

TETPOR AIR sterilization filter cartridges offer exceptional filtration performance while providing the highest levels of biosecurity throughout the process industry.

Operating at ambient temperature conditions, TETPOR AIR filter cartridges provide a cost-effective filtration solution. A unique polypropylene prefilter layer extends service life in heavily contaminated environments.

TETPOR AIR filter cartridges also utilize a well-proven, inherently hydrophobic expanded PTFE membrane validated as sterilizing grade in liquid in accordance with ASTM F838-05. This ensures the removal of all airborne bacteria, viruses and bacteriophage.

Features and Benefits

- Assured biosecurity with absolute rated filtration
- High flow rates with low pressure drops
- High voids volume PTFE membrane
- Steam sterilizable to 142 °C (287.6 °F)
- Unique prefilter layer

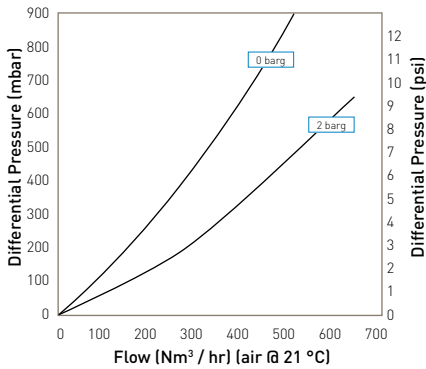
TETPOR AIR Filter Cartridges

- air / gas filters
- expanded PTFE

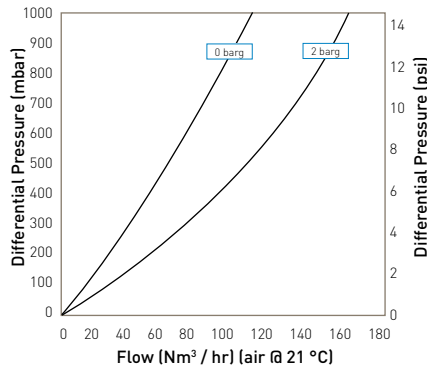


Note: TETPOR is a registered trademark of Parker domnick hunter

Performance Characteristics



10'' Size (250 mm) Cartridge



B Size (65 mm) Cartridge

Specifications

Materials of Construction

- Filtration Membrane: Expanded PTFE
- Upstream Support: Polypropylene
- Downstream Support: Polypropylene

Filter Cartridges

- Inner Support Core: Polypropylene
- Outer Protection Cage: Polypropylene
- End Caps: Polypropylene
- End Caps Insert: 316L Stainless Steel
- Standard o-rings/gaskets: Silicone

MURUS Disposable Filter Capsules

- Core: Polypropylene
- Sleeve: Polypropylene
- Standard o-rings: Viton
- Capsule Body: Polypropylene
- Capsules Vent Seals: Silicone

DEMICAP Filter Capsules

- Core: Polypropylene
- Sleeve: Polypropylene
- End Caps: Polypropylene
- Capsule Body: Polypropylene
- Capsules Vent Seals: Silicone
- Filling Bell: Polycarbonate

Syringe Filters

- Body: Polypropylene

Recommended Operating Conditions

Filter Cartridges

Up to 60 °C (140 °F) continuous operating temperature and higher short-term temperatures during CIP to the following limits:

Temperature °C	Temperature °F	Max. Forward dP (bar)	Max. Forward dP (psig)
20	68	5.0	72.5
40	104	4.0	58.0
60	140	3.0	43.5
80	176	2.0	29.0
90	194	1.7	24.6

MURUS Disposable Filter Capsules

Up to 25 °C (77 °F) @ 5.5 barg (79.7 psig)
Up to 60 °C (140 °F) @ 2.8 barg (40.6 psig)

Parker Hannifin certifies that this product complies with the European Council Pressure Equipment Directive (PED) 97/23/EC Article 3, Paragraph 3 - Sound Engineering Practice (SEP). This product is intended for use with Group 1 & 2 Dangerous and Harmless Liquids and Group 2 Harmless Gases at the operating conditions stated in this document : In compliance with PED Article 3, Paragraph 3, SEP, this product does not bear the CE mark.

DEMICAP Filter Capsules

Up to 40 °C (104 °F) at line pressures up to 5.0 barg (72 psig).

Effective Filtration Area (EFA)

10" (250 mm):	0.77 m ²	(8.28 ft ²)
K Size:	0.36 m ²	(3.87 ft ²)
A Size:	0.25 m ²	(2.69 ft ²)
B Size:	0.12 m ²	(1.29 ft ²)
E Size:	0.06 m ²	(0.64 ft ²)
Syringe ø50 mm:	14.50 cm ²	(2.25 in ²)

Sterilization

	Autoclave		Steam-in-Place	
	Cycles	Temp	Cycles	Temp
Cartridges	120	142 °C (287.6 °F)	120	142 °C (287.6 °F)
MURUS	5	130 °C (266 °F)	-	-
DEMICAP	100	135 °C (275 °F)	-	-
Syringe	1	130 °C (266 °F)	-	-

For detailed operational procedures and advice on cleaning and sterilization, please contact the Technical Support Group through your usual Parker domnick hunter contact.

