



ABOUT US

TTI is a customer-focused organization that designs, manufactures and delivers technology-driven products to improve our customers' processes. Our team focuses on delivering products that impact your bottom line while respecting the environment, our neighbors and employees. Several members of the team have over 30 years of experience in the filtration industry. We deliver world-class breather and filtration products to customers around the globe across the energy, food & beverage, hydraulics, pharmaceutical and general industrial industries.

PRESIDENT'S MESSAGE FROM TODD YOUNGGREEN

"As an industry entrepreneur, I set out to create businesses that are the best overall value in the industry. It is our mission at TTI to offer our customers exceptional product quality and performance with unfailing white glove service. As TTI's President, I will make you a promise that our products and services will live up to your expectations. If not, please contact me directly and we'll make it right. I appreciate your interest in the TTI product offering!"

PowerGuard™ Elements

Featuring:

- PowerGuard™ Element Media
- PowerGuard™ Online Tool
- PowerGuard™ Element Data Sheets



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PowerGuard™ Element Media

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TTI PARTNERS WITH FILTRATION INDUSTRY LEADERS

Our Product Line History

TTI has partnered with Germany-based [FG Industrial Filtration](#) (Formerly Mahle) to produce the [PowerGuard Element line](#). Together, we are leveraging over 58 years of German filter design and manufacturing expertise to supply world-class products for the North American marketplace. We have replicated FG Industrial manufacturing processes on-continent in our facility in Boulder, CO.

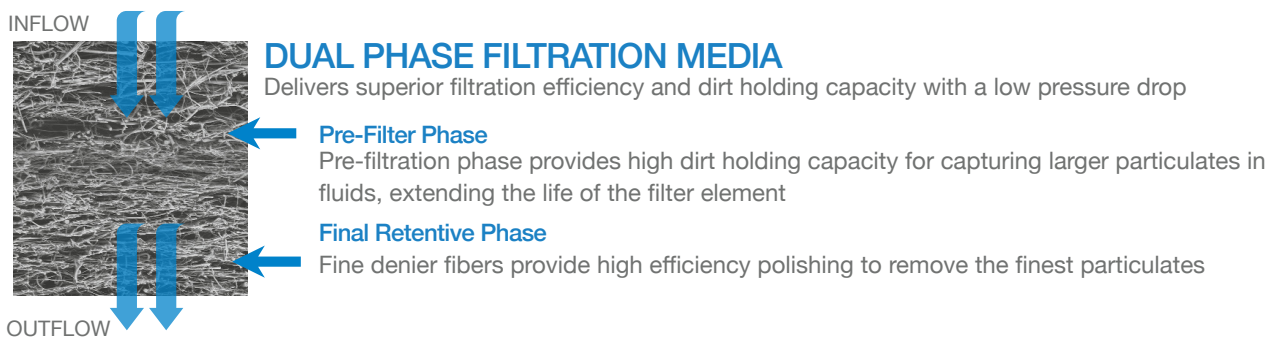
Dual Phase Media

TTI has an exclusive media partner for all of our microglass. TTI has chosen this partner for its flagship Dual Phase media which we have made our standard for the entire TTI product line. The Dual Phase microglass media is produced on state-of-the-art automated wet laid production equipment which offers unparalleled quality control and custom capabilities for hard-to-solve filtration applications.



Benefits Of Our Dual Phase Media Over Conventional Single Phase Media:

- Beta 1000 efficiencies in 1µm, 3µm, 6µm, 10µm and 25µm microns
- Graded density creates a “built-in” pre-filter layer for every cartridge
- Reduced pressure drop and increased dirt holding capacity over conventional Single Phase materials

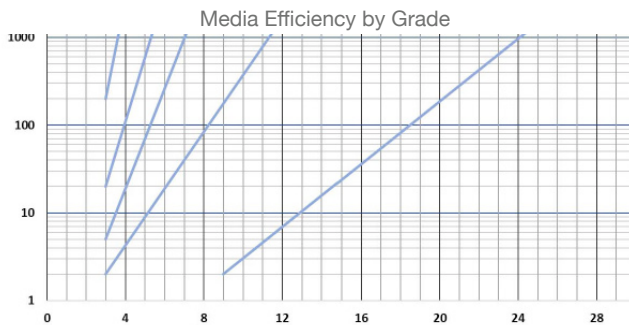


DUAL PHASE MICROGLASS: FILTER MEDIA SELECTION GUIDE

The filter media is the most critical component through which particulate retention is accomplished. For the multitudes of fluids and applications, TTI has developed and offers a range of filtration media. This allows elements to be manufactured in a broad range of filtration capabilities to suit these applications.

TTI depth filters consist of dual phase media for the treatment of oils, lubricants, flame retardant liquids, fuels, and synthetic liquids.

DUAL PHASE TECHNOLOGY



Our dual phase microglass is available in ratings of 1µm, 3µm, 6µm, 10µm, and 25µm, with high dirt holding capacity and low pressure drop.

Tested according to ISO 16889 (multi-pass test). Valid up to 50 psi differential pressure.

1µm	$\beta_{2.8(C)}$	≥ 1000
3µm	$\beta_{4.5(C)}$	≥ 1000
6µm	$\beta_{7(C)}$	≥ 1000
10µm	$\beta_{11(C)}$	≥ 1000
25µm	$\beta_{24(C)}$	≥ 1000

Filters used in hydraulic or lubrication systems are tasked with reducing particulate contamination to a targeted level of cleanliness over the service life of the element. The ISO 4406 standard presents a means of specifying these goals by way of a universal cleanliness code. The table below reflects our knowledge and experience designing elements and should be considered a starting point as to what you can expect from your system using the selected TTI microglass media. Your performance can vary based on flow rate, viscosity, differential pressure, and contamination level. It is recommended to conduct trials to verify your filtration process meets your performance goals.

ISO CLEANLINESS CLASSES FOR DUAL PHASE MICROGLASS MEDIA

Filter Media	Projected Cleanliness Codes Per ISO 4406 - 1999, 4µm / 6µm / 14µm
1µm β_{1000}	13/11/08
3µm β_{1000}	14/12/09
6µm β_{1000}	16/13/10
10µm β_{1000}	17/15/11
25µm β_{1000}	23/19/13

ELEMENT ADD-ONS (SEE NEXT PAGES FOR DETAILS)

- Water Absorptive Technology
- Static Dissipative Technology

WATER ABSORPTIVE MEDIA: FILTER MEDIA ADD-ON

By adding the Water Absorptive media option, TTI's PowerGuard™ elements have the ability to remove free and emulsified water, with the benefits of superior filtration efficiency and dirt holding capacity.

WATER ABSORPTIVE (WA) TECHNOLOGY

Filter Media Benefits

Filter elements and spin-ons with WA media specified, have reduced water content within systems, resulting in long-term benefits:

- Increased Uptime
- Maximized Lubricant Health
- Extended Life (supporting reliable systems)

Water Holding Capabilities By Element

Moisture content in PPM x Amount of Fluid in Gallons
x 0.000128 = oz of water content

Moisture content in PPM x Amount of Fluid in liters
x 0.000001 = liters of water content

TTI ELEMENT	WATER CAPACITY
TT75S-*25CWA*	24oz 0.70L
TT8314-39-*WA*	179oz 5.30L
TT9600-8-*WA*	11.5oz 0.35L



STATIC DISSIPATIVE (SD): FILTER MEDIA ADD-ON

By adding the Static Dissipative media option, TTI's PowerGuard™ elements have the ability to protect against static discharge and dissipate static buildup caused by fluid passing through filter media.

Static Dissipative elements help prevent static discharge, which are high voltage bolts of electricity. These bolts of electricity can burn holes through filter media, break fluid down, form varnish, and presents a safety hazard. Holes formed in filter media allows bypass, causing fluid to not be filtered leading to contamination.

STATIC DISSIPATIVE (SD) TECHNOLOGY

Filter Media Benefits

Filter elements with SD media specified, protects and dissipates static buildup, resulting in long-term benefits:

- Increased Uptime
- Maximized lubricant cleanliness
- Maximized equipment protection against damage



While traditional strainer filters are effective in minimizing static discharge, they do not offer any benefits for contamination and the inevitable damage, downtime, and profit loss they cause.

INSOLUBLE REMOVAL (IR): FILTER MEDIA ADD-ON

By utilizing the Insoluble Removal media, TTI's PowerGuard™ elements have the ability to protect against particulate contamination, water, insoluble oxidation by-product, and varnish.

INSOLUBLE REMOVAL (IR) TECHNOLOGY

Filter Media Benefits

Filter elements with IR media specified, protect against the toughest contaminants such as:

- Fine Particulate < 1 micron
- Water
- Insoluble Oxidation By-Products
- Varnish

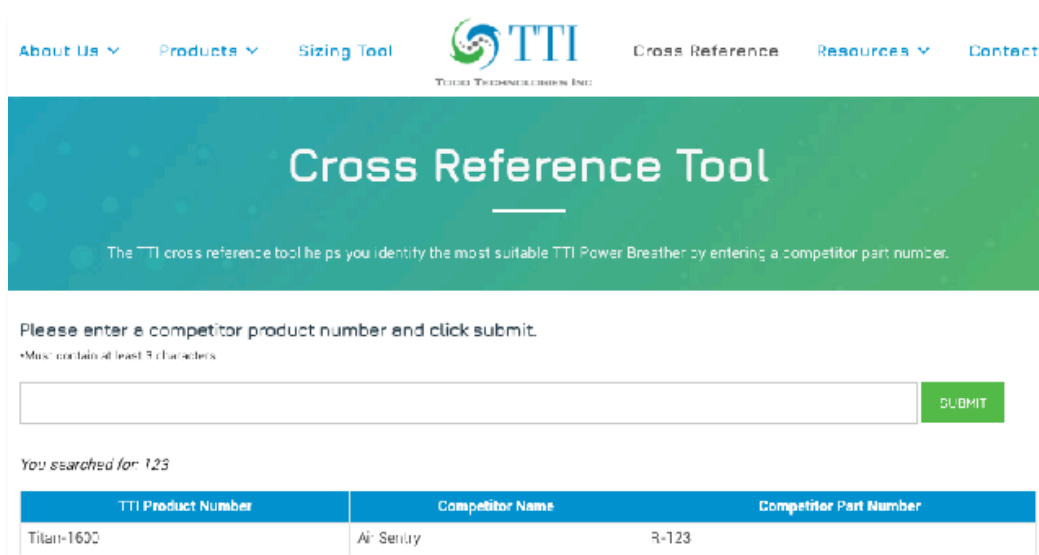


While traditional filter media is effective in removing particulate, it does not offer any benefits for fine, insoluble particulate, or varnish removal.

TTI ONLINE CROSS REFERENCE TOOL

Need help finding a element replacement?

PowerGuard™ Elements are available in industry standard configurations to fit your existing equipment. To find a replacement for your product on-hand, simply use our [ONLINE CROSS REFERENCE TOOL](#). The cross reference tool provides the TTI replacement element for several competitive product lines including: Pall, Parker, Hydac, Donaldson/HyPro, Swift, Main, American and many more!



CALL US TODAY TO FIND PROCESS AND SYSTEM SOLUTIONS

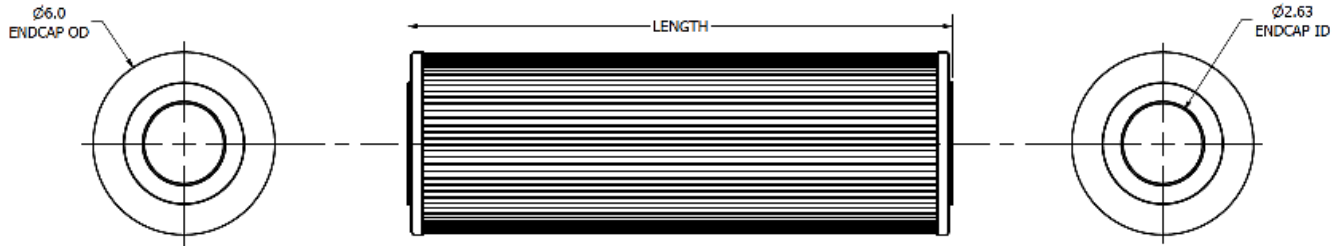
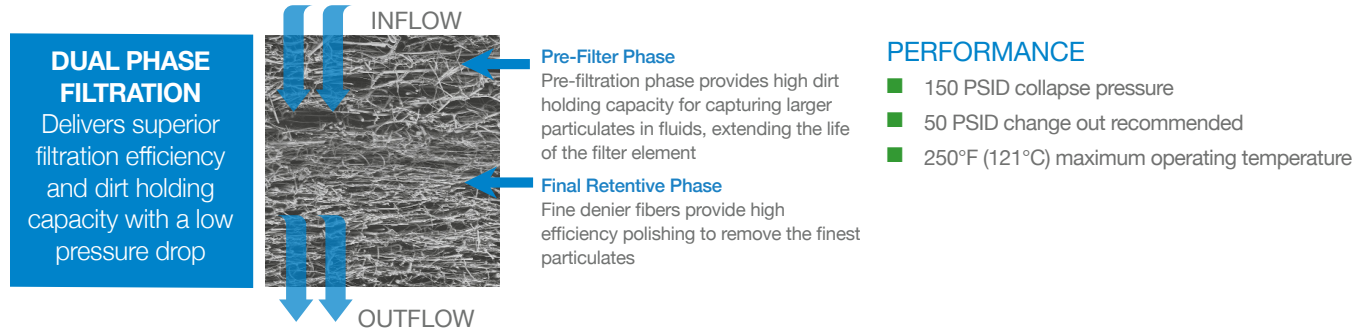
TTI provides exceptional product quality with unparalleled service.

