



Coolant Filters

LT36502



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Introduction

In recent years, several engine manufacturers have begun to remove coolant filtration systems from new engine builds. This is concerning given studies show that up to 40% of diesel engine repairs arose from problems beginning in the cooling system, and a large portion of those problems could have been prevented with the use of coolant filtration. Additionally, global diesel emissions standards have forced major changes to cooling system temperatures, operating conditions, chemistry, and flow rates all driving the need for more efficient coolant filtration. Moreover, water-based, glycol-based, additive chemistries, diesel coolant additives (DCAs), and service/maintenance intervals have caused general confusion industry-wide. The need has never been greater for coolant filtration to remain as a critical engine component and a key part of a complete preventative maintenance regimen.

Heavy Duty Cooling System Functions and Components

The primary function of the cooling system is to absorb heat from critical engine components such as the engine block, cylinder head, and exhaust gas recirculation systems. The following methods are utilized to accomplish this heat absorption:

- Circulating antifreeze/coolant within engine internals
- Dissipating heat through the radiator
- Controlling antifreeze/coolant temperature

Heavy duty cooling systems utilize a combination of fully formulated liquid antifreeze/coolant, radiators/heat exchangers, thermostats, pumps, sensors, and a filtration system (filter heads and filters). The coolant filtration system provides long-lasting, superior filtration that removes debris, contaminants, and can revitalize antifreeze/coolant with DCAs.

Heavy Duty Cooling System Debris and Contamination

Debris found in the cooling system is unfortunately common. Introduction of debris can happen as a result of the original manufacturing process that leaves core sand within the system, and debris is also created under normal engine operation. Furthermore, contaminated water or the use of dirty containers during service and maintenance can also allow dirt and silt into the cooling system. Also, poor quality antifreeze/coolant, spent or degraded coolant additives, and overtreatment of DCAs will result in additive precipitation causing insoluble materials to be created within the cooling system. If hard water (water with high content of both magnesium and calcium) is used within the cooling system, scale can form on hot surfaces such as cylinder liners, cylinder heads, and water pump seal faces.

Proper coolant filtration reduces unnecessary downtime by filtering this harmful debris and contamination from the engine antifreeze/coolant, thereby reducing engine wear, radiator failure, water pump failure, overheating, thermostat failure, and most cooling system component related issues.

The following problems are possible signs of poor antifreeze/coolant, poor coolant filtration, and/or poor heat transfer:

- Worn piston rings
- Scuffed piston skirts
- Premature failure of water pumps, thermostats, and radiators

Research from field tests indicated that 40% of used coolant filters contained moderate amounts of debris/contaminants and greater than 10% of used coolant filters contained heavy amounts of debris/contaminants. Moreover, a survey of over 11,000 engines noted a 3-to-1 reduction in water pump failures between fleets using coolant filters and fleets not using coolant filters (SAE Technical Paper 881270).

Introduction

Selecting the Right Heavy Duty Coolant Filter

The addition of Fleetguard coolant filtration will provide significant benefits to the system including:

- Extended water pump life
- Maximized corrosion protection
- Prolonged antifreeze/coolant life
- Improved heat transfer
- Increased thermostat durability
- Lower cooling system maintenance costs

Heavy duty diesel engine manufacturers always recommend using a fully formulated antifreeze/coolant solution that blends the appropriate amounts of glycol, deionized and reverse osmosis water, and heavy duty additives. Depending on the chemistry, fully formulated antifreeze/coolant may still need to have their additives checked/tested and replaced during specified service intervals.