Food and Biological Safety

Materials conform to the relevant requirements of 21CFR Part 177 and current USP Plastics Class VI - 121 °C and ISO10993 equivalents.

Quality Standards

Pharmaceutical grade products are manufactured in accordance with cGMP, 100% flushed with pharmaceutical grade purified water and integrity tested prior to despatch. A sample of each lot is tested to demonstrate conformity to validated claims.

Performance Characteristics

TOC / Conductivity

The filtrate quality from a 10" (250 mm) TETPOR AIR conforms to the requirements of current USP <643> (TOC) and USP <645> (conductivity).

Endotoxins

Aqueous extracts from the 10" (250 mm) TETPOR AIR contain < 0.25 EU / ml when tested in accordance with the Limulus Amoebocyte Lysate test.

Non-Volatile Extractables (NVE)

Total NVEs extracted in the first 5 litre flush of purified water for a 10" (250 mm) cartridge are <5 mg.

Pharmaceutical Validation

A full validation guide is available upon request from Laboratory Services Group (LSG).

Oxidizable Substances

TETPOR AIR filter cartridges meet current USP and EP quality standards for sterile purified water for oxidizable substances following a <1 litre water flush.

Integrity Test Data

All filters are integrity testable to the following limits when wet with 60 / 40 : IPA /water and using air as the test gas.

Cartridge	Test Pressure		Diffusional Flow (ml / min)	Water Intrusion Test Pressure		Water Intrusion (ml / 10 min)	Water Flow (µl / 10 min)
	(barg)	(psig)		(barg)	(psig)		
E	0.8	11.6	1.5	2.5	36.3	1.3	371
B	0.8	11.6	3.0	2.5	36.3	2.6	742
A	0.8	11.6	6.0	2.5	36.3	5.3	1514
K	0.8	11.6	8.5	2.5	36.3	7.5	2142
10"	0.8	11.6	18.0	2.5	36.3	16.0	4571

Retention Characteristics

TETPOR AIR filter cartridges are validated by bacterial challenge testing with *Brevundimonas diminuta* to current ASTM F838-05 methodology (10⁷ organisms / cm² EFA minimum) with typical in-house challenge levels being 10¹¹ organisms per 10" (250 mm) filter cartridge.

Ordering Information

Cartridges

ZCMT / -

Code Length (Nominal)	Code Micron	Code Endcap (10")	Code Variant	Code O-rings
B* 2.5" (65 mm)	020 0.2 µm	B* dh DOE	A Air / Gas	E EPDM
A* 5" (125 mm)		C BF / 226 Bayonet		P PTFE Encapsulated Silicone
K 5" (125 mm)		D Fin / 222		S* Silicone
1 10" (250 mm)		E Flat Top / 222		V Viton
2 20" (500 mm)		F BF / 216/218		
3 30" (750 mm)		G Recess / 222		

* Supplied in packs of 3.

*EPDM gaskets supplied as standard.

Code Endcap (Demi)
SK Retrofit
T TRUESEAL
X 116
Y Demi Stub
Z Demi A & B Std

*Silicone o-ring supplied as standard without having to specify the 'S' code.

MURUS Capsules

ZLMT - - - -

Code Length (Nominal)	Code Micron	Code Inlet Connection	Code Outlet Connection	Code Variant	Code Grade	Code Design	Code O-rings
K 5" (125 mm)	020 0.2 µm	A 3/4" Tri-Clamp	A 3/4" Tri-Clamp	A Air / Gas	N Non-sterile	L In-Line	E EPDM
1 10" (250 mm)		B 1/2" Tri-Clamp	B 1/2" Tri-Clamp			T* T-Port	S* Silicone
2 20" (500 mm)		D 1" Hosebarb	D 1" Hosebarb				V Viton
3 30" (750 mm)		T 1" Tri-Clamp	T 1" Tri-Clamp				

*Only available with a 1" Tri-Clamp.

*Silicone o-ring supplied as standard without having to specify the 'S' code.

