



Check Valves, Filters and Relief Valves

Catalog 4135-CV

April 2019

aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding



ENGINEERING YOUR SUCCESS.

Introduction

Parker FT Series Tee Filters are designed for protection of instrumentation systems from undesirable materials. Component changes or repair and maintenance can admit dirt, chips, or other contaminants to the small bore tubing.

Features

- ▶ Filter element replacement achievable without removing filter from installation
- ▶ Compact, high strength forged body design with effective filtration areas of:
 - FT4 – 1.57 sq in (1013 sq mm)
 - FT8 – 2.53 sq in (1632 sq mm)
- ▶ Stainless steel and brass construction
- ▶ Standard sintered metal micron ratings: 1, 5, 10, 50, and 100
- ▶ Optional 250 and 450 micron wire cloth filter elements
- ▶ Optional bypass enables a continuous self cleaning flow around the element
- ▶ Port connections include male and female NPT, CPI™, A-LOK®, and VacuSeal

Specifications

• Pressure Ratings:

With Elastomeric and Metallic Seals:

Stainless Steel6000 psig (414 bar) CWP

Brass2000 psig (138 bar) CWP

With PTFE Seals:

Stainless Steel4000 psig (276 bar) CWP

Brass2000 psig (138 bar) CWP

Pressure Rating and Tubing Selection:

For working pressures of A-LOK® and CPI™ tube connections, please see the Instrument Tubing Selection Guide (Bulletin 4200-TS), found in the Technical Section of the Parker Instrumentation Process Control Binder, or the Parker Instrument Tube Fitting Installation Manual (Bulletin 4200-B4).

For working pressures of valves with external or internal pipe threads, please see Catalog 4260, Instrumentation Pipe Fittings.

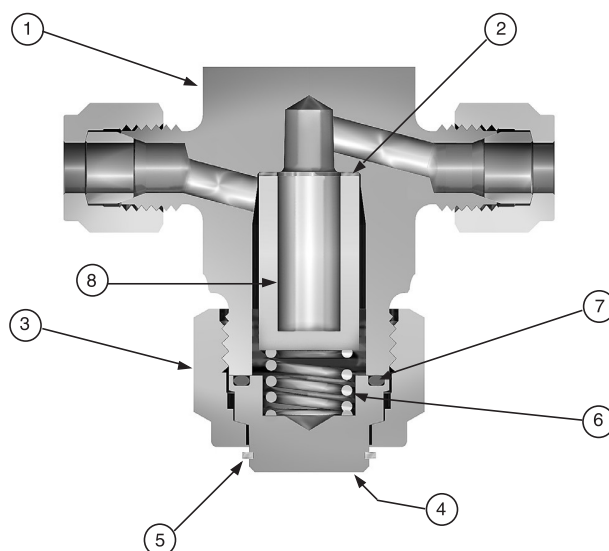
Definitions

Filter Element – The component within the filter which captures media contamination.

Filtration Area – The surface area of the filter element available to capture contamination.

Micron – A unit of measure used to indicate the mean pore diameter of the filter element or the mean particle diameter of media contamination.

One micron = 0.00004 inch or 0.0010 mm



Model Shown: 4Z-FT4-10-BN-SS

Materials of Construction

Item #	Part	Stainless Steel Filter	Brass Filter
1	Body	ASTM A182, Type F316	ASTM B283, Alloy C37700
2	Washer	316 Stainless Steel	
3	Nut	ASTM A479, Type 316	ASTM B16, Alloy C36000
4	Cap	ASTM A479, Type 316	ASTM B16, Alloy C36000
5	Retainer Ring	PH 15-7 Mo Stainless Steel	
6	Spring	316 Stainless Steel	
7	Seal	Fluorocarbon Rubber	
8	Element	316 Stainless Steel	

