (pressure drop) indicator found on top of coalescing or general purpose filters is green when the filter is new. As a pressure differential develops across the filter element with use, a spring biased red outer sleeve is pushed up. When more red is visible than green, then the pressure differential across the element is in excess of 10 psi (0.7 bar) and the element should be replaced.

1.2.5 When does the Carbon Pack Indicator Turn Pink?

The white ring around the base of the vapor removal carbon pack turns pink in the presence of liquid oil. Therefore if the ring turns pink the coalescing filter is passing liquid oil and needs replacing. If this occurs soon after the filter has been installed then it usually indicates a seal failure in the coalescing filter. Remember that visual detection is not a substitute for scheduled maintenance.

1.2.6 How Long does an Element Last?

This depends entirely on the quality of the inlet air. If it is very poor the elements will need replacing more frequently.

In general, air service equipment should be maintained annually. Use, quality of air and condition at examination may indicate adjustment of the maintenance interval.

The following guidelines can be given:

- General Purpose Filter: Replace/maintain annually. The element can lose 15% efficiency each time it is cleaned. Elements are low cost, so it is advisable to replace them.
- Coalescing: Evaluate after 12 months of servicing. If the pressure drop across the element exceeds 10 psig (0.7bar) then the element requires changing.
- Activated Carbon Packs: Should be changed every 1,000 hours usage or when odor is detected. The life depends significantly on ambient temperature.

1.3 PLASTIC BOWLS

Norgren transparent plastic bowls are made from polycarbonate. Some competitors use other materials such as Grilamid.

Both these materials are extremely resilient and have an excellent safety record. However these transparent plastics will degrade when subjected to excessive heat, solvents and some chemicals, which can lead to crazing and finally bowl failure.

Over the last few years metal bowls and guarded plastic bowls have become increasingly popular driven by the emergence of guidelines recommending the use of guards.

Some organizations have their own internal standards which call for guarded plastic or metal bowl and the general market trend is away from plastic bowls in the 1/2" or above port size units. This trend is reflected in our latest Excelon 74 and Olympian Plus product ranges. Plastic bowls remain the most common option for 1/4" and smaller units.

Never use polycarbonate bowls at conditions which exceed the maximum rated pressure and temperature of 150 psig (10 bar) and 125°F (50°C).

Certain chemicals, common in some oils and solvents, can attack polycarbonate and cause the bowl to burst. If the compressor intake is located in an area containing incompatible vapors, these contaminants can be drawn into the compressor and conveyed to the bowl in the compressed air. This can result in bowl failure.

Synthetic compressor oils may be drawn in from the compressor and can also result in bowl failure.

If doubt exists as to the compatibility of certain fluids with polycarbonate, please contact Applications Engineering.

Metal bowls should be used where temperatures exceed 125°F (50°C) and/or pressures exceed 150 psig (10 bar), or when materials are present which are incompatible with polycarbonate. Maximum rated operating conditions for metal bowls depend on the range; check APC-104.



1.4 DRAINS

1.4.1 Semi Automatic:

A semi-auto drain is one which operates when the air-line is depressurized eg at the end of a shift. It is a normally open two-way valve which is held closed by 7-10 psig (0.7-0.8 bar). When the filter is pressurized, the drain may be operated manually by pushing the tube, which protrudes outside the bowl, upwards.

1.4.2 Automatic:

An automatic drain is a two-way valve, which will close when the system is pressurized. The drain opens when the float rises due to accumulated liquid and on depressurization.

1.4.3 Where should an Automatic Drain be Used?

Automatic Drains should be used where the filter location may make servicing difficult, where filters may be hidden from view and consequently be overlooked or where equipment is in continual use. Areas where large quantities of liquid may accumulate over a short period of time should also be equipped with auto-drain filters. High labor costs for draining a large number of filters manually will generally justify the use of auto-drains.

Machines which have been shut down for a long period of time, such as over a weekend, can draw slugs of water during start-up which can overload a filter unless drained immediately. (This situation can normally be handled by a drip leg drain, see.)

Norgren float type automatic drains are 'normally open' type drains. During periods when the air line pressure is shut off, the automatic drain will open allowing liquids to drain rather than flood the air line piping system. When re-pressurizing the air line, the automatic drain valve will close when pressure reaches approximately 10 psig (0.7bar). This results in a flow through the drain to atmosphere of about 1.77 scfm (0.84dm³/s) until the valve automatically closes. (See 1.4.4 below.)

1.4.4 Where should a Low Flow Automatic Drain be used?

In systems where the compressor capacity is insufficient to close a number of standard auto drains a 'low flow' drain is available which requires only 0.5 scfm flow before closing. An ultra low flow auto drain is also available. 'Low flow' drains have less clearance around the valve for expelling contaminants, so should only be used where the standard unit cannot be used. 'Low flow' drains can be identified by red plastic parts.

1.4.5 07 Automatic (spitter) Drain:

When a rapid increase in flow occurs through the filter it results in the pressure above the drain's diaphragm being less than that below it. This differential pressure causes the drain to momentarily lift and 'spit' out the condensate collected underneath the drain.

1.4.6 Where should a Drip Leg Drain be Used?

The drip leg drain is a system protection device. Most compressed air distribution systems have varying flows and/or are shut down at the end of a working day. As the system cools, water in the compressed air condenses and collects in the distribution pipe work. This water will run along the pipe work and settle at the low point(s). On start up of the plant this water can be pushed under pressure into the nearest device or process and cause malfunction or damage.

By running a vertical pipe down from these low points water will flow into the drip leg drain where the automatic drain will expel it.

A filter screen within the drip leg drain prevents particles interfering with the auto-drain operation. A ball valve should be included above the drip leg drain to allow for maintenance when the system is running.

1.5 PERFORMANCE

1.5.1 Performance of General Purpose Filters

Filters have their flow measured in terms of the pressure drop across them. As the flow increases then the pressure drop also increases. These pressure drops are energy losses in the system.

A well designed filter not only removes water and particles efficiently, but also has a low pressure drop at a given flow. The flow figures quoted in Norgren catalogues for general purpose filters are at a pressure drop of 5 psig (0.3 bar), from a 100 psig (7 bar) inlet pressure.

Beware! not all competitors quote their flows under the same conditions. If a higher inlet pressure is used or a higher pressure drop is quoted then the apparent flow will be higher. This does not mean it is a better unit, simply that a different point on the curve has been selected. Often the only way to compare units is to test them under the same laboratory conditions.

1.5.2 Performance of Coalescing Filters:

The maximum flow of an oil removal filter is usually determined by the oil removal efficiency under saturated conditions. In the catalog there are maximum flows quoted 'to maintain stated oil removal characteristics.' These are the steady state flows which should not be exceeded to guarantee that the oil in the outlet air remains below the 0.01ppm (parts per million) quoted. Cyclic or pulsating flows will result in oil carry over, as will elevated temperatures.

If a higher oil carry over is acceptable (or there is no oil in the air-line) then higher flows are achievable, and will be determined by the 'acceptable' pressure drop. For a new (dry) element a flow which gives a pressure drop of less than 5 psid (0.3 bar) is recommended.



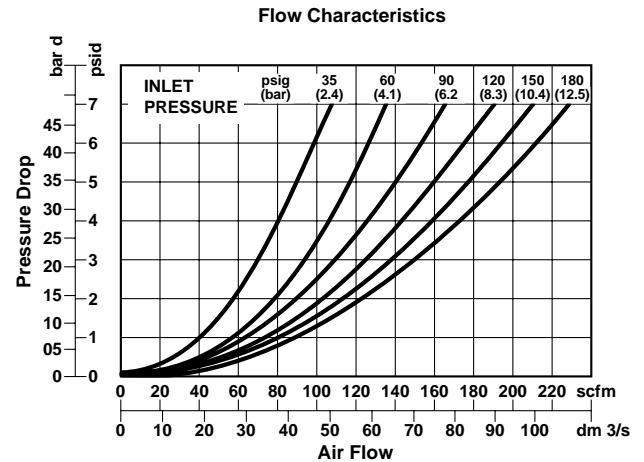
1.6 FILTER SIZING

Selecting the proper size of filter for any application should be done by determining the maximum allowable pressure drop which can be caused by the filter. The pressure drop can be determined by referring to flow curves provided by the manufacturer.

The flow characteristic curves should relate to the fluid used, pressure, pipe port size and micron rating of the filter element. Often the parameters of pressure and flow are labeled in metric and imperial units. The vertical axis is the pressure drop across the filter, and the horizontal axis is the air flow through the filter. Each curved line represents the filter flow and pressure drop characteristics for different operating pressures.

Example Find the pressure drop across the filter when operating at 90 psig (6.2 bar) and when 50 scfm (24 dm³/s) is flowing through the filter.

Answer Locate 50 scfm (24 dm³/s) on the horizontal axis. Read up to the intersecting point on the 90 psig (6.2 bar) operating curve. The pressure drop (or Δ p) is approximately .6 psid (.04bar) on the vertical axis on the left of the graph. (See graph)



1.7 MEMBRANE DRYERS

For those applications where a low-pressure dewpoint and low installation/operational cost are required, Norgren provides an Excelon® Membrane Dryer. This new product can provide dewpoint suppression up to 80°F (26°C) below ambient temperature and is available with nominal flows of 2, 5, 10, 20, and 30 scfm.

The Membrane Dryer is a variable dew point suppression device constructed of an anodized aluminum body with end caps. Inside the body are bundles of special hollow fibers (membranes) which are semi-permeable. Moisture-laden air enters the fibers and water vapor permeates through the walls to the outside of the fibers. Dry air exits the device through the outlet port. A small percentage of dry air is diverted across the outside of the fibers to sweep away and vent water vapor to atmosphere.

This device provides variable dew point suppression inversely related to flow. Lower flows through a unit will increase contact time with the membrane fibers, resulting in greater dew point suppression. Higher flows will result in a decreased level of dew point suppression. Additionally, dew point suppression is directly related to operating pressure. Increasing the pressure applied will result in a greater level of dew point suppression. Therefore, it is always recommend placing regulators downstream of a membrane dryer to ensure the highest pressure possible through the membrane dryer.

Typical Flows for Membrane Dryers

Model	Port	Outlet Flow	Inlet Flow	Purge Flow	Press. Drop
W07M2ANNNA	1/4"	2 scfm	2.2 scfm	0.2 scfm	0.4 psid
W72M2ANNNB	1/4"	5 scfm	5.6 scfm	0.6 scfm	0.32 psid
W72M2ANNNC	1/4"	10 scfm	11.2 scfm	1.2 scfm	0.90 psid
W74M4ANNND	1/2"	20 scfm	22.2 scfm	2.2 scfm	0.65 psid
W74M4ANNNE	1/2"	30 scfm	33.4 scfm	3.4 scfm	1.35 psid



1.7 SIMPLE FILTER TROUBLESHOOTING

Malfunction	Possible cause	Remedy
Excessive pressure drop.	Micron rating of element too small	Use larger micron element size for application.
	Filter element blocked.	1. Clean element (not coalescing element). Note: Some residual contamination will remain. 2. Replace with new element.
	Flow requirement greater than filter capacity.	Use larger filter.
Dirt passing through filter.	Element seals missing or defective. (N.B. Seals not required on some units).	1. Replace seal 2. Tighten element.
	Damaged element.	Replace element.
Water passing through filter.	Water level in bowl above baffle.	Drain water.
	Flow capacity of filter exceeded.	Maintain flow within capacity of filter or change to filter capable of handling desired flows.
Crazing of Polycarbonate bowl or milky appearance.	Bowl has been cleaned with incompatible fluid.	Replace bowl. (Clean only in clean warm water and soap.)
	Bowl is being used in an area containing fumes or vapors incompatible with polycarbonate.	Replace bowl. Eliminate source of problem or convert from plastic to metal bowls.
	Compressor oil vapor may be causing problem.	Replace bowl. Eliminate source of problem or convert from plastic to metal bowls.
	Air intake to compressor may contain fumes or vapor	Replace bowl. Eliminate source of problem or incompatible with polycarbonate.convert from plastic to metal bowls.
Water beyond the filter	Inlet air has a high temperature and as it cools downstream, moisture condenses to water.	Fit dryer, pre-cool air or fit filter immediately prior to application.



Absence of an Industrial Standard for Rating Pneumatic Filter Elements

There is not an industry wide standard for establishing the micron rating of pneumatic filter elements. Standards by various industry associations, including the National Fluid Power Association (NFPA) and International Standard Organization (ISO), are in discussion. In the absence of an industry standard, some manufacturers of pneumatic filters make claims concerning the micron rating of their so called “standard” element which can not be substantiated and are probably not valid.

Norgren’s Method of Rating and Testing Pneumatic Filter Elements

Norgren particle removal filter elements are rated by the size of the particle they will trap (i.e., a 40-micron element will remove particles 40-microns and larger). Norgren tests filter elements by using **standard coarse** and **fine** test dusts of known particle size distribution. **Coarse** dust consists of 12% particles smaller than 5-microns; **fine** grain dust consists of 39% particles smaller than 5-microns. Test results show that a Norgren filter element rated at 40-microns actually removes over 98% of particles 5-microns and larger.

How to Size a Filter Element

The downstream equipment being protected determines the micron rating of the filter element. Industrial tools, such as air hammers and drills, typically require only a 40-micron element. Air operated instruments and small, high speed tools typically require a 5-micron element. Always consult the equipment manufacturer for filtration requirements.

Generally, the smaller the micron rating of the element,

- the higher the pressure drop across the filter,
- the shorter the element service life.

Therefore, the use of a 5-micron element where a 40-micron is adequate penalizes the customer in increased pressure losses and frequent down time for changing or cleaning the filter element.

ISO Standard 8573-1. Compressed Air for General Use

Contaminant’s found in industrial compressed air systems include solid particles, water, and oil. ISO 8573-1:1991 provides a simple method of classifying these contaminant’s. A quality class required for a particular application can be defined by listing, in order, the class required for solids, water, and oil.

Table 1. Summary of ISO 8573-1:1991 Air Quality Classes *

Quality Class	Solid Particle Maximum Size μm	Water Maximum Pressure Dewpoint $^{\circ}\text{F}$ ($^{\circ}\text{C}$)	Oil Maximum Remaining Oil Content mg/m^3 ** (ppm)
1	0.1	-94 (-70)	0.01 (.0084)
2	1	-40 (-40)	0.1 (.084)
3	5	-4 (-20)	1 (.84)
4	15	38 (3)	5 (4.2)
5	40	45 (7)	25 (21)
6	—	50 (10)	—

* See ISO standard 8573-1 for complete information.

** At 1 bar absolute pressure.

Examples:

Air of Quality Class 2.2.2 is filtered to 1 μm solid particle size, dried to -40 $^{\circ}\text{F}$ (-40 $^{\circ}\text{C}$) pressure dewpoint, and filtered to an oil concentration of 0.1 mg/m^3 .

Air of Quality Class 5.3.4 is filtered to 40 μm solid particle size, dried to -4 $^{\circ}\text{F}$ (-20 $^{\circ}\text{C}$) pressure dewpoint, and filtered to an oil concentration of 5 mg/m^3 .

When a class for a particular contaminant solid, water, or oil is not specified, the number designating the class is replaced with a hyphen.

Example: Air of Quality Class 1.-.1 does not specify the pressure dewpoint.

General Purpose Filters

Compressed air, general purpose filters are available in modular or inline models, in port sizes from 1/8" to 2".

F07 Miniature General Purpose Filter 1/8" and 1/4" Ports	.....ALE-1-2
F72G Excelon General Purpose Filter 1/4" and 3/8" Ports	.....ALE-1-4
F73G Excelon General Purpose Filter 1/4" to 1/2" Ports	.....ALE-1-6
F74G Excelon General Purpose Filter 1/4" to 3/4" Ports	.....ALE-1-8
F64G Olympian Plus General Purpose Filter 1/4" to 3/4" Ports	...ALE-1-10
F68G Olympian Plus General Purpose Filter 3/4" to 1-1/2" Ports	..ALE-1-12
F17 General Purpose Filter 3/4" to 1-1/2" Ports	.....ALE-1-14
F18 General Purpose Filter 1-1/2" and 2" Ports	.....ALE-1-16



F07



F72G



F73G



F74G



F64G



F68



F17



F18

**Miniature Series 07 General Purpose Filter
1/8" and 1/4" Port Sizes**

- Compact design
- Protects air operated devices by removing liquid and solid contaminants
- Screw-on bowl reduces maintenance time
- Can be disassembled without the use of tools or removal from the air line



Ordering Information. Models listed include PTF threads, automatic drain, transparent bowl and 5 µm element.

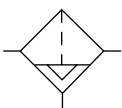
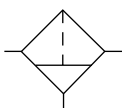
Port Size	Model Numbers	Flow scfm (dm ³ /s) *	Weight lbs (kg)
1/8"	F07-100-A1TA	19 (9)	0.28 (0.13)
1/4"	F07-200-A1TA	24 (11.5)	0.28 (0.13)

* Approximate flow at 90 psig (6.3 bar) inlet pressure and 5 psig (0.35 bar) pressure drop.

Alternative Models

Port Size		Option		Threads		Bowl		Element		Drain	
Port Size	Substitute	Option	Substitute	Threads	Substitute	Bowl	Substitute	Element	Substitute	Drain	Substitute
1/8"	1	Not applicable	0	PTF	A	Transparent	T	5 µm	1	Automatic	A
1/4"	2	Not applicable	0	ISO Rc taper	B	Metal	M	40 µm	3	Manual	M
				ISO G parallel	G						

F 0 7 - ★ ★ ★ - ★ ★ ★ ★

ISO Symbols

Auto Drain

Manual Drain
See Section ALE-24 for Accessories



Technical Data

Fluid: Compressed air

Maximum pressure:

Transparent bowl: 150 psig (10 bar)

Metal bowl: 250 psig (17 bar)

Operating temperature*:

Transparent bowl: -30° to 125°F (-34° to 50°C)

Metal bowl: -30° to 175°F (-34° to 80°C)

* Air supply must be dry enough to avoid ice formation at temperatures below 35°F (2°C)

Particle removal: 5 µm or 40 µm filter element

Air quality: Within ISO 8573-1, Class 3 and Class 5 (particulates)

Typical flow at 90 psig (6.3 bar) inlet pressure at 5 psig (0.35 bar) pressure drop:

1/8" Ports, 5 µm element: 19 scfm (9 dm³/s)

1/4" Ports, 5 µm element: 24 scfm (11.5 dm³/s)

Nominal bowl size: 1 fluid ounce (31 ml)

Drain connection: 1/8" pipe thread

Automatic drain operation: Spitter type drain operates momentarily when a rapid change in air flow occurs or when the supply pressure is reduced.

Materials

Body: Zinc

Bowl

Transparent: Polycarbonate

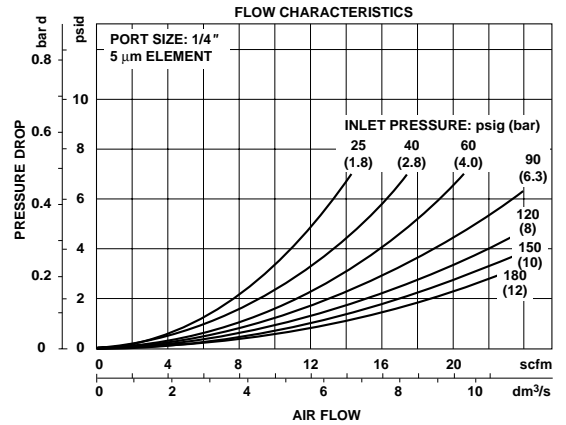
Metal: Zinc (without sight glass)

Element: Sintered polypropylene

Elastomers: Neoprene & nitrile

For water extraction information please contact Applications Engineering.

