

IG Series

Industrial Grade Filter Housings

Features:

- Smooth Flow
- IR/Butt Fusion
- Industrial Waste
- High Flow Rates
- Individual Filter Stop
- Multi – Round Housings
- Uniform Flow Distribution
- Materials All Polypropylene
- On-Stream life 30% increase
- Vent, Drain & Gauge included
- Permits Filter Cartridge Backwash



Innovative Solution

The Multi-Round Industrial Grade Housings are designed for flow rates up to 300 GPM (1,150 Liters per minute) and 125 psi, while handling the most stringent applications in an efficient manner. All facets of the design and manufacturing process of this product have been dedicated to interfacing with the heart of the systems the filter elements. Our design offers a unique sealing and alignment for the filter cartridges while spacing the cartridges to provide uniform flow, all necessary features to filter down to 0.01 micron absolute. The construction materials are PVDF, CPVC and Polypropylene. The process, drain, and vent valve connections have been constructed utilizing the latest technology in welding (IR/Butt Fusion).

A retainer assembly is supplied which provides each cartridge with a stop that ensures the “O” Rings stay engaged even under back pressure, see Photo 1. This enables the user to interchange filter manufacturer’s cartridges with complete confidence that they will seal properly. This product is ideal when it’s necessary to backwash the filter cartridges.

The filter chamber has been designed to provide a smooth flow path from the inlet to the outlet. This ensures that the flow velocity of the fluid is maximized while traveling through the chamber, thus keeping particles in suspension until they are filtered out. A sophisticated flow distribution model has been utilized ensuring the process fluid flows uniformly along the length of the filter elements. This feature increases the on-stream life of the filter elements as much as 30%.

Applications:

- Bleach
- DI Water
- Rinse Tanks
- Plating Baths
- IPA Pre-Wetting
- Wet Processing
- Solar Processing
- Bulk Chemical Filtration
- Electro less Nickel Plating

IG Series Industrial Grade Filter Housings

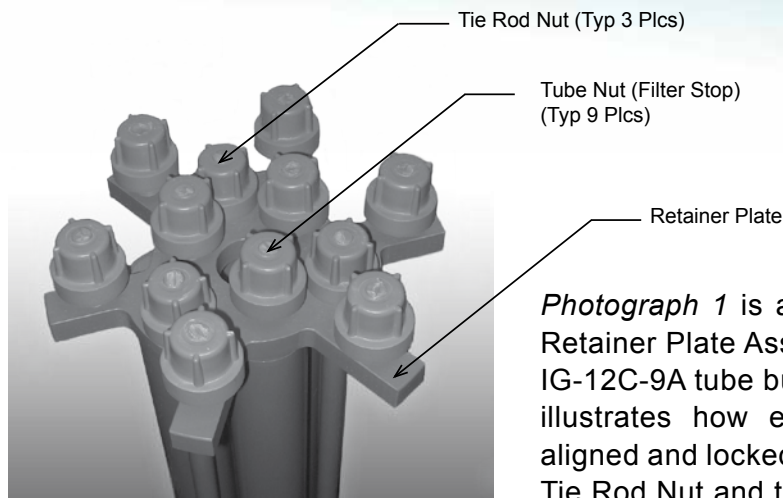


Photo 1- Retainer Plate Assembly (IG-12C-9A)

Photograph 1 is an end view of the Retainer Plate Assembly for an IG-12C-9A tube bundle. Photo 1 illustrates how each filter can be aligned and locked in place using the Tie Rod Nut and the Tube Nut (Filter Stop) on the retainer plate. This feature allows the operator to easily secure each filter quickly and safely.

Photo 2 demonstrates 1.0" length adjustment available with each filter cartridge.

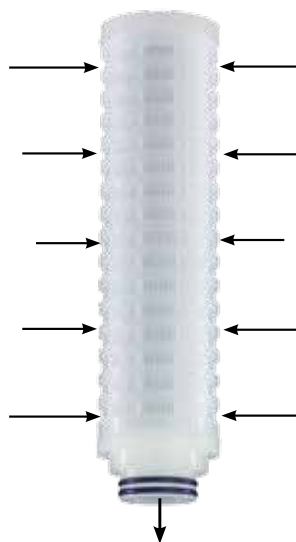


Illustration 1 shows graphically the benefits a uniform flow distribution has. When the filter cartridges are spaced correctly, as shown in Illustration 2, the flow goes equally around each filter cartridge. This ensures that the contamination builds uniformly around the filter cartridges fully using all of the filter media in each cartridge extending the on-stream life.