Give TTI a call at **(303) 585-0132** to discuss how you can leverage our know-how to create a custom solution for your specific application.



TT626 Series

TTI's PowerGuard Filter line is produced in the USA using USA and German materials. TTI has leveraged 58 years of Filter manufacturing expertise of FG Industrial Filtration (Formerly Mahle) to deliver the PowerGuard product line to the North American marketplace. TTI's Dual Phase Microglass media provides world class filtration performance. The Dual Phase technology provides Beta 1000 efficiencies with a built-in pre-filter layer to extend filter life and reduce initial pressure drops.

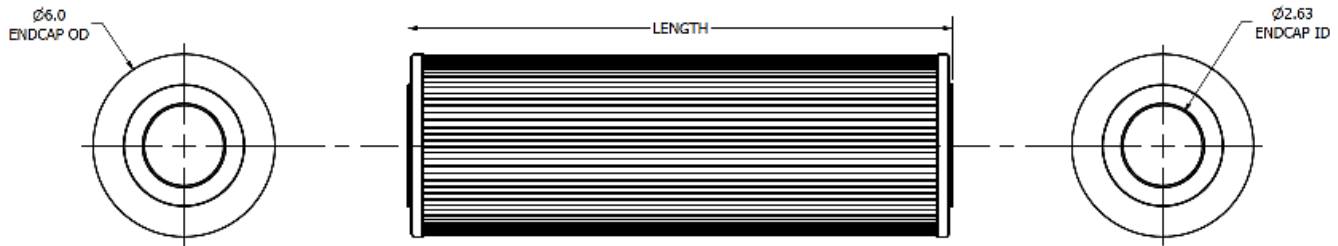
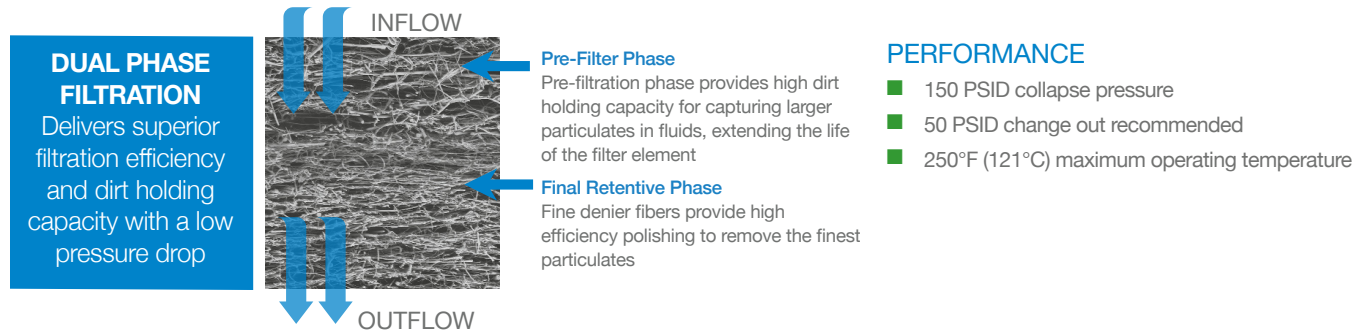


TTI PN	-	Length (inches)	-	Micron Rating B1000	Media Type	Seal Type
TT626		16 = 16.0		1	(Omit) = Dual Phase Microglass* <i>*Standard option</i>	B = Buna
		18 = 18.0		3	WA = Water Absorptive* <i>*Not available for 1 micron</i>	V = Viton
		34 = 34.0		6	SD = Static Dissipative	E = EPDM
		36 = 36.0		10		
				25		

PART NUMBER EXAMPLE: TT626-18-3V = TT626 (18 length, 3 micron, viton seal type)

TT626XL Series

TTI's PowerGuard Filter line is produced in the USA using USA and German materials. TTI has leveraged 58 years of Filter manufacturing expertise of FG Industrial Filtration (Formerly Mahle) to deliver the PowerGuard product line to the North American marketplace. TTI's Dual Phase Microglass media provides world class filtration performance. The Dual Phase technology provides Beta 1000 efficiencies with a built-in pre-filter layer to extend filter life and reduce initial pressure drops.

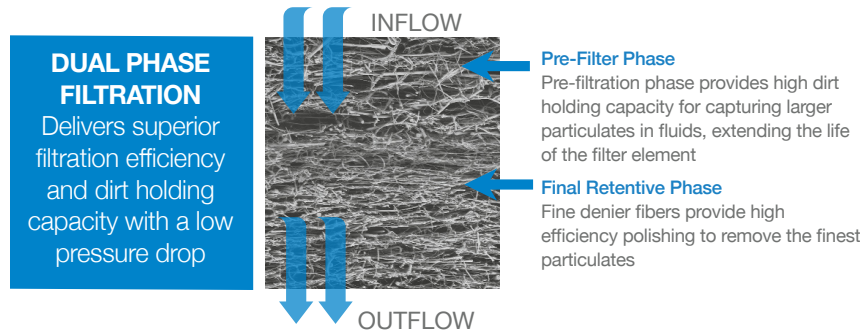
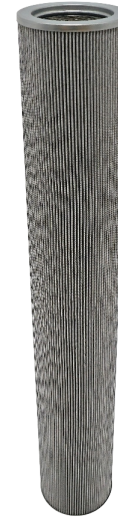


TTI PN	-	Length (inches)	-	Micron Rating B1000	Media Type	Seal Type
TT626XL		16 = 16.0		1	(Omit) = Dual Phase Microglass* <i>*Standard option</i>	B = Buna
		18 = 18.0		3	WA = Water Absorptive* <i>*Not available for 1 micron</i>	V = Viton
		34 = 34.0		6	SD = Static Dissipative	E = EPDM
		36 = 36.0		10		
				25		

PART NUMBER EXAMPLE: TT626XL-16-3V = TT626XL (16 length, 3 micron, viton seal type)

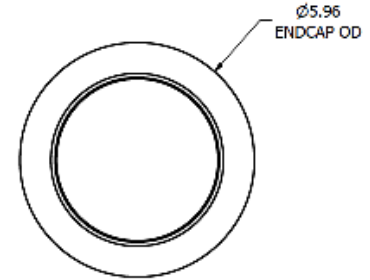
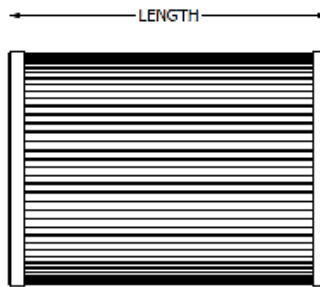
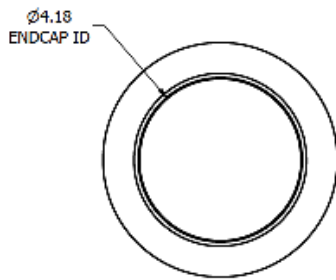
TT8300 Series

TTI's PowerGuard Filter line is produced in the USA using USA and German materials. TTI has leveraged 58 years of Filter manufacturing expertise of FG Industrial Filtration (Formerly Mahle) to deliver the PowerGuard product line to the North American marketplace. TTI's Dual Phase Microglass media provides world class filtration performance. The Dual Phase technology provides Beta 1000 efficiencies with a built-in pre-filter layer to extend filter life and reduce initial pressure drops.



PERFORMANCE

- 150 PSID collapse pressure
- 50 PSID change out recommended
- 250°F (121°C) maximum operating temperature

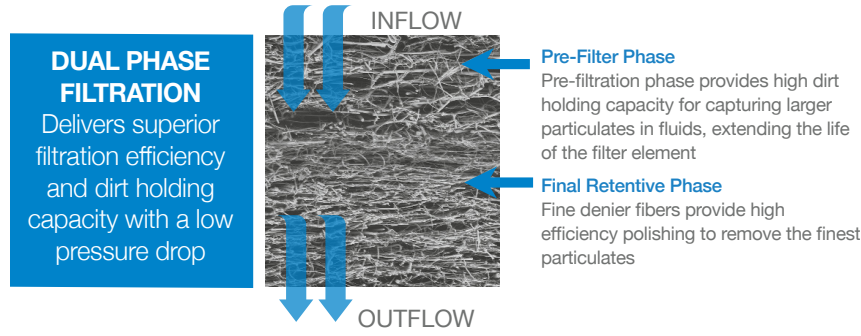
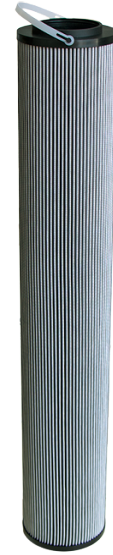


TTI PN	-	Length (inches)	-	Micron Rating B1000	Media Type	Seal Type
TT8300		8 = 8.07		1	(Omit) = Dual Phase Microglass* <i>*Standard option</i>	B = Buna
		16 = 16.79		3	WA = Water Absorptive* <i>*Not available for 1 micron</i>	V = Viton
		39 = 38.55		6	SD = Static Dissipative	E = EPDM
				10		
				25		

PART NUMBER EXAMPLE: TT8300-8-3V = TT8300 (8.07 length, 3 micron, viton seal type)

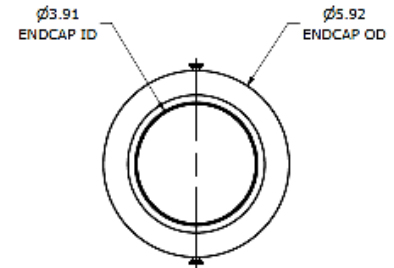
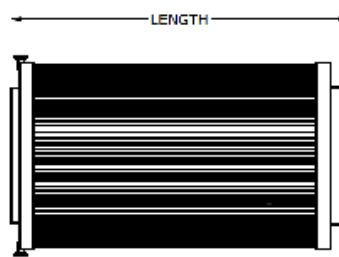
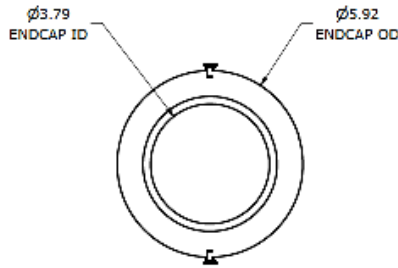
TT8314 Series

TTI's PowerGuard Filter line is produced in the USA using USA and German materials. TTI has leveraged 58 years of Filter manufacturing expertise of FG Industrial Filtration (Formerly Mahle) to deliver the PowerGuard product line to the North American marketplace. TTI's Dual Phase Microglass media provides world class filtration performance. The Dual Phase technology provides Beta 1000 efficiencies with a built-in pre-filter layer to extend filter life and reduce initial pressure drops.



PERFORMANCE

- Dependent on housing
- 50 PSID change out recommended
- 250°F (121°C) maximum operating temperature

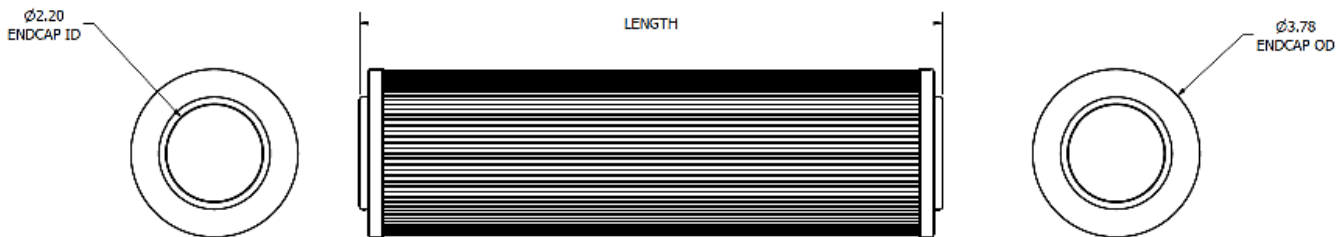
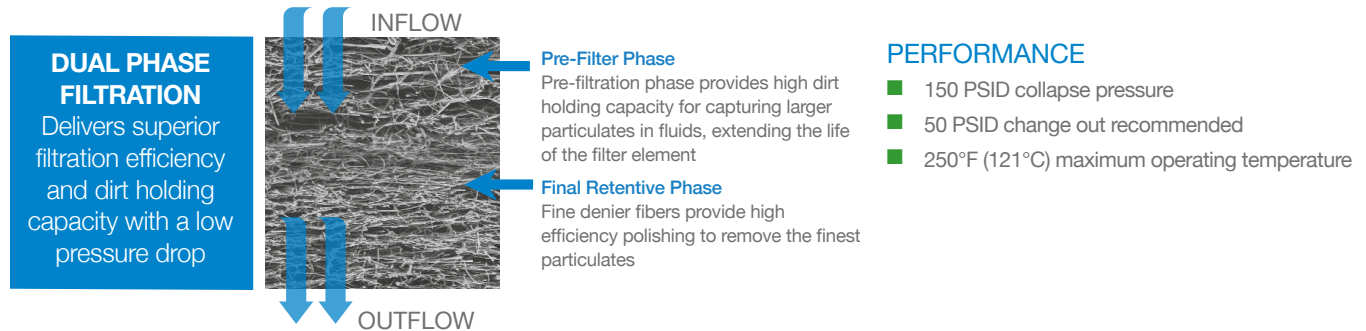


TTI PN	-	Length (inches)	-	Micron Rating B1000	Media Type	Seal Type
TT8314		8 = 9.75		1	(Omit) = Dual Phase Microglass* <i>*Standard option</i>	B = Buna
		13 = 10.75		3	WA = Water Absorptive* <i>*Not available for 1 micron</i>	V = Viton
		16 = 14.63		6	SD = Static Dissipative	E = EPDM
		20 = 20.43		10		
		26 = 23.50		25		
		39 = 36.43				

PART NUMBER EXAMPLE: TT8314-8-3V = TT8314 (9.75 length, 3 micron, viton seal type)

TT8900 Series

TTI's PowerGuard Filter line is produced in the USA using USA and German materials. TTI has leveraged 58 years of Filter manufacturing expertise of FG Industrial Filtration (Formerly Mahle) to deliver the PowerGuard product line to the North American marketplace. TTI's Dual Phase Microglass media provides world class filtration performance. The Dual Phase technology provides Beta 1000 efficiencies with a built-in pre-filter layer to extend filter life and reduce initial pressure drops.

