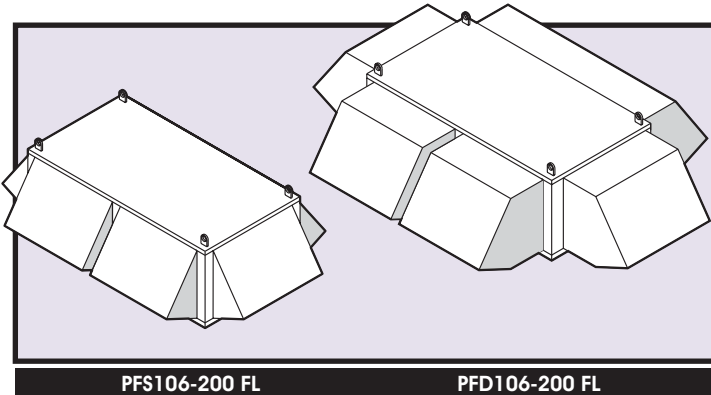


INDUSTRIAL FILTRATION PRODUCTS

CONSLER PFS AND PFD SERIES AIR INTAKE FILTERS



PFS106-200 FL

PFD106-200 FL

Features

- Compact pleated element panels provide maximum area and dirt holding capacity
- Low pressure drop, low energy costs
- PFS Series: Positive sealing services
- PFD Series: Two stage design with positive sealing services
- Rugged all-weather steel housing
- Reduction of air and compressor noise
- Safety screen design allows panel element replacement without interruption of equipment operation
- Modified and custom designs available
- Easy, low maintenance cost effective design

Applications

- For efficient removal of dust, dirt, and other airborne contaminants from high flow inlet air streams
- PFS Series: Filtration of 98% of 15 micron solid contaminants
- PFD Series: Filtration of 99.97% of 2 micron solid contaminants
- To provide dust-free air to centrifugal fans, compressors, blowers, and turbines
- For indoor or outdoor service
- For continuous or intermittent service
- For silencing of objectionable air intake noise on compressors, blowers, etc.
- Ideal for satisfying original equipment manufacturer's specifications

Element Design and Construction

The PFS and PFD Series filter elements offer cleanable and replaceable panels that utilize a pleated media design. Each element offers maximum filter area in a compact assembly. Rugged metal frames and wire mesh guard on each element face ensure long life and withstand rough handling and moisture. Low pressure drop, large dirt holding capacity and high efficiency filtration are assured in the design of Consler Filtration Products panel filter elements.

The standard PFS Series elements are furnished with synthetic filter media that provides 98% retention efficiency on 15 micron solid particles, and 90% retention of 8 micron particles.

The PFD Series uses two separate stages of panel filter elements. This two stage panel element design provides critically clean air with low pressure loss and high efficiency. The Primary Stage panel element incorporates a synthetic pleated media capable of

providing 98% retention efficiency on 15 micron particles and 90% retention of 8 micron particles. The Second Stage panel elements also incorporate an extended surface area design. Corrugated aluminum spaces between each accordion pleat of the micro-glass medium ensure high dirt holding capacities and low pressure drops at flows to 2500 CFM per panel. Each Second Stage panel element provides an efficiency of 99.97% retention of 2 micron particles. Positive seal gaskets on each element face prevents by-pass of unfiltered air at each stage.

No special tools are required to replace or service Consler's panel filter elements. A hand strap on each element allows fast and simple change-out without interrupting equipment operation. After extended use these panels can be vacuum cleaned or flushed with water or a mild cleaning solution.

Housing Design and Construction

All models are constructed from carbon steel or stainless steel. They are furnished with weatherhoods and rugged welded steel construction for strength and protection from rain or snow. Units may be remotely piped and roof mounted, or directly mounted to the air intake connection of the machinery. A low profile design provides an attractive appearance in outdoor installations.

Long life and durability are featured in this economical housing design. All carbon steel surfaces are primer coated, followed with a final finish of blue enamel. The standard internal steel inlet guard prevents small foreign objects from entering the exposed air intake passage when servicing or replacing panel elements. Gauge taps are provided as standard on each housing. Each panel opening is fitted with a long life resilient seal gasket to prevent by-pass of any un-filtered air. Lifting lugs are provided for ease in initial installation.

