

## Duplex Bag Filters With Automatic Sequencing

Continuous, uninterrupted filtering of large flows of liquid is provided by these automatic duplex filters

When the filter bags on one side get to the point of requiring change-out, the incoming flow is automatically diverted to the clean filter bags on the other side. Maintenance personnel are alerted to the need to change the dirty filters so that the system will be ready for the next cycle.

### Typical step-by-step operation

1. As the filter bags in vessel A become so loaded with particulate that the differential pressure increases to a selected level, a switch actuates an air-operated valve in the loop pipe. This diverts a small flow of fluid to fill vessel B. After enough time to equalize the pressure in the two vessels, the four main valves are actuated by an air cylinder.
2. The duplex valve system shifts four valves at once, closing the inlet and outlet on vessel A and opening the two on vessel B.

An indicator light (and remote signal, if desired) shows that vessel B is now being utilized. Another light shows that the shift from one vessel to the other has occurred, and that filter bags need to be replaced. An electrical interlock prevents another shift cycle until the dirty filter bags have been replaced and the operator has pushed a reset button.

3. With the interlock released, the system is ready to cycle whenever the pressure differential again indicates the necessity.

### Availability

The automatic duplex valve system can be ordered on any Rosedale filter vessel. The standard multi-bag filter models are shown in the table.

The main inlet and outlet connections can be positioned to accommodate any flow direction within reason.

Systems are shipped assembled, ready for use, often on dollies or skids to assist putting them in place.

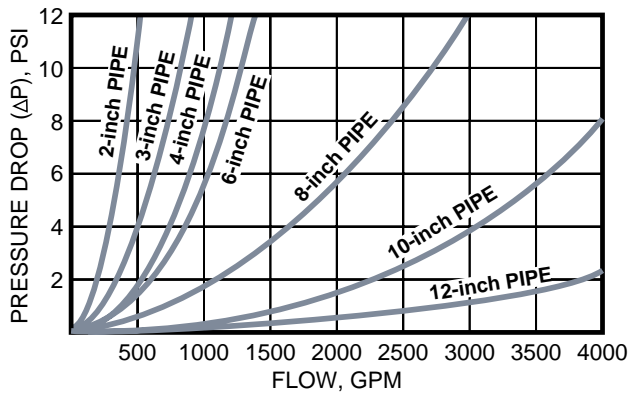
Rosedale Model No.*	Number of bags	Nominal flow rate, gpm
16	2	400
18	3	600
22	4	800
24	6	1200
30	8	1600
36	12	2000
42	17	3500
48	23	4500

\* Model number also indicates vessel diameter in inches.

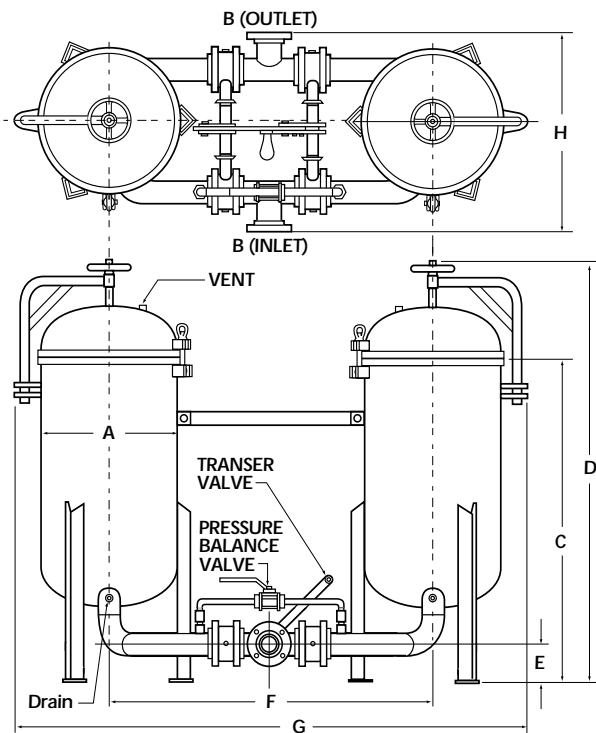


**Models 16 through 48 -  
For flow rates to 4600 gpm**

- Contain from 2 to 23 baskets
- Pipe sizes 2 through 12 inches, flanged
- Two basket depths: 15 or 30 inches (nominal) both 6.7 inches in diameter



**Multi-Basket Models (IN)**



The inlets and outlets on all duplex systems come standard in a horizontal configuration (facing opposite directions). The option of arranging the inlet and outlet is available in three positions, 90° apart. The system is designed with flanged tees, allowing the orientation to be changed in the field.

Model Number	Number of Baskets	Basket Depth (nom.)	Surface Area (sq. ft.)	Flow Rate* (gpm)
16	2	30	8.8	400
18	3	30	13.2	600
22	4	30	17.6	800
24	6	30	26.4	1200
30	8	30	35.2	1600
36	12	30	52.8	2400
42	17	30	74.8	3400
48	23	30	101.2	4600

\*Based on housing only. Fluid viscosity, filter cartridge used, and expected dirt loading should be considered when sizing a filter.