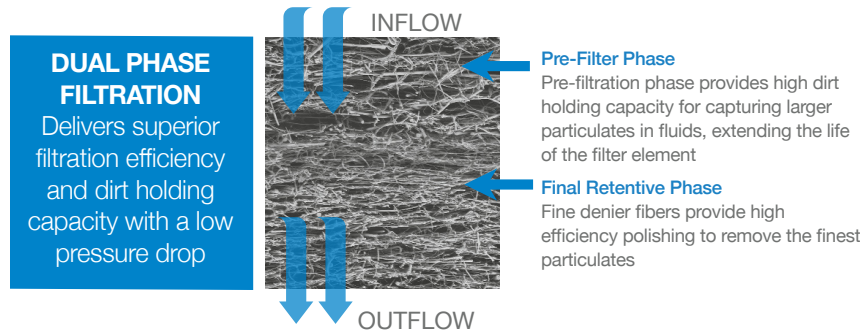


TTI PN	-	Length (inches)	-	Micron Rating B1000	Media Type	Seal Type
TT8900		13 = 12.90		1	(Omit) = Dual Phase Microglass* <i>*Standard option</i>	B = Buna
		16 = 16.76		3	WA = Water Absorptive* <i>*Not available for 1 micron</i>	V = Viton
		26 = 25.70		6	SD = Static Dissipative	E = EPDM
		39 = 38.70		10		
				25		

PART NUMBER EXAMPLE: TT8900-13-3V = TT8900 (12.90 length, 3 micron, viton seal type)

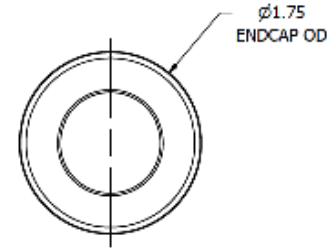
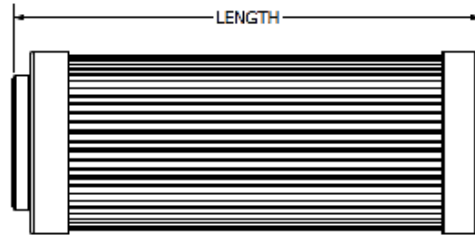
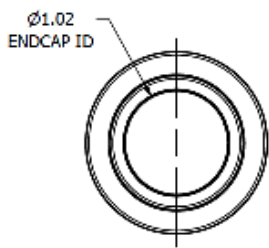
TT9020 Series

TTI's PowerGuard Filter line is produced in the USA using USA and German materials. TTI has leveraged 58 years of Filter manufacturing expertise of FG Industrial Filtration (Formerly Mahle) to deliver the PowerGuard product line to the North American marketplace. TTI's Dual Phase Microglass media provides world class filtration performance. The Dual Phase technology provides Beta 1000 efficiencies with a built-in pre-filter layer to extend filter life and reduce initial pressure drops.



PERFORMANCE

- 290 PSID collapse pressure
- 50 PSID change out recommended
- 250°F (121°C) maximum operating temperature

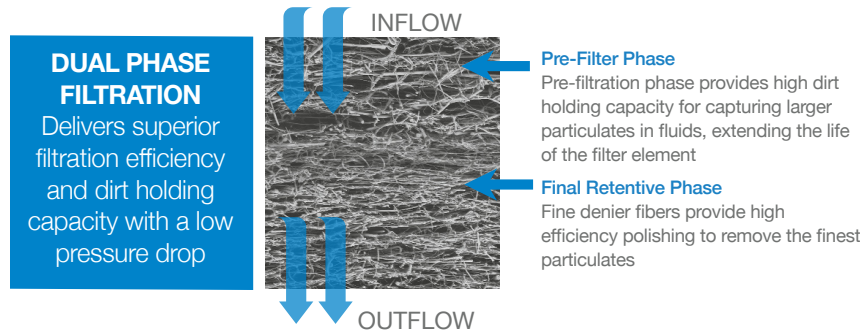


TTI PN	-	Length (inches)	-	Micron Rating B1000	Media Type	Seal Type
TT9020		4 = 4.51		1	(Omit) = Dual Phase Microglass* <i>*Standard option</i>	B = Buna
		8 = 8.13		3	SD = Static Dissipative	V = Viton
				6		E = EPDM
				10		
				25		

PART NUMBER EXAMPLE: TT9020-4-3V = TT9020 (4.51 length, 3 micron, viton seal type)

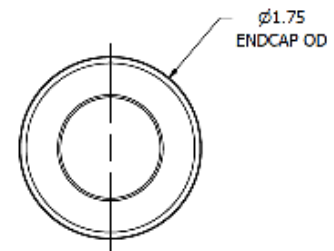
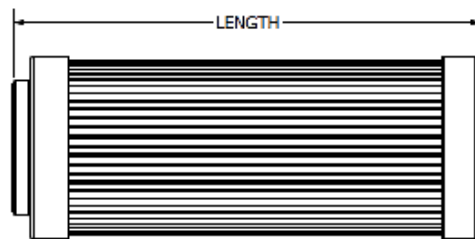
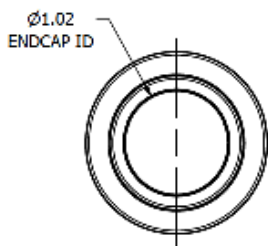
TT9021 Series

TTI's PowerGuard Filter line is produced in the USA using USA and German materials. TTI has leveraged 58 years of Filter manufacturing expertise of FG Industrial Filtration (Formerly Mahle) to deliver the PowerGuard product line to the North American marketplace. TTI's Dual Phase Microglass media provides world class filtration performance. The Dual Phase technology provides Beta 1000 efficiencies with a built-in pre-filter layer to extend filter life and reduce initial pressure drops.



PERFORMANCE

- 3000 PSID collapse pressure
- 50 PSID change out recommended
- 250°F (121°C) maximum operating temperature

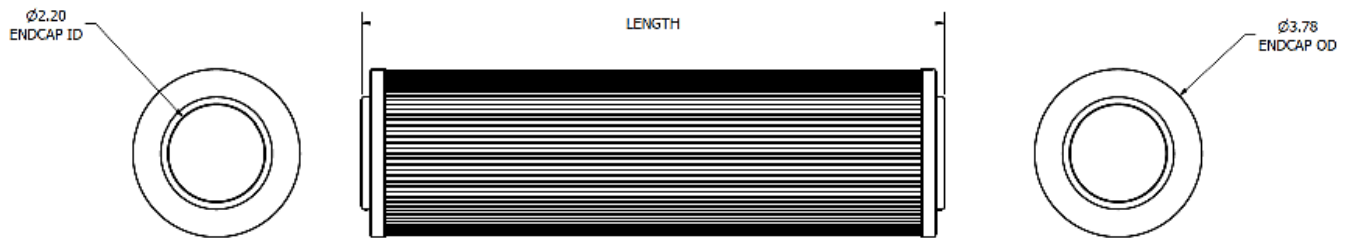
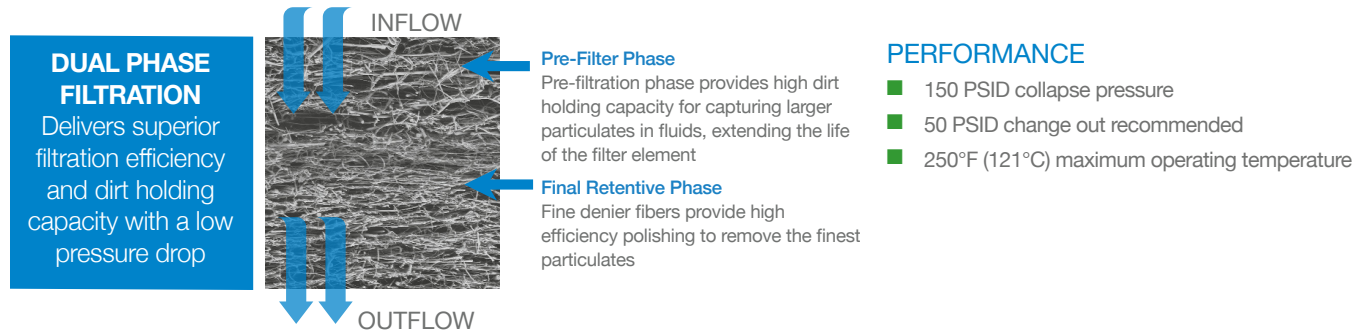


TTI PN	-	Length (inches)	-	Micron Rating B1000	Media Type	Seal Type
TT9021		4 = 4.51		1	(Omit) = Dual Phase Microglass* <i>*Standard option</i>	B = Buna
		8 = 8.13		3	SD = Static Dissipative	V = Viton
				6		E = EPDM
				10		
				25		

PART NUMBER EXAMPLE: TT9021-4-3V = TT9021 (4.51 length, 3 micron, viton seal type)

TT9400 Series

TTI's PowerGuard Filter line is produced in the USA using USA and German materials. TTI has leveraged 58 years of Filter manufacturing expertise of FG Industrial Filtration (Formerly Mahle) to deliver the PowerGuard product line to the North American marketplace. TTI's Dual Phase Microglass media provides world class filtration performance. The Dual Phase technology provides Beta 1000 efficiencies with a built-in pre-filter layer to extend filter life and reduce initial pressure drops.



TTI PN	-	Length (inches)	-	Micron Rating B1000	Media Type	Seal Type
TT9400		13 = 13.15		1	(Omit) = Dual Phase Microglass* <i>*Standard option</i>	B = Buna
		26 = 25.91		3	WA = Water Absorptive* <i>*Not available for 1 micron</i>	V = Viton
		39 = 38.90		6	SD = Static Dissipative	E = EPDM
				10		
				25		

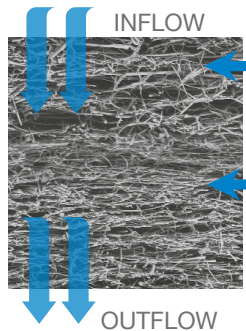
PART NUMBER EXAMPLE: TT9400-13-3V = TT9400 (13.15 length, 3 micron, viton seal type)

TT9600 Series

TTI's PowerGuard Filter line is produced in the USA using USA and German materials. TTI has leveraged 58 years of Filter manufacturing expertise of FG Industrial Filtration (Formerly Mahle) to deliver the PowerGuard product line to the North American marketplace. TTI's Dual Phase Microglass media provides world class filtration performance. The Dual Phase technology provides Beta 1000 efficiencies with a built-in pre-filter layer to extend filter life and reduce initial pressure drops.



DUAL PHASE FILTRATION
Delivers superior filtration efficiency and dirt holding capacity with a low pressure drop

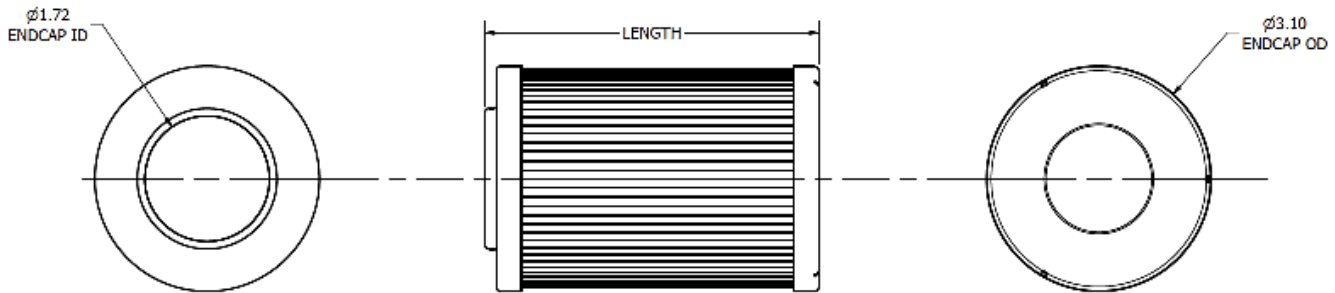


Pre-Filter Phase
Pre-filtration phase provides high dirt holding capacity for capturing larger particulates in fluids, extending the life of the filter element

Final Retentive Phase
Fine denier fibers provide high efficiency polishing to remove the finest particulates

PERFORMANCE

- 150 PSID collapse pressure
- 50 PSID change out recommended
- 250°F (121°C) maximum operating temperature