Illust. 1
Flow Velocity

Chart 1
Filter Housing Pressure Drop

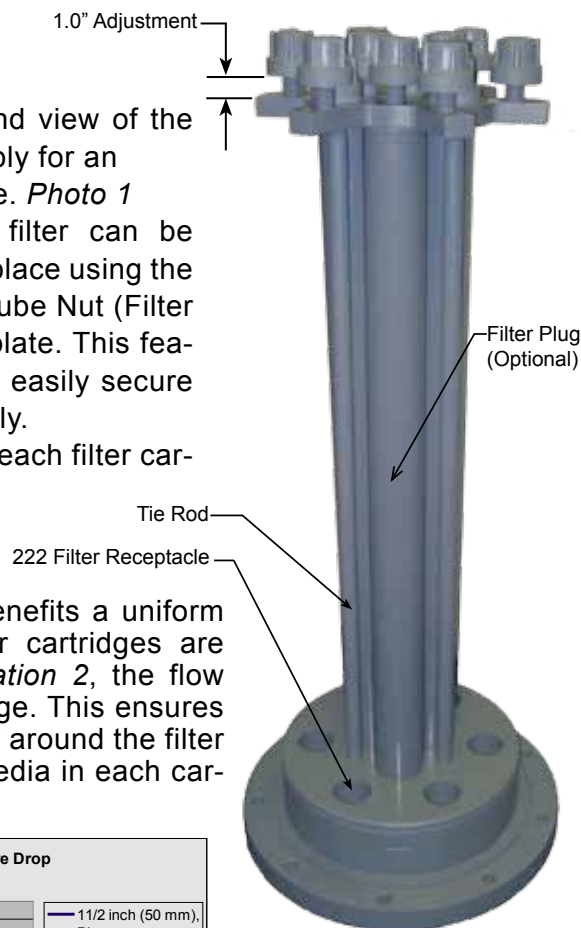
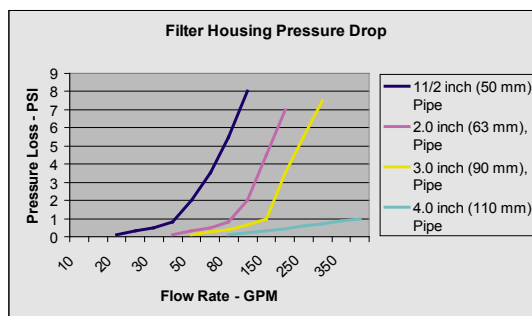
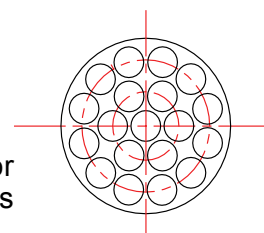


Photo 2-Tube Bundle Hardware (IG-12C-9A)



Illust. 2
End View of Filter Bundle

IG SERIES SPECIFICATIONS TABLE

Chamber Model	GPH Based on 70°F Water	Cartridge No. & Length	Connection Size	Shipping Wt. lbs.
8C-4-1	750 - 1200	4 - 10"	1.5"	34
8C-4-2	1200 - 2400	4 - 20"	1.5"	46
8C-4-3	2400 - 3600	4 - 30"	1.5"	58
8C-4-4	3600 - 4800	4 - 40"	2.0"	70
12C-9-1	1300 - 2700	9 - 10"	1.5"	72
12C-9-2	2700 - 5400	9 - 20"	2.0"	92
12C-9-3	5000 - 6500	9 - 30"	3.0"	112
12C-9-4	6200 - 8640	9 - 40"	3.0"	132
18C-19-2	3400 - 5700	19 - 10"	3.0"	200
18C-19-3	6800 - 11,400	19 - 20"	3.0"	235
18C-19-4	10,250 - 17,100	19 - 30"	4.0"	270