Choosing the right Fleetguard coolant filter is determined by the needs of the equipment and equipment operator. Several determinants include:

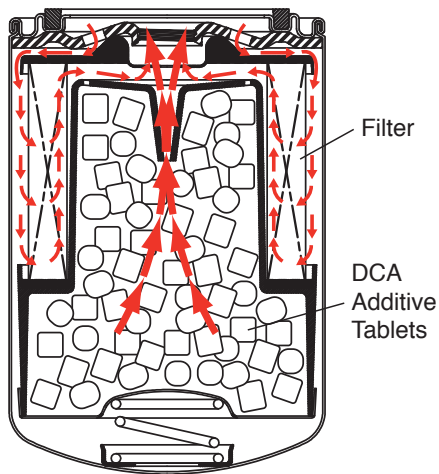
- Volume of cooling system
- Service interval
- Additive type
- DCA units
- Filter height
- Thread size
- Environmental factors

Standard service intervals are less than 500 hours, 25,000 miles / 40,000 km. Standard service coolant filters utilize an immediate release technology designed to release the proper amount of DCAs throughout the service interval. Standard service coolant filters utilize a robust cellulose media to capture debris and contaminants.

Extended service intervals are for use up to 1 year, 4000 hours, 150,000 miles / 250,000 km for cooling systems up to 20 gallons (76 L). Extended service coolant filters utilize a patented coated tablet technology and special chamber designed to release the proper amount of DCAs throughout the service interval. Extended service interval coolant filters utilize Fleetguard proprietary StrataPore media made of polypropylene material to capture oil, debris, and contaminants. Lastly, the shells of the Fleetguard extended service coolant filters are designed with heavier steel and springs with plastic protector cups.

DCAs available include DCA2 for Fleetguard Fleetcool and Fleetguard Fleetcool EX, and DCA4 for Fleetguard ES Compleat. DCA2 and DCA4 antifreeze/coolants can utilize Fleetguard chemical filters throughout their service interval for additive replenishment. No DCAs are required for Fleetguard ES Compleat NOAT and Fleetguard ES Compleat OAT products, and both can utilize non-chemical "blank" coolant filters.

The following chart lists the proper amount of DCA units that need to be replenished every 250 hours of system operation.



System Size gal (L)	Typical Number of DCA Units Needed to be Replenished After 250 Hours of Service
1 - 5 (4 - 19)	2
6 - 10 (20 - 38)	2
11 - 15 (42 - 57)	4
16 - 20 (60 - 76)	6
21 - 38 (79 - 144)	10
31 - 50 (117 - 189)	15
51 - 75 (193 - 284)	20
76 - 100 (288 - 378)	25
101 - 150 (382 - 568)	40
151 - 200 (572 - 757)	50
201 - 250 (761 - 946)	65
251 - 300 (950 - 1135)	75
301 - 350 (1139 - 1325)	90
351 - 416 (1329 - 1574)	100

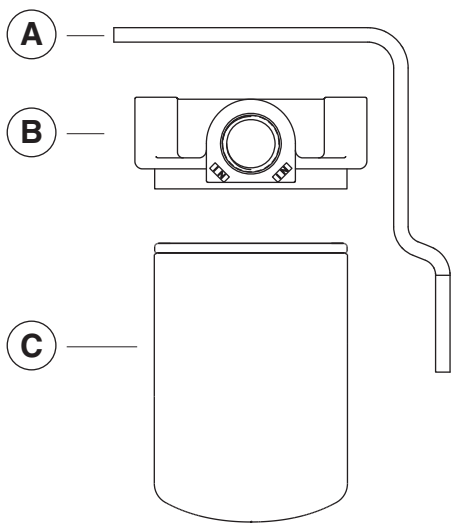
The physical package size and location determine specifically where the coolant filter can be mounted and how large it can be. Fleetguard offers several common industry-accepted thread sizes as well as various coolant filter heights to accommodate most applications, and it is very important to ensure enough clearance for service and coolant filter removal. Coolant filter installation is also dependent on several other environmental factors including:

- Maximum and minimum system and ambient temperatures
- System vibrations
- System hose routing and specification
- Filter head pressures and restrictions
- System fittings and shut-off valves

Summary

More stringent global emissions regulations continue to demand increased performance of engines and their cooling systems. It is imperative that coolant filtration systems be installed on heavy duty system applications to provide the necessary protection from harmful contaminants. Choose Fleetguard cooling system products to keep you running cleaner, for longer.

