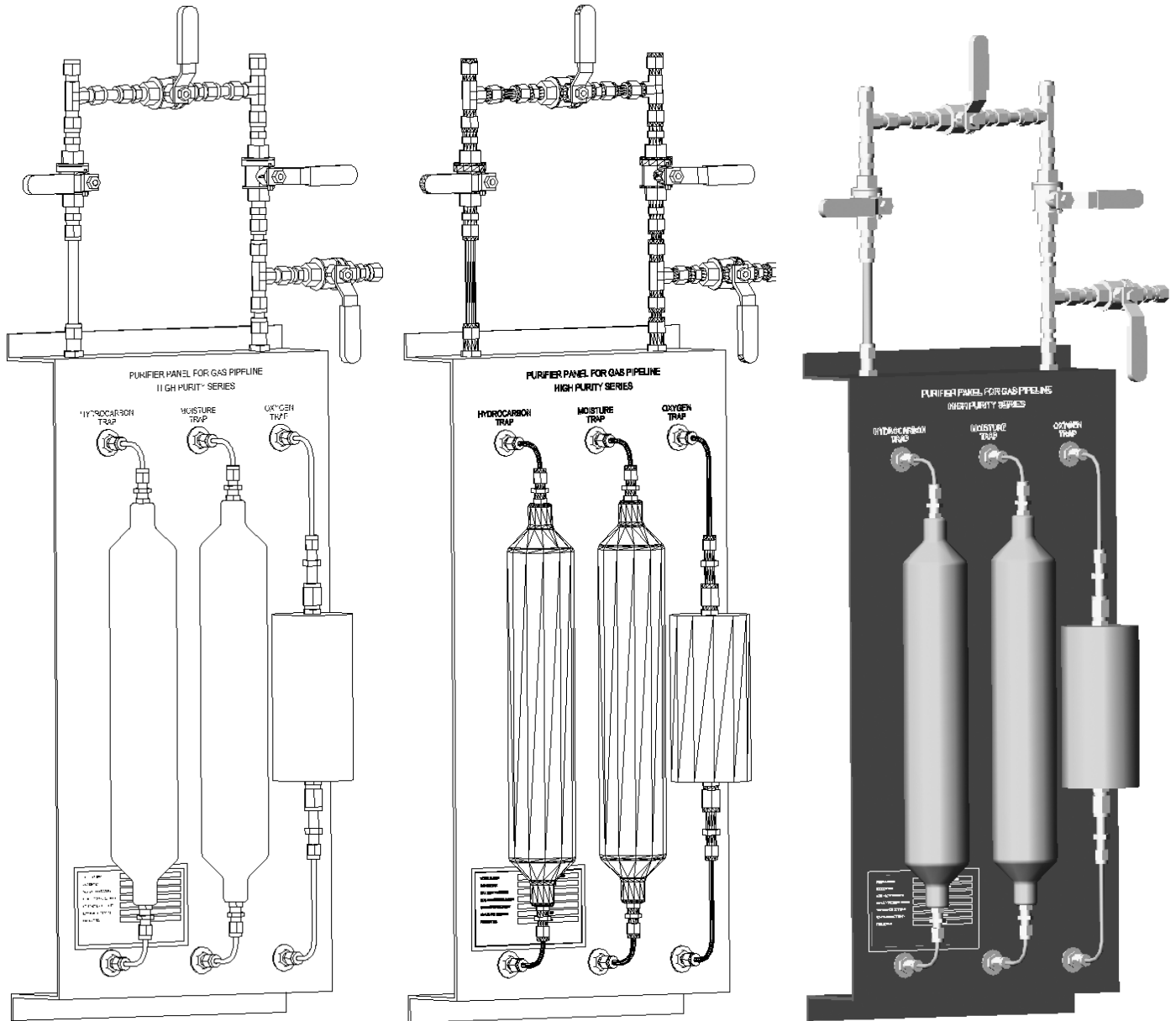


# Distribution Pipeline Filters for High Purity Applications



Innovative solutions for all your gas delivery needs

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## Industry Standards

Western manufactures and distributes equipment for the storage, control, and transmission of high pressure gases. In addition to the high purity gas equipment contained in this catalog, Western offers a complete line of gas control products for industrial, medical, and helium market applications.

## Ordering Information

To place an order, please call your gas equipment wholesaler. For more information on specific products, contact Western Customer Service at 1-800-783-7890.