Typical Performance Characteristics

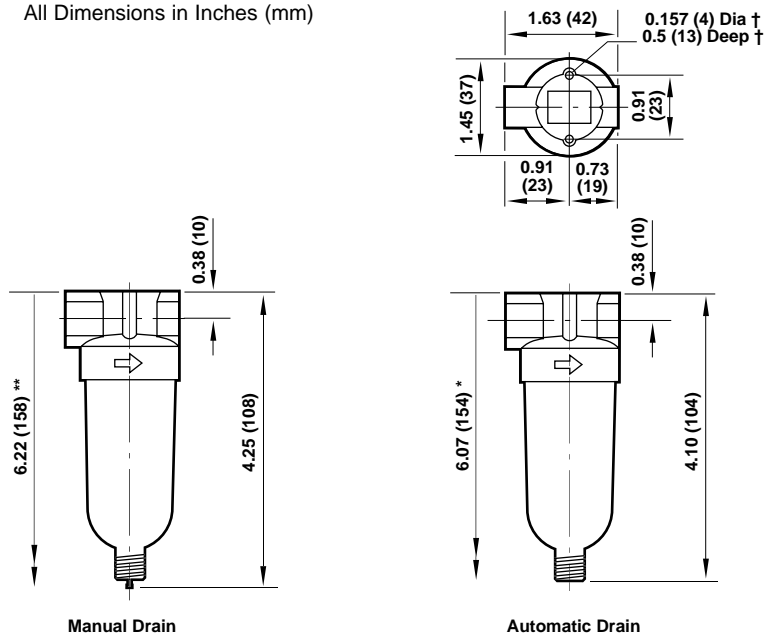


Service Kits

Item	Type	Part number
Service kit	5 µm element	3652-17
	40 µm element	3652-18
Replacement drains	Manual	773-03
	Automatic	3654-02

Service kit includes element, element gasket, and bowl o-ring.

All Dimensions in Inches (mm)



** Minimum clearance to remove bowl.
† Mounting holes.

**Excelon 72 General Purpose Filter
1/4" and 3/8" Port Sizes**

- Excelon design allows in-line or modular installation
- High efficiency water and particle removal
- Quick release bayonet bowl
- Highly visible, prismatic liquid level indicator lens on metal bowls
- Optional service indicator turns from green to red when the filter element needs to be replaced
- Optional electrical service indicator also available
- Modular installations with Excelon 72, 73, and 74 series can be made to suit particular applications



Ordering Information. Models listed include PTF threads, automatic drain, long transparent bowl without guard, 40 µm element. Models do not include the service life indicator.

Port Size	Model	Flow [†] scfm (dm ³ /s)	Weight lb (kg)
1/4"	F72G-2AN-AL3	55 (26)	1.15 (0.52)
3/8"	F72G-3AN-AL3	55 (26)	1.15 (0.52)

[†] Typical flow with a 40µm element at 90 psig (6.3 bar) inlet pressure and 5 psig (0.35 bar) pressure drop.

Alternative Models

F 7 2 G - ★ ★ ★ - ★ ★ ★

Port Size	Substitute
1/4"	2
3/8"	3

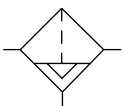
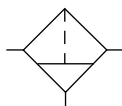
Threads	Substitute
PTF	A
ISO Rc taper	B
ISO G parallel	G

Service Life Indicator	Substitute
With (visual)	D
With (electrical)	E
Without	N

Element	Substitute
5 µm	1
25 µm	2
40 µm	3

Bowl	Substitute
Metal with liquid level indicator	E
Transparent without guard	L
Transparent with guard	W

Drain	Substitute
1/4 turn manual	Q
Semi automatic	S
Auto drain*	A

ISO Symbols

Auto Drain

Manual Drain
See Section ALE-24 for Accessories



Technical Data

Fluid: Compressed air

Maximum pressure:

Transparent bowl: 150 psig (10 bar)

Metal bowl:

Manual or semi automatic drain: 250 psig (17 bar)

Automatic drain: 150 psig (10 bar)

Operating temperature*:

Transparent bowl: -30° to 125°F (-34° to 50°C)

Metal bowl: -30° to 150°F (-34° to 65°C)

* Air supply must be dry enough to avoid ice formation at temperatures below 35°F (2°C).

Particle removal: 5 µm, 25 µm or 40 µm. Within ISO 8573-1, Class 3 and Class 5

Typical flow at 90 psig (6.3 bar) inlet pressure and 5 psig (0.35 bar) pressure drop:

5 µm element: 47 scfm (22 dm³/s)

40 µm element: 55 scfm (26 dm³/s)

Manual drain connection: Will fit 1/8-27 and 1/8-28 pipe thread.

Semi automatic drain connection: Push on 5/16" (8 mm) ID tube

Semi automatic drain operating conditions (pressure operated):

Bowl pressure required to close drain: Greater than 1.5 psig (0.1 bar)

Bowl pressure required to open drain: Less than 1.5 psig (0.1 bar)

Minimum air flow required to close drain: 1 scfm (0.5 dm³/s)

Manual operation: Lift stem to drain bowl

Automatic drain connection: Will fit 1/8-27 and 1/8-28 pipe thread. - Flexible tube with 3/16" (5mm) minimum I.D. can be connected to the automatic drain. Drain may fail to operate if the tube I.D. is less than 3/16" (5mm). Avoid restrictions in the tube.

Automatic drain operating conditions (float operated):

Bowl pressure required to close drain: Greater than 5 psig (0.35 bar)

Bowl pressure required to open drain: Less than 3 psig (0.2 bar)

Minimum air flow required to close drain: 0.2 scfm (0.1 dm³/s)

Manual operation: Depress pin inside drain outlet to drain bowl

Nominal bowl size:

Long bowl: 2.2 fluid ounce (65 ml)

Materials

Body: Zinc

Bowl

Transparent: Polycarbonate

Guard for transparent bowl: Zinc

Metal: Zinc

Metal bowl liquid level indicator lens:

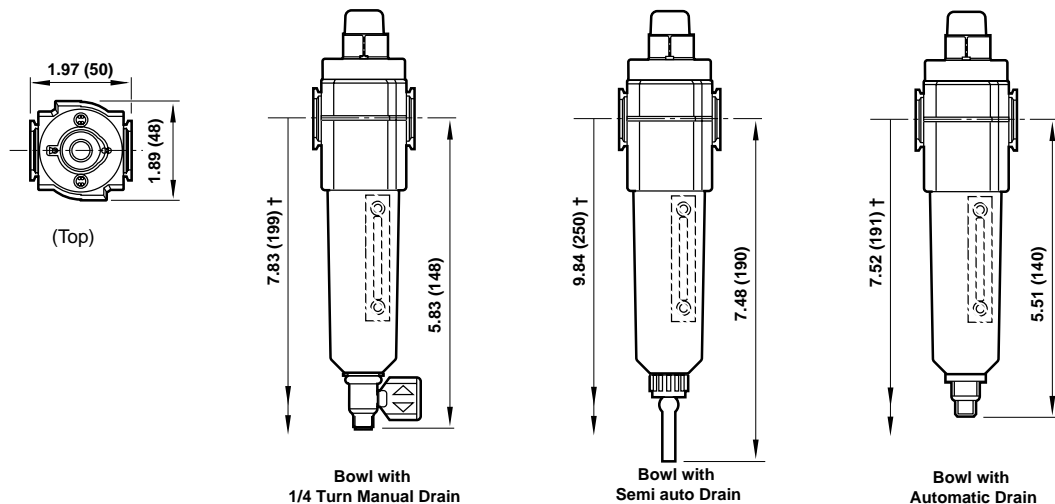
Transparent nylon

Element: Sintered polypropylene

Elastomers: Neoprene and nitrile

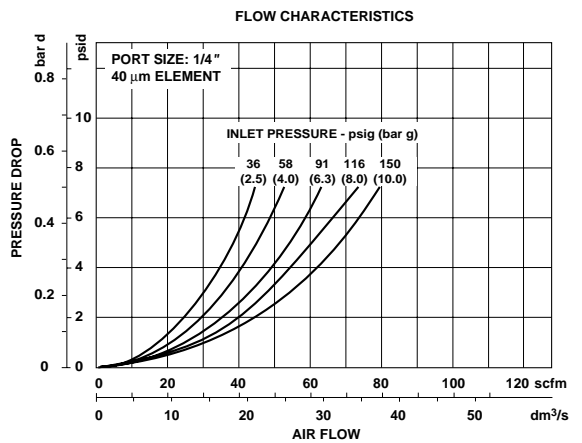
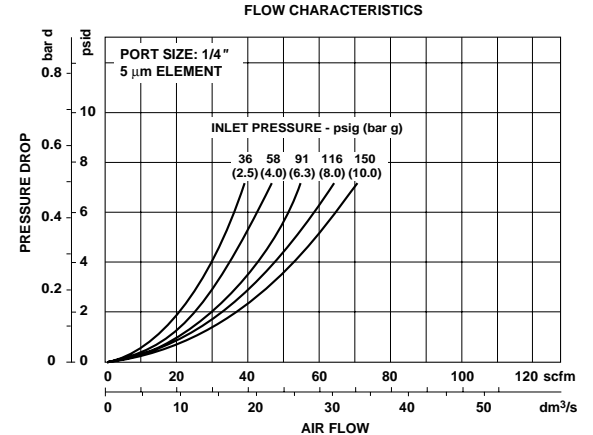
An automatic drain is a two-way valve, which will close when the system is pressurized. The drain opens when the float rises due to accumulated liquid and on depressurization.

All Dimensions in Inches (mm)



† Minimum clearance required to remove bowl.

Typical Performance Characteristics



Service Kits

Item	Type	Part Number
Service kit	Seal and gasket	4380-500
Elements	5 µm	5925-03
	25 µm	5925-01
	40 µm	5925-02
Liquid level lens kit	Prismatic	4380-030
Replacement drains	1/4 turn manual	619-50
	Semi automatic	5379-RK
	Automatic	4000-50R

Service kit includes drain and bowl o-rings.

**Excelon 73 General Purpose Filter
1/4", 3/8", 1/2" Port Sizes**

- Excelon design allows in-line or modular installation
- Quick release bayonet bowl
- Highly visible, prismatic liquid level indicator lens
- Optional mechanical service indicator turns from green to red when the filter element needs to be replaced
- Optional electrical service indicator provides electrical output when the filter element needs to be replaced
- Modular installations with Excelon 72, 73, and 74 series can be made to suit particular applications



Ordering information. Models listed include PTF threads, automatic drain, metal bowl with liquid level indicator, and a 40 µm element.

Port Size	Model	Flow* scfm (dm ³ /s)	Weight lb (kg)
1/4"	F73G-2AN-AD3	53 (25)	1.1 (0.50)
3/8"	F73G-3AN-AD3	65 (31)	1.1 (0.50)
1/2"	F73G-4AN-AD3	69 (33)	1.1 (0.50)

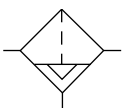
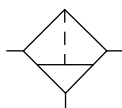
* Typical flow with a 40 µm element at 90 psig (6.3 bar) inlet pressure and 5 psig (0.35 bar) pressure drop.

Alternative Models

Port Size		Substitute		Element		Substitute	
1/4"		2		5 µm		1	
3/8"		3		25 µm		2	
1/2"		4		40 µm		3	

Threads		Substitute		Bowl		Substitute	
PTF		A		Metal with liquid level indicator		D	
ISO Rc taper		B		Transparent with guard		P	
ISO G parallel		G		Transparent		T	

Service Indicator		Substitute		Drain		Substitute	
With electrical service indicator *		E		Automatic		A	
With mechanical service indicator		D		Manual, 1/4 turn		Q	
Without		N					

ISO Symbols

Auto Drain

Manual Drain

See Section ALE-24 for Accessories



Technical Data

Fluid: Compressed air

Maximum pressure:

Transparent bowl: 150 psig (10 bar)

Metal bowl: 250 psig (17 bar)

Operating temperature*:

Transparent bowl: -30° to 125°F (-34° to 50°C)

Metal bowl: -30° to 175°F (-34° to 80°C)

* Air supply must be dry enough to avoid ice formation at temperatures below 35°F (2°C).

Particle removal: 5 µm, 25 µm, or 40 µm filter element

Air quality: Within ISO 8573-1, Class 3 and Class 5 (particulates)

Typical flow with a 40 µm element at 90 psig (6.3 bar) inlet pressure and 5 psig (0.35 bar) pressure drop: 65 scfm (31 dm³/s)

Manual drain connection: Will fit 1/8-27 and 1/8-28 pipe thread.

Automatic drain connection: Will fit 1/8-27 and 1/8-28 pipe thread. - Flexible tube with 3/16" (5mm) minimum I.D. can be connected to the automatic drain. Drain may fail to operate if the tube I.D. is less than 3/16" (5mm). Avoid restrictions in the tube.

Automatic drain operating conditions (float operated):

Bowl pressure required to close drain: Greater than 5 psig (0.3 bar)

Bowl pressure required to open drain: Less than 3 psig (0.2 bar)

Minimum air flow required to close drain: 0.2 scfm (0.1 dm³/s)

Manual operation: Depress pin inside drain outlet to drain bowl

Nominal bowl size: 3.5 fluid ounce (0.1 liter)

Materials

Body: Aluminum

Bowl

Transparent: Polycarbonate

Transparent with guard: Polycarbonate, steel guard

Metal: Aluminum

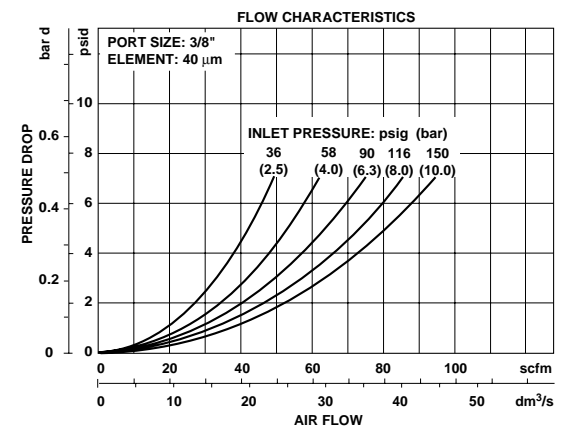
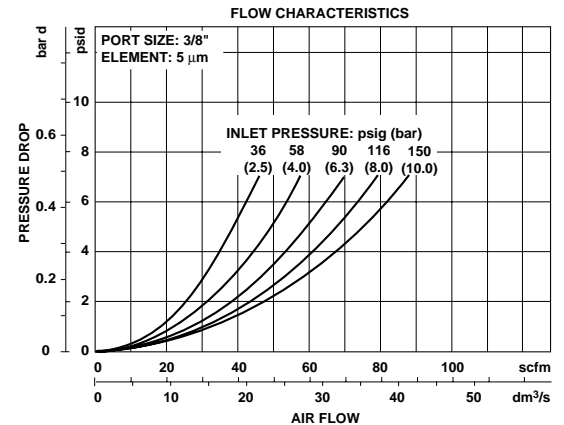
Metal bowl liquid level indicator lens: Transparent nylon

Element: Sintered polypropylene

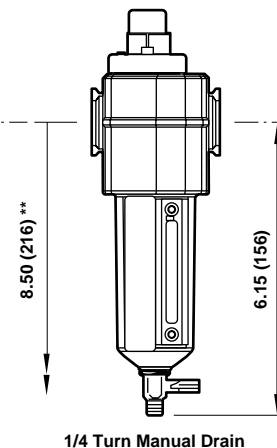
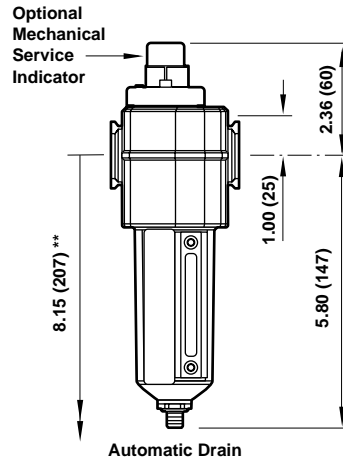
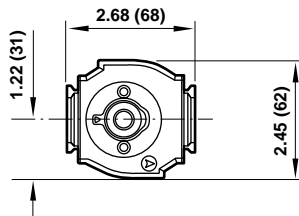
Elastomers: Neoprene and nitrile

An automatic drain is a two-way valve, which will close when the system is pressurized. The drain opens when the float rises due to accumulated liquid and on depressurization.

Typical Performance Characteristics



All Dimensions in Inches (mm)



** Minimum clearance required to remove bowl.

Service Kits

Item	Type	Part Number
Service kit	Seal & Gasket	4380-600
Replacement elements	5 µm	4438-01
	25 µm	4438-02
	40 µm	4438-03
Liquid level lens kit	Prismatic	4380-020
Replacement drains	Automatic	4000-51R
	Manual quarter turn	619-50

Service kit includes automatic drain seal and bowl seal.

**Excelon 74 General Purpose Filter
3/8", 1/2", 3/4" Port Sizes**

- Excelon design allows in-line or modular installation
- Quick release bayonet bowl
- Highly visible, prismatic liquid level indicator lens
- Optional mechanical service indicator turns from green to red when the filter element needs to be replaced
- Optional electrical service indicator provides electrical output when the filter element needs to be replaced
- Modular installations with Excelon 72, 73, and 74 series can be made to suit particular applications



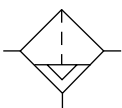
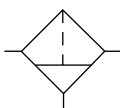
Ordering information. Models listed include PTF threads, automatic drain, metal bowl with liquid level indicator, and a 40 µm element.

Port Size	Model	Flow* scfm (dm ³ /s)	Weight lb (kg)
3/8"	F74G-3AN-AD3	112 (53)	1.82 (0.83)
1/2"	F74G-4AN-AD3	140 (66)	1.79 (0.81)
3/4"	F74G-6AN-AD3	140 (66)	1.75 (0.79)

* Typical flow with a 40 µm element at 90 psig (6.3 bar) inlet pressure and 5 psig (0.35 bar) pressure drop.

Alternative Models

		F 7 4 G - ★ ★ ★ - ★ ★ ★		
Port Size	Substitute	|	Element	Substitute
3/8"	3		5 µm	1
1/2"	4		25 µm	2
3/4"	6	|	40 µm	3
Threads	Substitute		Bowl	Substitute
PTF	A		Metal with liquid level indicator	D
ISO Rc taper	B	|	Transparent with guard	P
ISO G parallel	G		Drain	Substitute
Service Life Indicator	Substitute		Automatic	A
With (visual)	D	|	Manual, 1/4 turn	Q
With (electrical)	E			
Without	N			

ISO Symbols

Auto Drain

Manual Drain

See Section ALE-24 for Accessories



Technical Data

Fluid: Compressed air

Maximum pressure

Transparent bowl: 150 psig (10 bar)

Metal bowl: 250 psig (17 bar)

Operating temperature*:

Transparent bowl: -34° to 125°F (-30° to 50°C)

Metal bowl: -34° to 175°F (-30° to 80°C)

* Air supply must be dry enough to avoid ice formation at temperatures below 35°F (2°C).

Particle removal: 5, 25, or 40 µm filter element

Air quality: Within ISO 8573-1, Class 3 and Class 5 (particulates)

Typical flow with a 40 µm element at 90 psig (6.3 bar) inlet pressure and 5 psig (0.35 bar) pressure drop: 140 scfm (66 dm³/s)

Manual drain connection: Will fit 1/8-27 and 1/8-28 pipe thread

Automatic drain connection: Will fit 1/8-27 and 1/8-28 pipe thread. - Flexible tube with 3/16" (5mm) minimum I.D. can be connected to the automatic drain. Drain may fail to operate if the tube I.D. is less than 3/16" (5mm). Avoid restrictions in the tube.

Automatic drain operating conditions (float operated):

Bowl pressure required to close drain: Greater than 5 psig (0.3 bar)

Bowl pressure required to open drain: Less than 3 psig (0.2 bar)

Minimum air flow required to close drain: 2 scfm (1 dm³/s)

Manual operation: Depress pin inside drain outlet to drain bowl

Nominal bowl size: 7 fluid ounce (0.2 liter)

Materials

Body: Aluminum

Bowl

Transparent: Polycarbonate with steel bowl guard

Metal: Aluminum

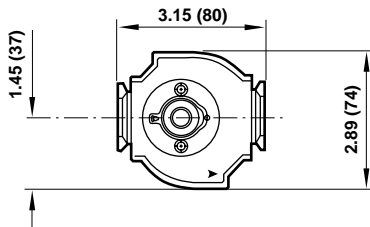
Metal bowl liquid level indicator lens: Transparent nylon

Element: Sintered polypropylene

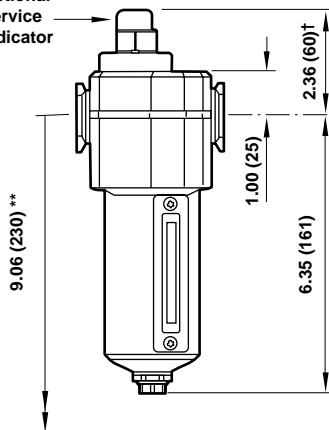
Elastomers: Neoprene and Nitrile

An automatic drain is a two-way valve, which will close when the system is pressurized. The drain opens when the float rises due to accumulated liquid and on depressurization.