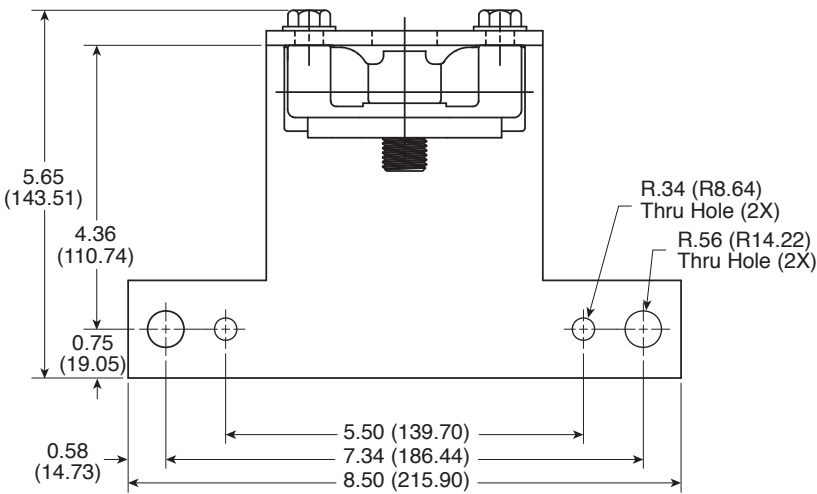
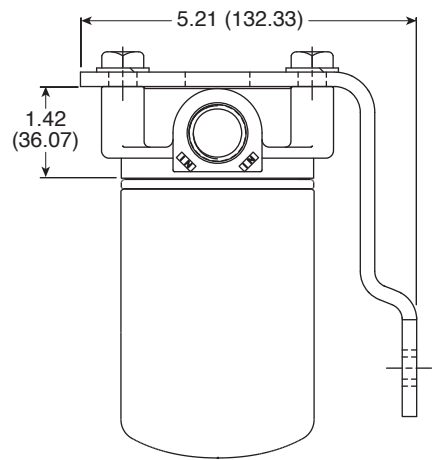
Please contact Fleetguard Customer Support for additional information.



Parts List

Part	Description	Part Number
A	Coolant Filter Mounting Bracket	256535 S
B	Filter Head	See Ordering Information
C	Replacement Filter	See Ordering Information

Mounting/Dimensions



All dimensions are in inches (millimeters)

Ordering Information

Filter Head Part Number*	Description	Style	Port Size	Thread Size
204163 S	Coolant Filter Spin-On Head	Aluminum	3/8" NPT	11/16-16 UN-2B
215617 S	Dual Coolant Filter Spin-On Heads	Aluminum	1/2" NPT	11/16-16 UN-2B
256535 S	Filter Head Mounting Bracket	N/A	N/A	N/A
257715 S	Coolant Filter Head (204163 S) and Mounting Bracket Assembly	Aluminum Head	3/8" NPT	11/16-16 UN-2B
3904378 S	Severe Duty Coolant Filter Head	Steel	3/8" NPT	11/16-16 UN-2B

* Severe Duty Filter Head is recommended for most applications.

