Tanktop Mounted Return Line Filters

ETF Series

MAX 140 l/min - 6 bar

Tanktop Mounted Return Line Filters

ETF Series

Features & Benefits

Features	Advantages	Benefits
Co-polymer head	Compact profile, lightweight and durable	Less weight, smaller envelope and cleaner appearance
Multiple return line ports	Flexibility related to return line hose(s) arrangement	More compact solutions can be realised
Quick release cover	No tools required to release the filter cover	Easy change of filter element
Optional magnetic pre-filtration	Removes ferro particles, even during bypass conditions	Improved fluid cleanliness levels
In-to-Out filtration	All captured contamination retains inside the element	No recontamination of system during change of elements
Full flow bypass with low hysteresis	Reduction of bypass period due to low hysteresis	Improved protection of system
	Only a small part of the total flow is bypassing the element	
Optional funnel	Ensures that oil enters the tank under the oil level	Significant reduction of oil foaming

Typical Applications

- Lorry mounted cranes
- Agricultural equipment
- Container hook loaders

The Parker Filtration ETF Series Low Pressure Filters

For tank top mounting installation. The ETF Series applies a reinforced co-polymer head equipped with two return ports and quick release cover. This filter represents an economic solution for hydraulic systems with nominal flows up to 140 l/min.

Specification

Pressure ratings:
Max. 6 bar.

Assembly:
Tank top mounted.

Connections:
Threads G1" + G1" (ISO 228), port B supplied as plugged connection.

Filter housing:
Glass reinforced co-polymer material. Funnel made from steel.

Seal material:
Nitrile.

Operating temperature range:
-20° to +80°C.

Bypass valve:
Opening pressure 1.6 bar.

Filter element:
Conventional style element with steel end caps.

Degree of filtration:
Determined by multipass test according to ISO 16889.

Flow fatigue characteristics:
Filter media is supported so that the optimum fatigue life is achieved.

Filtration media:
Microglass III.

Element collapse rating:
8 bar (ISO 2941).

Indicator options:
Setting 1.2 bar.

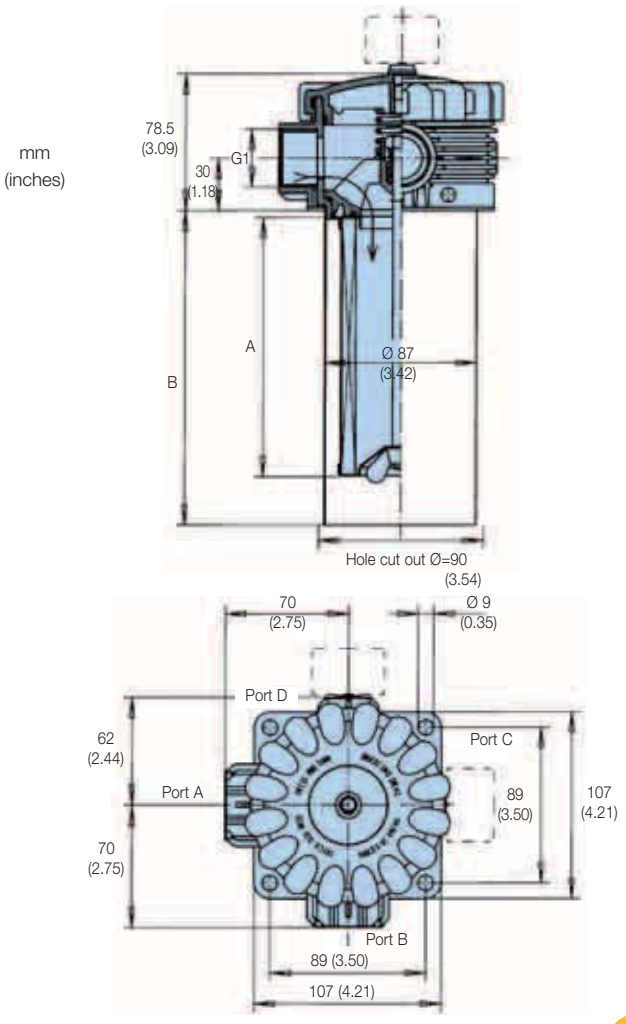
Options:
Magnetic pre-filtration.

Fluid compatibility:
Suitable for use with mineral and vegetable oils, and some synthetic oils. For other fluids, please consult Parker Filtration.

Installation Details

Dimensions mm (inches)	A	B
ETF45	82 (3.22)	100 (3.94)
ETF60	106 (4.17)	125 (4.92)
ETF90	150 (5.90)	177 (6.97)
ETF120	200 (7.87)	225 (8.86)
ETF140	260 (10.24)	300 (11.81)

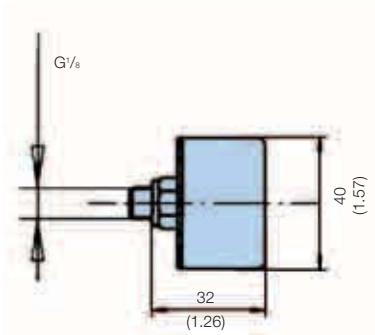
mm
(inches)



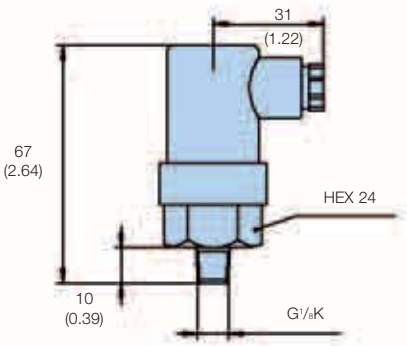
ETF Series

Indicator Details

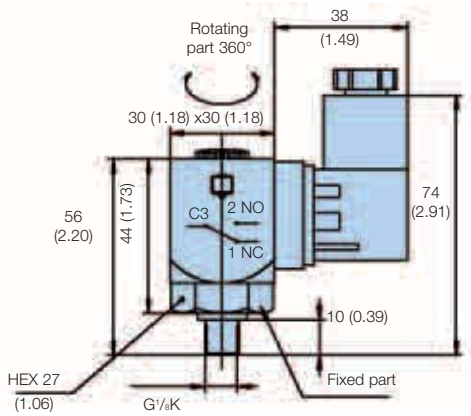
Visual pressure indicator
Code G2
mm (inches)

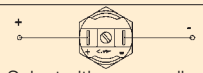


48 Vdc electrical indicator 1.2 bar
Code S2/S3
mm (inches)

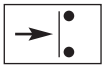


250 VAC electrical indicator 1.2 bar
Code S4
mm (inches)

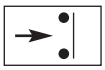


Option	Description	Connection/Voltage	Wiring	Part number
G2	Visual indicator 1.2 bar	N/A	N/A	FMUG2FBMG02L
S2/S3	Electrical indicator 1.2 bar	42 Vdc max	 Select either normally open (NO) or normally closed (NC)	FMUS2FBMG02L or FMUS3FBMG02L
S4	Electrical indicator 1.2 bar	250 VAC max	 1 NC, 2 NO, 3 C	FMUS4FBMG02L

Normally open contacts



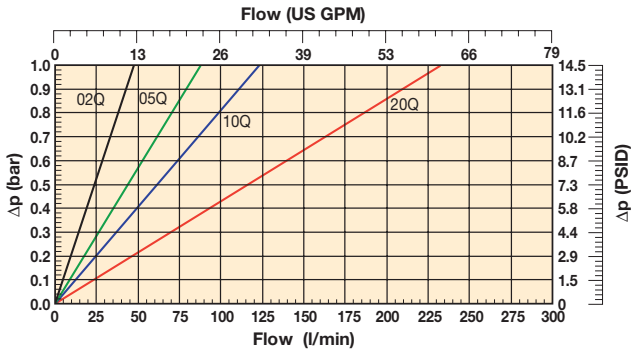
Normally closed contacts



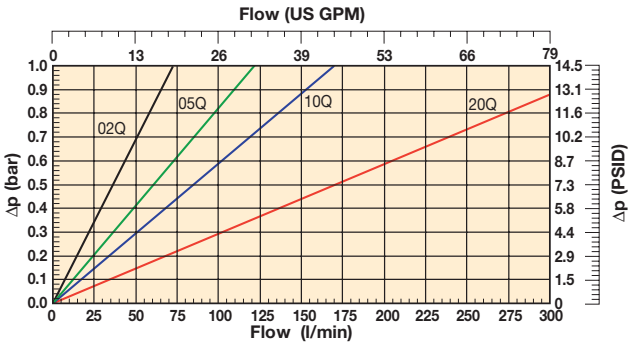
Pressure Drop Curves

The recommended level of the initial pressure drop for low pressure filters is max 0.5 bar.
If the medium used has a viscosity different from 32cSt, pressure drop over the filter can be estimated as follows:
Δp = (Δp30 x viscosity of medium used) / 32cSt.

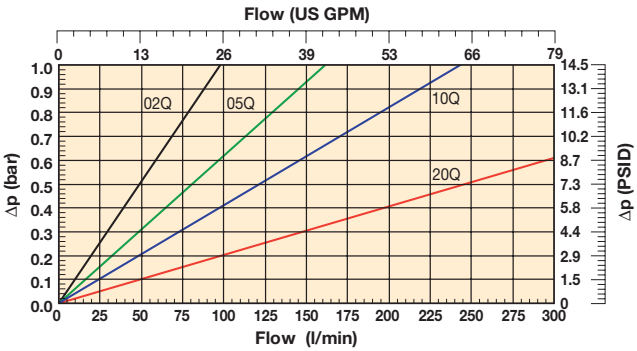
ETF45 Filter Element Length 1



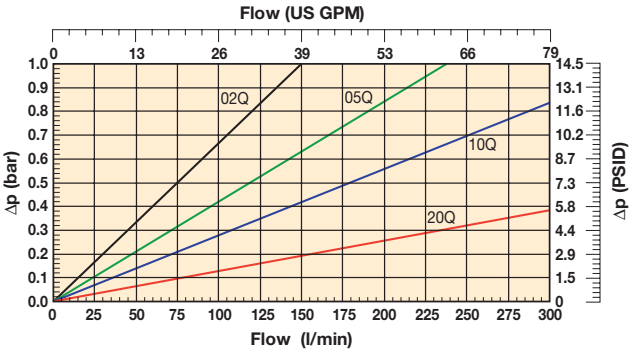
ETF60 Filter Element Length 2



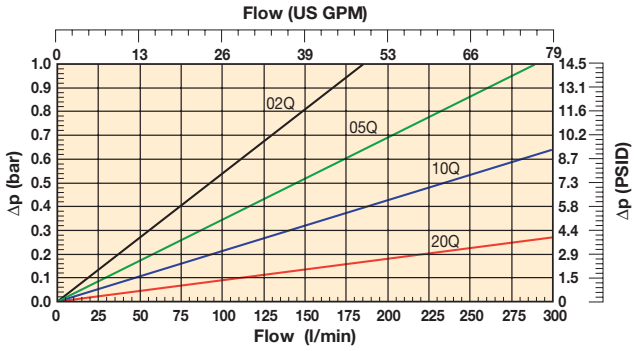
ETF90 Filter Element Length 3



ETF120 Filter Element Length 4



ETF140 Filter Element Length 4A



Note: All pressure drop curves above show total pressure drop. i.e. they are combined housing and element curves.

ETF Series

Ordering Information

Standard products table

Part number	Supercedes	Flow (l/min)	Model number	Element length	Media rating (µ)	Seals	Indicator	Bypass settings	Ports	Included options	Replacement elements	Supercedes
ETF210QBP2FG164	FK1230.Q010.BK16.GX16	60	ETF60	Length 2	10	Nitrile	Plugged	1.6 Bar (22 Psi)	2xG1 (one port plugged)	Diffuser type P	**937950Q**	FC1230.Q010.XS
ETF220QBP2FG164	FK1230.Q020.BK16.GX16	60	ETF60	Length 2	20	Nitrile	Plugged	1.6 Bar (22 Psi)	2xG1 (one port plugged)	Diffuser type P	**937951Q**	FC1230.Q020.XS
ETF310QBP2FG164	FK1240.Q010.BK16.GX16	90	ETF90	Length 3	10	Nitrile	Plugged	1.6 Bar (22 Psi)	2xG1 (one port plugged)	Diffuser type P	**937952Q**	FC1240.Q010.XS
ETF320QBP2FG164	FK1240.Q020.BK16.GX16	90	ETF90	Length 3	20	Nitrile	Plugged	1.6 Bar (22 Psi)	2xG1 (one port plugged)	Diffuser type P	**937953Q**	FC1240.Q020.XS

Note: Filter assemblies ordered from the product configurator below are on extended lead times. Where possible, please make your selection from the table above.

Product configurator

Configurator example of an ETF Series filter

Box 1	Box 2	Box 3	Box 4	Box 5	Box 6	Box 7	Box 8
ETF	**3**	**10Q**	**B**	**S2**	**F**	**G16**	**1**

Box 1

Code
ETF

Box 2

Filter type	
Housing	**Code**
ETF 1-45	1
ETF 1-60	**2**
ETF 1-90	**3**
ETF 1-120	4
ETF 1-140	**4A**

Box 3

Degree of filtration				
	Glassfibre media			
	Microglass III (for disposable elements)			
	2µ media	5µ media	10µ media	20µ media
Disposable element	02Q	05Q	**10Q**	**20Q**

Box 4

Seal type	
Seal material	**Code**
Nitrile	**B**

Box 5

Indicator	
	Code
Pressure gauge, setting 1.2 bar, G⅛ for dual head ports and TSR series	**G2**
Pressure switch 42V, 1.2 bar setting, NO with G⅛ BSP	**S2**
Pressure switch 42V, 1.2 bar setting, NC with G⅛ BSP	S3
Pressure switch 250V, 1.2 bar setting NO/NC with G⅛	S4
No indicator, indicator ports L + R plugged	**P2**
Other settings for indicators / gauges on request	on request

Box 6

Bypass valve	
Bypass valve	**Code**
1.6 bar	**F**
Other bypass settings	on request

Box 7

Filter connection	
Ports	**Code**
G1"(BSP) (2 ports, one supplied as plugged connection)	**G16**

Box 8

Options	
Options	**Code**
No diffuser required	1
Diffuser type P without perforated plate area	**4**
Diffuser with integrated hose connection	on request
Magnets	E
Diffuser type P and magnets	F
Other combinations	on request

Note: ETF filters are standard supplied without magnets and including diffuser type P

Degree of filtration						Media code
Average filtration beta ratio ß (ISO 16889) / particle size µm [c]						
ßx(c)=2	**ßx(c)=10**	**ßx(c)=75**	**ßx(c)=100**	**ßx(c)=200**	**ßx(c)=1000**	
% efficiency, based on the above beta ratio (ßx)						
50.0%	**90.0%**	**98.7%**	**99.0%**	**99.5%**	**99.9%**	
N/A	N/A	N/A	N/A	N/A	4.5	**02Q**
N/A	N/A	4.5	5	6	7	**05Q**
N/A	6	8.5	9	10	12	**10Q**
6	11	17	18	20	22	**20Q**

Spare elements	
Replacement elements	**Supercedes**
937969Q	FC1220.Q002.XS
937970Q	FC1220.Q005.XS
937948Q	FC1220.Q010.XS
937949Q	FC1220.Q020.XS
937971Q	FC1230.Q002.XS
937972Q	FC1230.Q005.XS
937950Q	FC1230.Q010.XS
937951Q	FC1230.Q020.XS
937973Q	FC1240.Q002.XS
937974Q	FC1240.Q005.XS
937952Q	FC1240.Q010.XS
937953Q	FC1240.Q020.XS
937975Q	FC1250.Q002.XS
937976Q	FC1250.Q005.XS
937954Q	FC1250.Q010.XS
937955Q	FC1250.Q020.XS
937977Q	FC1260.Q002.XS
937978Q	FC1260.Q005.XS
937956Q	FC1260.Q010.XS
937957Q	FC1260.Q020.XS
937979Q	FC1275.Q002.XS
937980Q	FC1275.Q005.XS
937981Q	FC1275.Q010.XS
937982Q	FC1275.Q020.XS

Highlights Key (Denotes part number availability)

123	Item is standard
123	Item is standard with "green" options
123	Item is semi standard
123	Item is non standard

Note: Standard items are in stock, semi standard items are available within four weeks

Note 1: Part numbers featured with bold highlighted codes will ensure a 'standard' product selection.
Note 2: Alternate displayed part number selection will require you to contact Parker Filtration for availability.

Tanktop Mounted Return Line Filters

TTF Series

MAX 500 l/min - 10 bar

Tanktop Mounted Return Line Filters

TTF Series

Features & Benefits

Features	Advantages	Benefits
10 bar rated filter	Can be utilised for severe return line applications	Reduced downtime due to premature filter failures
Cast aluminium head	Compact profile, lightweight and durable	Less weight, smaller envelop and cleaner appearance
LEIF® elements	Patented element safeguards the use of genuine parts	Guaranteed quality of filtration
		Contributes to ISO 14001 certification
Magnetic pre-filtration	Removes ferro particles, even during bypass conditions	Improved fluid cleanliness levels
		Extended element life time
In-to-Out filtration	All captured contamination retains inside the element	No recontamination of system during change of elements
High level of customisation	Dedicated system-matched solutions can be easily made available	Improved integration of filter in system combined with lower initial system costs
Full flow bypass with low hysteresis	Reduction of bypass period due to low hysteresis	Improved protection of system
	Only a small part of the total flow is bypassing the element	
Standard or customised funnel	Ensures that oil enters the tank under the oil level	Significant reduction of oil foaming

Typical Applications

- Waste management trucks
- Mobile cranes
- Power packs
- Wheeled loaders
- Drilling equipment

The Parker Filtration TTF Series Return Line Filters

TTF tank top mounted return line filters feature pre-filtration by means of a magnet column and a full flow bypass with low hysteresis. Thanks to the “In-to-Out” filter principle, contaminated oil cannot leak back into the system. TTF filters are available in versions capable of handling flow rates up to 500 l/min. They can operate up to a maximum working pressure of 10 bar. Optional filling port in filter cover, second return port and customised diffusers can be specified. Manifold type filter head (TSR Series) with four return ports is also available.

Specification

Operation pressure:
Max. 10 bar.

Assembly:
Tank top mounted.

Connections:
Threaded BSP ports.
Flanged ports on request.
Manifold filter head type TSR on request available for flows up to 250 l/min.

Filter housing:
Aluminium head and cover.

Seal material:
Nitrile, fluoroelastomer, neoprene.

Operation temperature range:
-40 to +120°C.

Bypass setting
Opening pressure 0.8 / 1.5 or 2 bar.
Other settings on request.

Degree of filtration:
Determined by multipass test according to ISO 16889.

Flow fatigue characteristics:
Filter media is supported so that the optimum fatigue life is achieved.

Filtration media:
Microglass III and Ecoglass III for *LEIF*® elements.
Also available 10µm cellulose and 40µm stainless steel mesh.

Element collapse rating:
10 bar (ISO 2941)

Pressure indicator options:
Setting 0.7 or 1.2 bar.
Other settings on request.
Visual pressure gauge.
Electrical pressure switch.

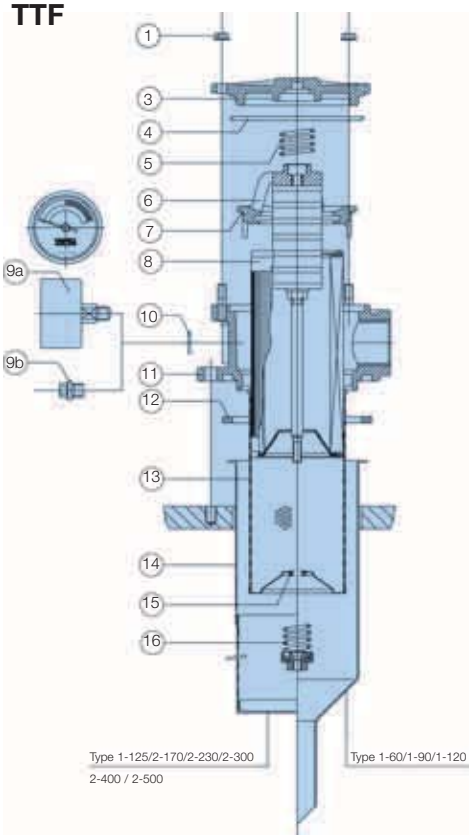
Options:
Diffuser with and without (type P) perforated flow area for optimum flow path in the reservoir.

Magnetic pack:
Standard.

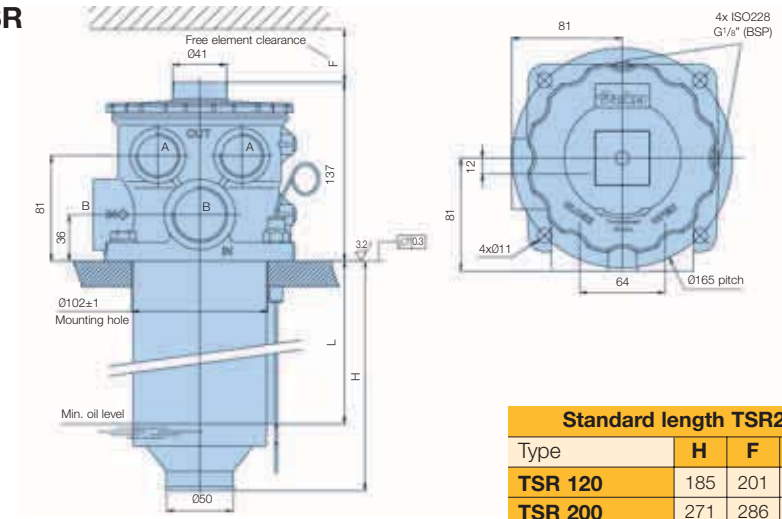
Filling port in cover: (optional)
Plugged.

Filter element:
LEIF® element with reusable metal element sleeve.
Optional conventional style element with steel end caps.
The *LEIF*® element is patented and safeguards the use of genuine parts.
Note: *LEIF*® element can be used with mineral and HEES type oils.
For other fluids consult Parker Filtration.
LEIF® contributes to ISO 14001 quality standards.

TTF



TSR



Standard length TSR2			
Type	H	F	L
TSR 120	185	201	150
TSR 200	271	286	286
TSR 250	404	421	369

Dimensions in mm

TTF sealkit: No. 4+7+12		
Ref.	No.	Description
1	4	Flange nut
3	1	Cover
4	1	Cover-seal
5	1	Top-spring
6	1	Insert
7	1	Insert-seal
8	1	Element
9a	0-1	Indicator
9b	0-3	Plug M10x1
10	0-3	Unit-ring
11	1	Housing
12	1	Gasket
13	1	Sleeve
14	1	Funnel/diffuser
15	1	O-ring
16	1	Bypass set

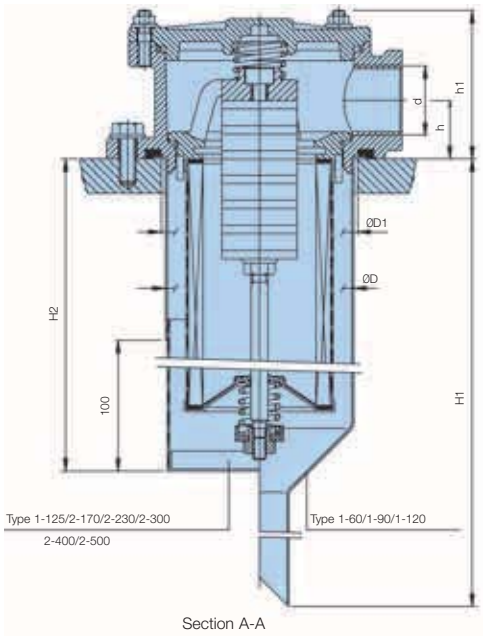
Ports A	Ports B
G1 (BSP)	G1¼ (BSP)
SAE16	SAE20

Note: All ports for return flow only

Technical specification	
Max nominal return flow	120-200-250 l/min
Max working pressure	10 bar
Temperature range	-30°C to +100°C
Bypass pressure	1,5 bar
LEIF®-filtration ratio	2µ/5µ/10µ/20µ
Seals	NBR
Options	Dipstick
	Indicator (electrical/visual)

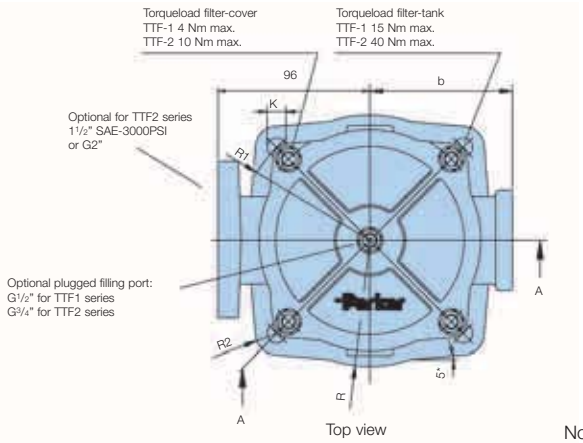
TTF Series

Specification (cont.)



Section A-A

with funnel

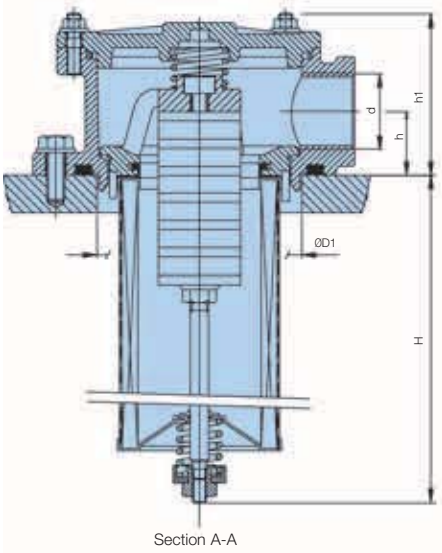


Top view

Note: TTF2-400 and TTF2-500 are standard supplied without magnets

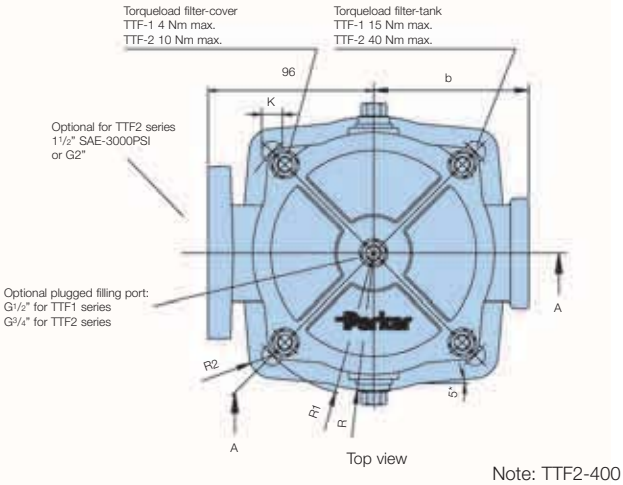
Type	d=BSP	h	h1	ØD	ØD1	H1	H2	b	R	R1	R2	K
TTF60	G½, G¾, G1	28	73	Ø90	Ø93	230		68	60	63	10	4xØ9
TTF90						280						
TTF120						330						
TTF125							420					
TTF170	G1¼, G1½	36	92	Ø132	Ø136		305	90	83	87.5	12	4xØ11
TTF230							305					
TTF300							510					
TTF400							525					
TTF500							575					

Dimensions in mm



Section A-A

without funnel



Top view

Note: TTF2-400 and TTF2-500 are standard supplied without magnets

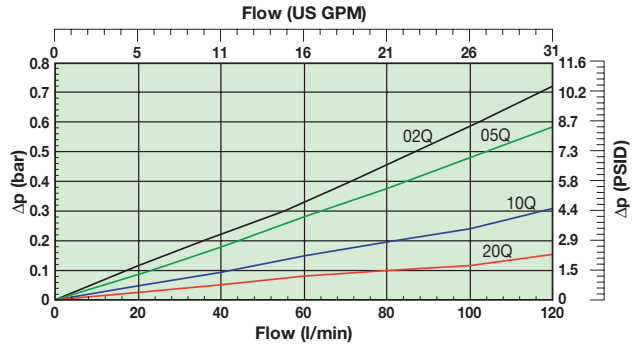
Type	d=BSP	b	ØD1	h	h1	H	R	R1	R2	K
TTF60	½", ¾", 1"	68	Ø91	28	73	131	60	63	10	4xØ9
TTF90						175				
TTF120						225				
TTF125						325				
TTF170	1¼", 1½"	90	Ø134	36	92	223	83	87.5	12	4xØ11
TTF230						303				
TTF300						508				
TTF400						523				
TTF500						558				

Dimensions in mm

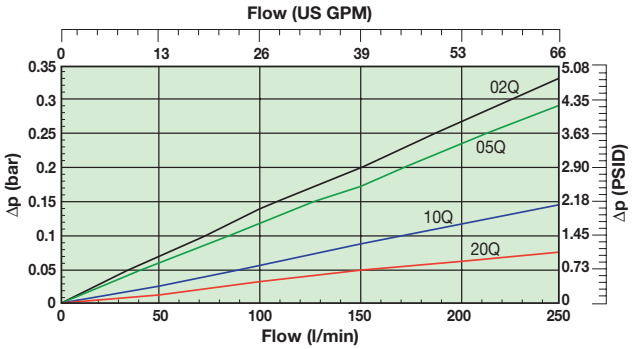
Pressure Drop Curves

The recommended level of the initial pressure drop for low pressure filters is max 0.5 bar.
If the medium used has a viscosity different from 32cSt, pressure drop over the filter can be estimated as follows:
Δp = (Δp32 x viscosity of medium used) / 32cSt.

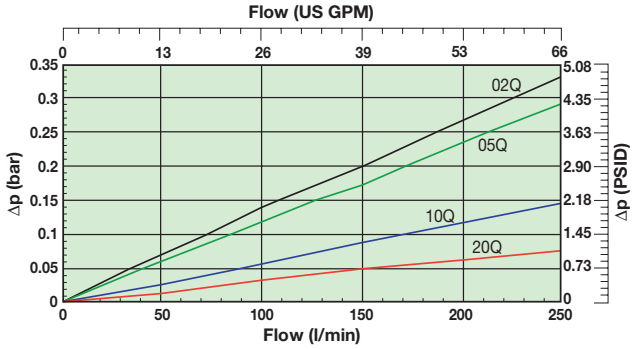
TSR II-120 Filter Element Length 1



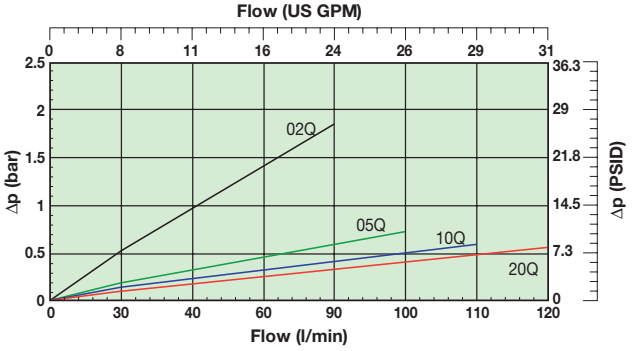
TSR II-200 Filter Element Length 1



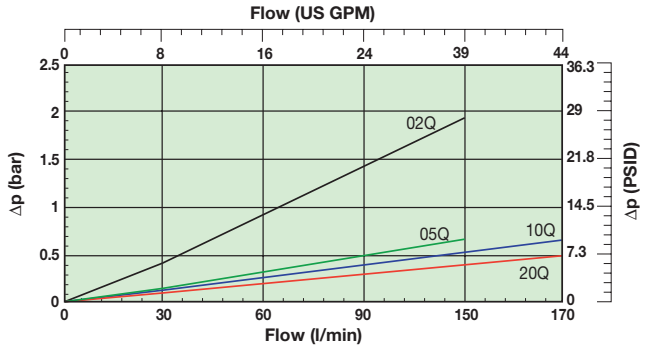
TSR II-250 Filter Element Length 3



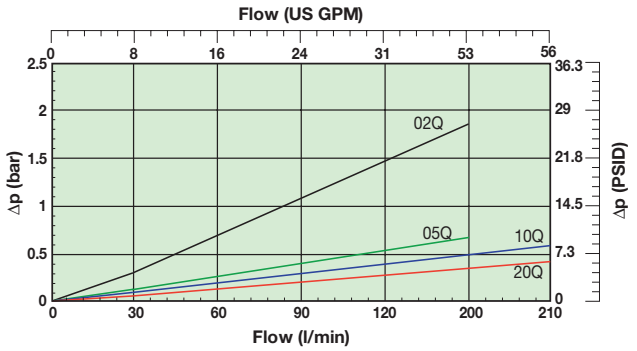
TTF 1-60 Filter Element Length 2



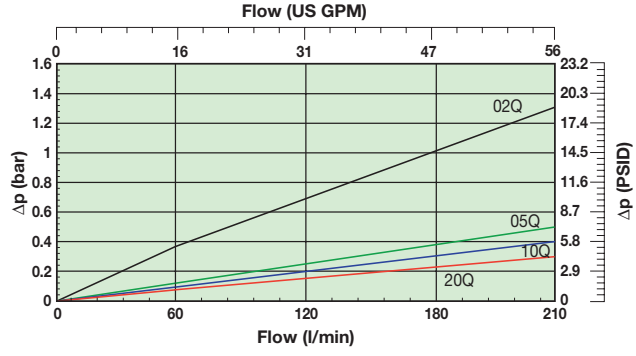
TTF 1-90 Filter Element Length 3



TTF 1-120 Filter Element Length 4



TTF 1-125 Filter Element Length 5

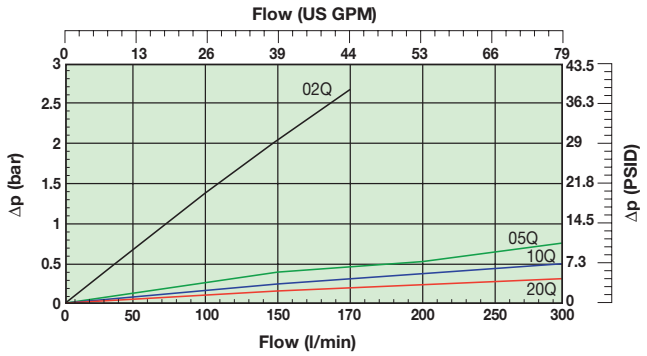


TTF Series

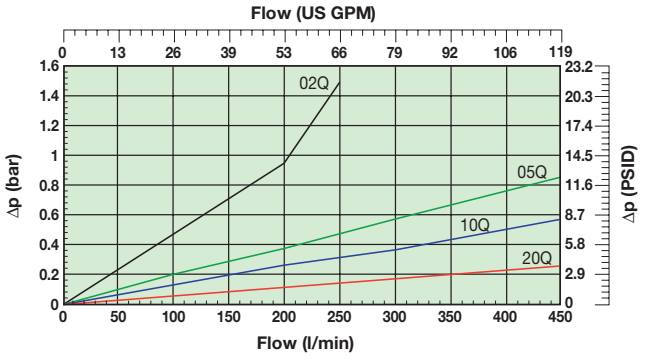
Pressure Drop Curves (cont.)

