

## 3M Purification

# 3M™ High Flow

## Sanitary Housing Filtration



### Applications

#### Food & Beverage

- Process Water
- Export Loading
- Tanker Unloading
- Cellar Filtration

#### Pharmaceutical

- Process Water

## Features & Benefits

### Sanitary Design

- Ideally suited for Food and Beverage applications

### Patent pending compound radial pleat design

- High dirt holding capacity for long life and lower cost filtration

### Compact design

- Smaller housing minimises capital expense requirements
- Reduces system footprint. Up to 50% smaller than competitively sized housing

### Absolute rating

- Reproducible effluent quality throughout the filter's life

### Easy to use

- No special tools or hardware required for filter change-out – minimises downtime
- "Twist to lock" seating mechanism provides positive seal
- Ergonomically designed handle – facilitates easy cartridge installation and removal

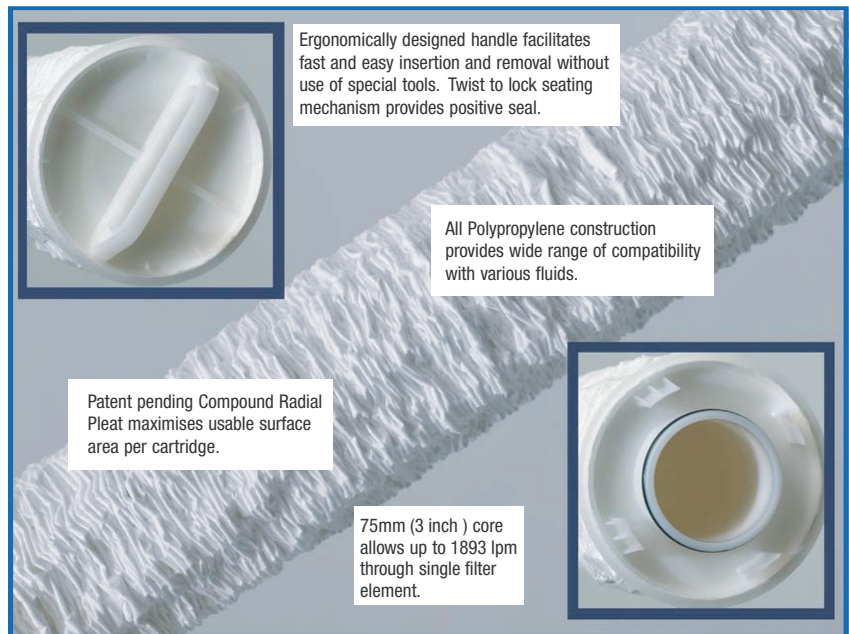
### Compliance

- FDA compliant. Compatible in applications requiring direct food contact in food and beverage processing per 21 CFR.
- AS1210 code design

## Sanitary High Flow Filtration System

The High Flow Filtration System is an advanced design that uses 3M innovation and extensive filtration experience to deliver a high flow cartridge in a compact housing design.

The introduction of a sanitary housing creates an opportunity to introduce the High Flow system into the Food and Beverage market. The external stainless steel surfaces are mirror polished for a high quality, easy care finish and the housings are available in standard designs or can be customised to suit your specific requirements. When compared to conventional cartridge systems the High Flow system provides a number of advantages.



### Compact Design

Using fewer elements combined with an outside-to-in flow path enables a reduction in the size of housing required for your application. The High Flow Housing takes up as little as one-half the size of competitive housings for a given flow rate. The result is lower capital investment costs and a compact footprint that saves valuable plant space.

### Ease of Use

The High Flow Filtration System is designed with ease-of-use in mind. From a user-friendly, ergonomically designed handle that makes cartridge installation and removal easier without the use of special tools or other hardware, to a unique "twist-to-lock" cartridge seating mechanism that provides a positive seal, the High Flow System facilitates easy operation and maintenance of your filter system.

### High Performance Media in an Innovative Design

High Flow Filters are designed using state-of-the-art technology, optimising both performance and effluent quality to ensure customer satisfaction. The elements use a unique pleat design that results in a high usable filtering surface area per filter.