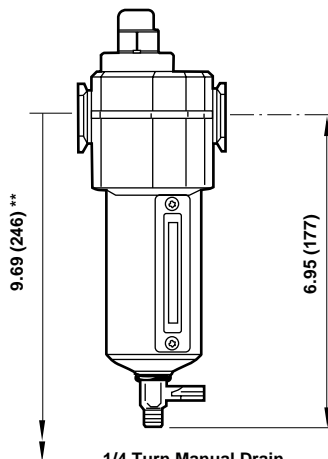
All Dimensions in Inches (mm)



Optional Service Indicator



Automatic Drain

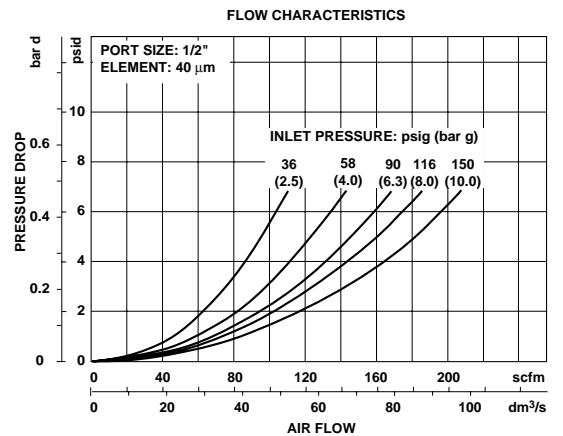
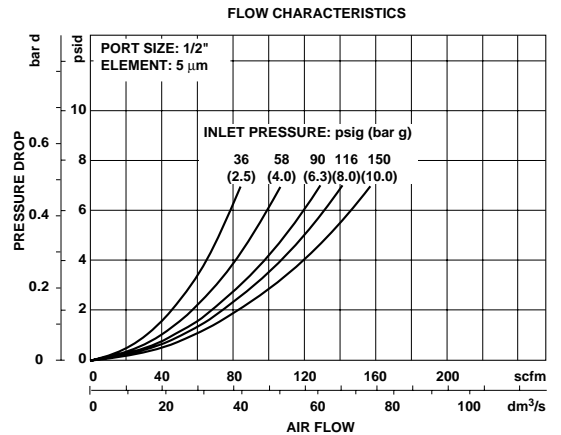


1/4 Turn Manual Drain

* Minimum clearance required to remove bowl.

† Dimension for alternative electrical service indicator is 1.98" (50.4 mm)

Typical Performance Characteristics



Service Kits

Item	Type	Part Number
Service kit	Seal & gasket	4380-700
Replacement elements	5 µm	4338-04
	25 µm	4338-07
	40 µm	4338-05
Liquid level lens kit	Prismatic	4380-050
Replacement drains	Automatic (1/8 NPT outlet)	3000-10
	Manual quarter turn	619-50

Service kit includes louvre/element seal, drain seal, bowl seal.

Olympian Plus General Purpose Filter
1/4", 3/8", 1/2", 3/4" Port Sizes

- Olympian Plus plug in design
- High efficiency water and particle removal
- Quick release bayonet bowl
- High visibility prismatic sight glass
- Optional service indicator



Ordering Information. Models listed include PTF threads, yoke, automatic drain, metal bowl, 40 µm element. Models do not include the service life indicator.

Port Size	Model	Flow [†] scfm (dm ³ /s)	Weight lb (kg)
1/4"	F64G-2AN-AD3	59 (28)	3.13 (1.42)
3/8"	F64G-3AN-AD3	118 (56)	3.13 (1.42)
1/2"	F64G-4AN-AD3	125 (59)	2.91 (1.32)
3/4"	F64G-6AN-AD3	125 (59)	3.79 (1.72)

† Typical flow with a 40 µm element at 90 psig (6.3 bar) inlet pressure and a 5 psig (0.35 bar) pressure drop.

Alternative Models

F 6 4 G - ★ ★ ★ - ★ ★ ★

Port Size	Substitute
1/4"	2
3/8"	3
1/2"	4
3/4"	6
No yoke	N

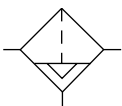
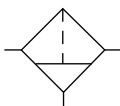
Threads	Substitute
PTF	A
ISO Rc taper	B
ISO G parallel	G
No yoke	N

Service Life Indicator	Substitute
With (visual)	D
With (electrical)	E
Without	N

Element	Substitute
5 µm	1
25 µm	2
40 µm	3

Bowl	Substitute
Metal with liquid level indicator	D
Transparent with guard	P

Drain	Substitute
Auto drain	A
Manual, 1/4 turn	Q

ISO Symbols

Auto Drain

Manual Drain
See Section ALE-24 for Accessories



Technical Data

Fluid: Compressed air

Maximum pressure

Guarded transparent bowl: 150 psig (10 bar)

Metal bowl: 250 psig (17 bar)

Operating temperature*:

Guarded transparent bowl: -30° to 125°F (-34° to 50°C)

Metal bowl: -30° to 175°F (-34° to 80°C)

* Air supply must be dry enough to avoid ice formation at temperatures below 35°F (2°C).
 Partical removal: 5 µm, 25 µm or 40 µm. Within ISO 8573-1, Class 3 and Class 5
 Typical flow with 40 µm element at 90 psig (6.3 bar) inlet pressure and 5 psig (0.35 bar) pressure drop: 125 scfm (59 dm³/s)

Manual drain connection: Will fit 1/8-27 and 1/8-28 pipe thread.

Automatic drain connection: Will fit 1/8-27 and 1/8-28 pipe thread. - Flexible tube with 3/16" (5mm) minimum I.D. can be connected to the automatic drain. Drain may fail to operate if the tube I.D. is less than 3/16" (5mm). Avoid restrictions in the tube.

Automatic drain operating conditions (float operated):

Bowl pressure required to close drain: Greater than 5 psig (0.3 bar)

Bowl pressure required to open drain: Less than 3 psig (0.2 bar)

Minimum air flow required to close drain: 2 scfm (1 dm³/s)

Manual operation: Depress pin inside drain outlet to drain bowl

Nominal bowl size: 7 fluid ounce (0.2 liter)

Materials

Body: Zinc

Yoke: Zinc

Metal bowl: Aluminum

Standard metal bowl prismatic liquid level indicator lens: Grilamid

Optional metal bowl sight glass: Pyrex

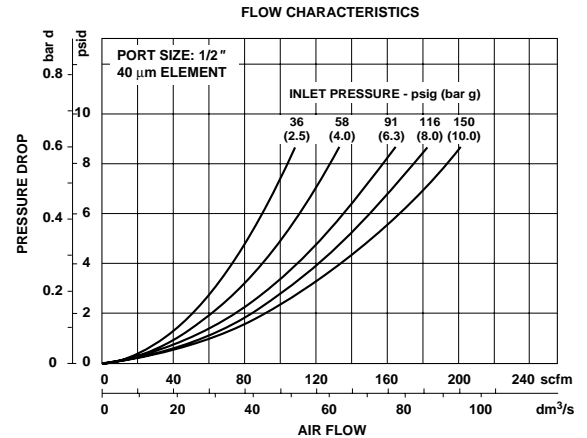
Optional transparent bowl: Polycarbonate

Element: Polypropylene

Elastomers: Nitrile

An automatic drain is a two-way valve, which will close when the system is pressurized. The drain opens when the float rises due to accumulated liquid and on depressurization.

Typical Performance Characteristics

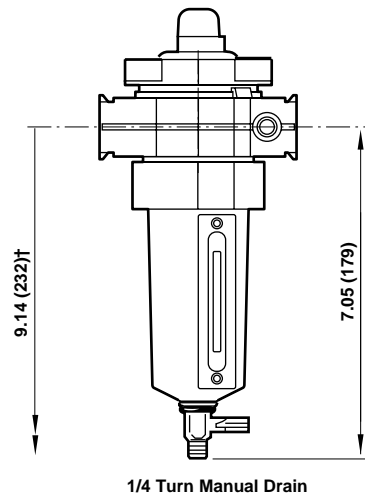
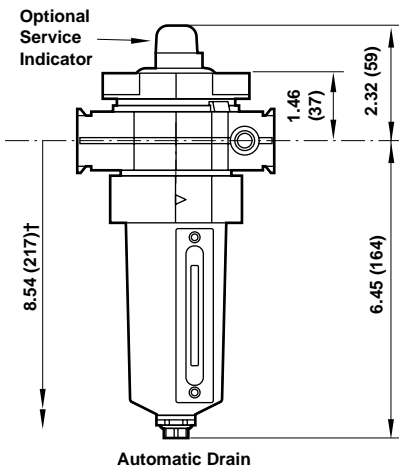
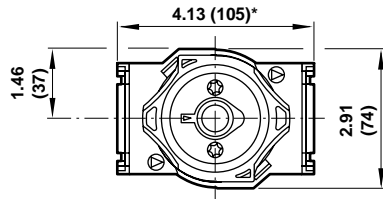


Service Kits

Item	Type	Part Number
Service kit	Seal and gasket	4380-200
Elements	5 µm	4338-01
	25 µm	4338-99
	40 µm	4338-02
Liquid level lens kit	Prismatic	4380-040
	Pyrex	4380-041
Replacement drains	Automatic	3000-10
	Manual	684-84

Service kit includes port seals, louver o-ring, bowl o-ring and drain gasket.

All Dimensions in Inches (mm)



* 6.18" (157 mm) for 3/4" models
 † Minimum clearance required to remove bowl.

Olympian Plus General Purpose Filter
3/4", 1", 1-1/4", 1-1/2" Port Sizes

- **Olympian Plus plug in system**
- **Effective liquid removal and positive solid particle filtration**
- **Large filter element area provides minimum pressure drop**
- **Optional visual service indicator turns from green to red when the filter element needs to be replaced**
- **Factory option electrical service life indicator provides electrical output when the filter element needs to be replaced - see page ALE-25-23.**



Ordering Information. Models listed include a 1 quart bowl with 40 µm long element, automatic drain, and yoke with PTF threads.

Port Size	Model	Flow† scfm (dm ³ /s)	Weight lb (kg)
3/4	F68E-6AN-AU3	339 (160)	2.45 (5.3)
1	F68E-8AN-AU3	403 (190)	2.33 (5.1)
1-1/4	F68E-AAN-AU3	424 (200)	2.43 (5.3)
1-1/2	F68E-BAN-AU3	424 (200)	2.30 (5.0)

† Typical flow with a 40µm element at 90 psig (6.3 bar) inlet pressure and 7 psig (0.5 bar) pressure drop.

Alternative Models

F 6 8 E - ★ ★ ★ - ★ ★ ★

Bowl/Element Type	Substitute
1 pint (0.5 liter) bowl w/short element	G
1 quart (1 liter) bowl w/long element	E

Port Size	Substitute
3/4"	6
1"	8
1-1/4"	A
1-1/2"	B
None	N

Threads	Substitute
PTF	A
ISO Rc taper	B
ISO G parallel	G
None	N

Service Life Indicator	Substitute
Visual	D
Electrical	E
Without	N

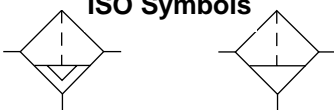
Element	Substitute
5 µm	1
25 µm	2
40 µm	3

Bowl	Substitute
1 quart (1 liter) without liquid level indicator	C**
1 pint (0.5 liter) without liquid level indicator	M*
1 pint (0.5 liter) with liquid level indicator	R*
1 quart (1 liter) with liquid level indicator	U**

Drain	Substitute
Automatic	A
No drain (Closed bowl)	E
Manual	M
Manual, 1/4 turn	Q

* Only available with F68G

** Only available with F68E

ISO Symbols

Auto Drain
Manual Drain



Technical Data

Fluid: Compressed air
 Maximum pressure: 250 psig (17 bar)
 Operating temperature*: 0° to +175°F (-20° to +80°C)

* Air supply must be dry enough to avoid ice formation at temperatures below +35°F (+2°C).
 Particle removal: 5, 25 or 40 µm
 Air quality: Within ISO 8573-1, Class 3 and Class 5 (particulates)
 Typical flow with a 40 µm element at 90 psig (6.3 bar) inlet pressure and a 7 psig (0.5 bar) pressure drop:
 403 scfm (190 dm³/s)
 1/4 turn manual drain connection: 1/8" pipe thread
 Automatic drain connection: 1/8" pipe thread
 Automatic drain operating conditions (float operated):
 Bowl pressure required to close drain: Greater than 5 psig (0.3 bar)
 Bowl pressure required to open drain: Less than 3 psig (0.2 bar)
 Minimum air flow required to close drain: 2 scfm (1 dm³/s)
 Manual operation: Depress pin inside drain outlet to drain bowl

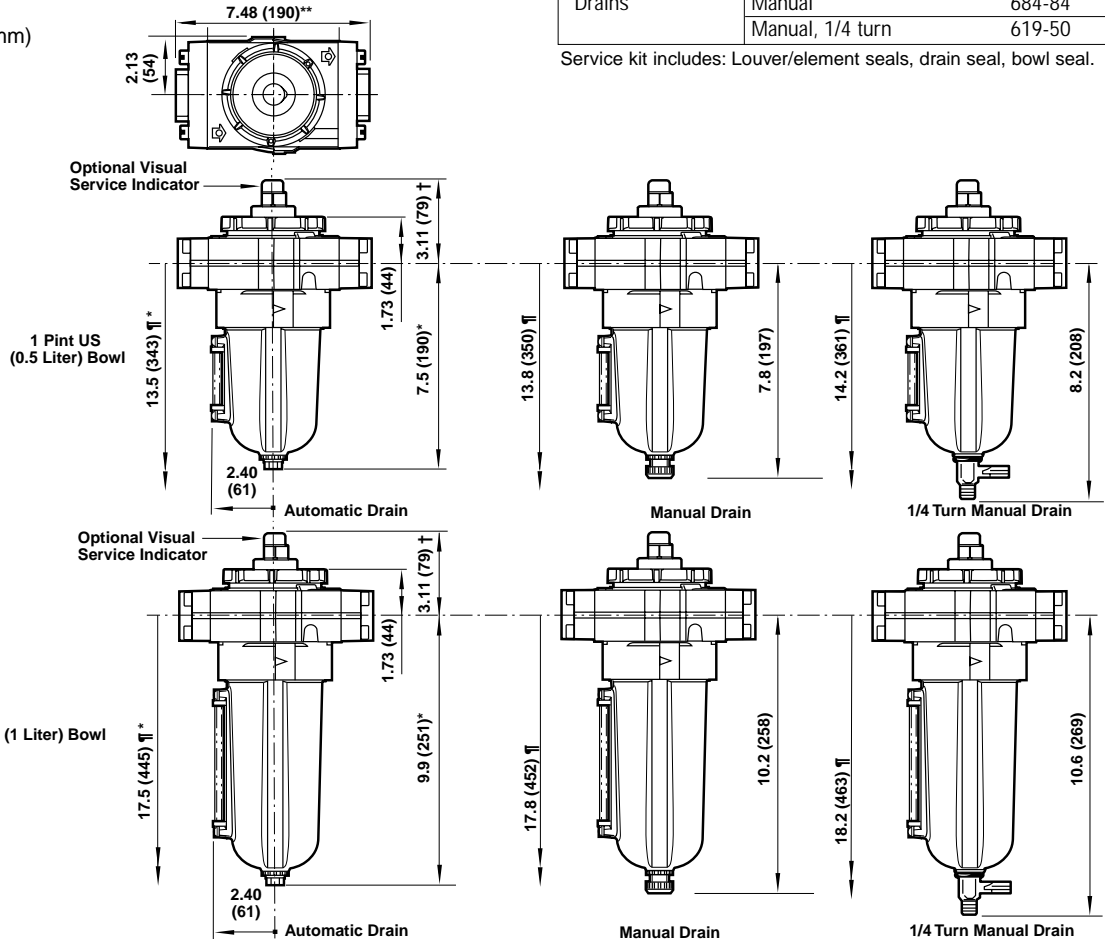
Nominal bowl size:
 1 pint U.S. (0.5 liter)
 1 quart U.S. (1 liter)

Materials:

Body: Aluminum
 Yoke: Aluminum
 Bowl: Aluminum
 Liquid level indicator: Pyrex
 Element: Sintered bronze or polypropylene
 Elastomers: Synthetic rubber

An automatic drain is a two-way valve, which will close when the system is pressurized. The drain opens when the float rises due to accumulated liquid and on depressurization.

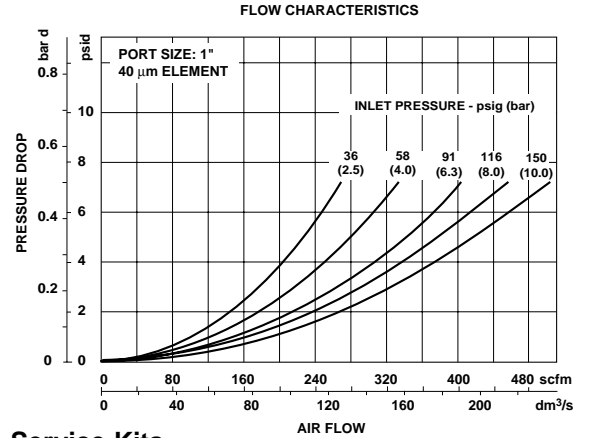
All Dimensions in Inches (mm)



† For optional electrical service life indicator add 0.20" (5 mm).
 ** For 1-1/4" and 1-1/2" ported yokes, add 0.39" (10 mm).

*Dimension also applies to closed bottom bowl.
 †† Minimum clearance required to remove bowl.

Typical Performance Characteristics



Service Kits

Item	Type	Part Number
Service Kit	Seal and gasket	4380-300
Replacement Elements	5 µm (1 pint bowl)	5576-97
	25 µm (1 pint bowl)	5576-98
	40 µm (1 pint bowl)	5576-99
	5 µm (1 quart bowl)	5311-01
Replacement Sight Glass	25 µm (1 quart bowl)	5311-02
	40 µm (1 quart bowl)	5311-03
Replacement Drains	1 pint bowl	4380-060
	1 quart bowl	4380-061
Replacement Drains	Automatic (G 1/8 outlet)	3000-97
	Automatic (1/8 NPT outlet)	3000-10
	Manual	684-84
	Manual, 1/4 turn	619-50

Service kit includes: Louver/element seals, drain seal, bowl seal.

**17 Series General Purpose Filter
3/4", 1", 1-1/4", 1-1/2" Port Sizes**

- Protects air operated devices by removing liquid and solid contaminants from compressed air
- Screw-on bowl reduces maintenance time
- Can be serviced without the use of tools or removal from the air line
- Optional visual service indicator turns from green to red when the filter element needs to be cleaned or replaced
- Optional electrical service indicator also available



Ordering Information. Models listed include automatic drain, 40 µm element, metal bowl with sight glass, and PTF threads.

Port Size	Model Numbers	Flow scfm (dm ³ /s)*	Weight lbs (kg)
3/4"	F17-600-A3DA	325 (153)	4.26 (1.93)
1"	F17-800-A3DA	425 (201)	4.15 (1.88)
1-1/4"	F17-A00-A3DA	425 (201)	4.39 (1.99)
1-1/2"	F17-B00-A3DA	425 (201)	4.30 (1.95)

* Typical flow with a 40 µm element at 90 psig (6.3 bar) inlet pressure and 5 psig (0.35 bar) pressure drop.