Where desired, each housing style may also be modified or customized to meet special application needs. Special options and accessories are available including differential pressure gauges or indicators, internal noise silencing, modified connection sizes and styles, and zinc rich surface coating.

Graver Technologies also makes these fine filter products:

- Air Intake Filters
- Air Intake Filter/Silencers
- Multi-Stage Air Intake Filters
- Air/Gas Pressure Filters
- Vacuum Filters
- Liquid Filters and Strainers
- Smoke/Oil Mist Eliminators
- Filter Separators (Pressure Service)
- Special and Custom-Designed Filters and Filter Elements
- Lube Oil Filters and Filter Elements

Graver Technologies has representatives in major cities of the United States, Mexico and Canada. Representatives are also located in many other countries around the world.

For more detailed information about Consler brand filters, contact your representative or Graver Technologies. Graver has a policy of continued product improvement and reserves the right to change specifications without notice.

PFS Series Specifications

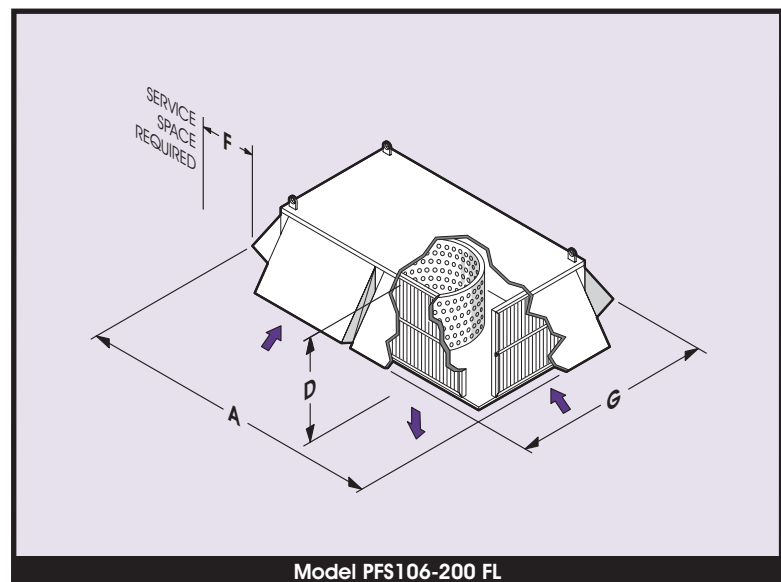
Model No.	Ref. Fig.	STANDARD Connection Size, in.	OPTIONAL Max. Conn. Size, in.	DIMENSIONS-INCHES ¹				RATED CFM	ΔP @ RATED CFM in. H ₂ O	Number of Inlets	Approx. Weight Lbs.
				A	D	F ⁽²⁾	G				
PFS-101-080-FL	I	8	14	29	36	18	25	2,500	5.3	1	75
PFS-101-100-FL	I	10	14	29	36	18	25	2,500	2.4	1	80
PFS-101-120-FL	I	12	14	29	36	18	25	2,500	1.3	1	85
PFS-101-140-FL	I	14	14	29	36	18	25	2,500	0.8	1	90
PFS-102-120-FL	II	12	24	54	36	18	32	5,000	4.3	2	190
PFS-102-140-FL	II	14	24	54	36	18	32	5,000	2.4	2	195
PFS-102-160-FL	II	16	24	54	36	18	32	5,000	1.6	2	200
PFS-102-180-FL	II	18	24	54	36	18	32	5,000	1.1	2	205
PFS-103-140-FL	III	14	24	54	36	18	43	7,500	5.1	3	200
PFS-103-160-FL	III	16	24	54	v	18	43	7,500	3.1	3	205
PFS-103-180-FL	III	18	24	54	36	18	43	7,500	2.1	3	210
PFS-103-200-FL	III	20	24	54	36	18	43	7,500	1.5	3	215
PFS-104-160-FL	IV	16	24	54	36	18	54	10,000	5.3	4	220
PFS-104-180-FL	IV	18	24	54	36	18	54	10,000	3.5	4	225
PFS-104-200-FL	IV	20	24	54	36	18	54	10,000	2.3	4	230
PFS-104-240-FL	IV	24	24	54	36	18	54	10,000	1.3	4	235
PFS-105-200-FL	V	20	24	75	36	18	54	12,500	3.5	5	350
PFS-105-240-FL	V	24	24	75	36	18	54	12,500	1.9	5	360
PFS-106-200-FL	VI	20	24	86	36	18	54	15,000	5.1	6	355
PFS-106-240-FL	VI	24	24	86	36	18	54	15,000	2.6	6	365
PFS-106-300-FL	VII	30	48	86	36	18	75	15,000	1.2	6	590
PFS-108-240-FL	VIII	24	48	86	36	18	86	20,000	4.0	8	615
PFS-108-300-FL	VIII	30	48	86	36	18	86	20,000	1.6	8	630
PFS-108-360-FL	VIII	36	48	86	36	18	86	20,000	0.8	8	645
PFS-110-300-FL	IX	30	48	86	60	18	75	25,000	2.5	10	785
PFS-110-360-FL	IX	36	48	86	60	18	75	25,000	1.2	10	805
PFS-112-300-FL	X	30	48	86	60	18	75	30,000	3.6	12	800
PFS-112-360-FL	X	36	48	86	60	18	75	30,000	1.8	12	815
PFS-112-400-FL	X	40	48	86	60	18	75	30,000	1.2	12	825
PFS-116-360-FL	XI	36	48	86	60	18	86	40,000	3.3	16	855
PFS-116-400-FL	XI	40	48	86	60	18	86	40,000	2.4	16	865
PFS-116-480-FL	XI	48	48	86	60	18	86	40,000	1.3	16	885