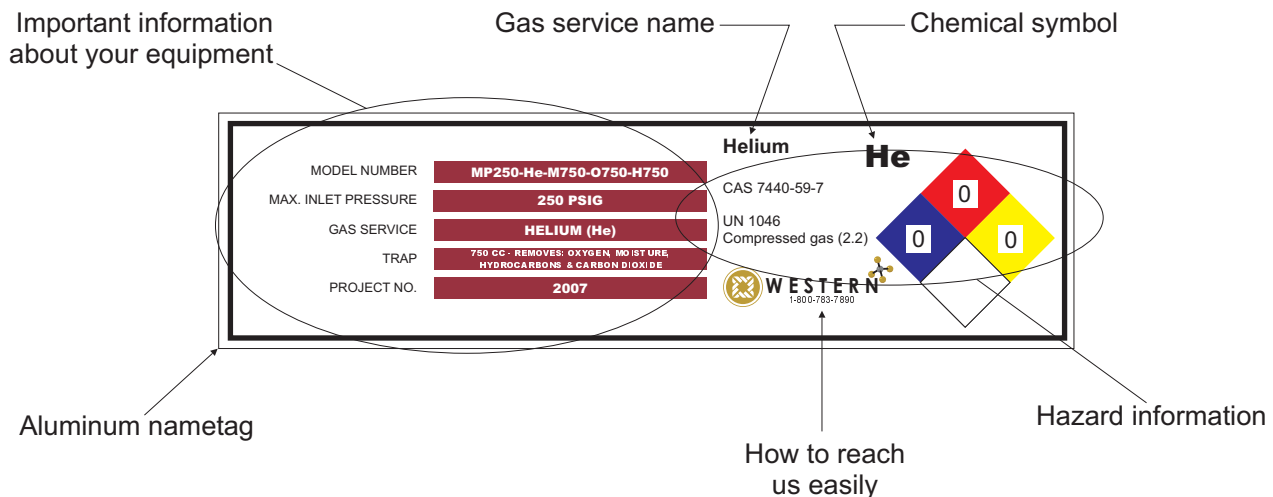
*Note: If any questions should arise as to the safety or application for Western products, Western Enterprises' product design engineering department will evaluate the requirements and make recommendations based on known regulatory information. User/installer is responsible for insuring installation has been done in accordance with local codes.*

## Warranty

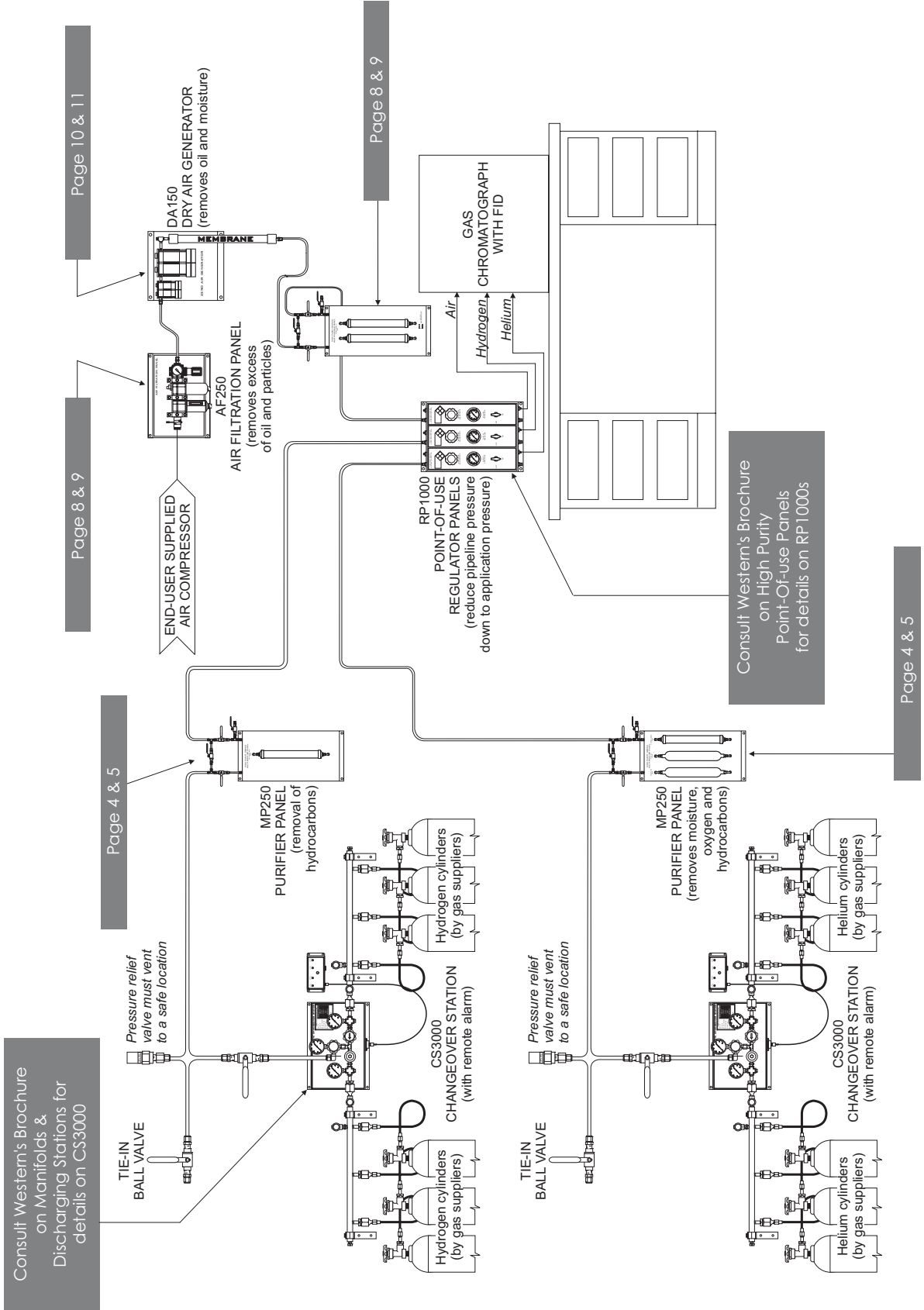
Western warrants to the purchaser that the products delivered to the purchaser will be free from manufactured defects in material and workmanship.

