

3M™ DC Series Filter Housings

3M™ DC series filter housings, constructed of durable 304L stainless steel, meet general-purpose industrial and commercial filtration needs. All wetted welded surfaces are stainless steel. External surfaces of these filter housings are electro-polished for a consistent, easy care finish.

The filter housings are available in a variety of sizes to accommodate from 4 to 88 filter cartridges (Single length equivalents) with lengths to 40 inches (see Ordering Guide). The 4DC & 5DC housings handle liquids at pressures and temperatures of up to 150 psig (10.3 bar) at 250°F (121°C) and the 12DC & 22DC housings handle liquids at pressures and temperatures of up to 150 psig (10.3 bar) at 212°C (100°C). See Table 1.

Specifications

Table 1 gives standard model specifications for 3M DC series filter housings. Note that maximum operating pressure and temperature is the rating for the housing only. Actual housing process operating temperature depends on temperature and chemical capability of the filter cartridge and gasket used in the housing.

Cartridge Requirements

3M DC series filter housings accept both single and multiple length filter cartridges. Table 2 lists the number of filter cartridges for each model housing.

Features & Benefits

304L stainless steel construction.

- Provides excellent corrosion protection for rugged, long-lasting service.

Accepts varying length cartridges.

- Allows use of 9¾" to 10" modular cartridges for greater flexibility.

Shouldered seal plates.

- Solid fit into cartridge core for a positive seal and helps prevent bypass.

V-Band Clamp and Swing bolt designs.

- Optimizes cartridge change-out.

Removable cartridge posts.

- Easy cleaning reduces maintenance.

Housing drains located on dirty and clean chambers.

- Allows full drainage of chambers for optimized filter change-out.

Air Vent.

- Allows venting before start-up and draining for more efficient filter operation.

Pedestal cup fitting.

- Allows for use of both DOE or SOE cartridges.

FDA Compliant.

- Compatible in applications requiring direct food contact in food and beverage processing per 21 CFR.



Applications

Chemicals & Petrochemicals

Food & Beverage

Healthcare

Industrial Processes

Paint & Coatings

Industrial Water Treatment

Flow Rates

Table 3 lists the maximum water flow rates in gallons per minute (GPM) for each model filter housing.

Use the data in Table 3 only as a guide in establishing the maximum housing flow capacity; do not use it for filter sizing. Once a flow rate for a selected cartridge is known, use Table 3 to check whether the housing's flow rate falls within the recommended guidelines.

When sizing a filter, the amount of contaminant load needs to be considered in addition to the flow rate and desired pressure drop. Low initial pressure drop enhances filter cartridge life.

Cartridge Seal Assemblies

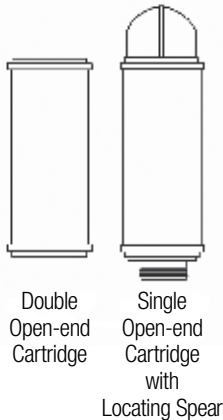
The 12DC and 22DC housings include spring & seal assemblies (Picture 1) that permit the use of filter cartridges with single length equivalents of 9 3/4 to 10 inches.

4DC and 5DC models use pressure plate assemblies while 12DC and 22DC models use pressure plate with individual spring & seal assemblies.

Standard housings are configured to accept double open end style cartridges. To adapt the housing to accept single open end, double o-ring cartridges with locating spear, remove the housing cartridge posts and the spring & seal assemblies. Replace the standard pressure plate and the center rod with the SOE pressure plate and center rod (order separately).



Picture 1: Spring & Seal Assembly



Standard Model Dimensions

To find a selected dimension, refer to Table 4 to locate the model in the left column and the selected dimension symbol (A-D) in the top row. These dimensions can be used for rough plumbing. For critical installations, request a certified drawing.