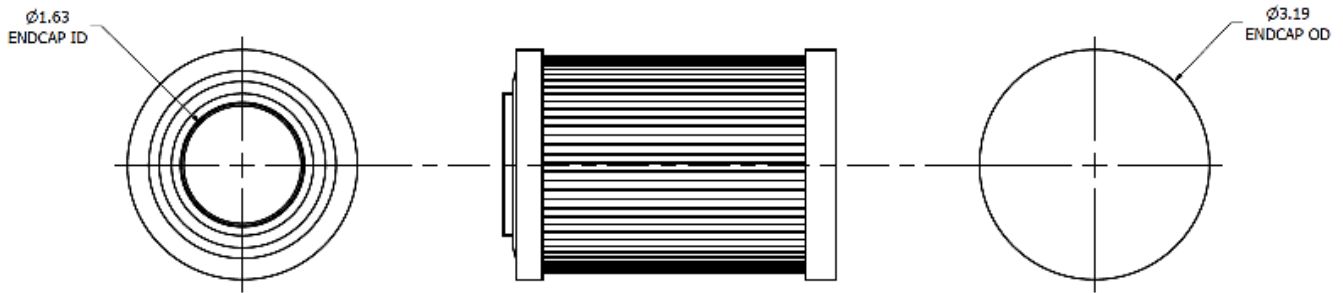
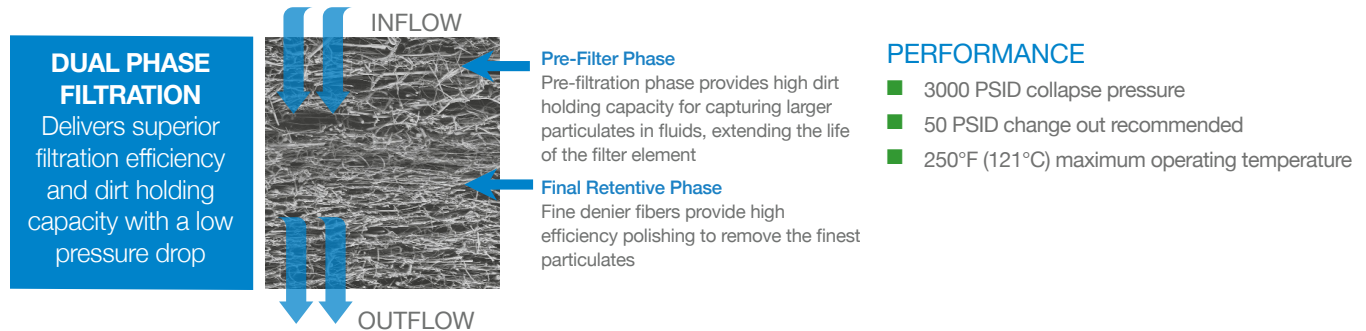


TTI PN	-	Length (inches)	-	Micron Rating B1000	Media Type	Seal Type
TT9600		4 = 4.61		1	(Omit) = Dual Phase Microglass* <i>*Standard option</i>	B = Buna
		8 = 8.15		3	WA = Water Absorptive* <i>*Not available for 1 micron</i>	V = Viton
		13 = 12.95		6	SD = Static Dissipative	E = EPDM
		16 = 16.80		10		
				25		

PART NUMBER EXAMPLE: TT9600-4-3V = TT9600 (4.61 length, 3 micron, viton seal type)

TT9601 Series

TTI's PowerGuard Filter line is produced in the USA using USA and German materials. TTI has leveraged 58 years of Filter manufacturing expertise of FG Industrial Filtration (Formerly Mahle) to deliver the PowerGuard product line to the North American marketplace. TTI's Dual Phase Microglass media provides world class filtration performance. The Dual Phase technology provides Beta 1000 efficiencies with a built-in pre-filter layer to extend filter life and reduce initial pressure drops.

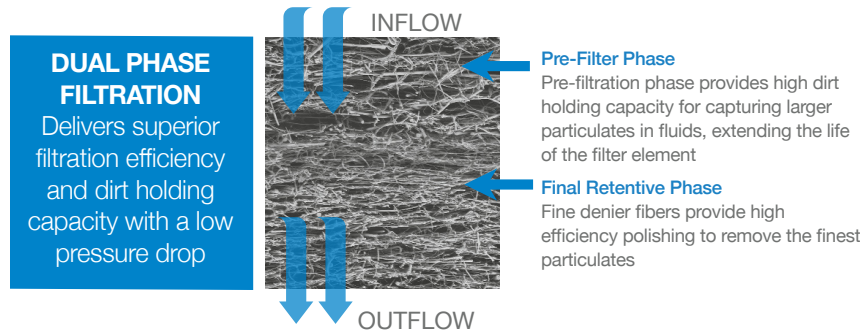


TTI PN	-	Length (inches)	-	Micron Rating B1000	Media Type	Seal Type
TT9601		4 = 4.59		1	(Omit) = Dual Phase Microglass* <i>*Standard option</i>	B = Buna
		8 = 8.13		3	WA = Water Absorptive* <i>*Not available for 1 micron</i>	V = Viton
		13 = 12.59		6	SD = Static Dissipative	E = EPDM
		16 = 16.80		10		
				25		

PART NUMBER EXAMPLE: TT9601-4-3V = TT9601 (4.59 length, 3 micron, viton seal type)

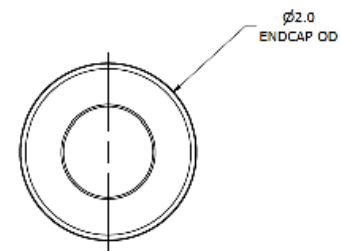
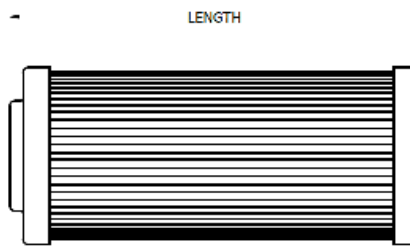
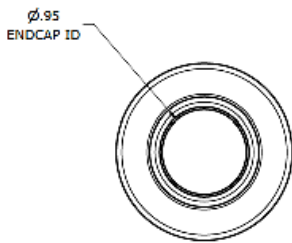
TT9800 Series

TTI's PowerGuard Filter line is produced in the USA using USA and German materials. TTI has leveraged 58 years of Filter manufacturing expertise of FG Industrial Filtration (Formerly Mahle) to deliver the PowerGuard product line to the North American marketplace. TTI's Dual Phase Microglass media provides world class filtration performance. The Dual Phase technology provides Beta 1000 efficiencies with a built-in pre-filter layer to extend filter life and reduce initial pressure drops.



PERFORMANCE

- 150 PSID collapse pressure
- 50 PSID change out recommended
- 250°F (121°C) maximum operating temperature

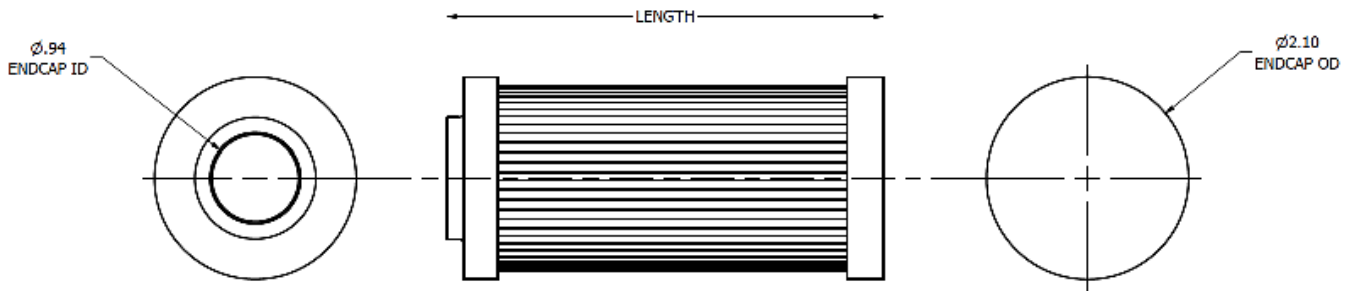
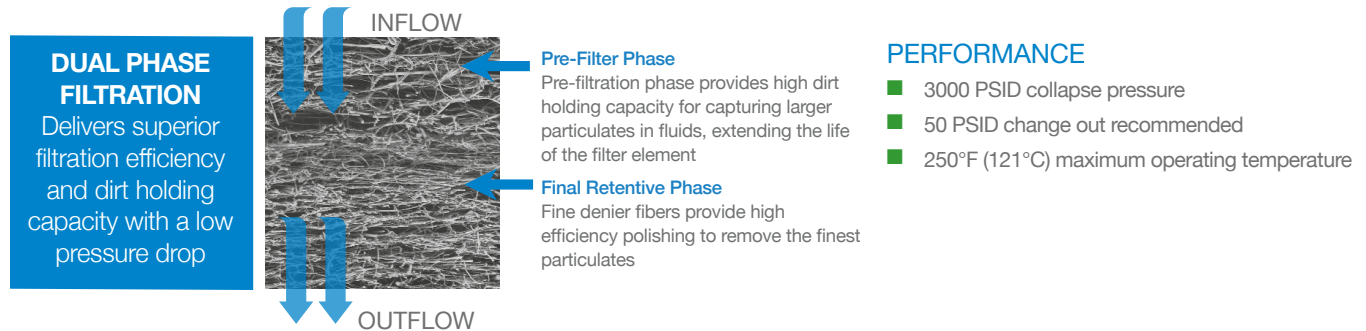


TTI PN	-	Length (inches)	-	Micron Rating B1000	Media Type	Seal Type
TT9800		4 = 4.61		1	(Omit) = Dual Phase Microglass* <i>*Standard option</i>	B = Buna
		8 = 8.15		3	SD = Static Dissipative	V = Viton
		13 = 12.95		6		E = EPDM
				10		
				25		

PART NUMBER EXAMPLE: TT9800-4-3V = TT9800 (4.61 length, 3 micron, viton seal type)

TT9801 Series

TTI's PowerGuard Filter line is produced in the USA using USA and German materials. TTI has leveraged 58 years of Filter manufacturing expertise of FG Industrial Filtration (Formerly Mahle) to deliver the PowerGuard product line to the North American marketplace. TTI's Dual Phase Microglass media provides world class filtration performance. The Dual Phase technology provides Beta 1000 efficiencies with a built-in pre-filter layer to extend filter life and reduce initial pressure drops.

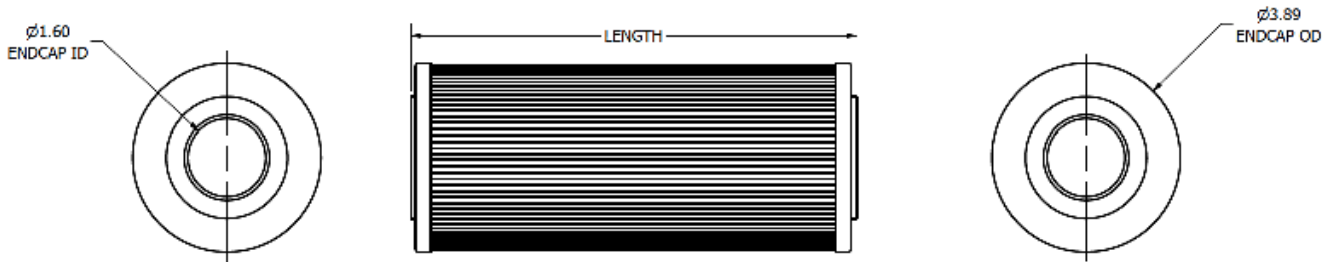
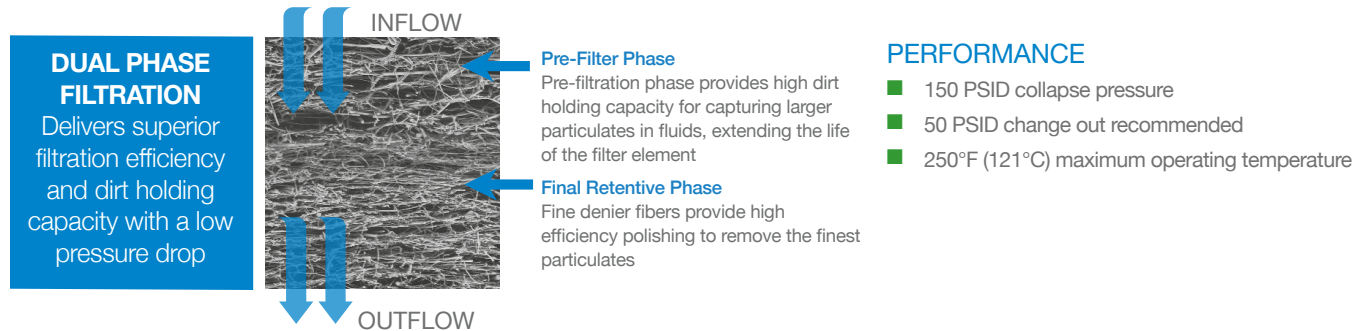


TTI PN	-	Length (inches)	-	Micron Rating B1000	Media Type	Seal Type
TT9801		4 = 4.53		1	(Omit) = Dual Phase Microglass* <i>*Standard option</i>	B = Buna
		8 = 8.15		3	SD = Static Dissipative	V = Viton
		13 = 12.95		6		E = EPDM
				10		
				25		

PART NUMBER EXAMPLE: TT9801-4-3V = TT9801 (4.53 length, 3 micron, viton seal type)

TTK Series

TTI's PowerGuard Filter line is produced in the USA using USA and German materials. TTI has leveraged 58 years of Filter manufacturing expertise of FG Industrial Filtration (Formerly Mahle) to deliver the PowerGuard product line to the North American marketplace. TTI's Dual Phase Microglass media provides world class filtration performance. The Dual Phase technology provides Beta 1000 efficiencies with a built-in pre-filter layer to extend filter life and reduce initial pressure drops.