**This catalog is for informational purposes. Specific information regarding the use of these products is contained in the operating instructions provided with each product or on the product packaging.**

## Unique in the Industry - A Useful and Comprehensive Nametag



# Typical Installation: Gas Chromatography





# MULTI-PURIFIER PANELS FOR GAS PIPELINES

## MP250 SERIES

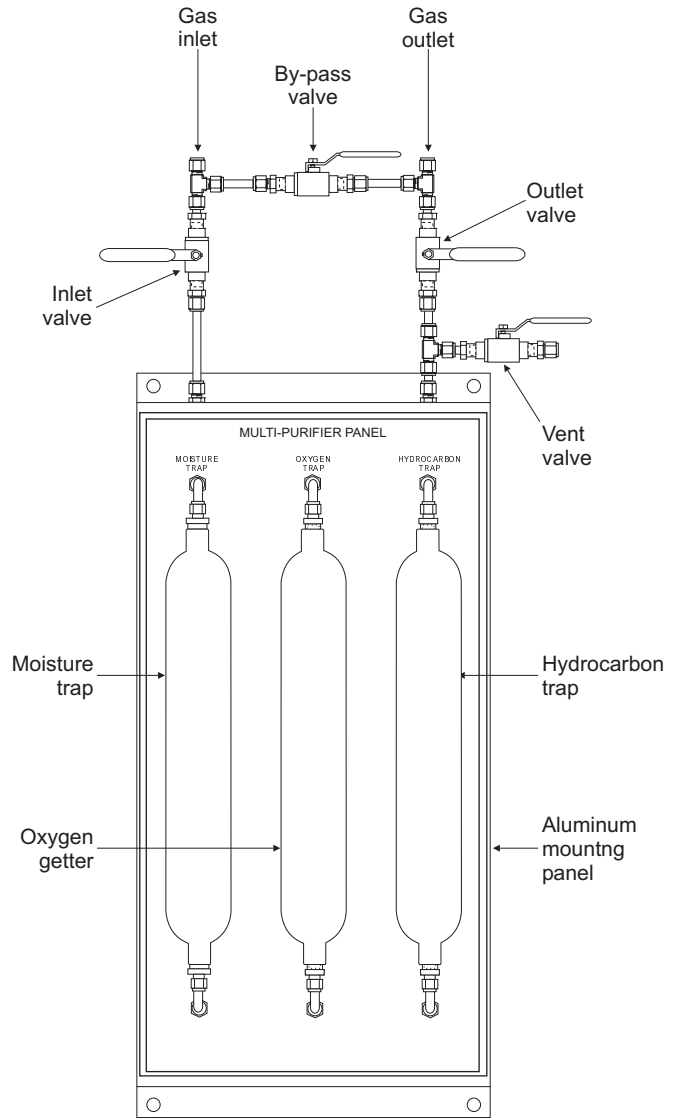
### Description

Designed for mass spec quality applications, the MP250 Series Multi-Purifier Panel reduces oxygen, moisture, hydrocarbons and carbon dioxide, to parts per billion levels. Particularly suited for use upstream of final line regulators, these multi-filter panels are designed to serve multiple gas chromatographs.

The unique design of the MP250 Series multi-purifier panel features inlet, outlet, by-pass and vent valves. All tubing, piping, fittings and valves are cleaned for high purity applications at the factory.

### Key Features

- **Panel mounted traps** - for easy changeouts
- **Vent valve** - assures purity integrity by venting air and other contaminants out of the pipeline
- **By-pass valve** - allows filter changeouts without interruption of gas supply
- **High capacity filters** - allow longer service between filter changeouts
- **Carrier gases** - suitable for most carrier and detector gases such as air, helium, hydrogen, and nitrogen
- **Purity** - helps to maintain your pipeline free of baseline noise inductive contaminants



