

# 3M™ Series Filter Housing

## 3M™ CT Series Filter Housing



The 3M™ CT series filter housings are three-piece, all-metal housings with ring-nut closures. These housings are designed to meet general industrial filtration needs. The 3M CT Models offer you a choice in construction materials for wetted surfaces and are available with a 316 stainless steel head with 304 stainless steel sump or in all-316 stainless steel in one-high (CT101), two-high (CT102), or three-high (CT103) designs. Ring nuts for head to sump sealing are nickel plated brass to eliminate potential thread galling. A ring nut tightening tool is included. All 3M CT Model heads have tapped mounting pads; mounting brackets are available as an accessory.

The 3M CT Models have liquid flow rates of up to 26 GPM, and

a maximum operating pressure and temperature of 300 psig at 200 °F. For air and gas service, 3M CT Models have a maximum operating pressure and temperature of 180 psig at 200 °F.

### Design Features/Benefits

- Rugged, three-piece, all metal construction provides long service life and quick & easy cartridge change-out.
- Design flexibility: 1, 2 or 3-high cartridge models for use with 9 3/4", 19 1/2", or 29 1/4" filter cartridges.
- Drilled and tapped mounting holes: Ready for mounting bracket installation.

### Options

- Choice of gasket materials.
- Mounting bracket available as accessory equipment.

### Operating Parameters

Table 1 lists standard model operating parameters for the 3M CT series filter housings. In Table 1, the maximum operating pressure is the rating for the housing only. Actual filter operating temperature is dependent on the temperature capability of the filter cartridge.

**Table 1. – Operating Parameters**

| Operating Data                     |                           |
|------------------------------------|---------------------------|
| Operating Pressure and Temperature | 300 psig @ 200 °F Liquid  |
|                                    | 180 psig @ 200 °F Air/Gas |
| Flow Rate (GPM)                    | See Table 2               |

### Cartridge Requirements

The 3M CT101, 102 and 103 series filter housings can use one, two, or three 9 3/4" equivalent single-length filter cartridges, respectively. The 3M CT102 and 103 Models can also use one 19 1/2" filter cartridge and one 29 1/4" filter cartridge, respectively. A shorter version of the 3M CT101, that uses a 5" double open end cartridge, is also available.

### Applicable 3M Purification Inc. Filter Cartridges

|                   |                 |                 |
|-------------------|-----------------|-----------------|
| Activated Carbon  | Econo-Klean     | Micro-Klean™ RT |
| Betafine™ DP & XL | LifeASSURE™     | Betafine™ PEG   |
| Betapure™ BK      | Micro-Klean™ RB | Betapure™ AU    |
| Micro-Klean™ D    | Betapure™ PK    | Micro-Klean™ CS |

### Flow Rates

Table 2 lists the maximum recommended flow rates in Gallons Per Minute (GPM) for the 3M CT101 and 102 Models. Use the data on Table 2 only as a guide in establishing housing flow capability; do not use it for filter sizing. Once you know the flow rate for a selected cartridge, then use Table 2 to check whether the housing's flow rates fall within the recommended guidelines.

When selecting a filter's size, make sure you consider the amount of contaminant you want removed as well as the flow requirements; this ensures the longest possible cartridge life.

**Table 2. – Maximum Recommended Flow Rates (GPM)**

| Inlet/Outlet | Water | 80 SSU | 150 SSU | 300 SSU | 600 SSU | 1000 SSU |
|--------------|-------|--------|---------|---------|---------|----------|
| 3/4"         | 16    | 14     | 13      | 12      | 10      | 8        |
| 1"           | 26    | 22     | 20      | 18      | 16      | 13       |

### Standard Model Specifications

Table 3 lists standard model materials of construction and connection sizes. Table 4 lists dimensions and shipping weight. All dimensions are nominal and can be used for determining overall space requirements. To find a dimension, locate the model you want in the left column of Table 4 and the selected dimension symbol (A through C) in the top row. Where the column and row meet is the model's dimension.