The recommended level of the initial pressure drop for low pressure filters is max 0.5 bar.
If the medium used has a viscosity different from 32cSt, pressure drop over the filter can be estimated as follows:
Δp = (Δp32 x viscosity of medium used) / 32cSt.

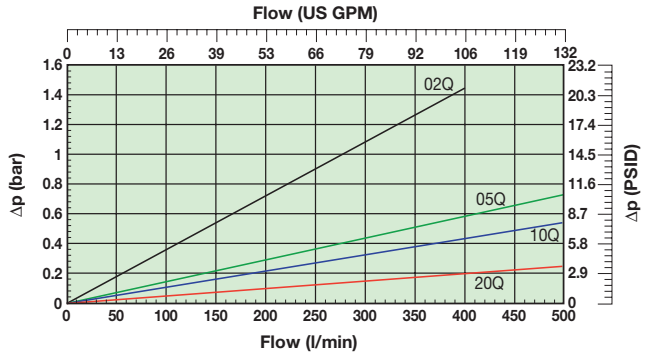
TTF 2-170 Filter Element Length 6



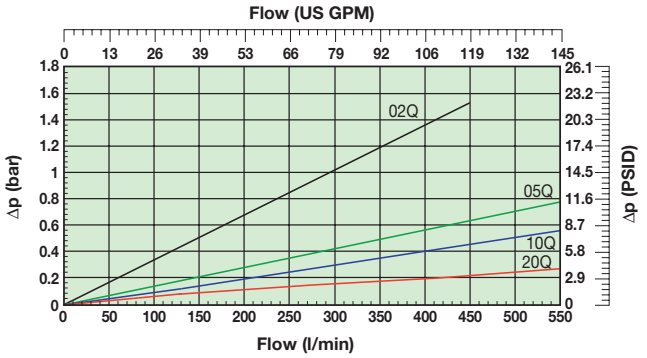
TTF 2-230 Filter Element Length 7



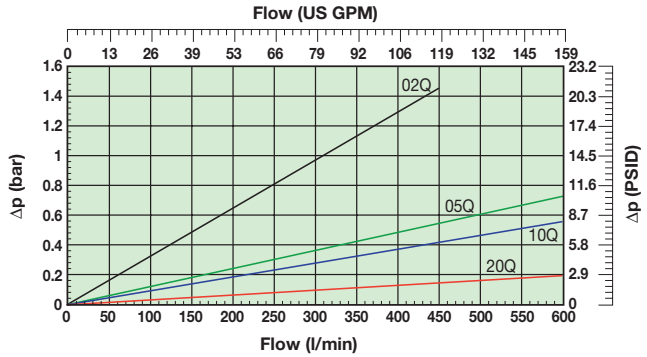
TTF 2-300 Filter Element Length 8



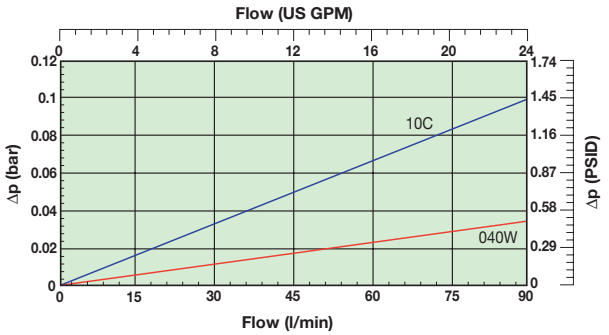
TTF 2-400 Filter Element Length 9



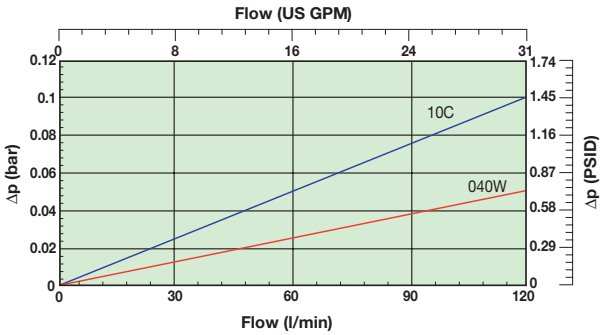
TTF 2-500 Filter Element Length 10



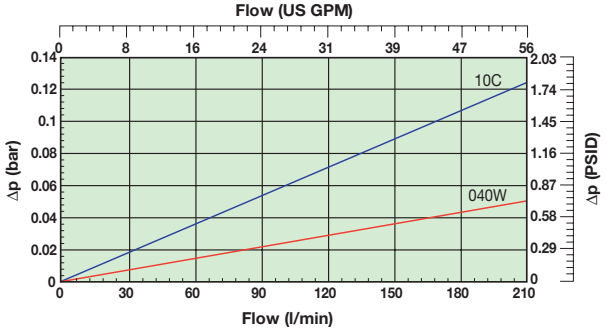
TTF60 Filter Element Length 2
Cellulose & stainless steel media



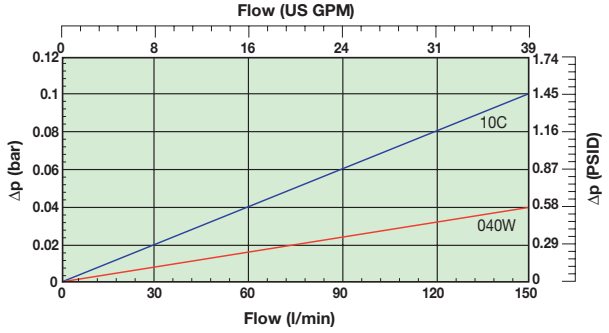
TTF90 Filter Element Length 3
Cellulose & stainless steel media



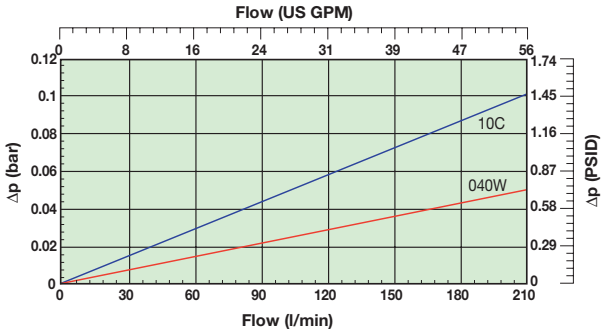
TTF120 Filter Element Length 4
Cellulose & stainless steel media



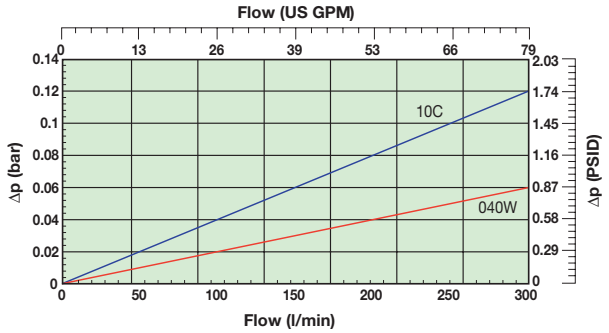
TTF125 Filter Element Length 5
Cellulose & stainless steel media



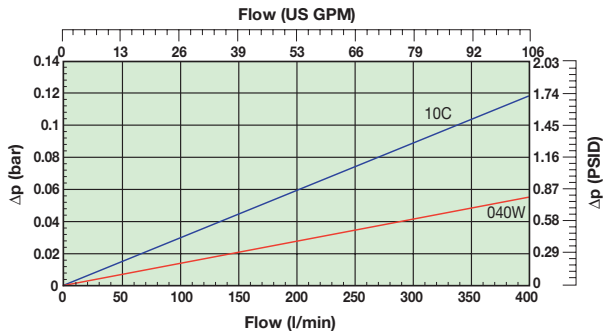
TTF170 Filter Element Length 6
Cellulose & stainless steel media



TTF230 Filter Element Length 7
Cellulose & stainless steel media



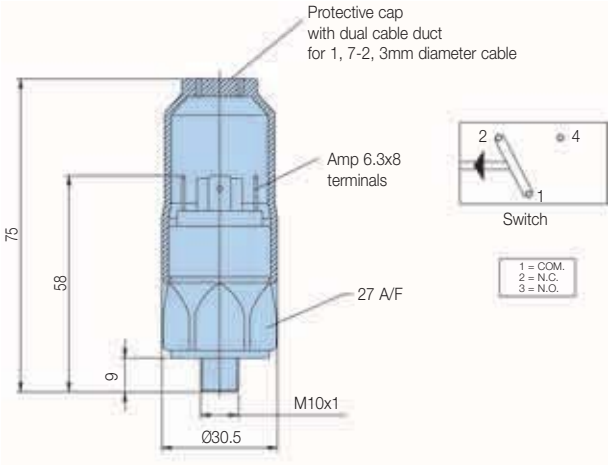
TTF300 Filter Element Length 8
Cellulose & stainless steel media



TTF Series

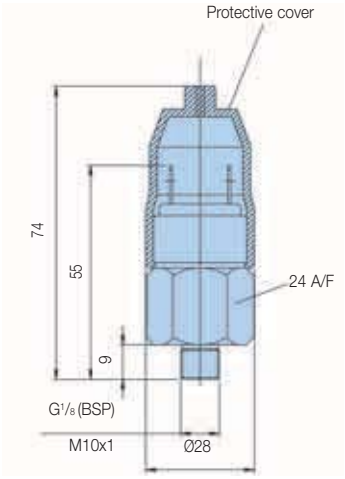
Indicator Options

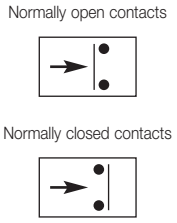
Indicator PS pressure switch



Specifications	
Elec.rating	42V / 4A
Thread connection	M10x1
Elec.connection	AMP 6.3x0.8 terminals + protective cap
Protection	IP65 (with cap) terminals IP00
Code	FMUS1EBMM10L (Switch)

Indicator PS NO/NC pressure switch





Specifications	
Elec.rating	42V / 2A
Thread connection	G1/8 - M10x1
Elec.connection	AMP terminal 6.3x0.8
Protection	IP65 (terminal IP00)
Switch type	NO or NC
Code	FMUS2EBMG02L (NO switch)
	FMUS3EBMG02L (NC switch)

Visual indicator	1.2 bar
M10: code	FMUG1EBPM10L
G1/8: code	FMUG2EBPG02L

Ordering Information

Standard products table

Part number	Supercedes	Flow (l/min)	Model number	Element length	Media rating (µ)	Seals	Indicator	Bypass settings	Ports	Included options	Replacement elements	Supercedes
TTF310QLBP2EG121	TTF90-G3/4 TXWL3-10 B15 MM	90	TTF90	Length 3	10	Nitrile	Plugged	1.5 Bar (22 Psi)	G3/4	None	**937878Q**	TXWL3-10
TTF320QLBP2EG121	TTF90-G3/4 TXWL3-20 B15 MM	90	TTF90	Length 3	20	Nitrile	Plugged	1.5 Bar (22 Psi)	G3/4	None	**937877Q**	TXWL3-20
TTF510QLBP2EG161	TTF125-G1 TXWL3E-10 B15 MM	125	TTF125	Length 5	10	Nitrile	Plugged	1.5 Bar (22 Psi)	G1	None	**937852Q**	TXWL3E-10
TTF520QLBP2EG161	TTF125-G1 TXWL3E-20 B15 MM	125	TTF125	Length 5	20	Nitrile	Plugged	1.5 Bar (22 Psi)	G1	None	**937875Q**	TXWL3E-20
TTF610QLBP2EG203	TTF170-G1 1/4 TXWL4-10 T B15 MM	170	TTF170	Length 6	10	Nitrile	Plugged	1.5 Bar (22 Psi)	G1 1/4	Diffuser type T	**937853Q**	TXWL4-10
TTF620QLBP2EG203	TTF170-G1 1/4 TXWL4-20 T B15 MM	170	TTF170	Length 6	20	Nitrile	Plugged	1.5 Bar (22 Psi)	G1 1/4	Diffuser type T	**937874Q**	TXWL4-20
TTF810QLBP2EG243	TTF300-G1 1/2 TXWL5A-10 T B15 MM	300	TTF300	Length 8	10	Nitrile	Plugged	1.5 Bar (22 Psi)	G1 1/2	Diffuser type T	**937855Q**	TXWL5A-10
TTF820QLBP2EG243	TTF300-G1 1/2 TXWL5A-20 T B15 MM	300	TTF300	Length 8	20	Nitrile	Plugged	1.5 Bar (22 Psi)	G1 1/2	Diffuser type T	**937872Q**	TXWL5A-20
TTF1010QLBP2HG24A	TTF500-G1 1/2 TXWL5C-10 T B20 MM NMG	500	TTF500	Length 10	10	Nitrile	Plugged	2.0 Bar (29 Psi)	G1 1/2	Diffuser type T	**937857Q**	TXWL5C-10
TTF1010QLBP2HG24A	TTF500-G1 1/2 TXWL5C-20 T B20 MM NMG	500	TTF500	Length 10	20	Nitrile	Plugged	2.0 Bar (29 Psi)	G1 1/2	Diffuser type T	**937870Q**	TXWL5C-20

Note: Filter assemblies ordered from the product configurator on the next page are on extended lead times. Where possible, please make your selection from the table above.

Ordering Information (cont.)

Product configurator
Configurator example of a TTF Series filter

Box 1	Box 2	Box 3	Box 4	Box 5	Box 6	Box 7	Box 8
TTF	**9**	**05QL**	**V**	**S3**	**H**	**L24**	**1**

Configurator example of a TSR Series filter

Box 1	Box 2	Box 3	Box 4	Box 5	Box 6	Box 7	Box 8
TSR	**3**	**20QL**	**B**	**G2**	**E**	**2G20**	**3**

Box 1

Code
TTF
TSR

Box 2

Filter type	
Housing	**Code**
TTF 1-60	**2**
TTF 1-90	**3**
TTF 1-120	4
TTF 1-125	**5**
TTF 2-170	**6**
TTF 2-230	7
TTF 2-300	**8**
TTF 2-400	9
TTF 2-500	**10**
TSR2-120	1
TSR2-200	2
TSR2-250	3

Box 3

Degree of filtration						
Element media		**Glass fibre**				
		Microglass III (for disposable elements)				
	Cellulose	Ecoglass III (for Leif® elements)				**Wire mesh**
	Nom. rating	2µ media	5µ media	10µ media	20µ media	Abs. rating
Disposable element	10C	02Q	05Q	**10Q**	**20Q**	040W
***LEIF*® element**		02QL	**05QL**	**10QL**	**20QL**	

Box 4

Seal type	
Seal material	**Code**
Nitrile	**B**
Fluorelastomer	V
Neoprene	N

Box 5

Indicator	
	Code
Pressure gauge, setting 1.2 bar, M10x1	**G1**
Pressure gauge, setting 1.2 bar, G1/8 for dual head ports and TSR series	G2
Pressure switch 42V, 1.2 bar setting, NO/NC, M10x1	**S1**
Pressure switch 42V, 1.2 bar setting, NO with G1/8 BSP	S2
Pressure switch 42V, 1.2 bar setting, NC with G1/8 BSP	S3
Pressure switch 250V, NO/NC with G1/8	S4
Pressure switch 220V, NO/NC with M10	S5
No indicator, indicator ports not machined	N
No indicator, indicator port R plugged	P
No indicator, indicator ports L + R plugged	**P2**
Other settings for indicators / gauges on request	on request

Note: for all dual head ports and TSR series apply G1/8 connection for indicator

Box 6

Bypass valve	
Bypass valve	**Code**
0.8 bar	B
1.5 bar	**E**
2.0 bar for TTF series	H
Blocked bypass	X
Other bypass settings	on request

Box 7

Filter connection	
Ports	**Code**
G3/4" (BSP) (1-60/1-90/1-120)	**G12**
G1" (BSP) (1-60/1-90/1-120)	**G16**
G1 1/4" (BSP) (2-170/2-230/2-300/2-400/2-500)	**G20**
G1 1/2"(BSP) (2-170/2-230/2-300/2-400/2-500)	**G24**
1 1/2" SAE-3000 PSI (2nd port) + G1 1/2"	L24
G2" (2nd port) + G1 1/2"	G32
G1 1/4" (BSP) + 2 Ports G1" (TSR only)	G20
2xG1 1/2" (BSP) + 2 Ports G1" (TSR only)	2G20
SAE20 + 2 Ports A SAE16 (TSR only)	S20
2xSAE20 + 2 Ports SAE16 (TSR only)	2S20

Box 8

Options	
Options	**Code**
No diffuser required	**1**
Diffuser type T with perforated plate area	**3**
Diffuser type P without perforated plate area	4
Diffuser with integrated hose connection	on request
No magnets	5
Dipstick	6
Plugged filling port	8
Diffuser type T and no magnets	**A**
Diffuser type P and no magnets	B
Diffuser type T, no magnets, plugged filling port	C
Diffuser type P, no magnets, plugged filling port	D
Other combinations	on request

Note 1: Part numbers featured with bold highlighted codes will ensure a 'standard' product selection.
Note 2: Alternate displayed part number selection will require you to contact Parker Filtration for availability.

Degree of filtration						Media code
Average filtration beta ratio ß (ISO 16889) / particle size µm [c]						
ßx(c)=2	**ßx(c)=10**	**ßx(c)=75**	**ßx(c)=100**	**ßx(c)=200**	**ßx(c)=1000**	
% efficiency, based on the above beta ratio (ßx)						
50.0%	**90.0%**	**98.7%**	**99.0%**	**99.5%**	**99.9%**	
N/A	N/A	N/A	N/A	N/A	4.5	**02Q/02QL**
N/A	N/A	4.5	5	6	7	**05Q/05QL**
N/A	6	8.5	9	10	12	**10Q/10QL**
6	11	17	18	20	22	**20Q/20QL**

Highlights Key (Denotes part number availability)

123	Item is standard
123	Item is standard with "green" options
123	Item is semi standard
123	Item is non standard

Note: Standard items are in stock, semi standard items are available within four weeks

TTF Series

Ordering Information (cont.)

Supercedes spare element table				
TTF 1-60	TXWL2-2	TXWL2-5	TXWL2-10	TXWL2-20
Part number spare element	937823Q	937880Q	937881Q	937882Q
TTF 1-90	TXWL3-2	TXWL3-5	TXWL3-10	TXWL3-20
Part number spare element	937824Q	937879Q	937878Q	937877Q
TTF 1-120	TXWL3D-2	TXWL3D-5	TXWL3D-10	TXWL3D-20
Part number spare element	937825Q	937825Q	937851Q	937876Q
TTF 1-125	TXWL3E-2	TXWL3E-5	TXWL3D-10	TXWL3E-20
Part number spare element	937826Q	937849Q	937852Q	937875Q
TTF 1-170	TXWL4-2	TXWL4-5	TXWL4-10	TXWL4-20
Part number spare element	937827Q	937848Q	937853Q	937874Q
TTF 1-230	TXWL5-2	TXWL5-5	TXWL5-10	TXWL5-20
Part number spare element	937828Q	937847Q	937854Q	937873Q
TTF 1-300	TXWL5A-2	TXWL5A-5	TXWL5A-10	TXWL5A-20
Part number spare element	937829Q	937846Q	937855Q	937872Q
TTF 1-400	TXWL5B-2	TXWL5B-5	TXWL5B-10	TXWL5B-20
Part number spare element	937830Q	937845Q	937856Q	937871Q
TTF 1-500	TXWL5C-2	TXWL5C-5	TXWL5C-10	TWXL5C-20
Part number spare element	937831Q	937844Q	937857Q	937870Q
TSR120	PXWL3-2	PXWL3-5	PXWL3-10	PXWL3-20
Part number spare element	937886Q	937889Q	937892Q	937895Q
TSR200	PXWL4-2	PXWL4-5	PXWL4-10	PXWL4-20
Part number spare element	937887Q	937890Q	937893Q	937896Q
TSR250	PXWL4A-2	PXWL4A-5	PXWL4A-10	PXWL4A-20
Part number spare element	937888Q	937891Q	937894Q	937897Q

Supercedes spare element table						
TTF 1-60	TXX2-10-B	TXW2-2-B	TXW2-5-B	TXW2-10-B	TXW2-20-B	ST2-40-B
Part number spare element	937721	937751Q	937754Q	937787Q	937790Q	937820
TTF 1-90	TXX3-10-B	TXW3-2-B	TXW3-5-B	TXW3-10-B	TXW3-20-B	ST3-40-B
Part number spare element	937722	937750Q	937755Q	937786Q	937791Q	937819
TTF 1-120	TXX3D-10-B	TXW3D-2-B	TXW3D-5-B	TXW3D-10-B	TXW3D-20-B	ST3D-40-B
Part number spare element	937723	937749Q	937756Q	937785Q	937792Q	937818
TTF 1-125	TXX3E-10-B	TXW3E-2-B	TXW3E-5-B	TXW3E-10-B	TXW3E-20-B	ST3E-40-B
Part number spare element	937724	937748Q	937757Q	937748Q	937793Q	937817
TTF 1-170	TXX4-10-B	TXW4-2-B	TXW4-5-B	TXW4-10-B	TXW4-20-B	ST4-40-B
Part number spare element	937725	937747Q	937758Q	937783Q	937794Q	937816
TTF 1-230	TXX5-10-B	TXW5-2-B	TXW5-5-B	TXW5-10-B	TXW5-20-B	ST5-40-B
Part number spare element	937726	937746Q	937759Q	937782Q	937795Q	937815
TTF 1-300	TXX5A-10-B	TXW5A-2-B	TXW5A-5-B	TXW5A-10-B	TXW5A-20-B	ST5A-40-B
Part number spare element	937727	937745Q	937760Q	937781Q	937796Q	937814

Tanktop Mounted Return Line Filters

BGT Series

MAX 2400 l/min - 10 bar

Tanktop Mounted Return Line Filters

BGT Series

Features & Benefits

Features	Advantages	Benefits
10 bar rated filter	Can be utilised for severe return line applications	Reduced downtime due to premature filter failures
Cast aluminium head	Compact profile, lightweight and durable	Less weight, smaller envelop and cleaner appearance
LEIF® elements	Patented element safeguards the use of genuine parts	Guaranteed quality of filtration
		Contributes to ISO 14001 certification
Magnetic pre-filtration	Removes ferro particles, even during bypass conditions	Improved fluid cleanliness levels
		Extended element life time
In-to-Out filtration	All captured contamination retains inside the element	No recontamination of system during change of elements
High level of customisation	Dedicated system-matched solutions can be easily made available	Improved integration of filter in system combined with lower initial system costs
Full flow bypass with low hysteresis	Reduction of bypass period due to low hysteresis	Improved protection of system
	Only a small part of the total flow is bypassing the element	
Standard or customised funnel	Ensures that oil enters the tank under the oil level	Significant reduction of oil foaming

Typical Applications

- Mobile cranes
- Excavators
- Deck cranes
- Fire fighting equipment
- Hydraulic presses
- Waste balers
- Industrial power units
- Fork lift trucks

The Parker Filtration BGT Series Tank Mounted Return Line Filters.

BGT tanktop mounted return line filters feature pre-filtration by means of a magnet column and a full flow bypass with low hysteresis. Thanks to the 'In-to-Out' filter principle, contaminated oil cannot leak back into the system. BGT Filters are available in versions capable of handling flow rates up to 2400 l/min. They can operate with a maximum working pressure of 10 bar. *LEIF*® elements are available for environment-friendly filtration for versions up to 1500 l/min.

Specification

Operating pressure:
Max. 10 bar.

Assembly:
Tank top mounted.

Connections:
Flanges SAE2", 3".
Threaded ports and multiple ports available.

Filter housing:
Aluminium head and cover.

Seal material:
Nitrile, fluoroelastomer, neoprene.

Operating temperature range:
-40° to +120°C.

Bypass setting
Opening pressure 0.8 / 1.5 or 2 bar.
Other settings on request.

Degree of filtration:
Determined by multipass test according to ISO 16889.

Flow fatigue characteristics:
Filter media is supported so that the optimum fatigue life is achieved.

Filtration media:
Microglass III and Ecoglass III for *LEIF*® elements.
Also available 10µm Cellulose and 40µm stainless steel mesh.

Element collapse rating:
10 bar (ISO 2941).

Pressure indicator options:
Setting 0.7 or 1.2 bar.
Other settings on request.
Visual pressure gauge.
Electrical pressure switch.

Options:
Diffuser with and without (type P) perforated flow area for optimum flow path in the reservoir.

Magnetic pack:
Standard.

Filling port in cover (optional):
Plugged G1½.

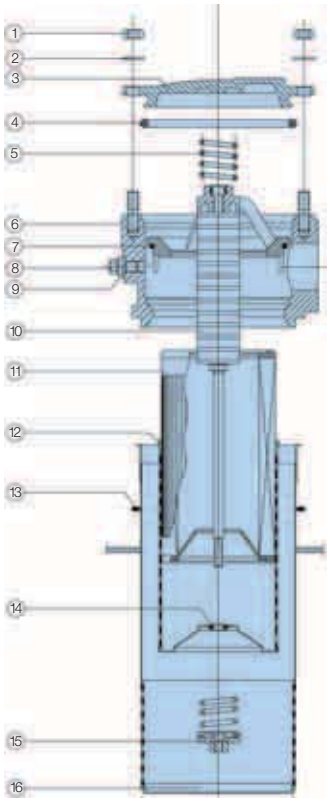
Filter element:
LEIF® element with reusable metal element sleeve.
Conventional style element with steel end caps.
The *LEIF*® element is patented and safeguards the use of genuine parts.

Note:
LEIF® element can be used with mineral and HEES type oils.
For other fluids consult Parker Filtration.
LEIF® contributes to ISO 14001 quality standards.

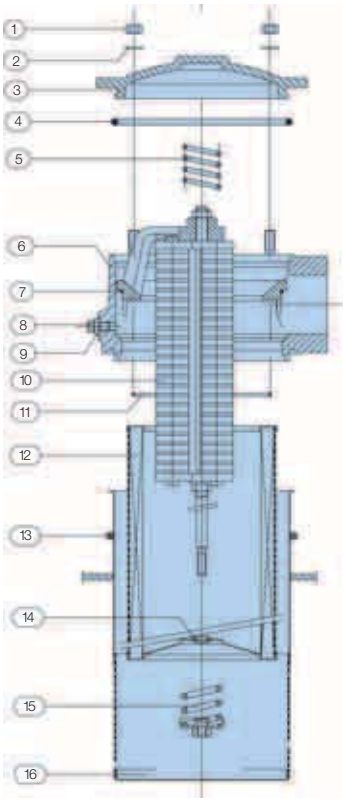
BGT-3 (*LEIF*® version)		
Ref.	**No.**	**Description**
1	1	Nut
2	1	Washer
3	1	Cover
4	1	Cover-seal
5	1	Top-spring
6	1	Housing
7	1	Insert-seal
8	1	Plug M10x1
9	1	Bonded seal
10	1	Insert
11	1	*LEIF*® element
12	1	Element sleeve
13	1	Gasket
14	1	O-ring
15	1	Bypass set
16	1	Diffuser

BGT-4 (conventional element)		
Ref.	**No.**	**Description**
1	1	Nut
2	1	Washer
3	1	Cover
4	1	Cover-seal
5	1	Top-spring
6	1	Housing
7	1	Insert-seal
8	1	Plug M10x1
9	1	Bonded seal
10	1	Insert
11	1	Element seal
12	1	Element
13	1	O-ring
14	1	O-ring
15	1	Bypass set
16	1	Diffuser

BGT-3 (*LEIF*® version)



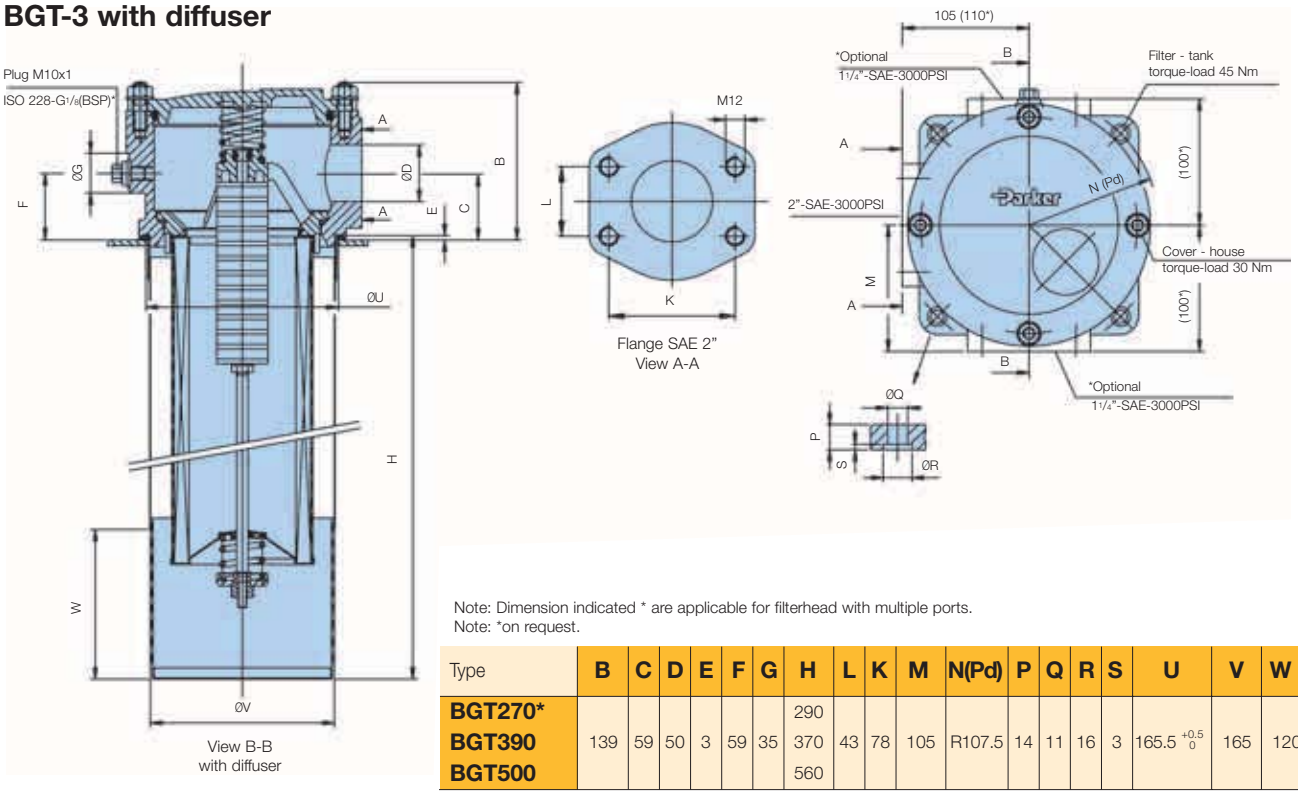
BGT-4 (conventional element)



BGT Series

Specification (cont.)