**Model shown: MP250-5-M750-O750-H750**

### Installation tip

**INSTALL THIS PURIFIER PANEL NEAR  
THE GAS SOURCE**

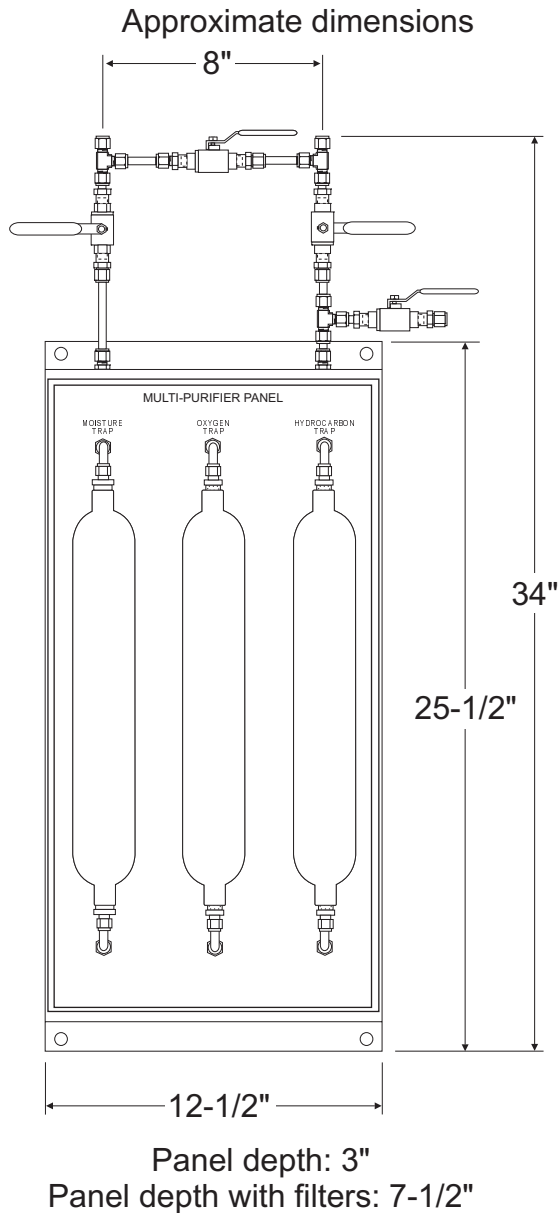
### How to order - part number matrix

MP250	-	-	-	-
Series	Typical fluid	Moisture trap capacity	Oxygen getter capacity	Hydrocarbon trap capacity
	<ul style="list-style-type: none"> <li>■ Air = 2</li> <li>■ Helium = 5</li> <li>■ Hydrogen = 6</li> <li>■ Nitrogen = 7</li> </ul>	Standard size <ul style="list-style-type: none"> <li>■ 750 cc = M750</li> </ul> Optional size <ul style="list-style-type: none"> <li>■ 120 cc = M120</li> <li>■ 200 cc = M200</li> <li>■ 400 cc = M400</li> </ul>	Standard size <ul style="list-style-type: none"> <li>■ 750 cc = O750</li> </ul> Optional size <ul style="list-style-type: none"> <li>■ 120 cc = O120</li> <li>■ 300 cc = O300</li> </ul>	Standard size <ul style="list-style-type: none"> <li>■ 750 cc = H750</li> </ul> Optional size <ul style="list-style-type: none"> <li>■ 200 cc = H200</li> </ul>



# MULTI-PURIFIER PANELS FOR HIGH PURITY GAS PIPELINES MP250 SERIES TECHNICAL SPECIFICATIONS

## Dimensional drawing

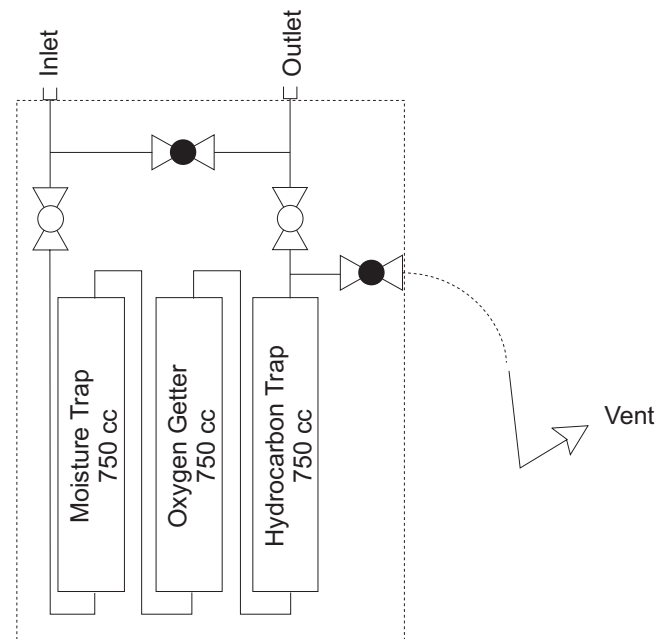


## Specifications

### Description

Maximum inlet pressure	250 psig
Inlet & outlet connections	3/8" compression S/S
Max. operating temperature	+ 212°F
Moisture trap	4A & 13X
Ingredients	(NaA, NaX & Mg aluminosilicate)
Oxygen getter ingredients	Alumina Copper oxide Nickel oxide Cobalt oxide
Hydrocarbon trap ingredient	Activated carbon Type KE

## Flow schematic



## Standard materials of construction

### Part description

Ball valve	Body: stainless steel 316 - Ball: stainless steel 316 - Seats & seals: PTFE
Tubes	Stainless steel 304 and copper ASTM B280
Fittings	Stainless steel 316
Traps	Body: Aluminum - Fittings: Brass - Reacting Agents: See Above Specifications
Mounting panel (non wetted)	Aluminum