2. Typical Service Space Required

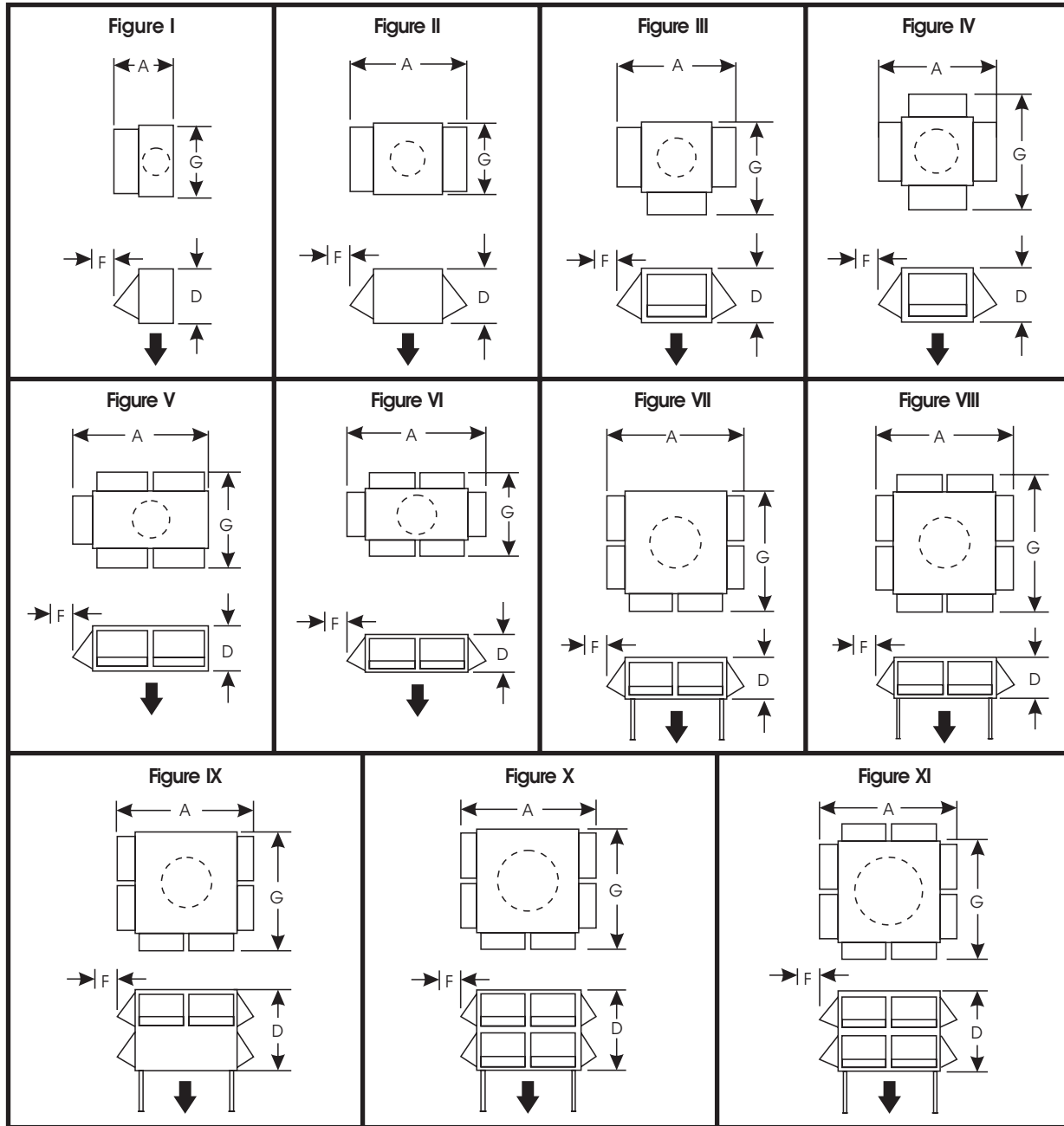
1. All dimensions are approximate.