TTI PN	-	Length (inches)	-	Micron Rating B1000	Media Type	Seal Type
TTK		9 = 9.25		1	(Omit) = Dual Phase Microglass* <i>*Standard option</i>	B = Buna
		18 = 18.50		3	WA = Water Absorptive* <i>*Not available for 1 micron</i>	V = Viton
		27 = 27.95		6	SD = Static Dissipative	E = EPDM
				10		
				25		

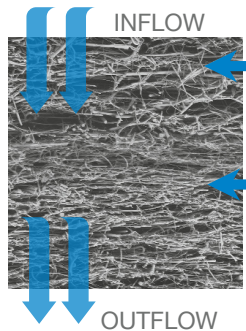
PART NUMBER EXAMPLE: TTK-9-3V = TTK (9.25 length, 3 micron, viton seal type)

TTK3 Series

TTI's PowerGuard Filter line is produced in the USA using USA and German materials. TTI has leveraged 58 years of Filter manufacturing expertise of FG Industrial Filtration (Formerly Mahle) to deliver the PowerGuard product line to the North American marketplace. TTI's Dual Phase Microglass media provides world class filtration performance. The Dual Phase technology provides Beta 1000 efficiencies with a built-in pre-filter layer to extend filter life and reduce initial pressure drops.



DUAL PHASE FILTRATION
Delivers superior filtration efficiency and dirt holding capacity with a low pressure drop



Pre-Filter Phase
Pre-filtration phase provides high dirt holding capacity for capturing larger particulates in fluids, extending the life of the filter element

Final Retentive Phase
Fine denier fibers provide high efficiency polishing to remove the finest particulates

PERFORMANCE

- 3000 PSID collapse pressure
- 50 PSID change out recommended
- 250°F (121°C) maximum operating temperature

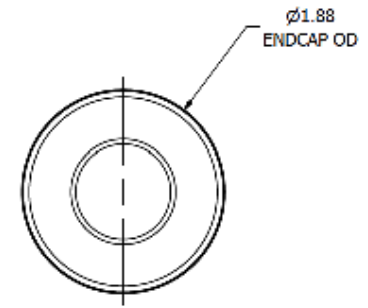
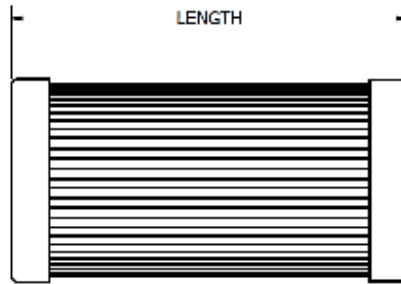
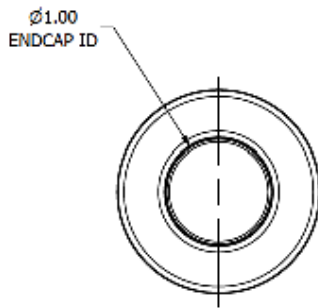
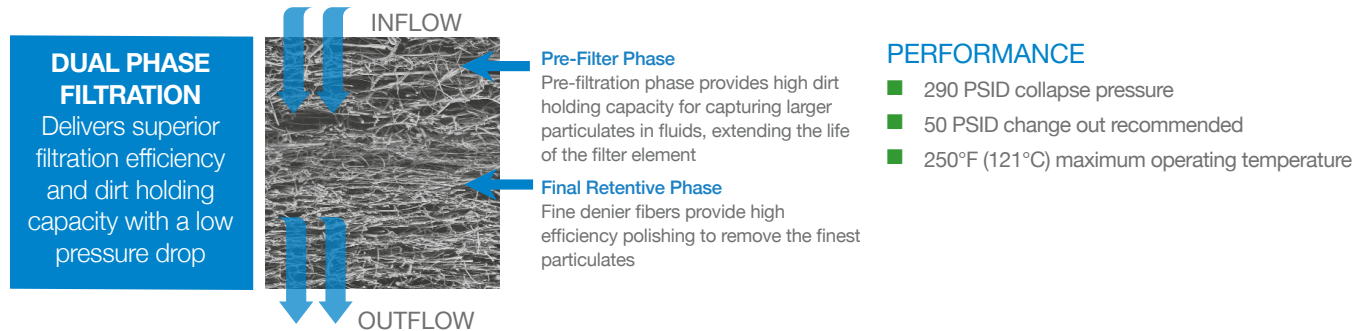
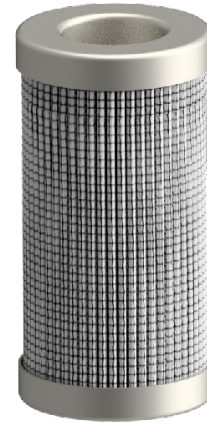


TTI PN	-	Length (inches)	-	Micron Rating B1000	Media Type	Seal Type
TTK3		9 = 9.18		1	(Omit) = Dual Phase Microglass* <i>*Standard option</i>	B = Buna
		18 = 18.54		3	WA = Water Absorptive* <i>*Not available for 1 micron</i>	V = Viton
		27 = 27.64		6	SD = Static Dissipative	E = EPDM
				10		
				25		

PART NUMBER EXAMPLE: TTK3-9-3V = TTK3 (9.18 length, 3 micron, viton seal type)

TT1018 Series

TTI's PowerGuard Filter line is produced in the USA using USA and German materials. TTI has leveraged 58 years of Filter manufacturing expertise of FG Industrial Filtration (Formerly Mahle) to deliver the PowerGuard product line to the North American marketplace. TTI's Dual Phase Microglass media provides world class filtration performance. The Dual Phase technology provides Beta 1000 efficiencies with a built-in pre-filter layer to extend filter life and reduce initial pressure drops.

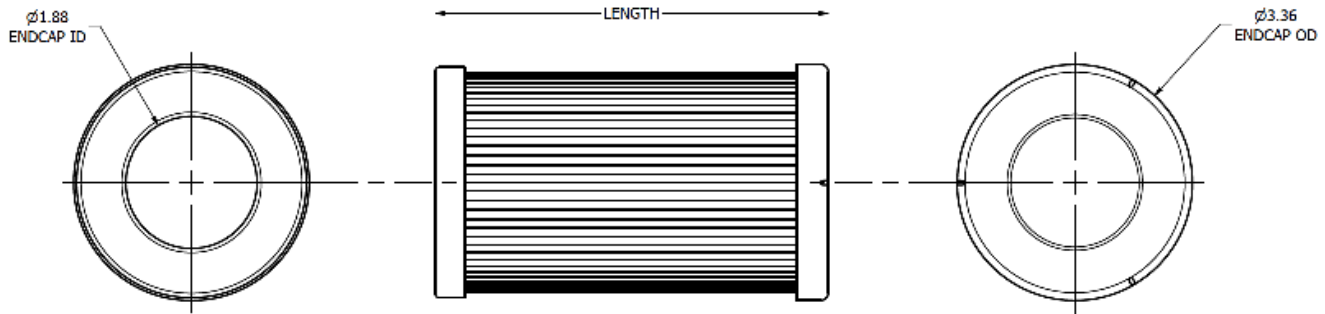
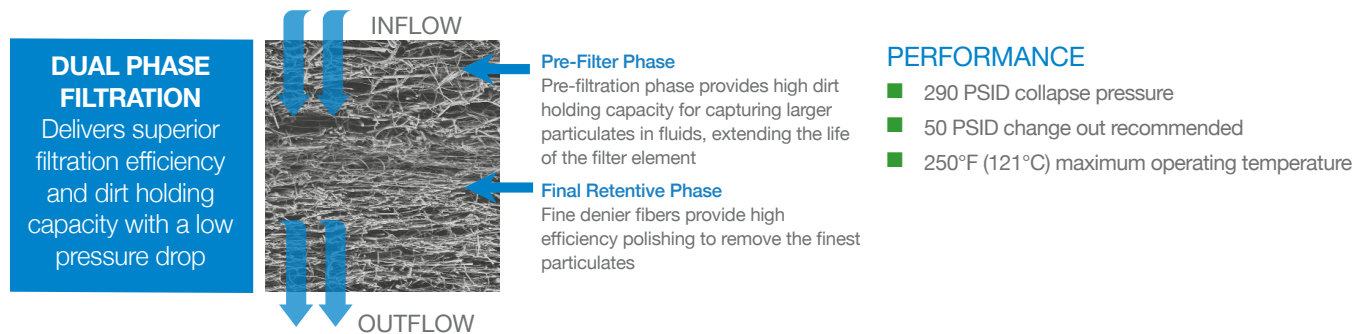
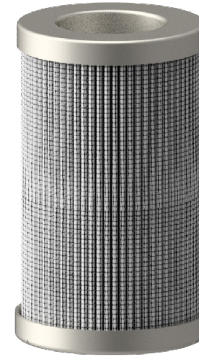


TTI PN	-	Length (inches)	-	Micron Rating B1000	Media Type	Seal Type
TT1018		15 = 3.68		1	(Omit) = Dual Phase Microglass* <i>*Standard option</i>	B = Buna
		20 = 6.73		3	SD = Static Dissipative	V = Viton
		30 = 9.73		6		E = EPDM
				10		
				25		

PART NUMBER EXAMPLE: TT1018-3-3V = TT1018 (3.68 length, 3 micron, viton seal type)

TT1833 Series

TTI's PowerGuard Filter line is produced in the USA using USA and German materials. TTI has leveraged 58 years of Filter manufacturing expertise of FG Industrial Filtration (Formerly Mahle) to deliver the PowerGuard product line to the North American marketplace. TTI's Dual Phase Microglass media provides world class filtration performance. The Dual Phase technology provides Beta 1000 efficiencies with a built-in pre-filter layer to extend filter life and reduce initial pressure drops.

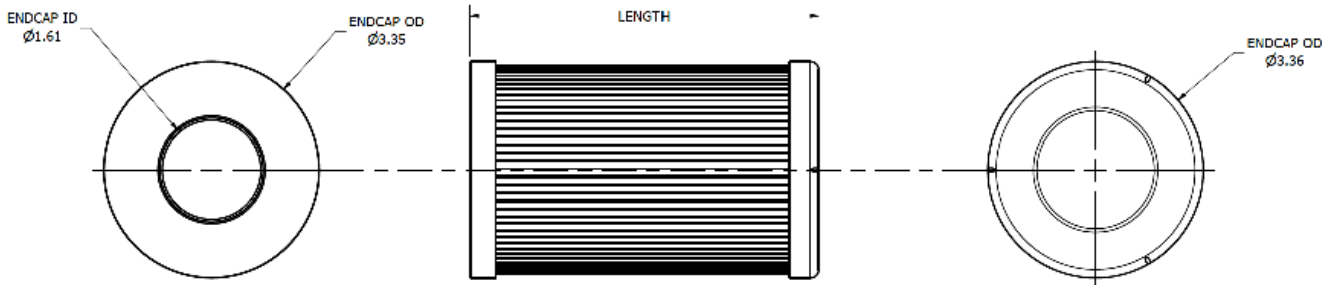
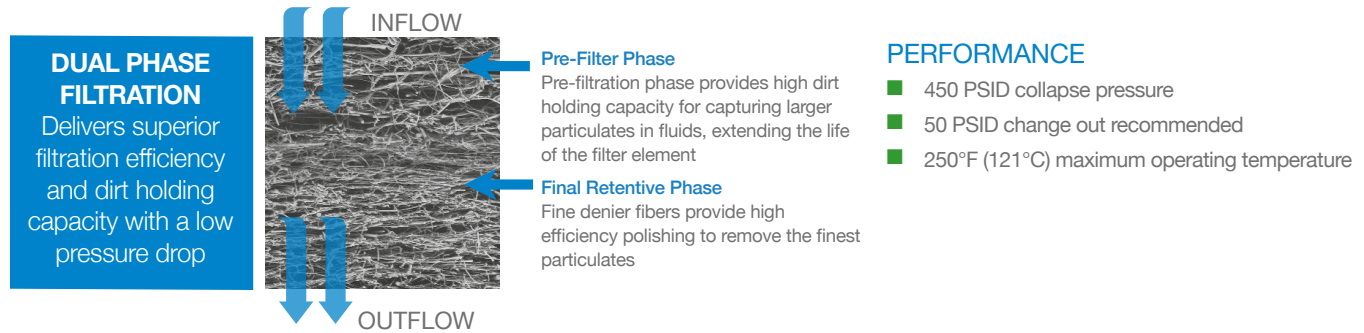
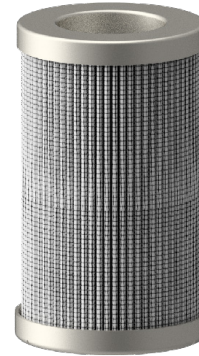


TTI PN	-	Length (inches)	-	Micron Rating B1000	Media Type	Seal Type
TT1833		40 = 5.60		1	(Omit) = Dual Phase Microglass* <i>*Standard option</i>	B = Buna
		80 = 10.10		3	WA = Water Absorptive* <i>*Not available for 1 micron</i>	V = Viton
		120 = 14.68		6	SD = Static Dissipative	E = EPDM
				10		
				25		

PART NUMBER EXAMPLE: TT1833-40-3V = TT1833 (5.60 length, 3 micron, viton seal type)

TT1833D Series

TTI's PowerGuard Filter line is produced in the USA using USA and German materials. TTI has leveraged 58 years of Filter manufacturing expertise of FG Industrial Filtration (Formerly Mahle) to deliver the PowerGuard product line to the North American marketplace. TTI's Dual Phase Microglass media provides world class filtration performance. The Dual Phase technology provides Beta 1000 efficiencies with a built-in pre-filter layer to extend filter life and reduce initial pressure drops.