Table 1: Standard Model Specifications

Max. Operating Pressure & Temperature*	150 psi @ 250°F (10.3 bar @ 121°C)
Flow Rate (GPM)	See Table 3
Connection Sizes	See Ordering Guide
Vent & Drain Connections	1/4" NPT Vent, 3/4" NPT Drains
Cartridge Sizes	9 3/4"-10" modular cartridges, 1-, 2-, 3-, or 4-high configurations
Standard Cover Gasket	Nitrile
Options	Cover gasket is available in EPR, Fluorocarbon or Silicone
Hinged Design	4DC & 5DC - Clamp Housing Type 12DC & 22 DC - Bolted Housing Type

*Models 12 DC, 22 DC, maximum operating pressure & temperature is 150 psi @ 212°F (10.3 bar @ 100°C)

Table 2: Cartridge Requirements

Housing Model	Single Length (9 3/4 9 7/8, or 10") Cartridge Capacity
4DC1	4
4DC2	8
4DC3	12
5DC1	5
5DC2	10
5DC3	15
5DC4	20
12DC2	24
12DC3	36
12DC4	48
22DC3	66
22DC4	88

Table 3: Maximum Housing Flow Rate

Housing	Water (GPM/LPM)
4DC	65/246
5DC	105/397
12DC	230/871
22DC	400/1,514

Figure 1: 3M™ DC Series Configurations

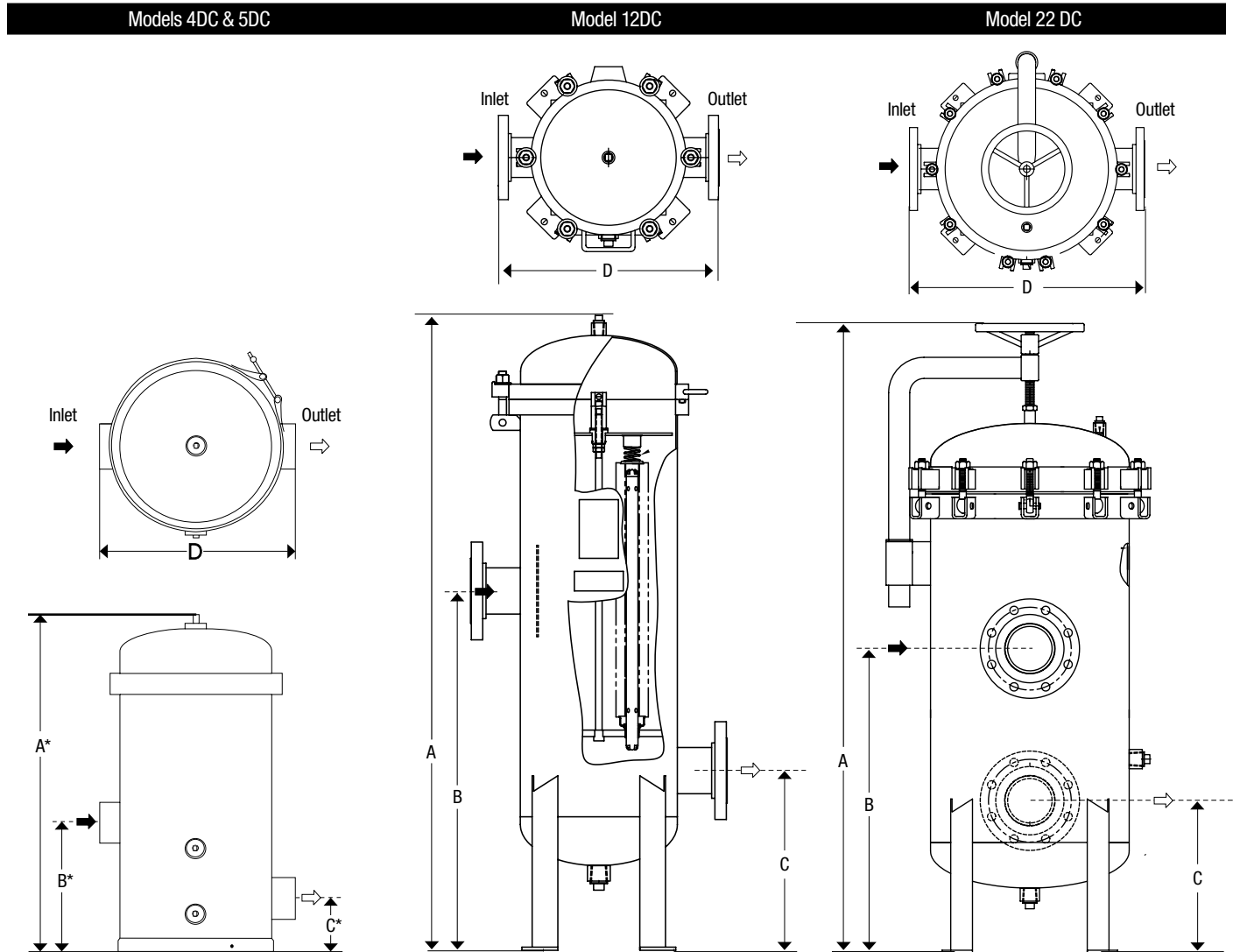


Table 4: Standard Model Dimensions

Housing Model	A* (in / mm)	B* (in / mm)	C* (in / mm)	D (in / mm)	Cartridge Removal Clearance (in / mm)	Housing Weight (lbs / kg)	Approx. Shipping Weight (lbs / kg)
4DC1	19 1/2 / 495.3	6 3/4 / 171.4	2 7/8 / 73	12 / 304.8	26 / 660.4	19 / 8.6	29 / 13.1
4DC2	29 1/2 / 749.3				46 / 1168.4	24 / 10.9	34 / 15.4
4DC3	39 1/2 / 1003.3				66 / 1676.4	28 / 12.7	39 / 17.7
5DC1	19 1/2 / 495.3	6 3/4 / 171.4	2 7/8 / 73	12 / 304.8	26 / 660.4	20 / 9.0	30 / 13.6
5DC2	29 1/2 / 749.3				46 / 1168.4	25 / 11.3	35 / 15.9
5DC3	39 1/2 / 1003.3				66 / 1676.4	29 / 13.1	40 / 18.1
5DC4	49 1/2 / 1257.3				86 / 2184.4	33 / 15.0	45 / 20.4
12DC2	48 1/8 / 1 222.4	27 9/16 / 700	13 25/32 / 350	19 11/16 / 500	62 / 1574.8	150 / 68	175 / 79.4