Standard Features

- Integrated flange connection drilled to match 125/150 lb. ANSI flange with half the standard number of holes for connections 10" and greater
- Models illustrated by figures VII thru XI are supplied with 36" leg supports as standard equipment
- Standard element face dimensions are 24" x 24" nominal
- All weights include panel elements
- Internal safety screen is standard on all models
- Two lifting lugs are standard on all models
- Standard element 23104 = 36 sq. ft., 15 micron, synthetic fiber
- Optional element 23105 = 29 sq. ft., 10 micron, polyester media



PFS External Dimensions



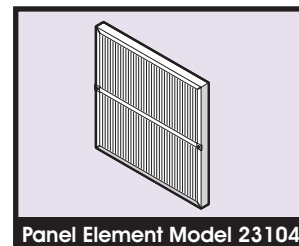
Optional Features And Accessories

- **Optional Connection Size:**
If desired, units can be supplied with modified connection sizes to meet your specifications. Maximum diameters are given above for each model configuration.
- **Optional Connection Types are Available.**
- **Optional Corner Legs:**
36" corner legs may be supplied on configuration styles I thru VI to provide unit support.
- **Optional Zinc Rich Coating:**
Two coats of cold galvanizing compound on all metal

housing surfaces.

- **Optional Differential Pressure Gauge** Differential Pressure indicator: Range 0-15 inches of water, diaphragm actuated, rectangular dial face.
- **Optional higher efficiency panel elements:**
Nominal 24" x 24" x 2" element provides efficiency to 98% of 10 micron particles and 90% of 6 micron.
- **Optional Acoustical Silencing:**
All models can be equipped with internal silencing

Octave Band Center Frequency (HZ)	63	125	250	500	1000	2000	4000	8000
Sound Attenuation dB	2	3	4	6	12	15	16	15