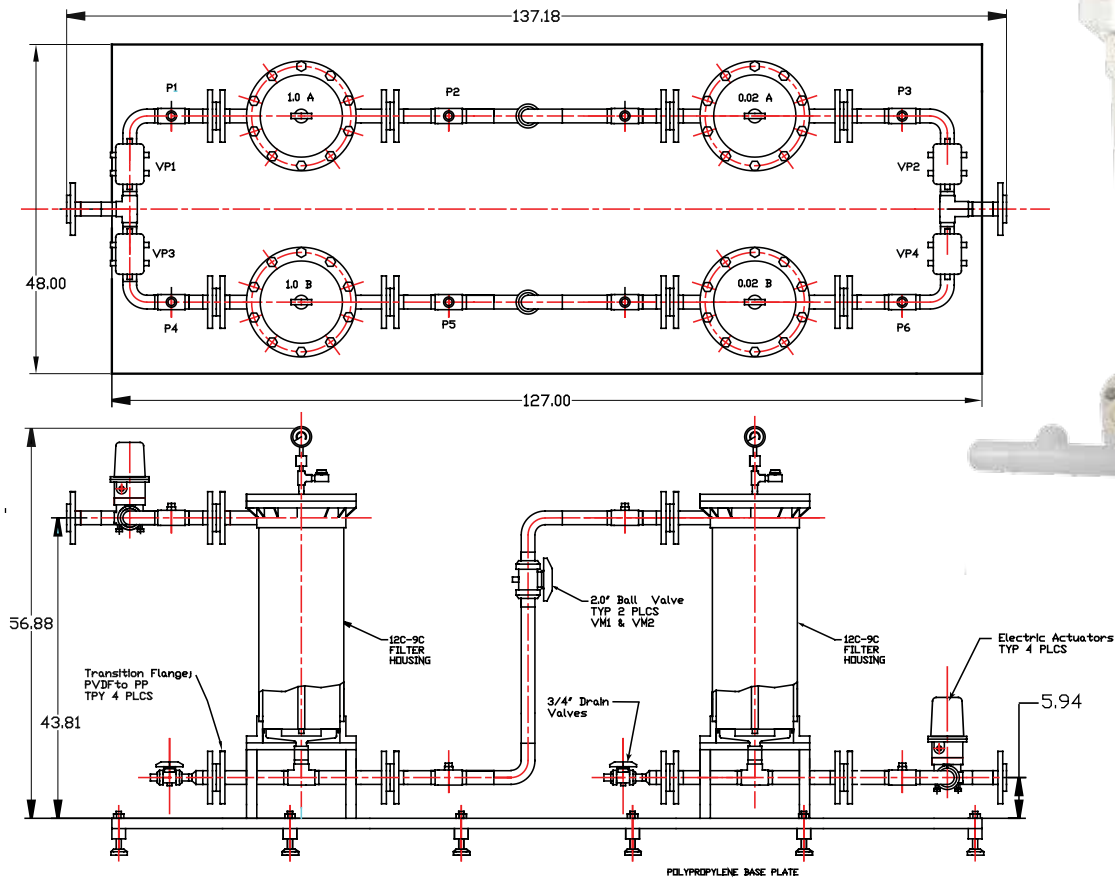
The inlet and outlet connections for 8C, 12C and 18C filter chambers come standard with ANSI flanges.

To determine pressure drop, first obtain the correct pipe size from the IG Series Specifications Table and the Model No. Then use that information to get the pressure drop from Chart 1.

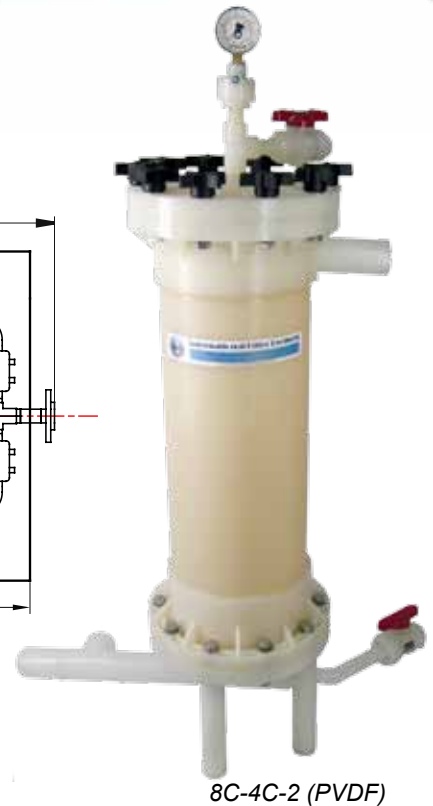
Other factory flange arrangements, process control valves, control panel and skid mounted arrangements are available upon request.

IG Series

Industrial Grade Filter Housings



Schematic 1
Automatic Pre & Final Duplex Filtration System



All series IG Filter Housings are specifically designed to accommodate cartridge tolerances of +/- 0.75 in length to ensure proper interface with all existing filter manufacturer's cartridges available in the market. Although the major manufacturers of cartridges offer many styles and codes, at least one style will fit the IG chamber, Consult factory for verification. The process, drain and vent valve connections have been constructed utilizing the latest technology in welding (IR/Butt Fusion).