Replacement Filters

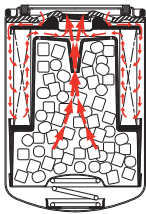
*Thread size 11/16-16 UN-2B

Part Number	Coolant Additive	Service Interval	Dome OD in (mm)	Overall Height
WF2051	Chemical	Standard	3.69 (93.73)	4.16 (105.66)
WF2053	Chemical	Standard	3.69 (93.73)	7.53 (191.26)
WF2054	Chemical	Standard	3.69 (93.73)	5.43 (137.92)
WF2055	Chemical	Standard	3.69 (93.73)	7.53 (191.26)
WF2056	Chemical	Standard	4.24 (107.67)	10.46 (265.73)
WF2070	Chemical	Standard	3.69 (93.73)	4.16 (105.66)
WF2071	Chemical	Standard	3.69 (93.73)	4.16 (105.66)
WF2072	Chemical	Standard	3.69 (93.73)	4.16 (105.66)
WF2073	Chemical	Standard	3.69 (93.73)	4.16 (105.66)
WF2074	Chemical	Standard	3.69 (93.73)	5.43 (137.92)
WF2075	Chemical	Standard	3.69 (93.73)	5.43 (137.92)
WF2076	Chemical	Standard	3.69 (93.73)	5.43 (137.92)
WF2077	Non-Chemical	Standard	3.69 (93.73)	5.43 (137.92)
WF2084	Non-Chemical	Standard	3.69 (93.73)	4.16 (105.66)
WF2087	Chemical	Standard	3.69 (93.73)	4.16 (105.66)
WF2088	Chemical	Standard	3.69 (93.73)	4.16 (105.66)
WF2091	Chemical	Standard	4.24 (107.67)	8.14 (206.68)
WF2101	Non-Chemical	Standard	3.69 (93.73)	5.43 (137.92)
WF2104	Chemical	Standard	3.69 (93.73)	5.43 (137.92)
WF2106	Chemical	Standard	3.69 (93.73)	5.43 (137.92)
WF2107	Non-Chemical	Standard	3.69 (93.73)	4.16 (105.66)
WF2121	Chemical	Extended	3.69 (93.73)	5.43 (137.92)
WF2122	Non-Chemical	Extended	3.69 (93.73)	4.16 (105.66)
WF2123	Non-Chemical	Extended	3.69 (93.73)	5.43 (137.92)
WF2131	Chemical	Extended	3.69 (93.73)	5.43 (137.92)
WF2144	Chemical	Standard	3.69 (93.73)	5.43 (137.92)
WF2145	Chemical	Standard	3.69 (93.73)	7.48 (189.99)
WF2151	Chemical	Standard	3.69 (93.73)	4.16 (105.66)

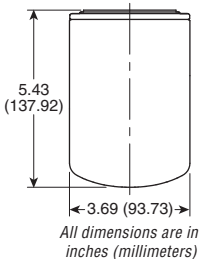
Extended Service Interval Filters

Coolant Filters

Extended Service Interval Filters are recommended for use up to one year, 150,000 miles, 250,000 kilometers, or 4000 hours (whichever comes first).

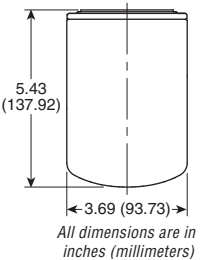


Spin-On Filters with DCA4 Additive



Part Number	Media Type	Micron Rating	Coolant Additive	Dome Outside Diameter in (mm)	Overall Height in (mm)	Thread Size
WF2121	StrataPore™	40	15 Units	3.69 (93.73)	5.43 (137.92)	11/16-16 UN- 2B
WF2124	StrataPore	40	15 Units	3.69 (93.73)	5.43 (137.92)	3/4-20 UNEF- 2B
WF2128	StrataPore	40	15 Units	3.69 (93.73)	5.43 (137.92)	M16 X 1.5-6H INT

Spin-On Filters with DCA2 Additive

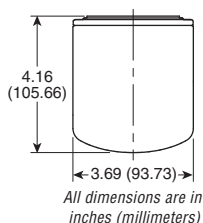


Part Number	Media Type	Micron Rating	Coolant Additive	Dome Outside Diameter in (mm)	Overall Height in (mm)	Thread Size
WF2131	StrataPore™	40	15 Units	3.69 (93.73)	5.43 (137.92)	11/16-16 UN-2B
WF2133	StrataPore	40	15 Units	3.69 (93.73)	5. 43 (137.92)	3/4-20 UNEF-2B
WF2138	StrataPore	40	15 Units	3.69 (93.73)	5.43 (137.92)	M16 X 1.5-6H INT

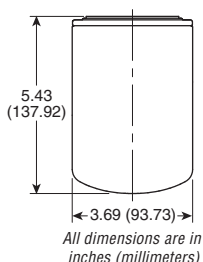
Note: All filters, except where noted, have a restrictive orifice that ensures a maximum flow of 2 gal/min (7.6 L/min). Media micron rating is 98.7% efficient at rated flow as determined by a modified ISO 4548-12. Specifications subject to change without notice.