Panel Element Model 23104

PFD Series Specifications

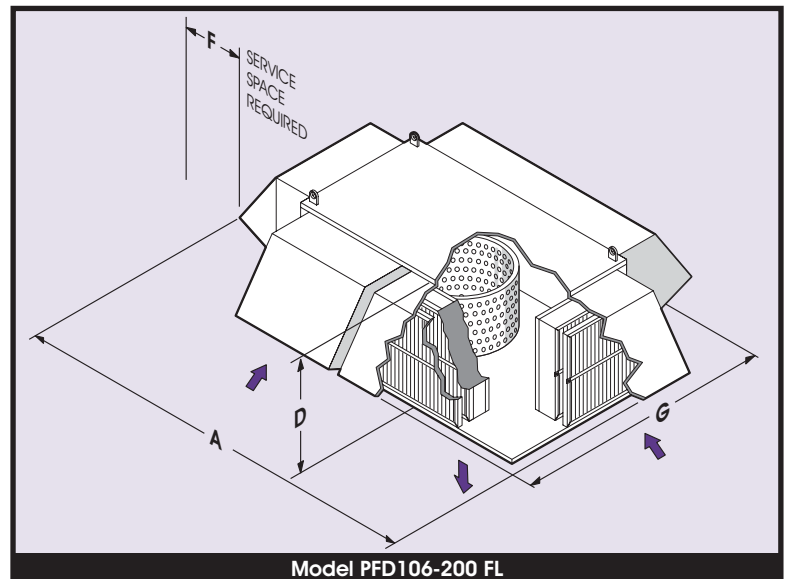
Model No.	Ref. Fig.	STANDARD Connection Size, in.	OPTIONAL Max. Conn. Size, in.	DIMENSIONS-INCHES*				RATED CFM	ΔP @ RATED CFM in. H ₂ O	Number of Inlets	Approx. Weight Lbs. ⁽²⁾
				A	D	F ⁽¹⁾	G				
PFD-101-080-FL	I	8	14	39	36	24	25	2,500	6.2	1	110
PFD-101-100-FL	I	10	14	39	36	24	25	2,500	3.8	1	115
PFD-101-120-FL	I	12	14	39	36	24	25	2,500	2.2	1	120
PFD-101-140-FL	I	14	14	39	36	24	25	2,500	1.8	1	125
PFD-102-120-FL	II	12	24	74	36	24	32	5,000	5.2	2	255
PFD-102-140-FL	II	14	24	74	36	24	32	5,000	3.4	2	260
PFD-102-160-FL	II	16	24	74	36	24	32	5,000	2.5	2	265
PFD-102-180-FL	II	18	24	74	36	24	32	5,000	2.0	2	270
PFD-103-140-FL	III	14	24	74	36	24	53	7,500	5.5	3	295
PFD-103-160-FL	III	16	24	74	36	24	53	7,500	3.7	3	300
PFD-103-180-FL	III	18	24	74	36	24	53	7,500	2.8	3	305
PFD-103-200-FL	III	20	24	74	36	24	53	7,500	2.2	3	310
PFD-104-160-FL	IV	16	24	74	36	24	74	10,000	6.2	4	350
PFD-104-180-FL	IV	18	24	74	36	24	74	10,000	4.3	4	355
PFD-104-200-FL	IV	20	24	74	36	24	74	10,000	3.2	4	360
PFD-104-240-FL	IV	24	24	74	36	24	74	10,000	2.2	4	365
PFD-105-200-FL	V	20	24	85	36	24	74	12,500	4.4	5	520
PFD-105-240-FL	V	24	24	85	36	24	74	12,500	2.9	5	530
PFD-106-200-FL	VI	20	24	106	36	24	74	15,000	5.9	6	560
PFD-106-240-FL	VI	24	24	106	36	24	74	15,000	3.6	6	570
PFD-106-300-FL	VII	30	48	106	36	24	85	15,000	2.1	6	795
PFD-108-240-FL	VIII	24	48	106	36	24	106	20,000	5.6	8	885
PFD-108-300-FL	VIII	30	48	106	36	24	106	20,000	2.8	8	900
PFD-108-360-FL	VIII	36	48	106	36	24	106	20,000	2.0	8	915
PFD-110-300-FL	IX	30	48	106	60	24	85	25,000	3.8	10	1125
PFD-110-360-FL	IX	36	48	106	60	24	85	25,000	2.4	10	1145
PFD-112-300-FL	X	30	48	106	60	24	85	30,000	4.7	12	1210
PFD-112-360-FL	X	36	48	106	60	24	85	30,000	3.0	12	1225
PFD-112-400-FL	X	40	48	106	60	24	85	30,000	2.4	12	1235
PFD-116-360-FL	XI	36	48	106	60	24	106	40,000	4.4	16	1400
PFD-116-400-FL	XI	40	48	106	60	24	106	40,000	3.3	16	1410
PFD-116-480-FL	XI	48	48	106	60	24	106	40,000	2.2	16	1430

(1) Typical Service Space Required *All dimensions are approximate.