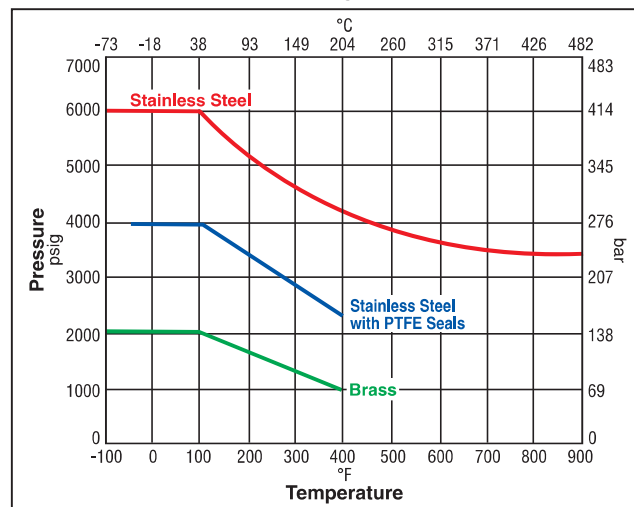
* Optional seal materials are available. See How to Order section.
Lubrication: Perfluorinated Polyether.

Installation

Best installation practice is to orient the cap downward. This helps to prevent contaminants from entering the system during element change.

Pressure vs. Temperature

Nitrile Seat



Note: To determine MPa, multiply bar by 0.1

Flow Calculations with 100 psig (7 bar) Inlet Pressure

Pressure Drop		FT4				FT8			
ΔP psig	ΔP bar	Water gpm at 60°F (16°C)	Water m ³ /hr at 60°F (16°C)	Air SCFM at 60°F (16°C)	Air m ³ /hr at 60°F (16°C)	Water gpm at 60°F (16°C)	Water m ³ /hr at 60°F (16°C)	Air SCFM at 60°F (16°C)	Air m ³ /hr at 60°F (16°C)
1 Micron									
5	0.35	0.16	0.04	1.69	2.68	0.28	0.06	2.89	4.58
10	0.69	0.23	0.05	2.35	3.72	0.39	0.09	4.02	6.36
50	3.45	0.51	0.12	4.63	7.18	0.87	0.20	7.91	12.26
5 Micron									
5	0.35	0.35	0.08	3.68	5.84	0.77	0.17	8.05	12.76
10	0.69	0.50	0.11	5.13	8.12	1.08	0.25	11.21	17.74
50	3.45	1.11	0.25	10.10	15.65	2.43	0.55	22.07	34.19
10 Micron									
5	0.35	0.44	0.10	4.57	7.26	0.94	0.21	9.90	15.70
10	0.69	0.62	0.14	6.37	10.09	1.33	0.30	13.79	21.83
50	3.45	1.38	0.31	12.55	19.44	2.98	0.68	27.15	42.07
50 Micron									
5	0.35	0.52	0.12	5.42	8.59	0.99	0.23	10.42	16.52
10	0.69	0.73	0.17	7.55	11.95	1.40	0.32	14.51	22.97
50	3.45	1.63	0.37	14.86	23.03	3.14	0.71	28.57	44.26
100 Micron									
5	0.35	0.65	0.15	6.78	10.75	1.64	0.37	17.22	27.31
10	0.69	0.91	0.21	9.45	14.95	2.32	0.53	23.99	37.97
50	3.45	2.04	0.46	18.60	28.81	5.19	1.18	47.23	73.17
250 Micron									
5	0.35	1.14	0.26	11.94	18.92	1.74	0.40	18.22	28.88
10	0.69	1.62	0.37	16.56	26.17	2.47	0.56	25.28	39.95
50	3.45	3.61	0.82	31.30	48.07	5.52	1.25	47.78	73.37
450 Micron									
5	0.35	1.23	0.28	12.84	20.35	1.88	0.43	19.64	31.13
10	0.69	1.74	0.39	17.82	28.17	2.66	0.60	27.27	43.10
50	3.45	3.88	0.88	33.92	52.16	5.94	1.35	51.89	79.81

Flow / Filter Data

Filter Series	Effective Filtration Area		C_V^*					
	sq in	sq mm	1 Micron	5 Micron	10 Micron	50 Micron	100 Micron	250 Micron
FT4	1.57	1012	0.072	0.157	0.195	0.231	0.289	0.511
FT8	2.53	1632	0.123	0.343	0.422	0.444	0.734	0.780