Extended Service Interval Filters are recommended for use up to one year, 150,000 miles, 250,000 kilometers, or 4000 hours (whichever comes first).

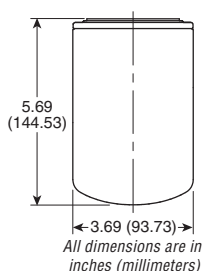
Spin-On Filters with No Additive



Part Number	Media Type	Micron Rating	Coolant Additive	Dome Outside Diameter in (mm)	Overall Height in (mm)	Thread Size
WF2122	StrataPore™	40	None	3.69 (93.73)	4.16 (105.66)	11/16-16 UN- 2B
WF2129	StrataPore	40	None	3.69 (93.73)	4.16 (105.66)	M16 X 1.5-6H INT
WF2134	StrataPore	40	None	3.69 (93.73)	4.16 (105.66)	3/4-20 UNEF- 2B



Part Number	Media Type	Micron Rating	Coolant Additive	Dome Outside Diameter in (mm)	Overall Height in (mm)	Thread Size
WF2123	StrataPore™	40	None	3.69 (93.73)	5.43 (137.92)	11/16-16 UN- 2B
WF2130	StrataPore	40	None	3.69 (93.73)	5.43 (137.92)	M16 X 1.5-6H INT

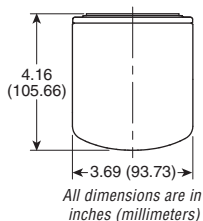


Part Number	Media Type	Micron Rating	Coolant Additive	Dome Outside Diameter in (mm)	Overall Height in (mm)	Thread Size
WF2127	StrataPore™	40	None	3.69 (93.73)	5.69 (144.53)	M36 X 2-6G INT

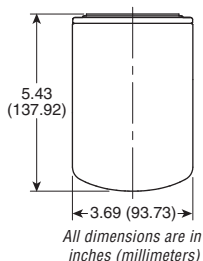
Note: All filters, except where noted, have a restrictive orifice that ensures a maximum flow of 2 gal/min (7.6 L/min). Media micron rating is 98.7% efficient at rated flow as determined by a modified ISO 4548-12. Specifications subject to change without notice.

Standard Service Interval Filters are recommended for use up to 500 hours, 25,000 miles, 40,000 kilometers, or each oil change interval (whichever comes first).

Spin-On Filters with DCA4 Additive



Part Number	Media Type	Micron Rating	Coolant Additive	Dome Outside Diameter in (mm)	Overall Height in (mm)	Thread Size
WF2070	Cellulose	60	2 Units	3.69 (93.73)	4.16 (105.66)	11/16-16 UN- 2B
WF2071	Cellulose	60	4 Units	3.69 (93.73)	4.16 (105.66)	11/16-16 UN- 2B
WF2072	Cellulose	60	6 Units	3.69 (93.73)	4.16 (105.66)	11/16-16 UN- 2B
WF2073	Cellulose	60	8 Units	3.69 (93.73)	4.16 (105.66)	11/16-16 UN- 2B
WF2087	Cellulose	60	9 Units	3.69 (93.73)	4.16 (105.66)	11/16-16 UN- 2B
WF2151	Cellulose	60	4 Units	3.69 (93.73)	4.16 (105.66)	11/16-16 UN- 2B