BGT-3 with diffuser

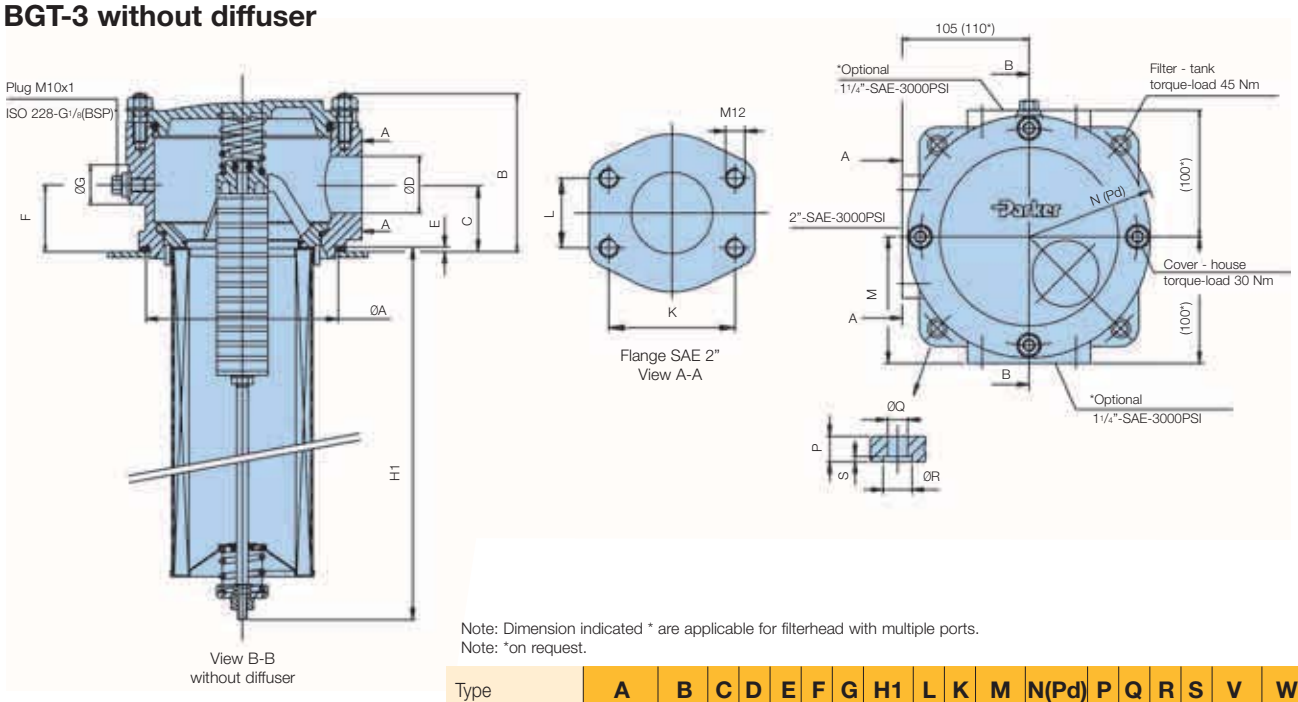


Note: Dimension indicated * are applicable for filterhead with multiple ports.
Note: *on request.

Type	B	C	D	E	F	G	H	L	K	M	N(Pd)	P	Q	R	S	U	V	W	Kg
BGT270*							290												6.7
BGT390	139	59	50	3	59	35	370	43	78	105	R107.5	14	11	16	3	$165.5^{+0.5}_{0}$	165	120	8.2
BGT500							560												10.1

Dimensions in mm

BGT-3 without diffuser



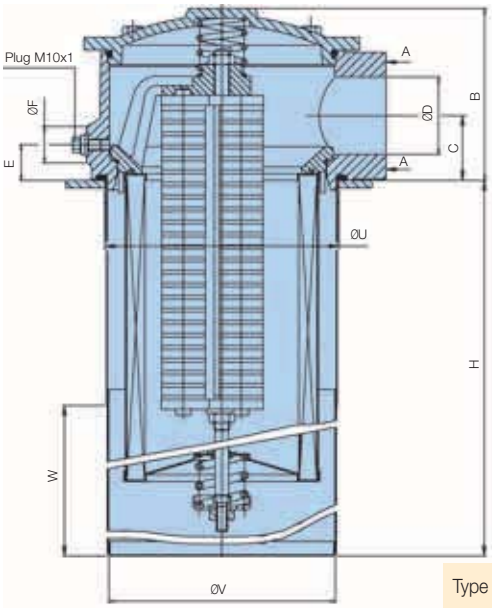
Note: Dimension indicated * are applicable for filterhead with multiple ports.
Note: *on request.

Type	A	B	C	D	E	F	G	H1	L	K	M	N(Pd)	P	Q	R	S	V	W	Kg
BGT270*								245											6.7
BGT390	$163.5^{+0.5}_{0}$	139	59	50	3	59	35	325	43	78	105	R107.5	14	11	16	3	165	120	8.2
BGT500								515											10.1

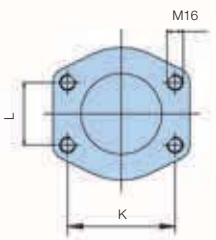
Dimensions in mm

Parker Hannifin
Filter Division Europe
FDHB200UK. Section 3

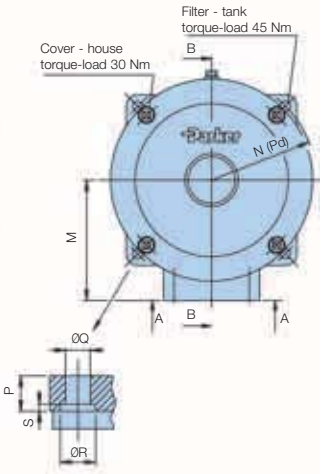
BGT-4 with diffuser



View B-B
with diffuser



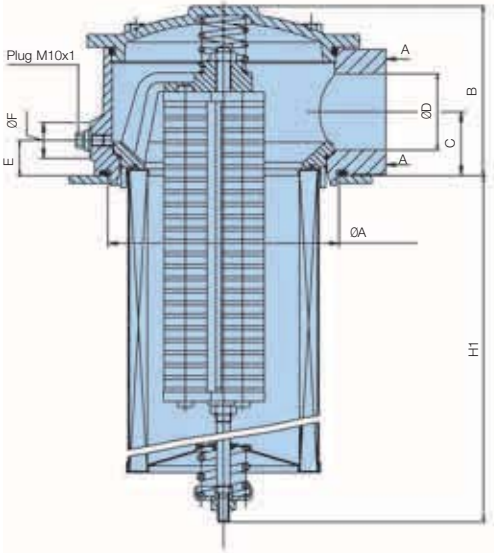
Flange SAE 3"
View A-A



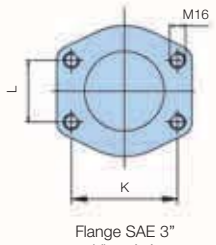
Type	B	C	ØD	E	ØF	H	K	L	M	N(Pd)	P	ØQ	ØR	S	ØU	ØV	W	Kg
BGT600						425												22.5
BGT800						535												25.5
BGT1000	178	67	80	37	40	640	106.4	62	170	R147.5	20	14	20	4	240.5 $^{+0.5}_{0}$	240	170	28.5
BGT1500						920												36.5
BGT2000						1200												44.0

Note: dimensions of BGT-2400 identical to BGT-2000. Dimensions in mm

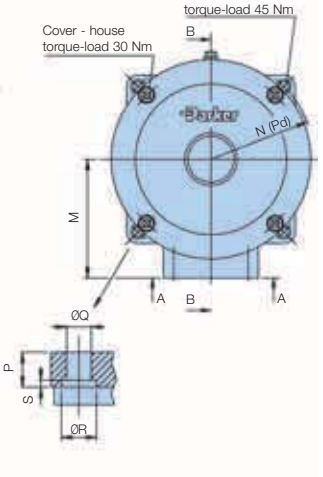
BGT-4 without diffuser



View B-B
without diffuser



Flange SAE 3"
View A-A



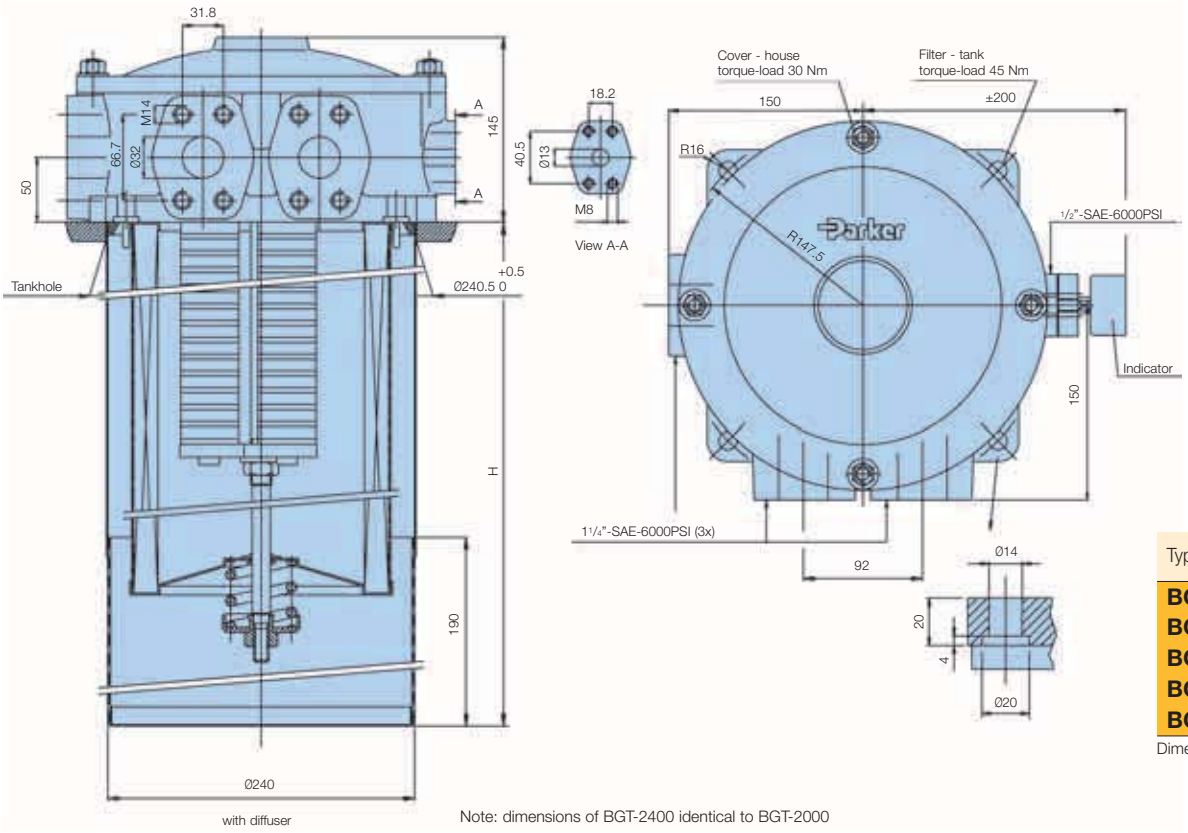
Type	ØA	B	C	ØD	E	ØF	H1	K	L	M	N(Pd)	P	ØQ	ØR	S	Kg
BGT600							385									20.5
BGT800							495									23.0
BGT1000	239.5 $^{+0.5}_{0}$	178	67	80	37	40	598	106.4	62	170	R147.5	20	14	20	4	25.5
BGT1500							878									30.0
BGT2000							1143									37.0

Note: dimensions of BGT-2400 identical to BGT-2000. Dimensions in mm

BGT Series

Specification (cont.)

BGT F1¼ manifold type - with diffuser

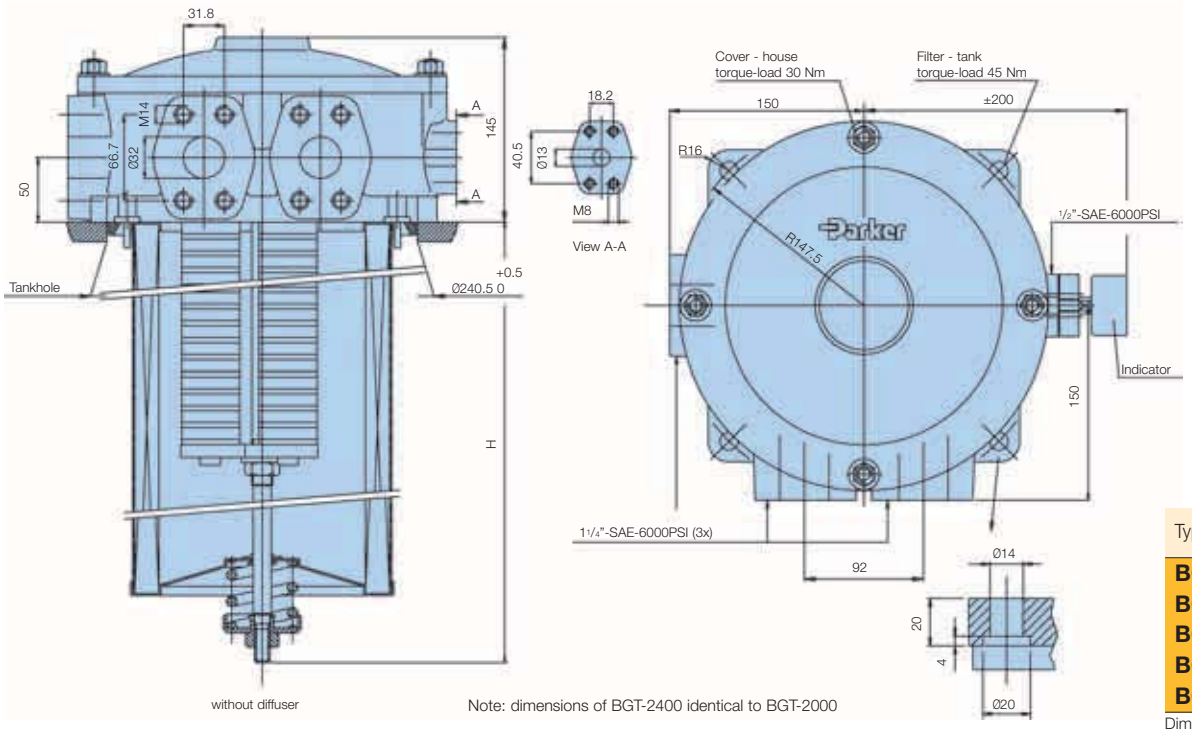


Note: dimensions of BGT-2400 identical to BGT-2000

Type	H
BGT600L	420
BGT800L	530
BGT1000L	635
BGT1500L	915
BGT2000L	1180

Dimensions in mm

BGT F1¼ manifold type - without diffuser



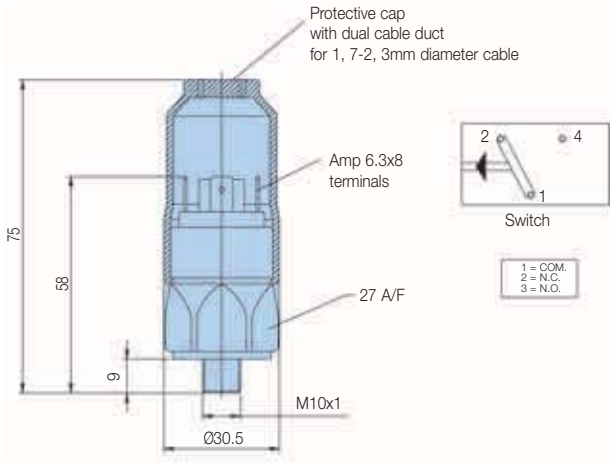
Note: dimensions of BGT-2400 identical to BGT-2000

Type	H
BGT600L	385
BGT800L	495
BGT1000L	598
BGT1500L	878
BGT2000L	1143

Dimensions in mm

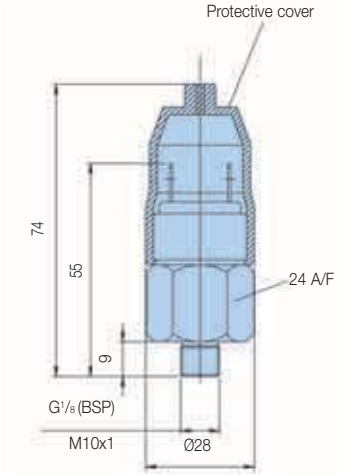
Indicator Options

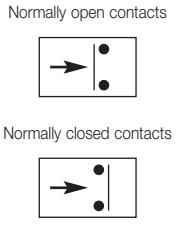
Indicator PS pressure switch



Specifications	
Elec.rating	42V / 4A
Thread connection	M10x1
Elec.connection	AMP 6.3x0.8 terminals + protective cap
Protection	IP65 (with cap) terminals IP00
Code	FMUS1EBMM10L (Switch)
Visual indicator	1.2 bar
M10 code	FMUS1EBMM10L
G1/8 code	FMUS4EBMG02L

Indicator PS NO/NC pressure switch





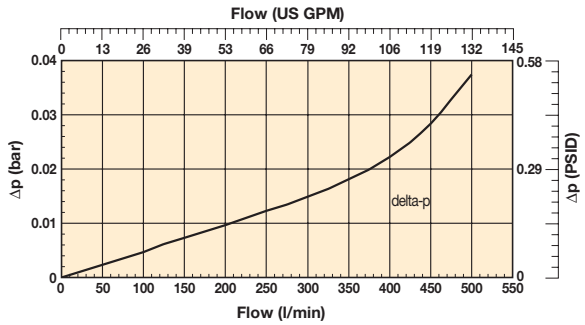
Specifications	
Elec.rating	42V / 2A
Thread connection	G1/8 - M10x1
Elec.connection	AMP terminal 6.3x0.8
Protection	IP65 (terminal IP00)
Switch type	NO or NC
Code	FMUS2EBMG02L (NO switch)
	FMUS3EBMG02L (NC switch)

Visual indicator	1.2 bar
M10 code	FMUG1EBPM10L
G1/8 code	FMUG2EBPG02L

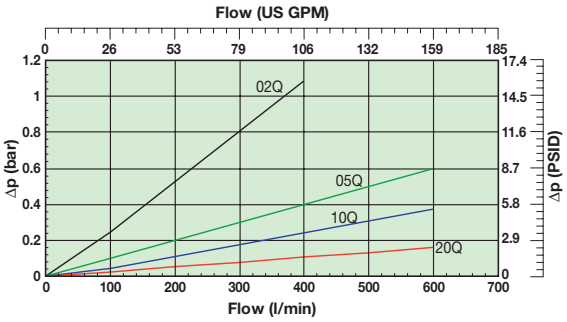
Pressure Drop Curves

The recommended level of the initial pressure drop for low pressure filters is max 0.5 bar.
If the medium used has a viscosity different from 32cSt, pressure drop over the filter can be estimated as follows:
Δp = (Δp32 x viscosity of medium used) / 32cSt.
Filter housing and element pressure drop based on 32cSt fluid viscosity and 0.87 density.

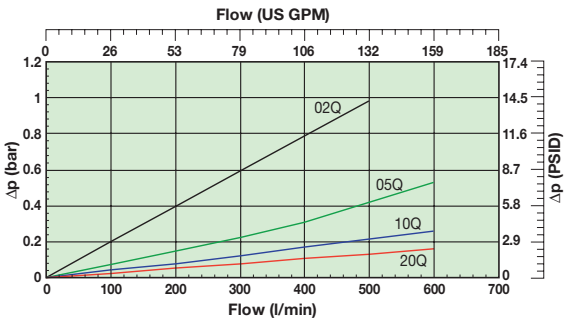
Empty Housing BGT-3 Series (2" SAE Flange)



BGT390 Filter Element Length 11



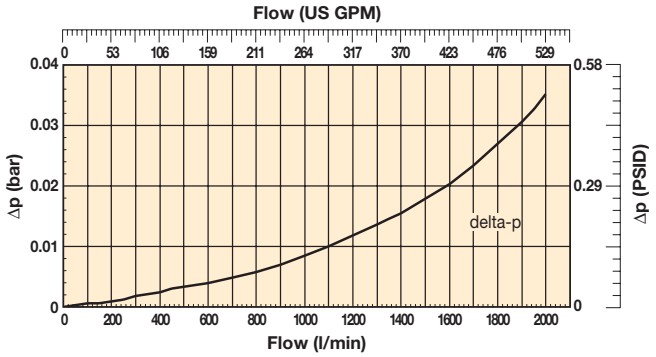
BGT500 Filter Element Length 12



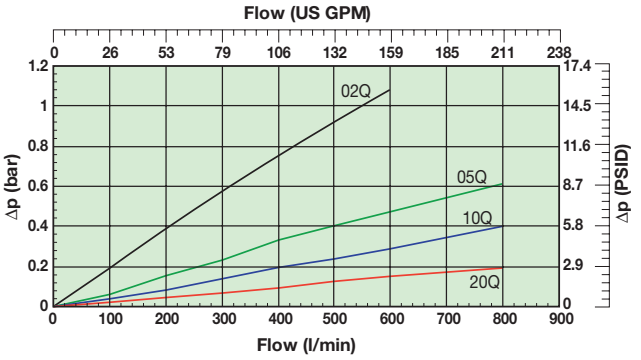
BGT Series

Pressure Drop Curves (cont.)

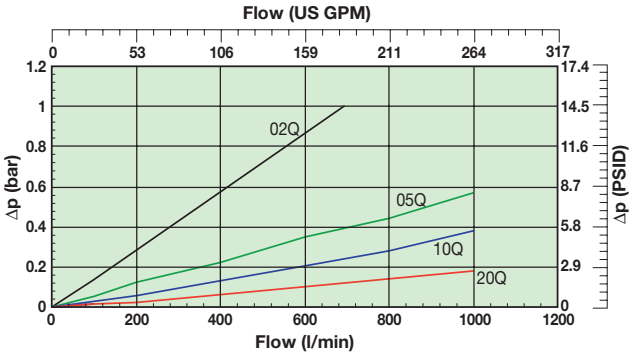
Empty Housing BGT-4 Series (3" SAE Flange)



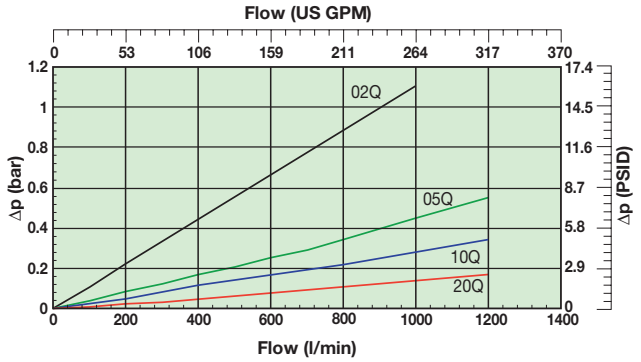
BGT600 Filter Element Length 13



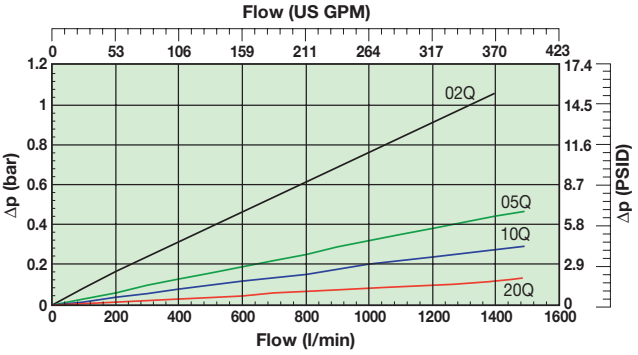
BGT800 Filter Element Length 14



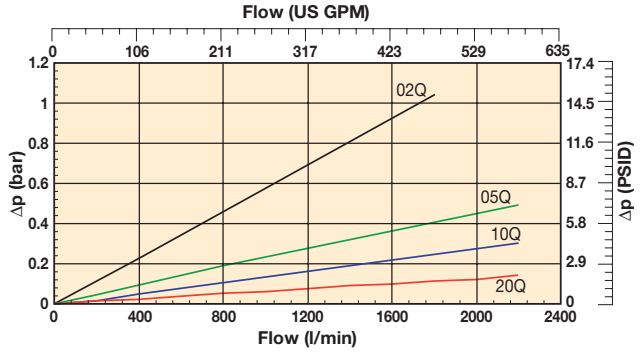
BGT1000 Filter Element Length 15



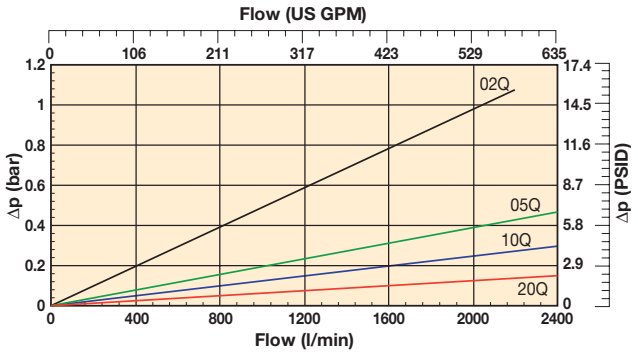
BGT1500 Filter Element Length 16



BGT2000 Filter Element Length 17

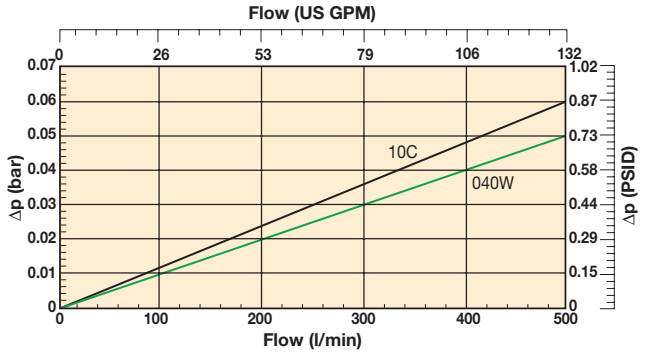


BGT2400 Filter Element Length 18

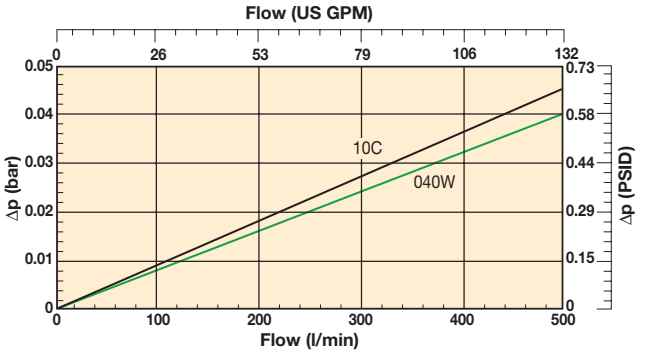


Pressure Drop Curves (cellulose and stainless steel media)

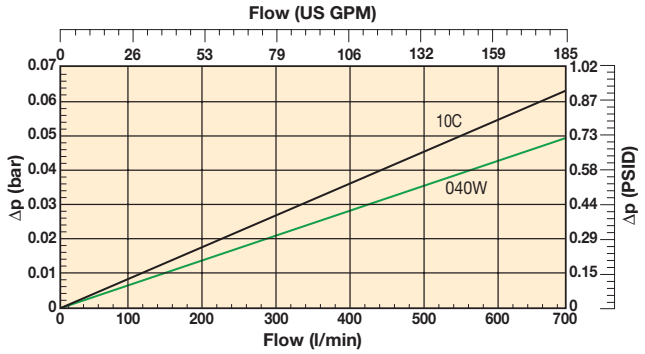
BGT390 Filter Element Length 11



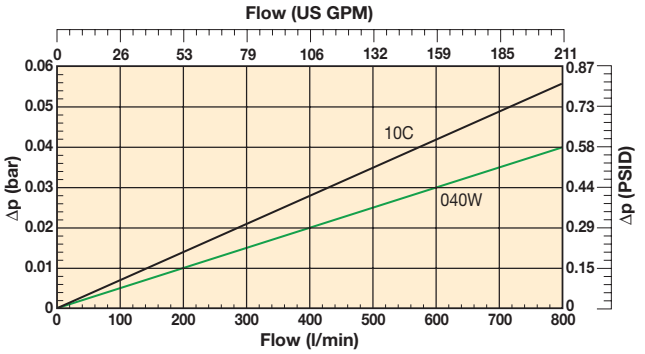
BGT500 Filter Element Length 12



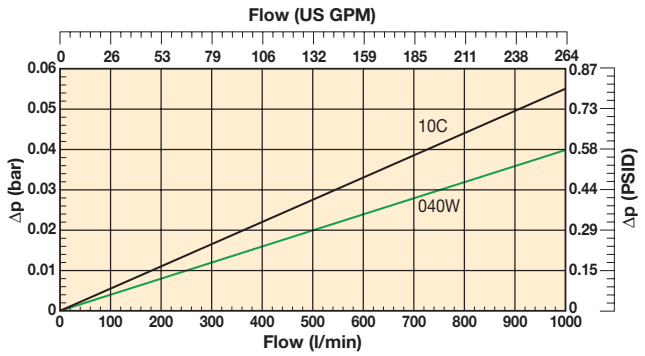
BGT600 Filter Element Length 13



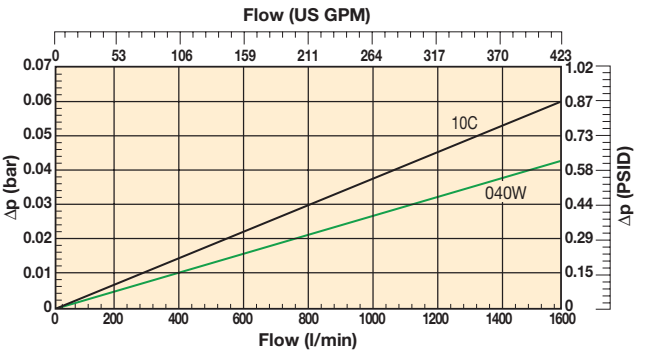
BGT800 Filter Element Length 14



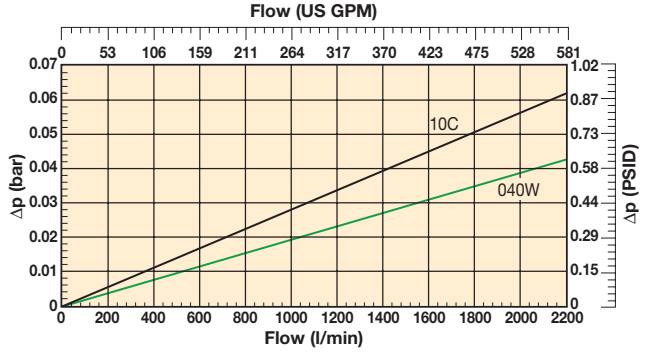
BGT1000 Filter Element Length 15



BGT1500 Filter Element Length 16



BGT2000 Filter Element Length 17



Cellulose and stainless steel media
Example: BGT2000 Filter Element Length 17 - cellulose and stainless steel media

BGT Series

Ordering Information

Standard products table

Part number	Supercedes	Flow (l/min)	Model number	Element length	Media rating (µ)	Seals	Indicator	Bypass settings	Ports	Included options	Replacement elements	Supercedes
BGT1210QLBP1ER323	BGTS500-S2 TXWL8C-10 T B15 M	500	BGT500	Length 12	10	Nitrile	Plugged	1.5 Bar (22 Psi)	2"SAE-3000 PSI	Diffuser type T	**937859Q**	TXWL8L-10
BGT1220QLBP1ER323	BGTS500-S2 TXWL8C-20 T B15 M	500	BGT500	Length 12	20	Nitrile	Plugged	1.5 Bar (22 Psi)	2"SAE-3000 PSI	Diffuser type T	**937868Q**	TXWL8L-20
BGT1510QLBP1ER483	BGTS1000-S3 TXWL12-10 T B15 M	1000	BGT1000	Length 15	10	Nitrile	Plugged	1.5 Bar (22 Psi)	2"SAE-3000 PSI	Diffuser type T	**937862Q**	TXWL12-10
BGT1520QLBP1ER483	BGTS1000-S3 TXWL12-20 T B15 M	1000	BGT1000	Length 15	20	Nitrile	Plugged	1.5 Bar (22 Psi)	2"SAE-3000 PSI	Diffuser type T	**937865Q**	TXWL12-20
BGT1710QBP1ER483	BGTS2000-S3 TXW14-10 T B15 M	2000	BGT2000	Length 17	10	Nitrile	Plugged	1.5 Bar (22 Psi)	2"SAE-3000 PSI	Diffuser type T	**937772Q**	TXW14-10B
BGT1720QBP1ER483	BGTS2000-S3 TXW14-20 T B15 M	2000	BGT2000	Length 17	20	Nitrile	Plugged	1.5 Bar (22 Psi)	2"SAE-3000 PSI	Diffuser type T	**937805Q**	TXW14-20B

Note: Filter assemblies ordered from the product configurator below are on extended lead times. Where possible, please make your selection from the table above.

