



INDUSTRIAL OIL FILTRATION Overview



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Filters are devices which separate solid particles from fluids. The filters used to filter solid particles from fluids or to separate dust from gas are made out of fibre or granules. The filtered fluid is known as the filtrate. The material held back through filtering is called residue. The process as such is known as filtration.

There is nothing more frustrating than to see a well designed system, which uses the best hydraulic components, fail simply because of dirt. Nevertheless, studies have shown that over 60% of all hydraulic systems down time can be attributed to untidy maintenance, and lack of proper filtration.

The task of the hydraulic filter:

- To remove solid contaminants from the hydraulic medium thereby preventing failure of expensive components.
- Reducing aging of the hydraulic medium by removing contaminant that will cause chemical degradation.
- Maintain lubricity of the hydraulic medium.
- Helping to prevent wear of components, preventing leakage and heat generation.

The contaminant:

- The contaminant is defined as any material or substance which is unwanted or adversely affects the fluid power system or component. Typical types of contamination are: chips, sand, dust, fibres, paint fragments, water or preservatives.

The contamination which is to be removed by filters comes from the direct surroundings of the hydraulic system via filler caps and seals. This type of contamination is known as external contamination or contamination entering from outside the system.

The moving parts in the hydraulic system e.g. pumps, pistons and valves also create particles (abrasion). This type of contamination creation is known as internal dirt production.

The effects of contamination:

- It is important to understand the effects contamination has on the hydraulic system. There are two types of failures that can be attributed to contamination in the system. They are degradation failure and catastrophic failure.

Degradation failure:

- This is probably the most costly contamination caused failure because it degrades the performance characteristics of virtually every component in the system. During degradation failure of a component, the abrasiveness of minute particles cause accelerated wearing of the close tolerance sealing surfaces. This increases internal leakage and reduces the performance capability of the component. Unfortunately degradation failure is a relatively slow process, which camouflages the loss of performance on a day to day basis.

Catastrophic failure:

- This is the immediate failure of a system component. Although this type of failure is not always related to contamination, contaminants are the most probable cause. In catastrophic failure, large particles cause moving parts to jam or stick. With pumps, the contaminants can gather in a location which block critical lubrication passages. Without proper lubrication, immediate failure is sure to follow.

Considering the fact that contaminants cause failure, we must take positive steps to minimise the level of contamination in the hydraulic system. Common sense precautions will prevent many of the contaminants from entering the system, but there is no way to totally eliminate the source of contamination. To keep the number of contaminants, and their size, within tolerable limits, adequate FILTRATION must be provided.

LOW PRESSURE FILTERS

OMTF09 SERIES - TANK TOP FILTERS



Features	Filter Housing Performance	
<ul style="list-style-type: none"> Simple and effective, the OMTF series tank top filters are ideal for installation on reservoirs of non sensitive systems such as agricultural applications Available with resin impregnated cellulose, microglass media or steel mesh filter media Readily interchangeability with other Italian filter brands. 	Flow Rating	Up to 30lpm for 32 cSt fluids
	Max Working Pressure	3 Bar
	Rated Fatigue Pressure	3 Bar
	Temperature Range	-25°C to 95°C
	Bypass Setting Option	1.7 Bar cracking
	Porting Head	Die Cast Aluminium
	Element Case	Reinforced Nylon

Complete filter assembly - Part number formulation					
Filter Series	Length code	Media grade	Seal Material	Indicator port option	Port size
OMTF09	1 = 82mm bowl	C10 = 10 µm (Cellulose) C25 = 25µm (Cellulose) F10 = 10 µm (Microglass) R60 = 60 µm (Steel Mesh)	N = Buna	A = 1/8" BSPT	Omit = 1/2" BSP

Sample Housing Part Number
OMTF091C25NA

Filter Element Performance	
Media Options:	Cellulose Fiber, Synthetic Fiber or Stainless Steel Mesh
Element Collapse Rating:	3 Bar
Fluid Compatibility with Buna Seals:	Petroleum Based Mineral Oils

Commonly Used Element Part Numbers						
Filter Series	Length Code	Element Part Number	Media Type	Media Grade (Cleanliness Target)	*Max Recommended Flow (lpm)	Clean ΔP at Max Recommended Flow (Bar)
OMTF09	1	CR091C10R	C Media	10 µm (Nominal)	27	<0.43 Bar
		CR091C25R	C Media	18µm (Nominal)	27	<0.43 Bar
		CR091F10R	F Media	10µm (20/18/15 or Better)	18	<0.43 Bar
		CR091R60R	Steel Mesh	60µm	27	<0.43 Bar

For element options other than those listed above please contact our call centre

Max Recommended Flow is calculated for both filter housing and element using fluid of viscosity <46 cSt with specific gravity <0.9. For fluids with viscosity other than 46 cSt, contact the call centre and allow us to do the calculations for you.

LOW PRESSURE FILTERS

OMTF11 SERIES - TANK TOP FILTERS



Features	Filter Housing Performance	
<ul style="list-style-type: none"> Simple and effective, the OMTF series tank top filters are ideal for installation on reservoirs of non sensitive systems such as agricultural applications Available with resin impregnated cellulose, microglass media or steel mesh filter media Readily interchangeable with other popular Italian filter brands For information on interchangeability contact the call centre 	Flow Rating	Up to 70lpm for 32 cSt fluids
	Max Working Pressure	3 Bar
	Rated Fatigue Pressure	3 Bar
	Temperature Range	-25°C to 95°C
	Bypass Setting Option	1.7 Bar cracking
	Porting Head	Die Cast Aluminium
	Element Case	Reinforced Nylon

Complete filter assembly - Part number formulation					
Filter Series	Length code	Media grade	Seal Material	Indicator port option	Port size
OMTF11	1 = 92mm bowl 2 = 137mm bowl	C10 = 10 µm (Cellulose) C25 = 25µm (Cellulose) F10 = 10 µm (Microglass) R60 = 60 µm (Steel Mesh)	N = Buna	A = 1/8" BSPT	1 = 3/4" BSP 2 = 1" BSP

Sample Housing Part Number
OMTF112C10NA2

Filter Element Performance	
Media Options:	Cellulose Fiber, Synthetic Fiber or Stainless Steel Mesh
Element Collapse Rating:	3 Bar
Fluid Compatibility with Buna Seals:	Petroleum Based Mineral Oils

Commonly Used Element Part Numbers						
Filter Series	Length Code	Element Part Number	Media Type	Media Grade (Cleanliness Target)	*Max Recommended Flow (lpm)	Clean ΔP at Max Recommended Flow (Bar)
OMTF11	1	CR111C10R	C Media	10 µm (Nominal)	54	<0.43 Bar
		CR111C25R	C Media	18µm (Nominal)	54	<0.43 Bar
		CR111F10R	F Media	10µm (20/18/15 or Better)	54	<0.43 Bar
		CR111R60R	Steel Mesh	60µm	54	<0.43 Bar
	2	CR112C10R	C Media	10 µm (Nominal)	66	<0.43 Bar
		CR112C25R	C Media	18µm (Nominal)	66	<0.43 Bar
		CR112F10R	F Media	10µm (20/18/15 or Better)	37	<0.43 Bar
		CR112R60R	Steel Mesh	60µm	66	<0.43 Bar

For element options other than those listed above please contact our call centre

Max Recommended Flow is calculated for both filter housing and element using fluid of viscosity <46 cSt with specific gravity <0.9. For fluids with viscosity other than 46 cSt, contact the call centre and allow us to do the calculations for you.

LOW PRESSURE FILTERS

OMTF17 SERIES - TANK TOP FILTERS



Features	Filter Housing Performance	
<ul style="list-style-type: none"> • Simple and effective, the OMTF series tank top filters are ideal for installation on reservoirs of non sensitive systems such as agricultural applications • Available with resin impregnated cellulose, microglass media or steel mesh filter media • Readily interchangeable with other popular Italian filter brands • For information on interchangeability contact the call centre 	Flow Rating	Up to 140lpm for 32 cSt fluids
	Max Working Pressure	3 Bar
	Rated Fatigue Pressure	3 Bar
	Temperature Range	-25°C to 95°C
	Bypass Setting Option	1.7 Bar cracking
	Porting Head	Die Cast Aluminium
	Element Case	Reinforced Nylon

Complete filter assembly - Part number formulation					
Filter Series	Length code	Media grade	Seal Material	Indicator port option	Port size
OMTF17	1 = 244mm bowl	C10 = 10 µm (Cellulose) C25 = 25µm (Cellulose) F10 = 10 µm (Microglass) R60 = 60 µm (Steel Mesh)	N = Buna	A = 1/8" BSPT	Omit = 1" BSP 1 = 11/4" BSP

Sample Housing Part Number
OMTF171C10NA1

Filter Element Performance	
Media Options:	Cellulose Fiber, Synthetic Fiber or Stainless Steel Mesh
Element Collapse Rating:	3 Bar
Fluid Compatibility with Buna Seals:	Petroleum Based Mineral Oils

Commonly Used Element Part Numbers						
Filter Series	Length Code	Element Part Number	Media Type	Media Grade (Cleanliness Target)	*Max Recommended Flow (lpm)	Clean ΔP at Max Recommended Flow (Bar)
OMTF17	1	CR171C10R	C Media	10 µm (Nominal)	142	<0.43 Bar
		CR171C25R	C Media	18µm (Nominal)	142	<0.43 Bar
		CR171F10R	F Media	10µm (20/18/15 or Better)	104	<0.43 Bar
		CR171R60R	Steel Mesh	60µm	142	<0.43 Bar
For element options other than those listed above please contact our call centre						

Max Recommended Flow is calculated for both filter housing and element using fluid of viscosity <46 cSt with specific gravity <0.9. For fluids with viscosity other than 46 cSt, contact the call centre and allow us to do the calculations for you.

LOW PRESSURE FILTERS

OMTF22 SERIES - TANK TOP FILTERS



Features	Filter Housing Performance	
<ul style="list-style-type: none"> Simple and effective, the OMTF series tank top filters are ideal for installation on reservoirs of non sensitive systems such as agricultural applications Available with resin impregnated cellulose, microglass media or steel mesh filter media Readily interchangeable with other popular Italian filter brands For information on interchangeability contact the call centre 	Flow Rating	Up to 350lpm for 32 cSt fluids
	Max Working Pressure	3 Bar
	Rated Fatigue Pressure	3 Bar
	Temperature Range	-25°C to 95°C
	Bypass Setting Option	1.7 Bar cracking
	Porting Head	Die Cast Aluminium
	Element Case	Steel

Complete filter assembly - Part number formulation					
Filter Series	Length code	Media grade	Seal Material	Indicator port option	Port size
OMTF22	1 = 176 mm bowl 2 = 236mm bowl 4 = 282 mm bowl	C10 = 10 µm (Cellulose) C25 = 25µm (Cellulose) F10 = 10 µm (Microglass) R60 = 60 µm (Steel Mesh)	N = Buna	A = 1/8" BSPT	1 = 1 1/2" BSP 2 = 2" BSP

Sample Housing Part Number
OMTF221C10NA1

Filter Element Performance	
Media Options:	Cellulose Fiber, Synthetic Fiber or Stainless Steel Mesh
Element Collapse Rating:	3 Bar
Fluid Compatibility with Buna Seals:	Petroleum Based Mineral Oils

Commonly Used Element Part Numbers						
Filter Series	Length Code	Element Part Number	Media Type	Media Grade (Cleanliness Target)	*Max Recommended Flow (lpm)	Clean ΔP at Max Recommended Flow (Bar)
OMTF22	1	CR221C10R	C Media (Cellulose)	10 µm (Nominal)	184	<0.43 Bar
		CR221C25R	C Media (Cellulose)	18µm (Nominal)	200	<0.43 Bar
		CR221F10R	F Media (Synthetic)	10µm (20/18/15 or Better)	118	<0.43 Bar
		CR221R60R	Steel Mesh (Synthetic)	60µm	200	<0.43 Bar
	2	CR222C10R	C Media (Cellulose)	10 µm (Nominal)	212	<0.43 Bar
		CR222C25R	C Media(Cellulose)	18µm (Nominal)	233	<0.43 Bar
		CR222F10R	F Media (Synthetic)	10µm (20/18/15 or Better)	166	<0.43 Bar
		CR222R60R	Steel Mesh	60µm	233	<0.43 Bar
	4	CR224C10R	C Media(Cellulose)	10 µm (Nominal)	253	<0.43 Bar
		CR224C25R	C Media(Cellulose)	18µm (Nominal)	333	<0.43 Bar
		CR224F10R	F Media(Synthetic)	10µm (20/18/15 or Better)	227	<0.43 Bar
		CR224R60R	Steel Mesh	60µm	333	<0.43 Bar

For element options other than those listed above please contact our call centre

Max Recommended Flow is calculated for both filter housing and element using fluid of viscosity <46 cSt with specific gravity <0.9. For fluids with viscosity other than 46 cSt, contact the call centre and allow us to do the calculations for you.

LOW PRESSURE FILTERS

TFF SERIES

Tank Top Mounted Return Line Filters, Max 500l/min-10 bar

AN INNOVATIVE GREEN
FILTER FEATURING
LEIF®



BGT Series

Tank Top Mounted Return Line Filters, Max 2400l/min-10 bar

AN INNOVATIVE GREEN
FILTER FEATURING
LEIF®



Product Features
• TFF features pre-filtration by means of magnet column.
• Patented LEIF elements safeguard filtration quality.
• Flow from inside to out.
• Maximum pressure 10 bar. Maximum flow 500l/min.
• Options include a lifting port in the filter cover and second return port.

Product Features
• BGT features pre-filtration by means of a magnet column.
• Patented LEIF elements safeguard filtration quality.
• Flow from inside out.
• Maximum pressure 10 bar. Maximum air flow 2400 l/min.
• Filter heads with multiple ports available.