TTI PN	-	Length (inches)	-	Micron Rating B1000	Media Type	Seal Type
TT1833D		40 = 5.42		1	(Omit) = Dual Phase Microglass* <i>*Standard option</i>	B = Buna
		70 = 9.96		3	WA = Water Absorptive* <i>*Not available for 1 micron</i>	V = Viton
		100 = 15.75		6	SD = Static Dissipative	E = EPDM
				10		
				25		

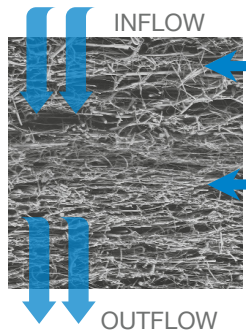
PART NUMBER EXAMPLE: TT1833D-40-3V = TT1833D (5.42 length, 3 micron, viton seal type)

TTHPR Series

TTI's PowerGuard Filter line is produced in the USA using USA and German materials. TTI has leveraged 58 years of Filter manufacturing expertise of FG Industrial Filtration (Formerly Mahle) to deliver the PowerGuard product line to the North American marketplace. TTI's Dual Phase Microglass media provides world class filtration performance. The Dual Phase technology provides Beta 1000 efficiencies with a built-in pre-filter layer to extend filter life and reduce initial pressure drops.



DUAL PHASE FILTRATION
Delivers superior filtration efficiency and dirt holding capacity with a low pressure drop

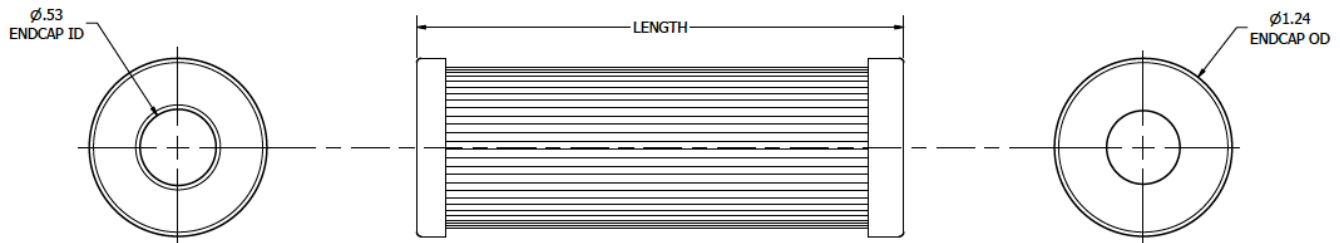


Pre-Filter Phase
Pre-filtration phase provides high dirt holding capacity for capturing larger particulates in fluids, extending the life of the filter element

Final Retentive Phase
Fine denier fibers provide high efficiency polishing to remove the finest particulates

PERFORMANCE

- 3000 PSID collapse pressure
- 50 PSID change out recommended
- 250°F (121°C) maximum operating temperature

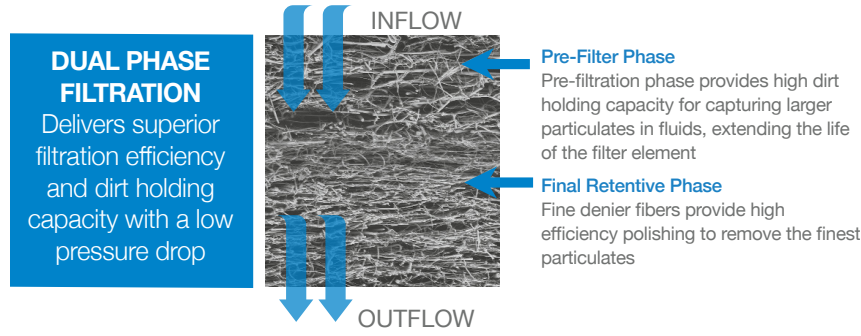


TTI PN	-	Length (inches)	-	Micron Rating B1000	Media Type	Seal Type
TTHPR		29 = 3.39		1	(Omit) = Dual Phase Microglass* <i>*Standard option</i>	B = Buna
				3		V = Viton
				6		E = EPDM
				10		
				25		

PART NUMBER EXAMPLE: TTHPR-29-3V = TTHPR (3.39 length, 3 micron, viton seal type)

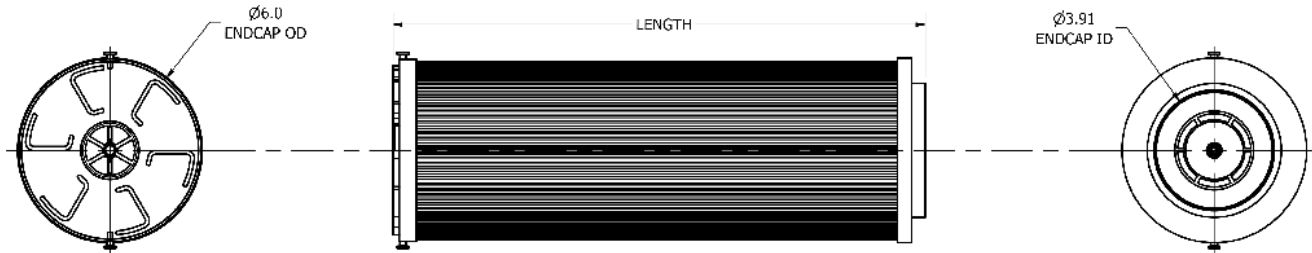
TT106 Series

TTI's PowerGuard Filter line is produced in the USA using USA and German materials. TTI has leveraged 58 years of Filter manufacturing expertise of FG Industrial Filtration (Formerly Mahle) to deliver the PowerGuard product line to the North American marketplace. TTI's Dual Phase Microglass media provides world class filtration performance. The Dual Phase technology provides Beta 1000 efficiencies with a built-in pre-filter layer to extend filter life and reduce initial pressure drops.



PERFORMANCE

- Collapse pressure dependent on housing
- 50 PSID change out recommended
- 250°F (121°C) maximum operating temperature

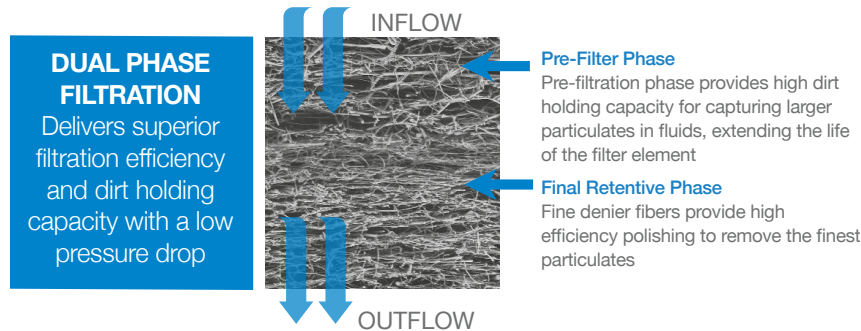


TTI PN	-	Length (inches)	-	Micron Rating B1000	Media Type	Seal Type
TT106		10 = 10.07		1	(Omit) = Dual Phase Microglass* <i>*Standard option</i>	B = Buna
		16 = 14.64		3	WA = Water Absorptive* <i>*Not available for 1 micron</i>	V = Viton
		18 = 17.30		6	SD = Static Dissipative	
		36 = 35.60		10		
				25		

PART NUMBER EXAMPLE: TT106-36-3V = TT106 (36 length, 3 micron, viton seal type)

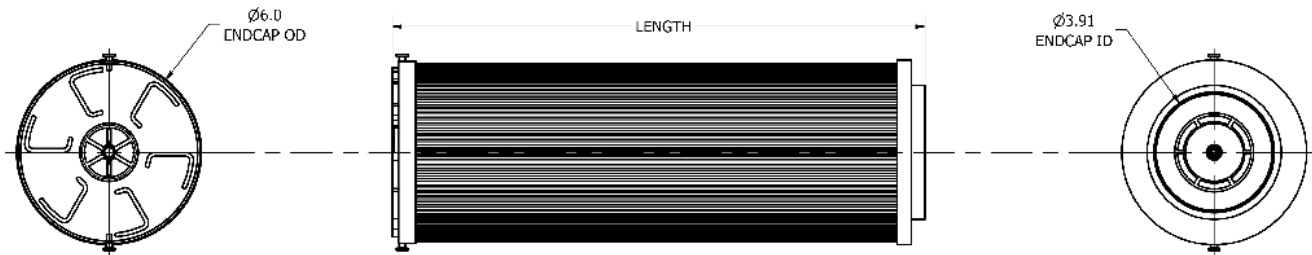
TT107 Series

TTI's PowerGuard Filter line is produced in the USA using USA and German materials. TTI has leveraged 58 years of Filter manufacturing expertise of FG Industrial Filtration (Formerly Mahle) to deliver the PowerGuard product line to the North American marketplace. TTI's Dual Phase Microglass media provides world class filtration performance. The Dual Phase technology provides Beta 1000 efficiencies with a built-in pre-filter layer to extend filter life and reduce initial pressure drops.



PERFORMANCE

- Collapse pressure dependent on housing
- 50 PSID change out recommended
- 250°F (121°C) maximum operating temperature

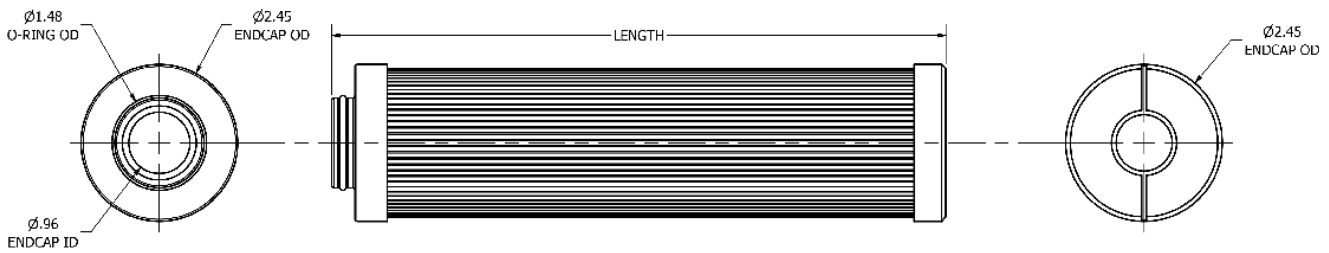
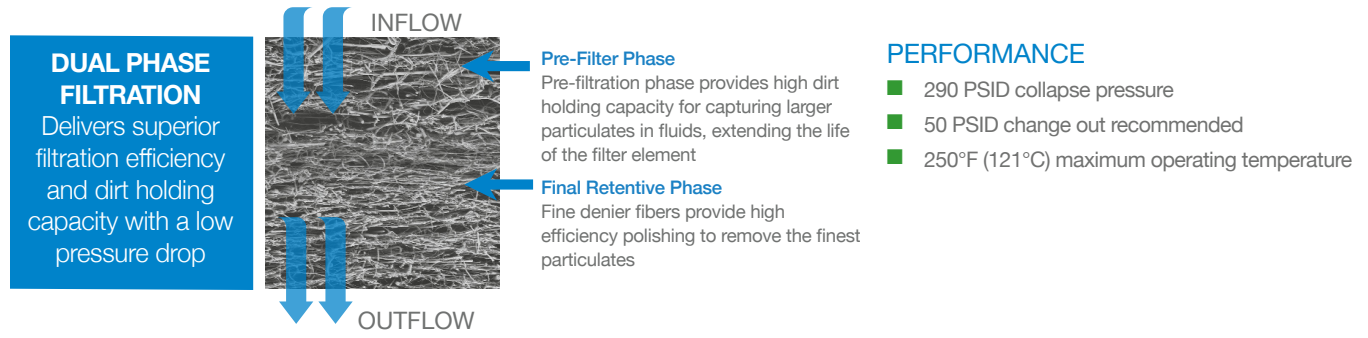


TTI PN	-	Length (inches)	-	Micron Rating B1000	Media Type	Seal Type
TT107		10 = 10.07		1	(Omit) = Dual Phase Microglass* <i>*Standard option</i>	B = Buna
		16 = 14.64		3	WA = Water Absorptive* <i>*Not available for 1 micron</i>	V = Viton
		18 = 17.30		6	SD = Static Dissipative	
		36 = 35.60		10		
				25		

PART NUMBER EXAMPLE: TT107-36-3V = TT107 (36 length, 3 micron, viton seal type)

TT170 Series

TTI's PowerGuard Filter line is produced in the USA using USA and German materials. TTI has leveraged 58 years of Filter manufacturing expertise of FG Industrial Filtration (Formerly Mahle) to deliver the PowerGuard product line to the North American marketplace. TTI's Dual Phase Microglass media provides world class filtration performance. The Dual Phase technology provides Beta 1000 efficiencies with a built-in pre-filter layer to extend filter life and reduce initial pressure drops.



TTI PN	-	Length (inches)	-	Micron Rating B1000	Media Type	Seal Type
TT170		5 = 5.35		1	(Omit) = Dual Phase Microglass* <i>*Standard option</i>	B = Buna
		10 = 9.62		3	WA = Water Absorptive* <i>*Not available for 1 micron</i>	V = Viton
				6	SD = Static Dissipative	
				10		
				25		

PART NUMBER EXAMPLE: TT170-5-3V = TT170 (5 length, 3 micron, viton seal type)

TT03 Series

TTI's PowerGuard Filter line is produced in the USA using USA and German materials. TTI has leveraged 58 years of Filter manufacturing expertise of FG Industrial Filtration (Formerly Mahle) to deliver the PowerGuard product line to the North American marketplace. TTI's Dual Phase Microglass media provides world class filtration performance. The Dual Phase technology provides Beta 1000 efficiencies with a built-in pre-filter layer to extend filter life and reduce initial pressure drops.