Alternative Models

F 1 7 - ★ ★ ★ - ★ ★ ★ ★

Port Size	Substitute
3/4"	6
1"	8
1-1/4"	A
1-1/2"	B

Option	Substitute
Not applicable	0

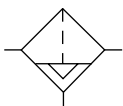
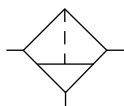
Service Indicator	Substitute
With (visual)	1
With (electrical)	4
Without	0

Threads	Substitute
PTF	A
ISO Rc taper	B
BSPG (1-1/2" ported units only)	C
ISO G parallel (not available with 1-1/2" ported units)	G

Bowl	Substitute
1 quart (1 liter) metal with sight glass	D
1 quart (1 liter) metal	M

Element	Substitute
5 µm	1
25 µm	2
40 µm	3
75 µm	4

Drain	Substitute
Automatic	A
Manual	M

ISO Symbols

Auto Drain

Manual Drain

See Section ALE-24 for Accessories



Technical Data

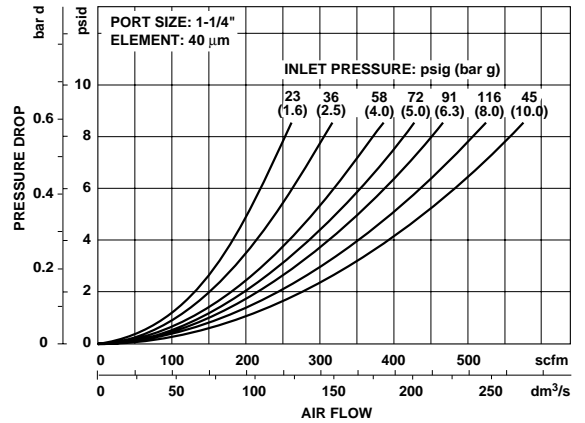
Fluid: Compressed air
 Maximum pressure: 250 psig (17 bar)
 Operating temperature: * -30° to 175°F (-34° to 80°C)
 * Air supply must be dry enough to avoid ice formation at temperatures below 35°F (2°C)
 Particle removal: 5 µm, 25 µm, 40 µm, or 75 µm filter element
 Air quality: Within ISO 8573-1, Class 3 and Class 5 (particulates)
 Typical flow with a 40 µm element at 90 psig (6.3 bar) inlet pressure and 5 psig (0.35 bar) pressure drop: 425 scfm (201 dm³/s)
 Nominal bowl size: 1 quart (1 liter)
 Manual drain connection: Will fit 1/8-27 and 1/8-28 pipe thread.
 Automatic drain connection: Will fit 1/8-27 and 1/8-28 pipe thread. - Flexible tube with 3/16" (5mm) minimum I.D. can be connected to the automatic drain. Drain may fail to operate if the tube I.D. is less than 3/16" (5mm). Avoid restrictions in the tube.
 Automatic drain operating conditions (float operated):
 Bowl pressure required to close drain: Greater than 5 psig (0.3 bar)
 Bowl pressure required to open drain: Less than 3 psig (0.2 bar)
 Minimum air flow required to close drain: 2 scfm (1 dm³/s)
 Manual operation: Depress pin inside drain outlet to drain bowl

Materials

- Body: Aluminum
- Bowl: Aluminum
- Bowl sight glass: Pyrex
- Elastomers: Neoprene and nitrile
- Filter element
- 5 µm: Sintered bronze
- 25 µm: Sintered bronze
- 40 µm: Sintered bronze
- 75 µm: Stainless steel screen

An automatic drain is a two-way valve, which will close when the system is pressurized. The drain opens when the float rises due to accumulated liquid and on depressurization.

Typical Performance Characteristics

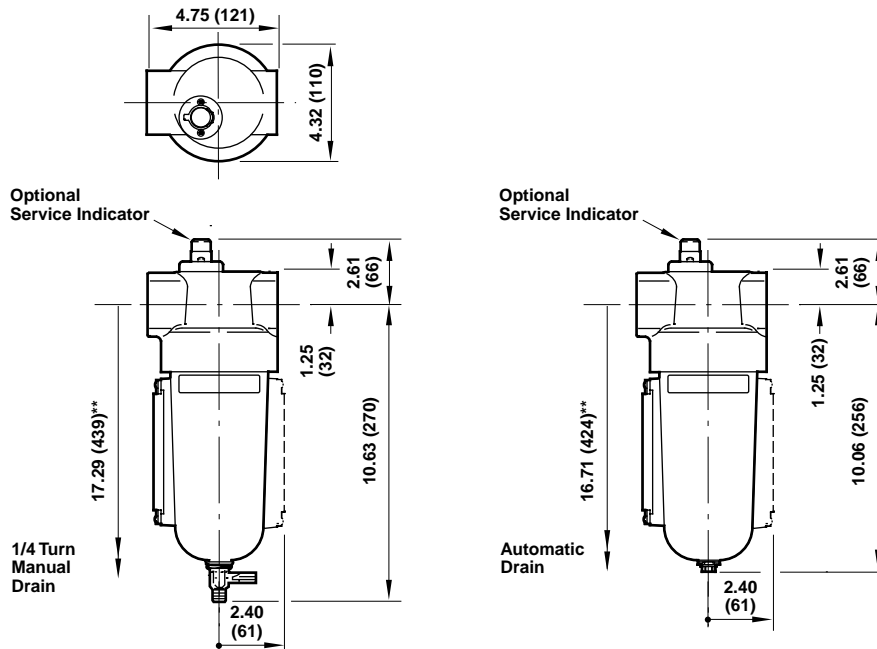


Service Kits

Item	Type	Part number
Service kits	All filters	5578-05
Replacement elements	5 µm	5311-01
	25 µm	5311-02
	40 µm	5311-03
	75 µm	5656-01
Replacement drain	Automatic	3000-10
	Manual (1/4 turn)	619-50

Service kit 5778-05 includes bowl o-ring, drain gasket, and element gasket.

All Dimensions in Inches (mm)



** Minimum clearance required to remove bowl

**18 Series General Purpose Filter
1-1/2" and 2" Port Sizes**

- Protects air operated devices by removing liquid and solid contaminants
- Highly visible, prismatic liquid level indicator lens
- Can be disassembled without removal from the air line
- Optional visual service indicator turns from green to red when the filter element needs to be cleaned or replaced
- Optional electrical service indicator also available



Ordering Information. Models listed include automatic drain, 40 µm element, metal bowl with sight glass, and PTF threads.

Port Size	Model Numbers	Flow scfm (dm ³ /s) *	Weight lbs (kg)
1-1/2"	F18-B00-A3DA	1400 (661)	14.90 (6.76)
2"	F18-C00-A3DA	1400 (661)	14.65 (6.65)

* Typical flow with a 40 µm element at 90 psig (6.3 bar) inlet pressure and 5 psig (0.35 bar) pressure drop.

Alternative Models

F 1 8 - ★ ★ ★ - ★ ★ ★ ★

Port Size	Substitute
1-1/2"	B
2"	C

Option	Substitute
Not applicable	0

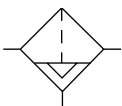
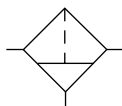
Service Indicator	Substitute
Without	0
With pneumatic	1
With electrical	4

Threads	Substitute
PTF	A
ISO Rc taper	B
ISO G parallel	G

Bowl	Substitute
Metal with sight glass	D
Metal	M

Element	Substitute
5 µm	1
25 µm	2
40 µm	3
100 µm	4

Drain	Substitute
Automatic	A
Manual 1/4 turn	M

ISO Symbols

Auto Drain

Manual Drain

See Section ALE-24 for Accessories



Technical Data

Fluid: Compressed air
 Maximum pressure: 250 psig (17 bar)
 Operating temperature*: -30° to 175°F (-34° to 80°C)

* Air supply must be dry enough to avoid ice formation at temperatures below 35°F (2°C).

Particle removal: 5 µm, 25 µm, 40 µm or 100 µm filter element

Air quality: Within ISO 8573-1, Class 3 and Class 5 (particulates)

Typical flow with a 40 µm element at 90 psig (6.3 bar) inlet pressure and 5 psig (0.35 bar) pressure drop: 1300 scfm (614 dm³/s) Nominal bowl size: 7 fluid ounce (0.2 liter)

Manual drain connection: Will fit 1/8-27 and 1/8-28 pipe thread.

Automatic drain connection: Will fit 1/8-27 and 1/8-28 pipe thread. - Flexible tube with 3/16" (5mm) minimum I.D. can be connected to the automatic drain. Drain may fail to operate if the tube I.D. is less than 3/16" (5mm). Avoid restrictions in the tube.

Automatic drain operating conditions (float operated):

Bowl pressure required to close drain: Greater than 5 psig (0.3 bar)

Bowl pressure required to open drain: Less than 3 psig (0.2 bar)

Minimum air flow required to close drain: 2 scfm (1 dm³/s)

Manual operation: Depress pin inside drain outlet to drain bowl

Materials

Body: Aluminum

Intermediate body: Aluminum

Bowl: Aluminum

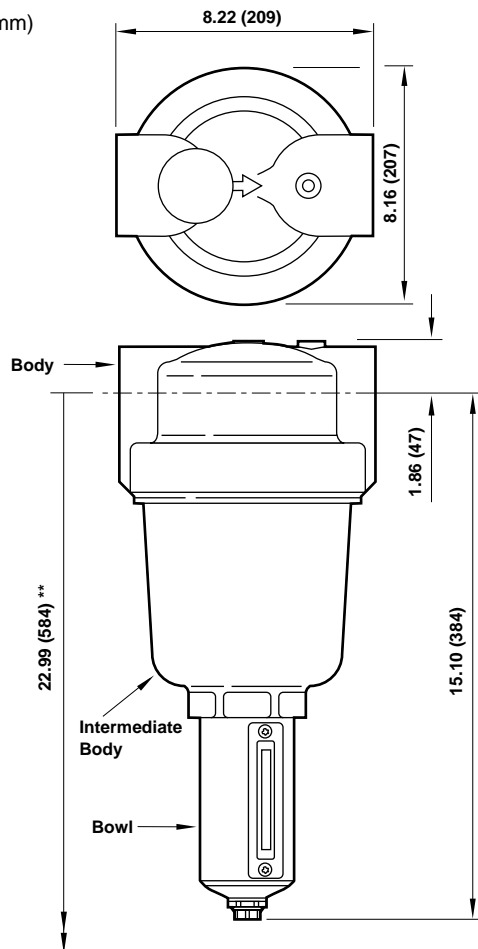
Metal bowl liquid level indicator: Transparent nylon

Filter element: Sintered bronze

Elastomers: Neoprene and nitrile

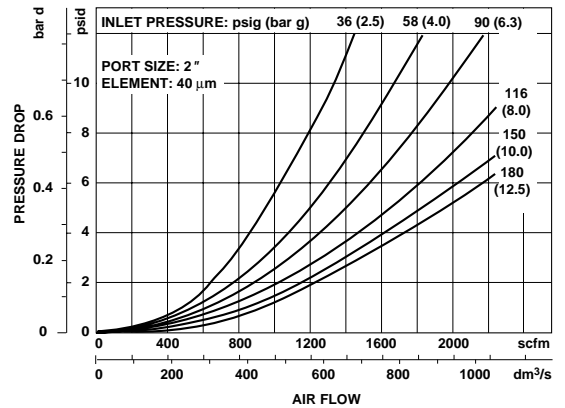
An automatic drain is a two-way valve, which will close when the system is pressurized. The drain opens when the float rises due to accumulated liquid and on depressurization.

All Dimensions in Inches (mm)



Automatic Drain

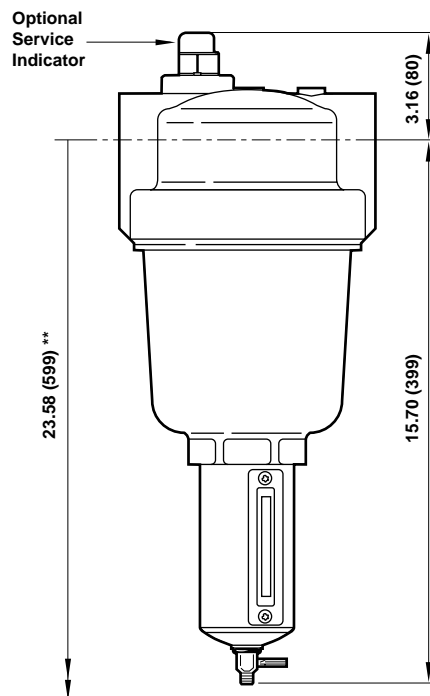
Typical Performance Characteristics



Service Kits

Item	Type	Part Number
Service kit	Seal & Gasket	5945-50
Replacement elements	5 µm	5882-11
	25 µm	5882-12
	40 µm	5882-13
	100 µm	5882-14
Liquid level lens kit	Prismatic	4380-050
Replacement drains	Automatic	3000-10
	Manual quarter turn	619-50

Service kit contains body o-ring, element gasket, automatic drain gasket, and bowl o-ring.



1/4 Turn Manual Drain

** Minimum clearance required to remove intermediate body and bowl.

Oil Removal (Coalescing) Filters

Port sizes from 1/8" to 2"

F39 Miniature Oil Removal Filter 1/8" and 1/4" Ports	.....	ALE-2-2
F72C Excelon Oil Removal Filter 1/4" and 3/8" Ports	.....	ALE-2-4
F73C Excelon Oil Removal Filter 1/4", 3/8", and 1/2" Ports	..	ALE-2-6
F74C/H Excelon Oil Removal Filter 3/8", 1/2", and 3/4" Ports	.....	ALE-2-8
F64C/H Olympian Plus Oil Removal Filter 1/4", 3/8", 1/2", and 3/4" Ports	.....	ALE-2-10
F68C/H Olympian Plus Oil Removal Filter 1/2", 3/4", and 1" Ports	.....	ALE-2-12
F46 Oil Removal Filter 3/4", 1", and 1-1/4" Ports	.....	ALE-2-14
F47 Oil Removal Filter 1-1/2" and 2" Ports	.....	ALE-2-16



F39



F72C



F73C



F74C/H



F64C/H



F68



F46



F47

**Miniature Series 07 Oil Removal
(Coalescing) Filter 1/8" and 1/4" Port Sizes**

- **Compact design**
- **High efficiency oil and particle removal**
- **Screw-on bowl reduces maintenance time**
- **Can be disassembled without the use of tools or removal from the air line**



Ordering Information. Models listed include PTF threads, automatic drain and transparent bowl.

Port Size	Model Numbers	Saturated Flow* Flow scfm (dm ³ /s)	Dry Flow Flow scfm (dm ³ /s)	Weight lbs (kg)
1/8"	F39-100-A0TA	6.0 (2.8)	11.2 (5.3)	0.28 (0.13)
1/4"	F39-200-A0TA	6.4 (3.0)	12.2 (5.8)	0.28 (0.13)

* Maximum flow at 90 psig (6.3 bar) inlet pressure to maintain stated oil removal performance.

Alternative Models

F 3 9 - ★ ★ ★ - ★ ★ ★ ★

Port Size	Substitute
1/8"	1
1/4"	2

Option	Substitute
Not applicable	0

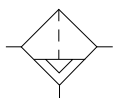
Option	Substitute
Not applicable	0

Threads	Substitute
PTF	A
ISO Rc taper	B
ISO G parallel	G

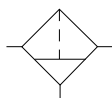
Bowl	Substitute
Transparent	T
Metal	M

Element	Substitute
Coalescing	0

Drain	Substitute
Automatic	A
Manual	M

ISO Symbols


Automatic and
Semi Automatic Drain



Manual Drain

See Section ALE-24 for Accessories



Technical Data

Fluid: Compressed air

Maximum pressure:

Transparent bowl: 150 psig (10 bar)

Metal bowl: 250 psig (17 bar)

Operating temperature:*

Transparent bowl: -30° to 125°F (-34° to 50°C)

Metal bowl: -30° to 150°F (-34° to 65°C)

* Air supply must be dry enough to avoid ice formation at temperatures below 2°C (35°F)

Particle removal: Down to 0.01 µm

Air quality: Within ISO 8573-1, Class 1 (particulates) and Class 2 (oil content)

Maximum remaining oil content of air leaving the filter: 0.01ppm at 70°F (21°C) with an inlet oil concentration of 17 ppm.

Maximum flow with 90 psig (6.3 bar) inlet pressure†:

1/8 ports, 6.0 scfm (2.8 dm³/s)

1/4 ports, 6.4 scfm (3 dm³/s)

† Maximum flow to maintain stated oil removal performance.

Nominal bowl size: 1 fluid ounce (31 ml)

Drain connection: 1/8" pipe thread

Automatic drain operation: Spitter type drain operates momentarily when a rapid change in air flow occurs or when the supply pressure is reduced.

Materials:

Body: Zinc

Bowl:

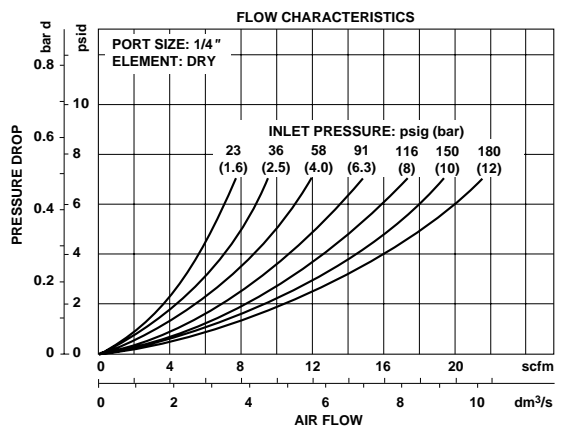
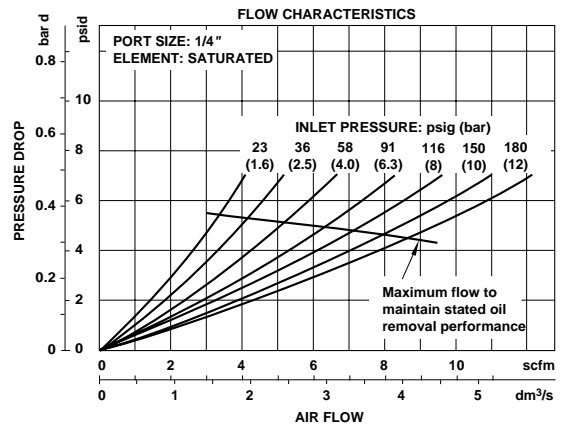
Transparent: Polycarbonate

Metal: Zinc

Element: Synthetic fiber and polyurethane foam

Elastomers: Neoprene & nitrile

Typical Performance Characteristics

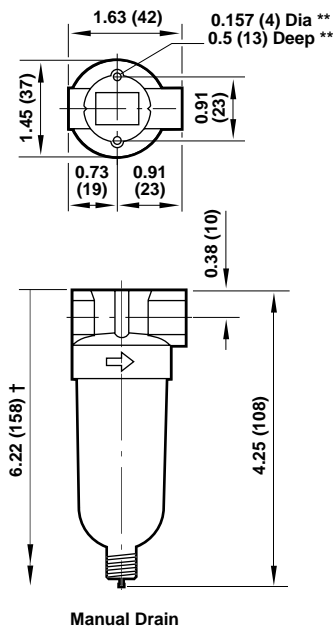


Service Kits

Item	Type	Part number
Service kit	All models	4141-10
Replacement drains	Manual	773-03
	Automatic	3654-02

Service kit includes element, element o-ring, and bowl o-ring.

All Dimensions in Inches (mm)



** Mounting holes

† Minimum clearance to remove bowl

**Excelon F72C Oil Removal Filter
(Coalescing) 1/4" and 3/8" Port Sizes**

- Excelon design allows in-line or modular installation
- High efficiency oil and particle removal
- Quick release bayonet bowl
- Highly visible, prismatic liquid level indicator lens on metal bowls
- Standard visual service life indicator turns from green to red when the filter element needs to be replaced
- Optional electrical service indicator also available
- Modular installations with Excelon 72, 73, and 74 series can be made to suit particular applications

Install an F72G filter with a 5 µm filter element upstream of the F72C filter for optimum coalescing element life.



Ordering Information. Models listed include PTF threads, service life indicator, automatic drain, transparent bowl without guard.

Port Size	Model	Flow [†] scfm (dm ³ /s)	Weight lb (kg)
1/4"	F72C-2AD-ALO	9.5 (4.5)	1.2 (0.54)
3/8"	F72C-3AD-ALO	9.5 (4.5)	1.2 (0.54)

† Maximum flow with 90 psig (6.3 bar) inlet pressure, to maintain stated oil removal performance.

Alternative Models

F 7 2 C - ★ ★ ★ - ★ ★ ★

Port Size	Substitute
1/4"	2
3/8"	3

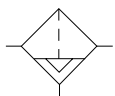
Threads	Substitute
PTF	A
ISO Rc taper	B
ISO G parallel	G

Service Life Indicator	Substitute
With (visual)	D
With (electrical)	E
Without	N

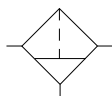
Element	Substitute
Coalescing	0

Bowl	Substitute
Metal with liquid level indicator	E
Transparent without guard	L
Transparent with guard	W

Drain	Substitute
1/4 turn manual	Q
Semi automatic	S
Auto drain*	A

ISO Symbols


Automatic and
Semi Automatic Drain



Manual Drain

See Section ALE-24 for Accessories



Technical Data

Fluid: Compressed air

Maximum pressure:

Transparent bowl: Manual or semi automatic drain: 150 psig (10 bar)
Automatic drain: 116 psig (8 bar)

Metal bowl: Manual or semi automatic drain: 250 psig (17 bar)
Automatic drain: 116 psig (8 bar)

Operating temperature*: Transparent bowl: -30° to 125°F (-34° to 50°C)
Metal bowl: -30° to 150°F (-34° to 65°C)

* Air supply must be dry enough to avoid ice formation at temperatures below 35°F (2°C).

Particle removal: 0.01 µm

Air quality: Within ISO 8573-1, Class 1 (particulates) and Class 2 (oil content)

Maximum remaining oil content in outlet air:

0.01 ppm at 70°F (21°C) with an inlet concentration of 17 ppm.