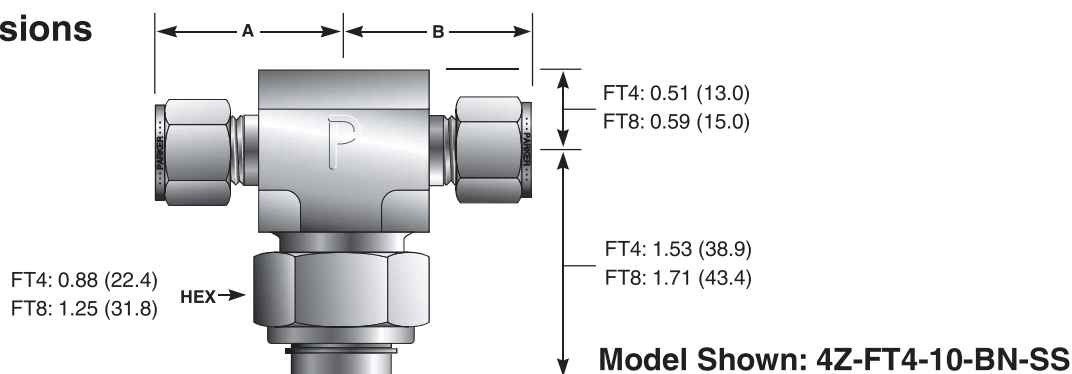
* Tested in accordance with ISA S75.02. Gas flow will be choked when $P_1 - P_2 / P_1 = x_T$.

$x_T = 1.0$ for micron sizes 1 through 100; 0.78 for the 250 micron size, and 0.81 for the 450 micron size.

FT Series Tee Filters

Catalog 4135-CV

Dimensions



Dimensions in inches (millimeters) are for reference only, subject to change.

FT

Basic Part Number	End Connections	Dimensions Inches (mm)	Options			
	Port 1 and Port 2	A† and B	Micron Rating	Seal Material	Body Material	
2A-FT4-10-SS	1/8" A-LOK®	1.14 (29.0)	1 micron 5 micron 50 micron 100 micron 250 micron 450 micron	BN Nitrile Rubber	B Brass	
2Z-FT4-10-SS	1/8" CPI™			EPR Ethylene Propylene Rubber		
2F-FT4-10-SS	1/8" Female NPT	1.00 (25.4)		NE Neoprene Rubber		
2M-FT4-10-SS	1/8" Male NPT	1.00 (25.4)		KZ Highly Fluorinated Fluorocarbon Rubber		
4A-FT4-10-SS	1/4" A-LOK®	1.23 (31.2)		HT Silver Plated Nickel Alloy C-Ring		
4Z-FT4-10-SS	1/4" CPI™			T PTFE		
4F-FT4-10-SS	1/4" Female NPT	1.06 (26.9)				
4M-FT4-10-SS	1/4" Male NPT	1.09 (27.7)				
4V-FT4-10-SS	1/4" VacuSeal	1.20 (30.5)				
M6A-FT4-10-SS	6mm A-LOK®	1.23 (31.2)				
M6Z-FT4-10-SS	6mm CPI™					
6A-FT8-10-SS	3/8" A-LOK®	1.42 (36.1)				
6Z-FT8-10-SS	3/8" CPI™					
6M-FT8-10-SS	3/8" Male NPT	1.19 (30.2)				
8A-FT8-10-SS	1/2" A-LOK®	1.53 (38.9)				
8Z-FT8-10-SS	1/2" CPI™					
8F-FT8-10-SS	1/2" Female NPT	1.48 (37.6)				
8M-FT8-10-SS	1/2" Male NPT	1.38 (35.1)				
8V-FT8-10-SS	1/2" VacuSeal	1.33 (33.8)				
M8A-FT8-10-SS	8mm A-LOK®	1.44 (36.6)				
M8Z-FT8-10-SS	8mm CPI™					
M10A-FT8-10-SS	10mm A-LOK®	1.44 (36.6)				
M10Z-FT8-10-SS	10mm CPI™					
M12A-FT8-10-SS	12mm A-LOK®	1.54 (39.1)				
M12Z-FT8-10-SS	12mm CPI™					

†For CPI™ and A-Lok®: Dimensions are measured with nuts in the finger tight position.

