

3M Science.
Applied to Life.™

3M Separation and
Purification Sciences Division

3M™ High Flow Filters

Cool your cans.

Cost-effective coolant/lubricant
filtration for aluminium beverage can
production.

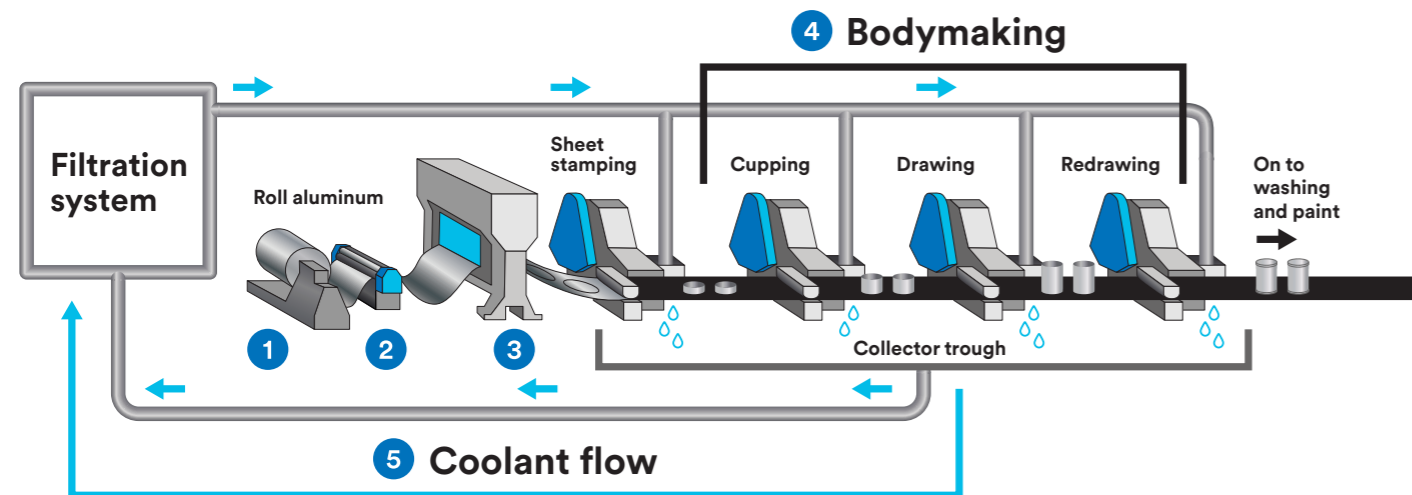


Filter out variability.

Reduce aluminium fines loading in coolant/lubricant systems and tearoff. Improve your production process.

In high value operations where millions of identical parts are produced daily, even minor improvements can have significant impact on overall process yield. Designed for high performance and easy operation, the 3M™ High Flow Filter System delivers a high flow filter in a compact housing design.

Steps in the Can Manufacturing Process



- 1** Uncoiler unwinds the aluminium coil into the lubricator.
- 2** The lubricator then applies a thin film of lubricant to the aluminium sheet before feeding the metal into a stamper, which cuts out circular aluminium blanks.
- 3** The circular aluminium blanks are fed to the cupper that forms aluminium cups.
- 4** Bodymakers deep draw the aluminium cups into aluminium cans at high speed and very tight tolerances.
- 5** The lubricant/coolant filtration system provides a high quality fluid with low aluminium loading, which allows for trouble free deep drawing at the bodymaker stage, before being recirculated.

Reduce aluminium loadings.

Maximize your operational efficiencies with 3M™ High Flow Filters:



Reduce defects

Reduce contaminant buildup, streaking and dimensional variations.



Reduce production downtime

Reduce tear off rate, extend tool life.



Reduce labour

Reduce number of filters and frequency of changeouts.



Increase plant capacity

Reduce tearoffs, increase production yield.



Minor variations. Multiplied by millions.

Aluminium fines loading, corrosive by-products and environmental contaminants are generated during the drawing process and carried away by coolant/lubricants. Without proper filtration, these particles can impact quality, increase tearoff, and limit production yield. To improve your manufacturing process and sustainability, 3M has an effective solution that can result in reduction in material and labour overheads.



Discover a cool way to improve efficiency.

3M™ High Flow Filter System

▶ Reduced footprint

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 footprint that saves valuable plant space.



▶ Ergonomic design

The horizontal housing design and cartridge handle allow for quick and easy installation and removal while reducing changeout time and worker exposure.