## High Flow Filter Cartridges

### Materials of Construction

Each grade of the High Flow Filter is manufactured from melt blown FDA compliant polypropylene microfibre media, providing high particle removal efficiency with broad chemical compatibility. No adhesives, binders, or silicone are used in the manufacturing process. The raw materials composing these filters are FDA compliant according to CFR Title 21. All support layers and hardware are constructed from Polypropylene.

### Radial Pleat Design

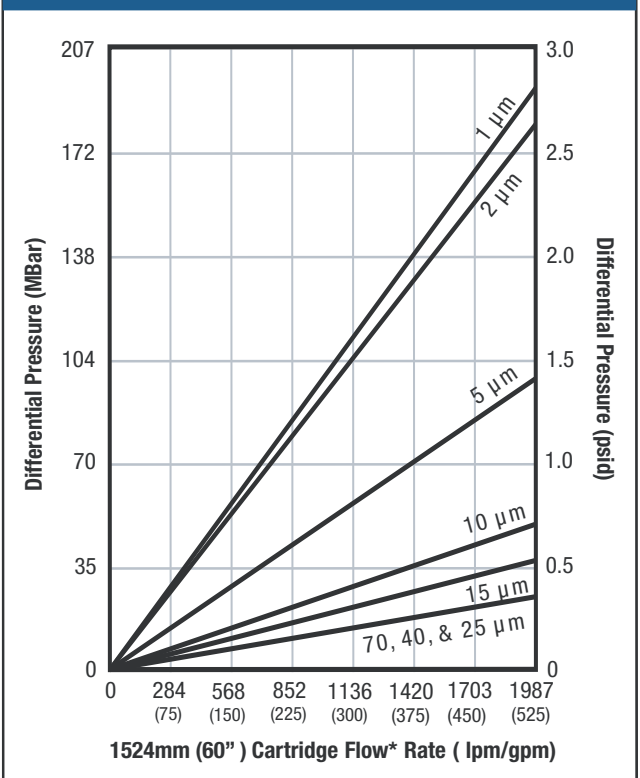
3M Innovation is at the heart of the High Flow Filter. A patent pending compound radial pleat design maximises the usable surface area per filter. Blown microfibre forms the basis of the filter media, which is made to tightly controlled fibre diameter specifications to produce a media with absolute rated particle retention characteristics. Our unique manufacturing process embosses the media to produce a more uniform pleat pattern, which, in turn, allows greater utilisation of the media by evenly distributing the fluid throughout the entire filter structure. This results in consistent particle retention in a compact, space-saving design.

### Operating Parameters by Cartridge

Maximum Operating Temperature	71°C
Maximum Forward Differential Pressure	3.4 bar (50 psid) @ 20°C
Recommended Change-out Differential Pressure	2.4 bar (35 psid) @ 20°C

Regulatory Status - All component materials of the High Flow Polypropylene element are listed for food contact per 21 CFR.