Maximum Pressure Differential Across Clean Filters at 70°F (21°C)

	1 micron	5 micron	10 micron	50 micron	100 micron	250 micron	450 micron
psig	2250	1950	1750	1150	1000	1000	1000
bar	155	134	120	79	69	69	69



How to Order

The part number sequence identifies product characteristics as shown in the example below.

Example: 4M-FT4-5-BN-B Describes a FT Series Filter with 1/4" male NPT inlet and outlet on a 1/4" in line body, 5 micron element, Nitrile seals and Brass body construction.

4M	-	FT4	-	5	-	BN	-	B
Connection Size & Type		Body Size		Micron Rating		Seal Material		Body Material

Options

Oxygen Cleaning – Add the suffix **-C3** to the end of the part number to receive valves cleaned in accordance with ASTM G93 level C, class 500. This ASTM details cleaning methods and cleanliness levels for materials and equipment used in oxygen-enriched environments. **Example: 4M-FT4-5-BN-B-C3**

Bypass – Add the suffix **-PB** to the end of the part number to receive a 1/8" –27 FNPT tapped Cap for sampling. **Example: 2M-FT4-5-V-SS-PB**

Integral Compression Ported Bypass Option – Add the suffix **-PBA** (A-LOK®) or **-PBZ** (CPI™) to the end of the part number to receive a 4Z/4A (FT4) or 6A/6Z (FT8) compression ported Cap.

Example: 2M-FT4-5-V-SS-PBZ

Kit Information

To order repair kits for the FT Series Filters, simply fill in the designators from the chart below.

Size	Micron Rating	Seal Material	
FT4 FT8	1 micron	V	Fluorocarbon Rubber
	5 micron	BN	Nitrile Rubber
	10 micron	EPR	Ethylene Propylene Rubber
	50 micron	NE	Neoprene Rubber
	100 micron	KZ	Highly Fluorinated Fluorocarbon
	250 micron	HT	Silver PLated Nickel Alloy C-Ring
	450 micron		

Examples: KIT-FT4-10-V, KIT-FT8-100-BN

Filter Kits Contain: Seals, Filter Element, Spring and Maintenance Instructions.

Caution: When interchanging sintered metal elements with wire cloth filter elements, the flow direction is reversed.

FT

Parker Worldwide

North America

USA – Corporate, Cleveland, OH
Tel: +1 256 896 3000

USA – IPD, Huntsville, AL
Tel: +1 256 881 2040
ipdcct@parker.com

USA – IPD, (Autoclave), Erie, PA
Tel: +1 814 860 5700
ipdaecct@parker.com

CA – Canada, Grimsby, Ontario
Tel: +1 905-945-2274
ipd_canada@parker.com

South America

AR – Argentina, Buenos Aires
Tel: +54 3327 44 4129
falecom@parker.com

BR – Brazil, Sao Jose dos Campos
Tel: +55 12 4009 3504
falecom@parker.com

CL – Chile, Santiago
Tel: +56 (0) 2 2303 9640
falecom@parker.com

MX – Mexico, Toluca
Tel: +52 722 275 4200
contacto@parker.com

Asia Pacific

AU – Australia, Dandenong
Tel: +61 (0)2 9842 5150
customer.service.au@parker.com

CN – China, Shanghai
Tel: +86 21 2899 5000
INGtechnical.china@parker.com

HK – Hong Kong
Tel: +852 2428 8008

IN – India, Mumbai
Tel: +91 22 6513 7081-85

ID – Indonesia, Tangerang
Tel: +62 (0)21 7588 1906
parker.id@parker.com

JP – Japan, Tokyo
Tel: +(81) 3 6408 3900
infophj@parker.com

KR – South Korea, Seoul
Tel: +82 2 559 0400
parkerkr@parker.com

MY – Malaysia, Selangor
Tel: +603 784 90 800
parkermy@parker.com

SG – Singapore,
Tel: +65 6887 6300
parkersg@parker.com

TH – Thailand, Bangkok
Tel: +66 2 186 7000
phthailand@parker.com

TW – Taiwan, Taipei
Tel: +886 2 2298 8987
enquiry.taiwan@parker.com

VN – Vietnam, Hochi Minh City
Tel: +848 382 508 56
parker_viet@parker.com

Europe, Middle East, Africa

AE – UAE, Dubai
Tel: +971 4 8875600
parker.me@parker.com

AT – Austria, Wiener Neustadt
Tel: +43 (0)2622 23501-0
parker.austria@parker.com

AT – Eastern Europe, Wiener Neustadt
Tel: +43 (0)2622 23501 970
parker.easteurope@parker.com

