3M Science. Applied to Life.™

3M Separation and Purification Sciences Division

3M™ High Flow Filters

Cool your cans.

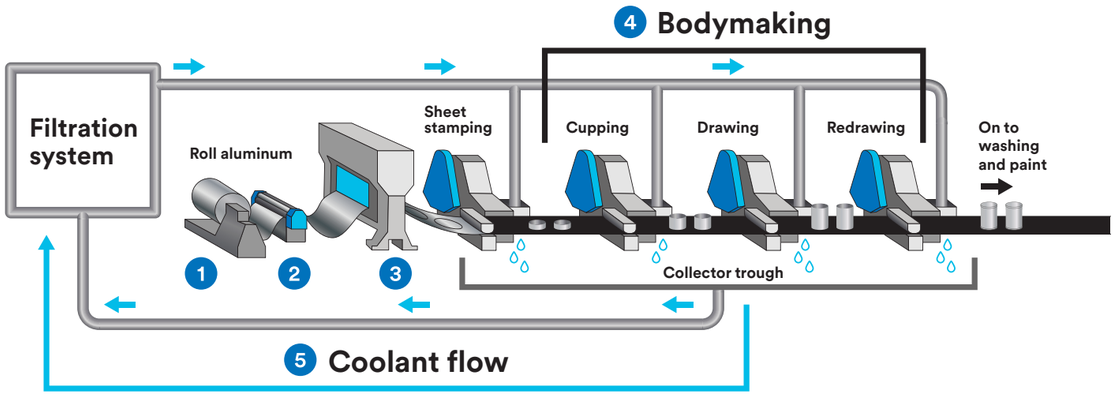
Cost-effective coolant filtration for aluminum beverage can production.

Filter out variability.

Reduce aluminum loadings 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 aluminum coil into the lubricator.
2. Lubrication applies a thin film of lubricant to the aluminum sheet and then feeds the metal into the stamper that cuts out circular aluminum blanks.
3. The circular aluminum blanks are fed to the cupper that forms aluminum cups.
4. Bodymakers deep draw the aluminum cups into aluminum cans at high speed and very tight tolerances.
5. The coolant filtration system provides a high-quality fluid, needed for the deep drawing process that is performed by the bodymakers, and recirculated.

Reduce aluminum 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 labor
Reduce number of filters and frequency of changeouts.

Increase plant capacity
Reduce tearoffs, increase production yield.

Minor variations. Multiplied by millions.

Aluminum loadings, corrosion by-products and environmental contaminants are generated during the drawing process and carried away by the coolant. 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 results in cost reduction and labor savings.