# PARTICLE FILTER PANELS FOR ICP & ICP-MS

## PF1000 SERIES

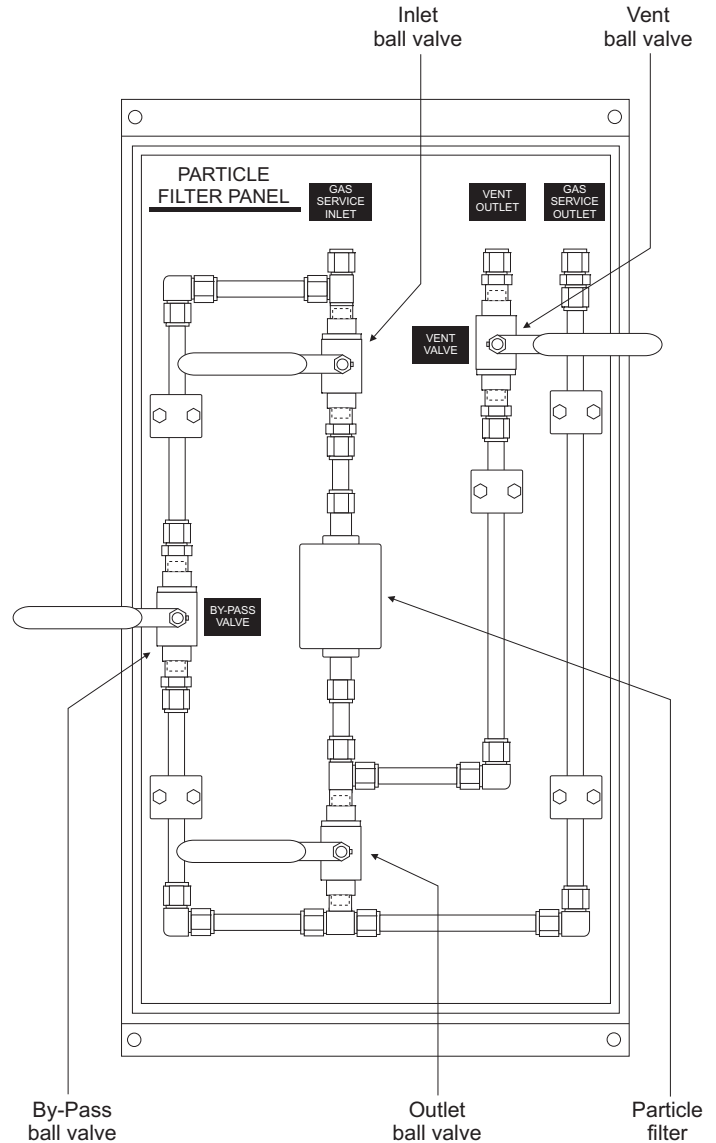
### Description

The PF1000 Series Particle Filter Panels are ideal where extreme levels of filtration are required. Our in-line filters are specifically designed to remove metals and other particulate matters from argon streams. Particularly suited for ICP and ICP-MS applications, the submicron filter membrane effectively removes all particles 0.01 micron or larger.

The panel mounted valves allow easy filter changeouts without an interruption of argon supply or pipeline contamination.

### Key Features

- **Design** - Low maintenance design with convenient access to panel valves and filter
- **By-pass valve** - Avoids gas supply shutdowns to the point-of-use during filter changeouts
- **Purge valve** - Allows the flushing of air and other contaminants out of the system before putting the filter back in service after filter changeouts
- **Inlet and outlet valves** - Their primary function is to isolate the filter during the filter replacement process
- **Filter** - 0.2 micrometer pore size membrane removes all particles 0.01 micron or larger
- **Stainless steel parts** - Minimizes metal and particles from being released into the gas stream
- **Construction** - Convenient complete package easy to install with pre-drilled holes in the panel



**Model Shown: PF1000-3-0.01m**

### How to order - part number matrix

<b>PF1000</b>	-		-	
Series		Typical fluid		Standard filter
		■ Argon = 3		■ 0.01 micron = 0.01m
		■ Helium = 5		■ Optional filters
		■ Hydrogen = 6		■ 0.1 micron = 0.1m
		■ Nitrogen = 7		■ 2 microns = 2m
		Other please specify		

### Installation tip

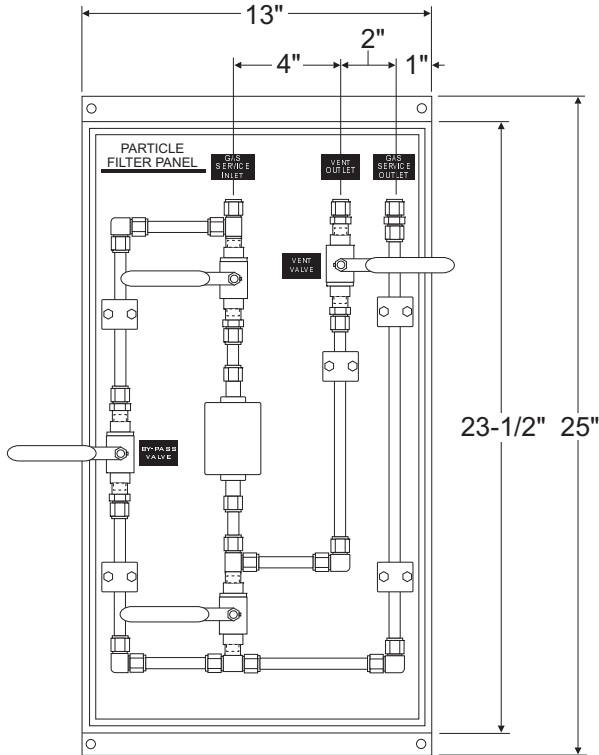
**WHEN USED FOR ICP OR ICP-MS APPLICATIONS, LOCATE THIS PANEL AS CLOSE AS POSSIBLE TO THE ANALYTICAL EQUIPMENT**



