



Effective : February, 1998 (replaces March, 1991)

# 12 SCFM Visi-Guard™ Filter/Dryer

**Models:** 4532-23 Filter w/Manual Drain  
4532-23T Filter w/Automatic Drain

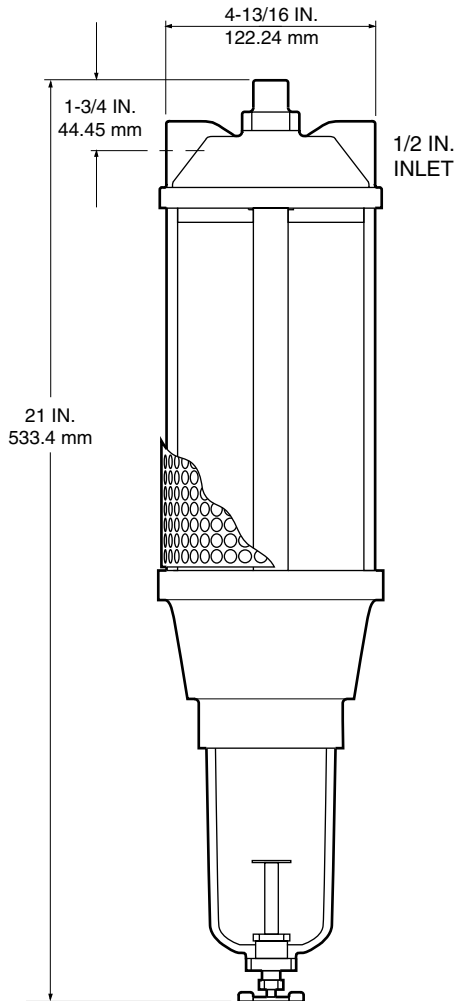
**Capacity:** 12 SCFM @ 100 psig  
340 l/min @ 7 Kg/cm<sup>2</sup>  
20 m<sup>3</sup>/hr @ 7 bar

**Dimensions:** Below

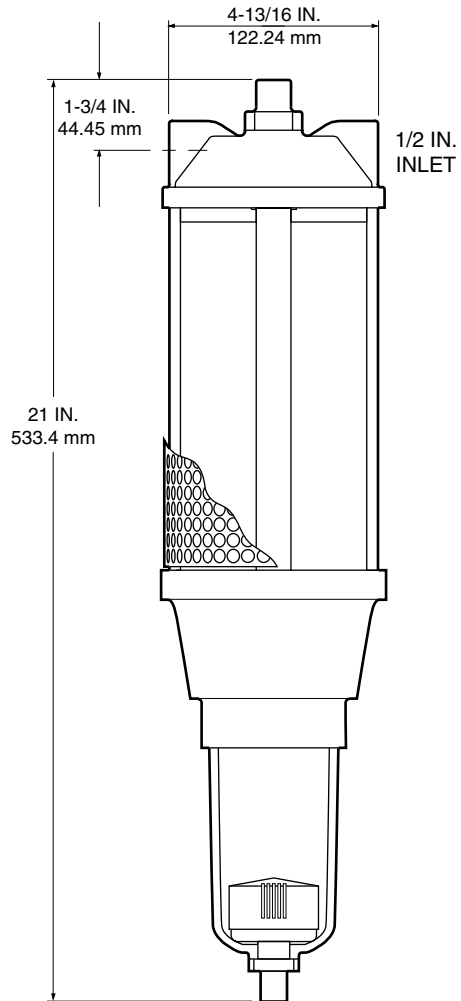
**Connections:** 1/2 in NPT

**Cartridges:** Two (2) Element Design -  
1st Stage Scrubber (coalescing)  
2nd Stage Desiccant (vapor removal)

**Material:** Filter Body - Aluminum  
Case/Sump - Acrylic/Polycarbonate



**4532-23**  
Filter w/ Manual Drain



**4532-23T**  
Filter w/Automatic Drain

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## End-Use Filters

Filtering the entire compressed air system at one central location does not generally provide sufficient cleaning for all end-use applications. Moreover, most compressed air piping contains some amount of rust, scale and condensed liquids. Water vapor that may be present in warm air will tend to condense into liquid when the air cools.

A compressed air filter installed just upstream of the end-use is generally the most efficient means of ensuring clean, dry air. These end-use filters can provide clean air to meet individual process requirements. A coalescing filter should be specified due to its long service life where liquid contaminants may be encountered.

*Do not undersize a compressed air filter.* Exceeding the listed flow rate of the filter will have a proportionate decrease in the service life of the cartridge elements. Frequent cartridge replacement necessitated by undersizing an application significantly increases maintenance

under such circumstances.