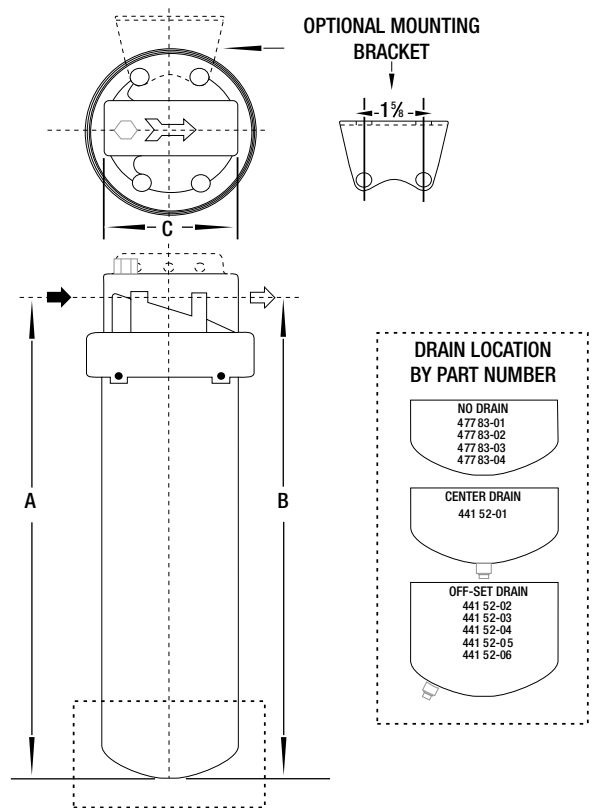


**Table 3 – Standard Model Connection Sizes and Materials of Construction**

| Model                            | CT101  | CT102    | CT101    | CT102    | CT101    | CT102    | CT103    | CT101    | CT102    | CT103    |
|----------------------------------|--|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Part Number                      | 47783-01   | 47783-02 | 47783-03 | 47783-04 | 44152-01 | 44152-02 | 44152-03 | 44152-04 | 44152-05 | 44152-06 |
| Connecting Sizes                 | ¾" NPT   |          | 1" NPT   |          | ¾" NPT   |          |          | 1" NPT   |          |          |
| <b>Materials of Construction</b> |  |          |          |          |          |          |          |          |          |          |
| Head                             | 316 SS   |          |          |          |          |          |          |          |          |          |
| Head Gasket                      | Nitrile (Optional Gasket material: fluorocarbon, neoprene, or EPR) |          |          |          |          |          |          |          |          |          |
| Ring Nut                         | Nickel Plated Brass  |          |          |          |          |          |          |          |          |          |
| Sump                             | 304 SS   |          |          |          | 316 SS   |          |          |          |          |          |
| Centerpost with Seal Plate       | N/A  | 304 SS   | N/A      | 304 SS   | N/A      | 316 SS   |          |          |          |          |
| Seal Plate (in Sump)             | 304 SS   | N/A      | 304 SS   | N/A      | 316 SS   | N/A      |          |          |          |          |
| Vent Plug – ¼" NPT               | N/A  |          |          |          | 316 SS   |          |          |          |          |          |
| Vent Plug Gasket                 | N/A  |          |          |          | Fiber    |          |          |          |          |          |
| Drain Plug – ¼" NPT              | N/A  |          |          |          | 316 SS   |          |          |          |          |          |
| Optional Mounting Bracket        | Zinc Plated Steel (order separately)                               |          |          |          |          |          |          |          |          |          |

**Table 4 – Dimensions**

| Housing Model | Catalog Number | A        | B        | C       |
|---------------|----------------|----------|----------|---------|
|               |                | (Inches) |          |         |
| CT101         | 47783-01       | 11 3/8   | 21/16    | 3 1/2   |
|               | 47783-03       | 11 9/16  | 12 13/32 | 3 1/2   |
|               | 44152-01       | 11 9/16  | 12 9/16  | 2 15/16 |
|               | 44152-04       | 11 13/16 | 12 7/8   | 3 1/2   |
| CT102         | 47783-02       | 21 11/32 | 22 1/32  | 3 1/2   |
|               | 47783-04       | 21 9/16  | 22 3/8   | 3 1/2   |
|               | 44152-02       | 21 7/16  | 22 7/16  | 2 15/16 |
|               | 44152-05       | 21 9/16  | 22 5/8   | 3 1/2   |
| CT103         | 44152-03       | 31 3/16  | 32 3/16  | 2 15/16 |
|               | 44152-06       | 31 5/16  | 32 3/8   | 3 1/2   |



## 3M™ CT Series Filter Housing Ordering Guide

| Housing Model | Catalog Number | Cartridge Length | Housing Material   | Mounting Bracket Kit              | Ring Nut Tool          |
|---------------|----------------|------------------|--|-----------------------------------|------------------------|
| CT101         | 47783-01       | ¾"               | 316 SS Head and<br>304 SS Sump<br>without Vent/<br>Drain | 35581-01<br>(Order<br>Separately) | 63572-01<br>(included) |
| CT102         | 47783-02       |                  |  |                                   |                        |
| CT101         | 47783-03       | 1"               |  |                                   |                        |
| CT102         | 47783-04       |                  |  |                                   |                        |
| CT101         | 44152-01       | ¾"               | All 316 SS<br>(wetted parts)<br>with<br>Vent/Drain       |                                   |                        |
| CT102         | 44152-02       |                  |  |                                   |                        |
| CT103         | 44152-03       |                  |  |                                   |                        |
| CT101         | 44152-04       | 1"               |  |                                   |                        |
| CT102         | 44152-05       |                  |  |                                   |                        |
| CT103         | 44152-06       |                  |  |                                   |                        |

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70-0201-8756-6 REV 1111b