Model (Dia.)	Inlet/Outlet	C	D	E	F	G	H
16	2	40.1	57.1	4.5	40.3	65.3	25.3
	3	42.5	59.5	5.3	42.5	67.5	30.3
	4	44.9	61.9	6.0	45.0	70.0	35.0
18	2	40.5	58.0	4.5	42.3	69.3	26.4
	3	42.9	60.4	5.3	44.5	71.5	31.4
	4	45.3	62.8	6.0	47.0	74.0	36.3
22	2	41.4	60.0	4.5	46.3	77.3	24.9
	3	43.9	62.4	5.3	48.5	79.5	28.4
	4	46.2	64.7	6.0	51.0	82.0	31.8
24	2	41.7	60.7	4.5	50.3	83.3	24.1
	3	44.1	63.1	5.3	52.5	85.5	28.8
	4	46.5	65.5	6.0	55.0	88.0	34.1
30	2	42.8	63.3	4.5	56.3	95.3	28.4
	3	45.2	65.7	5.3	58.5	97.5	30.4
	4	47.6	68.1	6.0	61.0	100.0	32.4
36	2	42.8	63.3	4.5	56.3	95.3	28.4
	3	45.2	65.7	5.3	58.5	97.5	30.4
	4	47.6	68.1	6.0	61.0	100.0	32.4
42	2	42.8	63.3	4.5	56.3	95.3	28.4
	3	45.2	65.7	5.3	58.5	97.5	30.4
	4	47.6	68.1	6.0	61.0	100.0	32.4
48	2	42.8	63.3	4.5	56.3	95.3	28.4
	3	45.2	65.7	5.3	58.5	97.5	30.4
	4	47.6	68.1	6.0	61.0	100.0	32.4

# How To Order

Build an ordering code as shown in the example.

**Example:**

**D16 -30- 4F-1-150-C-B-S-M-200-DPG-D-C- 2M-50- EP**

**MODEL**

Duplex Style = **D**  
Automatic Duplex = **AD**

**MODEL NO.**

4 = **4**  
6 = **6**  
8 = **8**  
16 = **16**  
18 = **18**  
22 = **22**  
24 = **24**  
30 = **30**  
36 = **36**  
42 = **42**  
48 = **48**  
82 = **82**

**BASKET DEPTH**

12-in. = **12**  
15-in. = **15**  
18-in. = **18**  
30-in. = **30**

**CONNECTION SIZES, FLANGED<sup>1</sup>**

1-in. (Models 4 thru 48) = **1F**  
2-in. (Models 4 thru 48) = **2F**  
3-in. (Models 4 thru 48) = **3F**  
4-in. (Models 6 thru 48) = **4F**  
6-in. (Models 22 thru 48) = **6F**  
8-in. (Models 30 thru 48) = **8F**  
10-in. (Models 36 and 48) = **10F**  
12-in. (Models 42 and 48) = **12F**

**OUTLET STYLE**

Standard = **1**

**PRESSURE RATINGS<sup>2</sup>**

150psi (flanged) = **150**

**CONSTRUCTION MATERIAL**

Carbon steel = **C**  
304 stainless steel = **S**  
316 stainless steel = **S316**

**COVER SEAL**

Buna N = **B**  
Ethylene Propylene = **E**  
Viton® = **V**  
Teflon® Encapsulated Viton® = **TEV**  
Teflon® (solid white) = **TSW**

**BASKET SEAL**

No Seal (never on Model 4, 6, or multi-bag filters) = **N**  
Seal wanted (always on Model 8 bag filters) = **S**

**OPTIONAL INNER BASKET**  
**2M-50-**

**AUTOMATIC DUPLEX CONTROL OPTIONS**  
**EP**

**AUTOMATIC DUPLEX CONTROL OPTIONS**

**EP** = Electric controller/Pneumatic actuators  
**EE** = Electric controller/Electric actuators  
**PP** = Pneumatic controller/Pneumatic actuators  
**JB** = Junction Box

**OPTIONAL INNER BASKET, MEDIA SIZE. No symbol if type 2B basket was selected**

Perforation diameters (for type 2P baskets)

**1/4, 3/16, 9/64, 3/32, 1/16**

Mesh sizes (for type 2M and 2BM baskets)

**20, 30, 40, 50, 60, 70, 80, 100, 150, 200**

**OPTIONAL INNER BASKET TYPE**

**2PB** = Filter bag basket, 9/64 perforations<sup>3</sup>

**2P** = Strainer basket, perforated metal

**2BM** = Filter bag basket, perforated, mesh lined<sup>3</sup>

**2M** = Strainer basket, perforated, mesh lined

**ASME CODE STAMP**

**C** = Code Stamp

**DISPLACER**

**D** = Displacer

**DIFFERENTIAL PRESSURE GAUGE**

**DPG** = Gauge System

**DPS** = Switch

**BASKET, MEDIA SIZE**

**No symbol if type B basket was selected**

Perforation diameters (for type P baskets)

**1/4, 3/16, 9/64, 3/32, 1/16**

Mesh sizes (for type M and BM baskets) **20, 30, 40, 50, 60, 70, 80, 100, 150, 200**

**BASKET TYPE**

**PB** = Filter bag basket, 9/64 perforations<sup>3</sup>

**P** = Strainer basket, perforated metal

**BM** = Filter bag basket, perforated, mesh lined<sup>3</sup>

**M** = Strainer basket, heavy wire mesh<sup>3</sup>

1. Flanges provided with the housing match the pressure rating of the vessel. Housings rated 150 psi have 150 class flanges. ANSI B16.5 Pressure-Temperature rating tables determine flange class for ASME housings.  
2. Higher pressure ratings available. Consult factory.  
3. Filter bags are ordered separately. See pages 120-130.