

Advanced Multifunction Cartridge Filtration System

OVERVIEW

- Factory engineered & fabricated
- Dual cartridge with selectable orientation:
 - Parallel
 - Series
 - Duty/Standby
- Modular capabilities for expandability
- Wall or Floor Mounted

PART 1 - GENERAL

- Submit shop drawings in accordance with **Section XXXX**
- Submit shop drawings on:
 - General information and dimensions
 - Materials of construction
 - Details of all components
 - Dimensioned drawings of all equipment
 - Operations manual

QUALITY ASSURANCE

This specification is the basis for design of a complete **wall or floor (choose one)** mounted cartridge filtration system capable of multiple configurations. All **wall or floor** mounted cartridge filter systems, whether named as an acceptable supplier or submitted as an equal must, at a minimum, meet the critical design requirements indicated in this specification.

WARRANTY

Manufacturers warranty of 1 year against fabrication defects, limited to system itself and not including consumables such as cartridges.



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PART 2 - PRODUCTS

2.01 Provide Qty One (1) complete **wall or floor** mounted cartridge filter system. The system shall have all required components for a filtration system including (but not limited to) cartridge filter housings, gauges, sample taps, shutoff valves and bypass. The system shall be capable of treating a flow rate of _____ GPM/LPM (flow is related to housing & micron selection in 2.03.B Features. Contact Metcon for assistance)

2.02 The complete filtration system shall be factory assembled and pressure tested by the manufacturer before shipping to site. System installation and interconnection furnishings shall be supplied by the contractor.

2.03 GENERAL DESCRIPTION & MANUFACTURING SPECIFICATION:

A. The multifunction cartridge filter system is designed to provide a complete solution for applications where a set of cartridge filters are required to run in any of the following modes:

- Type 1 - Isolated – filter 1 only (filter 2 by-passed)
- Type 2 - Isolated – filter 2 only (filter 1 by-passed)
- Type 3 - Complete bypass (both filters 1 and 2 off-line)
- Type 4 - Series – filter 1 followed by filter 2
- Type 5 - Parallel – flow split between filter 1 and filter 2

The changing of the configuration is accomplished via a set of isolation ball valves - no re-piping is required. This configuration will allow for a wide range of flexibility to meet current and potentially future needs with no modification to the system piping.

The system is mounted on an epoxy coated carbon steel frame. It is completely factory assembled and tested including all the required components. The system includes sample taps, pressure gauges, isolation ball valves and system bypass. The cartridge filter housings can accommodate a variety of 4.5" (114 mm) cartridges depending on the application need.

The pressure gauge arrangement allows the user to monitor differential pressure across the filters independently, and can be used as an indicator as to the need to change out individual filters.

All materials of construction shall be schedule 80 PVC and suitable for water. The system includes several socket unions to allow for easy disassembly if required.

B. Features:

_____ " (_____ mm) NSF 42 certified high flow reinforced polypropylene housings with 1" inlet and outlet, accepts 4.5" (114 mm) cartridges, integral pressure relief button, and stainless steel brackets. (Contact Metcon for selection)

_____ " (_____ mm) length x 4.5" (114 mm) wide, ANSI-NSF 61 certified (FDA Approved Materials) cartridge filters. Pleated design for maximizing surface area, constructed from polyester plus. Thermally bonded end caps. (Contact Metcon for selection). Micron ratings for filters shall be:

#1 – 20/10/5/1 (absolute) micron (choose one)

#2 – 20/10/5/1 (absolute) micron (choose one)

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1. FNPT connection and outlet. All PVC piping and fittings shall be schedule 80.

True union ball valves for isolation of filters and bypass lines. PVC valves with EPDM seals shall be certified under NSF/ANSI Standard 61 for contact with drinking water.

System complete with sample taps and pressure gauges for a) pre filter 1, post filter 1 and b) pre filter 2, post filter 2. Sample taps shall be certified under NSF/ANSI Standard 61 for contact with drinking water. Pressure gauges shall be liquid filled (Glycerine), stainless steel housing with vent plug and SS crimp ring Welded case. Pressure gauge shall be designed to ASME B40.100 & EN 837-1. Sample and pressure gauge placement shall allow the system to function as required in all 5 types of configurations.

All components are pre-assembled and mounted on an epoxy coated steel frame for wall mounting or All components are pre-assembled and mounted on an epoxy coated steel frame and stand for free standing design. The system shall be designed for easy access to the cartridge filter housings. The unit shall be completely factory assembled and mounted to ensure a pressure tested, leak free system and allow for ease of installation. Frame dimensions are 813 mm (32") wide x 762 mm (30") depth x 711 mm (28") height.

Acceptable system supplier is Metcon Sales & Engineering Ltd. (905-738-2355)

2.04 EQUIPMENT SUPPLIED Loose

The system supplier is to provide the following accessories supplied loose:

Set of two (2) spanner wrenches for the specific filter housing supplied.

One (1) tube (150g) Dow Corning® 111 Valve Lubricant and Sealant (NSF 51, NSF 61 approval and is acceptable as a release agent under FDA 21 CFR 175.300).

PART 3 - EXECUTION INSTALLATION

Ensure proper installation and operation of all components as per Manufacturer's instructions.

STARTUP and TRAINING

The equipment is to be started up and checked on site under the supervision of a qualified & factory trained technician. The manufacturer shall provide a service and training visit 6 months after initial commissioning.

Design improvements may be made without notice.

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