Tanktop Mounted Return Line Filters with Integrated Air Breather

Tanktopper Series I,II & III

MAX 650 l/min - 10 bar

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 ferrous 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. Air breather 10 micron Abs.
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.

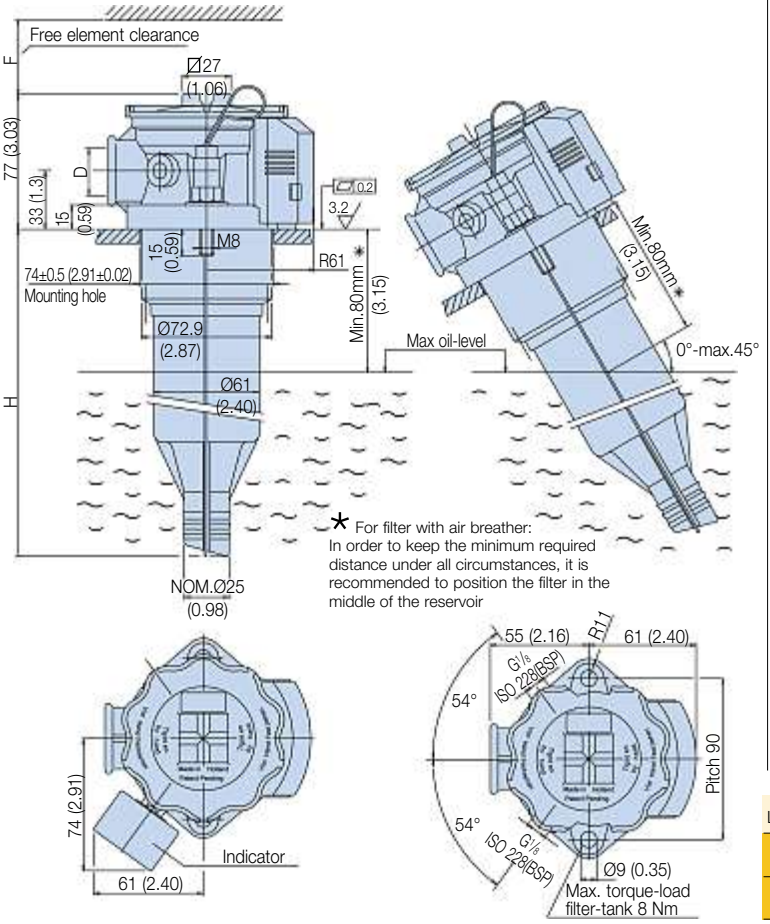
Options:
Dipstick
Second port (only for TPR II and III)

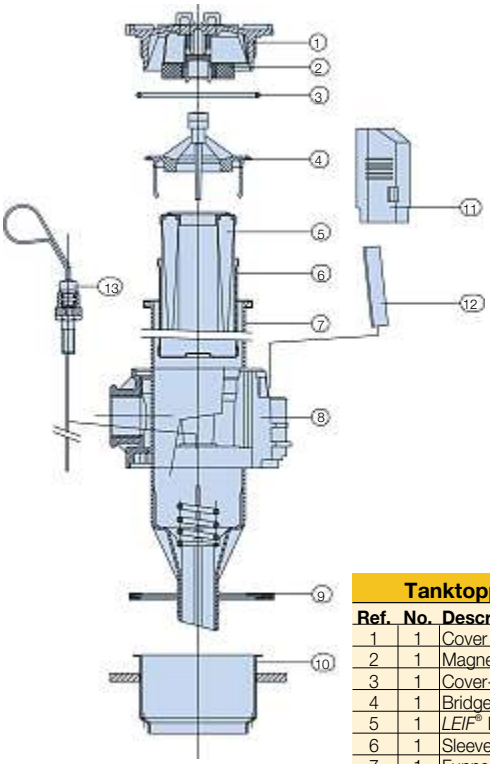
Magnetic pack:
Optional for Tanktopper I.
Standard for Tanktopper II and III.