Product configurator

Configurator examples filter including *LEIF*® element

Box 1	Box 2	Box 3	Box 4	Box 5	Box 6	Box 7	Box 8
BGT	**15**	**05QL**	**B**	**S1**	**E**	**R48**	**C**

Configurator examples filter including conventional element

Box 1	Box 2	Box 3	Box 4	Box 5	Box 6	Box 7	Box 8
BGT	**18**	**02Q**	**B**	**S4**	**E**	**3R20**	**4**

Box 1

Code
BGT

Box 2

Filter type	
Housing	**Code**
3-390 l/min	11
3-500 l/min	**12**
4-600 l/min	13
4-800 l/min	14
4-1000 l/min	**15**
4-1500 l/min	16
4-2000 l/min	**17**
4-2400 l/min	18

Box 3

Degree of filtration						
Element media		**Glass fibre**				
		Microglass III (for disposable elements)				
	Cellulose	Ecoglass III (for Leif® elements)				**Wire mesh**
	Nom. rating	2µ media	5µ media	10µ media	20µ media	Abs. rating
Disposable element	10C	02Q	05Q	**10Q**	**20Q**	040W
***LEIF*® element**		02QL	**05QL**	**10QL**	**20QL**	

Box 4

Seal type	
Seal material	**Code**
Nitrile	**B**
Fluorelastomer	V
Neoprene	N

Box 5

Indicator	
	Code
Pressure gauge, setting 1.2 bar, M10x1	**G1**
Pressure gauge, setting 1.2 bar, G1/8 for dual port head and TSR series	G2
Pressure switch 42V, 1.2 bar setting, NO/NC, M10x1	**S1**
Pressure switch 42V, 1.2 bar setting, NO with G1/8 BSP	S2
Pressure switch 42V, 1.2 bar setting, NC with G1/8 BSP	S3
Pressure switch 250V, NO/NC with G1/8	S4
Pressure switch 220V, NO/NC with M10	S5
No indicator, indicator ports not machined	N
No indicator, indicator port R plugged	**P**
No indicator, indicator ports L + R plugged	P2
Other settings for indicators / gauges on request	on request

Note: For all dual head ports for BGTS apply G1/8 connection for indicators

Box 6

Bypass valve	
Bypass valve	**Code**
0.8 bar	B
1.5 bar	**E**
2.0 bar for BGT-3 series	H
Blocked bypass	X
Other bypass settings	on request

Box 7

Filter connection	
Ports	**Code**
2" SAE BGT-3	**R32**
3" SAE BGT-4	**R48**
1x2" SAE flanged + 2x1 1/4" SAE flanged for BGT-3	R32M
3x1 1/4" SAE flanges + 1x1 1/2" SAE for BGT-4	3R20

Box 8

Options	
Options	**Code**
No diffuser required	**1**
Diffuser type T with perforated plate area	**3**
Diffuser type P without perforated plate area	4
Diffuser with integrated hose connection	on request
No magnets	5
Dipstick	6
Plugged filling port	8
Diffuser type T and no magnets	A
Diffuser type P and no magnets	B
Diffuser type T, no magnets, plugged filling port	C
Diffuser type P, no magnets, plugged filling port	D
Other combinations	on request

Highlights Key (Denotes part number availability)

123	Item is standard
123	Item is standard with "green" options
123	Item is semi standard
123	Item is non standard

Note: Standard items are in stock, semi standard items are available within four weeks

Note 1: Part numbers featured with bold highlighted codes will ensure a 'standard' product selection.
Note 2: Alternate displayed part number selection will require you to contact Parker Filtration for availability.

Parker Hannifin (UK) Limited
Filter Division Europe
FDHB200UK. Section 3

Ordering Information (cont.)

Degree of filtration						Media code
Average filtration beta ratio ß (ISO 16889) / particle size µm [c]						
ßx(c)=2	ßx(c)=10	ßx(c)=75	ßx(c)=100	ßx(c)=200	ßx(c)=1000	
% efficiency, based on the above beta ratio (ßx)						
50.0%	90.0%	98.7%	99.0%	99.5%	99.9%	
N/A	N/A	N/A	N/A	N/A	4.5	**02Q/02QL**
N/A	N/A	4.5	5	6	7	**05Q/05QL**
N/A	6	8.5	9	10	12	**10Q/10QL**
6	11	17	18	20	22	**20Q/20QL**

Supercedes spare element table				
BGT390	TXWL8A-2	TXWL8A-5	TXWL8A-10	TXWL8A-20
Part number spare element	937832Q	937843Q	937858Q	937869Q
BGT500	TXWL8C-2	TXWL8C-5	TXWL8C-10	TXWL8C-20
Part number spare element	937833Q	937842Q	937859Q	937868Q
BGT600	TXWL10-2	TXWL10-5	TXWL10-10	TXWL10-20
Part number spare element	937834Q	937841Q	937860Q	937867Q
BGT800	TXWL11-2	TXWL11-5	TXWL11-10	TXWL11-20
Part number spare element	937835Q	937840Q	937861Q	937866Q
BGT1000	TXWL12-2	TXWL12-5	TXWL12-10	TXWL12-20
Part number spare element	937836Q	937839Q	937862Q	937865Q
BGT1500	TXWL13-2	TXWL13-5	TXWL13-10	TXWL13-20
Part number spare element	937837Q	937838Q	937863Q	937864Q

Supercedes spare element table						
BGT390	TXX8A-10-B	TXWL8A-2-B	TXWL8A-5-B	TXWL8A-10-B	TXWL8A-20-B	ST8A-40-B
Part number spare element	937728	937742Q	937763Q	937778Q	937799Q	937813
BGT500	TXX8C-10-B	TXWL8C-2-B	TXWL8C-5-B	TXWL8C-10-B	TXWL8C-20-B	ST8C-40-B
Part number spare element	937729	937741Q	937764Q	937777Q	937800Q	937812
BGT600	TXX10-10-B	TXWL10-2-B	TXWL10-5-B	TXWL10-10-B	TXWL10-20-B	ST10-40-B
Part number spare element	937730	937740Q	937765Q	937776Q	937801Q	937811
BGT800	TXX11-10-B	TXWL11-2-B	TXWL11-5-B	TXWL11-10-B	TXWL11-20-B	ST11-40-B
Part number spare element	937731	937739Q	937766Q	937775Q	937802Q	937810
BGT1000	TXX12-10-B	TXWL12-2-B	TXWL12-5-B	TXWL12-10-B	TXWL12-20-B	ST12-40-B
Part number spare element	937732	937738Q	937767Q	937774Q	937803Q	937809
BGT1500	TXX13-10-B	TXWL13-2-B	TXWL13-5-B	TXWL13-10-B	TXWL13-20-B	ST13-40-B
Part number spare element	937733	937737Q	937768Q	937773Q	937804Q	937808
BGT2000	TXX14-10-B	TXW14-2-B	TXW14-5-B	TXW14-10-B	TXW14-20-B	ST14-40-B
Part number spare element	937734	937736Q	937769Q	937772Q	937805Q	937807
BGT2400	-	TXWH14-2-B	TXWH14-5-B	TXWH14-10-B	TXWH14-20-B	-
Part number spare element		937735Q	937770Q	937771Q	937806Q	

Clearing the way for a greener future

Image courtesy of Johnston Sweepers

ENVIRONMENTALLY-FRIENDLY FILTRATION SOLUTIONS

Trust Parker to provide you with a range of 'green' filter products that impact positively on the environment. With the new E-series your customers benefit from a solution that's smarter, safer and more responsible when it comes to filtration.

By significantly reducing waste levels, the E-Series is designed to increase the lifespan of hydraulic machinery. The Suction Return filter series features *LEIF*® elements that can be crushed and incinerated. By reducing bulk for disposal and recycling the material, this cost-effective solution contributes to a safer, cleaner environment.

Through Parker's advanced Laser CM technology, all vehicle operators can monitor fluid contamination on-site through a simple two minute test. This accurate monitoring method helps prevent catastrophic failure in critical systems instantly.

When it comes to filtration solutions you can rely on - the future is Parker.

Enjoy the benefits of 'green' filtration, email filtrationinfo@parker.com

www.parker.com/eurofilt

Parker
anything possible

Aerospace | Automation | Climate & Industrial Controls | **Filtration** | Fluid Connectors | Hydraulics | Instrumentation | Seal

In-Tank Mounted Return Line Filters

IN-AGB Series

MAX 2400 l/min

In-Tank Mounted Return Line Filters

IN-AGB Series

Features & Benefits

Features	Advantages	Benefits
Filter integrated in tank	Compact low cost solution Filter protected by reservoir	Suitable for extreme heavy duty applications or hazardous environments
		No tank top parts contributes to improved esthetical design
LEIF® elements	Patented element safeguards the use of genuine parts	Guaranteed quality of filtration
		Contributes to ISO 14001 certification
Magnetic pre-filtration	Removes ferro particles, even during bypass conditions	Improved fluid cleanliness levels
		Extended element life time
In-to-Out filtration	All captured contamination retains inside the element	No recontamination of system during change of elements
High level of customisation	Dedicated system-matched solutions can be easily made available	Improved integration of filter in system combined with lower initial system costs
Full flow bypass with low hysteresis	Reduction of bypass period due to low hysteresis	Improved protection of system
	Only a small part of the total flow is bypassing the element	
Standard or customised funnel	Ensures that oil enters the tank under the oil level	Significant reduction of oil foaming

Typical Applications

- Agricultural machines
- Articulated dump trucks
- Forestry equipment
- Wheeled loaders
- Lubrication systems
- Excavators

The Parker Filtration IN-AGB In-Tank Mounted Return Line Filters.

The low-cost, high-performance return line IN-AGB filter features Q3 filter media, a bypass construction with low hysteresis, magnetic pre-filtration and a high dirt-holding capacity. The range is capable of handling flow rates from 30 l/min up to 2400 l/min. *LEIF*® elements are available for flow rates up to 1500 l/min, meeting the most stringent demands for environmentally-friendly filtration and offering protection against poor quality pirate elements.

Specification

Assembly:
Inside tank.

Seal material:
Nitrile, fluoroelastomer, neoprene.

Operating temperature range:
-40° to +120°C.

Bypass setting:
0.8/1.5 and 2.0 bar.
Other settings on request.

Degree of filtration:
Determined by multipass test according to ISO 16889.

Flow fatigue characteristics:
Filter media is supported so that the optimal fatigue life is achieved.

Filtration media:
Microglass III, Ecoglass III for *LEIF*® elements
Also available 10µm Cellulose and 40µm stainless steel mesh.

Element collapse rating:
10 bar (ISO 2941).

Options:
Diffuser with and without (type P) perforated flow area for optimum flow path in the reservoir.

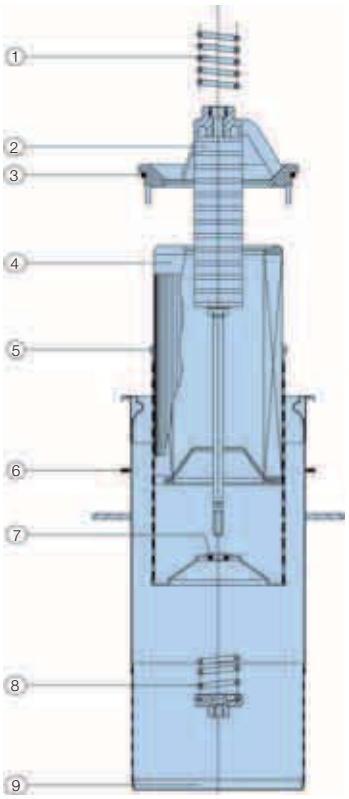
Magnetic pack:
Standard.
Note: IN-AGB 2-400 and 2-500 are standard supplied without magnets.

Filter element:
LEIF® element with reusable metal element sleeve.
Optional conventional style element with steel end caps.
The *LEIF*® element is patented and safeguards the use of genuine parts.
Note: *LEIF*® element can be used with mineral and HEES type oils.
For other fluids consult Parker Filtration.
LEIF® contributes to ISO 14001 quality standards.

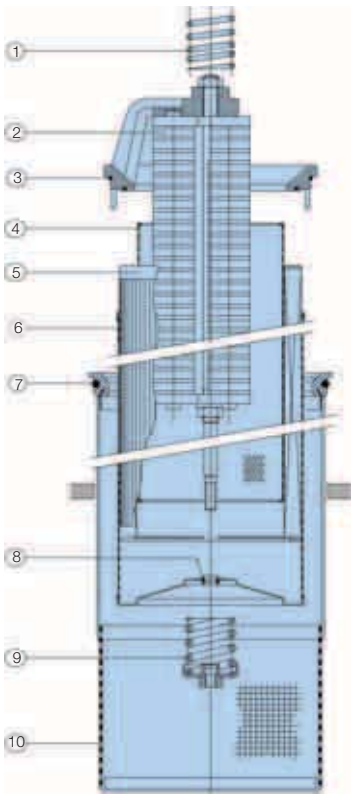
Insert-AGB *LEIF*® 3 series		
Ref.	**No.**	**Description**
1	1	Top-spring
2	1	Insert
3	1	Insert-seal
4	1	*LEIF*® Element
5	1	Sleeve
6	1	Gasket
7	1	O-ring
8	1	Bypass set
9	1	Diffuser

Insert-AGB *LEIF*® 4 series		
Ref.	**No.**	**Description**
1	1	Top-spring
2	1	Insert
3	1	Insert-seal
4	1	Inner sleeve
5	1	*LEIF*®-element
6	1	Outer sleeve
7	1	O-ring
8	1	O-ring
9	1	Bypass set
10	1	Diffuser

1-3 Series

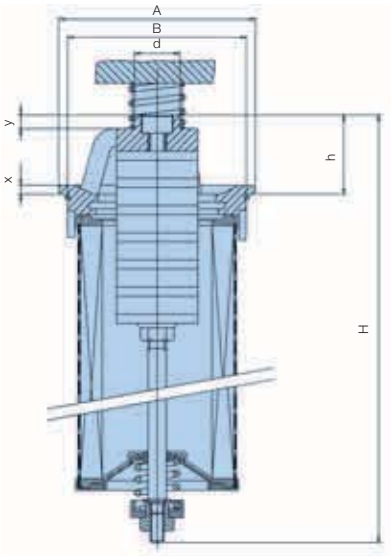


4 Series

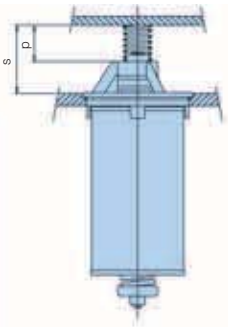


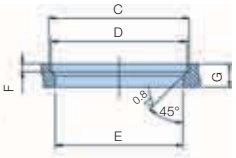
IN-AGB Series

Specification (cont.)



without diffuser

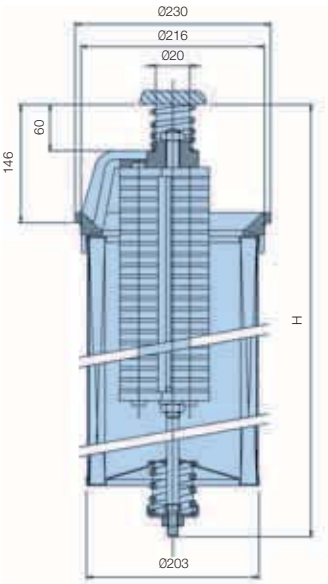


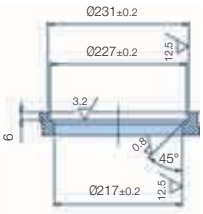


Mounting arrangement

	Type	A	B	H	h	d	x	y	s	p	C	D	E	F	G
1 Series	**IN30**	87	79	122	35	20	4	6	45	20	88	85	80	4	12
	IN60	87	79	173	35	20	4	6	45	20	88	85	80	4	12
	IN90	87	79	217	35	20	4	6	45	20	88	85	80	4	12
	IN120	87	79	267	35	20	4	6	45	20	88	85	80	4	12
	IN125	87	79	381	35	20	4	6	45	20	88	85	80	4	12
2 Series	**IN170**	125	116	284	48	25	5	8	77	42	126	122	117	5	15
	IN230	125	116	360	48	25	5	8	77	42	126	122	117	5	15
	IN300	125	116	559	48	25	5	8	77	42	126	122	117	5	15
	IN400	125	116	579	48	25	5	8	77	42	126	122	117	5	15
	IN500	125	116	599	48	25	5	8	77	42	126	122	117	5	15
3 Series	**IN270**	150	138	325	62	30	7	12	100	55	151	149	139	5	18
	IN390	150	138	407	62	30	7	12	100	55	151	149	139	5	18
	IN500	150	138	599	62	30	7	12	100	55	151	149	139	5	18

Dimensions in mm

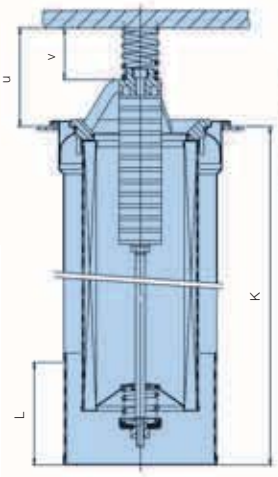




without diffuser

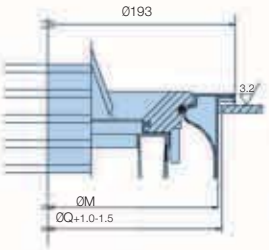
Type	H
IN600	543
IN800	653
IN1000	758
IN1500	1038
IN2000	1303
IN2400	1303

Dimensions in mm

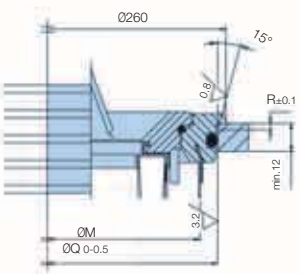


with diffuser

IN-AGB 3



IN-AGB 4



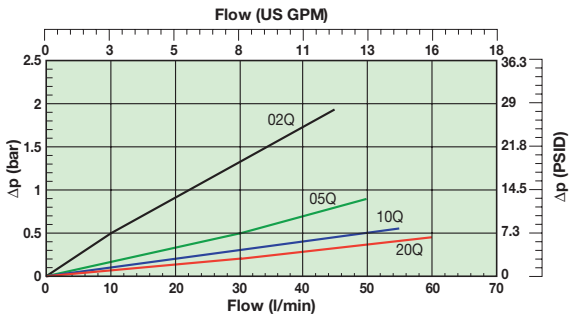
	Type	K	L	M	U	V	Q	R
3 Series	**IN270**	324	110	175	106	55	178	
	IN390	364	110	175	106	55	178	
	IN500 (3)	554	125	175	106	55	178	
4 Series	**IN600**	445	183	239	145	60	250.5	2.5
	IN800	555	183	239	145	60	250.5	2.5
	IN1000	660	183	239	145	60	250.5	2.5
	IN1500	940	183	239	145	60	250.5	2.5
	IN2000	1220	183	239	145	60	250.5	2.5
	IN2400	1220	183	239	145	60	250.5	2.5

Dimensions in mm

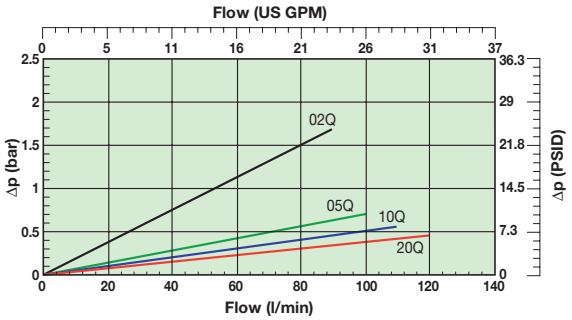
Pressure Drop Curves

The recommended level of the initial pressure drop for low pressure filters is max 0.5 bar.
If the medium used has a viscosity different from 32cSt, pressure drop over the filter can be estimated as follows:
Δp = (Δp32 x viscosity of medium used) / 32cSt.
Filter housing and element pressure drop based on 32cSt fluid viscosity and 0.87 density.

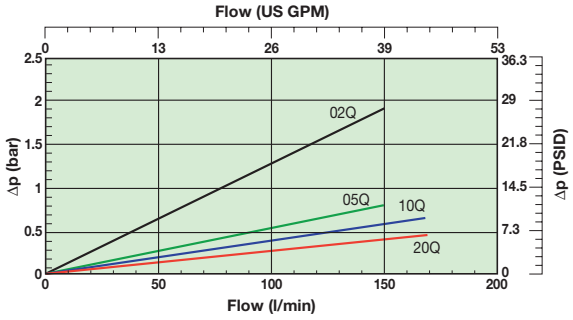
IN30 Filter Element Length 0



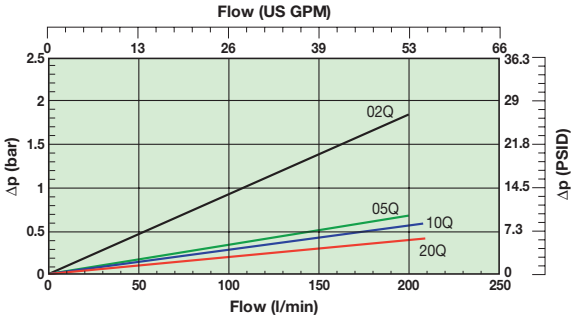
IN60 Filter Element Length 2



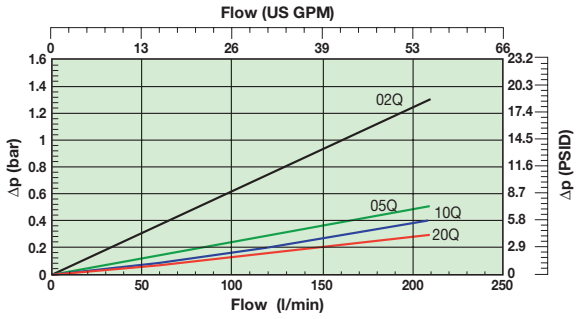
IN90 Filter Element Length 3



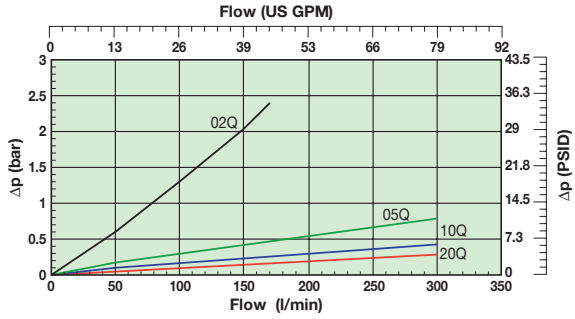
IN120 Filter Element Length 4



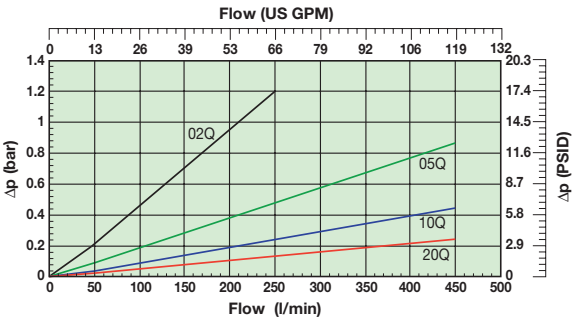
IN125 Filter Element Length 5



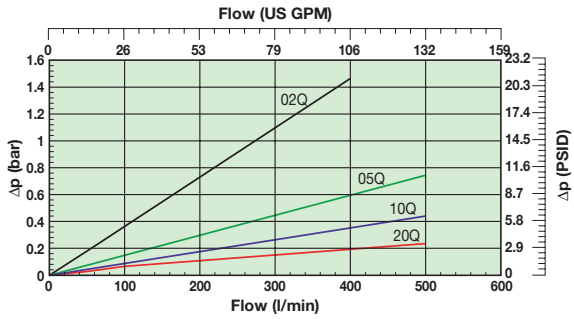
IN170 Filter Element Length 6



IN230 Filter Element Length 7



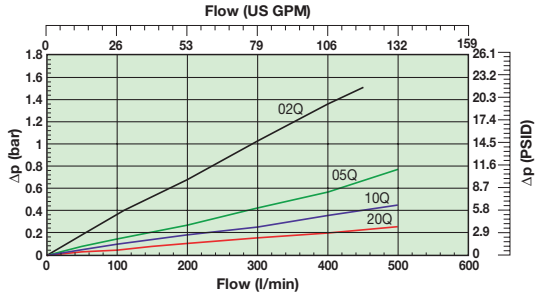
IN300 Filter Element Length 8



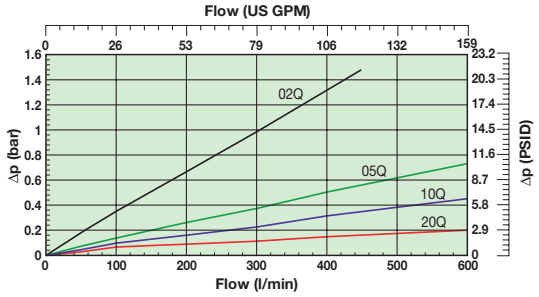
IN-AGB Series

Pressure Drop Curves (cont.)

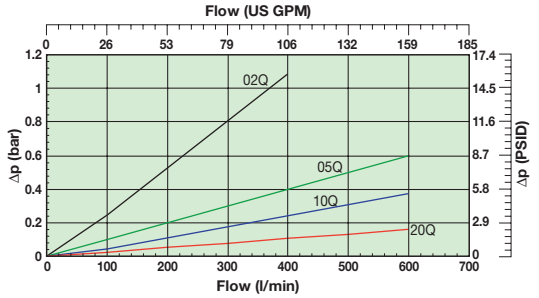
IN400 Filter Element Length 9



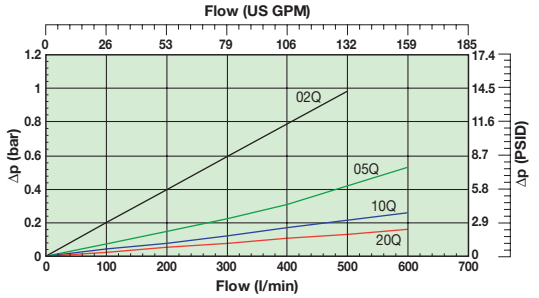
IN500 (2) Filter Element Length 10



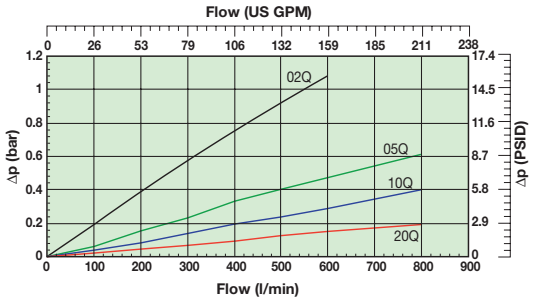
IN390 Filter Element Length 11



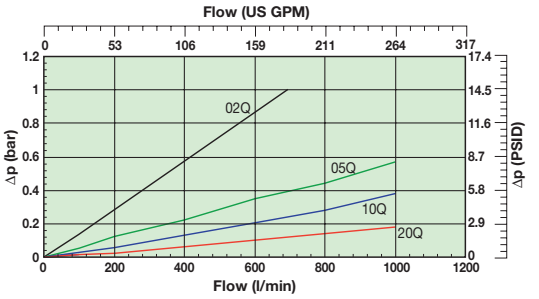
IN500 (3) Filter Element Length 12



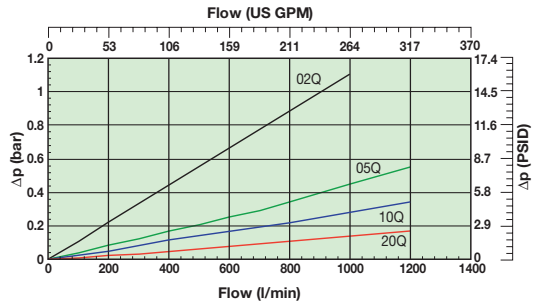
IN600 Filter Element Length 13



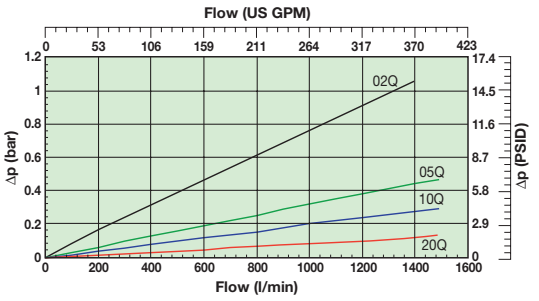
IN800 Filter Element Length 14



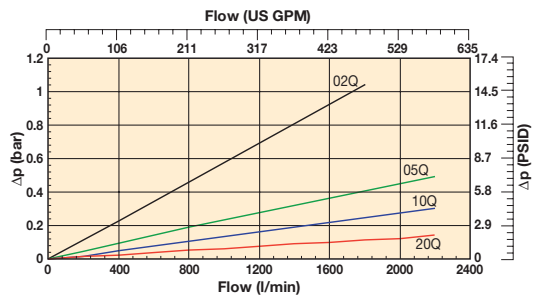
IN1000 Filter Element Length 15



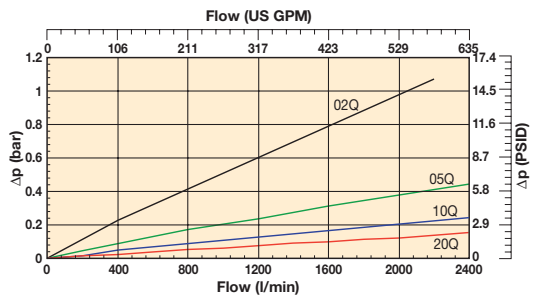
IN1500 Filter Element Length 16



IN2000 Filter Element Length 17

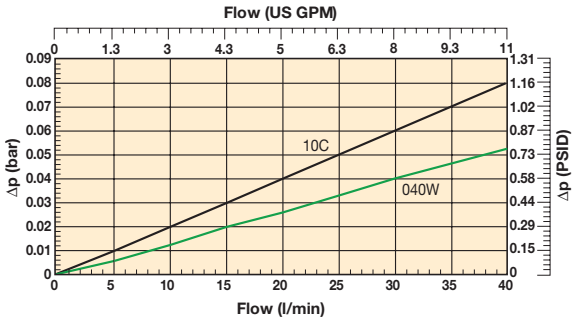


IN2400 Filter Element Length 18

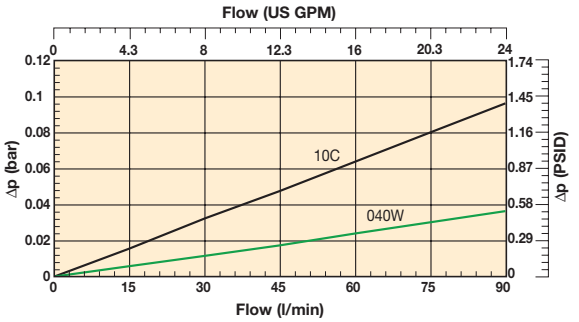


Pressure Drop Curves (cellulose and stainless steel media)