Maximum flow with 90 psig (6.3 bar) inlet pressure**: 9.5 scfm (4.5 dm³/s)

** Maximum flow to maintain stated oil removal performance.

Manual drain connection: Will fit 1/8-27 and 1/8-28 pipe thread.

Semi automatic drain connection: Push on 5/16" (8 mm) ID tube

Semi automatic drain operating conditions (pressure operated):

Bowl pressure required to close drain: Greater than 1.5 psig (0.1 bar)

Bowl pressure required to open drain: Less than 1.5 psig (0.1 bar)

Minimum air flow required to close drain: 1 scfm (0.5 dm³/s)

Manual operation: Lift stem to drain bowl

Automatic drain connection: Will fit 1/8-27 and 1/8-28 pipe thread. - Flexible tube with 3/16" (5mm) minimum I.D. can be connected to the automatic drain. Drain may fail to operate if the tube I.D. is less than 3/16" (5mm). Avoid restrictions in the tube.

Automatic drain operating conditions (float operated):

Bowl pressure required to close drain: Greater than 5 psig (0.3 bar)

Bowl pressure required to open drain: Less than 3 psig (0.2 bar)

Minimum air flow required to close drain: 0.2 scfm (0.1 dm³/s)

Manual operation: Depress pin inside drain outlet to drain bowl

Nominal bowl size

Long bowl: 2.2 fluid ounce (65 ml)

Materials

Body: Zinc

Bowl

Transparent: Polycarbonate

Guard for transparent bowl: Zinc

Metal: Zinc

Metal bowl liquid level indicator lens: Transparent nylon

Element: Synthetic fiber and polyurethane foam

Elastomers: Neoprene and nitrile

Service life indicator

Body: transparent nylon.

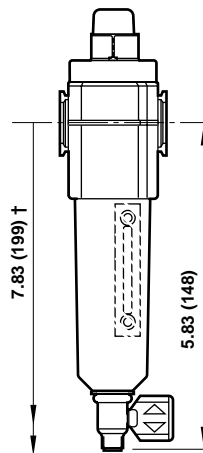
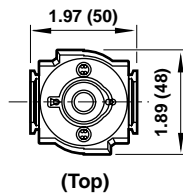
Internal parts: acetal.

Spring: stainless steel.

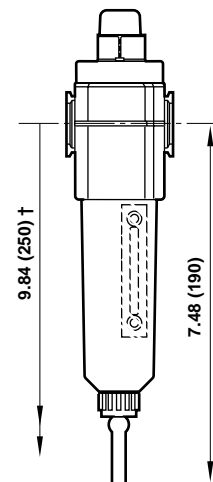
Elastomers nitrile

An automatic drain is a two-way valve, which will close when the system is pressurized. The drain opens when the float rises due to accumulated liquid and on depressurization.

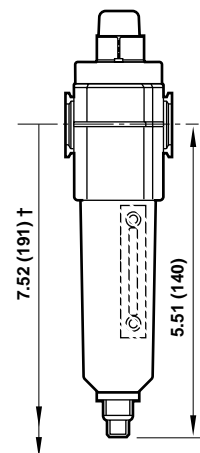
All Dimensions in Inches (mm)



Bowl with
1/4 Turn Manual Drain



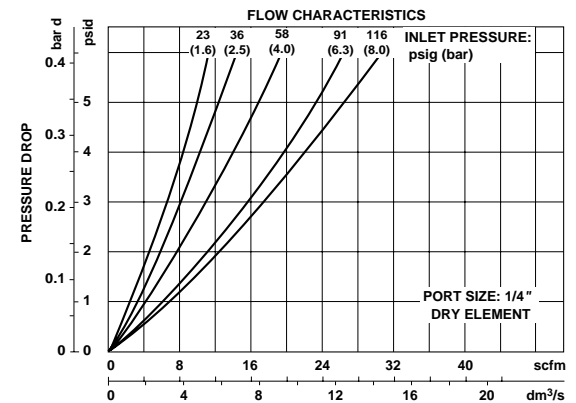
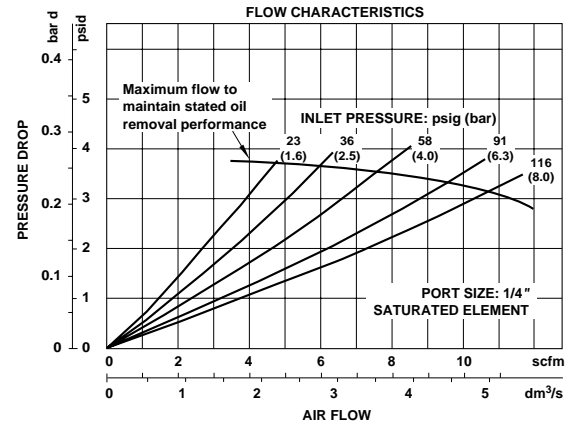
Bowl with
Semi auto Drain



Bowl with
Automatic Drain

† Minimum clearance required to remove bowl.

Typical Performance Characteristics



Service Kits

Item	Type	Part Number
Service kit	Seal and gasket	4380-500
Element	Coalescing	5925-09
Liquid level lens kit	Prismatic	4380-030
Replacement drains	1/4 turn manual	619-50
	Semi automatic	5379-RK
	Automatic	4000-50R

Service kit includes bowl o-rings.

**Excelon 73C Oil Removal Filter
(Coalescing) 1/4", 3/8", and 1/2" Port Sizes**

- Excelon design allows in-line or modular installation
- Quick release bayonet bowl
- Highly visible, prismatic liquid level indicator lens
- Standard mechanical service indicator turns from green to red when the filter element needs to be replaced
- Optional electrical service indicator provides electrical output when the filter element needs to be replaced
- Modular installations with Excelon 72, 73, and 74 series can be made to suit particular applications

Install an F73G pre-filter with a 5 µm filter element upstream of the F73C filter for optimum coalescing element life.



Ordering Information. Models listed include PTF threads, service indicator, automatic drain, and a metal bowl with liquid level indicator.

Port Size	Model	Flow† scfm (dm ³ /s)	Weight lb (kg)
1/4"	F73C-2AD-AD0	21.2 (10.0)	1.2 (0.54)
3/8"	F73C-3AD-AD0	21.2 (10.0)	1.2 (0.54)
1/2"	F73C-4AD-AD0	21.2 (10.0)	1.2 (0.54)

† Maximum flow with 90 psig (6.3 bar) inlet pressure to maintain stated oil removal performance.

Alternative Models

F 7 3 C - ★ ★ ★ - ★ ★ ★

Port Size	Substitute
1/4"	2
3/8"	3
1/2"	4

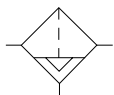
Threads	Substitute
PTF	A
ISO Rc taper	B
ISO G parallel	G

Service Indicator	Substitute
With electrical service indicator	E
With mechanical service indicator	D
Without	N

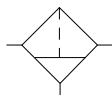
Element	Substitute
Coalescing	0

Bowl	Substitute
Metal with liquid level indicator	D
Transparent with guard	P
Transparent	T

Drain	Substitute
Automatic	A
Manual, 1/4 turn	Q

ISO Symbols


Automatic and Semi Automatic Drain



Manual Drain

See Section ALE-24 for Accessories



Technical Data

Fluid: Compressed air

Maximum pressure

Transparent bowl: 150 psig (10 bar)

Metal bowl: 250 psig (17 bar)

Operating temperature*

Transparent bowl: -30° to 125°F (-34° to 50°C)

Metal bowl: -30° to 150°F (-34° to 65°C)

* Air supply must be dry enough to avoid ice formation at temperatures below 35°F (2°C).

Particle removal: Down to 0.01 μm

Air quality: Within ISO 8573-1, Class 1 (particulates) and Class 2 (oil content)

Maximum remaining oil content in outlet air: 0.01 ppm at 70°F (20°C) with an inlet concentration of 17 ppm

Maximum flow at 90 psig (6.3 bar) inlet pressure to maintain stated oil removal performance: 21.2 scfm (10 dm³/s)

Manual drain connection: Will fit 1/8-27 and 1/8-28 pipe thread.

Automatic drain connection: Will fit 1/8-27 and 1/8-28 pipe thread. - Flexible tube with 3/16" (5mm) minimum I.D. can be connected to the automatic drain. Drain may fail to operate if the tube I.D. is less than 3/16" (5mm). Avoid restrictions in the tube.

Automatic drain operating conditions (float operated)

Bowl pressure required to close drain: Greater than 5 psig (0.3 bar)

Bowl pressure required to open drain: Less than 3 psig (0.2 bar)

Minimum air flow required to close drain: 0.2 scfm (0.1 dm³/s)

Manual operation: Depress pin inside drain outlet to drain bowl

Nominal bowl size: 3.5 fluid ounce (0.1 liter)

Filter materials

Body: Aluminum

Bowl

Transparent: Polycarbonate

Transparent with guard: Polycarbonate, steel guard

Metal: Aluminum

Metal bowl liquid level indicator lens: Transparent nylon

Element: Synthetic fiber and polyurethane foam

Elastomers: Neoprene and nitrile

Mechanical service indicator materials

Body: Transparent nylon

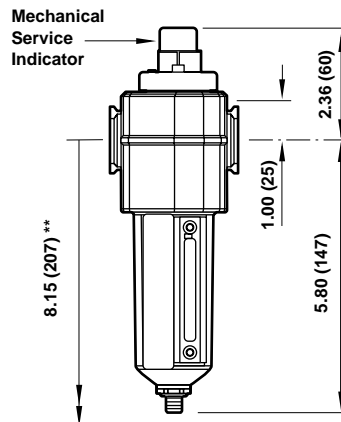
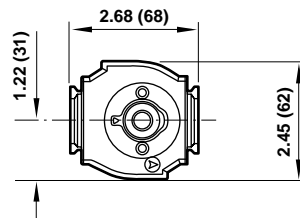
Internal parts: Acetal

Spring: Stainless steel

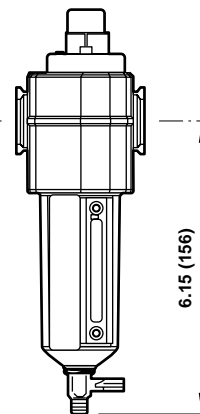
Elastomers: Nitrile

An automatic drain is a two-way valve, which will close when the system is pressurized. The drain opens when the float rises due to accumulated liquid and on depressurization.

All Dimensions in Inches (mm)



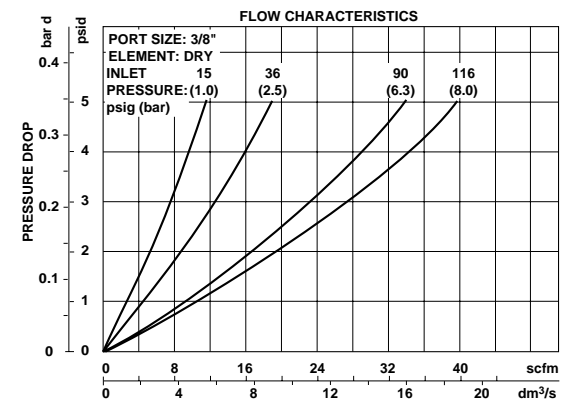
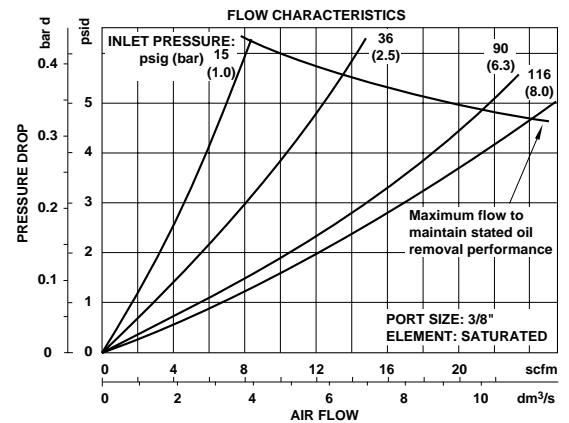
Automatic Drain



1/4 Turn Manual Drain

** Minimum clearance required to remove bowl.

Typical Performance Characteristics



Service Kits

Item	Type	Part Number
Service kit	Seal & Gasket	4380-602
Replacement elements	Coalescing	4444-01
Liquid level lens kit	Prismatic	4380-020
Replacement drains	Automatic	4000-51R
	Manual quarter turn	619-50

Service kit includes element o-ring, automatic drain seal and bowl o-ring.

**Excelon 74 Oil Removal Filters
(Coalescing) 3/8", 1/2", and 3/4" Port Sizes**

- Excelon design allows in-line or modular installation
- Quick release bayonet bowl
- Highly visible, prismatic liquid level indicator lens
- Standard visual service indicator turns from green to red when the filter element needs to be replaced
- Optional electrical service indicator provides electrical output when the filter element needs to be replaced
- Modular installations with Excelon 72, 73, and 74 series can be made to suit particular applications

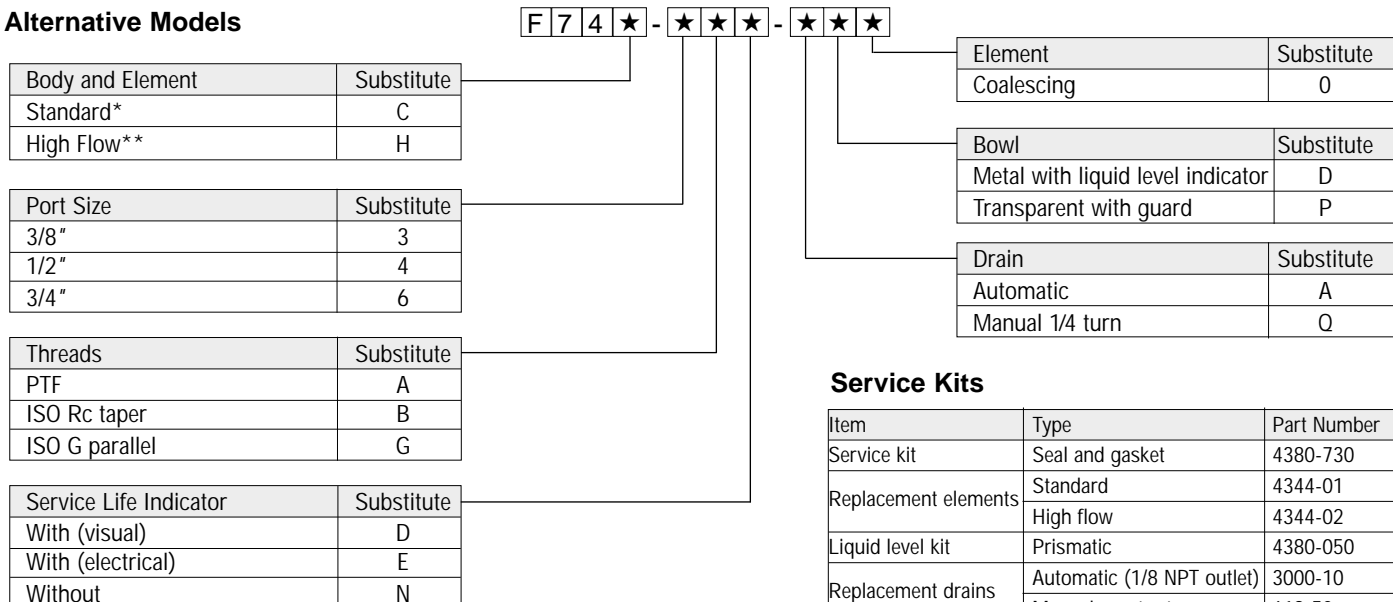
Install an F74G pre-filter with a 5 µm filter element upstream of the F74C and F74H filters for optimum coalescing element life.



Ordering Information. Models listed include PTF threads, service indicator, automatic drain, and a metal bowl with liquid level indicator.

Main Port Size	Body and Element	Model Number	Maximum Flow* scfm (dm ³ /s)	Weight lb (kg)
3/8"	Standard	F74C-3AD-AD0	33.9 (16.0)	1.88 (0.85)
1/2"	Standard	F74C-4AD-AD0	33.9 (16.0)	1.84 (0.83)
1/2"	High Flow	F74H-4AD-AD0	59.3 (28.0)	2.45 (1.11)
3/4"	High Flow	F74H-6AD-AD0	59.3 (28.0)	2.40 (1.10)

* Maximum flow with 90 psig (6.3 bar) inlet pressure to maintain stated oil removal performance.

Alternative Models


* available with 3/8" or 1/2" ports
 ** available with 1/2" or 3/4" ports

Service Kits

Item	Type	Part Number
Service kit	Seal and gasket	4380-730
Replacement elements	Standard	4344-01
	High flow	4344-02
Liquid level kit	Prismatic	4380-050
Replacement drains	Automatic (1/8 NPT outlet)	3000-10
	Manual quarter turn	619-50

Service kits include element seal, bowl seal and drain seal.

See Section ALE-24 for Accessories



Technical Data

Fluid: Compressed air

Maximum pressure

Transparent bowl: 150 psig (10 bar)

Metal bowl: 250 psig (17 bar)

Operating temperature*

Transparent bowl: -30° to 125°F (-34° to 50°C)

Metal bowl: -30° to 150°F (-34° to 65°C)

* Air supply must be dry enough to avoid ice formation at temperatures below 35°F (2°C).

Particle removal: Down to 0.01 µm

Air quality: Within ISO 8573-1, Class 1 (particulates) and Class 2 (oil content)

Maximum remaining oil content in outlet air: 0.01 ppm at 70°F (20°C) with an inlet concentration of 17 ppm

Maximum flow at 90 psig (6.3 bar) inlet pressure to maintain stated oil removal performance

F74C: 33.9 scfm (16 dm³/s)

F74H: 59.3 scfm (28 dm³/s)

Manual drain connection: Will fit 1/8-27 and 1/8-28 pipe thread.

Automatic drain connection: Will fit 1/8-27 and 1/8-28 pipe thread. - Flexible tube with 3/16" (5mm) minimum I.D. can be connected to the automatic drain. Drain may fail to operate if the tube I.D. is less than 3/16" (5mm). Avoid restrictions in the tube.

Automatic drain operating conditions (float operated)

Bowl pressure required to close drain: Greater than 5 psig (0.3 bar)

Bowl pressure required to open drain: Less than 3 psig (0.2 bar)

Minimum air flow required to close drain: 2 scfm (1 dm³/s)

Manual operation: Depress pin inside drain outlet to drain bowl

Nominal bowl size: 7 fluid ounce (0.2 liter)

Materials

Body: Aluminum

Bowl

Transparent: Polycarbonate with steel bowl guard

Metal: Aluminum

Metal bowl liquid level indicator lens: Transparent nylon

Element: Synthetic fiber and polyurethane foam

Elastomers: Neoprene and Nitrile

Service indicator

Body: Transparent nylon

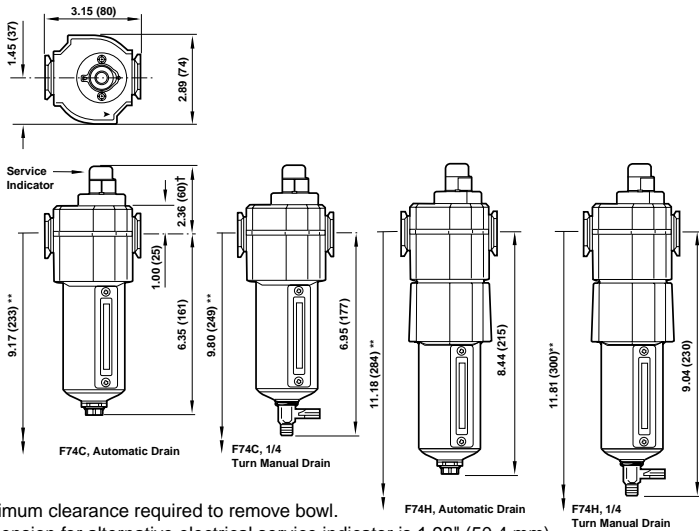
Internal parts: Acetal

Spring: Stainless steel

Elastomers: Nitrile

An automatic drain is a two-way valve, which will close when the system is pressurized. The drain opens when the float rises due to accumulated liquid and on depressurization.

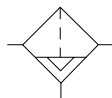
All Dimensions in Inches (mm)



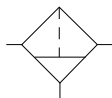
** Minimum clearance required to remove bowl.