### Typical Cartridge Flow Rates

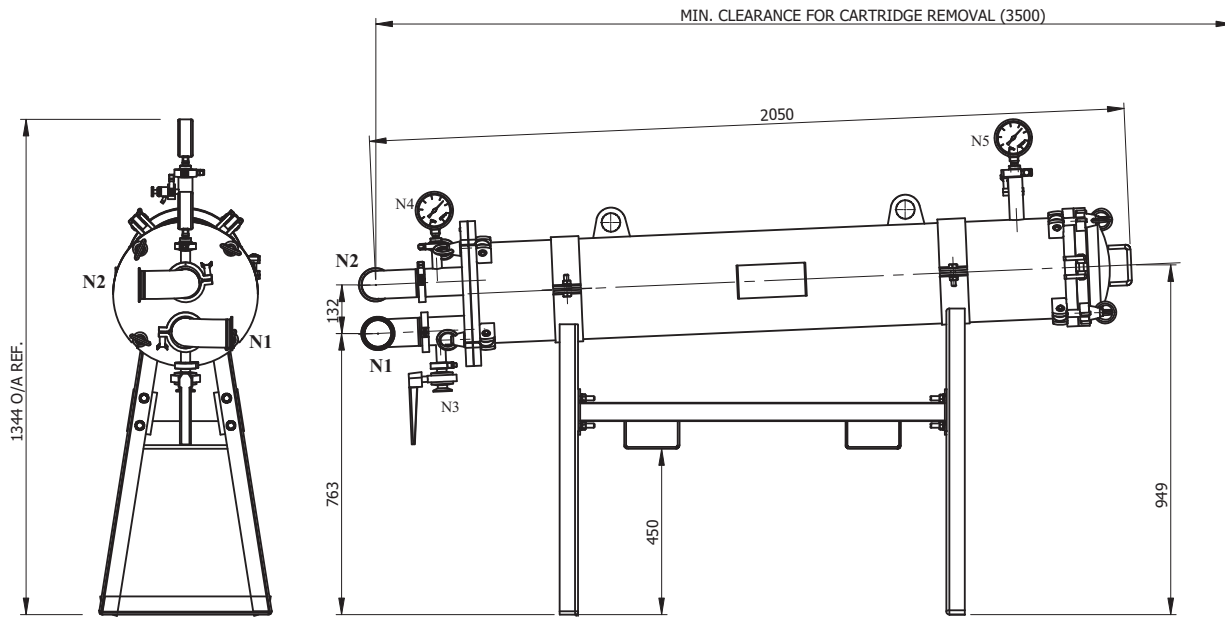


## Sanitary High Flow Housings

The High Flow Housings are specifically designed to deliver all of the system's benefits in a compact footprint. Housings are available in standard designs, as well as customisable configurations to suit your specific needs. All sanitary High Flow Housings are designed, manufactured and stamped in accordance with AS1210. Stainless steel housing external and internal surfaces are mechanically polished for a consistent, easy care finish.

### Features

- AS1210 Code design
- Robust cartridge center-post design eliminates bulky support plates providing easy access to housing internals
- Hinged cover for easy element change-outs
- Handles liquid at pressures and temperatures of up to 10 bar (150 psig) and 121°C
- Manufactured from 316L stainless steel for excellent corrosion protection
- 1524mm (60") element lengths
- Upstream and downstream gauge ports and drains



Nozzle Table		
NOZZLE	SPEC.	SERVICE
N1	3" TRI-CLOVER	INLET
N2	3" TRI-CLOVER	OUTLET
N3	1" TRI-CLOVER	DRAIN
N4	1" TRI-CLOVER	PRESSURE
N5	1.5" TRI-CLOVER	PRESSURE
N6	0.5" TRI-CLOVER	VENT

Design Conditions	
DESIGN CODE:	AS1210-2010 CL.3
DESIGN PRESSURE:	1000 kPa
DESIGN TEMP.:	0°-100°C
HYDROTEST PRESSURE:	1770 kPa

Finish Requirements	
INTERNAL:	0.4um MECHANICAL POLISH
EXTERNAL:	0.8um MECHANICAL POLISH

Weights (nominal)	
HOUSING EMPTY:	150KG
HOUSING FULL OF WATER:	248KG
COVER/DOME:	10KG

The High Flow Sanitary housing is designed for fluids of hazard level "D" as per AS4343. Fluids and gasses above this hazard level should not be used with this housing.

## High Flow Filter Element Ordering Guide

Filter Designation	Element Length (mm)	Material	Absolute Removal Rating (Microns)	O-Ring	Packaging Options (per box)
HF – High Flow	60- 1524mm (60")	PP - Polypropylene	001 – 1 µm 002 – 2 µm 005 – 5 µm 010 – 10 µm 015 – 15 µm 025 – 25 µm 040 – 40 µm 070 – 70 µm	D – Nitrile	01 - 1 pack

## High Flow AS1210 Code Housing Ordering Guide

Finished Goods Code: AK200125420

Number of Filter Elements	Model	Size	Configuration	Housing Material
1	HFS	60"	H – Horizontal	C – 316L SS

\*Note: Standard gasket food grade EPDM, other gaskets available on request

## Spares Listing

Part Number	Description
AK200126956	HFS60HC Cover "O" Ring BS452 EPDM Food Grade
AK200126964	HFS60HC Valve /Gauge Sanitary Kit SS316L
AK200126972	HFS60HC 4" Tri Manifold Sanitary Kit SS316L
AK200126980	HFS60HC 5" Tri Manifold Sanitary Kit SS316L
AK200126998	HFS60HC U Sanitary 3" Tri Fitting SS316L



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