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 1 and 2)





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

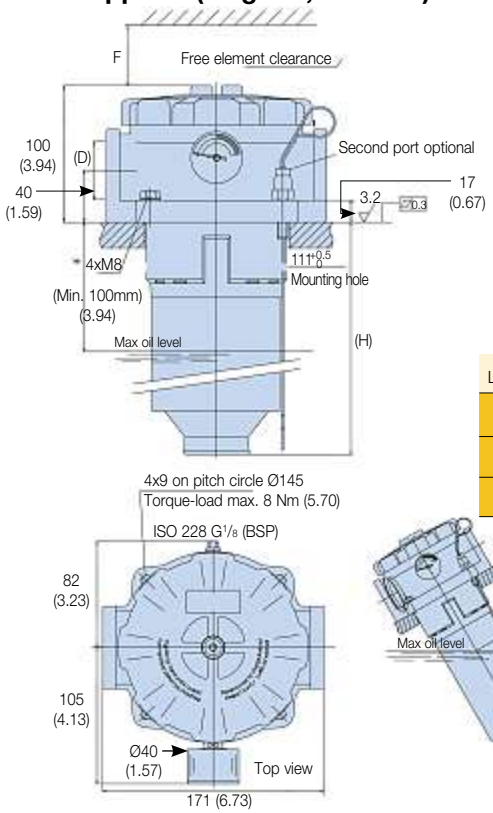
Dimensions in mm

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 (length 5, 6 and 7)



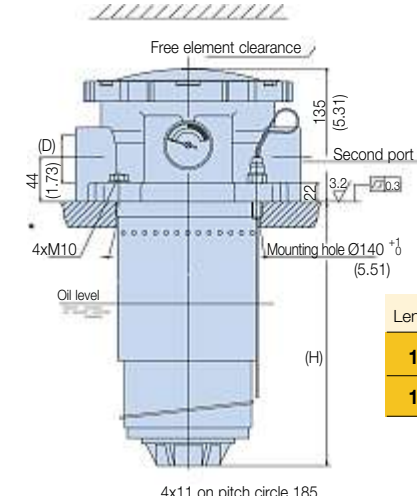
(Port)	D
G1¼	(BSP)
G1½	(BSP)
SAE 20	
SAE 24	

Length		H	F
5	TPR2-120	181 (7.12)	170 (6.70)
6	TPR2-200	267 (10.51)	255 (10.03)
7	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

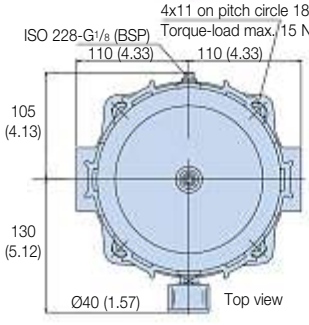
Tanktopper III (length 10 and 11)

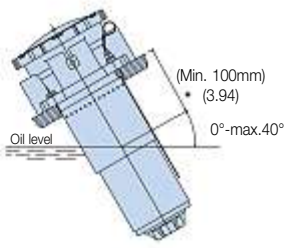


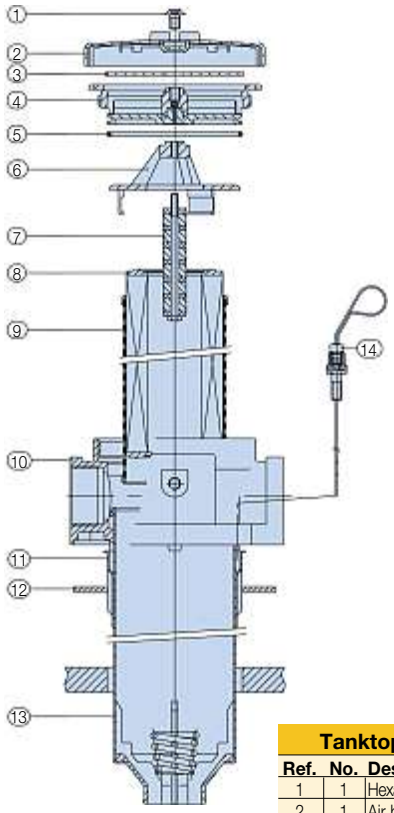
* For filter with air breather:
In order to keep the minimum required distance under all circumstances, it is recommended to position the filter in the middle of the reservoir