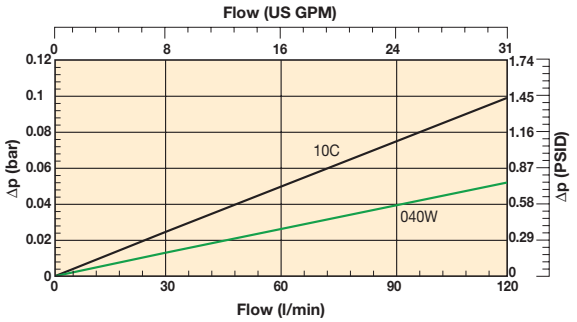
IN30 Filter Element Length 0



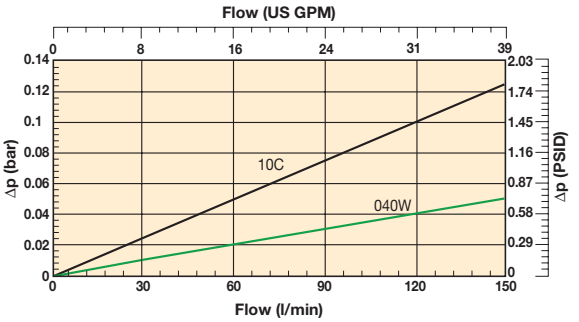
IN30 Filter Element Length 2



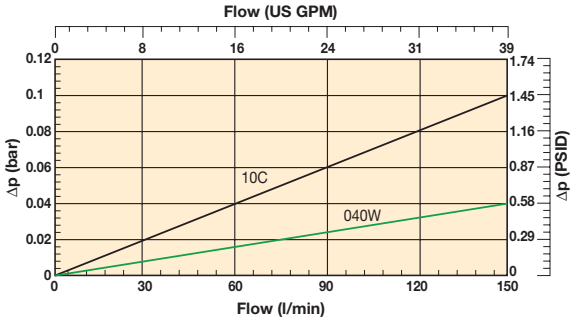
IN90 Filter Element Length 3



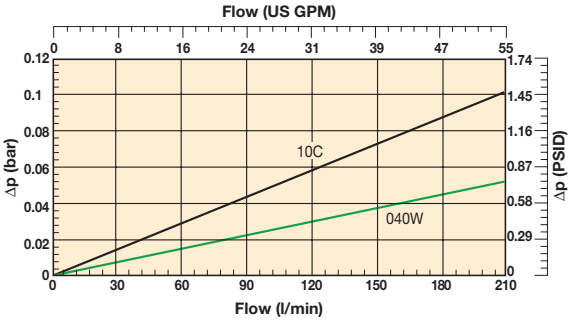
IN120 Filter Element Length 4



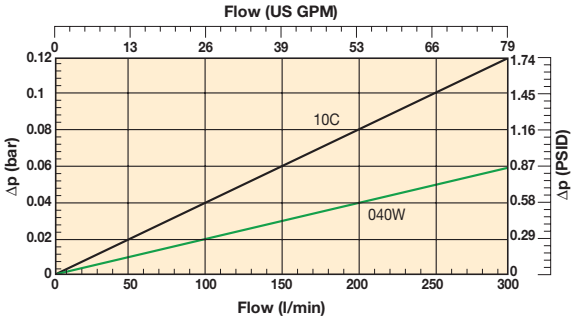
IN125 Filter Element Length 5



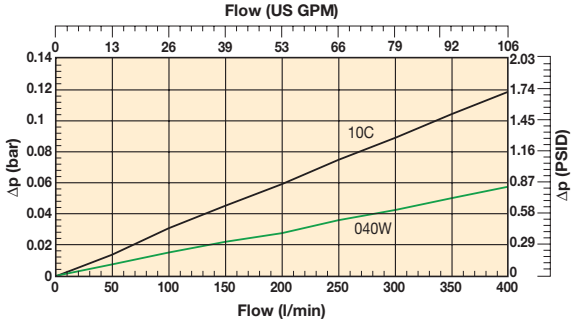
IN170 Filter Element Length 6



IN230 Filter Element Length 7



IN300 Filter Element Length 8

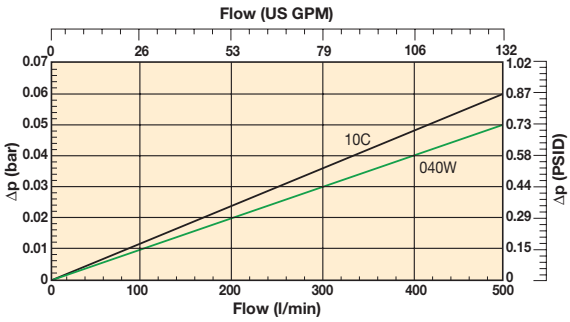


Cellulose and stainless steel media
Example: IN300 Filter Element Length 8 - Cellulose and stainless steel media

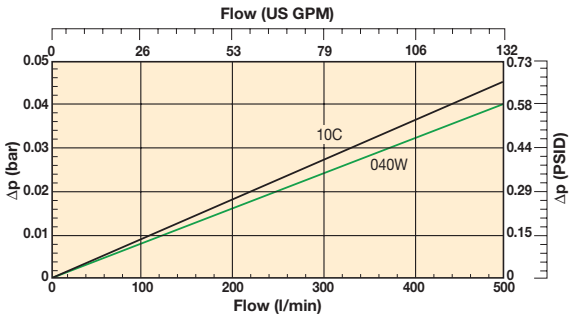
IN-AGB Series

Pressure Drop Curves (cellulose and stainless steel media)

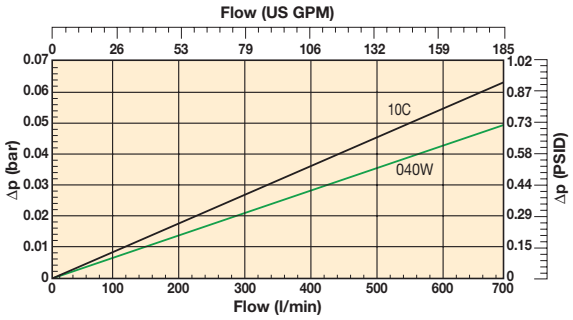
IN390 Filter Element Length 11



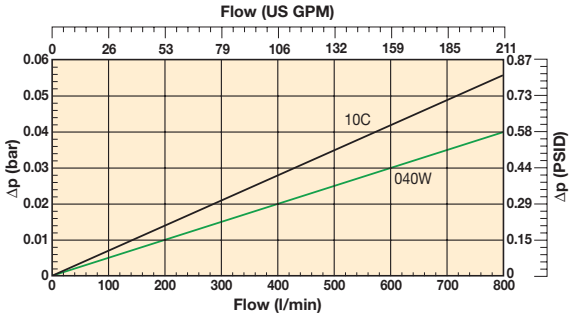
IN500 (3) Filter Element Length 12



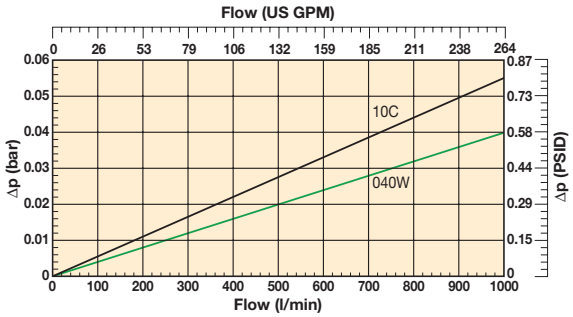
IN600 Filter Element Length 13



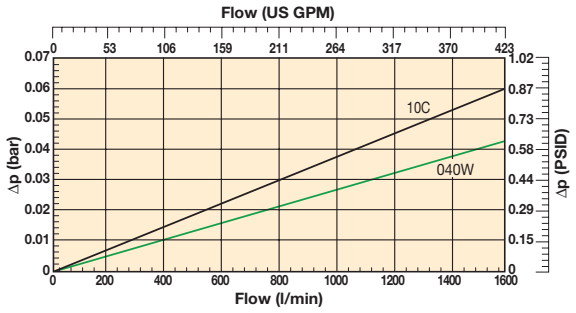
IN800 Filter Element Length 14



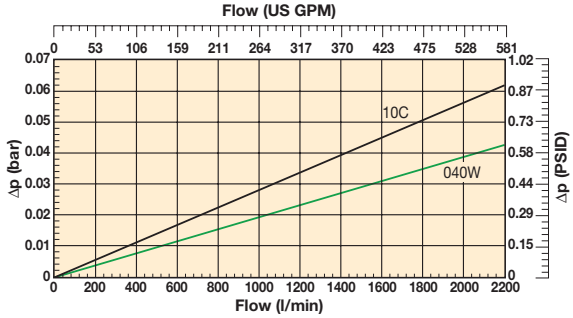
IN1000 Filter Element Length 15



IN1500 Filter Element Length 16



IN2000 Filter Element Length 17



Cellulose and stainless steel media
Example: IN300 Filter Element Length 8 - Cellulose and stainless steel media

Ordering Information

Standard products table

Part number	Supercedes	Flow (l/min)	Model number	Element length	Media rating (µ)	Seals	Indicator	Bypass settings	Ports	Included options	Replacement elements	Supercedes
IN310QLBNEXXX1	IN90-TXWL3-10B15	90	IN90	Length 3	10	Nitrile	NA	1.5 Bar (22 Psi)	NA	None	**937878Q**	TXWL3-10
IN320QLBNEXXX1	IN90-TXWL3-20 B15	90	IN90	Length 3	20	Nitrile	NA	1.5 Bar (22 Psi)	NA	None	**937877Q**	TXWL3-20
IN510QLBNEXXX1	IN125-TXWL3E-10 B15	125	IN125	Length 5	10	Nitrile	NA	1.5 Bar (22 Psi)	NA	None	**937852Q**	TXWL3E-10
IN520QLBNEXXX1	IN125-TXWL3E-20 B15	125	IN125	Length 5	20	Nitrile	NA	1.5 Bar (22 Psi)	NA	None	**937875Q**	TXWL3E-20
IN610QLBNEXXX1	IN170-TXWL4-10 B15	170	IN170	Length 6	10	Nitrile	NA	1.5 Bar (22 Psi)	NA	None	**937853Q**	TXWL4-10
IN620QLBNEXXX1	IN170-TXWL4-20 B15	170	IN170	Length 6	20	Nitrile	NA	1.5 Bar (22 Psi)	NA	None	**937874Q**	TXWL4-20
IN810QLBNEXXX3	IN300-TXWL5A-10 T B15	300	IN300	Length 8	10	Nitrile	NA	1.5 Bar (22 Psi)	NA	Diffuser type T	**937855Q**	TXWL5A-10
IN820QLBNEXXX3	IN300-TXWL5A-20 T B15	300	IN300	Length 8	20	Nitrile	NA	1.5 Bar (22 Psi)	NA	Diffuser type T	**937872Q**	TXWL5A-20
IN1210QLBNEXXX3	IN500-TXWL8C-10 T B15	500	IN500	Length 12	10	Nitrile	NA	1.5 Bar (22 Psi)	NA	Diffuser type T	**937859Q**	TXWL8C-10
IN1220QLBNEXXX3	IN500-TXWL8C-20 T B15	500	IN500	Length 12	20	Nitrile	NA	1.5 Bar (22 Psi)	NA	Diffuser type T	**937868Q**	TXWL8C-20
IN1510QLBNEXXX3	IN1000-TXWL12-10 T B15	1000	IN1000	Length 15	10	Nitrile	NA	1.5 Bar (22 Psi)	NA	Diffuser type T	**937862Q**	TXWL12-10
IN1520QLBNEXXX3	IN1000-TXWL12-20 T B15	1000	IN1000	Length 15	20	Nitrile	NA	1.5 Bar (22 Psi)	NA	Diffuser type T	**937865Q**	TXWL12-20
IN1710QBNEXXX3	IN2000-TXW14-10-B T B15	2000	IN2000	Length 17	10	Nitrile	NA	1.5 Bar (22 Psi)	NA	Diffuser type T	**937772Q**	TXW14-10B
IN1720QBNEXXX3	IN2000-TXW14-20-B T B15	2000	IN2000	Length 17	20	Nitrile	NA	1.5 Bar (22 Psi)	NA	Diffuser type T	**937805Q**	TXW14-20B

Note: Filter assemblies ordered from the product configurator below are on extended lead times. Where possible, please make your selection from the table above.

Product configurator

Configurator example filter including *LEIF*® element

Box 1	Box 2	Box 3	Box 4	Box 5	Box 6	Box 7	Box 8
IN	**10**	**05QL**	**V**	**N**	**H**	**B**	**1**

Configurator example filter including conventional element

Box 1	Box 2	Box 3	Box 4	Box 5	Box 6	Box 7	Box 8
IN	**18**	**20Q**	**B**	**N**	**H**	**B**	**3**

Box 1

Code
IN

Box 2

Filter type	
Housing	**Code**
1-30 l/min	0
1-60 l/min	2
1-90 l/min	**3**
1-120 l/min	4
1-125 l/min	**5**
2-170 l/min	**6**
2-230 l/min	7
2-300 l/min	**8**
2-400 l/min	9
2-500 l/min	**10**
3-390 l/min	11
3-500 l/min	**12**
4-600 l/min	13
4-800 l/min	14
4-1000 l/min	**15**
4-1500 l/min	16
4-2000 l/min	**17**
4-2400 l/min	18

Box 3

Degree of filtration						
Element media		**Glass fibre**				
		Microglass III (for disposable elements)				
	Cellulose	Ecoglass III (for Leif® elements)				**Wire mesh**
	Nom. rating	2µ media	5µ media	10µ media	20µ media	Abs. rating
Disposable element	10C	02Q	05Q	**10Q**	**20Q**	040W
***LEIF*® element**		02QL	**05QL**	**10QL**	**20QL**	

Box 4

Seal type	
Seal material	**Code**
Nitrile	**B**
Fluoroelastomer	V
Neoprene	N

Box 5

Indicator	
	Code
No indicator	**N**

Box 6

Bypass valve	
Bypass valve	**Code**
0.8 bar	B
1.5 bar	**E**
2.0 bar for IN-AGB 1, 2 or 3 series	H
Blocked bypass	X
Other bypass settings	on request

Box 7

Filter connection	
Ports	**Code**
No ports applicable	**XXX**

Box 8

Options	
Options	**Code**
No diffuser required	**1**
Diffuser type T with perforated plate area	**3**
Diffuser type P without perforated plate area	4
No magnets	5
Diffuser type T and no magnets	A
Diffuser type P and no magnets	B

Note: IN-AGB size 2-400 and 2-500 are standard supplied without magnets

Highlights Key (Denotes part number availability)

123	Item is standard
123	Item is standard with “green” options
123	Item is semi standard
123	Item is non standard

Note: Standard items are in stock, semi standard items are available within four weeks

Note 1: Part numbers featured with bold highlighted codes will ensure a ‘standard’ product selection.
Note 2: Alternate displayed part number selection will require you to contact Parker Filtration for availability.

IN-AGB Series

Ordering Information (cont.)

Degree of filtration						Media code
Average filtration beta ratio ß (ISO 16889) / particle size µm [c]						
ßx(c)=2	ßx(c)=10	ßx(c)=75	ßx(c)=100	ßx(c)=200	ßx(c)=1000	
% efficiency, based on the above beta ratio (ßx)						
50.0%	90.0%	98.7%	99.0%	99.5%	99.9%	
N/A	N/A	N/A	N/A	N/A	4.5	02Q/02QL
N/A	N/A	4.5	5	6	7	05Q/05QL
N/A	6	8.5	9	10	12	10Q/10QL
6	11	17	18	20	22	20Q/20QL

Supercedes spare element table				
IN30	TXWL-2	TXWL-5	TXWL-10	TXWL-20
Part number spare element	937822Q	937885Q	937884Q	937883Q
IN60	TXWL2-2	TXWL2-5	TXWL2-10	TXWL2-20
Part number spare element	937823Q	937880Q	937881Q	937882Q
IN90	TXWL3-2	TXWL3-5	TXWL3-10	TXWL3-20
Part number spare element	937824Q	937879Q	937878Q	937877Q
IN120	TXWL3D-2	TXWL3D-5	TXWL3D-10	TXWL3D-20
Part number spare element	937825Q	937850Q	937851Q	937876Q
IN125	TXWL3E-2	TXWL3E-5	TXWL3E-10	TXWL3E-20
Part number spare element	937826Q	937849Q	937852Q	937875Q
IN170	TXWL4-2	TXWL4-5	TXWL4-10	TXWL4-20
Part number spare element	937827Q	937848Q	937853Q	937874Q
IN230	TXWL5-2	TXWL5-5	TXWL5-10	TXWL5-20
Part number spare element	937828Q	937847Q	937854Q	937873Q
IN300	TXWL5A-2	TXWL5A-5	TXWL5A-10	TXWL5A-20
Part number spare element	937829Q	937846Q	937855Q	937872Q
IN400	TXWL5B-2	TXWL5B-5	TXWL5B-10	TXWL5B-20
Part number spare element	937830Q	937845Q	937856Q	937871Q
IN500	TXWL5C-2	TXWL5C-5	TWXL5C-10	TWXL5C-20
Part number spare element	937831Q	937844Q	937857Q	937870Q
IN390	TXWL8A-2	TXWL8A-5	TXWL8A-10	TXWL8A-20
Part number spare element	937832Q	937843Q	937858Q	937869Q
IN500	TXWL8C-2	TXWL8C-5	TXWL8C-10	TXWL8C-20
Part number spare element	937833Q	937842Q	937859Q	937868Q
IN600	TXWL10-2	TXWL10-5	TXWL10-10	TXWL10-20
Part number spare element	937834Q	937841Q	937860Q	937867Q
IN800	TXWL11-2	TXWL11-5	TXWL11-10	TXWL11-20
Part number spare element	937835Q	937840Q	937861Q	937866Q
IN1000	TXWL12-2	TXWL12-5	TXWL12-10	TXWL12-20
Part number spare element	937836Q	937839Q	937862Q	937865Q
IN1500	TXWL13-2	TXWL13-5	TXWL13-10	TXWL13-20
Part number spare element	937837Q	937838Q	937863Q	937864Q

Parker Hannifin (UK) Limited
Filter Division Europe
FDHB200UK. Section 4

Ordering Information (cont.)

Supercedes spare element table						
IN30	TXX-10-B	TXW-2-B	TXW-5-B	TXW-10-B	TXW-20-B	ST-40-B
Part number spare element	937720	937752Q	937753Q	937788Q	937789Q	937821
IN60	TXX2-10-B	TXW2-2-B	TXW2-5-B	TXW2-10-B	TXW2-20-B	ST2-40-B
Part number spare element	937721	937751Q	937754Q	937787Q	937790Q	937820
IN90	TXX3-10-B	TXW3-2-B	TXW3-5-B	TXW3-10-B	TXW3-20-B	ST3-40-B
Part number spare element	937722	937750Q	937755Q	937786Q	937791Q	937819
IN120	TXX3D-10-B	TXW3D-2-B	TXW3D-5-B	TXW3D-10-B	TXW3D-20-B	ST3D-40-B
Part number spare element	937723	937749Q	937756Q	937785Q	937792Q	937818
IN125	TXX3E-10-B	TXW3E-2-B	TXW3E-5-B	TXW3E-10-B	TXW3E-20-B	ST3E-40-B
Part number spare element	937724	937748Q	937757Q	937784Q	937793Q	937817
IN170	TXX4-10-B	TXW4-2-B	TXW4-5-B	TXW4-10-B	TXW4-20-B	ST4-40-B
Part number spare element	937725	937747Q	937758Q	937783Q	937794Q	937816
IN230	TXX5-10-B	TXW5-2-B	TXW5-5-B	TXW5-10-B	TXW5-20-B	ST5-40-B
Part number spare element	937726	937746Q	937759Q	937782Q	937795Q	937815
IN300	TXX5A-10-B	TXW5A-2-B	TXW5A-5-B	TXW5A-10-B	TXW5A-20-B	ST5A-40-B
Part number spare element	937727	937745Q	937760Q	937781Q	937796Q	937814
IN390	TXX8A-10-B	TXW8A-2-B	TXW8A-5-B	TXW8A-10-B	TXW8A-20-B	ST8A-40-B
Part number spare element	937728	937742Q	937763Q	937778Q	937799Q	937813
IN500 (3 series)	TXX8C-10-B	TXW8C-2-B	TXW8C-5-B	TXW8C-10-B	TXW8C-20-B	ST8C-40-B
Part number spare element	937729	937741Q	937764Q	937777Q	937800Q	937812
IN600	TXX10-10-B	TXW10-2-B	TXW10-5-B	TXW10-10-B	TXW10-20-B	ST10-40-B
Part number spare element	937730	937740Q	937765Q	937776Q	937801Q	937811
IN800	TXX11-10-B	TXW11-2-B	TXW11-5-B	TXW11-10-B	TXW11-20-B	ST11-40-B
Part number spare element	937731	937739Q	937766Q	937775Q	937802Q	937810
IN1000	TXX12-10-B	TXW12-2-B	TXW12-5-B	TXW12-10-B	TXW12-20-B	ST12-40-B
Part number spare element	937732	937738Q	937767Q	937774Q	937803Q	937809
IN1500	TXX13-10-B	TXW13-2-B	TXW13-5-B	TXW13-10-B	TXW13-20-B	ST13-40-B
Part number spare element	937733	937737Q	937768Q	937773Q	937804Q	937808
IN2000	TXX14-10-B	TXW14-2-B	TXW14-5-B	TXW14-10-B	TXW14-20-B	ST14-20
Part number spare element	937734	937736Q	937769Q	937772Q	937805Q	937807
IN2400	-	TXWH14-2-B	TXWH14-5-B	TXWH14-10-B	TXWH14-20-B	-
Part number spare element		937735Q	937770Q	937771Q	937806Q	

Grab the benefits of a greener future

ENVIRONMENTALLY-FRIENDLY FILTRATION SOLUTIONS

Trust Parker to provide you with a range of 'green' filter products that impact positively on the environment. Now with new E-series element ranges your customers benefit from a solution that's smarter, safer and more responsible when it comes to filtration.

By significantly reducing waste levels, E-Series elements are designed to increase the lifespan of hydraulic machinery. CN medium pressure filters feature Ecoglass elements that can be crushed, shredded, baled and when incinerated offer minimal residue causing little or no damage to the environment. Available in three models 15CN, 40CN and 80CN, they provide a reliable service and trouble-free operation under tough conditions.

Through Parker's advanced Laser CM technology, all vehicle operators can monitor fluid contamination on-site through a simple two minute test. This accurate monitoring method helps prevent catastrophic failure in critical systems instantly.

When it comes to filtration solutions you can rely on - the future is Parker.

Enjoy the benefits of 'green' filtration, email filtrationinfo@parker.com

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Aerospace | Automation | Climate & Industrial Controls | **Filtration** | Fluid Connectors | Hydraulics | Instrumentation | Seal

Tanktop Mounted Return Line Filters with Integrated Air Breather

Tanktopper Series I,II & III

MAX 650 l/min - 10 bar

Tanktop Mounted Return Line Filters

Tanktopper Series I,II & III

Features & Benefits

Features	Advantages	Benefits
Return line filter with Integrated airbreather	All in one filter	More compact design, cost reduction due to elimination of loose airbreather
Airbreather equipped with high quality labyrinth	No oil leakage through the airbreather	Improved efficiency of airbreather
		No oil leakage on the tank / in the environment
Second port and dipstick available	Filler port and level glass function can be integrated in filter	Significant reduction of reservoir accessories
Airbreather element always supplied with spare return line filter elements	Both filter elements can be replaced during the service event	Improved protection of system due to change of airbreather element
LEIF® elements	Patented element safeguards the use of genuine parts	Guaranteed quality of filtration
		Contributes to ISO 14001 certification
Magnetic pre-filtration	Removes ferro particles, even during bypass conditions	Improved fluid cleanliness levels
		Extended element life time
In-to-Out filtration	All captured contamination retains inside the element	No recontamination of system during change of elements
Full flow bypass with low hysteresis	Reduction of bypass period due to low hysteresis	Improved protection of system
	Only a small part of the total flow is bypassing the element	
Standard or customised funnel	Ensures that oil enters the tank under the oil level	Significant reduction of oil foaming

Typical Applications

TPR I
- Fork lift trucks
- Power packs
- Mini excavator

TPR II
- Gully-sucker
- Power packs
- Dredging ships

TPR III
- Mobile cranes
- Refuse vehicles

The Parker Filtration Tanktopper Series I, II & III Tanktop Mounted Return Line Filters.

The TPR Series I, II & III offer a total filtration solution. A 10-micron Abs. air breather that is integrated into the filter housing, a magnet column for pre-filtration, 'In-to-Out' filtration, a full-flow bypass with low hysteresis, and the high performance Q3 filter element materials are all proven success factors in efficient return-line filtration for flow rates up to 650 l/min. Several pressure gauges and switches can be applied, combined or not with a dipstick. The all-in-one, easy-to-mount cost-saving TPR solution allows for a more compact tank design.

Specification

Operation pressure:
Max. 10 bar.

Assembly:
Tank top mounted.

Connections:
Threaded BSP or SAE ports.
Second return port available for Tanktopper II and Tanktopper III.

Filter housing:
Aluminium head and co-polymer cover.

Seal material:
Nitrile, Fluoroelastomer.

Operation temperature range:
-40 to +80°C.

Bypass setting:
Opening pressure 0.8, 1.5 or 2.5 bar for Tanktopper I.
Opening pressure 1.5 bar for Tanktopper II and III.

Degree of filtration:
Determined by multipass test according to ISO 16889.

Flow fatigue characteristics:
Filter media is supported so that the optimum fatigue life is achieved.

Filtration media:
Microglass III, Ecoglass III for *LEIF*® element.
Also available 10µm Cellulose and 40µm stainless steel mesh. (TPR1)

Element collapse rating:
10 bar (ISO 2941).

Pressure indicator options:
Setting 0.7 or 1.2 bar.
Other settings on request.
Visual pressure gauge.
Electrical pressure switch.

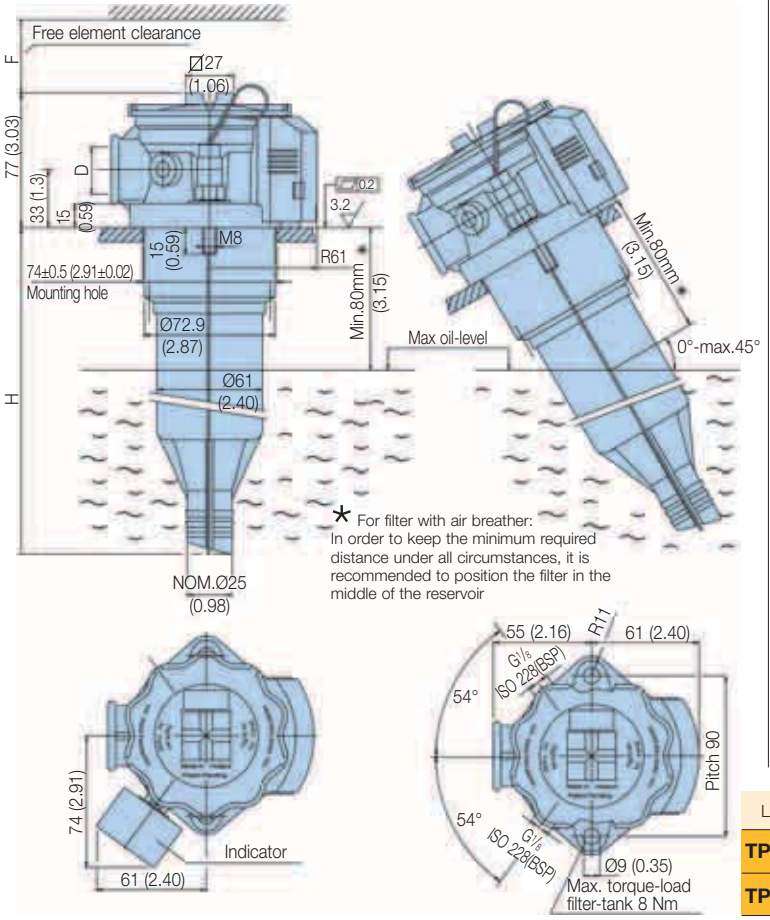
Options:
Dipstick, second return port.

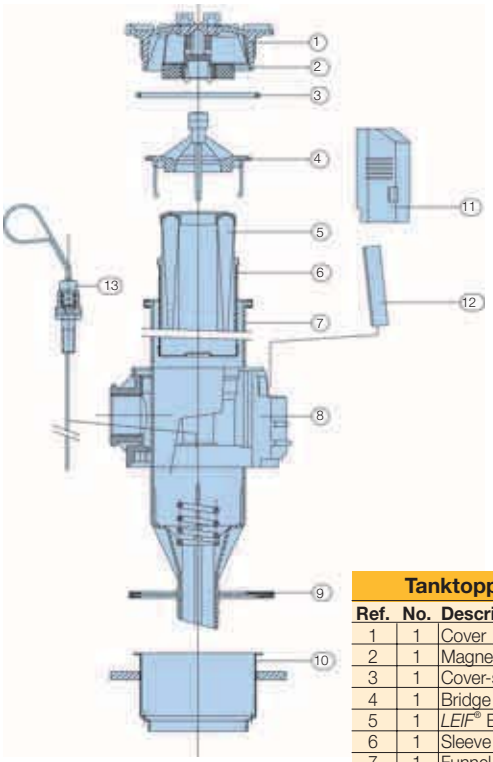
Magnetic pack:
Optional for Tanktopper I.
Standard for Tanktopper II and III.

Filter element:
LEIF® element with reusable metal element sleeve.
Conventional style element with steel end caps only optional for Tanktopper I. The *LEIF*® element is patented and safeguards the use of genuine parts.

Note: *LEIF*® element can be used with mineral and HEES type oils. For other fluids consult Parker Filtration.
LEIF® contributes to ISO 14001 quality standards

Tanktopper I





Length	H	F	D
TPR1-40	169 (6.65)	160 (6.30)	G¾ (BSP)
TPR1-80	269 (10.60)	260 (10.23)	SAE 12

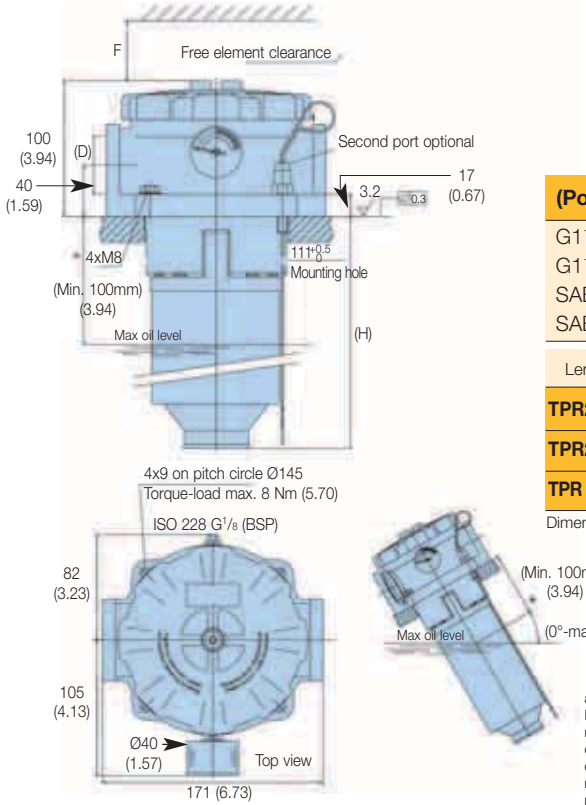
Dimensions in mm

Tanktopper I		
Ref.	**No.**	**Description**
1	1	Cover
2	1	Magnet-set
3	1	Cover-seal
4	1	Bridge (blue)
5	1	*LEIF*® Element
6	1	Sleeve
7	1	Funnel-assembly
8	1	Filter-housing
9	1	Housing-seal
10	1	Airguide
11	1	Cover airbreather
12	1	Breather-element
13	1	Dipstick assembly

Tanktopper Series I,II & III

Specification (cont.)

Tanktopper II

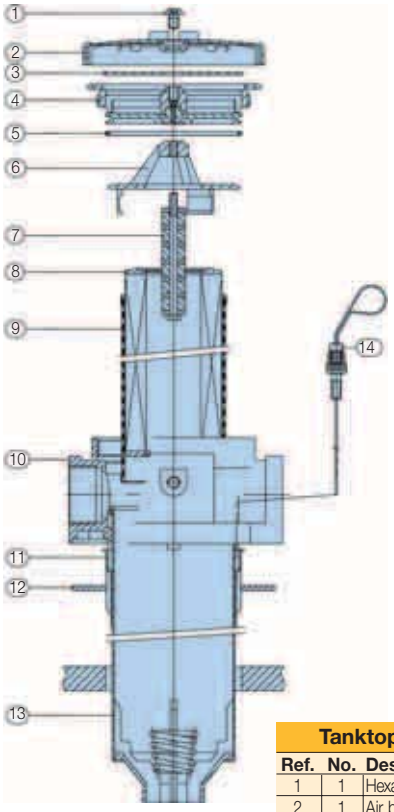


(Port)	D
G1 1/4	(BSP)
G1 1/2	(BSP)
SAE 20	
SAE 24	

Length	H	F
TPR2-120	181 (7.12)	170 (6.70)
TPR2-200	267 (10.51)	255 (10.03)
TPR 2-250	400 (15.75)	380 (14.96)

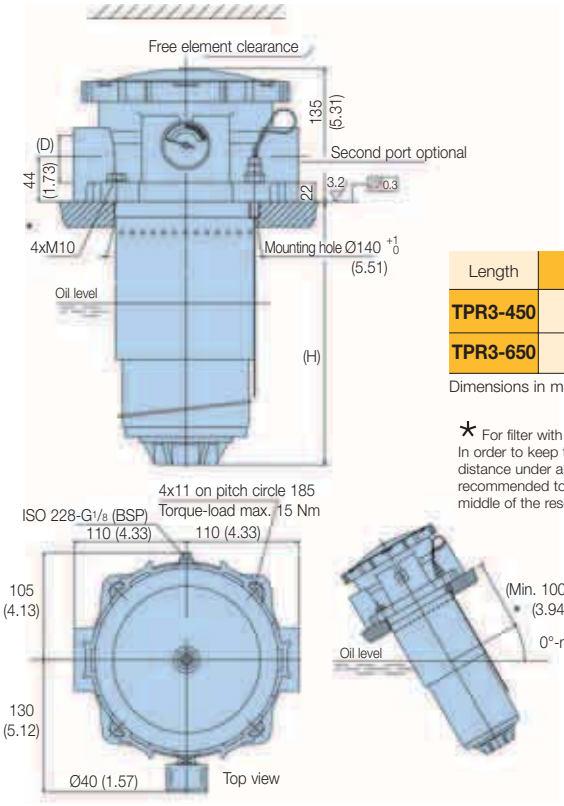
Dimensions in mm

* For filter with air breather: In order to keep the minimum required distance under all circumstances, it is recommended to position the filter in the middle of the reservoir



Tanktopper II & III		
Ref.	**No.**	**Description**
1	1	Hexagon socket bolt M8
2	1	Air breather cap
3	1	Air breather filter medium
4	1	Cover (assembly)
5	1	Cover seal
6	1	Bridge
7	1	Magnet set
8	1	Element
9	1	Sleeve
10	1	Filter house
11	1	Airguide
12	1	Tank gasket
13	1	Funnel
14	1	Dipstick assembly

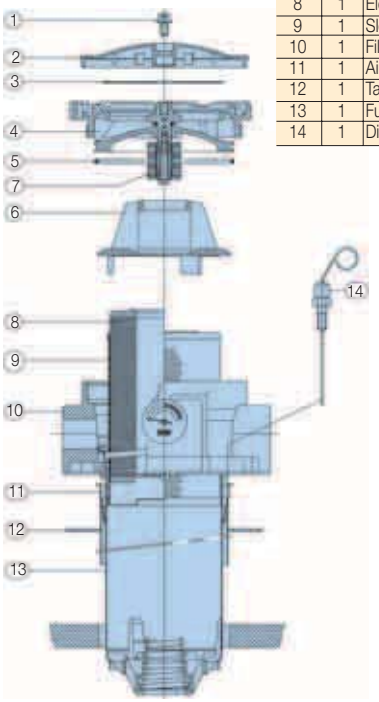
Tanktopper III



Length	D	H	F
TPR3-450	-G1 1/2 (BSP)	415 (16.34)	345 (13.58)
TPR3-650	-G1 1/2 (BSP)	600 (23.62)	530 (20.87)

Dimensions in mm

* For filter with air breather: In order to keep the minimum required distance under all circumstances, it is recommended to position the filter in the middle of the reservoir

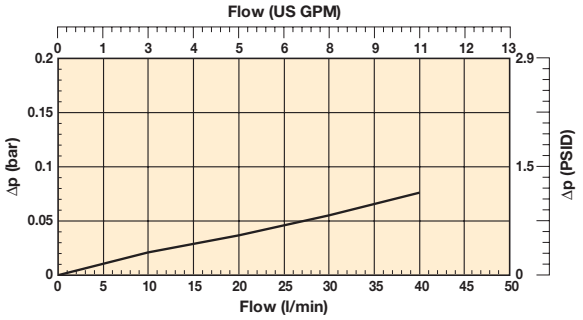


Tanktopper Series I & II

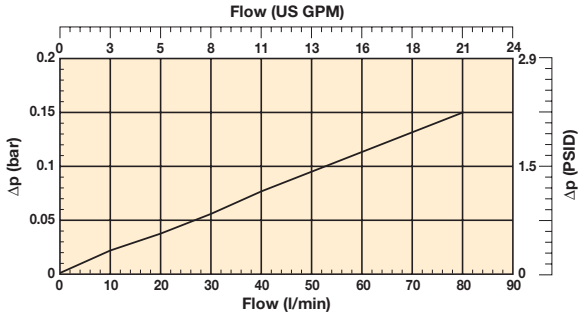
Pressure Drop Curves - Tanktopper I

Filter housing and element pressure drop based on 32cSt fluid viscosity and 0.87 density.