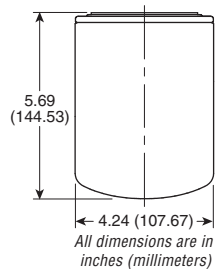


Part Number	Media Type	Micron Rating	Coolant Additive	Dome Outside Diameter in (mm)	Overall Height in (mm)	Thread Size
WF2015	Cellulose	60	8 Units	3.69 (93.73)	5.43 (137.92)	3/4-20 UNEF- 2B
WF2074	Cellulose	60	12 Units	3.69 (93.73)	5.43 (137.92)	11/16-16 UN- 2B
WF2075	Cellulose	60	15 Units	3.69 (93.73)	5.43 (137.92)	11/16-16 UN- 2B
WF2076	Cellulose	60	23 Units	3.69 (93.73)	5.43 (137.92)	11/16-16 UN- 2B
WF2083	Cellulose	60	4 Units	3.69 (93.73)	5.43 (137.92)	3/4-20 UNF-2B
WF2104	Cellulose	60	15 Units	3.69 (93.73)	5.43 (137.92)	11/16-16 UN- 2B
WF2106	Cellulose	60	4 Units	3.69 (93.73)	5.43 (137.92)	11/16-16 UN- 2B
WF2108	Cellulose	60	8 Units	3.69 (93.73)	5.43 (137.92)	M16 X 1.5-6H INT

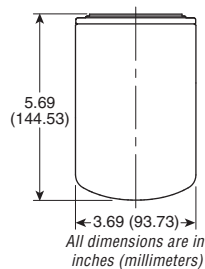
Note: All filters, except where noted, have a restrictive orifice that ensures a maximum flow of 2 gal/min (7.6 L/min). Media micron rating is 98.7% efficient at rated flow as determined by a modified ISO 4548-12. Specifications subject to change without notice.

Standard Service Interval Filters are recommended for use up to 500 hours, 25,000 miles, 40,000 kilometers, or each oil change interval (whichever comes first).

Spin-On Filters with DCA4 Additive



Part Number	Media Type	Micron Rating	Coolant Additive	Dome Outside Diameter in (mm)	Overall Height in (mm)	Thread Size
WF2022	Cellulose	60	8 Units	4.24 (107.67)	5.69 (144.53)	1-16 UN-2B

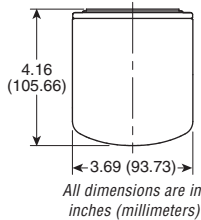


Part Number	Media Type	Micron Rating	Coolant Additive	Dome Outside Diameter in (mm)	Overall Height in (mm)	Thread Size
WF2126	StrataPore™	40	8 Units	3.69 (93.73)	5.69 (144.53)	M36 X 2-6G INT

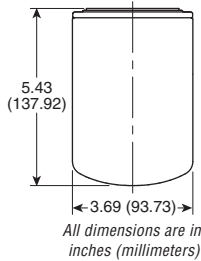
Note: All filters, except where noted, have a restrictive orifice that ensures a maximum flow of 2 gal/min (7.6 L/min). Media micron rating is 98.7% efficient at rated flow as determined by a modified ISO 4548-12. Specifications subject to change without notice.

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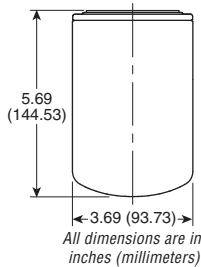
Spin-On Filters with DCA2 Additive



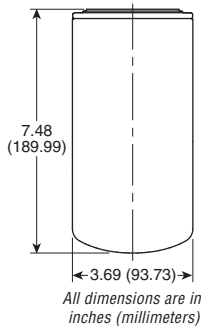
Part Number	Media Type	Micron Rating	Coolant Additive	Dome Outside Diameter in (mm)	Overall Height in (mm)	Thread Size
WF2051	Cellulose	60	4 Units	3.69 (93.73)	4.16 (105.66)	11/16-16 UN- 2B
WF2088	Cellulose	60	6 Units	3.69 (93.73)	4.16 (105.66)	11/16-16 UN- 2B



Part Number	Media Type	Micron Rating	Coolant Additive	Dome Outside Diameter in (mm)	Overall Height in (mm)	Thread Size
WF2054	Cellulose	60	15 Units	3.69 (93.73)	5.43 (137.92)	11/16-16 UN- 2B
WF2144	Cellulose	60	12 Units	3.69 (93.73)	5.43 (137.92)	11/16-16 UN-2B