Technical Specification

Product Description:

Tank top mounted, return filter with aluminium head and cover

Maximum Working Pressure:
10 bar

Operating Temperature Range:
Seal material Nitrile:
-40°C to +100°C
Seal material Fluoroelastomer:
-20°C to +120°C

Seal Material:
Nitrile, fluoroelastomer

Bypass Setting:
Opening pressure 1.5 or 2 bar.
Other settings on request

Connections:

Threaded BSP ports.
Flanged ports available

Filtration Media:*
10 micron Microglass III & Ecoglass III for LEIF® elements

Options:
Diffuser type T (with closed diffuser end cap and with perforated plate area, recommended when oil entry in reservoir is close to the reservoir bottom or to ensure oil entry under the reservoir oil level)

Technical Specification

Product Description:

Tank top mounted, return filter with aluminium head and cover

Maximum Working Pressure:
10 bar

Operating Temperature Range:
Seal material Nitrile:
-40°C to +100°C
Seal material Fluoroelastomer:
-20°C to +120°C

Seal Material:
Nitrile, fluoroelastomer

Bypass Setting:
Opening pressure 1.5 bar.
Other settings on request

Connections:

Flanges SAE2, 3. Threaded ports and multiple ports available

Filtration Media:*
10 micron Microglass III and Ecoglass III for LEIF® elements

Options:
Diffuser type T (with closed diffuser end cap and with perforated plate area, recommended when oil entry in reservoir is close to the reservoir bottom or to ensure oil entry under the reservoir oil level)

Ordering Information					
Part Number	Flow L/Min	Bypass	Ports	Included Options	Replacement Elements
TTF310QLBP2EG121	90	1.5 bar	G3/4	None	937878Q
TTF610QLBP2EG203	170	1.5 bar	G1 1/4	Diffuser type T	937853Q
TTF610QLBP2EG243	300	1.5 bar	G1 1/2	Diffuser type T	937855Q
TTF1010QLBP2HG24A	500	2.0 bar	G1 1/2	Diffuser type T	937857Q

*Note: All filter assemblies are supplied with plugged indicator ports. Indicator codes are shown on Page 10. Indicators can be ordered separately from the filter assembly. 10 micron element options have been selected for all filter products in this overview except EPF, DF40 and Eco 130 Series filters.

Ordering Information					
Part Number	Flow L/Min	Bypass	Ports	Included Options	Replacement Elements
BGT1210QLBPER323	500	1.5 bar	2"SAE-3000-PS	Diffuser type T	937859Q
BGT1510QLBPER483	1000	1.5 bar	3"SAE-3000-PS	Diffuser type T	937862Q
BGT1710QBPER483	2000	1.5 bar	3"SAE-3000-PS	Diffuser type T	937772Q

*Note: All filter assemblies are supplied with plugged indicator ports. Indicator codes are shown on Page 10. Indicators can be ordered separately from the filter assembly. 10 micron element options have been selected for all filter products in this overview except EPF, DF40 and Eco 130 Series filters.

LOW PRESSURE FILTERS

TANKTOPPER SERIES I, II & III

Tank Top Mounted Return Line Filters, with integrated Air Breathers,
Max. 650l/min - 10 bar

AN INNOVATIVE GREEN
FILTER FEATURING
LEIF®



PT TANK TOP MOUNTED FILTER SERIES

Max. 400l/min - 10 bar



Product Features

- Tanktopper offers a total filtration solution + integrated air breather.
- Patented LEIF elements safeguard filtration quality.
- Maximum pressure 10 bar. Maximum flow 650 l/min.
- In-to-Out filtration plus gauge and switch options.

Product Features

- Compact tank top mounted return line filter.
- Filter element can be used for direct screw-in mounting with co-polymer reservoirs
- Flow capability up to 400 l/min at 10 bar working pressure.
- In-to-Out flow avoids re-contamination of the system.
- Parker quality filter element.

Technical Specification

Product Description:

Tank top mounted, return filter with aluminium head and co-polymer cover

Maximum Working Pressure:
10 bar

Operating Temperature Range:
-40°C to +80°C

Seal Material:
Nitrile, fluoroelastomer (on request)
Opening pressure 1.5

Bypass Setting:
1.7 bar

Connections:

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

Filtration Media:*
10 micron Microglass III, Ecoglass III for LEIF® element. Air breather 10 micron Abs

Magnetic Pack Options:
Optional for Tanktopper I.
Standard for Tanktopper II and III

Technical Specification

Product Description:

Tanktop mounted, return filter with aluminium head design

Maximum Working Pressure:
10 bar

Seal Material:
Nitrile, fluoroelastomer

Operating Temperature Range:
-20°C to + 100°C

Bypass Settings:
1.7 bar

Connections:

PT2: G¾" and G1"
PT4: G1" or G1¼"

Filtration Media:*
10 micron Microglass III

Indicator Options:
Visual and electrical switch (NO or NC) type

Ordering Information

Part Number	Flow L/Min	Bypass	Ports	Included Options	Replacement Elements
TPR110QLBP2EG12E	40	1.5 bar	G3/4	Magnets	937902Q
TPR510QLBP2EG201	120	1.5 bar	2XG1 1/4	None	937892Q
TPR710QLBP2EG241	250	1.5 bar	2XG1 1/2	None	937894Q

*Note: All filter assemblies are supplied with plugged indicator ports. Indicator codes are shown on Page 10. Indicators can be ordered separately from the filter assembly. 10 micron element options have been selected for all filter products in this overview except EPF, DF40 and Eco 130 Series filters.

Ordering Information

Part Number	Flow L/Min	Bypass	Ports	Included Options	Replacement Elements
PT2110QBPGG124	25	1.7	G3/4"	Airtight funnel	936752Q
PT2210QBPGG124	50	1.7	G3/4"	Airtight funnel	936756Q
PT4110QBPGG164	110	1.7	G1"	Airtight funnel	936744Q
PT4210QBPGG164	175	1.7	G1"	Airtight funnel	936748Q

*Note: All filter assemblies are supplied with plugged indicator ports. Indicator codes are shown on Page 10. Indicators can be ordered separately from the filter assembly. 10 micron element options have been selected for all filter products in this overview except EPF, DF40 and Eco 130 Series filters.

FILTRATION - SPIN-ON FILTERS

Aluminium Single Canister Spin-on Filters



3/4" Aluminium Single Canister Spin-on Filters - Part Numbers and Performance								
Filter Head Part Number	Port Size	Bypass Setting	Canister Stem	Canister Part Numbers	Media Type	Media Grade (Fluid Cleanliness Target)	*Max Flow (lpm)	*Clean ΔP
T05V0A	3/4" BSP	0.25 Bar	3/4" BSP	CS05AN	Cellulose	10µm (Nominal)	6	<0.06 Bar
				CS05BN	Cellulose	25µm (Nominal)	10	<0.06 Bar
				CS05CN	Steel Mesh	60µm (Mesh)	12	<0.06 Bar
				CS06AN	Cellulose	10µm (Nominal)	12	<0.06 Bar
				CS06BN	Cellulose	25µm (Nominal)	15	<0.06 Bar
T05V0R	3/4" BSP	1.7 Bar	3/4" BSP	CS05AN	Cellulose	10µm (Nominal)	48	<0.52 Bar
				CS05BN	Cellulose	25µm (Nominal)	48	<0.52 Bar
				CS05CN	Steel Mesh	60µm (Mesh)	60	<0.52 Bar
				CS06AN	Cellulose	10µm (Nominal)	60	<0.52 Bar
				CS06BN	Cellulose	25µm (Nominal)	60	<0.52 Bar
LF-4220	3/4" NPT	2 Bar	1" UNF	P10	E (Cellulose)	10µm (Nominal)	48	<0.52 Bar
				PZ10	Z (Micro-Glass Fiber)	10µm (20/18/15 or Better)	48	<0.52 Bar

1 1/4" Aluminium Single Canister Spin-on Filters - Part Numbers and Performance								
Filter Head Part Number	Port Size	Bypass Setting	Canister Stem	Canister Part Numbers	Media Type	Media Grade (Fluid Cleanliness Target)	*Max Flow (lpm)	*Clean ΔP
T10V0A	1 1/4" BSP	0.25 Bar	1 1/4" BSP & 1 1/2" UNF	CS10AN	Cellulose	10µm (Nominal)	30	<0.06 Bar
				CS10BN	Cellulose	25µm (Nominal)	40	<0.06 Bar
				CS10CN	Steel Mesh	60µm (Mesh)	45	<0.06 Bar
				CS15AN	Cellulose	10µm (Nominal)	36	<0.06 Bar
				CS15BN	Cellulose	25µm (Nominal)	45	<0.06 Bar
				CS15EN	Brass Mesh	125µm (Mesh)	50	<0.06 Bar
T10V0R	1 1/4" BSP	1.7 Bar	1 1/4" BSP & 1 1/2" UNF	CS10AN	Cellulose	10µm (Nominal)	110	<0.52 Bar
				CS10BN	Cellulose	25µm (Nominal)	133	<0.52 Bar
				CS10CN	Steel Mesh	60µm (Mesh)	145	<0.52 Bar
				CS15AN	Cellulose	10µm (Nominal)	140	<0.52 Bar
				CS15BN	Cellulose	25µm (Nominal)	160	<0.52 Bar
				CS15EN	Brass Mesh	125µm (Mesh)	180	<0.52 Bar
				V0211B1R03	Rpak¾ (MicroGlass)	3µm (16/14/12 or Better)	65	<0.52 Bar
				V0211B1R05	Rpak¾ (MicroGlass)	5µm (18/16/14 or Better)	75	<0.52 Bar
				V0211B1R10	Rpak¾ (MicroGlass)	10µm (20/18/15 or Better)	100	<0.52 Bar
				V0211B1R20	Rpak¾ (MicroGlass)	20µm (22/19/16 or Better)	115	<0.52 Bar
				V0211B2R03	Rpak¾ (MicroGlass)	3µm (16/14/12 or Better)	85	<0.52 Bar
				V0211B2R05	Rpak¾ (MicroGlass)	5µm (18/16/14 or Better)	100	<0.52 Bar
				V0211B2R10	Rpak¾ (MicroGlass)	10µm (20/18/15 or Better)	135	<0.52 Bar
				V0211B2R20	Rpak¾ (MicroGlass)	20µm (22/19/16 or Better)	150	<0.52 Bar
E0211B2W10	H2OPro (Water Removal)	Removes <500ml H2O	30	<0.25Bar				

Max Recommended Flow bypass is calculated for both filter housing and element using fluid of viscosity <46 cSt with specific gravity <0.9. For fluids with viscosity other than 46 cSt, contact the call centre and allow us to do the calculations for you.

FILTRATION - SPIN-ON FILTERS

Aluminium Dual Canister Spin-on Filters



Aluminium Dual Canister Spin-on Filters - Part Numbers and Performance

Filter Head Part Number	Port Size	By-pass Setting	Canister Stem	Canister Part Numbers	Media Type	Media Grade (Fluid Cleanliness Target)	*Max Flow (lpm)	*Clean ΔP
T31V0A	1 1/2" SAE Flange (Code 61)	0.25 Bar	1 1/4" BSP & 1 1/2" UNF	CS10AN	Cellulose	10µm (Nominal)	40	<0.06 Bar
				CS10BN	Cellulose	25µm (Nominal)	50	<0.06 Bar
				CS10CN	Steel Mesh	60µm (Mesh)	60	<0.06 Bar
				CS15AN	Cellulose	10µm (Nominal)	55	<0.06 Bar
				CS15BN	Cellulose	25µm (Nominal)	60	<0.06 Bar
				CS15EN	Brass Mesh	125µm (Mesh)	70	<0.06 Bar
T31VOR	1 1/2" BSP & 2" SAE Flange (Code 61)	3.5 Bar	1 1/4" BSP & 1 1/2" UNF	CS10AN	Cellulose	10µm (Nominal)	180	<0.52 Bar
				CS10BN	Cellulose	25µm (Nominal)	240	<0.52 Bar
				CS10CN	Steel Mesh	60µm (Mesh)	260	<0.52 Bar
				CS15AN	Cellulose	10µm (Nominal)	200	<0.52 Bar
				CS15BN	Cellulose	25µm (Nominal)	250	<0.52 Bar
				CS15EN	Brass Mesh	125µm (Mesh)	270	<0.52 Bar
				V0211B1R03	Rpak ^{3/4} (MicroGlass)	3µm (16/14/12 or Better)	110	<0.52 Bar
				V0211B1R05	Rpak ^{3/4} (MicroGlass)	5µm (18/16/14 or Better)	135	<0.52 Bar
				V0211B1R10	Rpak ^{3/4} (MicroGlass)	10µm (20/18/15 or Better)	170	<0.52 Bar
				V0211B1R20	Rpak ^{3/4} (MicroGlass)	20µm (22/19/16 or Better)	200	<0.52 Bar
				V0211B2R03	Rpak ^{3/4} (MicroGlass)	3µm (16/14/12 or Better)	143	<0.52 Bar
				V0211B2R05	Rpak ^{3/4} (MicroGlass)	5µm (18/16/14 or Better)	179	<0.52 Bar
				V0211B2R10	Rpak ^{3/4} (MicroGlass)	10µm (20/18/15 or Better)	240	<0.52 Bar
				V0211B2R20	Rpak ^{3/4} (MicroGlass)	20µm (22/19/16 or Better)	290	<0.52 Bar
E0211B2W10	H ₂ OPro (Water Removal)	Removes <500ml H ₂ O	30	<0.25Bar				

Max Recommended Flow is calculated for both filter housing and element using fluid of viscosity <46 cSt with specific gravity <0.9. For fluids with viscosity other than 46 cSt, contact the call centre and allow us to do the calculations for you.