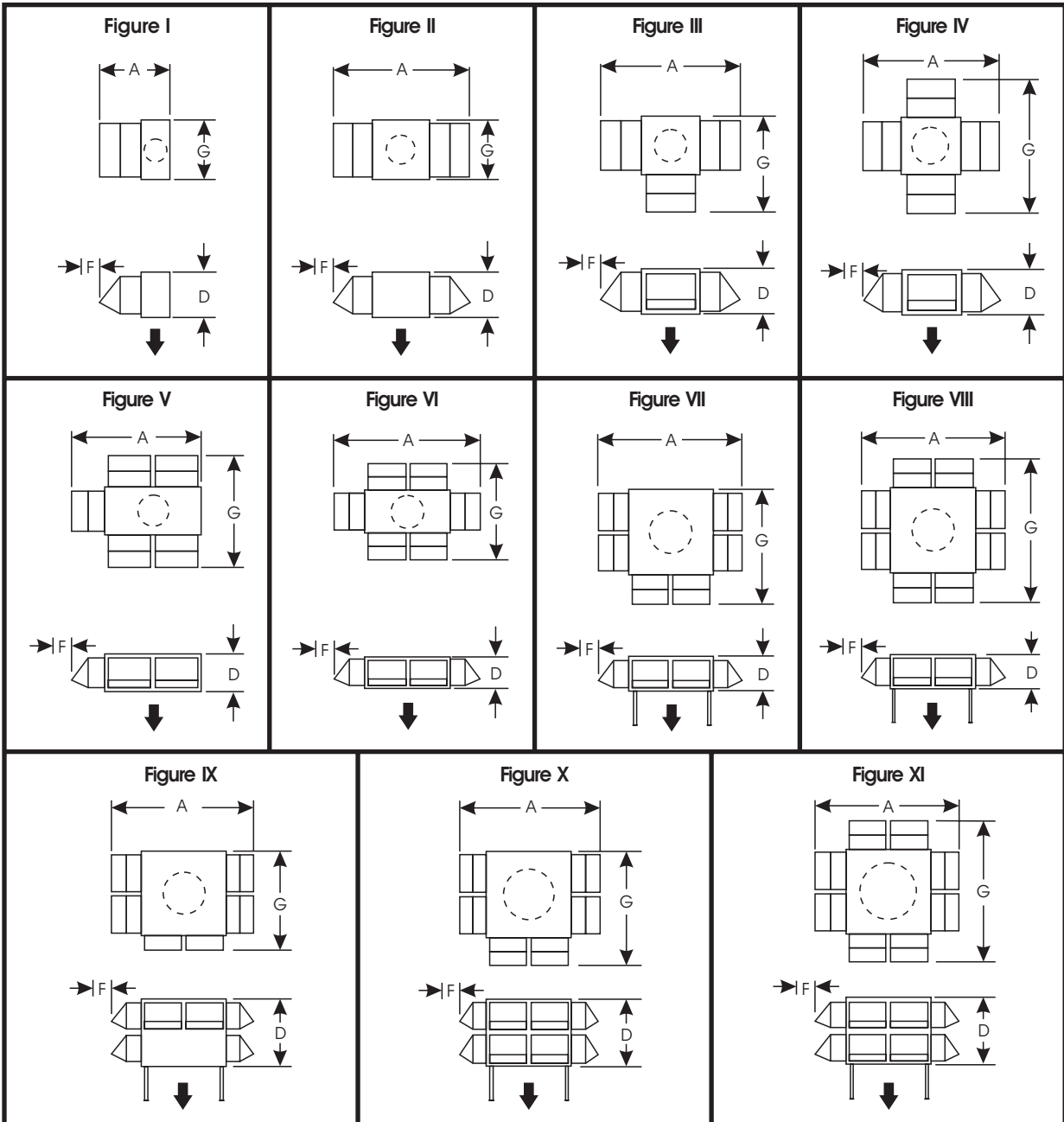
(2) Including Panel Elements

Standard Features

- Models illustrated by figures VII thru XI are supplied with 36" leg supports as standard equipment
- Integrated flange connection drilled to match 125/150 lb. ANSI flange with half the standard number of holes for connections 10" and greater
- Standard element face dimensions are 24" x 24" nominal
- Internal safety screen is standard on all models
- Two lifting lugs are standard on all models
- 1st stage # 23104 = 36 sq. ft., 15 micron, synthetic fiber
- 2nd stage # 20553 = 120 sq. ft., 2 micron microglass



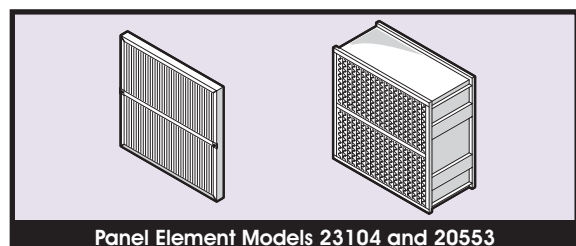
PFD External Dimensions



Optional Features and Accessories

- **Optional Connection Size:**
If desired, units can be supplied with modified outlet connection sizes to meet your specifications. Maximum diameters are given above for each model configuration.
- **Optional Connection Types are Available.**
- **Optional Corner Legs:**
36" corner legs may be supplied on configuration styles I thru VI to provide unit support.
- **Optional Zinc Rich Coating:**
Two coats of cold galvanizing compound on all metal housing surfaces.
- **Optional Differential Pressure Gauge:** Differential Pressure Gauge: Range 0-15 inches of water, diaphragm actuated, rectangular dial face
- **Optional Acoustical Silencing:**
All models can be equipped with internal silencing material to further reduce equipment intake noise.

Octave Band Center Frequency (HZ)	63	125	250	500	1000	2000	4000	8000
Sound Attenuation dB	2	3	4	6	12	15	16	15



Panel Element Models 23104 and 20553

PFS & PFD Series Flow Capacities

Flow Rate (CFM) vs. Differential Pressure (inches WC)