† Dimension for alternative electrical service indicator is 1.98" (50.4 mm)

ISO Symbols

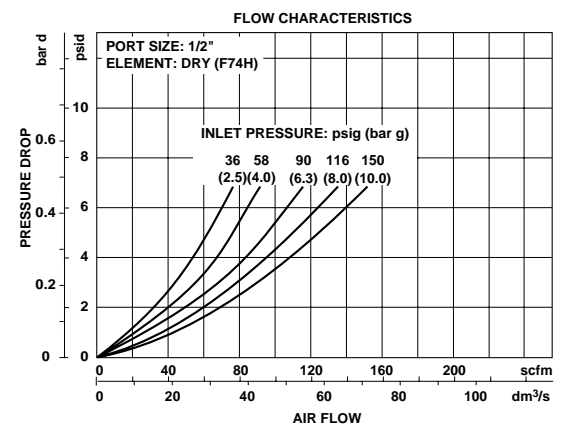
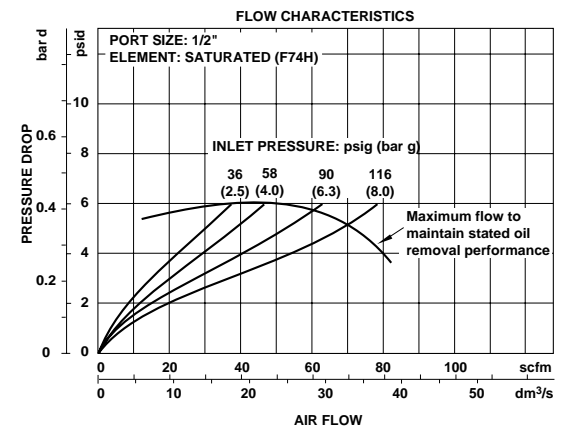
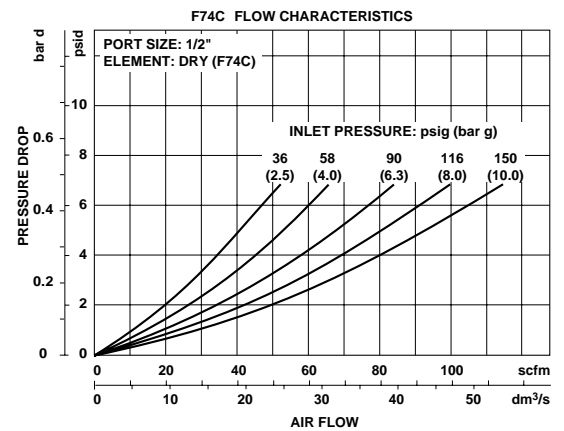
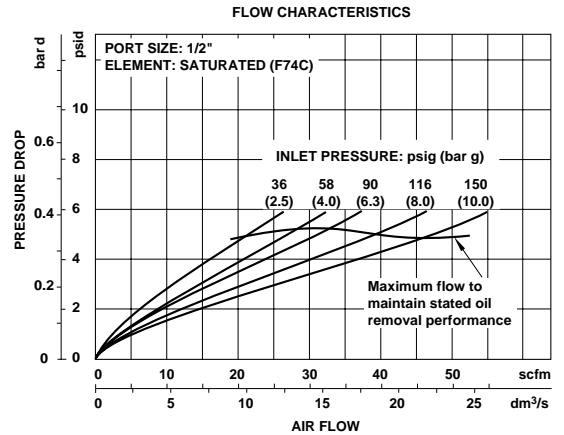


Automatic and Semi Automatic Drain



Manual Drain

Typical Performance Characteristics



Olympian Plus Puraire High Efficiency Oil Removal Filter 1/4", 3/8", 1/2", and 3/4" Port Sizes

- Olympian Plus plug in design
- High efficiency oil and particle removal
- Quick release bayonet bowl
- High visibility prismatic sight glass
- Coalescing element service indicator

Install an F64G pre-filter with a 5 µm filter element upstream of the F64C filter for optimum coalescing element life.



Ordering Information. Models listed include PTF threads, service indicator, automatic drain, and metal bowl.

Drain Type	Port Size	F64C/H (only) Model	Maximum Flow* scfm (dm ³ /s)	Weight lb (kg)
Automatic	1/4"	F64C-2AD-ADO	34 (16)	3.26 (1.48)
	3/8"	F64H-3AD-ADO	60 (28)	3.75 (1.70)
	1/2"	F64H-4AD-ADO	60 (28)	3.68 (1.67)
	3/4"	F64H-6AD-ADO	60 (28)	4.43 (2.01)

For replacement Filter (without yoke or pre-filter) substitute 'N' at the 5th and 6th digits eg: F64H-**NND**-ADO.

* Maximum flow with 90 psig (6.3 bar) inlet pressure to maintain stated oil removal performance.

Alternative Models

F 6 4 ★ - ★ ★ ★ - ★ ★ ★

Body type	Substitute
For 1/4"	C
For 3/8", 1/2", 3/4"	H

Port Size	Substitute
1/4"	2
3/8"	3
1/2"	4
3/4"	6

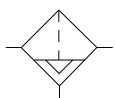
Threads	Substitute
PTF	A
ISO Rc taper	B
ISO G parallel	G

Element	Substitute
Coalescing	0

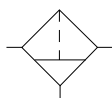
Bowl	Substitute
Metal with liquid level indicator	D
Transparent with guard	P

Drain	Substitute
Manual, 1/4 turn	Q
Auto drain	A

Service Life Indicator	Substitute
With (visual)	D
Without	N
With (electrical)†	E

ISO Symbols


Automatic and Semi Automatic Drain



Manual Drain

See Section ALE-24 for Accessories



Technical Data

Fluid: Compressed air
 Maximum pressure: 250 psig (17 bar)
 Operating temperature*: 0° to +150°F (-20° to +65°C)

* Air supply must be dry enough to avoid ice formation at temperatures below +35°F (+2°C).
 Particle removal: 0.01 µm

Air quality: Within ISO 8573-1, Class 1 (particulates) and Class 2 (oil content).

Maximum remaining oil content: 0.01 mg/m³ at +70°F (+20°C) with an inlet concentration of 17 mg/m³.

Maximum flow at 90 psig (6.3 bar) inlet pressure to maintain stated oil removal performance:

1/2" ports: 74 scfm (35 dm³/s)

3/4" ports: 74 scfm (35 dm³/s)

1" ports: 127 scfm (60 dm³/s)

1/4 turn manual drain connection: 1/8" pipe thread

Automatic drain connection: 1/8" pipe thread

Automatic drain operating conditions (float operated):

Bowl pressure required to close drain: Greater than 5 psig (0.3 bar)

Bowl pressure required to open drain: Less than 3 psig (0.2 bar)

Minimum air flow required to close drain: 2 scfm (1 dm³/s)

Manual operation: Depress pin inside drain outlet to drain bowl

Nominal bowl size:

1 pint U.S. (0.5 liter)

1 quart U.S. (1 liter)

Materials:

Body: Aluminum

Yoke: Aluminum

Bowl: Aluminum

Liquid level indicator: Pyrex

Element: Synthetic fibre and polyurethane foam

Elastomers: Synthetic rubber

Service life indicator:

Body: Transparent nylon

Internal parts: Acetal

Spring: Stainless steel

Elastomers Nitrile

An automatic drain is a two-way valve, which will close when the system is pressurized. The drain opens when the float rises due to accumulated liquid and on depressurization.

Typical Performance Characteristics

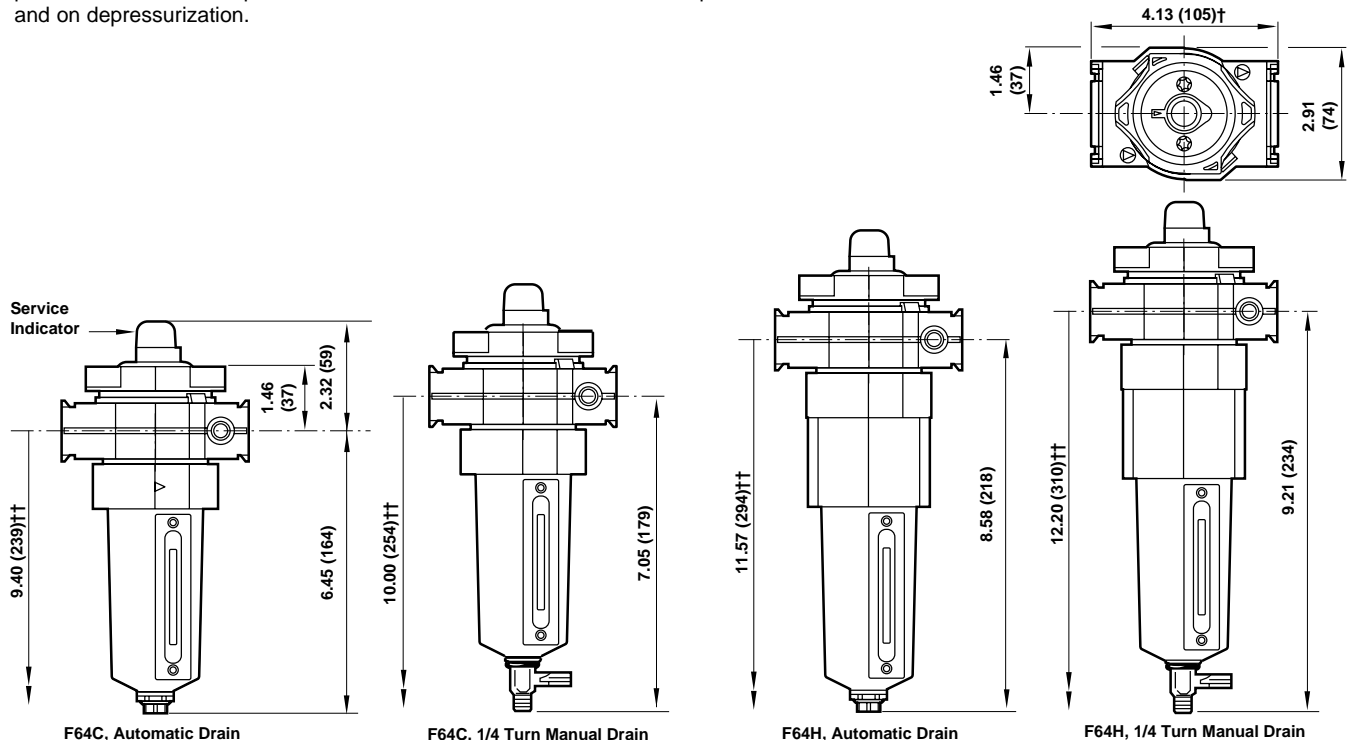
Inlet Pressure		Maximum Flow [†]			
		F64C		F64H	
psig	(bar)	scfm	(dm ³ /s)	scfm	(dm ³ /s)
15	(1)	14	(6.4)	24	(11.2)
45	(3)	23	(11.0)	41	(19.3)
70	(5)	30	(14.3)	53	(24.9)
90	(6.3)	34	(16.0)	59	(28.0)
100	(7)	36	(16.9)	63	(29.5)
130	(9)	40	(19.1)	71	(33.5)

[†] Maximum flow to maintain stated oil removal performance.

Service Kits

Item	Type	Part Number
Service kit	F64C/H	4380-200
Service kit (pre-filter)	F64G	4380-200
Element F64G (pre-filter)	5 µm	4338-01
Element F64C	Coalescing	4344-01
Element F64H	Coalescing	4344-02
Replacement sight glass	Prismatic (standard)	4380-040
	Pyrex	4380-041
Replacement drains	Automatic	3000-97
	Manual	684-84

Service kit includes port seals, louver o-ring, bowl o-ring and drain gasket.



† 6.18" (157) for 3/4" ports.

†† Minimum clearance required to remove unit.

**68 Series Oil Removal (Coalescing) Filter
1/2", 3/4", and 1" Port Sizes**

- Olympian Plus plug-in system
- Coalescing element provides high efficiency oil and particle removal
- Standard visual service indicator turns from green to red when the filter element needs to be replaced
- Oil and dirt contamination in outlet air within ISO 8573-1: Quality Class 1.7.2
- Factory optional electrical service life indicator provides electrical output when the filter element needs to be replaced - see page ALE-25-23

Install an F68G pre-filter with a 5 µm filter element upstream of the F68C/H filter for optimum coalescing element life.



Ordering Information. Models listed include a yoke with PTF threads, filter with service life indicator, automatic drain, and bowl with liquid level indicator.

Port Size	Type	Model	Weight lb (kg)
1/2	Standard flow (short element)	F68C-4AD-AR0	5.19 (2.36)
3/4	High flow (long element)	F68H-6AD-AU0	5.85 (2.66)
1	High flow (long element)	F68H-8AD-AU0	5.72 (2.60)

Alternative Models

F 6 8 ★ - ★ ★ ★ - ★ ★ ★

Flow	Substitute
Standard, 1 pint (0.5 liter) bowl	C
High, 1 quart (1 liter) bowl	H

Port Size	Substitute
1/2"	4*
3/4"	6
1"	8
None	N

Threads	Substitute
PTF	A
ISO Rc taper	B
ISO G parallel	G
None	N

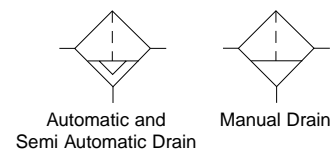
Service Life Indicator	Substitute
Visual	D
Electrical	E
Without	N

Element	Substitute
Coalescing	0

Bowl	Substitute
1 quart (1 liter) without liquid level indicator	C**
1 pint (0.5 liter) without liquid level indicator	M*
1 pint (0.5 liter) with liquid level indicator	R*
1 quart (1 liter) with liquid level indicator	U**

Drain	Substitute
Automatic	A
No drain (Closed bowl)	E
Manual	M
Manual, 1/4 turn	Q

* Only available with F68C.
** Only available with F68H.

ISO Symbols




Technical Data

Fluid: Compressed air

Maximum pressure: 250 psig (17 bar)

Operating temperature*: 0° to +150°F (-20° to +65°C)

* Air supply must be dry enough to avoid ice formation at temperatures below +35°F (+2°C).

Particle removal: 0.01 µm

Air quality: Within ISO 8573-1, Class 1 (particulates) and Class 2 (oil content).

Maximum remaining oil content: 0.01 mg/m³ at +70°F (+20°C) with an inlet concentration of 17 mg/m³.

Maximum flow at 90 psig (6.3 bar) inlet pressure to maintain stated oil removal performance:

1/2" ports: 74 scfm (35 dm³/s)

3/4" ports: 74 scfm (35 dm³/s)

1" ports: 127 scfm (60 dm³/s)

1/4 turn manual drain connection: 1/8" pipe thread

Automatic drain connection: 1/8" pipe thread

Automatic drain operating conditions (float operated):

Bowl pressure required to close drain: Greater than 5 psig (0.3 bar)

Bowl pressure required to open drain: Less than 3 psig (0.2 bar)

Minimum air flow required to close drain: 2 scfm (1 dm³/s)

Manual operation: Depress pin inside drain outlet to drain bowl

Nominal bowl size:

1 pint U.S. (0.5 liter)

1 quart U.S. (1 liter)

Materials:

Body: Aluminum

Yoke: Aluminum

Bowl: Aluminum

Liquid level indicator: Pyrex

Element: Synthetic fibre and polyurethane foam

Elastomers: Synthetic rubber

Service life indicator:

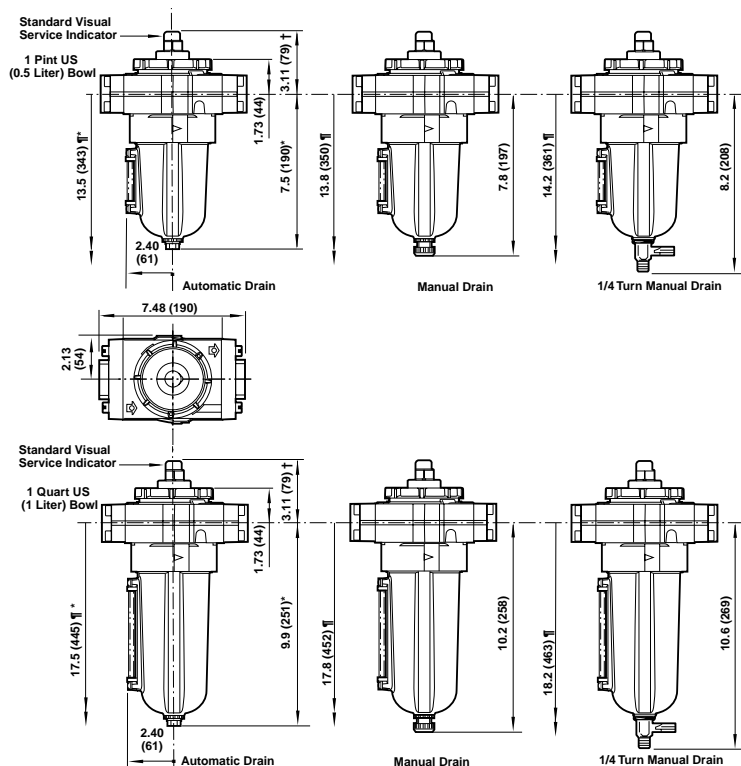
Body: Transparent nylon

Internal parts: Acetal

Spring: Stainless steel

Elastomers Nitrile

An automatic drain is a two-way valve, which will close when the system is pressurized. The drain opens when the float rises due to accumulated liquid and on depressurization.

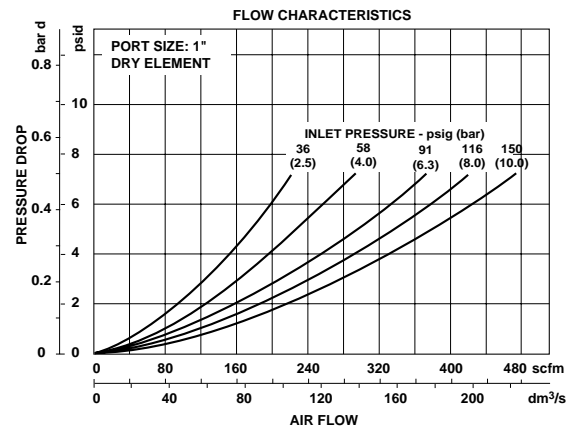
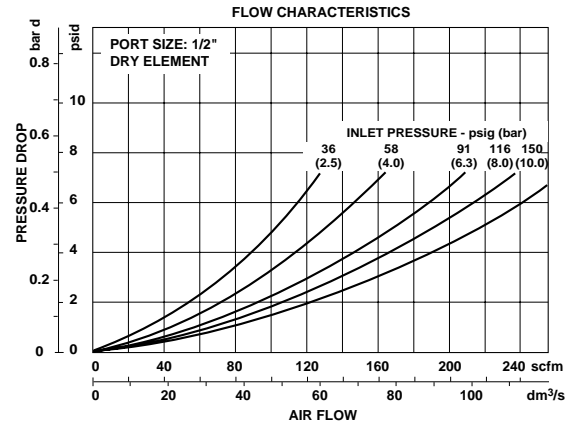


† For optional electrical service life indicator, add 0.02" (5 mm). * Dimension also applies to closed bottom bowl.
 ‡ Minimum clearance required to remove bowl.

Typical Performance Characteristics

Inlet Pressure	Maximum Flow*					
	F68C 1/2" Ports		F68H 3/4" Ports		F68H 1" Ports	
psig (bar)	scfm	(dm ³ /s)	scfm	(dm ³ /s)	scfm	(dm ³ /s)
15 (1)	30	(14)	30	(14)	51	(24)
45 (3)	51	(24)	51	(24)	87	(41)
70 (5)	66	(31)	66	(31)	112	(53)
90 (6.3)	74	(35)	74	(35)	127	(60)
100 (7)	78	(36.7)	78	(36.7)	133	(63)
130 (9)	89	(42)	89	(42)	153	(72)

* Maximum flow to maintain stated oil removal performance.



Service Kits

Item	Type	Part Number
Service Kit	Seal and gasket	4380-301
Replacement Elements	Standard flow (F68C)	5351-08
	High flow (F68H)	5351-03
Replacement Sight Glass	1 pint US (0.5 liter)	4380-060
Replacement Drains	1 quart US (1 liter)	4380-061
	Automatic (G 1/8 outlet)	3000-04
	Automatic (1/8 NPT outlet)	3000-03
	Manual	684-84
	Manual, 1/4 turn	619-50

Service kit Includes element seal, bowl seal, drain seal.

**F46 Oil Removal (Coalescing)
Filter 3/4", 1", and 1-1/4" Port Sizes**

- High efficiency oil and particle removal
- Screw-on bowl reduces maintenance time
- Can be disassembled without the use of tools or removal from the air line
- Standard service indicator turns from green to red when the filter element needs to be replaced

NOTE: Install an F17 filter with a 5 µm filter element upstream of the F46 filter for maximum service life.