Spin-on Cartridges

Features

Efficient filter for modern hydraulic systems

- Modular system for optimum filter selection
- Small space requirement through compact design
- Minimal pressure drop through optimal flow design of components
- Equipped with highly efficient Mic, Sm-N or Sm filter elements
- Guaranteed separation according to ISO 16889 multipass test
- Elements with high differential pressure stability and dirt holding capacity
- Customer-specific printing on request
- Worldwide sales



FILTRATION - SPIN-ON FILTERS

Order Numbers and Dimensions						
Nominal size NG (l/min)	Order number	Type Designation	Alternative For		D	F
100	70548477	PX33-13-2SmN2	Neu		1 1/2" 16UN 2B	172
	70541521	PX33-13-2Smx3	Neu		1 1/2" 16UN 2B	
	70541522	PX33-13-2Smx6	Neu		1 1/2" 16UN 2B	
	70541523	PX33-13-2Smx10	HC 28	77643398	1 1/2" 16UN 2B	
	70541524	PX33-13-2Smx25	HC 29	77643406	1 1/2" 16UN 2B	
	70541525	PX33-13-2Mic10	HC 18	77643331	1 1/2" 16UN 2B	
	70541527	PX33-13-2Mic25	HC 27	77643380	1 1/2" 16UN 2B	
	70541528	PX33-14-1Mic10	HC 4	77727183	G1 1/4	
130	70553366	PX36-13-2-SmN2	Neu		1 1/2" 16UN 2B	240
	70541529	PX36-13-2-Smx3	Neu		1 1/2" 16UN 2B	
	70541531	PX36-13-2-Smx6	Neu		1 1/2" 16UN 2B	
	70541532	PX36-13-2-Smx10	HC 32	77500051	1 1/2" 16UN 2B	
	70541533	PX36-13-2-Smx25	HC 33	77500069	1 1/2" 16UN 2B	
	70541534	PX36-13-2-Mic10	HC 31	77500077	1 1/2" 16UN 2B	
	70541535	PX36-13-2-Mic25	HC 30	77500085	1 1/2" 16UN 2B	
160	70553384	PX37-13-2-SmN2	Neu		1 1/2" 16UN 2B	310
	70541536	PX37-13-2-Smx3	HC 66	78714750	1 1/2" 16UN 2B	
	70541537	PX37-13-2-Smx6	HC 60	77478829	1 1/2" 16UN 2B	
	70541538	PX37-13-2-Smx10	HC 35	77643844	1 1/2" 16UN 2B	
	70541539	PX37-13-2-Smx25	HC 36	77643851	1 1/2" 16UN 2B	
	70541540	PX37-13-2-Mic10	HC 34	77504194	1 1/2" 16UN 2B	
	70541541	PX37-13-2-Mic25	HC 41	77770035	1 1/2" 16UN 2B	
	70541543	PX37-14-1-Smx3	HC 61	78714768	G1 1/4	



LOW PRESSURE FILTERS

MAXIFLOW + PS SERIES

Spin-on Filters, Max. 360l/min - 10 bar



Product Features

- Maxiflow full flow filters for suction or return applications.
- Maximum pressure 10 bar. Maximum flow 360 l/min.
- Available with a variety of integrated and ass-on indicators.
- High quality filter medium.

Technical Specification

Product Description:

Full flow spin-on filters for suction or return

Filter Head Material:

Preferred Series MXA: Aluminium LM24
PS Series: Aluminium alloy

Filter Bowl Material:

Preferred Series MXA: Steel
PS Series: Steel

Maximum Working Pressure:

Preferred Series MXA: 10 bar
PS Series: 10 bar

Operating Temperature Range:

Preferred Series MXA: -30°C to +90°C
PS Series: -30°C to +110°C

Seal Material:

Preferred Series MXA: Nitrile
PS Series: Buna (nitrile)

Bypass:

Preferred Series MXA: Return line 1.05 bar, Suction line 0.17 bar, No bypass option
PS Series: Return line 1.5 bar, Suction line 0.10 bar, No bypass option

Filtration Media:*

Preferred Series MXA: 10 micron Microglass III media, Cellulose media
PS Series: 10 micron Microglass III media, Cellulose media

Ordering Information

Part Number	Flow L/Min	Bypass	Ports	Included Options	Replacement Elements
MXA8551424	70	1.05 bar	G3/4	Dual visual indicator	MXR8550
12PS10BTV1R2B	70	1.5 bar	G3/4	Gauge type visual indicator	MXR8550
MXA.8511.424	70	1.05 bar	G3/4	Dual visual indicator	MX1518410X4
12PS10CTV1R2B	70	1.5 bar	G3/4	Gauge type visual indicator	MX1518410X4
MXA.8511.223	20(Suction)	none	G3/4	Dual visual indicator	MX1518410X4
12PS10CTV2S4B	20(Suction)	none	G3/4	Gauge type visual indicator	MX1518410X4
MXA9511424	180	1.05 bar	G1/4	Dual visual indicator	MX1591410X4
22PS10CTV1R2D	180	1.05 bar	G1/4	Gauge type visual indicator	MX1591410X4
MXA9511223	48(Suction)	none	G1/4	Dual visual indicator	MX1591410X4
22PS10CTV2S4D	48(Suction)	none	G1/4	Gauge type visual indicator	MX1591410X4

LOW PRESSURE FILTERS - Pi 150

Technical specifications

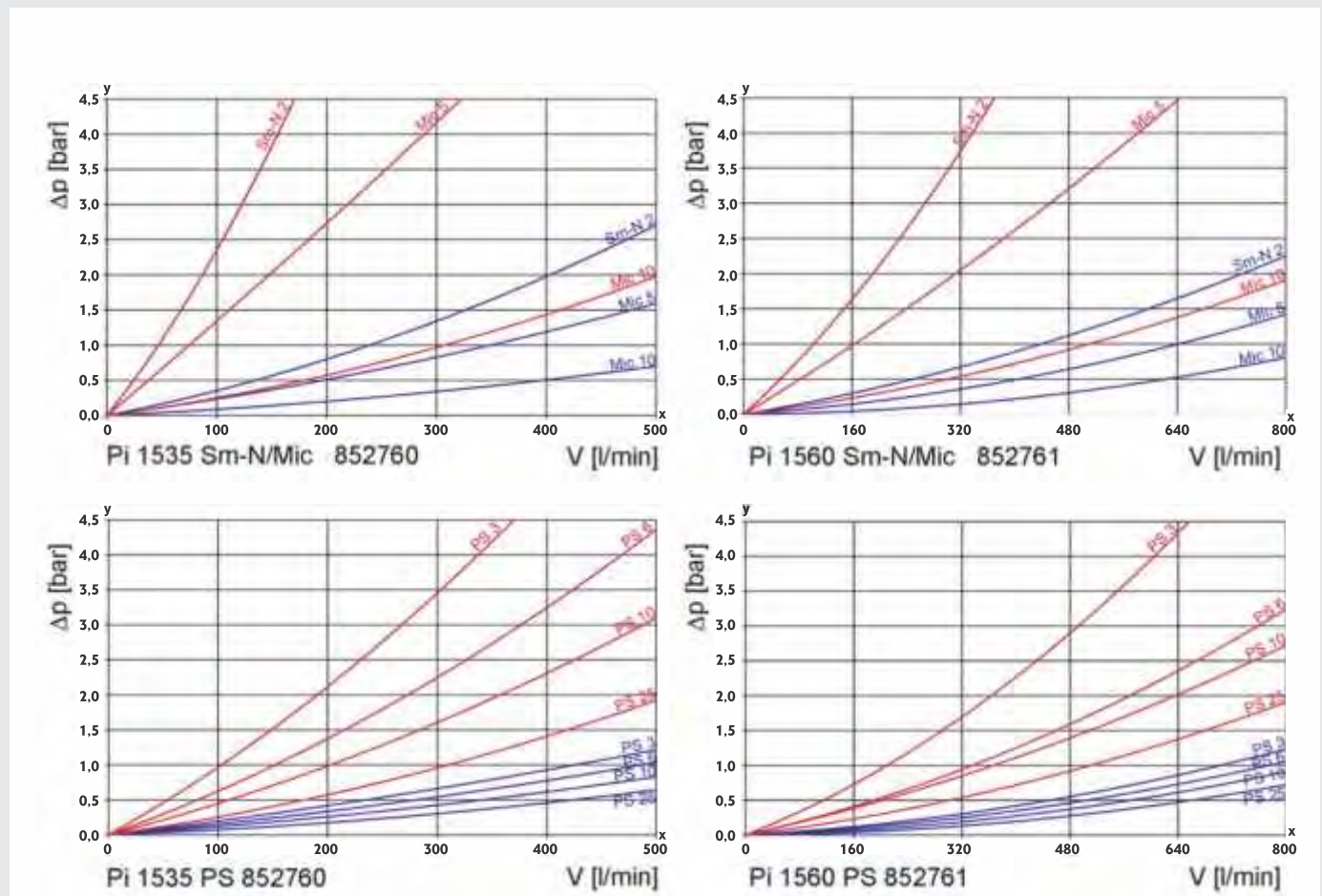
Nominal pressure:	10/25 bar (140/360 psi)
Temperature range:	-10 °C to +120 °C (other temperature ranges on request)
Bypass setting:	Dp 3.5 bar – 10 %
Material filter head/cover:	GAL
Material filter housing:	St
Sealing material:	NBR
Maintenance indicator setting:	Dp 2.2 bar – 10 %
Electrical data of maintenance indicator:	
Max. voltage:	250 V AC/200 V DC
Max. current:	1 A
Contact load:	70 W
Type of protection:	IP 65 in inserted and secured status

Contact: normally open/closed
Cable sleeve: M20x1.5



190 mm²/s
 33 mm²/s

Flow rate/pressure drop curve complete filter



y = differential pressure Dp [bar]

x = flow rate V [l/min]

LOW PRESSURE FILTERS - Pi 150

Order numbers

Example for ordering filters:

Housing design	Filter element
V = 400 l/min, bypass, electrical indication,	PS 10
nominal pressure 10 bar	Type: 852 760 PS 10
Type: Pi 1535 / 10-058	Order number: 77774425
Order number: 77774631	

Housing design							
Nominal size NG [l/min]	Order number	Type	Nominal pressure [bar]	with bypass valve and visual indicator	with bypass valve and electrical indicator	with visual indicator	with electrical indicator
400	77774649	Pi 1535/10-057	10				
	77774631	Pi 1535/10-058					
	77804909	Pi 1535/10-068					
	77804917	Pi 1535/10-069					
	77955982	Pi 1535/25-057	25				
	77907892	Pi 1535/25-058					
630	77774623	Pi 1560/10-057	10				
	77774615	Pi 1560/10-058					
	77804941	Pi 1560/10-068					
	77804958	Pi 1560/10-069					
	77955990	Pi 1560/25-057	25				
	77970718	Pi 1560/25-058					

When filter with non bypass configuration is selected the collapse pressure of the element must not be exceeded.

Filter elements*					
Nominal size NG [l/min]	Order number	Type	Filter material	max. D p [bar]	Filter surface [cm ²]
400	77774458	852 760 Mic 5	Mic 5	5	23800
	77774441	852 760 Mic 10	Mic 10		23800
	77955859	852 760 Sm-N 2	Sm-N 2		16000
	77774433	852 760 PS 3	PS 3	10	14500
	78299042	852 760 PS 6	PS 6		14500
	77774425	852 760 PS 10	PS 10		14500
	77806565	852 760 PS 25	PS 25		14500
630	77774417	852 761 Mic 5	Mic 5	5	47600
	77774409	852 761 Mic 10	Mic 10		47600
	78375867	852 761 Sm-N 2	Sm-N 2		32000
	77774391	852 761 PS 3	PS 3	10	29000
	78225898	852 761 PS 6	PS 6		29000
	77774383	852 761 PS 10	PS 10		29000
	77806573	852 761 PS 25	PS 25		29000

* A wider range of element types is available on request.

LOW PRESSURE FILTERS - Pi 200

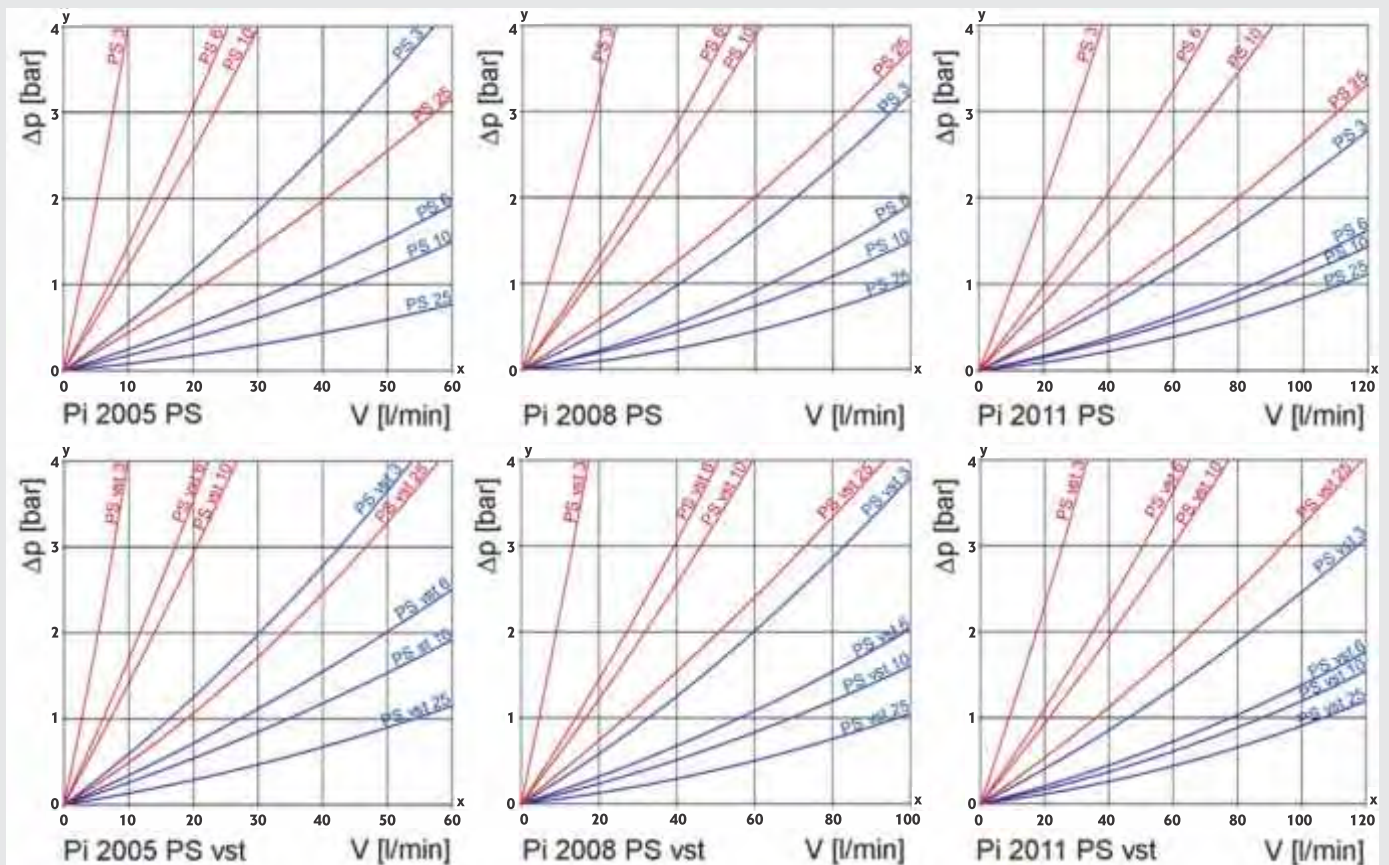
Technical specifications

Design:	in-line filter
Nominal pressure:	
Pi 2005 - 2011	10 ⁷ load changes 63 bar (900 psi)
Pi 2015 - 2060	10 ⁷ load changes 25 bar (360 psi)
	2x 10 ⁶ load changes 32 bar (460 psi)
Test pressure:	
Pi 2005 - 2011	95 bar (1370 psi)
Pi 2015 - 2060	48 bar (690 psi)
Temperature range:	-30 °C to +120 °C
survival temperature -40 °C (other temperature ranges on request)	
Bypass setting:	D p 3.5 bar - 10 %
Filter head material:	GDAL
Filter housing material:	AL/St
Sealing material:	NBR/AL
Maintenance indicator setting:	D p 2.2 bar - 10 %
Electrical data of maintenance indicator:	
Max. voltage:	250 V AC/200 V DC
Max. current:	1 A
Max. current:	70 W
Type of protection:	IP 65 in inserted and secured status
Contact:	normally open/closed
Cable sleeve:	M20x1.5