Chart A – PFS & PFD

Pressure Drop; Connection
.INCHES WATER COLUMN

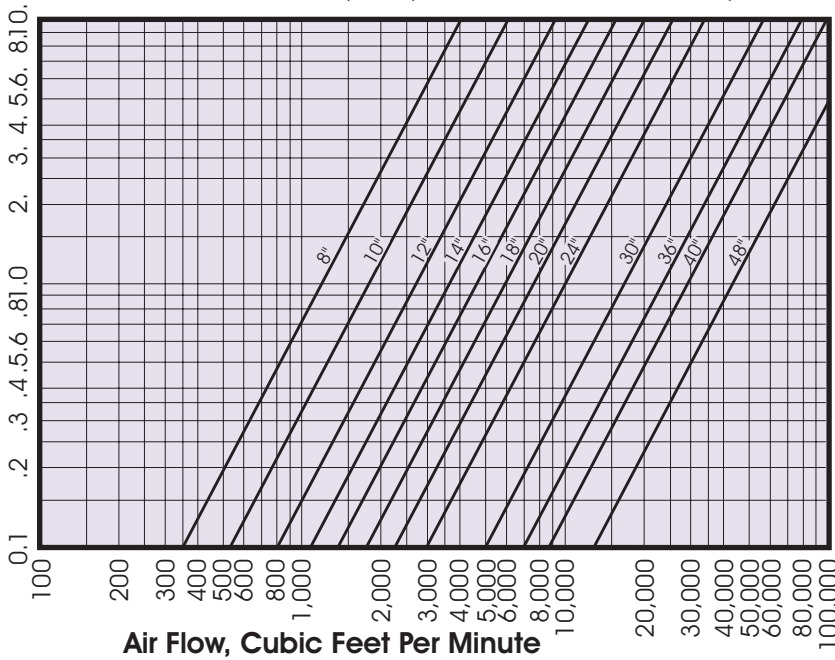


Chart B – PFS

Pressure Drop; Panel Elements
.INCHES WATER COLUMN

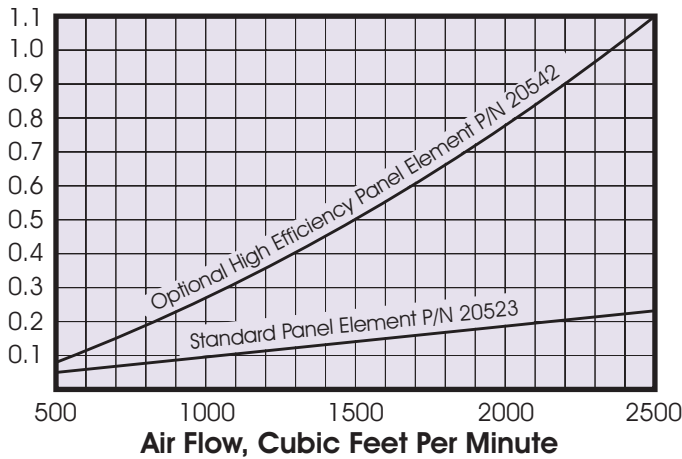
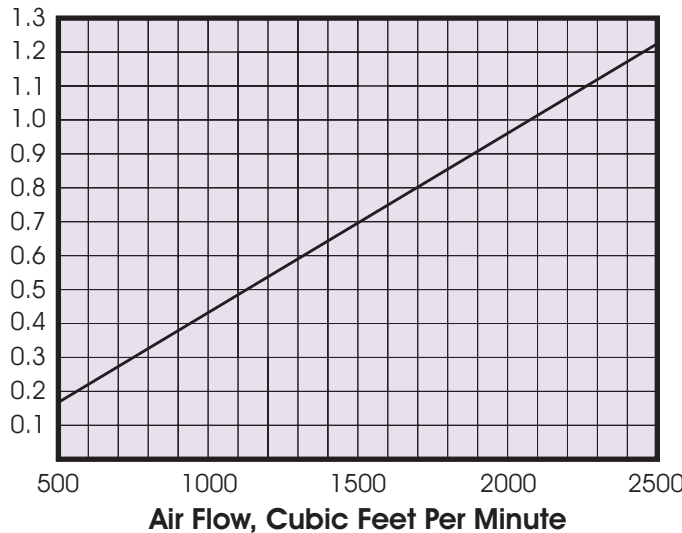


Chart B – PFD

Combined Pressure Drop;
1st & 2nd Stage Panel Elements
.INCHES WATER COLUMN



The charts shown here can be used to determine the clean pressure drop at a given flow rate for the filter models listed. Chart "A" gives the DELTA P for the housing alone (without panel elements). This value is independent of the type of panel elements used. Chart "B" gives the DELTA P across the panel elements. This value is independent of the housing selection. The sum of the values given by Charts "A" and "B" represent the total filter pressure drop for a given rate of air flow.

To use Chart "A" it is necessary to know the flow rate (CFM) of the air entering the filter. Enter the graph along the horizontal axis at the desired flow rate. Move vertically upward to the point of intersection with the line that represents the anticipated outlet connection size that will be used on the filter housing. From this point of intersection move horizontally to the left. The value given on the vertical axis represents the housing DELTA P for the given flow rate and selected connection size. If the value is higher than is desired, it will be necessary to select a larger outlet connection size.

To determine the panel element pressure drop, it is necessary to know the flow rate through each panel. This is found by dividing the actual flow rate by the number of inlets as given in the series specifications table. After determining the rate of air flow per inlet, enter the horizontal axis of Chart "B" and move vertically upward to the line representing the panel (standard or optional higher efficiency) that will be used. From this point of intersection move horizontally to the left. The value given on the vertical axis represents the panel element pressure drop.

The two values determined from Charts "A" and "B" should be added together to determine the total pressure drop across the filter selected.

- Values are based upon actual test results or empirical calculations.
- Contact your local representative or our sales engineering staff for sizing.
- Standard design models are recommended for smooth flow applications only. Consult the factory for assistance with reciprocating compressor applications.

Visit our website at www.gravertech.com