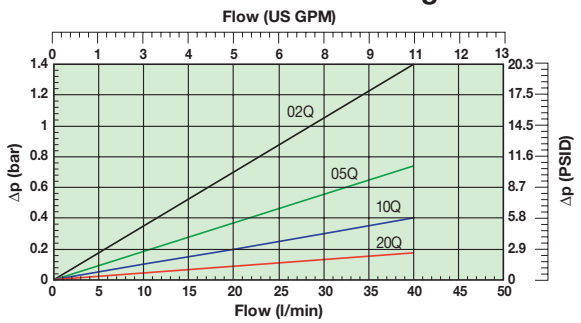
Length 1
TPR-I-40 Empty Housing



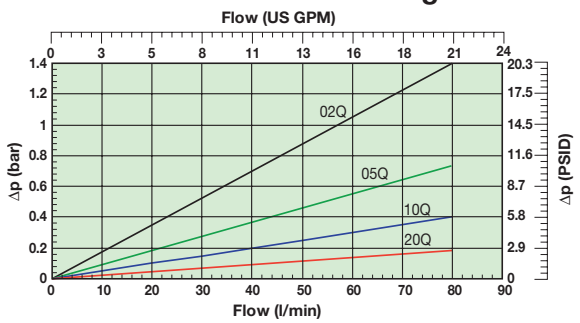
Length 2
TPR-I-80 Empty Housing



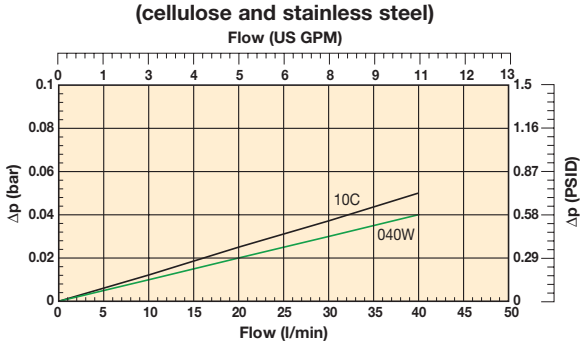
TPR40 Filter Element Length 1



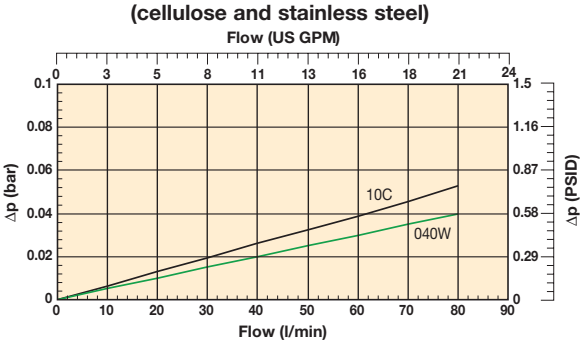
TPR80 Filter Element Length 2



TPR40 Filter Element Length 1
(cellulose and stainless steel)



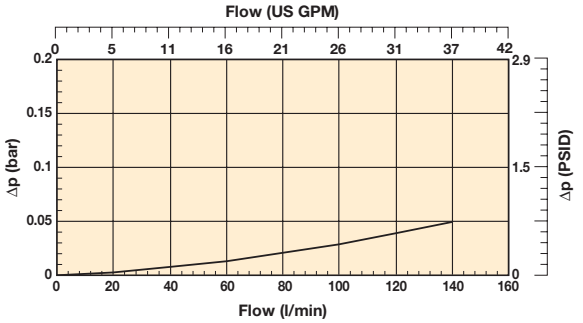
TPR80 Filter Element Length 2
(cellulose and stainless steel)



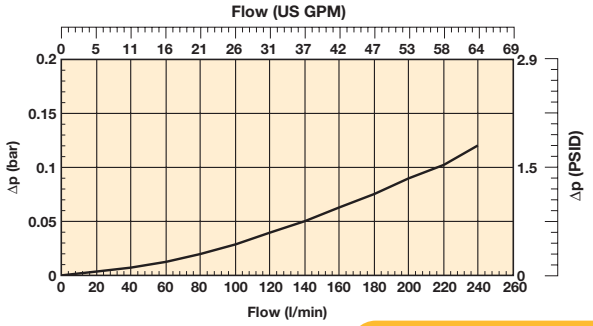
Pressure Drop Curves - Tanktopper II

Filter housing and element pressure drop based on 32cSt fluid viscosity and 0.87 density.

TPR II-120
Empty Housing (G1¼ Ports)



TPR II-200/250
Empty Housing (G1½ Ports)

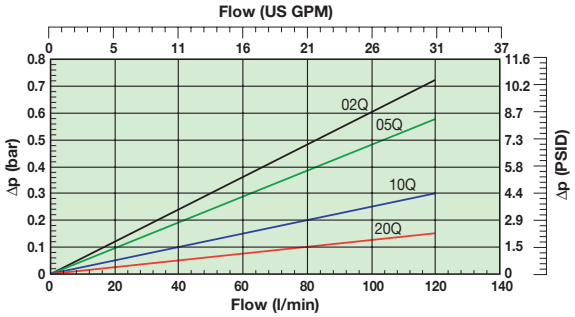


Tanktopper Series II & III

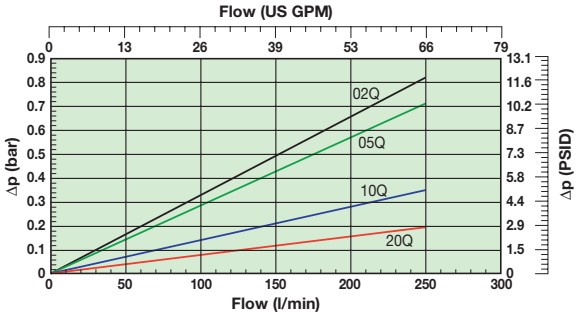
Pressure Drop Curves - Tanktopper II (cont.)

Filter housing and element pressure drop based on 32cSt fluid viscosity and 0.87 density.

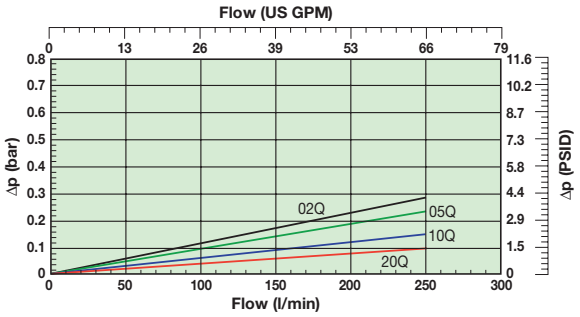
TPR120 Filter Element Length 5



TPR200 Filter Element Length 6



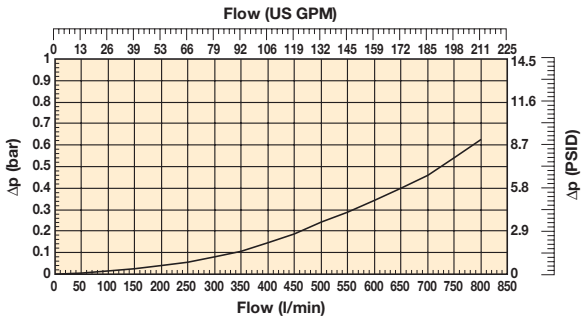
TPR250 Filter Element Length 7



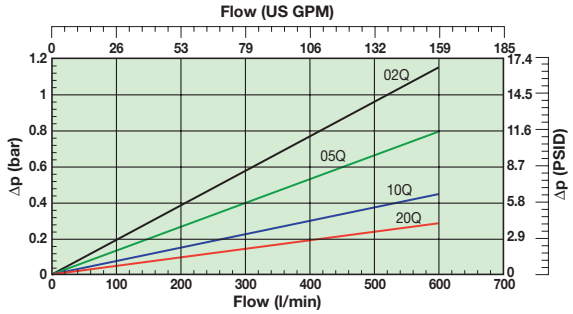
Pressure Drop Curves - Tanktopper III

Filter housing and element pressure drop based on 32cSt fluid viscosity and 0.87 density.

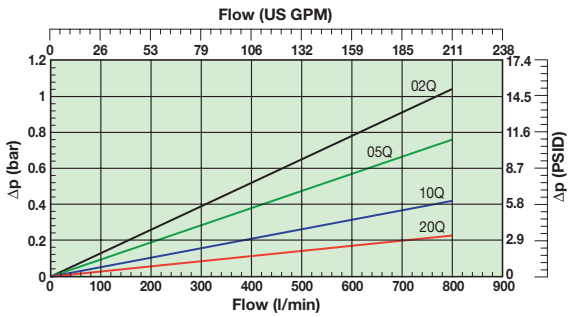
TPR III-450/650 Empty Housing 1 1/2 BSP



TPR450 Filter Element Length 10



TPR650 Filter Element Length 11



Tanktopper Series I,II & III

Ordering Information

Standard products table

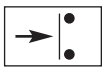
Part number	Supercedes	Flow (l/min)	Model number	Element length	Media rating (µ)	Seals	Indicator	Bypass settings	Ports	Included options	Replacement elements	Supercedes
TPR110QLBP2EG12E	TPR40-G3/4 PXWL1-10 B15 MM MA	40	TPR40	Length 1	10	Nitrile	Plugged	1.5 Bar (22 Psi)	G3/4	Magnets	**937902Q**	PXWL1-10
TPR120QLBP2EG12E	TPR40-G3/4 PXWL1-20 B15 MM MA	40	TPR40	Length 1	20	Nitrile	Plugged	1.5 Bar (22 Psi)	G3/4	Magnets	**937904Q**	PXWL1-20
TPR210QLBP2EG12L	TPR80-G3/4 PXWL2-10 AB15 MM MA	80	TPR80	Length 2	10	Nitrile	Plugged	1.5 Bar (22 Psi)	G3/4	Aluminium funnel, magnets	**937903Q**	PXWL2-10
TPR220QLBP2EG12L	TPR80-G3/4 PXWL2-20 AB15 MM MA	80	TPR80	Length 2	20	Nitrile	Plugged	1.5 Bar (22 Psi)	G3/4	Aluminium funnel, magnets	**937905Q**	PXWL2-20
TPR510QLBP2E2G201	TPR120-2G1 1/4 PXWL3-10 B15 MM	120	TPR120	Length 5	10	Nitrile	Plugged	1.5 Bar (22 Psi)	2xG1 1/4	None	**937892Q**	PXWL3-10
TPR520QLBP2E2G201	TPR120-2G1 1/4 PXWL3-20 B15 MM	120	TPR120	Length 5	20	Nitrile	Plugged	1.5 Bar (22 Psi)	2xG1 1/4	None	**937895Q**	PXWL3-20
TPR710QLBP2E2G241	TPR250-2G1 1/2 PXWL4A-10 B15 MM	250	TPR250	Length 7	10	Nitrile	Plugged	1.5 Bar (22 Psi)	2xG1 1/2	None	**937894Q**	PXWL4A-10
TPR720QLBP2E2G241	TPR250-2G1 1/2 PXWL4A-20 B15 MM	250	TPR250	Length 7	20	Nitrile	Plugged	1.5 Bar (22 Psi)	2xG1 1/2	None	**937897Q**	PXWL4A-20
TPR1110QLBP2E2G241	TPR650-2G1 1/2 PXWL8-10 B15 MM	650	TPR650	Length 11	10	Nitrile	Plugged	1.5 Bar (22 Psi)	2xG1 1/2	None	**937914Q**	PXWL8-10
TPR1120QLBP2E2G241	TPR650-2G1 1/2 PXWL8-20 B15 MM	650	TPR650	Length 11	20	Nitrile	Plugged	1.5 Bar (22 Psi)	2xG1 1/2	None	**937917Q**	PXWL8-20

Note: Filter assemblies ordered from the product configurator below are on extended lead times. Where possible, please make your selection from the table above.

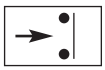
Visual indicator	
Thread connection	G1/8
Code	FMUG2EBPG02L

Specifications	
Elec.rating	42V / 2A
Thread connection	G1/8
Elec.connection	AMP terminal 6.3x0.8
Protection	IP65 (terminal IP00)
Switch type	NO or NC
Code	FMUS2EBMG02L (NO switch)
	FMUS3EBMG02L (NC switch)

Normally open contacts



Normally closed contacts



Product configurator

Configurator example TPR filter

Box 1	Box 2	Box 3	Box 4	Box 5	Box 6	Box 7	Box 8
TPR	**2**	**05QL**	**B**	**S2**	**I**	**G12**	**L**

Box 1

Code
TPR

Box 2

Filter type	
Housing	**Code**
TPR 1-40	**1**
TPR 1-80	**2**
TPR 2-120	**5**
TPR 2-200	6
TPR 2-250	**7**
TPR 3-450	10
TPR 3-650	**11**

Box 3

Degree of filtration						
Element media		**Glass fibre**				
		Microglass III (for disposable elements)				
	Cellulose	Ecoglass III (for Leif® elements)				**Wire mesh**
	Nom. rating	2µ media	5µ media	10µ media	20µ media	Abs. rating
Disposable element (TPR I only)	10C	02Q	05Q	**10Q**	**20Q**	040W
***LEIF*® element (for all TPR Filters)**		02QL	**05QL**	**10QL**	**20QL**	

Box 4

Seal type	
Seal material	**Code**
Nitrile	**B**
Fluoroelastomer	on request

Box 5

Indicator	
	Code
Pressure gauge, setting 1.2 bar, G1/8	**G2**
Pressure switch 42V, 1.2 bar setting, NO with G1/8	**S2**
Pressure switch 42V, 1.2 bar setting, NC with G1/8	S3
Pressure switch 250V, NO/NC with G1/8	S4
No indicator, indicator ports not machined	on request
No indicator, indicator port R plugged	on request
No indicator, indicator ports L + R plugged	**P2**
Other settings for indicators / gauges on request	on request

Box 6

Bypass valve	
Bypass valve	**Code**
0.8 bar	B
1.5 bar	**E**
2.5 bar (TPR 1 Series only)	I
Blocked bypass	on request
Other bypass settings	on request

Note 1: Part numbers featured with bold highlighted codes will ensure a 'standard' product selection.
Note 2: Alternate displayed part number selection will require you to contact Parker Filtration for availability.

Box 7

Filter connection	
Ports	**Code**
G3/4 (BSP) (TPR 1 Series)	**G12**
SAE12 (TPR 1 Series)	S12
G1 1/4 (BSP) (TPR 2 Series)	G20
2 x ISO 228-G1 1/4 (BSP) (TPR 2 Series)	**2G20**
SAE 20 (TPR 2 Series)	S20
2 x SAE 20 (TPR 2 Series)	2S20
SAE 24 (TPR 2 Series)	S24
2 x SAE 24 (TPR 2 Series)	2S24
G1 1/2 (BSP) (TPR 2 and 3 Series)	G24
G1 1/2 (BSP) (TPR 2 and 3 Series)	**2G24**

Box 8

Options	
Options	**Code**
Standard	**1**
Dipstick	**6**
Aluminium funnel for TPR 1-80	J
Magnets for TPR 1 Series	**E**
Magnets + Dipstick for TPR 1 Series	K
Magnets + Aluminium Diffuser for TPR 1 Series	**L**
Magnets + Aluminium Diffuser + Dipstick for TPR 1 Series	M
Other combinations	on request

Note: Tanktopper I Series are standard supplied with POM type diffuser. Aluminium funnel is recommended for heavy duty applications, sensitivity for electrostatically charging or high fluid temperatures.
Tanktopper II and III Series are always supplied with metal diffuser.

Highlights Key (Denotes part number availability)

123	Item is standard
123	Item is standard with "green" options
123	Item is semi standard
123	Item is non standard

Note: Standard items are in stock, semi standard items are available within four weeks

Tanktopper Series I,II & III

Ordering Information (cont.)

Degree of filtration						Media code
Average filtration beta ratio ß (ISO 16889) / particle size µm [c]						
ßx(c)=2	ßx(c)=10	ßx(c)=75	ßx(c)=100	ßx(c)=200	ßx(c)=1000	
% efficiency, based on the above beta ratio (ßx)						
50.0%	90.0%	98.7%	99.0%	99.5%	99.9%	
N/A	N/A	N/A	N/A	N/A	4.5	**02Q/02QL**
N/A	N/A	4.5	5	6	7	**05Q/05QL**
N/A	6	8.5	9	10	12	**10Q/10QL**
6	11	17	18	20	22	**20Q/20QL**

Supercedes spare element table				
TPR 1-40	PXWL1-2	PXWL1-5	PXWL1-10	PXWL1-20
Part number spare element	937898Q	937900Q	937902Q	937904Q
TPR 1-80	PXWL2-2	PXWL2-5	PXWL2-10	PXWL2-20
Part number spare element	937899Q	937901Q	937903Q	937905Q
TPR 2-120	PXWL3-2	PXWL3-5	PXWL3-10	PXWL3-20
Part number spare element	937886Q	937889Q	937892Q	937895Q
TPR 2-200	PXWL4-2	PXWL4-5	PXWL4-10	PXWL4-20
Part number spare element	937887Q	937890Q	937893Q	937896Q
TPR 2-250	PXWL4A-2	PXWL4A-5	PXWL4A-10	PXWL4A-20
Part number spare element	937888Q	937891Q	937894Q	937897Q
TPR 3-250	PXWL6-2	PXWL6-5	PXWL6-10	PXWL6-20
Part number spare element	937906Q	937909Q	937912Q	937915Q
TPR 3-450	PXWL7-2	PXWL7-5	PXWL7-10	PXWL7-20
Part number spare element	937907Q	937910Q	937913Q	937916Q
TPR 3-650	PXWL8-2	PXWL8-5	PXWL8-10	PXWL8-20
Part number spare element	937908Q	937911Q	937914Q	937917Q

Supercedes spare element table						
TPR 1-40	PXX1A-10	PXW1A-2	PXW1A-5	PXW1A-10	PXW1A-20	PS1A-40
Part number spare element	937918	937920Q	937925Q	937930Q	937935Q	937940
TPR 1-80	PXX2A-10	PXW2A-2	PXW2A-5	PXW2A-10	PXW2A-20	PS2A-40
Part number spare element	937919	937921Q	937926Q	937931Q	937936Q	937941
TPR 3-160		PXW5-2	PXW5-5	PXW5-10	PXW5-20	
Part number spare element		937922Q	937927Q	937932Q	937937Q	
TPR 3-250		PXW6-2	PXW6-5	PXW6-10	PXW6-20	
Part number spare element		937923Q	937928Q	937933Q	937938Q	
TPR 3-450		PXW7-2	PXW7-5	PXW7-10	PXW7-20	
Part number spare element		937924Q	937929Q	937934Q	937939Q	

Tanktop Mounted Suction & Return Line Filters - Types SR1 & SR2

Suction Return Series

MAX 250 l/min - 10 bar

Parker

Suction Return Series

Features & Benefits

Features	Advantages	Benefits
Compact design	Less space required to apply SR Series	Improved flexibility during system design
Bypass valve mounted in series with back-pressure valve	Pressurisation of filtered oil for hydrostatic drive ensured during bypass	Lower risk of pump cavition
		No direct bypass in the tank reducing the additional risk of oil foaming
LEIF® elements	Patented element safeguards the use of genuine parts	Guaranteed quality of filtration
		Contributes to ISO 14001 certification
Strainer located in filter head	Strainer filters all bypass fluid by using a system-matched degree of filtration	Improved protection of system
		Strainer can be inspected and cleaned during service events
High level of customisation	Dedicated system-matched solutions can be easily made available	Improved integration of filter in system combined with lower initial system costs
Full flow bypass with low hysteresis	Reduction of bypass period due to low hysteresis	Improved protection of system
	Only a small part of the total flow is bypassing the element	
Standard or customised funnel	Ensures that oil enters the tank under the oil level	Significant reduction of oil foaming
Multiple ports availability	Flexibility related to suction- and return line hose(s) arrangement	More compact solutions can be realised
		The use of manifold blocks can be avoided
		Easy to integrate with cooler circuit

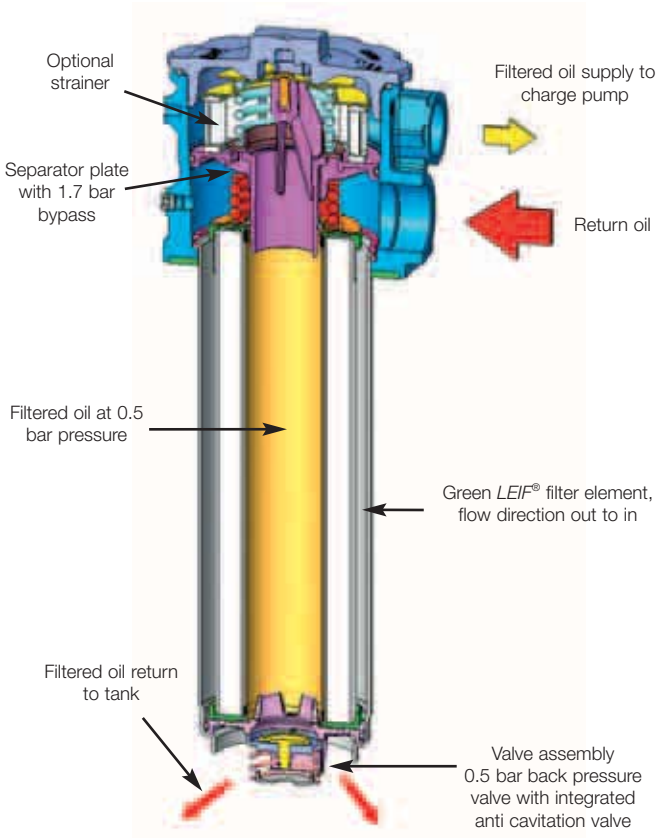
Typical Applications

Mobile equipment with both open and closed hydraulic circuits. For exemple:

- Road sweepers
- Road rollers
- Fork lift trucks
- Loading shovels
- Telescopic handlers
- Dump trucks
- Skid steers
- Agricultural harvesting machines
- Mini excavators

The Parker Filtration Tank Top Mounted Suction & Return Line Filters.

A tank top mounted return filter capable of feeding filtered oil under positive pressure to the suction side of the boost pump, thereby filtering both open and closed loop oil systems through one filter. The Type SR2 uses the patented *LEIF*® elements for environmentally-friendly filtration and offering protection against the use of pirate elements. Several options including integrated suction strainer and dipstick are available.



Specification

Pressure ratings:
Max. 10 bar.

Assembly:
Tank top mounted filters.

Connections:
Return port G1 (to BS 2779). } SR1
Suction port G3/4 (to BS 2779).

Return port G1 1/4 (ISO 228) or SAE20: } SR2
Optional second return port type SR2.
Suction port G1 (ISO 228) or SAE16:
Standard two suction ports.

Seal material:
Type SR1 – Nitrile.
Type SR2 – Nitrile, Fluoroelastomer.
Other seal material on request.

Operating temperature range:
-30° to +110°C.

Bypass valve system:
Main system bypass valve.
Type SR1 – 1.7 bar (2.5 bar optional).
Type SR2 – 1.7 bar (2.5 bar optional).

Degree of filtration:
Determined by multipass test according to ISO 16889.

Flow fatigue characteristics:
Filter media designed to optimise fatigue life.

Filtration media:
Type SR1 and SR2 – Microglass III supported with epoxy coated metal wire.
Ecoglass III for *LEIF*® element. See table 1 and 2 on the following page.
- High dirt holding capacity.
- Low pressure drop.
- Extended service life.

Element collapse rating:
Type SR1 – 20 bar ISO 2941.
Type SR2 – 10 bar ISO 2941.

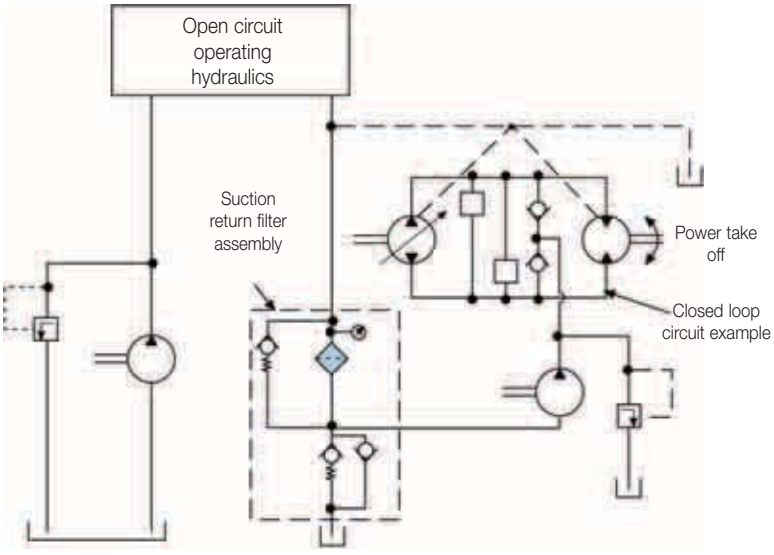
Suction line:
Back-pressure valve setting 0.5 bar (nominal).

Anti-cavitation:
Emergency suction valve fitted as standard.

Construction:

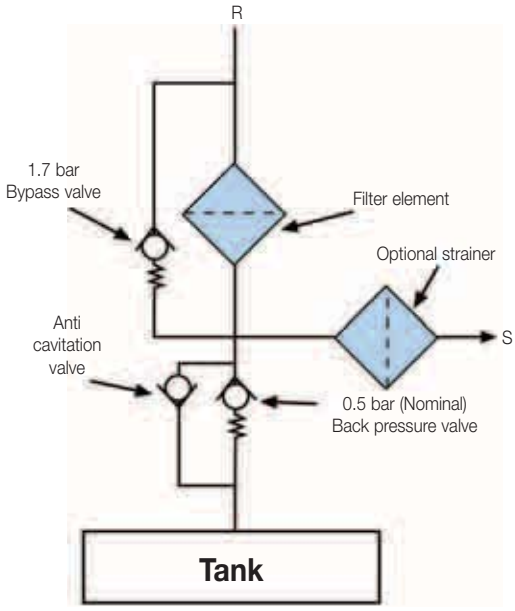
	Type SR1	Type SR2
Filter Housing:	Precision pressure die casting	Precision pressure die casting
Cover:	Precision pressure die casting	Glass reinforced nylon (high impact and temperature resistant)
Weight:	1.4Kg	3.3Kg
Filter element:	Element with steel end caps	*LEIF*® element with reusable metal element sleeve. The patented *LEIF*® concept contributes to ISO 14001 and can only be applied to mineral oils. For other fluid types consult Parker Filtration.

Circuit Application Example



Note: Suction return filter without optional strainer.

Suction Return Filter: Hydraulic Circuit



Note: Suction return filter with optional strainer.

Suction Return Series

SR1

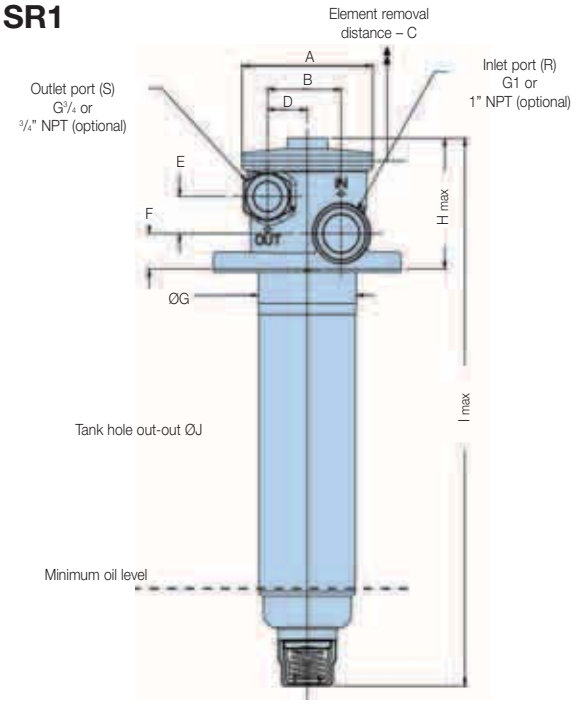
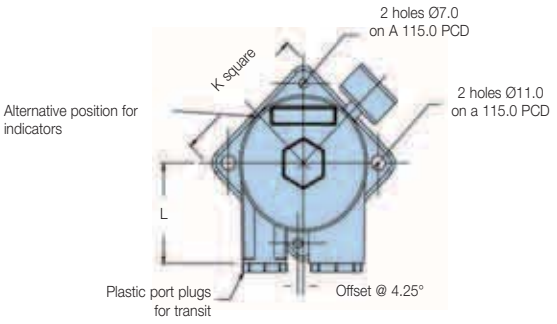


Table 1

Degree of filtration						
Average filtration ratio ß (ISO 16889) / particle size (µm(c))						Code
2	10	75	100	200	1000	
N/A	6	8.5	9	10	12	Q010
6	11	17	18	20	22	Q020



SR2

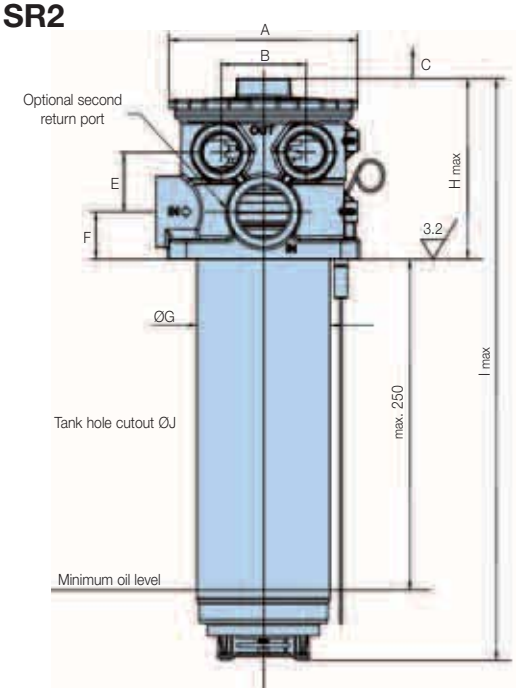
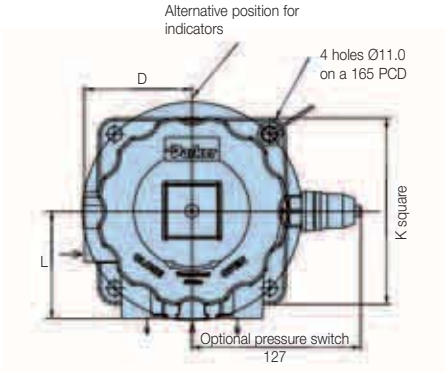


Table 2

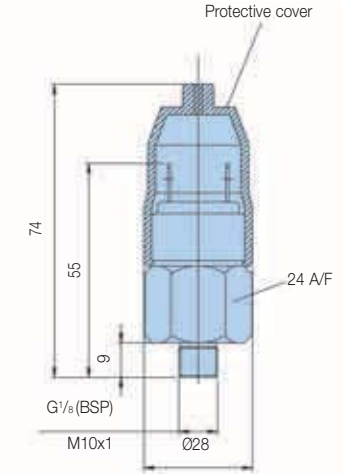
Degree of filtration						
Average filtration ratio ß (ISO 16889) / particle size (µm(c))						Code
2	10	75	100	200	1000	
N/A	6	8.5	9	10	12	Q010
6	11	17	18	20	22	Q020

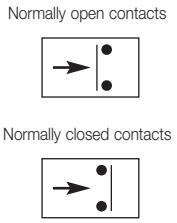


Dimensions mm (inches)	A	B	C	D	E	F	G	H	I	J	K	L
Type SR1	98 (3.86)	55 (2.17)	310 (12.2)	29.75 (1.17)	26 (1.02)	25 (0.98)	73 (2.87)	92.8 (3.65)	385.3 (15.17)	75 to 76 (2.95 to 2.99)	105 (4.13)	72 (2.83)
Type SR2	142 (5.59)	64 (2.52)	380 (14.96)	81 (3.19)	45 (1.77)	36 (1.42)	100 (3.94)	137 (5.39)	440 (17.32)	101 to 103 (3.98 to 4.06)	145 (5.71)	81 (3.19)

Element removal distance for dimension C.