▶ Fewer filters needed

Highly efficient design requires less filters in use, helping to reduce changeout times and disposal costs.

3M™ High Flow Filters



▶ “Twist-to-lock” cartridge sealing mechanism

Provides positive seal.



▶ Ergonomic design

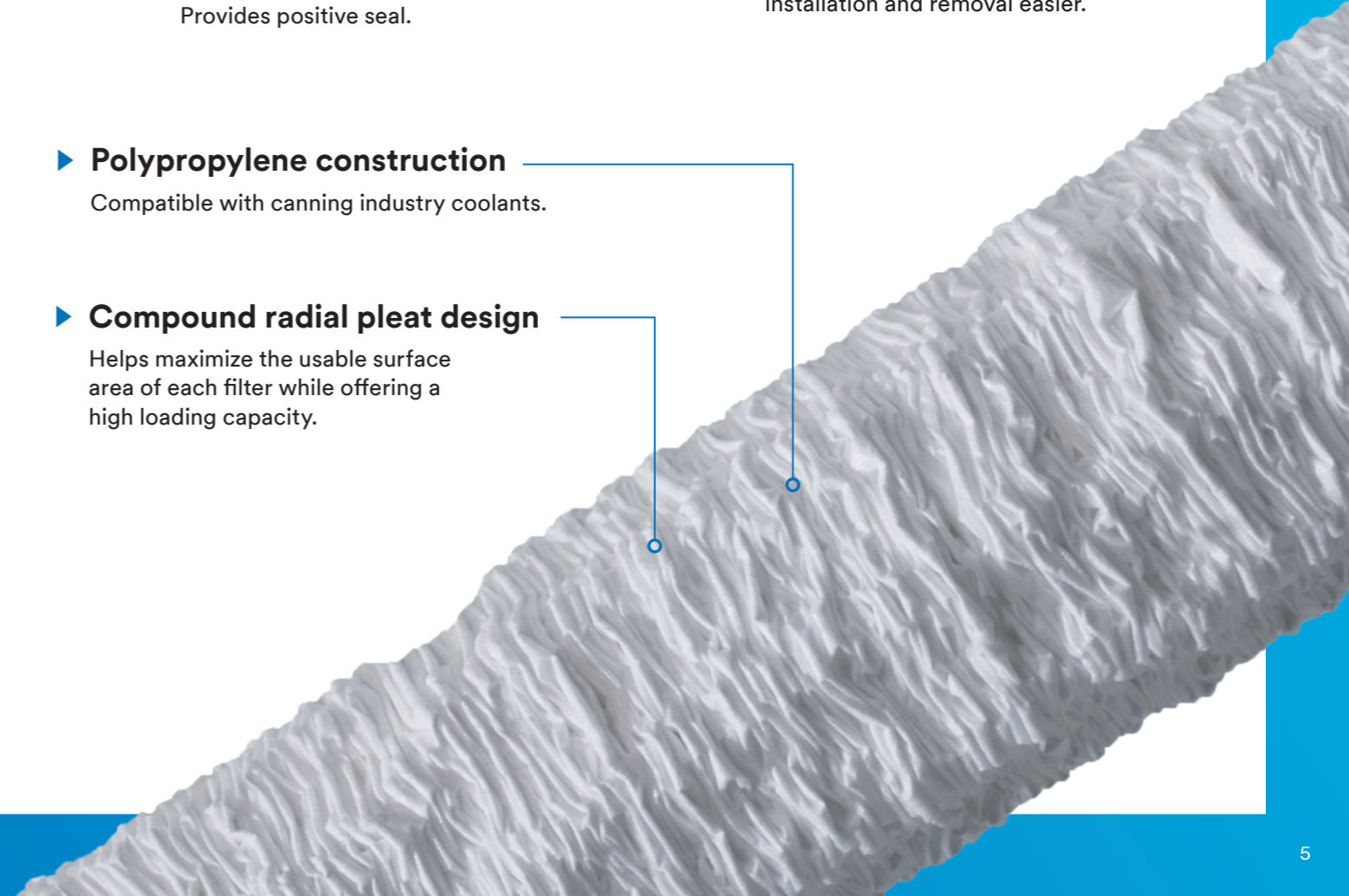
Handle makes cartridge installation and removal easier.

▶ Polypropylene construction

Compatible with canning industry coolants.