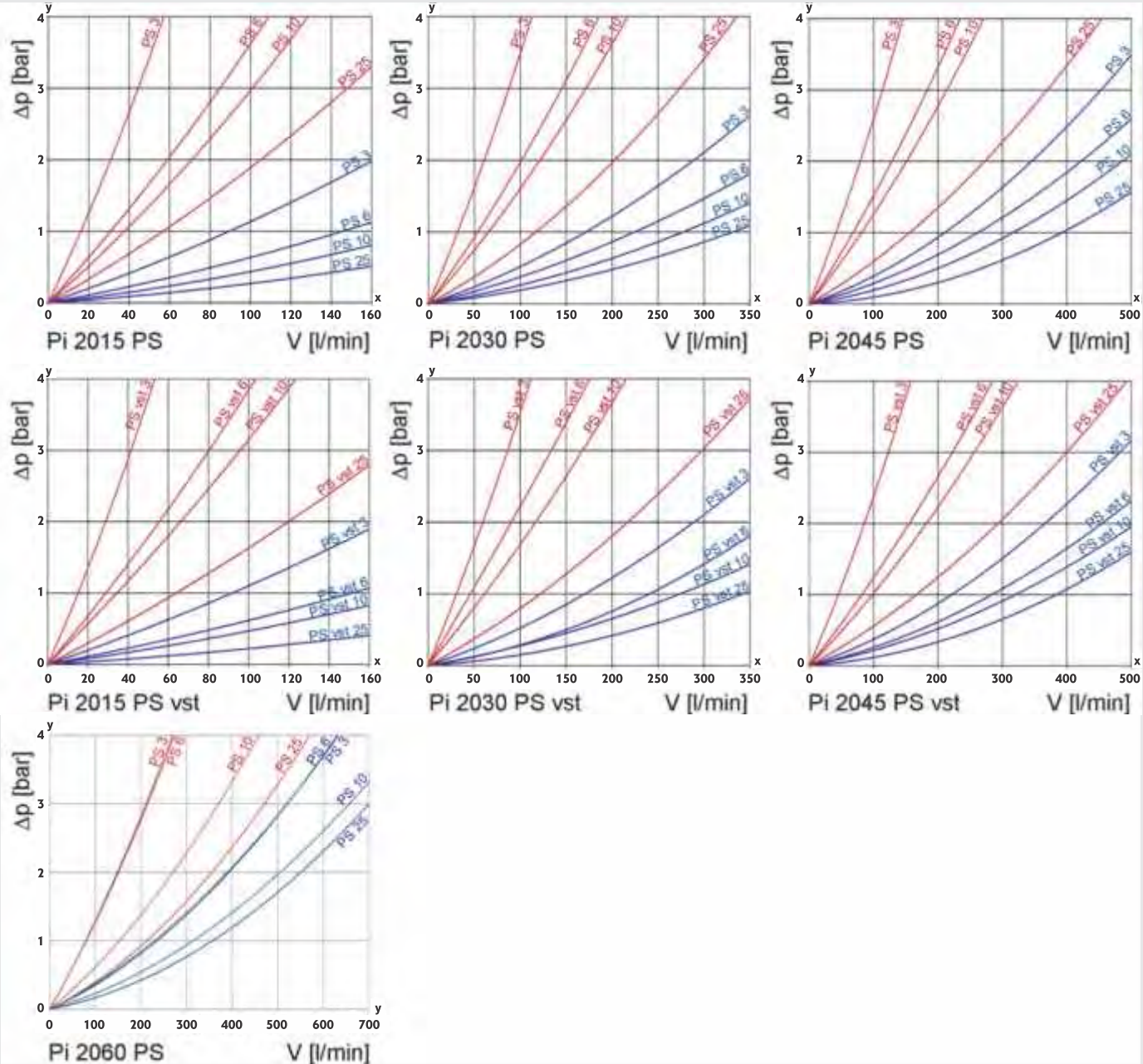


Flow rate/pressure drop curve (filter housing incl. element)

190 mm²/s
33 mm²/s



LOW PRESSURE FILTERS - Pi 200



y = differential pressure Δp [bar]
 x = flow rate V [l/min]

Order numbers

Example for ordering filters:

Filter housing	Filter element
V = 80 l/min and visual/electrical maintenance indicator	PS vst 3
Type: Pi 2008-069	Type: Pi 2208 PS vst 3
Order number: 77665284	Order number: 77680200

LOW PRESSURE FILTERS - Pi 200

Housing design								
Nominal size NG [l/min]	Order number	Type	① no options	② with bypass valve	③ with bypass valve and visual indicator	④ with bypass valve and electrical indicator	⑤ with visual indicator	⑥ with electrical indicator
50	77665144	Pi 2005-060						
	77665110	Pi 2005-056						
	77665128	Pi 2005-057						
	77665136	Pi 2005-058						
	77665169	Pi 2005-068						
	77665177	Pi 2005-069						
80	77665235	Pi 2008-060						
	77665201	Pi 2008-056						
	77665219	Pi 2008-057						
	77665227	Pi 2008-058						
	77665276	Pi 2008-068						
	77665284	Pi 2008-069						
110	78205114	Pi 2011-060						
	78205122	Pi 2011-056						
	78205130	Pi 2011-057						
	78205148	Pi 2011-058						
	78205155	Pi 2011-068						
	78205163	Pi 2011-069						
150	77840580	Pi 2015-060						
	76165203	Pi 2015-056						
	76165211	Pi 2015-057						
	79320748	Pi 2015-058						
	76165229	Pi 2015-068						
	78396616	Pi 2015-069						
300	77665474	Pi 2030-060						
	77665441	Pi 2030-056						
	77665458	Pi 2030-057						
	77665466	Pi 2030-058						
	77665516	Pi 2030-068						
	77665532	Pi 2030-069						

LOW PRESSURE FILTERS - Pi 200

Housing design								
Nominal size NG [l/min]	Order number	Type	① no options	② with bypass valve	③ with bypass valve and visual indicator	④ with bypass valve and electrical indicator	⑤ with visual indicator	⑥ with electrical indicator
450	77664881	Pi 2045-060						
	77664873	Pi 2045-056						
	77664865	Pi 2045-057						
	77664857	Pi 2045-058						
	77664923	Pi 2045-068						
	77664931	Pi 2045-069						
600	70576046	Pi 2060-060						
	70576045	Pi 2060-056						
	70534876	Pi 2060-057						
	79714171	Pi 2060-058						
	78205254	Pi 2060-068						
	70576047	Pi 2060-069						

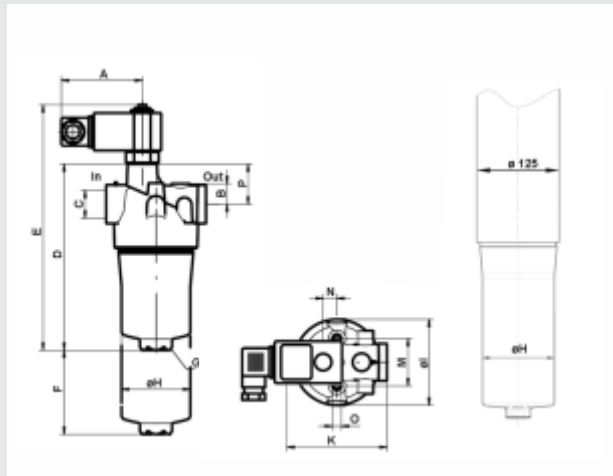
When filter with non bypass configuration is selected, the collapse pressure of the element must not be exceeded.

Filter elements (a wider range of element types is available on request)					
Nominal size NG [l/min]	Order number	Type	Filter material	max. Dp [bar]	Filter surface [cm ²]
50	77680135	Pi 2105 PS 3	PS 3	20	590
	77943509	Pi 5105 PS 6	PS 6		590
	77680325	Pi 3105 PS 10	PS 10		590
	77680440	Pi 4105 PS 25	PS 25		590
	77680192	Pi 2205 PS vst 3	PS vst 3	210	425
	77943533	Pi 5205 PS vst 6	PS vst 6		425
	77680382	Pi 3205 PS vst 10	PS vst 10		425
	77680507	Pi 4205 PS vst 25	PS vst 25		425
80	77680143	Pi 2108 PS 3	PS 3	20	1150
	77943517	Pi 5108 PS 6	PS 6		1150
	77680341	Pi 3108 PS 10	PS 10		1150
	77680457	Pi 4108 PS 25	PS 25		1150
	77680200	Pi 2208 PS vst 3	PS vst 3	210	850
	77943541	Pi 5208 PS vst 6	PS vst 6		850
	77681190	Pi 3208 PS vst 10	PS vst 10		850
	77680515	Pi 4208 PS vst 25	PS vst 25		850
110	77680150	Pi 2111 PS 3	PS 3	20	1700
	77943525	Pi 5111 PS 6	PS 6		1700
	77680333	Pi 3111 PS 10	PS 10		1700
	77680465	Pi 4111 PS 25	PS 25		1700
	77680218	Pi 2211 PS vst 3	PS vst 3	210	1275
	77943558	Pi 5211 PS vst 6	PS vst 6		1275
	77680390	Pi 3211 PS vst 10	PS vst 10		1275
	77680523	Pi 4211 PS vst 25	PS vst 25		1275
150	77680168	Pi 2115 PS 3	PS 3	20	2425
	77955099	Pi 5115 PS 6	PS 6		2425
	77680358	Pi 3115 PS 10	PS 10		2425
	77680473	Pi 4115 PS 25	PS 25		2425

LOW PRESSURE FILTERS - Pi 200

Filter elements (a wider range of element types is available on request)

Nominal size NG [l/min]	Order number	Type	Filter material	max. Dp [bar]	Filter surface [cm ²]	
150	77680226	Pi 2215 PS vst 3	PS vst 3	210	2010	
	77955123	Pi 5215 PS vst 6	PS vst 6		2010	
	77680408	Pi 3215 PS vst 10	PS vst 10		2010	
	77680531	Pi 4215 PS vst 25	PS vst 25		2010	
300	77680176	Pi 2130 PS 3	PS 3	20	4620	
	77955107	Pi 5130 PS 6	PS 6		4620	
	77680366	Pi 3130 PS 10	PS 10		4620	
	77680481	Pi 4130 PS 25	PS 25		4620	
	300	77680234	Pi 2230 PS vst 3	PS vst 3	210	3800
		77955131	Pi 5230 PS vst 6	PS vst 6		3800
		77680416	Pi 3230 PS vst 10	PS vst 10		3800
		77680549	Pi 4230 PS vst 25	PS vst 25		3800
450	77680184	Pi 2145 PS 3	PS 3	20	6865	
	77955115	Pi 5145 PS 6	PS 6		6865	
	77680374	Pi 3145 PS 10	PS 10		6865	
	77680499	Pi 4145 PS 25	PS 25		6865	
	450	77680242	Pi 2245 PS vst 3	PS vst 3	210	5600
		77955149	Pi 5245 PS vst 6	PS vst 6		5600
		77680424	Pi 3245 PS vst 10	PS vst 10		5600
		77680556	Pi 4245 PS vst 25	PS vst 25		5600
600	70346506	Pi 2160 PS 3	PS 3	20	9398	
	76114318	Pi 5160 PS 6	PS 6		9398	
	79393380	Pi 3160 PS 10	PS 10		9398	
	79748047	Pi 4160 PS 25	PS 25		9398	



All dimensions except "C" in mm.