DUAL PHASE FILTRATION
Delivers superior filtration efficiency and dirt holding capacity with a low pressure drop

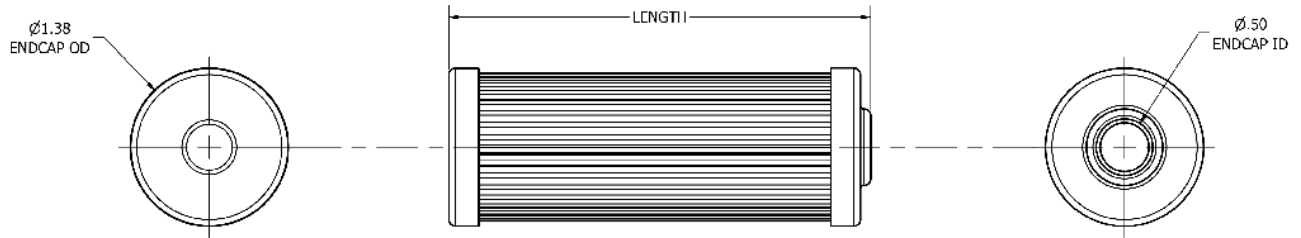


Pre-Filter Phase
Pre-filtration phase provides high dirt holding capacity for capturing larger particulates in fluids, extending the life of the filter element

Final Retentive Phase
Fine denier fibers provide high efficiency polishing to remove the finest particulates

PERFORMANCE

- 450 PSID collapse pressure
- 50 PSID change out recommended
- 250°F (121°C) maximum operating temperature



TTI PN	-	Length (inches)	-	Micron Rating B1000	Media Type	Seal Type
TT03		2 = 2.35		1	(Omit) = Dual Phase Microglass* <i>*Standard option</i>	B = Buna
		4 = 3.65		3	SD = Static Dissipative	V = Viton
				6		
				10		
				25		

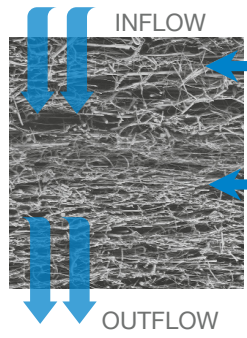
PART NUMBER EXAMPLE: TT03-2-3V = TT03 (2 length, 3 micron, viton seal type)

TT03HC Series

TTI's PowerGuard Filter line is produced in the USA using USA and German materials. TTI has leveraged 58 years of Filter manufacturing expertise of FG Industrial Filtration (Formerly Mahle) to deliver the PowerGuard product line to the North American marketplace. TTI's Dual Phase Microglass media provides world class filtration performance. The Dual Phase technology provides Beta 1000 efficiencies with a built-in pre-filter layer to extend filter life and reduce initial pressure drops.



DUAL PHASE FILTRATION
Delivers superior filtration efficiency and dirt holding capacity with a low pressure drop



INFLOW

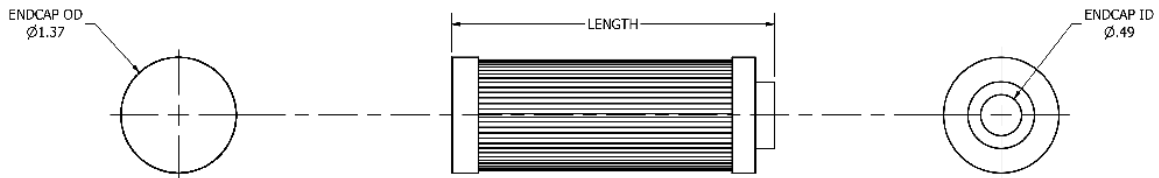
OUTFLOW

Pre-Filter Phase
Pre-filtration phase provides high dirt holding capacity for capturing larger particulates in fluids, extending the life of the filter element

Final Retentive Phase
Fine denier fibers provide high efficiency polishing to remove the finest particulates

PERFORMANCE

- 3000 PSID collapse pressure
- 50 PSID change out recommended
- 250°F (121°C) maximum operating temperature



TTI PN	-	Length (inches)	-	Micron Rating B1000	Media Type	Seal Type
TT03HC		2 = 1.69		1	(Omit) = Dual Phase Microglass* <i>*Standard option</i>	B = Buna
		4 = 3.69		3	SD = Static Dissipative	V = Viton
				6		
				10		
				25		

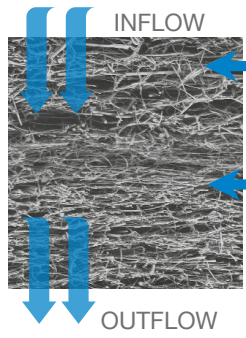
PART NUMBER EXAMPLE: TT03HC-2-3V = TT03HC (2 length, 3 micron, viton seal type)

TT06 Series

TTI's PowerGuard Filter line is produced in the USA using USA and German materials. TTI has leveraged 58 years of Filter manufacturing expertise of FG Industrial Filtration (Formerly Mahle) to deliver the PowerGuard product line to the North American marketplace. TTI's Dual Phase Microglass media provides world class filtration performance. The Dual Phase technology provides Beta 1000 efficiencies with a built-in pre-filter layer to extend filter life and reduce initial pressure drops.



DUAL PHASE FILTRATION
Delivers superior filtration efficiency and dirt holding capacity with a low pressure drop

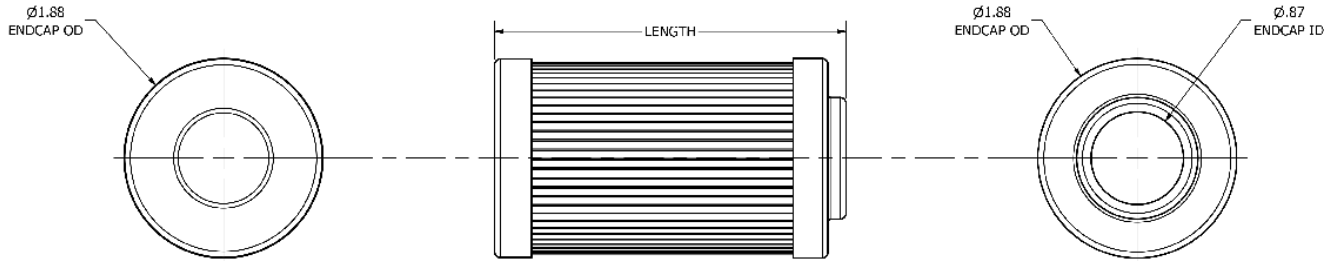


Pre-Filter Phase
Pre-filtration phase provides high dirt holding capacity for capturing larger particulates in fluids, extending the life of the filter element

Final Retentive Phase
Fine denier fibers provide high efficiency polishing to remove the finest particulates

PERFORMANCE

- 435 PSID collapse pressure
- 50 PSID change out recommended
- 250°F (121°C) maximum operating temperature



TTI PN	-	Length (inches)	-	Micron Rating B1000	Media Type	Seal Type
TT06		4 = 3.32		1	(Omit) = Dual Phase Microglass* <i>*Standard option</i>	B = Buna
		7 = 6.00		3	SD = Static Dissipative	V = Viton
				6		
				10		
				25		

PART NUMBER EXAMPLE: TT06-4-3V = TT06 (4 length, 3 micron, viton seal type)

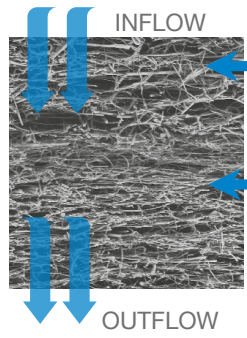
TT06HC Series

TTI's PowerGuard Filter line is produced in the USA using USA and German materials. TTI has leveraged 58 years of Filter manufacturing expertise of FG Industrial Filtration (Formerly Mahle) to deliver the PowerGuard product line to the North American marketplace. TTI's Dual Phase Microglass media provides world class filtration performance. The Dual Phase technology provides Beta 1000 efficiencies with a built-in pre-filter layer to extend filter life and reduce initial pressure drops.



DUAL PHASE FILTRATION

Delivers superior filtration efficiency and dirt holding capacity with a low pressure drop

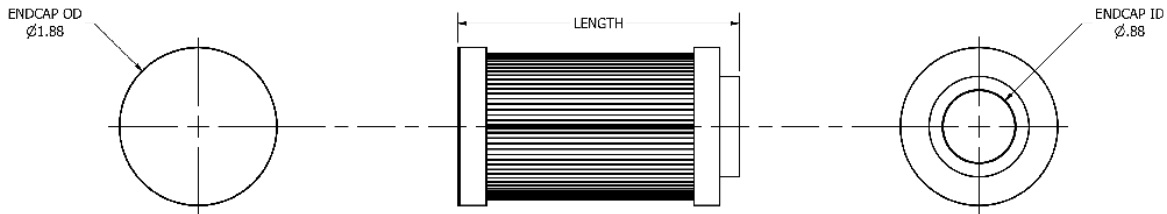


Pre-Filter Phase
Pre-filtration phase provides high dirt holding capacity for capturing larger particulates in fluids, extending the life of the filter element

Final Retentive Phase
Fine denier fibers provide high efficiency polishing to remove the finest particulates

PERFORMANCE

- 3000 PSID collapse pressure
- 50 PSID change out recommended
- 250°F (121°C) maximum operating temperature

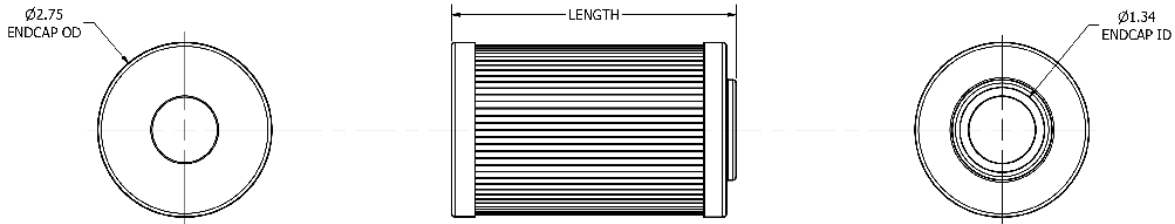
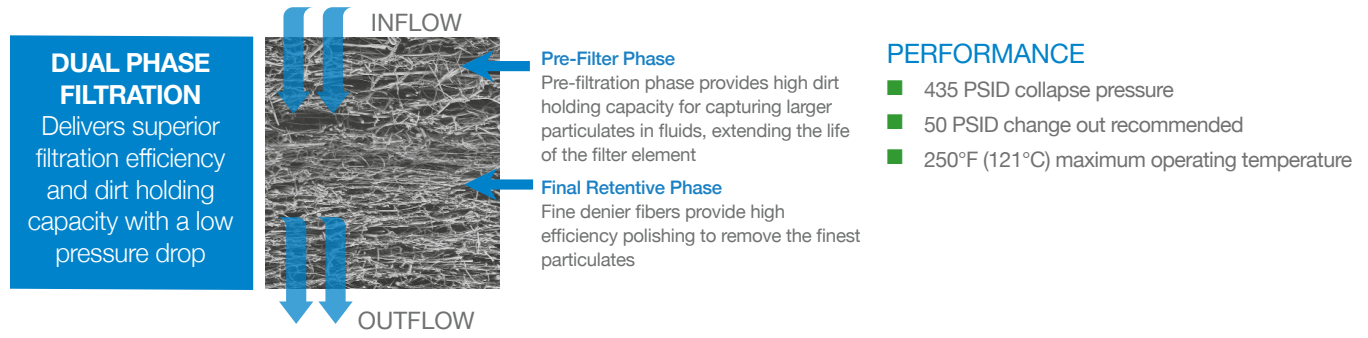


TTI PN	-	Length (inches)	-	Micron Rating B1000	Media Type	Seal Type
TT06HC		4 = 4.30		1	(Omit) = Dual Phase Microglass* <i>*Standard option</i>	B = Buna
		7 = 6.02		3	SD = Static Dissipative	V = Viton
				6		
				10		
				25		

PART NUMBER EXAMPLE: TT06HC-4-3V = TT06HC (4 length, 3 micron, viton seal type)

TT16 Series

TTI's PowerGuard Filter line is produced in the USA using USA and German materials. TTI has leveraged 58 years of Filter manufacturing expertise of FG Industrial Filtration (Formerly Mahle) to deliver the PowerGuard product line to the North American marketplace. TTI's Dual Phase Microglass media provides world class filtration performance. The Dual Phase technology provides Beta 1000 efficiencies with a built-in pre-filter layer to extend filter life and reduce initial pressure drops.