▶ Compound radial pleat design

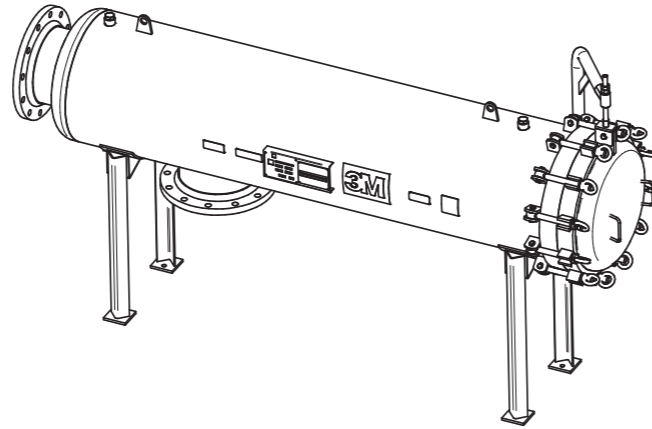
Helps maximize the usable surface area of each filter while offering a high loading capacity.



3M™ High Flow Series Filter Systems

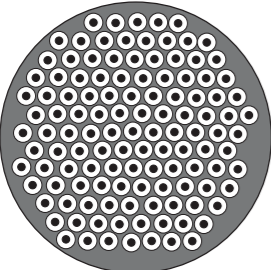
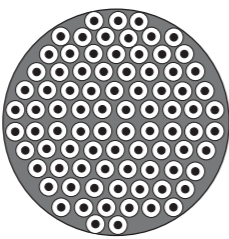
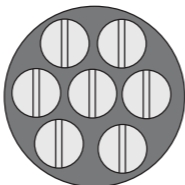
The 3M High Flow filter product family has a supporting family of filter housings constructed of 316L stainless steel (housing body).

For can manufacturing, the 7 round variation of the 60" housing (7HF60) is best suited for meeting performance goals.



Fewer cartridges. Smaller footprint. Faster change-outs.

Comparison of Required Filter Cartridges and their Housing Diameters

Conventional 2.5" (63.5mm) depth cartridges	Conventional 2.5" (63.5mm) pleated cartridges	3M™ High Flow Filter System
		
120 Cartridges in a 36" (914mm) diameter housing	85 Cartridges in a 30" (762mm) diameter housing	7 Cartridges in a 24" (610mm) diameter housing

3M™ High Flow Filter Multi-Around Cartridge Housing, Model 7HF60

Housing Model	Housing OD (in/mm)	Inlet & Outlet Flange Size (in/DN)	Vent & Drain NPT (in/mm)	Empty Weight (lbs/kg)	Housing Dimension, approximate length x width x height (in/mm)
7HF60 (BHDECC)	22/560	12/300	Vent: 1/25.4 Drain: 2/50.8	1060.4/481	L : 109.4/2780 W : 23.6/600 H : 67.1/1705

3M™ High Flow Filter specifications.

Materials of construction

For can manufacturing, 3M™ High Flow HFM Series 60" Filter Cartridges are the recommended solution to meet performance requirements.

Filter media

3M High Flow filters are manufactured from meltblown polypropylene microfiber media, providing high particle removal efficiency with broad chemical compatibility.

Construction

Filter micron rating (microns)	HFM 5µm Nominal
Filter media, center core, end caps, outer sleeve	Polypropylene

Cartridge dimensions

Inside diameter (nominal)	3" (76.2mm)
Outside diameter (nominal)	6.5" (165mm)
Cartridge length (nominal)	60" (1524mm)

Operating conditions

Maximum forward differential pressure	50 psid @ 68°F (3.4 bar @ 20°C)
Recommended change-out differential pressure	35 psid @ 68°F (2.4 bar @ 20°C)

Make the 3M™ High Flow Filter System part of your process.



Reduce costs, improve quality, and increase production with 3M™ High Flow Filters.

As your coolant filtration system experts, we can help you benefit from the latest technology.

We understand the unique challenges of the aluminium beverage can industry. Our team can help make your transition to the 3M High Flow Filter System a success. For more information, visit 3M.co.uk/cancoolant

To schedule a trial, please **contact your 3M sales representative.**

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3M Separation and Purification Sciences Division

3M United Kingdom PLC
3M Centre, Cain Road
Bracknell RG12 8HT
Berkshire
+44(0) 845 6025 237

3M Ireland Ltd
The Iveagh Building
The Park, Carrickmines
Dublin 18
+353 (01) 280 3555

Scan to visit
3M.co.uk/cancoolant



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