# PARTICLE FILTER PANELS FOR ICP & ICP-MS PF1000 SERIES TECHNICAL SPECIFICATIONS

## Dimensional drawing

Approximate dimensions



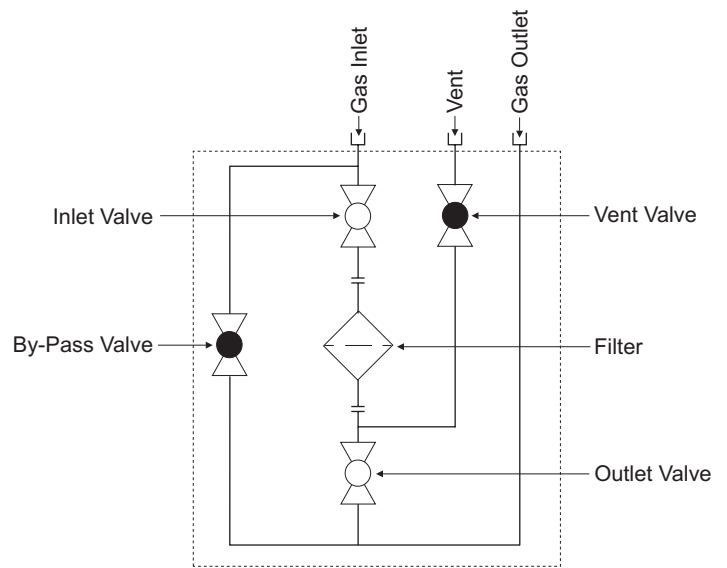
Panel depth:..... 3"  
Panel depth with Equipment:..... 5-1/2"

## Specifications

### Description

Maximum operating pressure	1000 psig
Maximum operating temperature	100°F
Maximum differential pressure	60 psi @ 70°F
Filtration rating	0.01 micron @ 100% efficiency
Maximum flow capacity	250 lpm 15 psig to atm.
Filtration area	0.5 ft <sup>3</sup>
Inlet & outlet connections	3/8" compression SS
Approximate weight	9 lbs

## Flow diagram



## Standard materials of construction

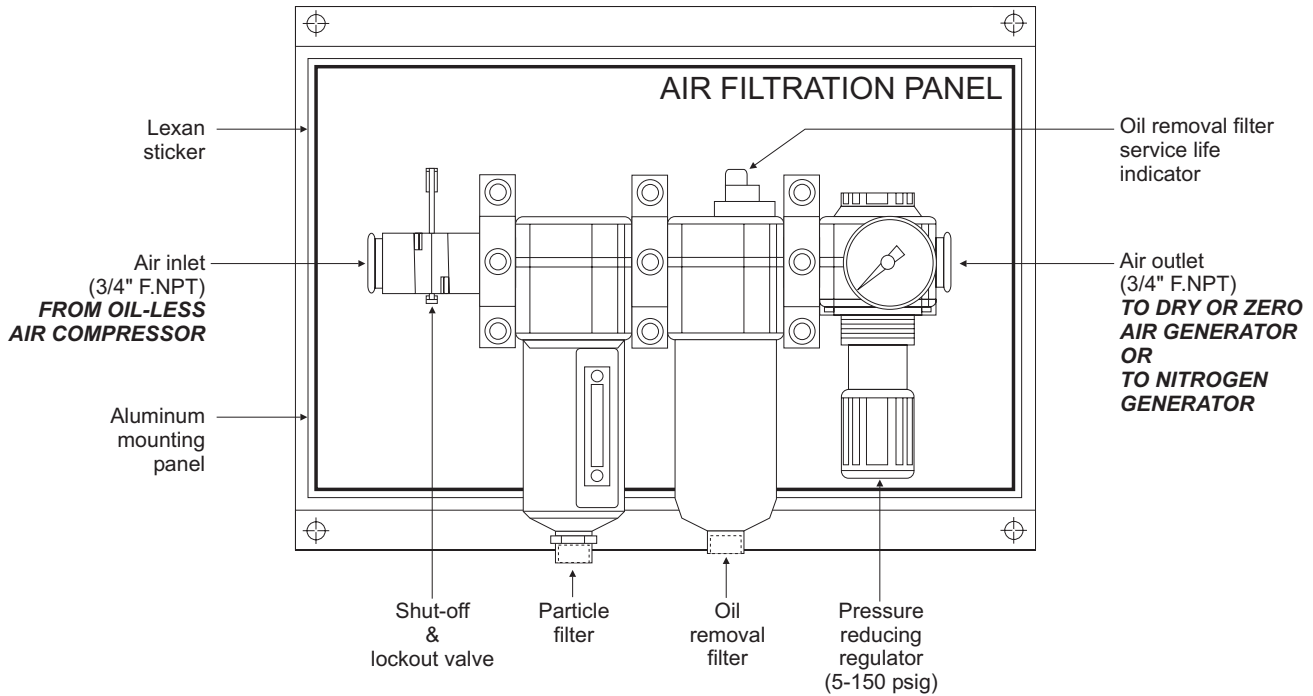
### Part description

Inlet & outlet ball valves	Body: SS 316 ASTM A351 GR. CF8M- Ball: SS 316 - Seat & seal: PTFE
Fittings	Type 316L stainless steel
Filter	Body and fittings: Type 316L stainless steel - Filter medium: PTFE Teflon O-ring seal: Teflon encapsulated silicone



# AIR FILTRATION PANELS

# AF250 SERIES



## Description

Nitrogen generators and Zero Air generators need to be fed with oil-free and particle-free compressed air. The AF250 is designed to remove traces of oil and particle deposits in the piping system before entering the generators. The line regulator assures constant delivery pressure to the generators.