Length		D	H	F
10	TPR3-450	-G1½ (BSP)	415 (16.34)	345 (13.58)
11	TPR3-650	-G1½ (BSP)	600 (23.62)	530 (20.87)

Dimensions in mm

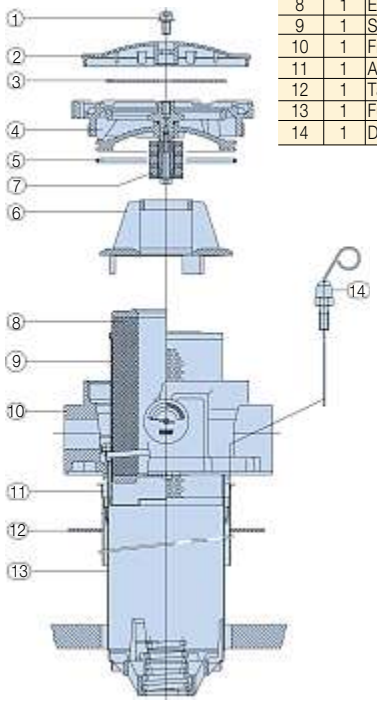






Tanktopper II & III

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

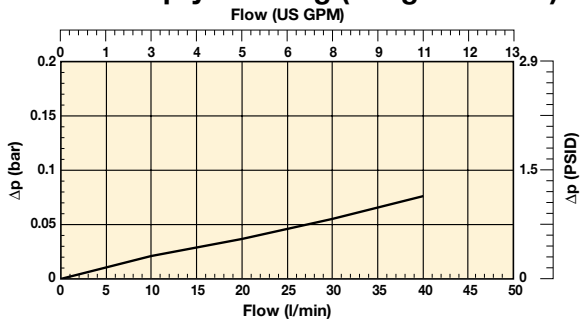


Tanktopper Series I & II

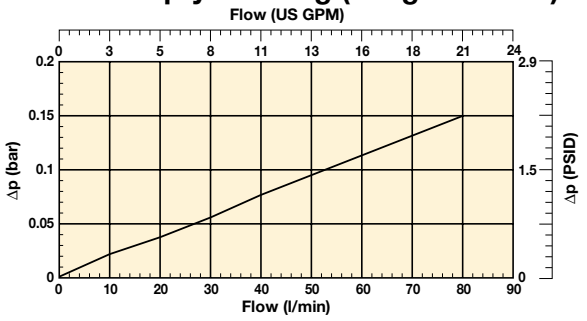
Pressure Drop Curves - Tanktopper I

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

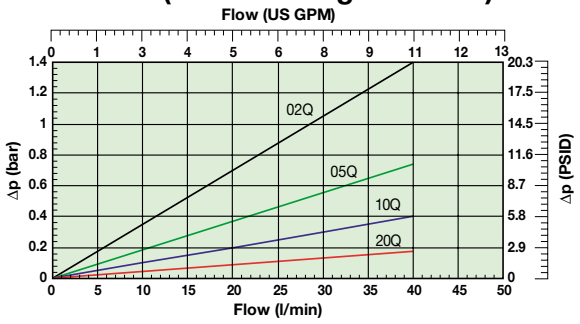
TPR40 Empty Housing (Length code 1)



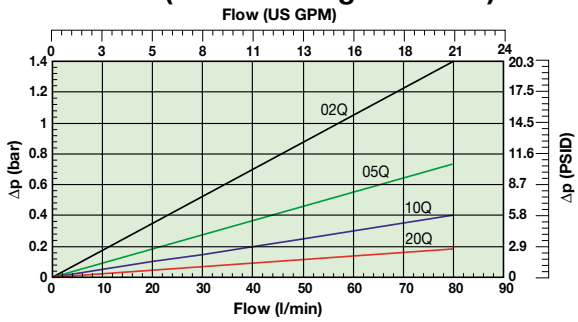
TPR80 Empty Housing (Length code 2)