Indicator Details





Visual indicator	2 bar
Thread connection	G1/8
Code	FMUG5HBMG02L

Pressure switch	
Elec.rating	42V / 2A
Thread connection	G1/8
Elec.connection	AMP terminal 6.3 x 0.8
Protection	IP65 (terminal IP00)
Setting	2 bar
Switch type	NO or NC
Code	FMUS6HBMG02L (NO switch)
	FMUS7HBMG02L (NC switch)

Note: Vacuum indicators visual or electrical are available on request for filter type SR2 only.

Principles of Operation

Suction Return Series filter
This one filter assembly is designed to carry out two specific functions:
(1) Filter system return line oil.
(2) Supply filtered oil under positive pressure to the closed loop hydrostatic circuits.

Principles of operation
(1) Return oil from both the open and closed circuits* is fed into the Suction Return Series Filter at port 'R'.
(2) The filtered oil is maintained at a nominal 0.5 bar by the unique back pressure valve assembly and fed into the closed loop hydrostatic circuit via port 'S'.
(3) Surplus filtered oil is fed back to the tank via the back pressure valve assembly.
(4) Emergency suction (anti-cavitation) valve: This valve is fitted as standard to ensure oil is always available to the closed loop system, even on emergency occasions when the return flows do not meet the flow demands of the closed loop circuit.

Additional installation guidance notes
(1) Return oil flow should always be greater than the oil flow rate demanded by the closed loop charge pump.
(2) Oil level at all times should not fall below valve assembly at the base of the filter bowl.

Benefits
(1) Only one filter is required to supply filtered oil to both open and closed loop circuits.
(2) Feeding the closed loop circuit with filtered oil at a nominal pressure of 0.5 bar ensures excellent cold start characteristics, thus reducing the risk of cavitation.
(3) Four hole mounting with gasket seal.
(4) Microglass III filter element materials ensure; low pressure drop, high dirt holding capacity and extended service life.
(5) Type SR2 filter with patented *LEIF*® element, unique drain construction, quick element replacement concept.

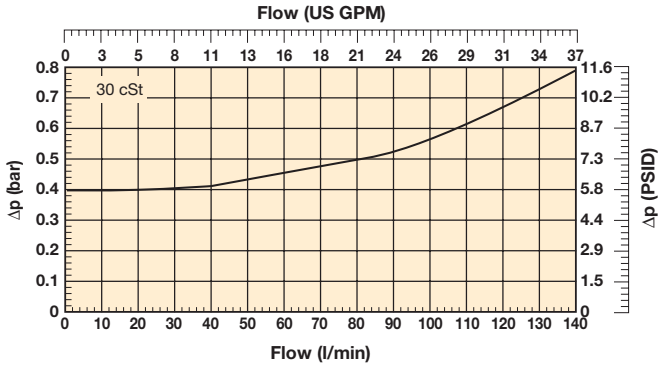
CAUTION:
Back pressure in pump and motor drain lines should always be kept at a minimum thus protecting shaft seals etc.
If case drain oils are to be fed through the return line filter please consult the pump/motor manufactures for details on maximum allowable back pressure.
Ensure filter elements are replaced when element condition indicators show that the bypass setting has been reached.
Failure to observe the above operation and guidance notes, or use of non genuine Parker specified filter elements could cause damage to the system. System designers should always ensure that adequate cooling capacity is available.

Suction Return Series

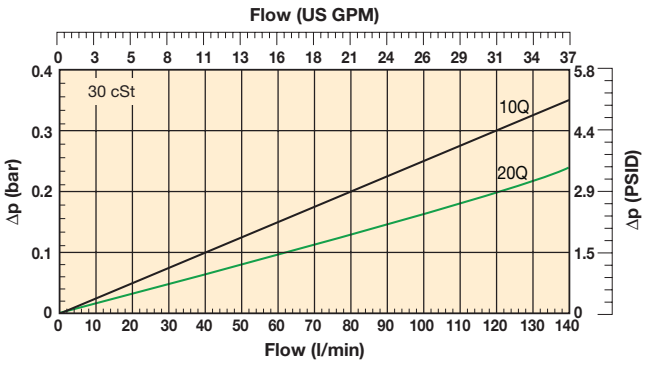
Pressure Drop Curves (Type SR1)

The recommended level of the initial pressure drop is approximately 1 bar.
If the medium used has a viscosity different from 32cSt, pressure drop over the filter can be estimated as follows:
The total Δp = Housing Δph + (Element Δpe x working viscosity/32).

SRA1 Empty Filter Housing



SRA1 Filter Element Length 2

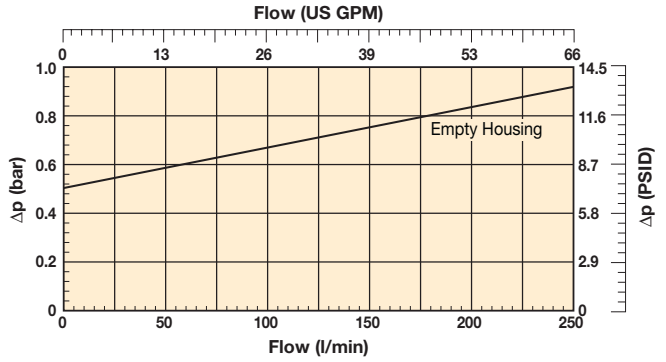


Curves are based on 32cSt fluid viscosity and 0.87 Kg/l density.

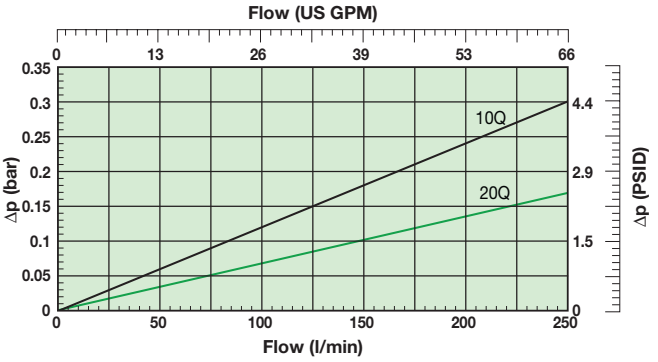
Pressure Drop Curves (Type SR2)

Curves are based on 32cSt fluid viscosity and 0.87 Kg/l density.

SR2 Empty Filter Housing



SRL2 Filter Element Length 2



Ordering Information

Standard products table

Part number	Supercedes	Flow (l/min)	Model number	Element length	Media rating (µ)	Seals	Indicator	Bypass settings	Ports return	Ports suction	Included options	Replacement elements	Supercedes
SRA1210QBP1GG121	SRA12Q10NP1B10	110	SRA1	Length 2	10	Nitrile	Plugged	1.7 Bar (25 Psi)	G1	G¾	None	**937943Q**	SRR12Q10N
SRA1220QBP1GG121	SRA12Q20NP1B10	130	SRA1	Length 2	20	Nitrile	Plugged	1.7 Bar (25 Psi)	G1	G¾	None	**937944Q**	SRR12Q20N
SRL2210QLBP1GG201	SRL22Q10NP1B10	250	SRL2	Length 2	10	Nitrile	Plugged	1.7 Bar (25 Psi)	G1¼	2xG1¼	None	**937946Q**	SRE22Q10
SRL2220QLBP1GG201	SRL22Q20NP1B10	250	SRL2	Length 2	20	Nitrile	Plugged	1.7 Bar (25 Psi)	G1¼	2xG1¼	None	**937947Q**	SRE22Q20

Note: Filter assemblies ordered from the product configurator below are on extended lead times. Where possible, please make your selection from the table above.

Product configurator

Configurator example SR filter

Box 1	Box 2	Box 3	Box 4	Box 5	Box 6	Box 7	Box 8
SRL2	**2**	**05QL**	**B**	**S2**	**G**	**2G20**	**I**

Box 1

Code	
Model	**Code**
SR1 Series with conventional element	**SRA1**
SR2 Series with LEIF element	**SRL2**

Highlights Key (Denotes part number availability)

123	Item is standard
123	Item is standard with “green” options
123	Item is semi standard
123	Item is non standard

Note: Standard items are in stock, semi standard items are available within four weeks

Box 2

Filter type	
Housing	**Code**
Reduced length	on request
Standard length	**2**
Extended length	on request

Box 3

Degree of filtration				
Element media	**Glass fibre**			
	Microglass III (for disposable elements)			
	Ecoglass III (for Leif® elements)			
	2µ media	5µ media	10µ media	20µ media
Disposable element (for SRA1 only)	02Q	05Q	**10Q**	**20Q**
***LEIF*® element (for SRL2 only)**	02QL	**05QL**	**10QL**	**20QL**

Box 4

Seal type	
Seal material	**Code**
Nitrile	**B**
Fluoroelastomer	V

Box 5

Indicator	
	Code
Pressure gauge, setting 2.0 bar, G⅛	**G5**
Pressure switch 42V, 2.0 bar setting, NO with G⅛ BSP	**S6**
Pressure switch 42V, 2.0 bar setting, NC with G⅛ BSP	S7
Pressure switch 250V, NO/NC with G⅛	on request
No indicator, indicator ports not machined	N
No indicator, indicator port R plugged	**P**
No indicator, indicator ports L + R plugged	on request
Vacuum switch / vacuum gauge	on request
Other settings for indicators / gauges on request	on request

Box 6

Bypass valve	
Bypass valve	**Code**
1.7 bar	**G**
2.5 bar	I
Blocked bypass	on request
Other bypass settings	on request

Box 7

Filter connection		
Ports	**Code**	**Note**
Return port 1 x G1 + Suction port 1 x G¾	**G12**	**SR1**
Return port 1 x G1¼ + Suction port 2 x G1	**G20**	**SR2**
Return port 2 x G1¼ + Suction port 2 x G1	**2G20**	**SR2**
Return port 1 x SAE20 + Suction port 2 x SAE16	S20	**SR2**
Return port 2 x SAE20 + Suction port 2 x SAE16	2S20	**SR2**

Box 8

Options	
Options	**Code**
None	**1**
Strainer 120 micron	**G**
Dipstick	6
Plugged vent port in cover	H
Strainer 120 micron, dipstick and plugged vent port	I
Customized options	on request

Degree of filtration						Media code
Average filtration beta ratio ß (ISO 16889) / particle size µm [c]						
ßx(c)=2	**ßx(c)=10**	**ßx(c)=75**	**ßx(c)=100**	**ßx(c)=200**	**ßx(c)=1000**	
% efficiency, based on the above beta ratio (ßx)						
50.0%	**90.0%**	**98.7%**	**99.0%**	**99.5%**	**99.9%**	
N/A	N/A	N/A	N/A	N/A	4.5	**02Q/02QL**
N/A	N/A	4.5	5	6	7	**05Q/05QL**
N/A	6	8.5	9	10	12	**10Q/10QL**
6	11	17	18	20	22	**20Q/20QL**

Spare elements		
Replacement elements	**Supercedes**	
937942Q	SRR12Q05N	Semi standard
937943Q	SRR12Q10N	Standard
937944Q	SRR12Q20N	Standard
937945Q	SRE22Q05	Semi standard
937946Q	SRE22Q10	Standard
937947Q	SRE22Q20	Standard

Note 1: Part numbers featured with bold highlighted codes will ensure a ‘standard’ product selection.
Note 2: Alternate displayed part number selection will require you to contact Parker Filtration for availability.

LEIF®

Ecoglass III

Parker E-Series

Ensure that the impact for the environment is minimized.

The development of filter products for Parker is an on-going process driven by the needs of the customer and the protection of our fragile planet.

E-Series filters are Parker's positive contribution to help minimize the impact on the environment with *LEIF®* Low Environmental Impact Filters and the Ecoglass III elements. Product ranges that together will help reduce disposal volumes and costs.

For more information on Parker Filtration's hydraulic environmental solutions, contact us today.

E-Series

Low Pressure Filters
***LEIF®* elements**

- Up to 1500 l/min
- Patented design
- Re-usable element sleeve
- Contributes to ISO 14001
- *LEIF®* elements contain Ecoglass III media

Medium & High Pressure Filters
Ecoglass III elements

- Medium pressure up to 1400 l/min
- High pressure up to 450 l/min
- Re-usable support tube
- Contributes to ISO 14001
- Ecoglass III media

For information on Parker Filtration products and technology:
Tel: +44(0)1924 487000 Fax: +44(0)1924 487001 Email: filtrationinfo@parker.com

Parker

Hydraulic Reservoir Solutions

Co-Polymer and Steel Reservoirs

Co-Polymer & Steel Reservoirs

Features & Benefits

Parker hydraulic tank solutions are applied to a wide variety of markets		
Hyd. & lube oil filtration	**Co-polymer tanks**	**Steel tanks**
Agriculture	X	X
Construction equipment	X	X
Marine		X
Material handling	X	
Mining		X
Road building equipment	X	X
Transportation	X	X
Waste management / Environmental control	X	X

An introduction to Parker Hydraulic Reservoir Solutions
Parker's experience in designing fluid power equipment will help a system designer to save costs at every stage of hydraulic system development.

Co-polymer tank example

Original Equipment Manufacturers are continually looking to reduce manufacturing costs and increase operating efficiency and it's here that Parker Hannifin's European Filtration Division offers complete solutions. Beside high quality steel tanks designed and supplied by Parker and featured in this brochure, Parker also designs and supplies revolutionary, lightweight co-polymer reservoirs with tank top mounted or integrated filter and tank air filter options.

Both tank types can typically represent a significant contribution to cost savings. Because of the differing features and benefits between the metal and co-polymer tanks, Parker is able to offer customers the most appropriate tank concept to meet their specific requirements.

Saving costs with complete Parker Hydraulic Tank Solutions

- A partnership in supply chain management reduces costs
- An integration of reservoir functions
- Reduction of component parts
- Integrated hydraulic filter and air filter benefits
- Integrated oil level measurement benefits
- Standard & customised solutions offered
- Flexibility related to shape & dimension of each tank
- Leak-proof connections
- Patented element for guaranteed quality filtration

Steel tank example

Typical Applications

Unique tank solutions designed to meet customer needs
Parker designs and supplies both co-polymer and steel reservoirs.

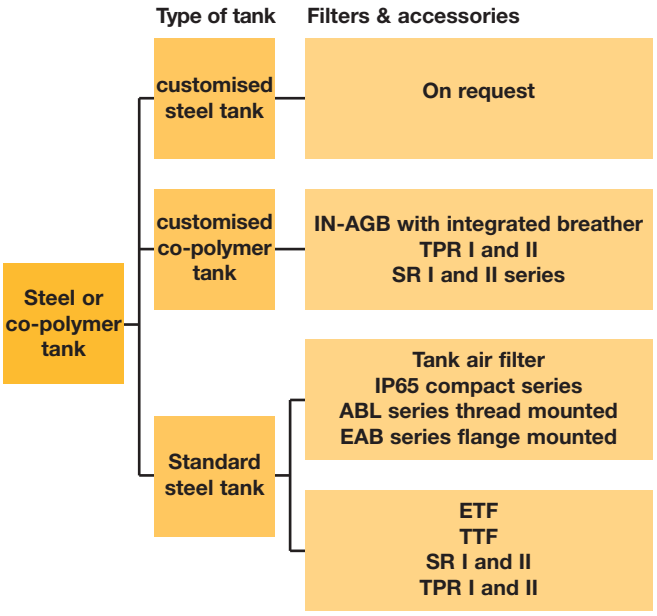
Today Parker steel tank solutions are typically applied to commercial vehicle applications for example waste management and the transportation market. Customers manufacturing hook-arm systems, truck manufacturing or vehicle body builders are further examples of potential customers for a complete steel tank assembly.

A more common use of co-polymer tanks can be seen in materials handling equipment, agricultural and construction equipment markets. Typical applications are warehouse trucks, smaller sized wheeled loaders, telescopic handlers, dumpers, mini excavators and agricultural machinery.

with the courtesy of Geesink B.V.

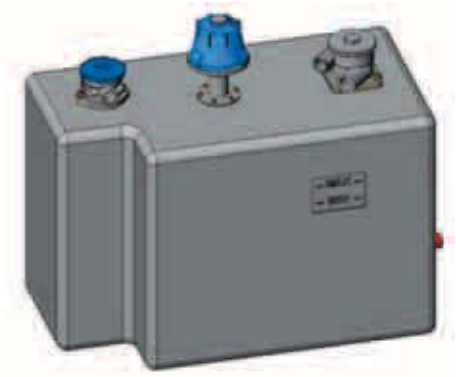
Specifications

Product Architecture



Co-polymer tank with integrated filter & air filter

Steel tank with integrated options



Example of co-polymer tank with top mounted filters and air filters

Design aspects	Co-polymer reservoir	Steel reservoir
Complicated shapes	X	
Styling of reservoir meets overall styling of vehicle	X	
Weight reduction	X	
Long-term temperatures Tmin< -30°C or Tmax> +120°C	(depends of material properties)	X
High mechanical load on tank (tank contributes to strength of chassis)		X
All-in-one concept	X	
High level of tank Pressurisation		X
Suitable for heavy duty equipment	X	X

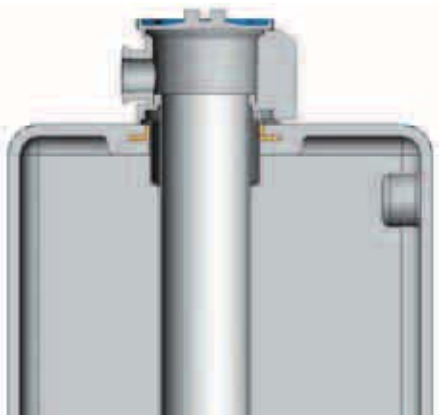
Design note: All customised tanks are engineered solutions based on detailed analysis of customer requirements and specifications. Detailed knowledge of co-polymer materials, implies that customised materials can be made available to meet specific demands. Depending on technical and commercial requirements, Parker is able to advise each customer individually, about the most suitable and economical reservoir solution, made from co-polymer or steel.

Co-Polymer Reservoirs

Features, Benefits & Specifications

Where a tailormade tank design is the solution
The lightweight co-polymer tank is an all-in-one solution that keeps in mind a customer's specific design requirements. Each tank is unique in terms of shape, dimensions and integrated functions. It is equipped with an integrated tank top mounted return line filter and tank air filter. All filters and air filters are supplied as standard with the patented, environmentally friendly *LEIF*® element.

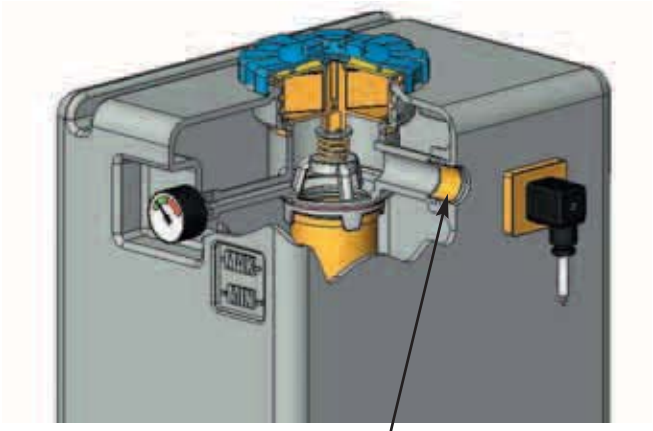
Reliable connections
Reliable, leak-proof connections have always been a critical aspect for co-polymer tanks. Parker has developed a technology using metal attachment components. All metal attachment components are moulded in with the co-polymer tank wall, ensuring a reliable, leak-proof connection between the tank and the components that are attached to it.



Parker Filtration has designed high tech sealing solutions for tank top mounted filters.

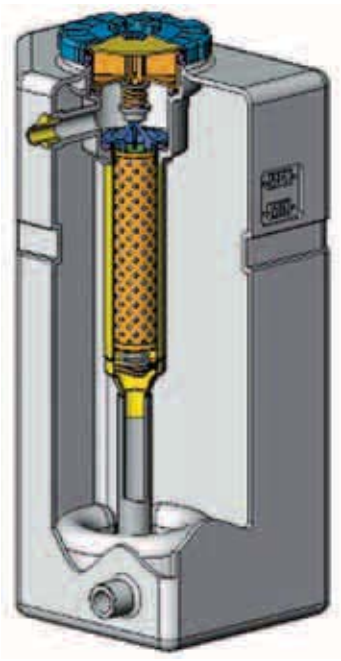
These attached connections (e.g. a suction connection for pumps, drains, vents, or a filler opening) can easily be achieved, as well as providing indications for minimum and maximum oil levels. Metal attachment connections can be made available for hose couplings, a flange attachment or thread attachment.

Co-polymer reservoirs are designed to meet the stringent demands of our customers. All relevant aspects are analysed, from material properties and operational conditions to dynamic load and requirements for equipment servicing.

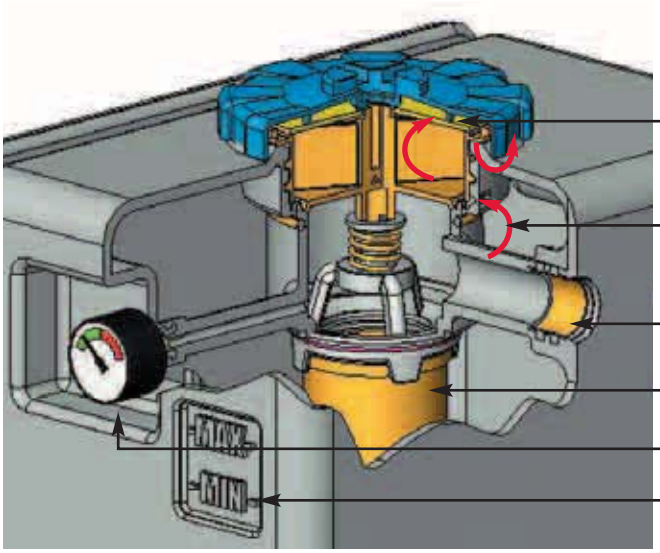


Customised integrated metal attachment
"Tank also features integrated level measurement"

Level measurement
Oil level indication can be fully integrated into the tank design. This feature eliminates the need for level glasses, which are fragile and an additional potential source of leakage when mounted incorrectly.



Example of customised co-polymer tank



Example of a customised tank with an integrated return line filter and air filter

The ultimate all-in-one design
A more frequent use of co-polymer tanks located on the outside of mobile equipment often results in specific requirements relating to styling.

Despite the compact design of Parker tank top mounted filters and air filters, these parts can influence aspects related to styling or cabin accessibility.

This concept is ideal for applications where space is at a premium.

Parker Filtration's unique all-in-one design, where the return line filter and air filter are both located under one cover is a concept that offers great possibilities related to tank styling. The high quality of the co-polymer material ensures a long-term stability of the chosen colour.

This all-in-one design features the IN-AGB type return line and integrated air filter with labyrinth. The labyrinth prevents oil leakage through the air filter. The connection(s) for return line(s) and filler port are integrated in the tank. This avoids having to have hydraulic hoses placed on top of the tank.

Environmentally friendly
Parker considers care for the environment as a social obligation. The environmentally friendly *LEIF*® element (Low Environmental Impact Filter) is applied to the return line filters and breathers type ABL and EAB.

What makes this element so special is that the metal sleeve can be re-used. As a result, this filter element component no longer ends up in the waste disposal; only the contaminated filter medium is disposed of as chemical waste. With *LEIF*® filter elements, the disposal and processing cost may be reduced by as much as 50%.

The *LEIF*® concept safeguards the use of genuine Parker parts.

***LEIF*® elements:**
- Environmentally friendly filtration
- Re-usable steel element sleeve
- Patented elements result in guaranteed quality of filtration
- Saves element disposal costs typically by up to 50%
- Supports ISO 14001 certification

IN-AGB with LEIF® element

Cost-effective
The advantages of this co-polymer concept are obvious:

- Lightweight
- Flexibility with respect to tank shapes
- Characteristics of plastic material can be customised to meet specific requirements
- Integration of several functions limits the use of individual components
- The tank can be purchased and supplied as a complete unit

Steel Reservoirs

Features, Benefits & Specifications

Parker steel reservoirs designed to withstand extreme conditions
Standard steel tanks are often specified for commercial vehicle side mounting. Parker steel tanks are built to last in extreme conditions. Extreme weather conditions and heavy duty vehicle movements can be resisted by our tank design.

Quality design
As with co-polymer tanks, steel tanks offer leak proof connections and are vigorously tested against leakage. Additionally, they are painted with primer and topcoat to ensure maximum protection against corrosion.

Steel tank with Tanktopper II filter

To help reduce dirt build-up, our steel tanks are designed with smooth corners and the upper front part of the tank can be sloped which offers extra benefits:

- Easier service access for the filter and tank air filter
- Dirt, water, snow and ice will not adhere to the tank surface next to the breather and filter

Suction port(s), covered with anti-vortex plate(s), allow low oil levels giving the operator an increased operational capacity. Before delivery the steel tanks are thoroughly washed inside and ready for system assembly.

Diverse tank size options are available
With space at a premium in most truck chassis configurations and the need to deal with toolboxes, compressed air reservoirs and other equipment, tank dimensions are always an issue. To meet the specific environment requirements Parker Filtration offers several tank sizes.

Steel tanks are fully equipped. Our customers can choose from a wide choice of filter options. Parker considers care for the environment. The environmentally friendly *LEIF*® element is also applied to steel tank solutions. Additionally, Parker steel reservoirs are equipped with an efficient air filter, a level gauge, plugs, a suction kit and mounting brackets. The level gauge can be re-located on the other side of the tank if user visibility is an issue.

Technical data steel tanks
Material: 2mm steel plate applied for standard reservoirs

Suction connection: Suction connections at the back and the bottom of the tank swivel type nominal size 2", 2½" and 3".

Air filter: Ref. product selection for types:
IP65
ABL
EAB

Tank top mounted return filter
TTF
ETF
Tanktopper I & II (with integrated air breather)
SR series (Suction & Return filters)

Support frame and fasteners
Included as standard
Holes must be drilled into the plate 160 x 280mm for attachment to the frame for standard steel reservoir

Steel tank with with customised chassis mounting straps

Detailed sectional view of Tanktopper II with integrated air filter

Ordering Information

Product configurator

Configurator examples SR filter

Box 1	Box 2	Box 3	Box 4	Box 5	Box 6	Box 7
S	**100**	**R**	**S**	**ETF4**	**Q10**	**E10**

Box 1

Bypass valve	
Material	**Code**
Steel (standard tank shape)	S
Steel (customised tank design)	on request
Co-polymer (customised tank design)	on request

Box 2

Tank volume			
Operating volume (L)	**Gross volume (L)**	**H x D x W**	**Code**
55	74	500 x 650 x 250	055
70	89	500 x 650 x 300	075
90	113	500 x 650 x 425	100
125	163	500 x 650 x 620	150
160	208	500 x 650 x 795	200
215	275	500 x 650 x 975	250

Box 3

Level glass	
Location	**Code**
Right hand side	R
Left hand side	L

Box 4

Suction port options	
Suction port connections	**Code**
Swivel type 42mm (nominal 2")	N
Swivel type 55mm (nominal 2 ½")	W
Swivel type SAE 3"	S (standard steel tanks)
G2" - Female BSP (ISO 228)	to be specified
G2 ½" - Female BSP (ISO 228)	to be specified
G2" - Female ball valve (manual operated)	to be specified
G2 ½" - Female ball valve (manual operated)	to be specified

Box 5

Filter model Other filter sizes are available		
Filter	**Qmax**	**Code**
ETF410QBP2FG164	120	ETF4
TTF710QLBP2EG243	230	TTF7
TPR710QLBP2E2G241	250	TPR7
SRL22QLBPGG201	250	SRL22

Note: Refer to the relevant product information to compose the required filter configuration.

Box 7

Tank air filter	
Tank air filter type	**Code**
IP65 (breather only)	IP65
Flange mounted style (compact design)	
EAB10	E10
EAB20	E20
Anti splash style filter (threaded connection)	
ABL1	ABL1
ABL2	ABL2

Note: filter codes are based on B(c)10≥200 glass fibre elements other degrees of filtration are standard available.

Degree of filtration						Media code
Average filtration beta ratio ß (ISO 16889) / particle size µm [c]						
ßx(c)=2	**ßx(c)=10**	**ßx(c)=75**	**ßx(c)=100**	**ßx(c)=200**	**ßx(c)=1000**	
% efficiency, based on the above beta ratio (ßx)						
50.0%	**90.0%**	**98.7%**	**99.0%**	**99.5%**	**99.9%**	
N/A	N/A	N/A	N/A	N/A	4.5	**02Q/02QL**
N/A	N/A	4.5	5	6	7	**05Q/05QL**
N/A	6	8.5	9	10	12	**10Q/10QL**
6	11	17	18	20	22	**20Q/20QL**

Highlights Key (Denotes part number availability)

123	Item is standard
123	Item is standard with “green” options
123	Item is semi standard
123	Item is non standard

Note: Standard items are in stock, semi standard items are available within four weeks

Note 1: Part numbers featured with bold highlighted codes will ensure a ‘standard’ product selection.
Note 2: Alternate displayed part number selection will require you to contact Parker Filtration for availability.

The PARFIT™ Fit

THERE'S ONLY ONE SOLUTION

When it comes to replacement hydraulic filter elements there is only one solution: The ParFit interchange element range.

With over 10,000 standard, off-the-shelf variations, there's a ParFit element to fit most sizes and makes of OEM filters on mobile, construction, agricultural and industrial plant.

Every ParFit filter element is manufactured in Europe to the highest standards and is backed by our unrivalled technical support and money-back guarantees.

That means that you can reduce stockholdings, cut costs and be sure of the ultimate performance, with long, trouble-free operating life.

ParFit filters are available from ParkerStores and authorised distributors throughout the UK. To find your nearest ParkerStore Email filtrationinfo@parker.com or find the ParFit you need using our element selector at www.parker.com/parfit.

www.parker.com/parfit

Parker
anything possible

Filtration

Spin-on Filters

Maxiflow Series

MAX 360 l/min - 10 bar

Spin-on Filters

Maxiflow Series

Features & Benefits

Features	Advantages	Benefits
Integrated indicator	Compact and robust durable construction	Easy identification of element status
High quality paint for canisters	Long term protection against corrosion	Improved protection of filter medium
Spin-on filters available for suction and return line filtration	Flexible product offering	Standardisation of components
High quality filter medium	Filter medium suitable for fatigue load due to high frequent flow fluctuation	Extended element life time

Typical Applications

- Telescopic handlers
- Refuse vehicles
- Road sweepers
- Compactors
- Industrial power units
- Grass cutters
- Press brakes

The Parker Filtration Maxiflow Full Flow Filters for Suction or Return.

Size 1 and 2 Maxiflow Filters feature two integral red/green indicators incorporated into the head casting design. Fitted as standard, they ensure maximum indicator visibility and early warning of filter condition.