## Warning

*The AF250 is not designed to remove water in the air stream. Specific air dryers might be required for your application. Consult WESTERN for details.*

*Maximum remaining oil content in outlet air is 0.01 ppm provided that air is supplied from an oil-free air compressor.*

## Key Features

- **2-position shut-off valve no exhaust** - Valve can be locked in the closed position only
- **Up to 5-micron filter with quick release bayonet bowl** - Removal of fine particles
- **Oil removal filter** - Coalescing type filtering element captures residual oil content in the pipeline down to 0.01 ppm
- **Pressure reducing regulator** - Balanced regulator design minimizes effect of variation in the inlet pressure on the outlet pressure
- **Panel mount in-line modular design** - Allows fast and easy installation

## How to order - part number matrix

<b>AF250</b>	-	-	-	-
<b>Series</b>	<b>Particle filter element</b>	<b>Oil removal filter</b>	<b>Outlet pressure</b>	
	Standard elements (in micron)	Standard elements	Standard ranges (in psig)	
	<ul style="list-style-type: none"> <li>■ 5 = PF5</li> <li>■ 25 = PF25</li> <li>■ 40 = PF40</li> </ul>	<ul style="list-style-type: none"> <li>■ Coalescent = COF</li> <li>■ Activated carbon = ACF</li> </ul>	<ul style="list-style-type: none"> <li>■ 5-60 = 60</li> <li>■ 5-150 = 150</li> <li>■ 10-250 = 250</li> </ul>	

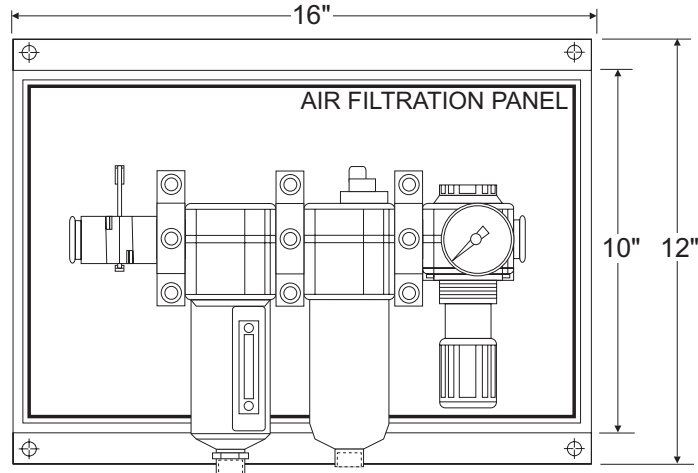


# AIR FILTRATION PANELS

## AF250 SERIES TECHNICAL SPECIFICATIONS

### Dimensional drawing

Approximate dimensions



### Specifications

Maximum Inlet pressure	250 psig
Outlet pressure range	Refer to P/N matrix
Inlet connection	3/4" F.NPT
Outlet connection	3/4" F.NPT
Operating temperature	-30°F to 125°F
Pressure gauge dial	1-1/2"

### Performance

Particle removal	0.01 micron
Maximum oil vapor content in outlet air (with an inlet concentration of 17 ppm)	0.01 ppm
Maximum flow at 90 psig inlet pressure	3540 scfh

### Standard materials of construction

#### Part description

Shut-off valve	Body: zinc - Slide: acetal plastic - Elastomers: nitrile Body: aluminum - Bowl: aluminum - Lens: nylon - Element: polypropylene Elastomers: neoprene and nitrile
Particle filter	Body: aluminum - Bowl: aluminum - Lens: nylon - Element: polypropylene Elastomers: neoprene and nitrile
Oil filter	Body: aluminum - Bowl: aluminum - Lens: nylon - Element: synthetic fiber and polyurethane foam or activated carbon - Elastomers: neoprene and nitrile - Service indicator: nylon body, acetal internal parts, stainless steel spring, nitrile elastomers
Pressure regulator	Body: aluminum - Bonnet: aluminum - Valve: brass - Elastomers: nitrile Bottom plug: acetal