## Installation Instructions

1. Locate filter in coolest location in air system.
2. Install drip leg upstream of filter.
3. Locate filter as near end use as possible.
4. Always make inlet connection to port marked "Inlet" on the filter.
5. Auto Drain requires minimum 20 psi (1.4 kg/cm<sup>2</sup>) inlet pressure for proper operation.
6. Pressure gauges installed on both sides of the filter are useful to indicate when filter is being used in its proper flow range and also indicate when cartridges need replacing.
7. Pressure rating 150 psig. Maximum temperature when plastic bowl is used is 120° F./49° C.
8. It is important to the proper operation of the filter that the sump be drained daily. Failure to do this may cause permanent damage to equipment downstream of the filter.

costs. Maximum efficiency is generally obtained between 15%-100% of the maximum rating.

## Vapor and Condensation

Many types of pneumatic equipment and processes use compressed air that must be clean, dry and oil-free. This requires the removal of liquids, aerosols, dust and solid particulates from the airstream. Generally, only condensed liquids need to be removed. Visible fog or mist is actually composed of condensed liquid droplets. These are easily removed by using a coalescing compressed air filter at the end-use point.

Vapor is liquid in evaporated form. In this gaseous state, the liquid vapor will be invisible. Oil and water vapor are commonly present in compressed air systems. If either type of vapor must be removed, a compressed air dryer must be used.

Desiccant dryers, for instance, use media that attracts the vapor molecules through a process called "adsorption".

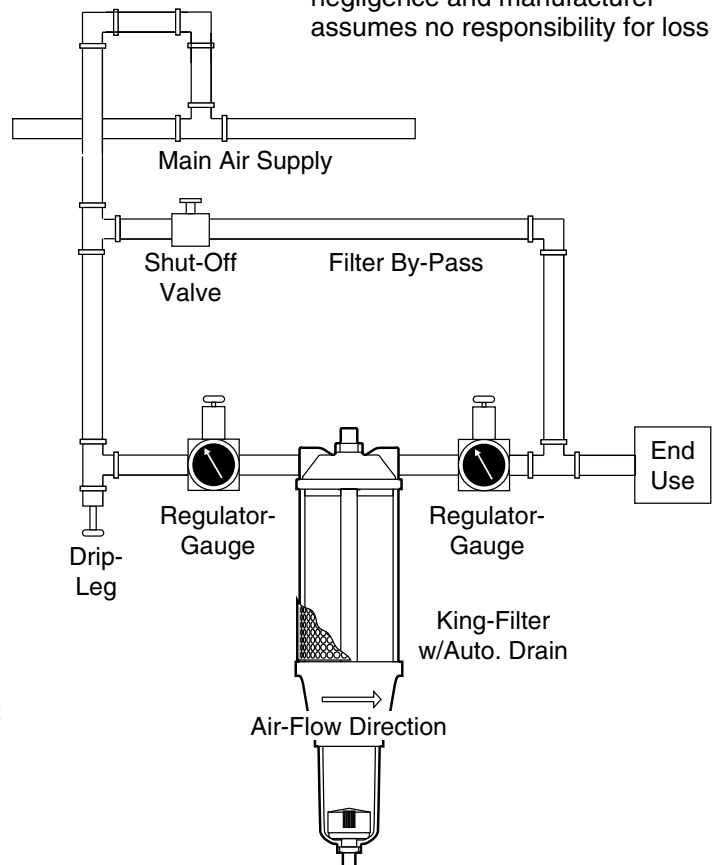
## Application Note

### *Polycarbonate Sumps/Acrylic Cases*

Polycarbonate sumps and/or acrylic plastic housings will be damaged if exposed to phosphate ester (synthetic) lubricants, chlorinated hydrocarbon solvents, methanol, acetone, ketones or lacquer solvents. Continued exposure to these compounds may result in premature failure of the pressure housing. Use only metal sumps/housings in environments where these materials and/or vapors are present.

Use of metal safety guards is generally recommended in certain instances, occupational safety regulations may require the use of metal guards or metal pressure housings.

Manufacturer's warranties are void in the event of misapplication or negligence and manufacturer assumes no responsibility for loss