AZ – Azerbaijan, Baku
Tel: +994 50 2233 458
parker.azerbaijan@parker.com

BE/LU – Belgium, Nivelles
Tel: +32 (0)67 280 900
parker.belgium@parker.com

BG – Bulgaria, Sofia
Tel: +359 2 980 1344
parker.bulgaria@parker.com

BY – Belarus, Minsk
Tel: +375 17 209 9399
parker.belarus@parker.com

CH – Switzerland, Etoy
Tel: +41 (0) 21 821 02 30
parker.switzerland@parker.com

CZ – Czech Republic, Klecany
Tel: +420 284 083 111
parker.czechrepublic@parker.com

DE – Germany, Kaarst
Tel: +49 (0)2131 4016 0
parker.germany@parker.com

DK – Denmark, Ballerup
Tel: +45 43 56 04 00
parker.denmark@parker.com

ES – Spain, Madrid
Tel: +34 902 33 00 01
parker.spain@parker.com

FI – Finland, Vantaa
Tel: +358 (0)20 753 2500
parker.finland@parker.com

FR – France, Contamine s/Arve
Tel: +33 (0)4 50 25 80 25
parker.france@parker.com

GR – Greece, Athens
Tel: +30 210 933 6450
parker.greece@parker.com

HU – Hungary, Budapest
Tel: +36 1 220 4155
parker.hungary@parker.com

IE – Ireland, Dublin
Tel: +353 (0)1 466 6370
parker.ireland@parker.com

IT – Italy, Corsico (MI)
Tel: +39 02 45 19 21
parker.italy@parker.com

KZ – Kazakhstan, Almaty
Tel: +7 7272 505 800
parker.easteurope@parker.com

NL – The Netherlands, Oldenzaal
Tel: +31 (0)541 585 000
parker.nl@parker.com

NO – Norway, Stavanger
Tel: +47 (0)51 826 300
parker.norway@parker.com

PL – Poland, Warsaw
Tel: +48 (0)22 573 24 00
parker.poland@parker.com

PT – Portugal, Leca da Palmeira
Tel: +351 22 999 7360
parker.portugal@parker.com

RO – Romania, Bucharest
Tel: +40 21 252 1382
parker.romania@parker.com

RU – Russia, Moscow
Tel: +7 495 645-2156
parker.russia@parker.com

SE – Sweden, Spånga
Tel: +46 (0)8 59 79 50 00
parker.sweden@parker.com

SK – Slovakia, Banská Bystrica
Tel: +421 484 162 252
parker.slovakia@parker.com

SL – Slovenia, Novo Mesto
Tel: +386 7 337 6650
parker.slovenia@parker.com

TR – Turkey, Istanbul
Tel: +90 216 4997081
parker.turkey@parker.com

UA – Ukraine, Kiev
Tel: +380 44 494 2731
parker.ukraine@parker.com

UK – United Kingdom, Warwick
Tel: +44 (0)1926 317878
parker.uk@parker.com

ZA – South Africa, Kempton Park
Tel: +27 (0)11 961 0700
parker.southafrica@parker.com

WARNING

FAILURE, IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application and review the information concerning the product or system in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met. The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.

Offer of Sale

The items described in this document are available for sale by Parker Hannifin Corporation, its subsidiaries or its authorized distributors. Any sale contract entered by Parker will be governed by the provisions stated in Parker's standard terms and conditions of sale (copy available upon request).



Parker Hannifin Corporation
Instrumentation Products Division
2651 Alabama Highway 21 North
Jacksonville, AL 36265-681
Tel: 256 435 2130
Fax: 256 435 7718
www.parker.com/ipdus