Ordering Information. Models listed include service indicator, automatic drain, metal bowl with sight glass, and PTF threads.

Port Size	Model Numbers	Maximum Flow* scfm (dm ³ /s)	Weight lbs (kg)
3/4"	F46-601-A0DA	90 (42)	4.11 (1.86)
1"	F46-801-A0DA	125 (59)	4.05 (1.84)
1-1/4"	F46-A01-A0DA	125 (59)	4.29 (1.95)

* Maximum flow for oil-saturated element at 90 psig (6.3 bar) inlet pressure to maintain stated oil removal performance.

Alternative Models

F 4 6 - ★ ★ ★ - ★ ★ ★ ★

Port Size	Substitute
3/4"	6
1"	8
1-1/4"	A

Option	Substitute
Not applicable	0

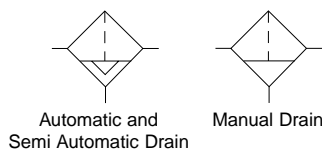
Service Life Indicator	Substitute
Without	0
With (visual)	1
With (electrical)	4

Threads	Substitute
PTF	A
ISO Rc taper	B
ISO G parallel	G

Bowl	Substitute
Metal with sight glass	D
Metal	M

Element	Substitute
Coalescing	0

Drain	Substitute
Automatic	A
Manual	M

ISO Symbols


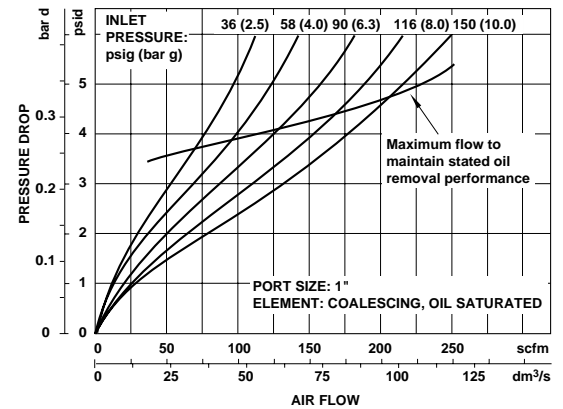
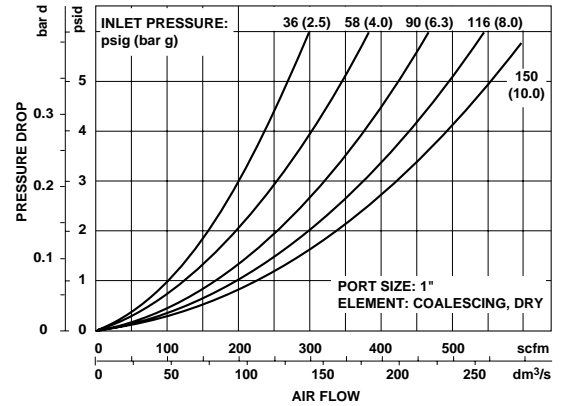
See Section ALE-24 for Accessories



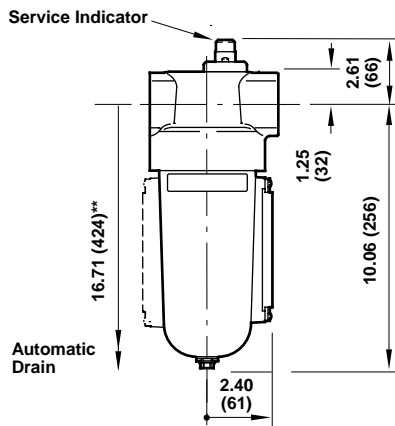
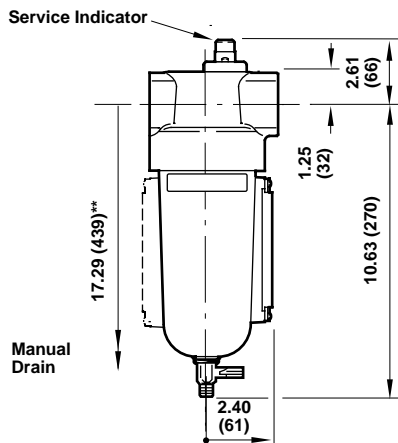
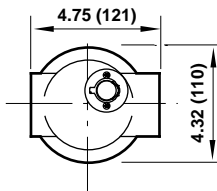
Technical Data

Fluid: Compressed air
 Maximum pressure: 250 psig (17 bar)
 Operating temperature: * -30° to 150°F (-34° to 65°C)
 * Air supply must be dry enough to avoid ice formation at temperatures below 35°F (2°C)
 Particle removal: Down to 0.01 µm
 Air quality: Within ISO 8573-1, Class 1 (particulates) and Class 2 (oil content)
 Maximum remaining oil content in outlet air: 0.01ppm at 70°F (20°C) with an inlet oil concentration of 17 ppm.
 Maximum flow at 90 psig (6.3 bar) inlet pressure to maintain stated oil removal performance:
 3/4" ports: 90 scfm (42 dm³/s)
 1" ports: 125 scfm (59 dm³/s)
 1-1/4" ports: 125 scfm (59 dm³/s)
 Nominal bowl size: 1 quart US (1 liter)
 Manual drain connection: Will fit 1/8-27 and 1/8-28 pipe thread.
 Automatic drain connection: Will fit 1/8-27 and 1/8-28 pipe thread. - Flexible tube with 3/16" (5mm) minimum I.D. can be connected to the automatic drain. Drain may fail to operate if the tube I.D. is less than 3/16" (5mm). Avoid restrictions in the tube.
 Automatic drain operating conditions (float operated)
 Bowl pressure required to close drain: Greater than 5 psig (0.3 bar)
 Bowl pressure required to open drain: Less than 3 psig (0.2 bar)
 Minimum air flow required to close drain: 2 scfm (1 dm³/s)
 Manual operation: Depress pin inside drain outlet to drain bowl
Materials
 Body: Aluminum
 Bowl: Aluminum
 Bowl sight glass: Pyrex
 Elastomers: Neoprene and nitrile
 Filter element: Synthetic fiber and polyurethane foam
 An automatic drain is a two-way valve, which will close when the system is pressurized. The drain opens when the float rises due to accumulated liquid and on depressurization.

Typical Performance Characteristic



All Dimensions in Inches (mm)



** Minimum clearance required to remove bowl.

Service Kits

Item	Type	Part number
Service kit	O-ring, gaskets & element	5351-04
Replacement drains	Automatic (1/8 NPT outlet)	3000-18
	Manual (1/4 Turn)	619-50

Service kit contains coalescing element, element o-ring, bowl o-ring, and drain gasket.

**18 Series Oil Removal Filter
(Coalescing) 1-1/2" and 2" Port Sizes**

- High efficiency oil and particle removal
- Highly visible, prismatic liquid level indicator lens
- Patented quarter turn manual drain
- Can be disassembled without removal from the air line
- Standard service indicator turns from green to red when the filter element needs to be replaced
- Optional electrical service indicator also available



Ordering Information. Models listed include service indicator, automatic drain, metal bowl with sight glass, and PTF threads.

Port Size	Body and Element	Model Numbers	Flow scfm (dm ³ /s)*	Weight lbs (kg)
1-1/2"	Standard	F47-B01-A0DA	250 (118)	15.51 (7.04)
2"	Standard	F47-C01-A0DA	300 (142)	14.26 (6.47)
2"	High Flow	F47-C21-A0DA	600 (283)	22.17 (10.06)

* Maximum flow at 90 psig (6.3 bar) inlet pressure to maintain stated oil removal performance.

Alternative Models

F 4 7 - ★ ★ ★ - ★ ★ ★ ★

Port Size	Substitute
1-1/2"	B
2"	C

Option	Substitute
Standard body and element	0
High flow body and element (use only with 2" ports)	2

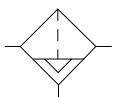
Service Indicator	Substitute
Without	0
With (visual)	1
With (electrical)	4

Threads	Substitute
PTF	A
ISO Rc taper	B
ISO G parallel	G

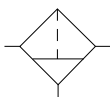
Bowl	Substitute
Metal with sight glass	D
Metal	M

Element	Substitute
Coalescing	0

Drain	Substitute
Automatic	A
Manual, 1/4 turn	M

ISO Symbols


Automatic and
Semi Automatic Drain



Manual Drain

See Section ALE-24 for Accessories

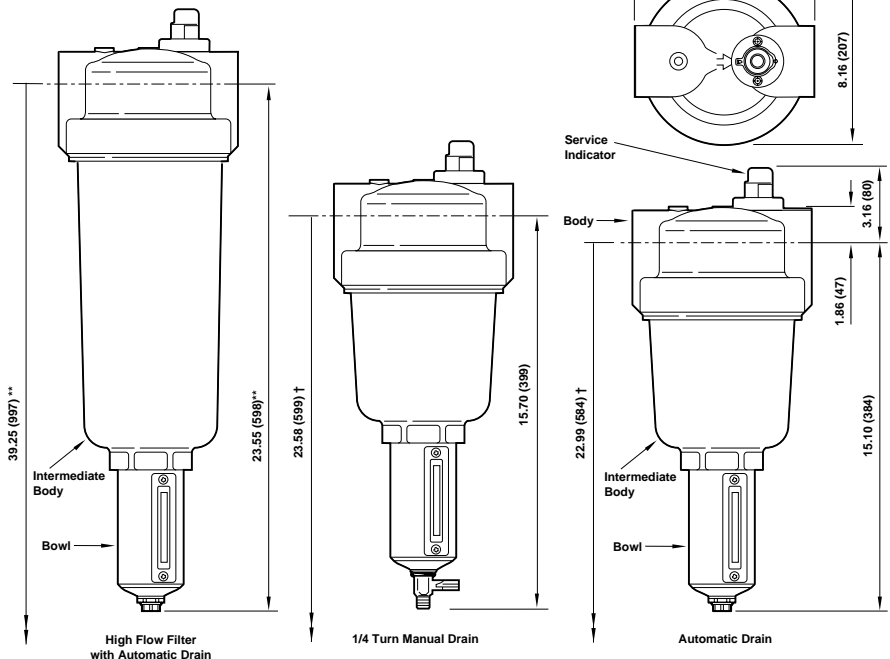


Technical Data

Fluid: Compressed air
 Maximum pressure: 250 psig (17 bar)
 Operating temperature: * -30° to 150°F (-34° to 65°C)
 * Air supply must be dry enough to avoid ice formation at temperatures below 35°F (2°C).
 Particle removal: Down to 0.01 µm
 Air quality: Within ISO 8573-1, Class 1 (particulates) and Class 2 (oil content)
 Maximum remaining oil content in outlet air: 0.01 ppm at 70°F (20°C) with an inlet concentration of 17 ppm
 Maximum flow for oil-saturated element at 90 psig (6.3 bar) inlet pressure to maintain stated oil removal performance
 1-1/2" Ports: 250 scfm (118 dm³/s)
 2" Ports: 300 scfm (142 dm³/s)
 2" Ports, high flow element: 600 scfm (283 dm³/s)
 Typical flow for dry element at 90 psig (6.3 bar) inlet pressure and 5 psid (0.3 bar) pressure drop
 1-1/2" Ports: 780 scfm (368 dm³/s)
 2" Ports: 830 scfm (392 dm³/s)
 2" Ports, high flow element: 2300 scfm (1086 dm³/s)
 Nominal bowl size: 7 fluid ounce (0.2 liter)
 Manual drain connection: Will fit 1/8-27 and 1/8-28 pipe thread.
 Automatic drain connection: Will fit 1/8-27 and 1/8-28 pipe thread. - Flexible tube with 3/16" (5mm) minimum I.D. can be connected to the automatic drain. Drain may fail to operate if the tube I.D. is less than 3/16" (5mm). Avoid restrictions in the tube.
 Automatic drain operating conditions (float operated)
 Bowl pressure required to close drain: Greater than 5 psig (0.3 bar)
 Bowl pressure required to open drain: Less than 3 psig (0.2 bar)
 Minimum air flow required to close drain: 2 scfm (1 dm³/s)
 Manual operation: Depress pin inside drain outlet to drain bowl
Materials
 Body, intermediate body, bowl: Aluminum
 Metal bowl liquid level indicator lens: Transparent nylon
 Filter element: Synthetic fiber and polyurethane foam
 Elastomers: Neoprene and nitrile
 Service indicator
 Body: Transparent nylon
 Internal parts: Acetal
 Spring: Stainless steel
 Elastomers: Nitrile

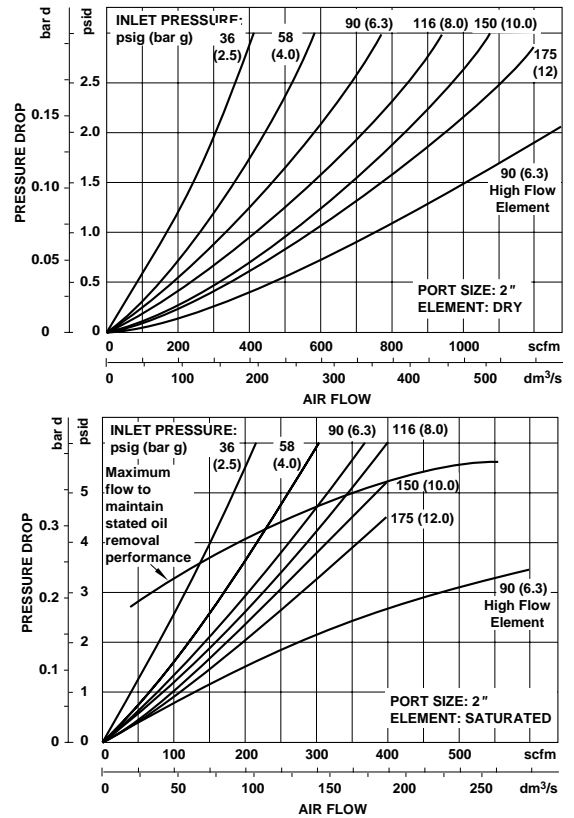
An automatic drain is a two-way valve, which will close when the system is pressurized. The drain opens when the float rises due to accumulated liquid and on depressurization.

All Dimensions in Inches (mm)



** Minimum clearance required to remove intermediate body and bowl. Add 0.59" (15 mm) for 1/4 turn manual drain.
 † Minimum clearance required to remove intermediate body and bowl.

Typical Performance Characteristics



Service Kits

Item	Type	Part number
Element kit	Standard	3203-02
	High flow	3203-05
Sightglass kit	All	2273-08

Oil Vapor Removal (Adsorbing) Filters

available in port sizes 1/4" to 1".

F72V Excelon Oil Vapor Removal Filter 1/4" and 3/8" Ports	ALE-3-2
F74V Excelon Oil Vapor Removal Filter 3/8", 1/2", and 3/4" Ports	ALE-3-4
F64B/L Coalescing/Oil Vapor Removal Filter 1/4", 3/8", 1/2", and 3/4" Ports . . .	ALE-3-6
F68V/Y Olympian Plus Oil Vapor Removal Filter 1/2", 3/4", and 1" Ports	ALE-3-8
F46 Oil Vapor Removal Filter 3/8", 1/2", and 3/4" Ports	ALE-3-10



F72V



F74V



F64 B/L



F68



F46

**Excelon 72 Oil Vapor Removal
Filter 1/4", 3/8" Port Sizes**

- Excelon design allows in-line or modular installation
- Adsorbing type activated carbon element removes oil vapors and most hydrocarbon odors
- Quick release bayonet bowl
- Long service life of filter element.
- Color indicator for oil presence.
- Modular installations with EXCELON 72, 73, and 74 series can be made to suit particular applications



Ordering Information. Models listed include PTF threads and a long transparent bowl without guard and closed bottom.

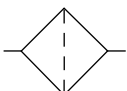
Port Size	Model	Flow* scfm (dm ³ /s)	Weight lb (kg)
1/4"	F72V-2AN-ELC	3.4 (1.6)	0.88 (0.40)
3/8"	F72V-3AN-ELC	3.4 (1.6)	0.88 (0.40)

* Maximum flow at 90 psig (6.3 bar) inlet pressure to maintain stated oil removal performance.

Alternative Models

Port Size	Substitute	F 7 2 V - ★ ★ N - E ★ C		Bowl	Substitute
1/4"	2	|	|	Metal	C
3/8"	3			Transparent without guard	L
				Transparent with guard	W

Threads	Substitute
PTF	A
ISO Rc taper	B
ISO G parallel	G

ISO Symbols

Auto Drain
See Section ALE-25 for Accessories



Technical Data

Fluid: Compressed air

Maximum pressure

Transparent bowl: 150 psig (10 bar)

Metal bowl: 250 psig (17 bar)

Operating temperature*

Transparent bowl: 0° to 125°F (-20° to 50°C)

Metal bowl: 0° to 150°F (-20° to 65°C)

* Air supply must be dry enough to avoid ice formation at temperatures below 35°F (2°C).

Required prefilter: Norgren oil removal filter with equivalent pipe size and flow capacity equal to or greater than the vapor removal filter.

Air quality: Within ISO 8573-1, Class 1** (oil content) when installed downstream of an oil removal filter

** See ALE-1-G for specification details.

Maximum remaining oil content in outlet air: 0.003 ppm at 70°F (20°C)

Maximum flow at 90 psig (6.3 bar) inlet pressure to maintain stated oil removal performance: 3.4 scfm (1.6 dm³/s)

Nominal bowl size

2.2 fluid ounce (65 ml)

Materials

Body: Zinc

Bowl

Transparent: Polycarbonate

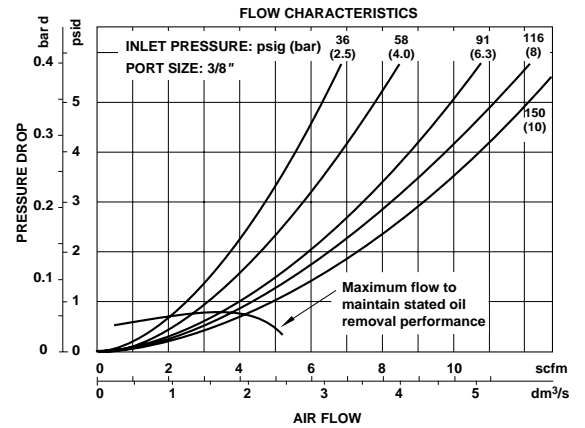
Guard for transparent bowl: Zinc

Metal: Zinc

Element: Activated carbon and polycarbonate

Elastomers: Nitrile

Typical Performance Characteristics

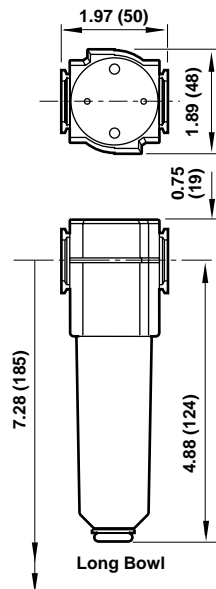


Service Kits

Item	Type	Part Number
Service kit	Seal and Gasket	4380-500
Replacement element	Adsorbing	4241-01

Service kit includes element seal and bowl seal.

All Dimensions in Inches (mm)



† Minimum clearance required to remove bowl.

**Excelon 74 Oil Vapor Removal
Filter 3/8", 1/2", 3/4" Port Sizes**

- Excelon design allows in-line or modular installation
- Adsorbing type activated carbon element removes oil vapors and most hydrocarbon odors
- Quick release bayonet bowl
- Long service life of filter element. Minimum life of 400 hours when an oil removal filter is installed upstream and the filtration temperature is in the region of 70° to 80°F (20° to 26°C).
- Modular installations with Excelon 72, 73, and 74 series can be made to suit particular applications



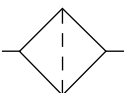
Ordering Information. Models listed include PTF threads and a closed bottom metal bowl.

Port Size	Model	Flow* scfm (dm ³ /s)	Weight lb (kg)
3/8"	F74V-3AN-EMA	27 (13)	2.54 (1.15)
1/2"	F74V-4AN-EMA	27 (13)	2.51 (1.14)
3/4"	F74V-6AN-EMA	27 (13)	2.46 (1.12)

* Maximum flow with 90 psig (6.3 bar) inlet pressure to maintain stated oil vapor removal performance.