## Service Parts

### Replacement Filter Cartridges:

#### (Standard)

0.1 Micron Replacement  
Type 750 Scrubber only - 9318-80

#### (Optional)

2.0 Micron replacement  
Type 300 Scrubber only - 9318

### Replacement Desiccant:

#### Oil Vapor Removal -

AC-1 - 1730-4  
MS-2 - 1730-6

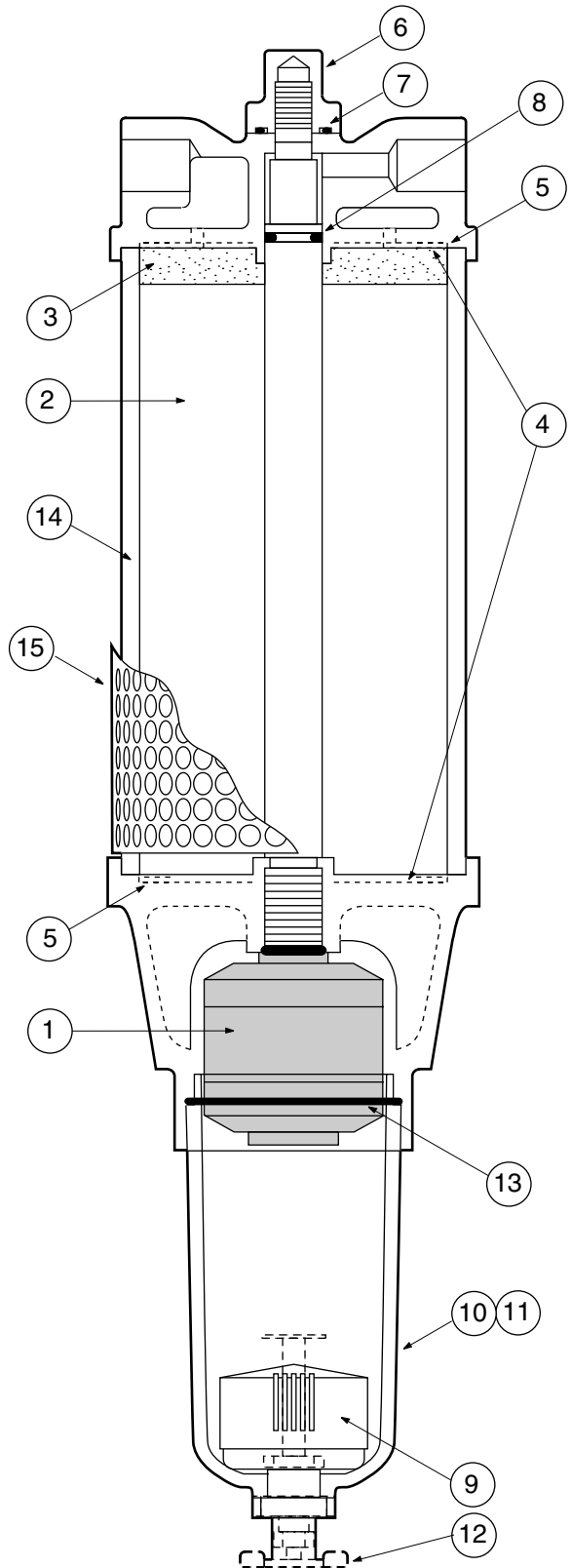
#### Water Vapor Removal -

SG-1 - 1730  
SG-2 - 1730-8

Item	Description	Part No.	Qty.
1	Scrubber Cartridge	above	1
2	Desiccant (note 1)	above	1
3	Dust Filter Pad (note 2)	1787	1
4	Screen Replacement Kit (note 3)	5910-1	1
5	Gasket (note 4)	9329-21	2
6	Center Post Nut	1721-NP	1
7	O-Ring	6495-14	1
8	O-Ring	6495-11	1
9	Automatic Drain	2465-31	1
10	Sump w/Auto. Drain (note 5)	4522-5	1
11	Sump w/ Manual Drain (note 5)	3277-7	1
12	Manual Drain Petcock	6120-4	1
13	O-Ring	2200-155	1
14	Visi-Bowl	6113-21	1
15	Shatterguard (note 6)	9423-11ZC	1

#### Notes:

- Includes item 3.
- Included with item 2.
- Includes (2) screens, (2) retaining rings and (2) gaskets.
- Included with item 4.
- To replace sump only, order 3277-7. For replacement sump with auto-drain, order 4522-5.
- Shatterguards are available for the polycarbonate filter sump. Details upon request.



## Cartridge Replacement

Under normal operating conditions, the only servicing which need be done to a King filter is to change the cartridge and desiccant. The number of times that this must be done will vary with each installation. Generally, the cartridges are changed when the pressure drop across the filter becomes objectionable.

### To change the cartridge the following procedure should be followed:

1. Turn off the air supply and drain the filter. This will vent the filter of all compressed air.
2. Remove the sump.
3. By using a King Filter utility wrench (p/n 2585) or inserting the points of long nose pliers into the two slots in the bottom of the scrubber cartridge it can be unscrewed. Install a new scrubber cartridge and replace the sump.
4. Turn on the air supply and the filter will start functioning immediately.

### Instructions for Installing Desiccant Charge:

1. Grasp base of dryer unit, unthread center post nut at top and remove lower assembly.
2. Empty the exhausted desiccant.
3. The seal between the bowl and lower assembly must be free of desiccant. When refilling, avoid pouring desiccant into center post.
4. Place dust filter pad over the bowl filled with desiccant. Reconnect bowl and lower assembly to the upper assembly, tightening center post nut securely to ensure proper seal.

**To clean Polycarbonate bowls use mild soap and water only! Do not** use cleansing agents such as acetone, benzene, carbon tetrachloride, gasoline, toluene, etc., which are damaging to this plastic.

**Caution!** it is important to the proper operation of the filter that the sump be drained daily. Failure to do this may cause permanent damage to equipment downstream of the filter.