Part Number	Media Type	Micron Rating	Coolant Additive	Dome Outside Diameter in (mm)	Overall Height in (mm)	Thread Size
WF2096	Cellulose	60	8 Units	3.69 (93.73)	5.69 (144.53)	M16 X 1.5-6H INT

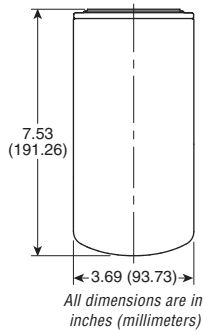


Part Number	Media Type	Micron Rating	Coolant Additive	Dome Outside Diameter in (mm)	Overall Height in (mm)	Thread Size
WF2145	Cellulose	60	18 Units	3.69 (93.73)	7.48 (189.99)	11/16-16 UN-2B

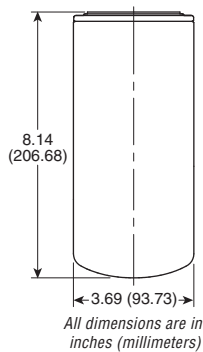
Note: All filters, except where noted, have a restrictive orifice that ensures a maximum flow of 2 gal/min (7.6 L/min). Media micron rating is 98.7% efficient at rated flow as determined by a modified ISO 4548-12. Specifications subject to change without notice.

Standard Service Interval Filters are recommended for use up to 500 hours, 25,000 miles, 40,000 kilometers, or each oil change interval (whichever comes first).

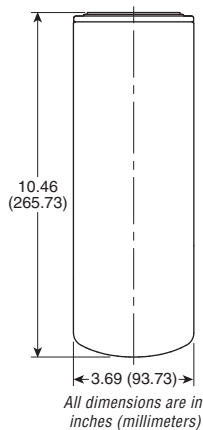
Spin-On Filters with DCA2 Additive



Part Number	Media Type	Micron Rating	Coolant Additive	Dome Outside Diameter in (mm)	Overall Height in (mm)	Thread Size
WF2053	Cellulose	60	8 Units	3.69 (93.73)	7.53 (191.26)	11/16-16 UN- 2B
WF2055	Cellulose	60	23 Units	3.69 (93.73)	7.53 (191.26)	11/16-16 UN- 2B



Part Number	Media Type	Micron Rating	Coolant Additive	Dome Outside Diameter in (mm)	Overall Height in (mm)	Thread Size
WF2091	Cellulose	60	14 Units	4.24 (107.67)	8.14 (206.68)	11/16-16 UN-2B

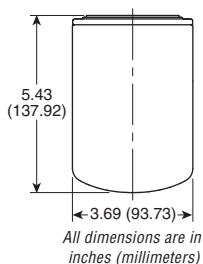


Part Number	Media Type	Micron Rating	Coolant Additive	Dome Outside Diameter in (mm)	Overall Height in (mm)	Thread Size
WF2056	Cellulose	60	34 Units	4.24 (107.67)	10.46 (265.73)	11/16-16 UN- 2B

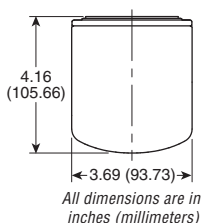
Note: All filters, except where noted, have a restrictive orifice that ensures a maximum flow of 2 gal/min (7.6 L/min). Media micron rating is 98.7% efficient at rated flow as determined by a modified ISO 4548-12. Specifications subject to change without notice.

Standard Service Interval Filters are recommended for use up to 25,000 miles, 40,000 kilometers, or each oil change interval (whichever comes first).