Type	A	B	C*	D	E	F	G SW	H	I	K	M	N	O	P	Weight [kg]
Pi 2005	78	19	G½	177	235	80	27	66	80	95	45	13.0	M8x10	37,5	0.9
Pi 2008	78	19	G¾	253	311	80	27	66	80	95	45	13.0	M8x10	37,5	1.0
Pi 2011	78	19	G¾	335	393	80	27	66	80	95	45	13.0	M8x10	37,5	1.2
Pi 2015	78	30	G1¼	244	302	110	32	109	128	150	60	24.5	M12x15	43,5	2.1
Pi 2030	78	30	G1¼	360	418	110	32	109	128	150	60	24.5	M12x15	43,5	2.4
Pi 2045	78	30	G1¼	475	533	110	24	109	128	150	60	24.5	M12x15	43,5	6.5
Pi 2060	78	30	G1¼	615	643	110	32	109	128	150	60	24.5	M12x15	43,5	5.5

* NPT and SAE connections on request

LOW PRESSURE FILTERS - Pi 230

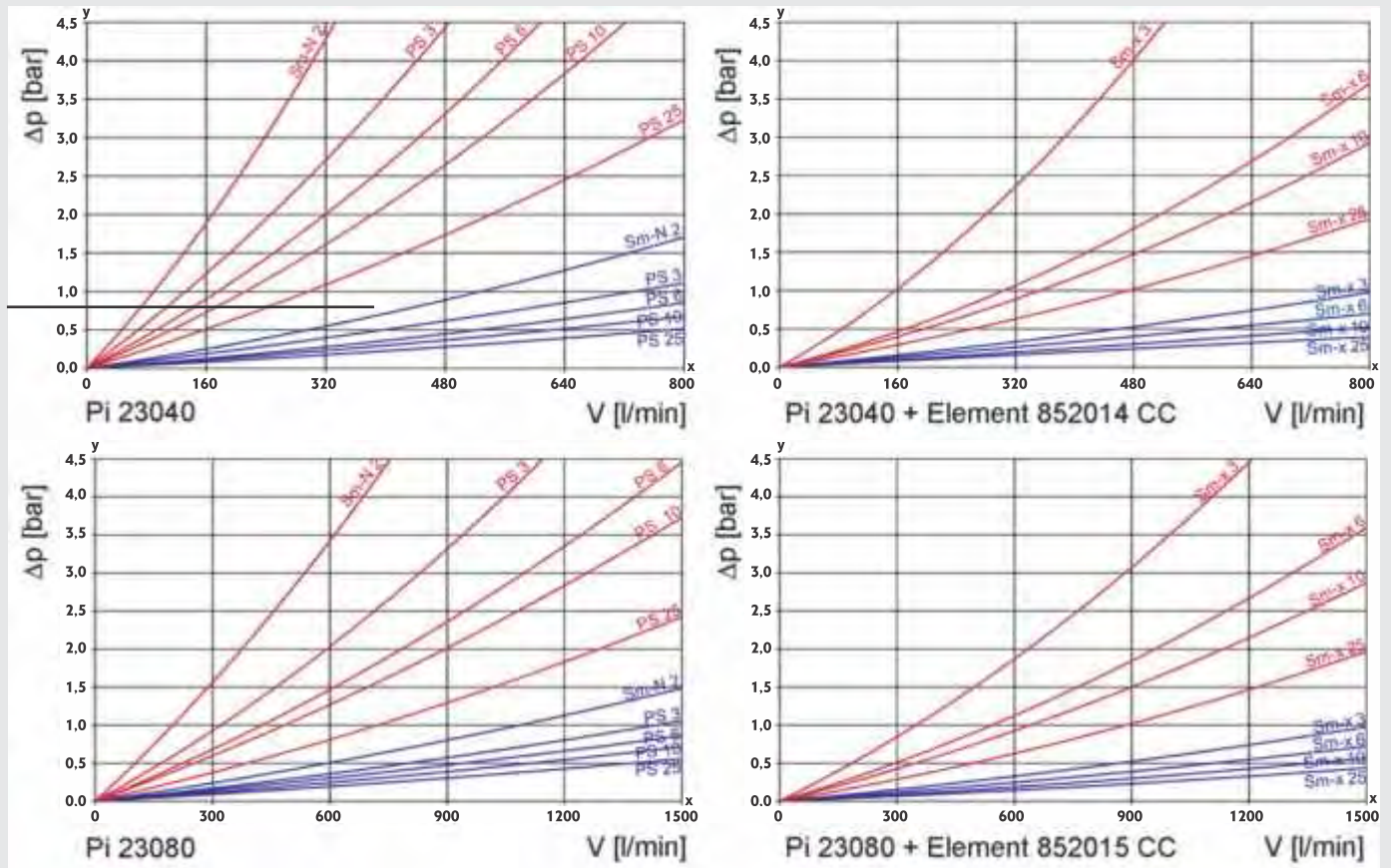
Technical specifications

Nominal pressure (10⁷LW):	25 bar (360 psi)
Nominal pressure (static):	40 bar (570 psi)
Temperature range:	-10 °C to +120 °C (other temperature ranges on request)
Bypass setting:	D 3.5 bar ± 10 %
Filter head and cap material:	GAL
Filter housing material:	AL
Sealing material:	NBR
Maintenance indicator setting:	D p 2.2 bar ± 0.3 bar
Electrical data of maintenance indicator:	
Maximum voltage:	250 V AC/200 V DC
Maximum current :	1 A
Contact load:	70 W
Type of protection:	IP 65 in inserted and secured status
Contact:	normally open/closed
Cable connection:	M20x1.5



Flow rates/pressure drop curve (filter housing incl. element)

190 mm²/s
33 mm²/s



x = flow rate V [l/min]
y = differential pressure Dp [bar]

Order numbers

Example for ordering filters:

Filter housing	Filter element
Nominal size: 800, with bypass, electrical maintenance indicator, inlet at the side for standard filter elements	PS 10
Type: Pi 23040/22-058	Type: Pi 852014 PS 10
Order number: 76320972	Order number: 76321814

LOW PRESSURE FILTERS - Pi 230

Housing design standard

Nominal size NG [l/min]	Order number inlet at the bottom	Type inlet at the bottom	Order number inlet at the side	Type inlet at the side	① with bypass valve and visual indicator	② with bypass valve and electrical indicator	③ with visual indicator	④ with electrical indicator
800	76334668	Pi 23040/12-057	76320931	Pi 23040/22-057				
	76320964	Pi 23040/12-058	76320972	Pi 23040/22-058				
	76321004	Pi 23040/12-068	76321012	Pi 23040/22-068				
	76321046	Pi 23040/12-069	76321053	Pi 23040/22-069				
1400	76320949	Pi 23080/12-057	76320956	Pi 23080/22-057				
	76320980	Pi 23080/12-058	76320998	Pi 23080/22-058				
	76321020	Pi 23080/12-068	76321038	Pi 23080/22-068				
	76321061	Pi 23080/12-069	76321079	Pi 23080/22-069				

When filter with non-bypass configuration is selected, the collapse pressure of the element must not be exceeded.

Filter elements standard*

Nominal size NG [l/min]	Order number	Type	Filter material	max. D p [bar]	Filter surface [cm ²]
800	76136220	852014 Sm-N 2	Sm-N 2	20	18533
	76321830	852014 PS 3	PS 3		24830
	76321822	852014 PS 6	PS 6		24830
	76321814	852014 PS 10	PS 10		24830
	76321806	852014 PS 25	PS 25		24830
1400	76136212	852015 Sm-N 2	Sm-N 2	20	42275
	76321897	852015 PS 3	PS 3		57200
	76321889	852015 PS 6	PS 6		57200
	76321871	852015 PS 10	PS 10		57200
	76321863	852015 PS 25	PS 25		57200

* A wider range of element types is available on request

Housing design CC

Nominal size NG [l/min]	Order number inlet at the bottom	Type inlet at the bottom	Order number inlet at the side	Type inlet at the side	① with bypass valve and visual indicator	② with bypass valve and electrical indicator	③ with visual indicator	④ with electrical indicator
800	79770074	Pi 23040/1C-057	79770116	Pi 23040/2C-057				
	76320642	Pi 23040/1C-058	76320659	Pi 23040/2C-058				
	76320683	Pi 23040/1C-068	76320691	Pi 23040/2C-068				
	76320725	Pi 23040/1C-069	76320733	Pi 23040/2C-069				
1400	79768854	Pi 23080/1C-057	79768862	Pi 23080/2C-057				
	76320667	Pi 23080/1C-058	76320675	Pi 23080/2C-058				
	76320709	Pi 23080/1C-068	76320717	Pi 23080/2C-068				
	76320741	Pi 23080/1C-069	76320758	Pi 23080/2C-069				

When filter with non-bypass configuration is selected, the collapse pressure of the element must not be exceeded.

Filter elements CC*

Nominal size NG [l/min]	Order number	Type	Filter material	max. D p [bar]	Filter surface [cm ²]
800	76135859	852014 CC Sm-x 3	Sm-x 3	5	23000
	76135867	852014 CC Sm-x 6	Sm-x 6		23000
	76135875	852014 CC Sm-x 10	Sm-x 10		23000
	76135883	852014 CC Sm-x 25	Sm-x 25		23000
1400	76322028	852015 CC Sm-x 3	Sm-x 3	5	60159
	76322010	852015 CC Sm-x 6	Sm-x 6		60159
	76322002	852015 CC Sm-x 10	Sm-x 10		60159
	76321996	852015 CC Sm-x 25	Sm-x 25		60159

* A wider range of element types is available on request

LOW PRESSURE FILTERS - HV3R SERIES

HV3R Series - Low Pressure Filters



Features and Benefits	Filter Housing Performance	
<ul style="list-style-type: none"> • Light weight aluminium construction • Collar design makes the filter fully serviceable without tools • Designed with flexibility across a range of low pressure applications • Zero leak by-pass valve construction • Accepts a wide variety of clogging indicator options • Accepts a wide variety of filter media options 	Flow Rating:	Up to 280 lpm for 32 cSt fluids
	Max Working Pressure:	50 Bar
	Rated Fatigue Pressure	50 Bar
	Temperature Range:	- 30 ° C TO 121 ° C
	Bypass Setting Option:	3 Bar
	Porting Head:	Cast Iron
	Element Case:	Plated Steel

Filter Housing - Part Number Formulation						
Filter Series	Element Collapse Pressure	Port Size	Bypass Valve Setting	Indicator Port	Seal material	Length Code
HV3R	1 = 18 Bar	BC = 1 1/4" BSP SC = 1 5/8"-12UN	4 = 3 Bar	JN = 1/2" BSP port drilled and plugged	B = Buna V = Viton	2 = 172mm/6.8" Element 4 = 356mm/14" Element

Sample Housing Part Number

HV3R1BC4JNB4

Filter Element Performance	
Media Options:	Cpak Media High Efficiency Microglass or M Media Stainless Steel
Element Collapse Rating:	20 Bar
Fluid Compatibility with Buna Seals:	Petroleum Based Fluids, Polyol Esthers, Water Glycols, Invert Emulsions
Fluid Compatibility with Viton Seals:	Petroleum Based Fluids, Polyol Esthers, Water Glycols, Invert Emulsions, Phosphate Esters

Commonly Used Element Part Numbers						
Filter Series	Length Code	Element Part Number	Media Type	Media Grade (Cleanliness Target)	*Max Recommended Flow (lpm)	Clean ΔP at Max Recommended Flow (Bar)
HV3R	2	V3RB2C03	Cpak ^{3/4} (MicroGlass)	3µm (16/14/12 or Better)	60	0.86 Bar
		V3RB2C05	Cpak ^{3/4} (MicroGlass)	5µm (18/16/14 or Better)	77	0.86 Bar
		V3RB2C10	Cpak ^{3/4} (MicroGlass)	10µm (20/18/15 or Better)	115	0.86 Bar
		V3RB2C20	Cpak ^{3/4} (MicroGlass)	20µm (22/19/16 or Better)	128	0.86 Bar
		V3RB2M25	M Media (Reusable)	25µm Stainless Steel Mesh	128	0.86 Bar
	4	V3RB4C03	Cpak ^{3/4} (MicroGlass)	3µm (16/14/12 or Better)	85	0.86 Bar
		V3RB4C05	Cpak ^{3/4} (MicroGlass)	5µm (18/16/14 or Better)	115	0.86 Bar
		V3RB4C10	Cpak ^{3/4} (MicroGlass)	10µm (20/18/15 or Better)	132	0.86 Bar
		V3RB4C20	Cpak ^{3/4} (MicroGlass)	20µm (22/19/16 or Better)	153	0.86 Bar
		V3RB4M25	M Media (Reusable)	25µm Stainless Steel Mesh	153	0.86 Bar

For element options other than those listed above please contact our call centre

Max Recommended Flow is calculated for both filter housing and element using fluid of viscosity <46 cSt with specific gravity <0.9. For fluids with viscosity other than 46 cSt, contact the call centre and allow us to do the calculations for you.