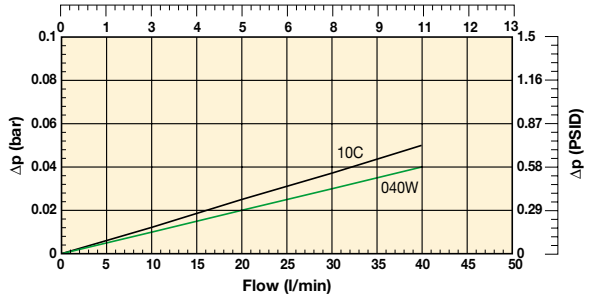
TPR40 (Element length code 1)



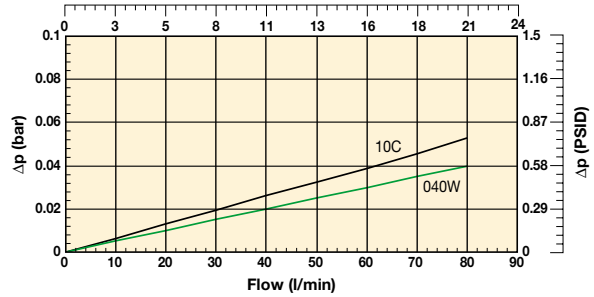
TPR80 (Element length code 2)



TPR40 (Element length code 1)
(cellulose and stainless steel)



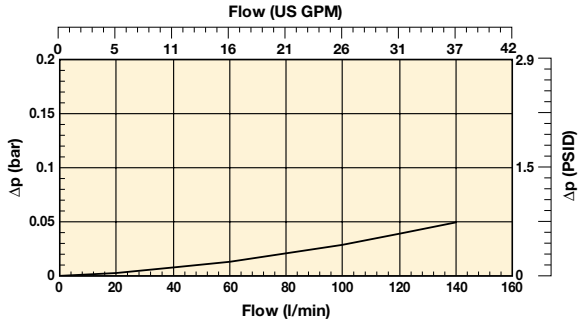
TPR80 (Element length code 2)
(cellulose and stainless steel)



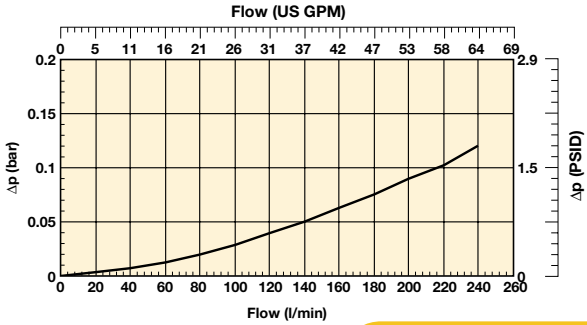
Pressure Drop Curves - Tanktopper II

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

TPR II Empty Housing with G1¼" ports (Length code 5, 6 and 7)



TPR II Empty Housing with G1½" ports (Length code 5, 6 and 7)

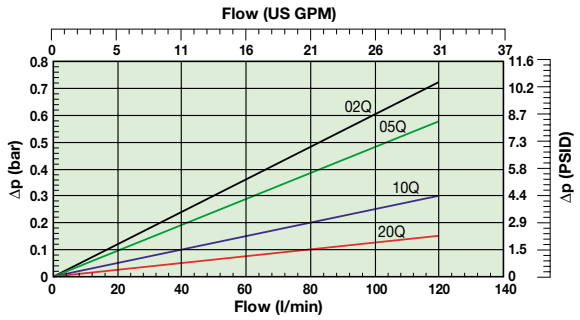


Tanktopper Series II & III

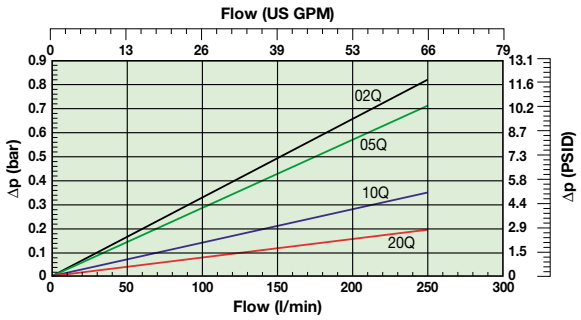
Pressure Drop Curves - Tanktopper II (cont.)