# DRY AIR GENERATORS

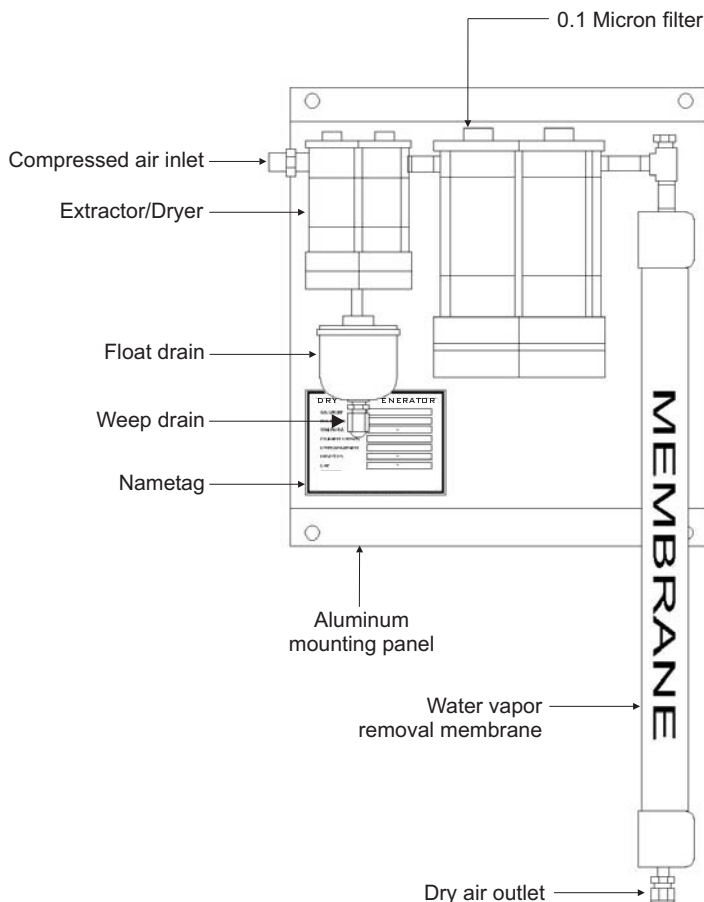
# DA150 SERIES

## Description

The WESTERN DA150 Dry Air Generators will supply oil and particle free dry air to dewpoints as low as -40°F. The mounting panel makes the installation easy and quick. The high efficiency coalescing extractor/dryer is installed prior to the water removal membrane to protect it from contaminants such as liquids, scales or other solids.

## Key Features

- **Dry air** - removes water vapor down to -40°F dewpoint
- **Particle free** - removes particles larger than 0.01 micron
- **Long lasting equipment** - no moving parts
- **Economical operation** - no power required
- **Easy maintenance** - maintenance involves routinely replacing the filter elements
- **Shut-down free operation** - designed to operate continuously 24/7



## How to order - part number matrix

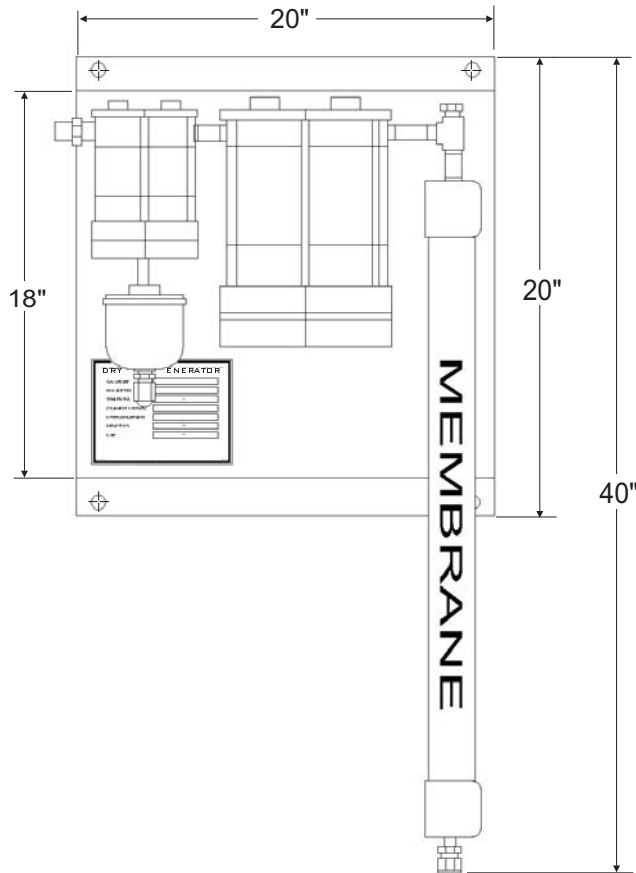
<b>DA150</b>	-	
Series		Flow capacity
		■ 5 scfm = 5
		■ 15 scfm = 15
		■ 25 scfm = 25
		■ 40 scfm = 40



# DRY AIR GENERATORS

## DA150 SERIES TECHNICAL SPECIFICATIONS

### Dimensional drawing



### Specifications

Maximum Inlet pressure	150 psig
Maximum temperature	120°F
Inlet & outlet connections	
DA150 - 5	1/4" F.NPT
DA150 - 15	1/2" F.NPT
DA150 - 25	3/4" F.NPT
DA150 - 40	1" F.NPT

### Performance

Particle removal	0.01 micron
Maximum oil vapor content in outlet air	0.01 micron
Flow performance	See flow table
Pressure lost	3 psig max.

### Flow performance

#### DA150 - 5

Pressure correction	75 psig	100 psig	125 psig	150 psig
Dewpoint	Useful Outlet Flow (scfm)			
-40°F	3	5	7	10
-20°F	6	10	14	19
0°F	7	12	17	23

#### DA150 - 25

Pressure correction	75 psig	100 psig	125 psig	150 psig
Dewpoint	Useful Outlet Flow (scfm)			
-40°F	15	25	35	48
-20°F	18	30	42	57
0°F	24	40	56	76

#### DA150 - 15

Pressure correction	75 psig	100 psig	125 psig	150 psig
Dewpoint	Useful Outlet Flow (scfm)			
-40°F	9	15	21	29
-20°F	14	23	32	44
0°F	18	30	42	57

#### DA150 - 40

Pressure correction	75 psig	100 psig	125 psig	150 psig
Dewpoint	Useful Outlet Flow (scfm)			
-40°F	24	40	56	76
-20°F	30	50	70	95
0°F	39	65	91	124



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