MEDIUM PRESSURE FILTERS - Pi 360

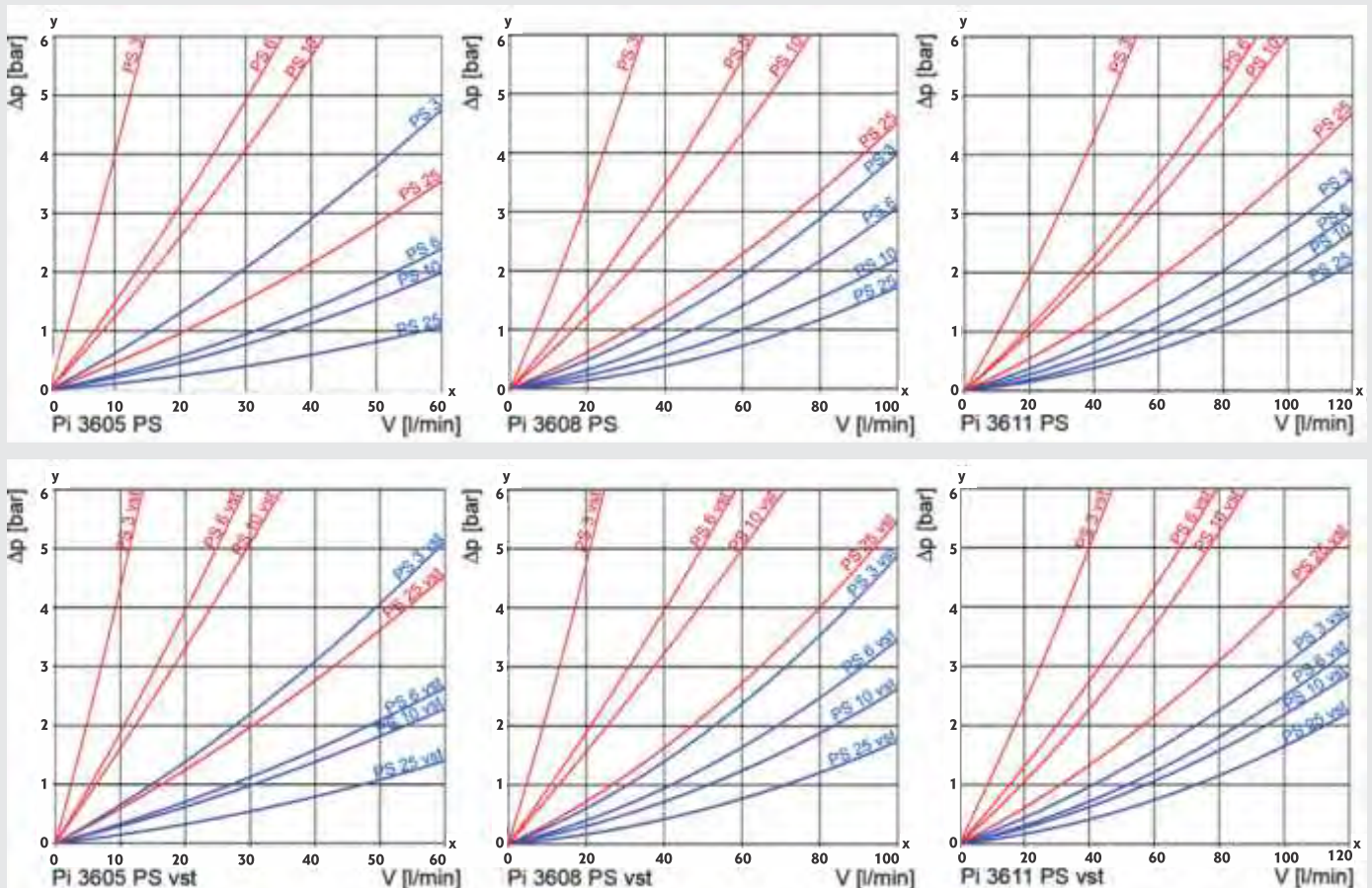
Technical specifications

Design:	line mounting filter
Nominal pressure: Pi 3615-3645	210 bar (2990 psi)
Pi 3605, 3608, 3611	315 bar (4480 psi)
Test pressure: Pi 3615-3645	275 bar (3910 psi)
Pi 3605, 3608, 3611	410 bar (5830 psi)
Temperature range:	-10 °C to +120 °C
	(other temperature ranges on request)
Bypass setting:	D p 7 bar – 10 %
Filter head material:	GGG
Filter housing material:	St
Sealing material:	NBR/PTFE
Maintenance indicator setting:	D p 5 bar – 10 %
Electrical data of maintenance indicator:	
Max. voltage:	250 V AC/200 V DC
Max. current:	1 A
Contact load:	70 W
Type of protection:	IP 65 in inserted and secured status
Contact:	normally open/closed
Cable sleeve:	M20x1.5

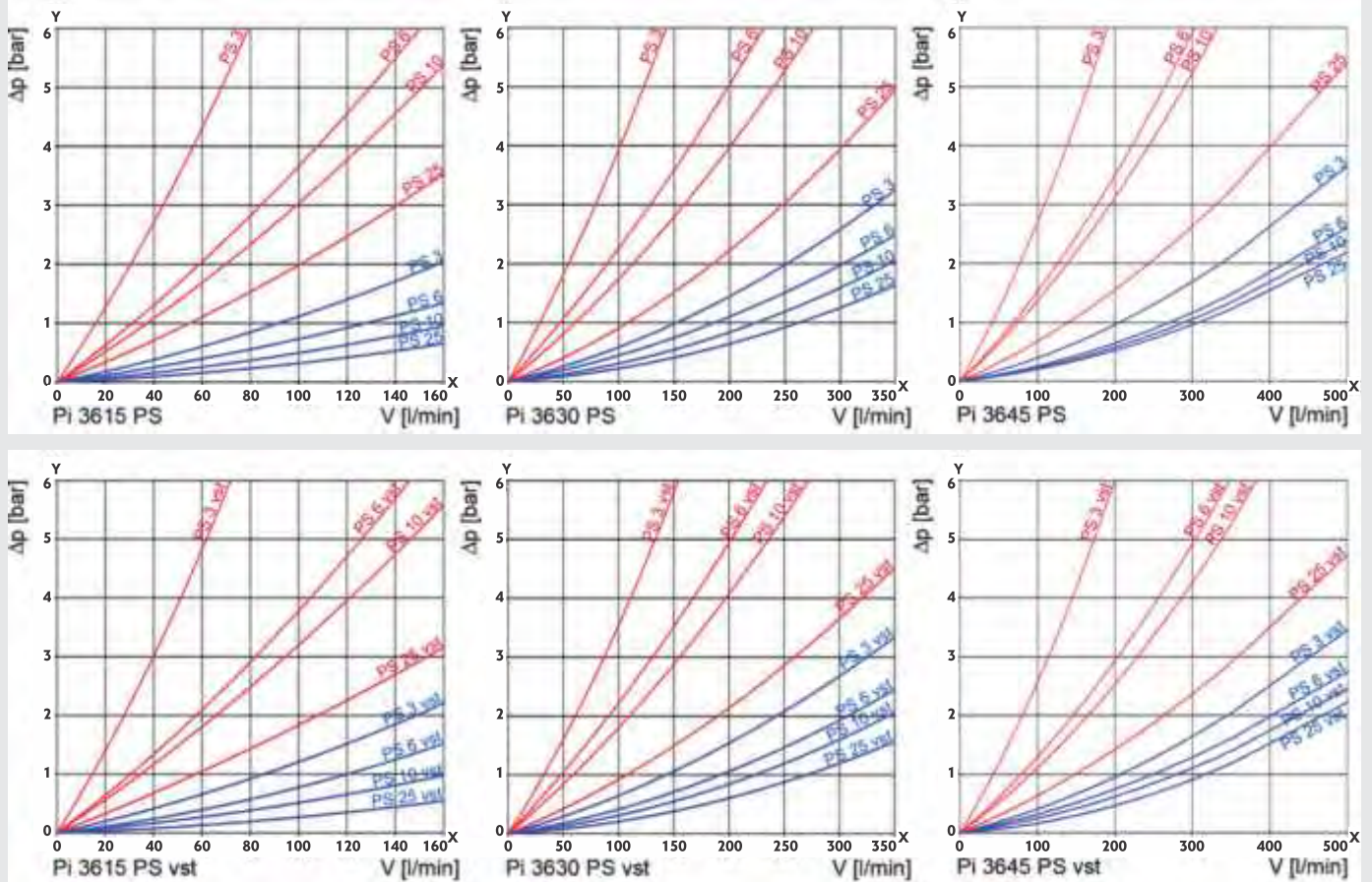


Flow rate/pressure drop curve (filter housing incl. element)

190 mm²/s
33 mm²/s



MEDIUM PRESSURE FILTERS - Pi 360



y = differential pressure Δp [bar]

x = flow rate V [l/min]

Order numbers

Housing design	Filter elements
V=80 l/min and electrical maintenance indicator	PS vst 3
Type: Pi 3608-15	Type: Pi 2208 PS vst 3
Order number: 77666282	Order number: 77680200

MEDIUM PRESSURE FILTERS - Pi 360

Housing design								
Nominal size NG [l/min]	Order number	① Type	② with bypass and indicator no options	③ with bypass and visual cavity	④ with bypass and electrical indicator	⑤ with visual indicator	⑥ with electrical indicator	indicator
50	77655996	Pi 3605-060						
	77666217	Pi 3605-011						
	77666225	Pi 3605-012						
	77656044	Pi 3605-013						
	77666233	Pi 3605-014						
	77666241	Pi 3605-015						
80	77656002	Pi 3608-060						
	77666258	Pi 3608-011						
	77666266	Pi 3608-012						
	77656036	Pi 3608-013						
	77666274	Pi 3608-014						
	77666282	Pi 3608-015						
110	77656010	Pi 3611-060						
	77666290	Pi 3611-011						
	77666308	Pi 3611-012						
	77656028	Pi 3611-013						
	77731821	Pi 3611-014						
	77666316	Pi 3611-015						
150	77647845	Pi 3615-060						
	77731854	Pi 3615-011						
	77666324	Pi 3615-012						
	77655988	Pi 3615-013						
	77731862	Pi 3615-014						
	77731847	Pi 3615-015						
300	77655970	Pi 3630-060						
	77731896	Pi 3630-011						
	77666332	Pi 3630-012						
	77647837	Pi 3630-013						
	77731904	Pi 3630-014						
	77731888	Pi 3630-015						
450	70328126	Pi 3645-060						
	79343153	Pi 3645-011						
	79350810	Pi 3645-012						
	77883648	Pi 3645-013						
	79343161	Pi 3645-014						
	78299307	Pi 3645-015						

When filter with non-bypass configuration is selected, the collapse pressure of the element must not be exceeded.

MEDIUM PRESSURE FILTERS - Pi 360

Filter elements (a wider range of element types is available on request)

Nominal size NG [l/min]	Order number	Type	Filter material	max. D p [bar]	Filter surface [cm ²]
50	77680135	Pi 2105 PS 3	PS 3	20	590
	77943509	Pi 5105 PS 6	PS 6		590
	77680325	Pi 3105 PS 10	PS 10		590
	77680440	Pi 4105 PS 25	PS 25		590
	77680192	Pi 2205 PS vst 3	PS vst 3	210	425
	77943533	Pi 5205 PS vst 6	PS vst 6		425
	77680382	Pi 3205 PS vst 10	PS vst 10		425
	77680507	Pi 4205 PS vst 25	PS vst 25		425
80	77680143	Pi 2108 PS 3	PS 3	20	1150
	77943517	Pi 5108 PS 6	PS 6		1150
	77680341	Pi 3108 PS 10	PS 10		1150
	77680457	Pi 4108 PS 25	PS 25		1150
	77680200	Pi 2208 PS vst 3	PS vst 3	210	850
	77943541	Pi 5208 PS vst 6	PS vst 6		850
	77681190	Pi 3208 PS vst 10	PS vst 10		850
	77680515	Pi 4208 PS vst 25	PS vst 25		850
110	77680150	Pi 2111 PS 3	PS 3	20	1700
	77943525	Pi 5111 PS 6	PS 6		1700
	77680333	Pi 3111 PS 10	PS 10		1700
	77680465	Pi 4111 PS 25	PS 25		1700
	77680218	Pi 2211 PS vst 3	PS vst 3	210	1275
	77943558	Pi 5211 PS vst 6	PS vst 6		1275
	77680390	Pi 3211 PS vst 10	PS vst 10		1275
	77680523	Pi 4211 PS vst 25	PS vst 25		1275
150	77680168	Pi 2115 PS 3	PS 3	20	2425
	77955099	Pi 5115 PS 6	PS 6		2425
	77680358	Pi 3115 PS 10	PS 10		2425
	77680473	Pi 4115 PS 25	PS 25		2425
	77680226	Pi 2215 PS vst 3	PS vst 3	210	2010
	77955123	Pi 5215 PS vst 6	PS vst 6		2010
	77680408	Pi 3215 PS vst 10	PS vst 10		2010
	77680531	Pi 4215 PS vst 25	PS vst 25		2010
300	77680176	Pi 2130 PS 3	PS 3	20	4620
	77955107	Pi 5130 PS 6	PS 6		4620
	77680366	Pi 3130 PS 10	PS 10		4620
	77680481	Pi 4130 PS 25	PS 25		4620
	77680234	Pi 2230 PS vst 3	PS vst 3	210	3800
	77955131	Pi 5230 PS vst 6	PS vst 6		3800
	77680416	Pi 3230 PS vst 10	PS vst 10		3800
	77680549	Pi 4230 PS vst 25	PS vst 25		3800

MEDIUM PRESSURE FILTERS - Pi 360

450	77680184	Pi 2145 PS 3	PS 3	20	6865
	77955115	Pi 5145 PS 6	PS 6		6865
	77680374	Pi 3145 PS 10	PS 10		6865
	77680499	Pi 4145 PS 25	PS 25		6865
	77680242	Pi 2245 PS vst 3	PS vst 3	210	5600
	77955149	Pi 5245 PS vst 6	PS vst 6		5600
	77680424	Pi 3245 PS vst 10	PS vst 10		5600
	77680556	Pi 4245 PS vst 25	PS vst 25		5600

Dimensions

All dimensions except "C" in mm.

Type	A	B	C*	D	E	F	G SW	H	I	K	L	M	N	O	P	R	Weight [kg]
Pi 3605	78	31	G $\frac{1}{2}$	189	247	80	27	66	90	92	23.5	54	47	M8x16	21	8	4.1
Pi 3608	78	31	G $\frac{3}{4}$	267	325	80	27	66	90	92	23.5	54	47	M8x16	21	8	5.0
Pi 3611	78	31	G $\frac{3}{4}$	343	401	80	27	66	90	92	23.5	54	47	M8x16	21	8	5.9
Pi 3615	78	32	G1 $\frac{1}{4}$	257	312	110	30	109	137	142	-	60	80	M12x16	30	-	9.8
Pi 3630	78	32	G1 $\frac{1}{4}$	371	426	110	30	109	137	142	-	60	80	M12x16	30	-	12.5
Pi 3645	78	32	G1 $\frac{1}{4}$	487	542	110	30	109	137	142	-	60	80	M12x16	30	-	14.0

* NPT- and SAE- port connections on request

Installation, operating and maintenance instructions

Filter installation

When installing the filter make sure that sufficient space is available to remove filter element and filter housing. Preferably the filter should be installed with the filter housing pointing downwards.

The maintenance indicator must be visible.

Connecting the electrical maintenance indicator

The electrical indicator is connected via a 2-pole appliance plug according to DIN EN 175301-803 with poles marked 1 and 2. The electrical section can be inverted to change from normally open to normally closed position or vice versa.