12DC3	58 / 1473.2				82 / 2082.8	170 / 77	195 / 88.5
12DC4	67 13/16 / 1722.4				102 / 2590.8	190 / 86.2	215 / 97.5
22DC3	67 / 1701.8	27 9/16 / 700	13 25/32 / 350	25 5/8 / 650	82 / 2082.8	230 / 104.3	255 / 115.7
22DC4	76 3/4 / 1949.5				102 / 2590.8	275 / 124.7	300 / 136.1

*Add 3/4" for leg installation on 4DC and 5DC housings

3M™ DC Series Filter Housing Ordering Guide

3M™ DC Series Filter Housing

Model (304L SS)	Connection Type	Catalog Number
4DC1	1 1/2" NPT (Male per ASME B1.20.1)	4808701
4DC2	2" NPT (Male per ASME B1.20.1)	4808702
4DC3	2" NPT (Male per ASME B1.20.1)	4808703
5DC1	1 1/2" NPT (Male per ASME B1.20.1)	4808801
5DC2	2" NPT (Male per ASME B1.20.1)	4808802
5DC3	2" NPT (Male per ASME B1.20.1)	4808803
5DC4	2" NPT (Male per ASME B1.20.1)	4808804
12DC2	3" 150# RF WN FLG (ANSI B16.5)	4808901
12DC3	3" 150# RF WN FLG (ANSI B16.5)	4808902
12DC4	3" 150# RF WN FLG (ANSI B16.5)	4808903
22DC3	4" 150# RF WN FLG (ANSI B16.5)	4831401
22DC4	4" 150# RF WN FLG (ANSI B16.5)	4831402

Optional Kit for Single Open End Cartridge Use

Kit Part Number	Fits Housing Model
9885501	4DC
9885502	5DC
9885504	12DC2
9885505	12DC3
9885506	12DC4
9885509	22DC3
9885510	22DC4

All units supplied with center rods, posts, pressure plates, spring & seal assemblies for double opened ended (DOE) style cartridges. To convert units to use single open ended (SOE) style cartridges, order the appropriate optional kit.

Gasket Ordering Guide*

Housing Model	Nitrile	EPR	Fluorocarbon	Silicone
4DC, 5DC	3792031	3756437	3756434	3756440
12DC	3756455	4808702	3756457	3756458
22DC	3756459	4808703	3756461	3756462

Supplied with Nitrile vessel gasket. Ethylene Propylene Rubber (EPR); Fluorocarbon or Silicone.

* All gasket materials are FDA compliant

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