Alternative Models

		F 7 4 V - ★ ★ ★ - ★ ★ ★				
Port Size	Substitute	|	|	|	Element	Substitute
3/8"	3				Adsorbing (Activated carbon without color indicator)	A
1/2"	4					
3/4"	6				Bowl	Substitute
Threads	Substitute	|	|	|	Metal	M
PTF	A				Transparent with guard	P
ISO Rc taper	B					
ISO G parallel	G				Drain	Substitute
Options	Substitute	|	|	|	Closed bottom (no drain)	E
No options	N					

ISO Symbols

Auto Drain
See Section ALE-25 for Accessories



Technical Data

Fluid: Compressed air

Maximum pressure:

Transparent bowl: 150 psig (10 bar)

Metal bowl: 250 psig (17 bar)

Operating temperature*:

Transparent bowl: 0° to 125°F (-20° to 50°C)

Metal bowl: 0° to 150°F (-20° to 65°C)

* Air supply must be dry enough to avoid ice formation at temperatures below 35°F (2°C)

Air quality: Within ISO 8573-1, Class 1 ** (oil content) when installed downstream of an oil removal filter

** See ALE-1-G for specification details.

Maximum remaining oil content in outlet air: 0.003 ppm at 70°F (20°C)

Maximum flow at 90 psig (6.3 bar) inlet pressure to maintain stated oil removal performance: 27 scfm (13 dm³/s)

Nominal bowl size: 7 fluid ounce (0.2 liter)

Required prefilter: Oil removal filter with equivalent pipe size and flow capacity equal to or greater than the vapour removal filter.

Materials

Body: Aluminum

Bowl:

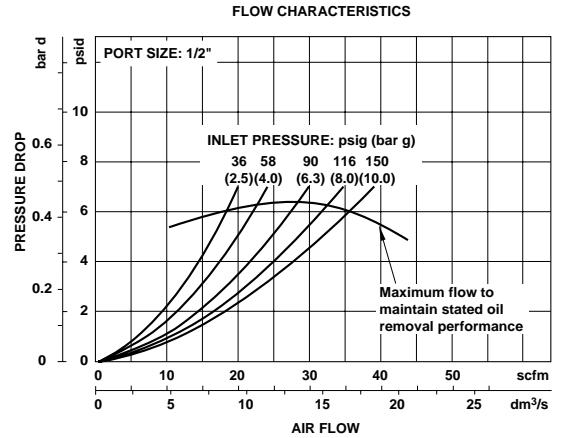
Transparent: Polycarbonate with steel bowl guard

Metal: Aluminum

Element: Activated carbon and aluminum

Elastomers: Neoprene and Nitrile

Typical Performance Characteristics

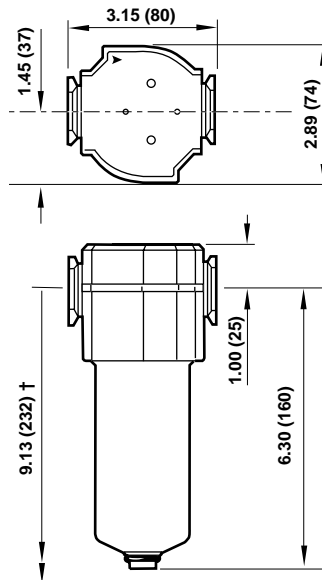


Service Kits

Item	Type	Part Number
Service kit	Seal and Gasket	4380-750
Replacement element	Adsorbing	4341-01

Service kit includes element seal and bowl seal.

All Dimensions in Inches (mm)



† Minimum clearance required to remove bowl.

**Olympian Plus Coalescing/Adsorbing
Filter 1/4", 3/8", 1/2", 3/4" Port Sizes**

- Olympian Plus plug in design
- Combined oil and vapor removal filter
- Oil and dirt contamination in outlet air within ISO 8573-1: Quality class 1.7.1

For optimum coalescing filter element life install a 5 µm F64G pre-filter upstream.



Ordering Information. Models listed include PTF threads, automatic drain and metal bowl.

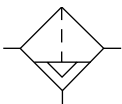
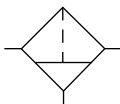
Drain Type	Port Size	F64B/L (only) Model	Weight lb (kg)
Automatic	1/4"	F64B-2AN-AR0	4.07 (1.83)
	3/8"	F64L-3AN-AR0	4.91 (2.21)
	1/2"	F64L-4AN-AR0	5.56 (2.50)
	3/4"	F64L-6AN-AR0	6.40 (2.88)

For replacement Filter (without yoke or pre-filter) substitute 'N' at the 5th and 6th digits eg: F64L-**NNN**-AR0.

Alternative Models

Body type		Substitute	Element		Substitute
For 1/4" ports		B	Coalescing		0
For 3/8", 1/2", 3/4" ports		L			
Port Size		Substitute	Bowl		Substitute
1/4"		2	Metal with liquid level indicator		D
3/8"		3	Transparent with guard		P
1/2"		4			
3/4"		6			
Threads		Substitute	Drain		Substitute
PTF		A	Manual		M
ISO Rc taper		B	Auto drain		A
ISO G parallel		G			
			Option		Substitute
			None		N

F 6 4 ★ - ★ ★ ★ - ★ ★ ★

ISO Symbols

Auto Drain

Manual Drain

See Section ALE-25 for Accessories

F64 B/L Coalescing/Vapor Removal Filters



Technical Data

Fluid: Compressed air

Maximum pressure:

Guarded transparent bowl: 150 psig (10 bar)

Metal bowl: 250 psig (17 bar)

Operating temperature*:

Guarded transparent bowl: 0° to 125°F (-20° to 50°C)

Metal bowl: 0° to 150°F (-20° to 65°C)

* Air supply must be dry enough to avoid ice formation at temperatures below 35°F (2°C).

Partial removal: 0.01 µm.

Air quality: Within ISO 8573-1, Class 1.7.1**

** See ALE-1-G for specification details.

Maximum remaining oil content in outlet air:

0.003 ppm at 70°C (21°C) with an inlet concentration of 17 ppm

Maximum flow at 90 psig (6.3 bar) inlet pressure†:

15 scfm (7 dm³/s) F64B, 23 scfm (11 dm³/s) F64L

Automatic drain connection: 1/8" pipe thread

Automatic drain operating conditions (float operated)

Bowl pressure required to close drain: Greater than 5 psig (0.3 bar)

Bowl pressure required to open drain: Less than 3 psig (0.2 bar)

Minimum air flow required to close drain: 2 scfm (1 dm³/s)

Manual operation: Depress pin inside drain outlet to drain bowl

For F64G pre-filter technical data please refer to separate sheet.

Materials

Body: Zinc

Yoke: Zinc

Metal bowl: Zinc

Optional transparent bowl: Polycarbonate

Integral pre-filter element: Sintered bronze

Main filter element and activated carbon pack: Composite materials

Elastomers: Synthetic rubber

Standard sight glass for metal bowl: Pyrex

Typical Performance Characteristics

Inlet Pressure		Maximum Flow†			
		F64B		F64L	
psig	(bar)	scfm	(dm³/s)	scfm	(dm³/s)
15	(1)	6	(2.8)	9.3	(4.4)
45	(3)	10	(4.8)	16	(7.6)
70	(5)	13	(6.2)	20.8	(9.8)
90	(6.3)	15	(7.0)	23.3	(11.0)
100	(7)	15.5	(7.3)	24.4	(11.5)
130	(9)	17.8	(8.4)	28	(13.2)

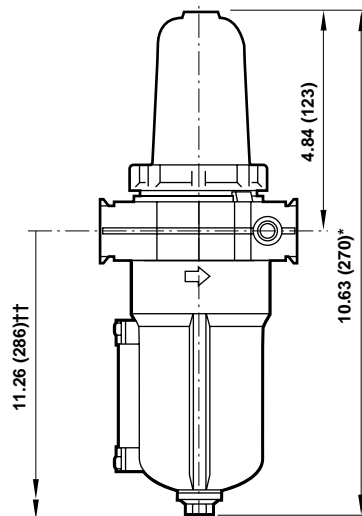
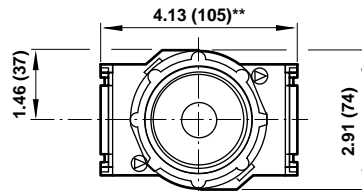
† Maximum flow to maintain stated oil removal performance.

Service Kits

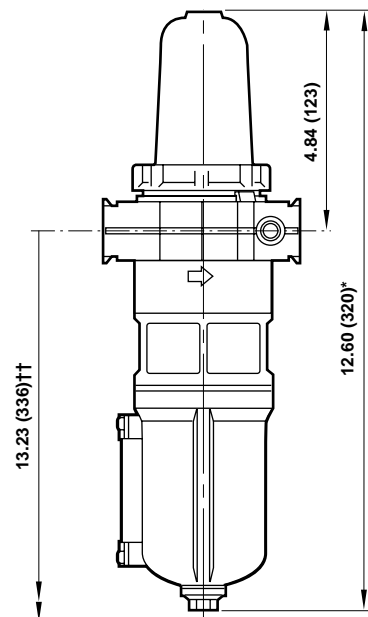
Item	Type	Part Number
Service kit	F64B/L	4380-201
Service kit (pre-filter)	F64G	4380-200
Element F64G (pre-filter)	5 µm	4338-01
Elements (F64B/L)	Coalescing (F64B)	5350-99
	Coalescing (F64L)	5350-98
	Integral pre-filter (F64B/L)	3698-02
	Activated carbon (F64B/L)	5568-01
Replacement sight glass	Prismatic (F64G)	4380-040
	Pyrex (F64G option)	4380-041
Replacement drains	Pyrex (F64B/L)	2273-97
	Automatic	3000-04
	Manual	684-84

Service kit includes port seals, bowl o-ring and drain gasket.

All Dimensions in Inches (mm)



F64B (automatic drain)



F64L (automatic drain)

* Automatic drain shown.

Add 0.39" (10 mm) for manual drain

†† Minimum clearance required to remove bowl.

** 6.18" (157 mm) for models with 3/4" ports

Olympian Plus Oil Vapor Removal (Adsorbing) Filter
1/2", 3/4", 1" Port Sizes

- **Olympian Plus plug in system**
- **Adsorbing type activated carbon element removes oil vapours and most hydrocarbon odours**
- **Long service life of filter element. Minimum life of 400 hours when an oil removal filter is installed upstream and the filtration temperature is in the region of 70° to 80°F (20° to 26°C).**
- **Oil and dirt contamination in outlet air within ISO 8573-1: Quality Class 1.7.1 when inlet air is prefiltered with an F68G and F68C/H.**



Ordering Information. Models listed include a yoke with PTF threads, and a filter with closed bottom (no drain) bowl.

Port Size	Type	Model	Weight lb (kg)
1/2	Standard flow (short element)	F68V-4AN-EMA	5.13 (2.33)
3/4	High flow (long element)	F68Y-6AN-ECA	5.74 (2.61)
1	High flow (long element)	F68Y-8AN-ECA	5.70 (2.59)

Alternative Models

F 6 8 ★ - ★ ★ ★ - ★ ★ ★

Flow	Substitute
Standard flow	V
High flow	Y

Port Size	Substitute
1/2"	4*
3/4"	6
1"	8
None	N

Threads	Substitute
PTF	A
ISO Rc taper	B
ISO G parallel	G
None	N

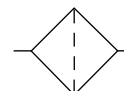
Option	Substitute
No options	N

Element	Substitute
Adsorbing (Activated carbon without color indicator)	A

Bowl	Substitute
1 pint (0.5 liter)	M*
1 quart (1 liter)	C**

Drain	Substitute
Closed bottom (no drain)	E

* Only available with F68V.
 ** Only available with F68Y.

ISO Symbols


Closed Bottom



Technical Data

Fluid: Compressed air

Maximum pressure: 250 psig (17 bar)

Operating temperature*: 0° to 150°F (-20° to 65°C)

* Air supply must be dry enough to avoid ice formation at temperatures below +35°F (+2°C).

Air quality: Within ISO 8573-1, Class 1 (oil content) when installed downstream of an oil removal filter

Maximum remaining oil content in outlet air: 70°F (0.003 mg/m³ at 20°C)

Maximum flow at 90 psig (6.3 bar) inlet pressure to maintain stated oil removal performance:

1/2" ports: 53 scfm (25 dm³/s)

3/4" ports: 74 scfm (35 dm³/s)

1" ports: 127 scfm (60 dm³/s)

Nominal bowl sizes:

1 quart US (1 liter)

1 pint US (0.5 liter)

Required pre-filter: Oil removal filter with equivalent pipe size and flow capacity equal to or greater than the vapor removal filter. It is recommended that a general purpose filter with a 5µm element be installed upstream of the oil removal filter.

Materials:

Body: Aluminum

Yoke: Aluminum

Bowl: Aluminum

Element: Activated carbon and aluminum

Elastomers: Synthetic rubber

Typical Performance Characteristics

Inlet Pressure		Maximum Flow *			
		F68V 1/2" Ports		F68Y 1" Ports	
psig	(bar)	scfm	(dm ³ /s)	scfm	(dm ³ /s)
36	(2.5)	33.3	(15.7)	80.1	(37.8)
58	(4)	42.4	(20)	101.8	(48)
90	(6.3)	53	(25)	127.2	(60)
116	(8)	60	(28.3)	143.7	(67.8)
150	(10)	66.8	(31.5)	160.3	(75.6)

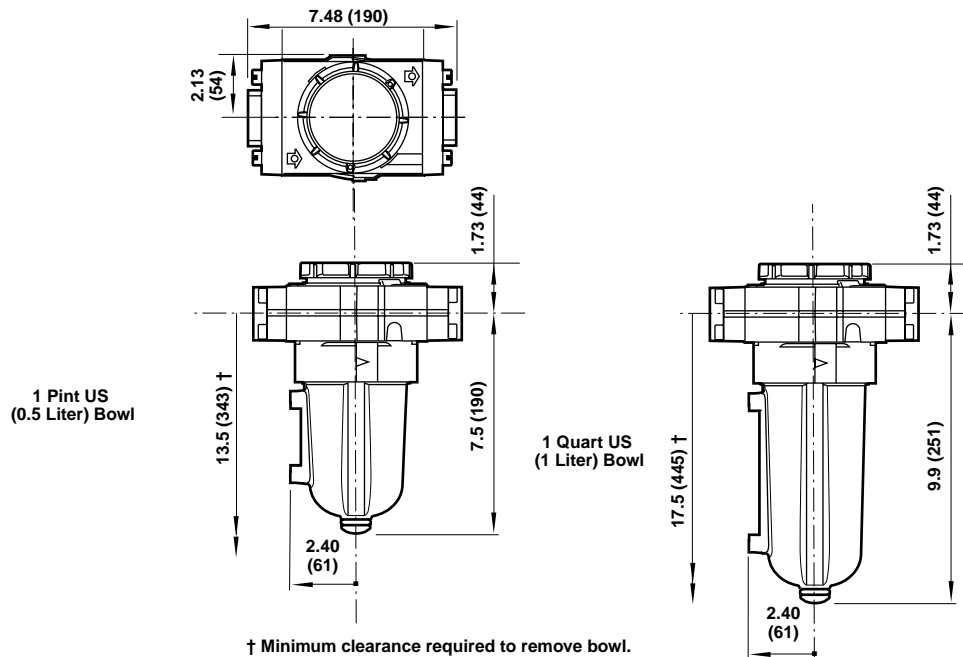
* Maximum flow to maintain stated oil removal performance.

Service Kits

Item	Type	Part Number
Service kit	Seal and Gasket	4380-302
Replacement element	Standard Flow (F68V)	665-72
	High Flow (F68Y)	665-70

Service kit includes element seal and bowl seal.

All Dimensions in Inches (mm)



F46 Oil Vapor Removal Filter

17 Series Oil Vapor Removal (Adsorbing)
Filter 3/8", 1/2", and 3/4" Port Sizes

- Adsorbing type activated-carbon filter element removes oil vapors
- Long service life of filter element. Minimum life of 1000 hours when an oil removal filter is installed upstream and filtration temperature is in the range of 70° to 80°F (21° to 26°C).
- Use in critical industrial applications that require compressed air virtually free of oil vapors
- Typical applications include precision pneumatic instrumentation, temperature control, paper separation, film processing, and production of electronic equipment
- Screw-on bowl reduces maintenance time
- Can be disassembled without the use of tools or removal from the air line



Ordering Information. Models listed include manual drain, metal bowl, and PTF threads.

Type	Port Size	Model Numbers	Flow* scfm (dm ³ /s)	Weight lbs (kg)
F46 Compact bowl	3/8"	F46-323-MAGA	60 (28)	3.62 (1.64)
	1/2"	F46-423-MAGA	60 (28)	3.53 (1.60)
F46 Standard bowl	1/2"	F46-424-MAMA	60 (28)	4.01 (1.82)
	3/4"	F46-624-MAMA	60 (28)	3.92 (1.78)
F46 Standard bowl	1"	F46-827-MAMA	100 (47)	3.73 (1.69)

* Maximum flow at 90 psig (6.3 bar) inlet pressure to maintain stated oil removal performance.

Alternative Models

F 4 6 - ★ ★ ★ - ★ ★ ★ ★

Port Size	Substitute
3/8"	3
1/2"	4
3/4"	6
1"	8

Element	Substitute
Compact	23 **
Standard	24 **

Threads	Substitute
PTF	A
ISO Rc taper	B
ISO G parallel	G

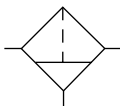
Bowl	Substitute
Metal, Compact	G **
Metal, Standard	M **

Element	Substitute
Adsorbing	A

Drain	Substitute
Manual	M

** A 23 requires a G in the 9th position of the model number, and a 24 requires an M.

ISO Symbols



Manual Drain

See Section ALE-25 for Accessories



Technical Data

Fluid: Compressed air

Maximum pressure: 250 psig (17 bar)

Operating temperature: *0° to 150°F (-20° to 65°C)

* Air supply must be dry enough to avoid ice formation at temperatures below 35°F (2°C)

Air quality: Within ISO 8573-1, Class 1** (oil content) when air is prefiltered with a Norgren oil removal filter

** See ALE-1-G for specification details.

Maximum remaining oil content of air leaving the filter: 0.003 ppm at 70°F (20°C) when air is prefiltered with a Norgren oil removal filter

Maximum flow at 90 psig (6.3 bar) inlet pressure to maintain stated oil removal performance: 60 scfm (28 dm³/s)

Required prefilter: Oil removal filter with equivalent pipe size and flow capacity equal to or greater than the vapor removal filter.

Materials:

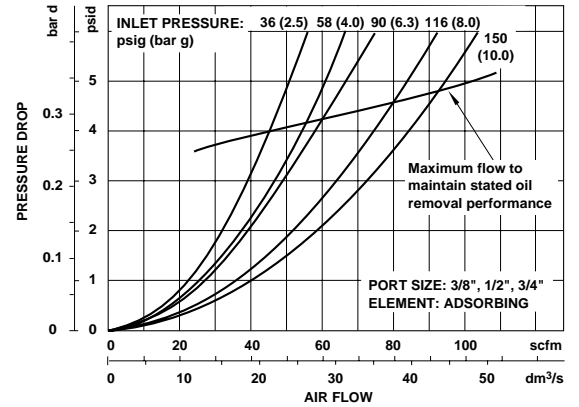
Body: Aluminum

Bowl: Aluminum

Filter element: Activated carbon, nylon, aluminum

Elastomers: Neoprene and nitrile

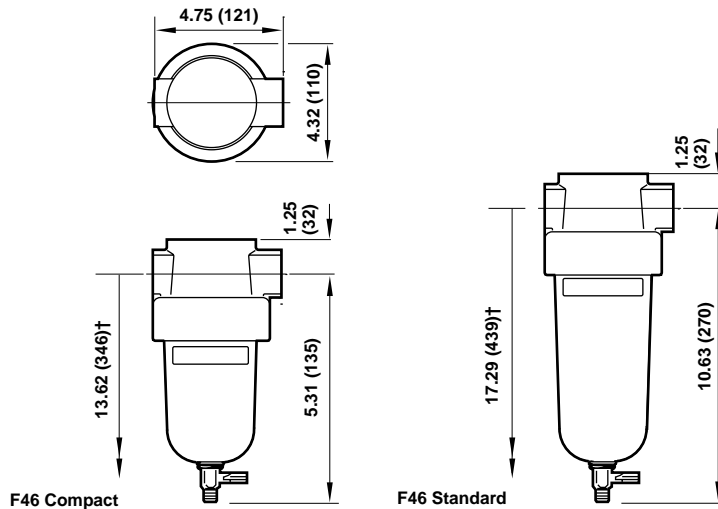
Typical Performance Characteristics



Service Kit

Item	Type	Part number
3/8", 1/2", 3/4" Service kit	Element and element o-ring	665-08
1" Service kit	Element and element o-ring	665-70
Replacement drain	Manual (1/4 Turn)	619-50

All Dimensions in Inches (mm)



† Minimum clearance required to remove bowl.