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 required

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

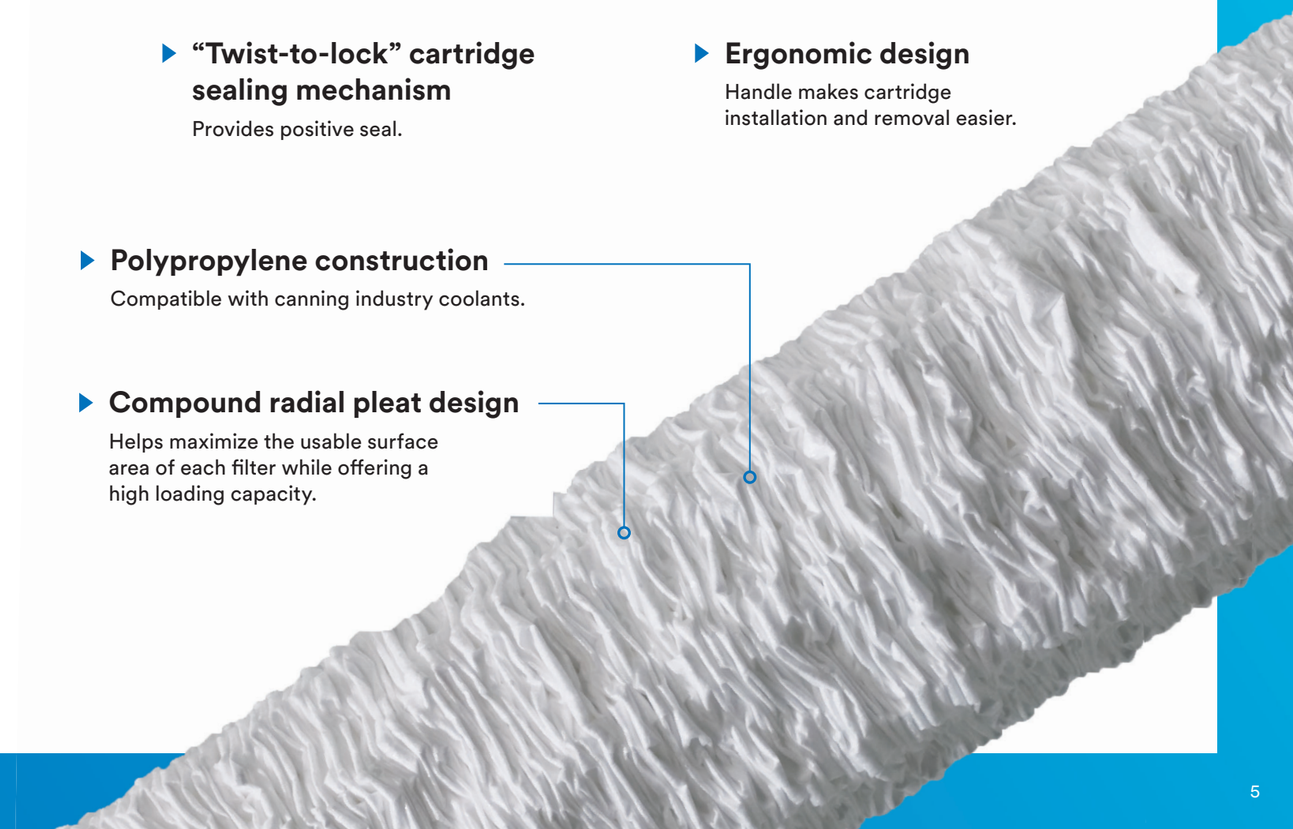
Handle makes cartridge installation and removal easier.

Polypropylene construction

Compatible with canning industry coolants.

Compound radial pleat design

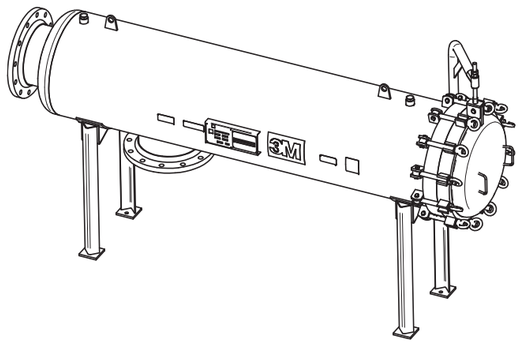
Helps maximize the usable surface area of each filter while offering a high loading capacity.



3M™ High Flow Series Filter Systems

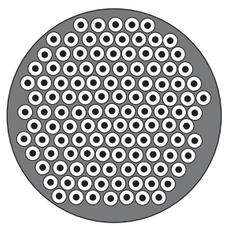
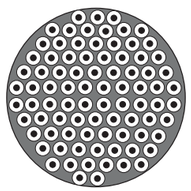
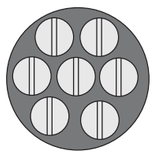
The 3M High Flow filter product family has a supporting family of filter housings constructed of 316L stainless steel (housing body) and 316 stainless steel (flanges, cartridge plug base).

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 (BHAACC)	22/560	12/300	1/25.4	1084.7/492	L – 100.2/2545 W – 22.1/560 H – 39.4/1000

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.

O-rings

For the 3M High Flow HFM Series Filters, O-rings are available in the standard nitrile.

Construction	
Filter micron rating (microns)	HFM 5µm Nominal
Filter media, center core, end caps, outer sleeve	Polypropylene
Sealing o-ring options	Nitrile

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 aluminum beverage can industry. Our team can help make your transition to the 3M High Flow Filter System a success. For more information, visit **3M.com/cancoolant**.

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

3M

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