MEDIUM PRESSURE FILTERS

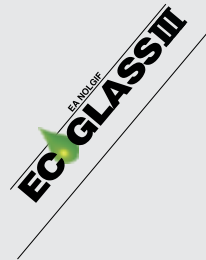
12CS SERIES

Coreless Spin-On Filter. max. 75l/min - 35 bar



15/40/80CN SERIES

Medium Pressure Filters. Max. 600l/min - 70 bar



Product Features

- 12CS features a Parker quality, replaceable coreless 10 micron Ecoglass III element
- Re-usable bowl design for easy element removal.
- Maximum pressure 35 bar.
- An eco filter solution for hydraulic systems

Product Features

- CN utilizes a cast aluminium head and bowl.
- Excellent fatigue pressure ratings.
- Maximum pressure 70 bar. Maximum flow 600 l/min

Technical Specification

Product Description:

A coreless spin-on medium pressure filter with a die cast aluminium head and steel bowl

Maximum Working Pressure:
35 bar

Operating Temperature Range:
Buna: -40°C to 107°C

Filtration Media:*

10 micron Ecoglass III element in fiberglass and polyester. Permanent steel core

Element Condition Indicator Options:

For predictive maintenance, 3 types of indicator are available.

An electrical analogue or switch type indicator or a battery operated visual LED indicator.

Technical Specification

Maximum Working Pressure:

70 bar

Rated fatigue pressure: 56 bar

Operating Temperature Range:

Seal material Nitrile:

-40°C to +100°C.

Seal material Fluoroelastomer:

-20°C to +120°C.

Seal Material:

Nitrile or fluoroelastomer.

Bypass Valve & Indicator Settings:

Table following gives bypass valve and corresponding indicator setting.

Bypass	Indicator
1.7 bar	1.2 bar
3.5 bar	2.5 bar

Connections:

Several threaded port options available, flange faced ports available on 80CN.

BSPF(G)	15CN: 1", ¾	40CN: 1¼, 1½	80CN: 1½, 2
SAE	15CN: 12, 16		

40CN: 16, 24

80CN: 24, 32

ISO 6149

(On Request)

15CN: M27

40CN: M33

80CN: M42, M48

Metric 3000-M 80CN: 2"

Filter Housing:

Head material aluminium.

Bowl material hard anodized aluminium.

Microglass III (available by request)

Supported with epoxy coated metal wire mesh, end cap material reinforced composite and metal inner core. Collapse rating 20 bar (ISO 2941).

Ecoglass III

Supported with plastic net, end cap material reinforced composite. No metal parts.

Collapse rating 10 bar (ISO 2941).

Ordering Information

Part Number	Flow L/Min	Bypass	Ports	Included Options	Replacement Elements
12CS210QEBNKS121	75	3.4 bar	SAE-12	none	940763Q
12CS210QEBNKG121	75	3.4 bar	SAE-12	none	940763Q

*Note: All filter assemblies are supplied with plugged indicator ports. Indicator codes are shown on Page 10. Indicators can be ordered separately from the filter assembly. 10 micron element options have been selected for all filter products in this overview except EPF, dF40 and Eco 130 Series filters.

Ordering Information

Part Number	Flow L/Min	Bypass	Ports	Included Options	Replacement Elements
15CN110QEVPKG164	50	3.5 bar	G1"	none	936700Q
15CN210QEVPKG164	100	3.5 bar	G1"	none	936704Q
40CN110QEVPKG244	180	3.5 bar	G1½"	none	936708Q
40CN210QEVPKG244	280	3.5 bar	G1½"	none	936601Q
80CN210QEV1KG324	370	3.5 bar	G2"	none	936602Q
80CN210QEVPKG324	530	3.5 bar	G2"	none	936718Q

MEDIUM PRESSURE FILTERS

GMF IPROTECT

Medium pressure filters, max. 600 l/min - 70 bar



ECO 130 SERIES

Medium Pressure Filters, Max. 1400l/min. 30 bar



Product Features

- More compact solutions are possible.
- Filter element remains in filter bowl during filter service.
- Reduce waste over 50% thanks to re-usable element core.
- No risk of installation mistake due to a 'foolproof' design.
- Easy to integrate into hydraulic manifold solutions.

Product Features

- In-line filter as a single filter, a dual unit, a parallel unit or a filter system.
- Single filter flow rate 1000 l/min. max.
- Dual and parallel unit flow rate 1400 l/min. max.

Technical Specification

Pressure ratings:

Maximum allowable operating pressure: 70 bar
Rated fatigue pressure: 56 bar

Connections:

Several threaded port options available, flange faced ports available on GMF size 4.

Connection style Model

GMF size 2 GMF size 3 GMF size 4
BSPF(G) 1", 3/4" 11/4", 11/2" 11/2", 2"
SAE 12, 16 16, 24 24, 32
Metric 3000-M 2"

Filter housing:

Head material aluminium.
Bowl material hard anodized aluminium.

Seal material:

Nitrile or fluoroelastomer.

Operating temperature range:

Seal material Nitrile: -20°C to +100°C.
Seal material Fluoroelastomer: -20°C to +120°C.

Bypass valve & indicator settings:

Table following gives bypass valve and corresponding indicator setting.

Bypass Indicator

1.7 bar 1.2 bar

3.5 bar 2.5 bar

6 bar 5 bar

Filter element:

Degree of filtration:

Quantumfiber™ filter media, determined by Multipass-test according to ISO16889

iprotect® QI

Supported with epoxy coated metal wire mesh, end cap material reinforced composite. Collapse pressure rated at 20 bar (ISO 2941)

Indicator options (all with SAE8 thread):

Visual M3. - electrical T1.

Electronic F1(PNP). - electronic

F2(NPN).

For more information see the HFDE product catalogue Ref: FDHB500.

Technical Specification

Maximum Working Pressure:

Single filter: 30 bar
Dual and parallel units and filter systems: 16 bar

Operating Temperature:

-40°C...+100°C with Nitrile seals,
-20°C...+120°C with Fluoroelastomer seals.

Seal Material:

Nitrile or optionally fluoroelastomer

Bypass Valve:

Opening pressure 3.5 bar

Connections:

Single filter: Flanges SAE 2" 3000-M, SAE 2½ 3000-M or with adaptor threads G1½ or G2.

Dual units: Flanges SAE 3" 3000-M

or with adaptor threads G2.

Parallel units and filter systems: DN80/

PN16 or DN100/PN16

Filtration Materials:

- Glassfibre Microglass III
- Environmentally friendly Ecoglass III. No metal parts.
- Cleanable metal mesh

Assembly:

In-line filter as a single filter, a dual unit, a parallel unit or a filter system with L-bore selecting valve assembly (only one side in use).
Vertical installation

Nominal Flow Rate (30 cSt):

Single filter: 1000 l/min (60 m³/h)
Dual and parallel units and filter systems: 1400 l/min (84 m³/h)

Housing Material:

Aluminium

Differential Pressure Indicators:

Visual indicator always included to each column, setting 2.5 bar. Optional electrical or electronic indicators to be mounted on lower indicator port

Fluid Compatibility:

Suitable for use with regular hydraulic and lubrication oils.

Ordering Information

Part Number	Flow L/Min	Bypass	Ports	Included Options	Replacement Elements
GMF2110QIVPKG164	55	3.5 Bar	G1"	Plugged indicator ports	938897Q
GMF2210QIVPKG164	90	3.5 Bar	G1"	Plugged indicator ports	938901Q
GMF3110QIVPKG244	120	3.5 Bar	G1 1/2"	Plugged indicator ports	938905Q
GMF3210QIVPKG244	230	3.5 Bar	G1 1/2"	Plugged indicator ports	938909Q
GMF4110QIVPKG324	350	3.5 Bar	G2"	Plugged indicator ports	938913Q
GMF4210QIVPKG324	530	3.5 Bar	G2"	Plugged indicator ports	938917Q

Ordering Information

Part Number	Flow L/Min	Bypass	Ports	Included Options	Replacement Elements
130M210QEBM3KR401	700	3,5 bar	SAE 2½"-3000M	Visual indicator 2.5 bar	938723Q
130M220QEBM3KR401	900	3,5 bar	SAE 2½"-3000M	Visual indicator 2.5 bar	938724Q
130M310QEBM3KR401	900	3,5 bar	SAE 2½"-3000M	Visual indicator 2.5 bar	938727Q
130M320QEBM3KR401	1000	3,5 bar	SAE 2½"-3000M	Visual indicator 2.5 bar	938728Q

HEAVY DUTY/HIGH PRESSURE FILTERS

Df40

Duplex Filters, max. 200l/min. 40 bar



Product Features

- Fuel filter for diesel engines up to 10MW.
- Lubrication filter for gearboxes and propulsion systems.
- Medium pressure duplex filter in hydraulic systems.
- In-line return duplex filter in hydraulic systems.

Technical Specification

Maximum Working Pressure:
40 bar

Operating Temperature Range:
-20°C...+120°C with Fluoroelastomer seals, -20°C...+160°C with metal mesh elements and Fluoroelastomer seals

Seal Material:
Fluoroelastomer

Bypass Valve:
Standard without bypass, optional opening pressure 3.5 bar

Connections:
Flanges SAE 1½ 3000-M as standard. Optional thread connections G1½ and G1¼ available with flange adapters

Duplex Filter:
Change-over valve with open center position. Locking device for both end positions. Element change is possible by opening either the top cover or the bowl in the bottom.

Housing Material:
Cast iron (GJS)

Weight: 52 kg
Nominal Flow Rate (30 cSt):
200 l/min (12 m³/h)

- Filter Elements:**
- Environmentally friendly Ecoglass III elements, micron ratings(abs): 2 µm, 5 µm, 10 µm and 20 µm. Ecoglass III elements contribute to because they do not include metal parts
 - Glassfibre Microglass III elements, micron ratings(abs): 2 µm, 5 µm, 10 µm and 20 µm
 - Cleanable metal mesh elements, micron ratings(abs): 35 µm and 60 µm

Fluid Compatibility:
Suitable for use with regular hydraulic and lubrication oils & light fuel oils.

Ordering Information

Part Number	Flow L/Min	Bypass	Ports	Included Options	Replacement Elements
DF40110QEVPKR241	270	3.5 bar	SAE 1½"-3000M	none	939206Q
DF40120QEVPKR241	300	3.5 bar	SAE 1½"-3000M	none	939207Q

*Note: All filter assemblies are supplied with plugged indicator ports. Indicator codes are shown on Page 10. Indicators can be ordered separately from the filter assembly. 10 micron element options have been selected for all filter products in this overview except EPF, dF40 and Eco 130 Series filters.

EPF IPROTECT (Ecological Pressure Filter)

High Pressure Filters, Max 700l/min - 450 bar



Product Features

- Designed with the iproject patented filtration technology.
- Filter element remains in filter bowl during filter service.
- Reduce waste by typically 50% or more.
- No risk of installation mistakes due to 'foolproof' design.
- Easy to integrate into hydraulic manifold solutions.

Technical Specification

Maximum working pressure:
450 bar Filter housing pressure pulse fatigue tested 10⁶ pulses 0-450 bar

Operating temperature range
Seal material Nitrile : -40 °C to +100 °C Seal material Fluoroelastomer: -20 °C to +120 °C

Seal material
Nitrile of Fluoroelastomer

Bypass valve & Indicator settings

Bypass	Indicator
3.5 bar	2.5 bar
5.0 bar	3.5 bar
7.0 bar	5.0 bar
Blocked	5.0 bar

Connections
Inlet and outlet connections are threaded internally

Connection style
Thread G½ - G1½

Specification
Nominal flows 40 l/min-500 l/min

Filter housing
Head material cast iron (GSI)
Bowl material steel

Microglass III
Supported with epoxy coated metal wire mesh, end cap material reinforced composite and reusable metal inner core. Collapse pressure 25 bar (ISO 2941)
Indicator options
Indicating differential pressure:
2.5 +/- 0.3 bar
3.5 +/- 0.3 bar
5.0 +/- 0.3 bar
Visual M3
Electrical T1
Electronic F1 (PNP)
Electronic F2 (NPN)
Atex versions are available on request

Ordering Information

Part Number	Flow L/Min	Micron Rating	Length	Bypass	Ports	Replacement Elements
EPF1105QIBPMG081	40	5	1	7 bar	G1/2"	944419Q
EPF1110QIBPMG081	40	10	1	7 bar	G1/2"	944420Q
EPF2205QIBPMG121	140	5	2	7 bar	G3/4"	944431Q
EPF2210QIBPMG121	140	10	2	7 bar	G3/4"	944432Q
EPF3205QIBPMG161	250	5	2	7 bar	G1"	944439Q
EPF3210QIBPMG161	250	10	2	7 bar	G1"	944440Q
EPF4205QIBPMG201	450	5	2	7 bar	G1 1/4"	944447Q
EPF4210QIBPMG201	450	10	2	7 bar	G1 1/4"	944448Q
EPF5105QIBPMG241	500	5	1	7 bar	G1 1/2"	944451Q
EPF510QIBPMG241	500	10	1	7 bar	G1 1/2"	944452Q