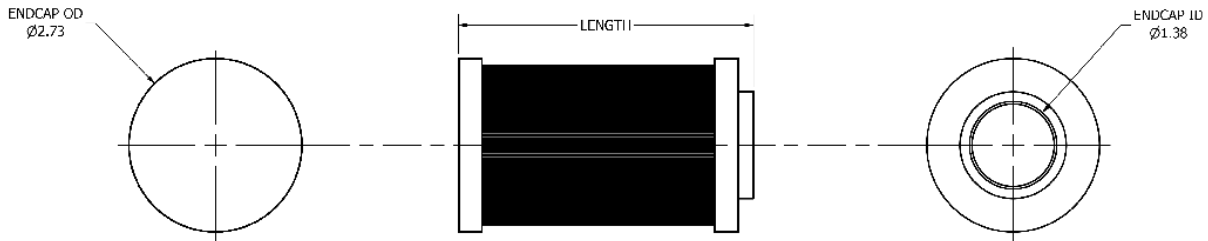
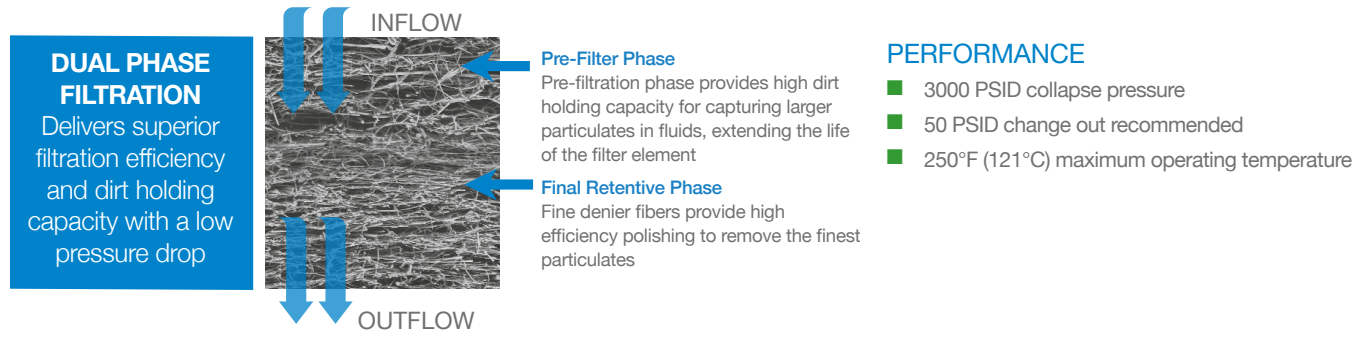


TTI PN	-	Length (inches)	-	Micron Rating B1000	Media Type	Seal Type
TT16		5 = 4.50		1	(Omit) = Dual Phase Microglass* <i>*Standard option</i>	B = Buna
		8 = 6.85		3	WA = Water Absorptive* <i>*Not available for 1 micron</i>	V = Viton
		14 = 13.98		6	SD = Static Dissipative	
				10		
				25		

PART NUMBER EXAMPLE: TT16-5-3V = TT16 (5 length, 3 micron, viton seal type)

TT16HC Series

TTI's PowerGuard Filter line is produced in the USA using USA and German materials. TTI has leveraged 58 years of Filter manufacturing expertise of FG Industrial Filtration (Formerly Mahle) to deliver the PowerGuard product line to the North American marketplace. TTI's Dual Phase Microglass media provides world class filtration performance. The Dual Phase technology provides Beta 1000 efficiencies with a built-in pre-filter layer to extend filter life and reduce initial pressure drops.

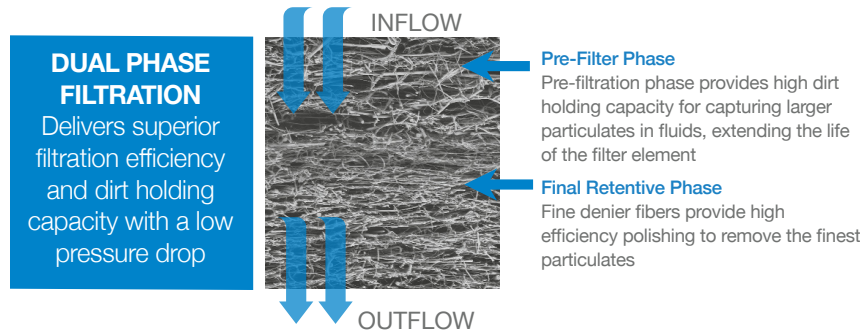


TTI PN	-	Length (inches)	-	Micron Rating B1000	Media Type	Seal Type
TT16HC		5 = 4.49		1	(Omit) = Dual Phase Microglass* <i>*Standard option</i>	B = Buna
		8 = 6.83		3	WA = Water Absorptive* <i>*Not available for 1 micron</i>	V = Viton
		14 = 13.98		6	SD = Static Dissipative	
				10		
				25		

PART NUMBER EXAMPLE: TT16HC-5-3V = TT16HC (5 length, 3 micron, viton seal type)

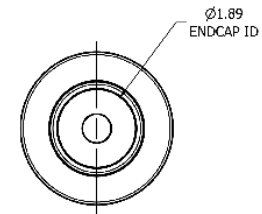
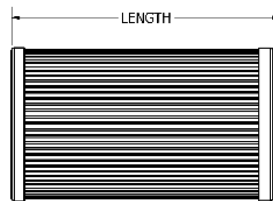
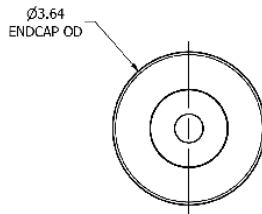
TT33 Series

TTI's PowerGuard Filter line is produced in the USA using USA and German materials. TTI has leveraged 58 years of Filter manufacturing expertise of FG Industrial Filtration (Formerly Mahle) to deliver the PowerGuard product line to the North American marketplace. TTI's Dual Phase Microglass media provides world class filtration performance. The Dual Phase technology provides Beta 1000 efficiencies with a built-in pre-filter layer to extend filter life and reduce initial pressure drops.



PERFORMANCE

- 435 PSID collapse pressure
- 50 PSID change out recommended
- 250°F (121°C) maximum operating temperature

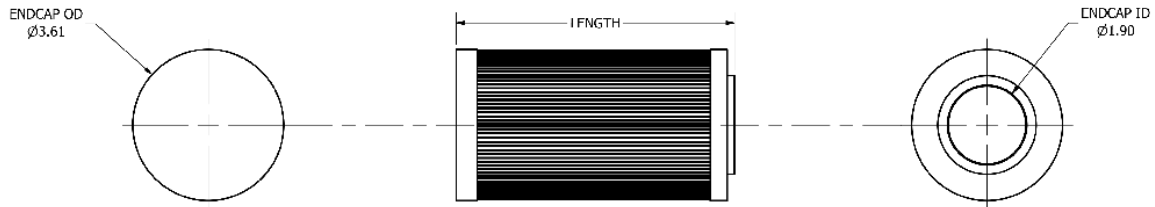
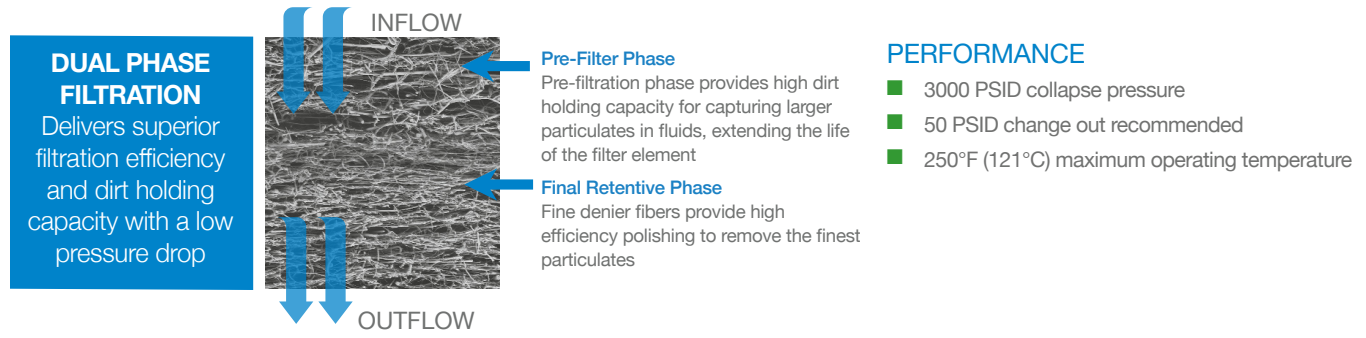


TTI PN	-	Length (inches)	-	Micron Rating B1000	Media Type	Seal Type
TT33		7 = 6.43		1	(Omit) = Dual Phase Microglass* <i>*Standard option</i>	B = Buna
		14 = 12.93		3	WA = Water Absorptive* <i>*Not available for 1 micron</i>	V = Viton
		26 = 25.63		6	SD = Static Dissipative	
				10		
				25		

PART NUMBER EXAMPLE: TT33-7-3V = TT33 (7 length, 3 micron, viton seal type)

TT33HC Series

TTI's PowerGuard Filter line is produced in the USA using USA and German materials. TTI has leveraged 58 years of Filter manufacturing expertise of FG Industrial Filtration (Formerly Mahle) to deliver the PowerGuard product line to the North American marketplace. TTI's Dual Phase Microglass media provides world class filtration performance. The Dual Phase technology provides Beta 1000 efficiencies with a built-in pre-filter layer to extend filter life and reduce initial pressure drops.



TTI PN	-	Length (inches)	-	Micron Rating B1000	Media Type	Seal Type
TT33HC		7 = 6.43		1	(Omit) = Dual Phase Microglass* <i>*Standard option</i>	B = Buna
		14 = 12.93		3	WA = Water Absorptive* <i>*Not available for 1 micron</i>	V = Viton
		26 = 25.63		6	SD = Static Dissipative	
				10		
				25		

PART NUMBER EXAMPLE: TT33HC-7-3V = TT33HC (7 length, 3 micron, viton seal type)

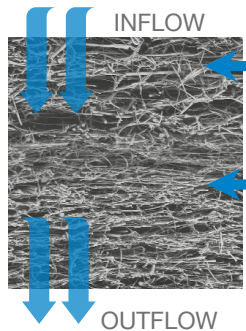
TT20082 Series

TTI's PowerGuard Filter line is produced in the USA using USA and German materials. TTI has leveraged 58 years of Filter manufacturing expertise of FG Industrial Filtration (Formerly Mahle) to deliver the PowerGuard product line to the North American marketplace. TTI's Dual Phase Microglass media provides world class filtration performance. The Dual Phase technology provides Beta 1000 efficiencies with a built-in pre-filter layer to extend filter life and reduce initial pressure drops.



DUAL PHASE FILTRATION

Delivers superior filtration efficiency and dirt holding capacity with a low pressure drop



INFLOW

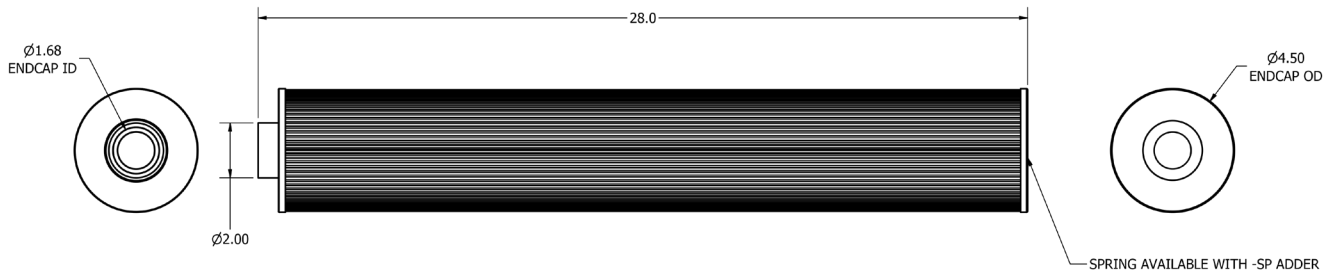
OUTFLOW

Pre-Filter Phase
Pre-filtration phase provides high dirt holding capacity for capturing larger particulates in fluids, extending the life of the filter element

Final Retentive Phase
Fine denier fibers provide high efficiency polishing to remove the finest particulates

PERFORMANCE

- 150 PSID collapse pressure
- 50 PSID change out recommended
- 250°F (121°C) maximum operating temperature



TTI PN	-	Length (inches)	-	Micron Rating B1000	Media Type	Seal Type
TT20082		28		2	(Omit) = Dual Phase Microglass* <i>*Standard option</i>	B = Buna
				3	SD = Static Dissipative	V = Viton
				6		
				12		
				15		
				17		
				25		

Spin-On Elements

Spin-On Elements are used to clean hydraulic fluids and lubricants in pressurized fluid-management systems. In-line hydraulic filters are installed on the low-pressure, return line side of a hydraulic system to clean fluid before it returns to the reservoir. Clean hydraulic fluid reduces contaminant buildup, controls operational & maintenance costs, and maximizes the service life of system components.



Spin-On canister filter elements have an integrated pleated filter element. When the filter becomes clogged with contamination, the canister is simply un-screwed and replaced with a new element.

Features:

- Pleated Microglass filtration media provides superior retention efficiency, contaminant capacity, chemical compatibility, with low pressure drop.
- Steel wire support layering maximizes structural strength and provides optimal flow drainage.
- Maximum working pressure of 200 psi
- Rugged 100 psid collapse strength
- 1.5"-16 UN mounting thread

- Media is potted and seamed with high-performance epoxy for superior element integrity.
- Available in industry-standard micron ratings and in a water-absorbing grade.

Applications:

- Hydraulic power transmission equipment, return lines
- Mobile or stationary filter carts
- Bulk storage filler systems

Particulate Removal Elements

BETA 1000 (99.9%) RETENTION PERFORMANCE (PER ISO 16889)

TTI PN	-	Length	-	Micron Rating B1000	Seal Type
TT75S		4		1	B= Buna
		8		3	V1= Viton (0.17" Wide)
				6	V2= Viton (0.30" Wide)
				10	
				25	
				25CWA*	

PART NUMBER EXAMPLE: TT75S-4-3V = TT75S (4 length, 3 micron with viton seal type) *CWA = Water Absorptive
 Custom ratings and configurations are available on special request.
 Consult with your TTI representative for more information.

Spin-On_DS_092022



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