DEMICAP Capsules

ZEMT - -

Code Length (Nominal)	Code Micron	Code Inlet Connection	Code Outlet Connection	Code Variant	Code Grade	Code Pack N°
E 4.4" (113 mm)	020 0.2 µm	T 1" Tri-Clamp	T 1" Tri-Clamp	A Air / Gas	N Non-Sterile	3 Pack of 3
B 5.5" (140 mm)		N 1/2" NPT Male	N 1/2" NPT Male			
A 7.9" (200 mm)		H 1/2" Hosebarb	H 1/2" Hosebarb			
		G Stepped Hosebarb	G Stepped Hosebarb			
		M 1/4" NPT Male	M 1/4" NPT Male			
		Q Walther QC	Q Walther QC			
		R Grommel / QC	R Grommel / QC			
		V 3/8" NPT Female	V 3/8" NPT Female			

Syringe Filters

ZSMT - -

Code Diameter	Code Micron	Code Inlet Connection	Code Outlet Connection	Code Variant	Code Grade	Code Options	Code Pack N°
050 50 mm	020 0.2 µm	G Stepped Hosebarb	G Stepped Hosebarb	P Pharmaceutical	N Non-sterile	S Standard	025 25 per box
		L 1/8" NPT Male	L 1/8" NPT Male				

The below Parker TETPOR Liquid-series cartridge filters are all the models that are potentially possible in all variations. Please note that not all models are actually produced or on stock and some model numbers and names have become obsolete. Nevertheless this should help as cross reference table chart for Cuno filters nomenclature.

TETPOR Air

ZCMTB-020B	ZCMTA-020B	ZCMTB-020B	ZCMTA-020B	ZCMTK-020B	ZCMT1-020B	ZCMT2-020B	ZCMT3-020B
ZCMTB-020C	ZCMTA-020C	ZCMTB-020C	ZCMTA-020C	ZCMTK-020C	ZCMT1-020C	ZCMT2-020C	ZCMT3-020C
ZCMTB-020D	ZCMTA-020D	ZCMTB-020D	ZCMTA-020D	ZCMTK-020D	ZCMT1-020D	ZCMT2-020D	ZCMT3-020D
ZCMTB-020E	ZCMTA-020E	ZCMTB-020E	ZCMTA-020E	ZCMTK-020E	ZCMT1-020E	ZCMT2-020E	ZCMT3-020E
ZCMTB-020G	ZCMTA-020G	ZCMTB-020F	ZCMTA-020F	ZCMTK-020F	ZCMT1-020F	ZCMT2-020F	ZCMT3-020F
ZCMTB-020R	ZCMTA-020R	ZCMTB-020G	ZCMTA-020G	ZCMTK-020G	ZCMT1-020G	ZCMT2-020G	ZCMT3-020G
ZCMTB-020SK	ZCMTA-020SK	ZCMTB-020H	ZCMTA-020H	ZCMTK-020H	ZCMT1-020H	ZCMT2-020H	ZCMT3-020H
ZCMTB-020T	ZCMTA-020T	ZCMTB-020R	ZCMTA-020R	ZCMTK-020R	ZCMT1-020R	ZCMT2-020R	ZCMT3-020R
ZCMTB-020Y	ZCMTA-020Y	ZCMTB-020SK	ZCMTA-020SK	ZCMTK-020SK	ZCMT1-020SK	ZCMT2-020SK	ZCMT3-020SK
ZCMTB-020Z	ZCMTA-020Z	ZCMTB-020T	ZCMTA-020T	ZCMTK-020T	ZCMT1-020T	ZCMT2-020T	ZCMT3-020T
ZCMTB-020T	ZCMTA-020T	ZCMTB-020X	ZCMTA-020X	ZCMTK-020X	ZCMT1-020X	#REF!	ZCMT3-020X
ZCMTB-020Y	ZCMTA-020Y	ZCMTB-020Y	ZCMTA-020Y	ZCMTK-020Y	ZCMT1-020Y	ZCMT2-020Y	ZCMT3-020Y
ZCMTB-020Z	ZCMTA-020Z	ZCMTB-020Z	ZCMTA-020Z	ZCMTK-020Z	ZCMT1-020Z	ZCMT2-020Z	ZCMT3-020Z
ZLMTK-020A	ZLMT1-020A	ZLMT2-020A	ZLMT3-020A				
ZLMTK-020B	ZLMT1-020B	ZLMT2-020B	ZLMT3-020B				
ZLMTK-020D	ZLMT1-020D	ZLMT2-020D	ZLMT3-020D				
ZLMTK-020T	ZLMT1-020T	ZLMT2-020T	ZLMT3-020T				
ZEMTE-020T	ZEMTB-020T	ZEMTA-020T	ZSMT050-020G				
ZEMTE-020N	ZEMTB-020N	ZEMTA-020N	ZSMT050-020L				
ZEMTE-020H	ZEMTB-020H	ZEMTA-020H					
ZEMTE-020G	ZEMTB-020G	ZEMTA-020G					
ZEMTE-020M	ZEMTB-020M	ZEMTA-020M					
ZEMTE-020Q	ZEMTB-020Q	ZEMTA-020Q					
ZEMTE-020R	ZEMTB-020R	ZEMTA-020R					
ZEMTE-020V	ZEMTB-020V	ZEMTA-020V					