Penguin staff engineers are leaders in their respective fields, each having published in industry recognized magazines, presented technical papers and hold numerous patents. Our engineering staff is friendly and willing to solve problems that others have abandoned. We offer complete filtration systems, an example of an advanced system would have multiple IG Series Filter Vessels arranged in parallel with pre and final filtration, ancillary piping, automated valves, computerized controls with variable functions of time and pressure, see Schematic 1.

Contact us for additional information regarding advance capabilities and features.

IG Series

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Specifications:

Housing Type: Multi -Round

Max Temperature: 260°F (125°C)

Max Temperature: 180°F (82°C), CPVC

Max Temperature: 130°F (55°C), Polypropylene

Cartridge Type: 222/226 "O" Ring or DOE

Max Cartridge Dia. (in): 2.75 (69.9 mm)

Vent Valve: ½" Ball Valve, Trunnion

Material: CPVC, PVDF, or Polypropylene

Vent Valve: ½" Ball Valve, Trunnion

Pressure Gauge: Oil Filled with Gauge Guard

Max Pressure (PSI): 125 PSI (8.8Kg/Cm2) @ 70°F, All Matrials

Seals: Viton Standard, EPR, Buna-N or Silicon Available

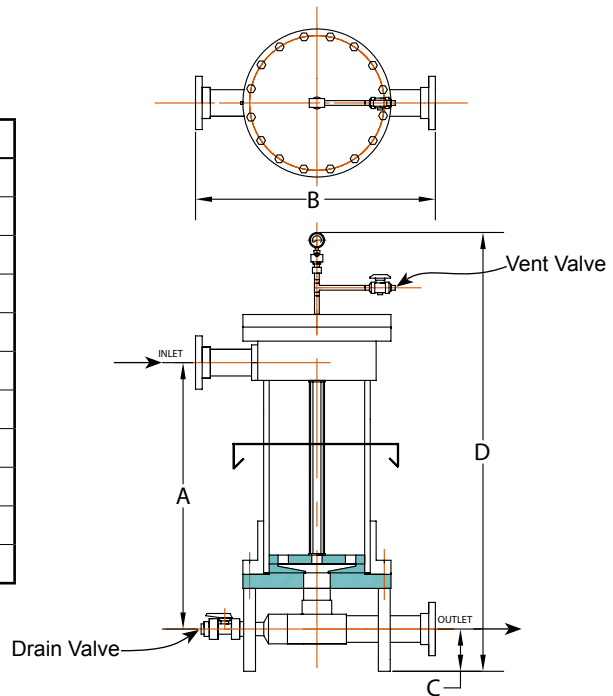
Flanges: ANSI Standard, JIS or DIN Available

Drain Valve: ¾" or 1.0" Ball Valve, Trunnion

IG SERIES DIMENSIONS

PART#	"A"	"B"	"C"	"D"
8C-4-1	25"	25"	7.14"	55-1/4"
8C-4-2	35"	25"		65-1/4"
8C-4-3	45"	25"		75-1/4"
8C-4-4	55"	25"		85-1/4"
12C-9-1	25"	30"		56-1/4"
12C-9-2	35"	30"		66-1/4"
12C-9-3	45"	30"		76-1/4"
12C-9-4	55"	30"		86-1/4"
18C-19-2	35"	40"		66-1/4"
18C-19-3	45"	40"		76-1/4"
18C-19-4	55"	40"		86-1/4"

All dimensions are in inches, 1.0 inch = 25.4mm



NOMENCLATURE

PART NUMBER EXAMPLE: IG-8C-4A-2-1-V

Industrial Grade	Chamber Diameter	Chamber Series	No. of Cartridges	Chamber Material	Cartridge Length	Cartridge Fitting	Seal
IG	4 = 4" Dia	C - Filter	1 = 1	A=CPVC	1 = 10"	1 = 222	V = Viton
	8 = 8" Dia		4 = 4	B=Polypropylene	2 = 20"	2 = 226	B = Buna N
	12=12" Dia		9 = 9	C=PVDF	3 = 30"	3 = DOE	E = EPR
	18=18" Dia		19 = 19*		4 = 40"		S = Silicon

*NOTE: The 19 element unit is not available in PVDF