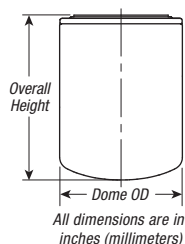
Spin-On Filters with No Additive



Part Number	Media Type	Micron Rating	Coolant Additive	Dome Outside Diameter in (mm)	Overall Height in (mm)	Thread Size
WF2077	Cellulose	60	None	3.69 (93.73)	5.43 (137.92)	11/16-16 UN- 2B
WF2078	Cellulose	60	None	3.69 (93.73)	5.43 (137.92)	3/4-20 UNF-2B
WF2101	Cellulose	60	None	3.69 (93.73)	5.43 (137.92)	11/16-16 UN- 2B
WF2109	None – No Media	NA	None	3.69 (93.73)	5.43 (137.92)	M16 X 1.5-6H INT
WF2167	Cellulose	60	None	3.69 (93.73)	5.43 (137.92)	M16 X 1.5-6H INT



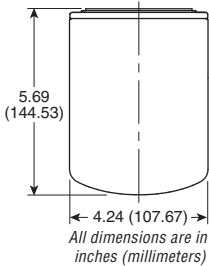
Part Number	Media Type	Micron Rating	Coolant Additive	Dome Outside Diameter in (mm)	Overall Height in (mm)	Thread Size
WF2084	Cellulose	60	None	3.69 (93.73)	4.16 (105.66)	11/16-16 UN- 2B
WF2107	Cellulose	60	None	3.69 (93.73)	4.16 (105.66)	11/16-16 UN- 2B



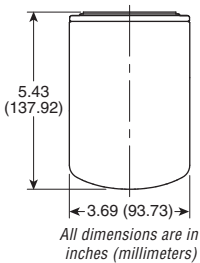
Part Number	Media Type	Micron Rating	Coolant Additive	Dome Outside Diameter in (mm)	Overall Height in (mm)	Thread Size
WF2003	Cellulose	60	None	4.79 (93.73)	11.585 (294.26)	1 3/4-12 UN- 2B
WF2079	Cellulose	60	None	4.24 (107.67)	5.70 (144.86)	1-16 UN- 2B
WF2165	Cellulose	60	None	3.77 (95.76)	5.77 (146.56)	M36 X 2-6G

Note: All filters, except where noted, have a restrictive orifice that ensures a maximum flow of 2 gal/min (7.6 L/min). Media micron rating is 98.7% efficient at rated flow as determined by a modified ISO 4548-12. Specifications subject to change without notice.

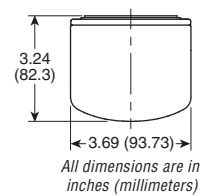
Discontinued Products



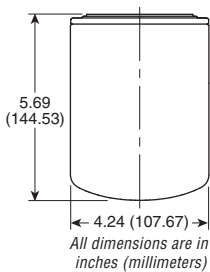
Part Number	Media Type	Micron Rating	Coolant Additive	Dome Outside Diameter in (mm)	Overall Height in (mm)	Thread Size
WF2136	StrataPore™	40	15 Units	4.24 (107.67)	5.69 (144.53)	1-16 UN-2B
WF2137	StrataPore	40	None	4.24 (107.67)	5.69 (144.53)	1-16 UN-2B



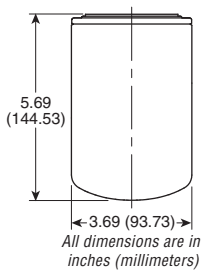
Part Number	Media Type	Micron Rating	Coolant Additive	Dome Outside Diameter in (mm)	Overall Height in (mm)	Thread Size
WF2139	StrataPore	40	None	3.69 (93.73)	5.43 (137.92)	11/16-16 UN- 2B



Part Number	Media Type	Micron Rating	Coolant Additive	Dome Outside Diameter in (mm)	Overall Height in (mm)	Thread Size
WF2093	Cellulose	60	5 Units	3.69 (93.73)	3.24 (82.3)	11/16-16 UN- 2B



Part Number	Media Type	Micron Rating	Coolant Additive	Dome Outside Diameter in (mm)	Overall Height in (mm)	Thread Size
WF2082	Cellulose	60	6 Units	4.24 (107.67)	5.69 (144.53)	1-16 UN-2B



Part Number	Media Type	Micron Rating	Coolant Additive	Dome Outside Diameter in (mm)	Overall Height in (mm)	Thread Size
WF2069	Cellulose	60	8 Units	3.69 (93.73)	5.69 (144.53)	11/16-16 UN- 2B