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

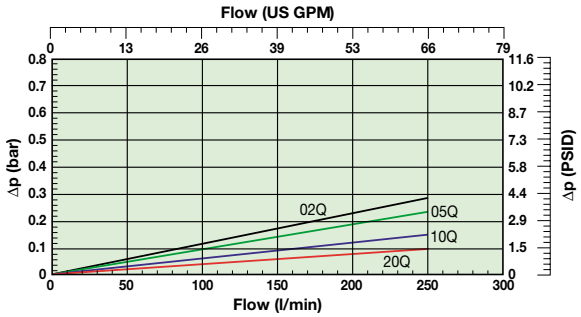
TPR120 (Element length code 5)



TPR200 (Element length code 6)



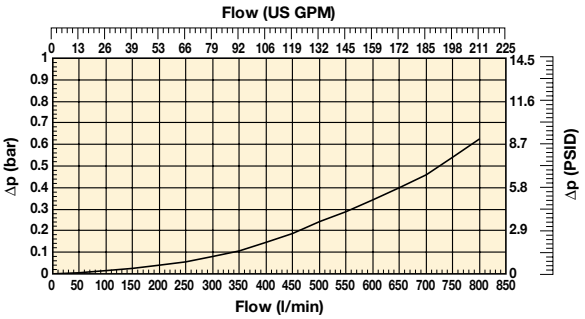
TPR250 (Element length code 7)



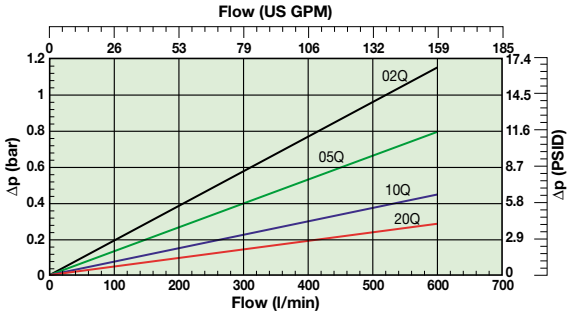
Pressure Drop Curves - Tanktopper III

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

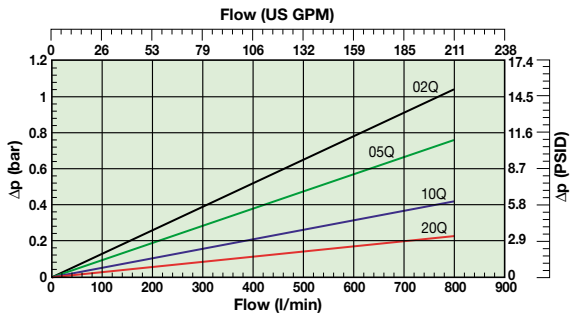
TPR III Empty Housing with G1½" ports (Length code 10 and 11)



TPR450 (Element length code 10)



TPR650 (Element length code 11)



Tanktopper Series I,II & III

Ordering Information

Standard products table

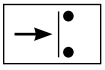
Part number	Supersedes	Flow (l/min)	Model number	Element length	Media rating (µ)	Seals	Indicator	Bypass settings	Ports	Included options	Replacement elements	Supersedes
TPR110QLBP2EG12E	TPR40-G3/4 PXWL1-10 B15 MM MA	40	TPR40	Length 1	10	Nitrile	Plugged	1.5 Bar (22 Psi)	G3/4	Magnets	**937902Q**	PXWL1-10
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.

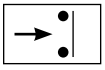
Visual indicator	
Thread connection	G1/8
Code	FMUG2EBPG02L

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					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 green option
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**

Supersedes 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

Supersedes 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	