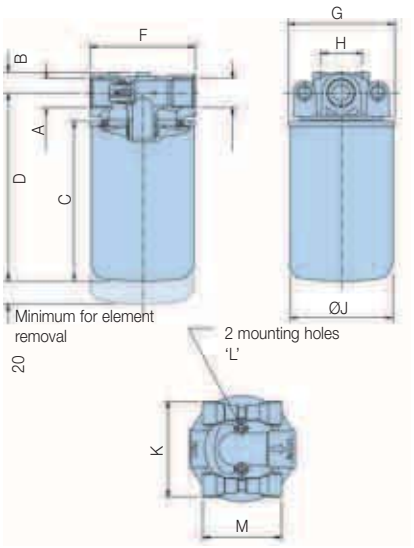
Size 3 Maxiflow features one integral indicator.

Specification

	Preferred Series MXA	PS Series
Maximum working pressure:	10 bar	10 bar
Filter head material:	Aluminium LM24	Aluminium alloy
Filter bowl material:	Steel	Steel
Seal material:	Nitrile	Buna (nitrile)
Operating temperature range:	-30°C to +90°C	-30°C to +110°C
Bypass:	Return line 1.05 bar Suction line 0.17 bar No bypass option	Return line 1.5 bar Suction line 0.10 bar No bypass option
Fluids:	Mineral oils	Mineral oils
Element media:	Microglass III media Cellulose media	

Installation Details

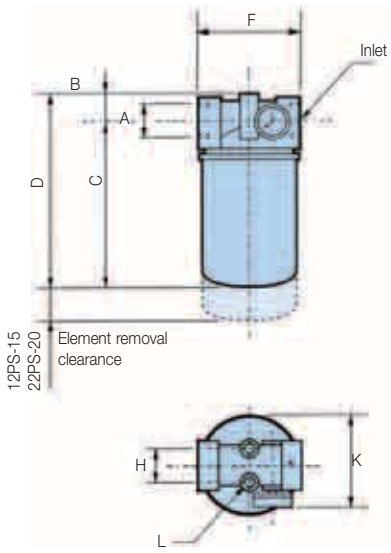
MXA.8/MXA.9***



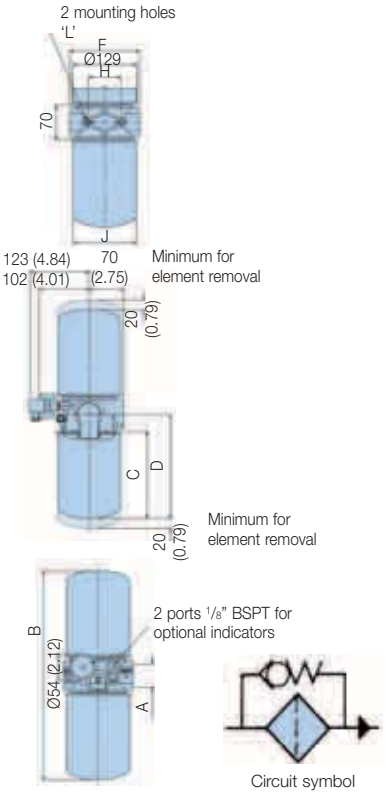
Filter selection

To select the correct filter use the appropriate pressure drop graphs. For details and an example of how to select the correct filter, see next page.

12PS/22PS



Size 3 MXA.7***



Type	A	B	C	D	F	G	H	J	K	L	M
MXA.8	G3/4	19 (0.75)	147 (5.79)	173 (6.81)	95 (3.74)	97 (3.82)	38 (1.49)	94 (3.7)	88 (3.46)	M8 x 1.25 x 16 full depth	72 (2.83)
12PS		22 (0.86)	165 (6.49)	187 (7.36)	95 (3.74)	N/A	38 (1.49)	93 (3.66)	107 (4.21)		N/A
MXA.9	G1 1/4	30 (1.18)	179 (7.04)	213 (8.38)	133 (5.24)	129 (5.08)	50 (1.97)	127 (5.0)	130 (5.12)		72 (2.83)
22PS		28 (1.10)	208 (8.19)	236 (9.29)	133 (5.23)	N/A	50 (1.97)	130 (5.12)	N/A		N/A
MXA.7	G1 1/2	430 (16.93)	179 (7.05)	214 (8.42)	140 (5.51)	N/A	65 (2.56)	127 (5.0)		M10 x 1.5	

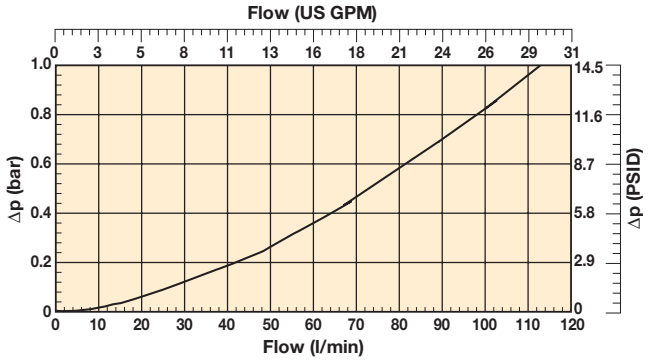
Maxiflow Series

Pressure Drop Curves

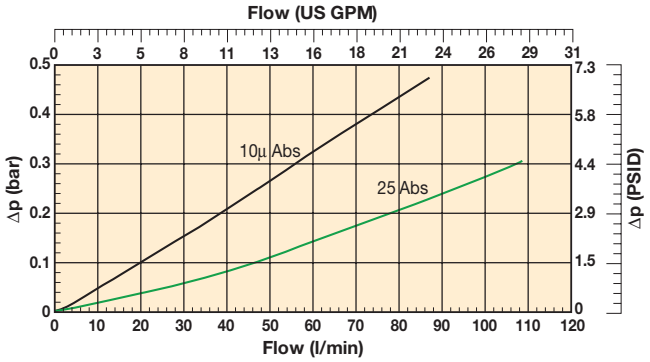
The recommended level of the initial pressure drop for low pressure filters is max 0.5 bar.
If the medium used has a viscosity different from 30cSt, pressure drop over the filter can be estimated as follows:
Δp = (Δp30 x viscosity of medium used) / 30cSt.

Size 1 Maxiflow (MXA.8*** Series) and 12PS Series

Filter Housing

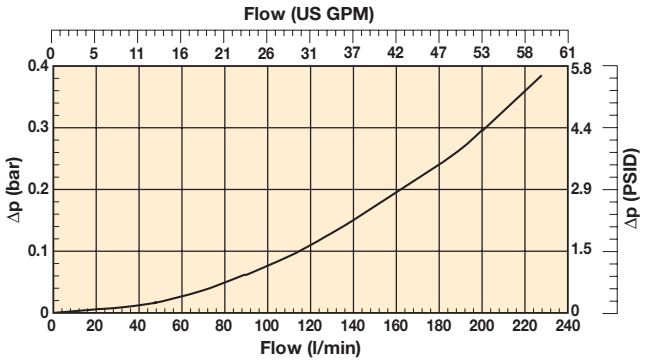


Filter Element

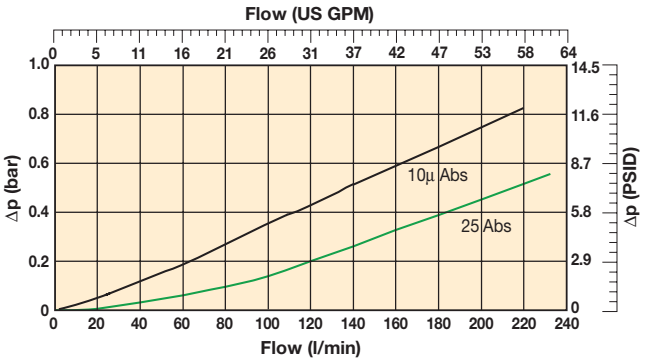


Size 2 Maxiflow (MXA.9*** Series) and 22PS Series

Filter Housing

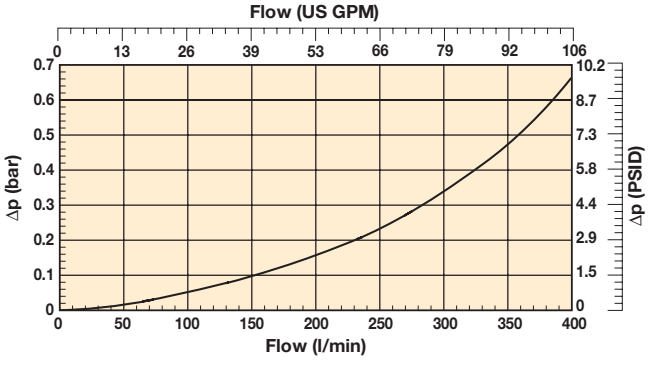


Filter Element

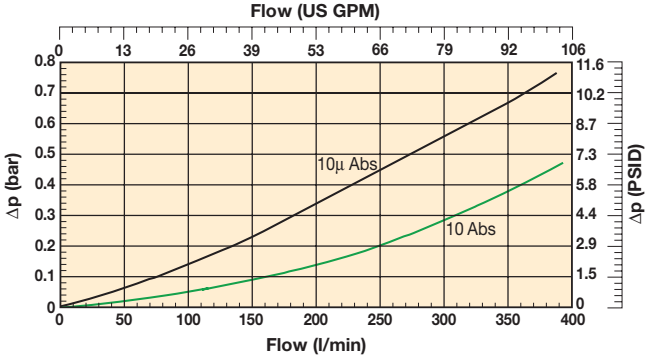


Size 3 Maxiflow (MXA.7*** Series)

Filter Housing



Filter Element



Note: All above data is calculated at 30cSt Rel density 0.856.

Ordering Information

MXA.8*** & 12PS Return Line Filters

Type	Part number	Description	MAOP (bar)	Flow (l/min)	Media rating	Ports	Replacement element
MXA	**MXA8551424**	Assembly with bypass & dual visual indicators	10	70	10 micron abs.	G3/4	**MXR8550**
PS	**12PS10BTV1R2B**	Assembly with bypass & gauge type visual indicators					
MXA	**MXA8511424**	Assembly with bypass & dual visual indicators	10	70	10 micron nom.	G3/4	**MX1518410X4 (x4*)**
PS	**12PS10CTV1R2B**	Assembly with bypass & gauge type visual indicators					
	12PS10CTE2R2B	Assembly with bypass & electrical pressure indicator					
	12PS10CTPR2B	Assembly with bypass & no indicator					

MXA.8*** & 12PS Suction Line Filters

MXA	**MXA8551223**	Assembly with bypass & dual visual indicators	10	20	10 micron nom.	G3/4	**MX1518410X4 (x4*)**
PS	**12PS10CTV1S4B**	Assembly with bypass & gauge type visual indicator					
MXA	**MXA8551023**	Assembly without bypass, with dual visual indicators					
PS	**12PS10CTV1SX4B**	Assembly without bypass, with gauge type visual indicator					

MXA.9*** & 22PS Return Line Filters

MXA	**MXA9561424**	Assembly with bypass & dual visual indicators	10	30	3 micron abs.	G1 1/4	**MXR9560**

3 Micron abs. filtration for Off-Line and Bypass System Clean Up
Maxiflow 3 micron elements are ideal for off-line or bypass clean up applications. These can be specified for the 9*** and 7*** series return line filters

MXA	**MXA9551424**	Assembly with bypass & dual visual indicators	10	180	10 micron abs.	G1 1/4	**MXR9550**
PS	**22PS10BTV1R2D**	Assembly with bypass & gauge type visual indicators					
PS	**22PS10BTE2R2D**	Assembly with bypass & electrical pressure indicator					
PS	**22PS10BTPR2D**	Assembly with bypass & no indicator					
MXA	**MXA9511424**	Assembly with bypass & dual visual indicators	10	180	10 micron nom.	G1 1/4	**MX1591410X4 (x4*)**
PS	**22PS10CTV1R2D**	Assembly with bypass & gauge type visual indicator					
PS	**22PS10CTE2R2D**	Assembly with bypass & electrical pressure indicator					
PS	**22PS10CTPR2D**	Assembly with bypass & no indicator					

MXA.9*** & 22PS Suction Line Filters

MXA	**MXA9511223**	Assembly with bypass & dual visual indicators	10	48	10 micron nom.	G1 1/4	**MX1591410X4 (x4*)**
PS	**22PS10CTV2S4D**	Assembly with bypass & gauge type visual indicator					
MXA	**MXA9511023**	Assembly without bypass, with visual indicators					
PS	**22PS10CTPSX4D**	Assembly without bypass, no indicator					

MXA.7*** Return Line Filters

MXA	**MXA7551424**	Assembly with bypass & dual visual indicators	10	300	10 micron abs.	G1 1/2	**MXR9550**
MXA	**MXA7511424**	Assembly with bypass & dual visual indicators	10	350	10 micron nom.	G1 1/2	**MX1591410X4 (x4*)**

MXA.7*** Suction Line Filters

MXA	**MXA7551223**	Assembly with bypass & visual indicators	10	80	10 micron abs.	G1 1/2	**MXR9550**
	MXA7551023	Assembly without bypass with visual indicators					
MXA	**MXA7511223**	Assembly with bypass & visual indicators	10	80	10 micron nom.	G1 1/2	**MX1591410X4 (x4*)**
	MXA7511023	Assembly without bypass with visual indicators					

The Maxiflow Series 7*** can be specified with additional visual or electrical indicators. Please consult Parker Filtration for details

Note: Elements marked with (x4*) are only available in 4 element packs

Notes

Suction Filters

ATZ Series

MAX 300 l/min

Suction Filters

ATZ Series

Features & Benefits

Features	Advantages	Benefits
Cast aluminium construction	Compact and robust durable construction	Suitable for heavy duty industrial applications
Integrated check valve	Filter element can be changed when the filter housing is submerged under the oil in the tank	Improved protection of sophisticated pumps
Magnetic pre-filtration	Removes ferro particles, even during bypass conditions	Improved fluid cleanliness levels
		Extended element life time
In-to-Out filtration	All captured contamination retains inside the element	No recontamination of system during change of elements
Wide range of vacuum measurement devices	Continuous filter condition monitoring	Contributes to just-in-time service
		Improved protection of pump when pressure measurement device connected with pump drive management

Typical Applications

- Wool untangling machine
- Hydraulic winch
- Power packs with sophisticated pumps
- Drilling blocks

The Parker Filtration ATZ Series Submersible Suction Filters.

ATZ Filters are located below the tank's oil level, offering maximum protection for the hydraulic system pump. When removing the element, the check valve closes automatically, eliminating any chance of oil leakage. Pre-filtration takes place by means of a magnet column. Thanks to the 'In-to-Out' filter principle, contaminated oil cannot leak back into the system. ATZ Filters are capable of handling flow rates up to 300 l/min.

Specification

Operating pressure:
Vacuum.

Assembly:
Suction line filter, mounted horizontally against tank side.

Connections:
Threads G1$^{1}/_{2}$ (ISO 228) or flanges 2" SAE-300PSI.

Filter housing:
Aluminium.

Seal material:
Nitrile, neoprene, fluoroelastomer.

Operating temperature range:
-40° to +120°C.

Bypass valve:
Blocked.

Degree of filtration:
Determined by multipass test according to ISO 16889.

Flow fatigue characteristics:
Filter media is supported so that the optimal fatigue life is achieved.

Filtration media:
Microglass III.
10µ cellulose and 40µ Stainless Steel.

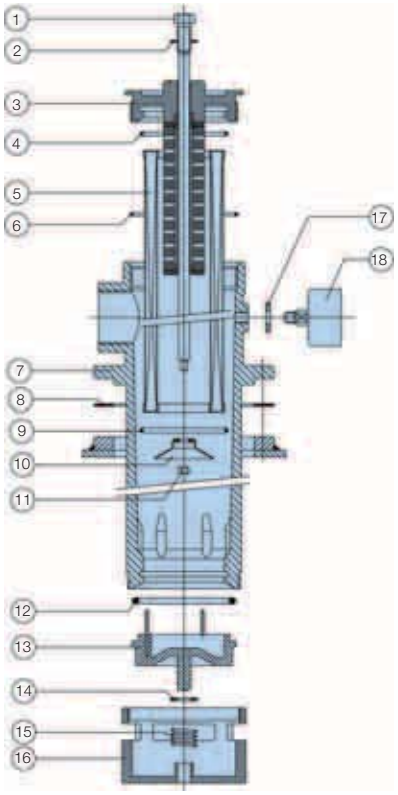
Element collapse rating:
10 bar (ISO 2941).

Pressure indicator options:
0.15 bar or 0.30 bar (vacuum gauge).
125-250VAC (LI-0, 5A, Lr-2, 0A) (electrical vacuum switch).
12-28Vdc (Li-1, 0A, Lr-3, 0A) (electrical vacuum switch).

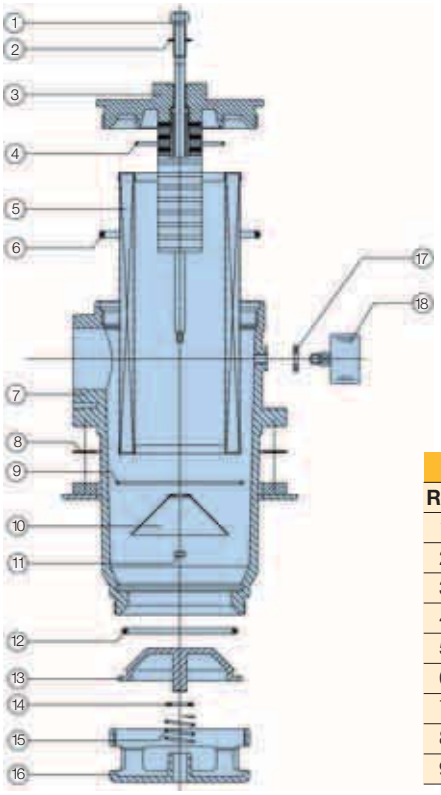
Features:
Unique check valve, enabling element change below oil level.

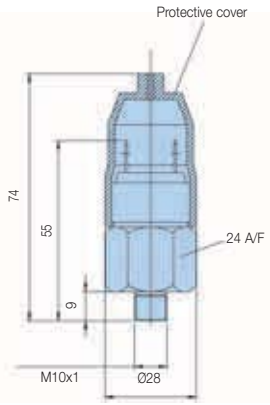
Filter element:
Element with steel end caps.

ATZ-120



ATZ-300





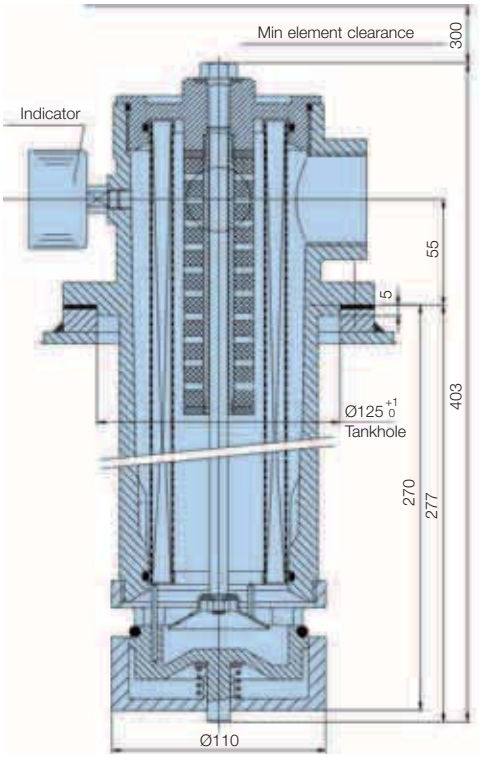
ATZ-120 & ATZ-300

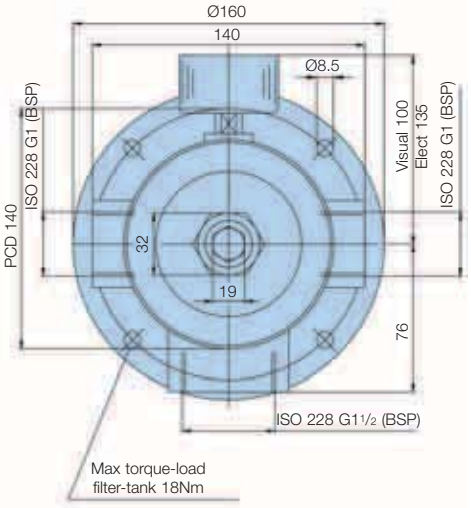
Ref. No.		Description	Ref. No.		Description
1	1	Bolt	10	1	Valve support
2	1	Seal ring	11	1	Nut
3	1	Insert	12	1	O-ring
4	1	O-ring	13	1	Valve
5	1	Element	14	1	Ring
6	1	O-ring	15	1	Spring
7	1	Filter-housing	16	1	Valve-housing
8	1	Gasket	17	1	Bonded seal
9	1	O-ring	18	1	Indicator

ATZ Series

Specification (cont.)

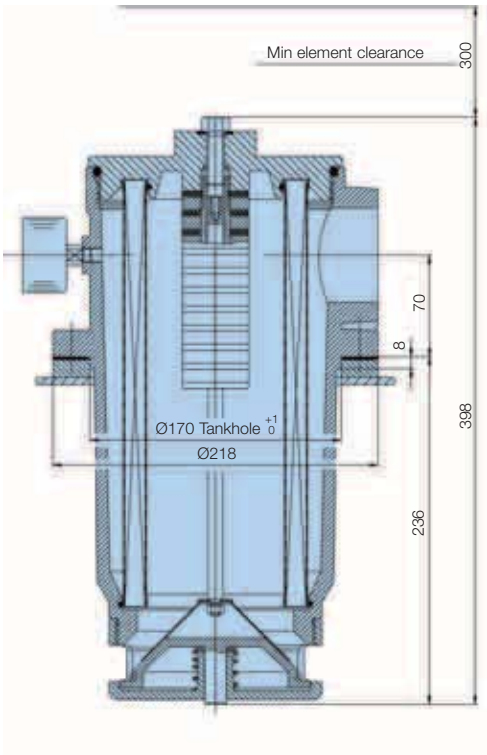
ATZ-120

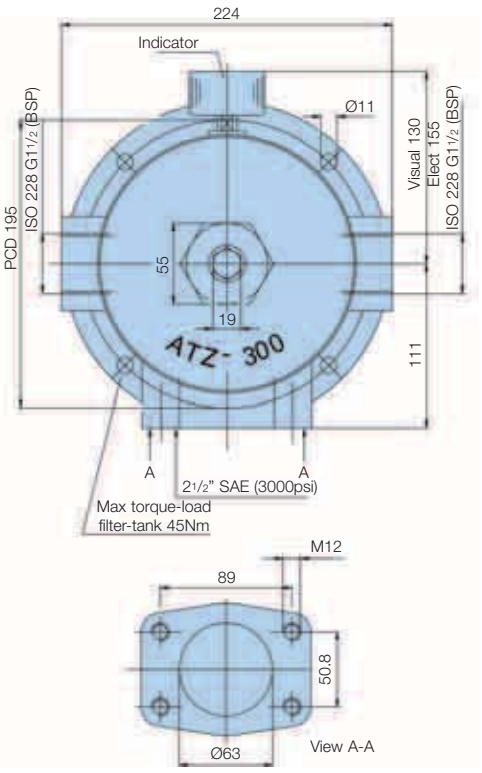




The Parker suction filters, type ATZ, are designed for submerged operation. The filters contain a unique check valve which automatically closes when the filter insert is removed from the housing, thus enabling element change below oil level. Construction is based on the field proven Parker Filter System.

ATZ-300

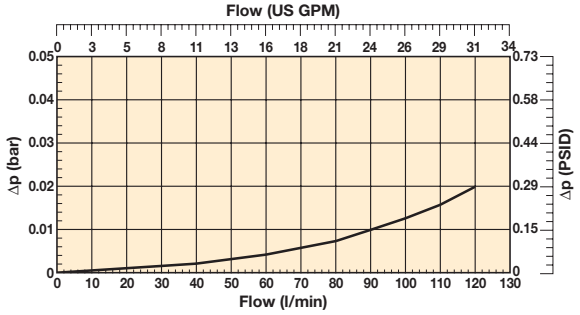




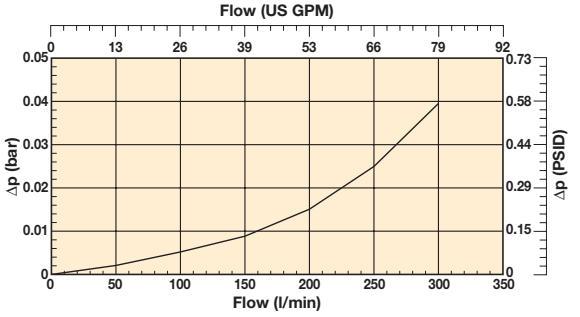
Pressure Drop Curves

The recommended level of the initial pressure drop for suction filters is 0.03 bar.
If the medium used has a viscosity different from 32cSt, pressure drop over the filter can be estimated as follows:
Δp = (Δp32 x viscosity of medium used) / 32cSt.
Filter housing and element pressure drop based on 32cSt fluid viscosity and 0.87 density.

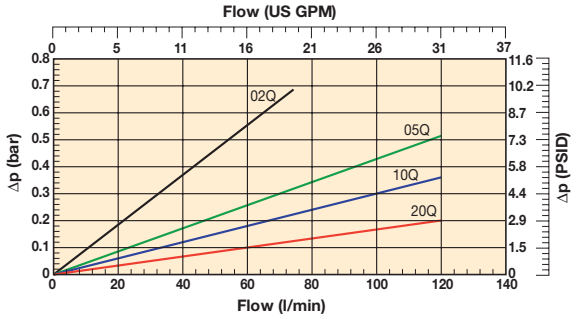
ATZ 1-120 (G1 1/2) Empty Housing



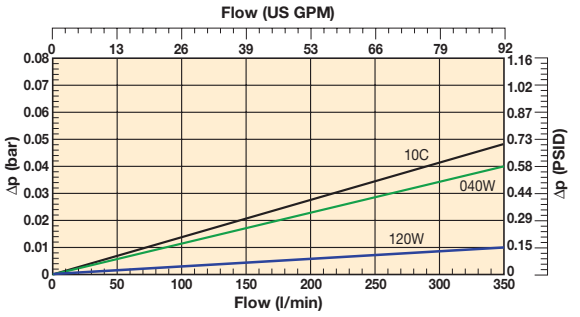
ATZ 300 (2 1/2 SAE FLANGE) Empty Housing



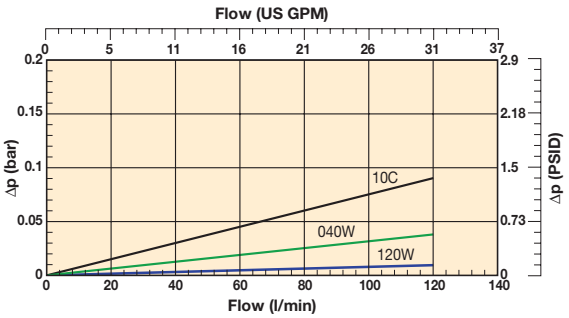
ATZ120 Filter Element Length 1



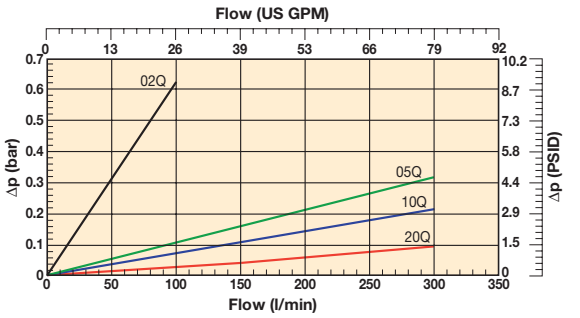
ATZ300 Filter Element Length 2
(cellulose and stainless steel)



ATZ120 Filter Element Length 1
(cellulose and stainless steel)



ATZ300 Filter Element Length 2



ATZ Series

Ordering Information

Standard products table

Part number	Supercedes	Flow (l/min)	Model number	Element length	Media rating (µ)	Seals	Indicator	Bypass settings	Ports	Included options	Replacement elements	Supercedes
ATZ110CBP1XG241	ATZ120-G1½ FXX1-R-10 B M	120	ATZ120	Length 1	10 NOM	Nitrile	Plugged	Blocked	G1½"	None	**937958**	FXX1-R-10
ATZ110QBP1XG241	ATZ120-G1½ FXW1-R-10 B M	120	ATZ120	Length 1	10 ABS	Nitrile	Plugged	Blocked	G1½"	None	**937964Q**	FXW1-R-10
ATZ210CBP1XR481	ATZ300-S2½-C FXX3-10 B M	300	ATZ300	Length 2	10 NOM	Nitrile	Plugged	Blocked	2½" SAE-3000 PSI	None	**937959**	FXX3-10
ATZ210QBP1XR481	ATZ300-S2½-C FXW3-10 B M	300	ATZ300	Length 2	10 ABS	Nitrile	Plugged	Blocked	2½" SAE-3000 PSI	None	**937965Q**	FXW3-10

Note: Filter assemblies ordered from the product configurator below are on extended lead times. Where possible, please make your selection from the table above.

Product configurator

Configurator example ATZ filter

Box 1	Box 2	Box 3	Box 4	Box 5	Box 6	Box 7	Box 8
ATZ	**2**	**10C**	**B**	**U2**	**X**	**R48**	**1**

Box 1

Code
ATZ

Box 2

Filter type	
Housing	**Code**
ATZ 1-120	**1**
ATZ 2-300	**2**

Box 3

Degree of filtration						
Element media		**Glass fibre**				
		Microglass III (for disposable elements)				
	Cellulose					**Wire mesh**
	Nom. rating	2µ media	5µ media	10µ media	20µ media	Abs. rating
Disposable element	10C	02Q	05Q	**10Q**	20Q	040W

Box 4

Seal type	
Seal material	**Code**
Nitrile	**B**
Fluoroelastomer	V
Neoprene	N

Box 5

Indicator	
	Code
Vacuum gauge, setting -0.15 bar, M10x1	U1
Vacuum gauge, setting -0.3 bar, M10x1	**U2**
Vacuum switch 42V, -0.15 bar setting, NO/NC, M10 x 1	V1
Vacuum switch 42V, -0.30 bar setting, NO/NC, M10 x 1	V2
Vacuum switch 250 VAC, -0.15 bar setting, NO/NC, M10 x 1	V3
Vacuum switch 250 VAC, -0.30 bar setting, NO/NC, M10 x 1	V4
No indicator, indicator ports not machined	N
No indicator, indicator port plugged	**P**
Other settings for indicators / gauges on request	on request

Box 6

Bypass valve	
Bypass valve	**Code**
Blocked bypass	**X**

Box 7

Filter connection	
Ports	**Code**
G1½" + 2 x G1" (For ATZ 1-120 only)	**G24**
2½" SAE-3000 PSI +2 x G1½" (For ATZ 2-300 only)	**R48**

Box 8

Options	
Options for ATZ 1-120	**Code**
1 x G1½" + 1 x G1" plugged	**1**
Not plugged	Q
1 x G1" right plugged	R
2 x G1" left & right plugged	P
Special	on request
Options for ATZ 2-300	
1 x SAE16 plugged	1
Not plugged	Q
Special	on request

Highlights Key (Denotes part number availability)

123	Item is standard
123	Item is standard with "green" options
123	Item is semi standard
123	Item is non standard

Note: Standard items are in stock, semi standard items are available within four weeks

Degree of filtration						Media code
Average filtration beta ratio ß (ISO 16889) / particle size µm [c]						
ßx(c)=2	**ßx(c)=10**	**ßx(c)=75**	**ßx(c)=100**	**ßx(c)=200**	**ßx(c)=1000**	
% efficiency, based on the above beta ratio (ßx)						
50.0%	**90.0%**	**98.7%**	**99.0%**	**99.5%**	**99.9%**	
N/A	N/A	N/A	N/A	N/A	4.5	**02Q**
N/A	N/A	4.5	5	6	7	**05Q**
N/A	6	8.5	9	10	12	**10Q**
6	11	17	18	20	22	**20Q**

Visual indicator	
Setting	-0.3 bar
Thread connection	M10x1
Code	FMUV2VBMM10L

Electrical switch	
Setting	-0.3 bar
Thread connection	M10x1
Switch type	NO or NC
Elec.connection	AMP terminal 6.3x0.8
Protection	IP54 (terminal IP00)
Performance	125-250 VAC (Li 0,5A, Lr 2,0A max)
	12-28 Vdc (Li 1,0A, Lr3,0A max)
Code	FMUU2VBMM10L

Spare element table						
ATZ 1-120	FXX1-R-10	FXW1-R-2	FXW1-R-5	FXW1-R-10	FXW1-R-20	SF1-R-40
Part number spare element	937958	937960Q	937962Q	937964Q	937966Q	937967
ATZ 2-300	FXX3-10	FXW3-2	FXW3-5	FXW3-10	FXW3-20	SF3-40
Part number spare element	937959	937961Q	937963Q	937965Q	937966Q	937968

Note 1: Part numbers featured with bold highlighted codes will ensure a 'standard' product selection.
Note 2: Alternate displayed part number selection will require you to contact Parker Filtration for availability.