HIGH PRESSURE FILTERS - Pi 420

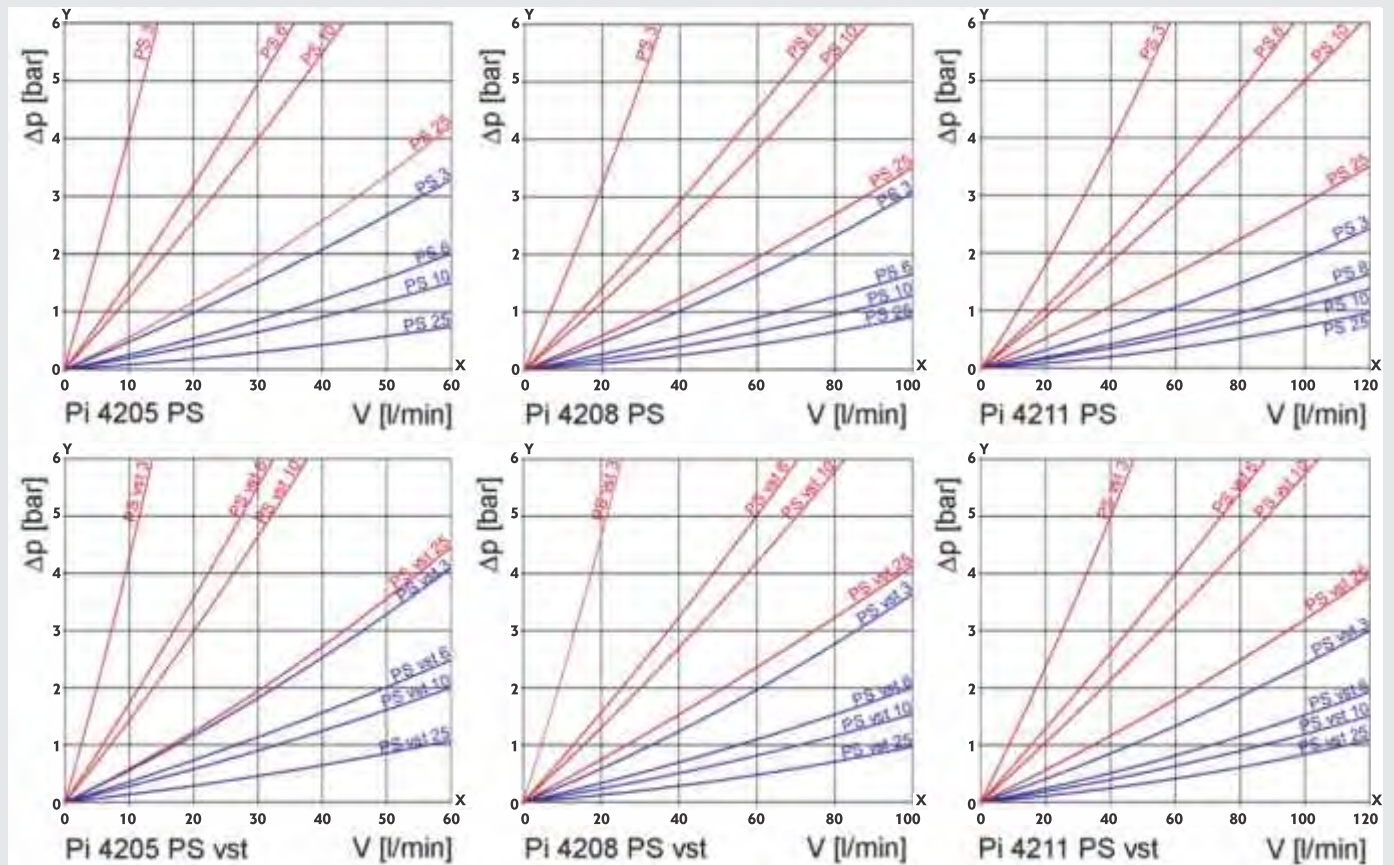


Technical specifications

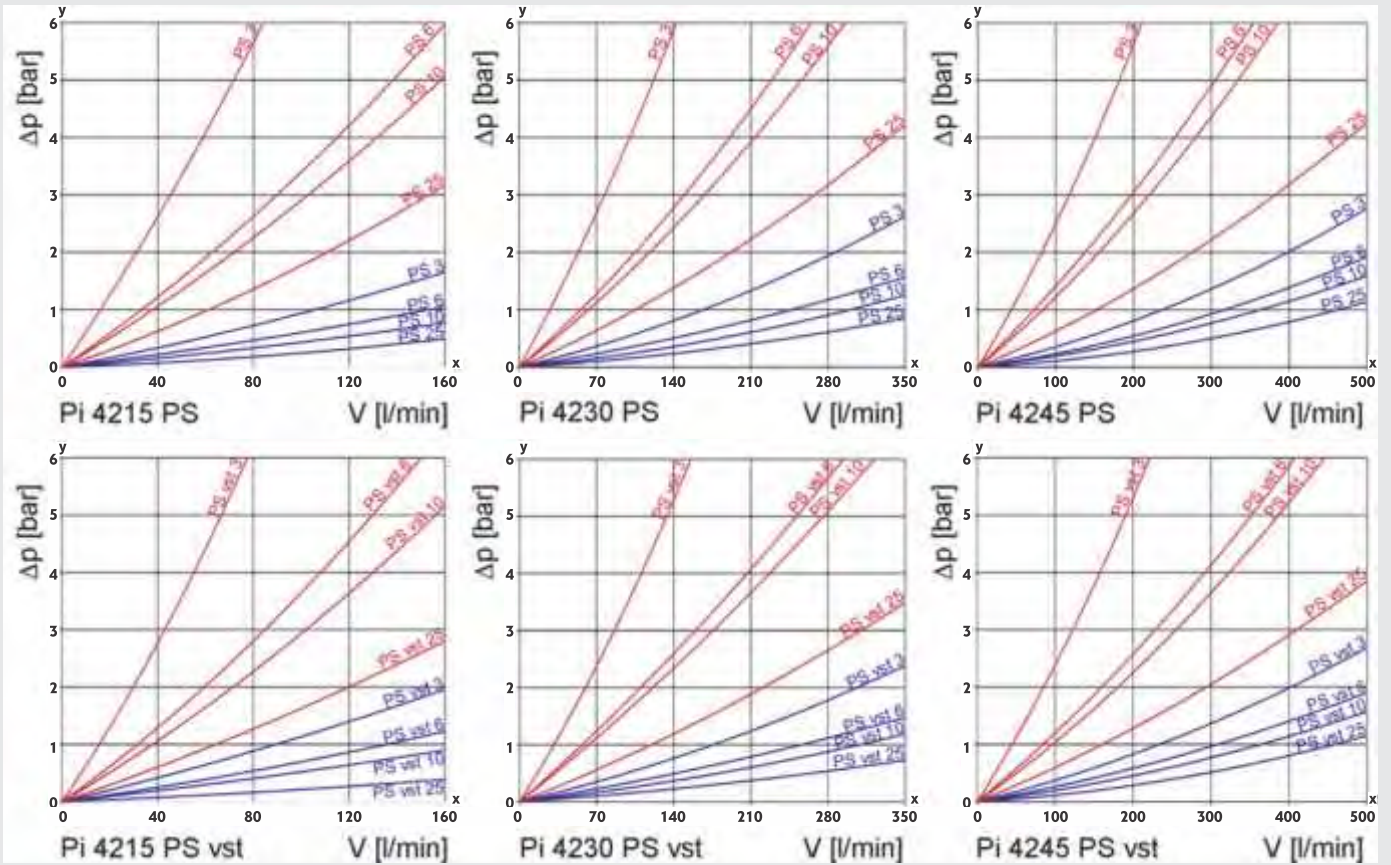
Design:	line mounting filter	Maintenance indicator setting:	D p 5 bar – 10 %
Nominal pressure:	400 bar (5690 psi)	Electrical data of maintenance indicator:	
Test pressure:	520 bar (7400 psi)	Maximum voltage:	250 V AC/200 V DC
Temperature range:	-10 °C to +120 °C (other temperature ranges on request)	Maximum current:	1 A
Bypass setting:	D p 7 bar – 10 %	Contact load:	70 W
Filter head material:	GGG	Type of protection:	IP 65 in inserted and secured status
Filter housing material:	St	Contact:	normally open/closed
Sealing material:	NBR/PTFE	Cable connection:	M20x1.5

Flow rate/pressure drop curve (filter housing incl. element)

■ 190 mm²/s
■ 33 mm²/s



HIGH PRESSURE FILTERS - Pi 420



y = differential pressure Δp [bar]

x = flow rate V [l/min]

Order numbers

Example for ordering filters:

Housing design	Filter elements
Housing design $V = 80$ l/min, electrical maintenance indicator	PS vst 3
Type: Pi 4208-015	Type: Pi 2208 PS vst 3
Order number: 77666472	Order number: 77680200

HIGH PRESSURE FILTERS - Pi 420

Housing design										
Nominal size NG [l/min]	Order number thread version	Type thread version	Order number flange version	Type flange version	Housing design					
					① with indicator cavity	② with bypass valve and indicator cavity	③ with bypass valve and visual indicator	④ with bypass valve and electrical indicator	⑤ with visual indicator	⑥ with electrical indicator
50	77666357	Pi 4205-010	77967714	Pi 4205-010 FL						
	77666365	Pi 4205-011	77967722	Pi 4205-011 FL						
	77666373	Pi 4205-012	77967730	Pi 4205-012 FL						
	77666381	Pi 4205-013	77967748	Pi 4205-013 FL						
	77666399	Pi 4205-014	77967755	Pi 4205-014 FL						
	77666415	Pi 4205-015	77967763	Pi 4205-015 FL						
80	77666423	Pi 4208-010	77967771	Pi 4208-010 FL						
	77666431	Pi 4208-011	77967789	Pi 4208-011 FL						
	77666449	Pi 4208-012	77967797	Pi 4208-012 FL						
	77666456	Pi 4208-013	77967805	Pi 4208-013 FL						
	77666464	Pi 4208-014	77967813	Pi 4208-014 FL						
	77666472	Pi 4208-015	77967821	Pi 4208-015 FL						
110	77666480	Pi 4211-010	77967839	Pi 4211-010 FL						
	77666498	Pi 4211-011	77967847	Pi 4211-011 FL						
	77666506	Pi 4211-012	77967854	Pi 4211-012 FL						
	77666514	Pi 4211-013	77967862	Pi 4211-013 FL						
	77666522	Pi 4211-014	77967870	Pi 4211-014 FL						
	77666530	Pi 4211-015	77967888	Pi 4211-015 FL						
150	77666548	Pi 4215-010	77978596	Pi 4215-010 FL						
	77666555	Pi 4215-011	77978604	Pi 4215-011 FL						
	77666563	Pi 4215-012	77978612	Pi 4215-012 FL						
	77666571	Pi 4215-013	77978620	Pi 4215-013 FL						
	77666589	Pi 4215-014	77978638	Pi 4215-014 FL						
	77666597	Pi 4215-015	77978646	Pi 4215-015 FL						
300	77666613	Pi 4230-010	77978653	Pi 4230-010 FL						
	77666621	Pi 4230-011	77978661	Pi 4230-011 FL						
	77666639	Pi 4230-012	77978679	Pi 4230-012 FL						
	77666647	Pi 4230-013	77978687	Pi 4230-013 FL						
	77666654	Pi 4230-014	77978695	Pi 4230-014 FL						
	77666662	Pi 4230-015	77964505	Pi 4230-015 FL						
450	77666688	Pi 4245-010	77978703	Pi 4245-010 FL						
	77666696	Pi 4245-011	77978711	Pi 4245-011 FL						
	77666704	Pi 4245-012	77978729	Pi 4245-012 FL						
	77666712	Pi 4245-013	77978737	Pi 4245-013 FL						
	77666720	Pi 4245-014	77978745	Pi 4245-014 FL						
	77666746	Pi 4245-015	77978752	Pi 4245-015 FL						

When filter with non-bypass configuration is selected, the collapse pressure of the element must not be exceeded.

HIGH PRESSURE FILTERS - Pi 420

Filter elements (a wider range of element types is available on request)

Nominal size NG [l/min]	Order number	Type	Filter material	max. Dp [bar]	Filter surface [cm ²]
50	77680135	Pi 2105 PS 3	PS 3	20	590
	77943509	Pi 5105 PS 6	PS 6		590
	77680325	Pi 3105 PS 10	PS 10		590
	77680440	Pi 4105 PS 25	PS 25		590
	77680192	Pi 2205 PS vst 3	PS vst 3	210	425
	77943533	Pi 5205 PS vst 6	PS vst 6		425
	77680382	Pi 3205 PS vst 10	PS vst 10		425
	77680507	Pi 4205 PS vst 25	PS vst 25		425
80	77680143	Pi 2108 PS 3	PS 3	20	1150
	77943517	Pi 5108 PS 6	PS 6		1150
	77680341	Pi 3108 PS 10	PS 10		1150
	77680457	Pi 4108 PS 25	PS 25		1150
	77680200	Pi 2208 PS vst 3	PS vst 3	210	850
	77943541	Pi 5208 PS vst 6	PS vst 6		850
	77681190	Pi 3208 PS vst 10	PS vst 10		850
	77680515	Pi 4208 PS vst 25	PS vst 25		850
110	77680150	Pi 2111 PS 3	PS 3	20	1700
	77943525	Pi 5111 PS 6	PS 6		1700
	77680333	Pi 3111 PS 10	PS 10		1700
	77680465	Pi 4111 PS 25	PS 25		1700
	77680218	Pi 2211 PS vst 3	PS vst 3	210	1275
	77943558	Pi 5211 PS vst 6	PS vst 6		1275
	77680390	Pi 3211 PS vst 10	PS vst 10		1275
	77680523	Pi 4211 PS vst 25	PS vst 25		1275
150	77680168	Pi 2115 PS 3	PS 3	20	2425
	77955099	Pi 5115 PS 6	PS 6		2425
	77680358	Pi 3115 PS 10	PS 10		2425
	77680473	Pi 4115 PS 25	PS 25		2425
	77680226	Pi 2215 PS vst 3	PS vst 3	210	2010
	77955123	Pi 5215 PS vst 6	PS vst 6		2010
	77680408	Pi 3215 PS vst 10	PS vst 10		2010
	77680531	Pi 4215 PS vst 25	PS vst 25		2010
300	77680176	Pi 2130 PS 3	PS 3	20	4620
	77955107	Pi 5130 PS 6	PS 6		4620
	77680366	Pi 3130 PS 10	PS 10		4620
	77680481	Pi 4130 PS 25	PS 25		4620
	77680234	Pi 2230 PS vst 3	PS vst 3	210	3800
	77955131	Pi 5230 PS vst 6	PS vst 6		3800
	77680416	Pi 3230 PS vst 10	PS vst 10		3800
	77680549	Pi 4230 PS vst 25	PS vst 25		3800
450	77680184	Pi 2145 PS 3	PS 3	20	6865
	77955115	Pi 5145 PS 6	PS 6		6865
	77680374	Pi 3145 PS 10	PS 10		6865
	77680499	Pi 4145 PS 25	PS 25		6865
	77680242	Pi 2245 PS vst 3	PS vst 3	210	5600
	77955149	Pi 5245 PS vst 6	PS vst 6		5600
	77680424	Pi 3245 PS vst 10	PS vst 10		5600
	77680556	Pi 4245 PS vst 25	PS vst 25		5600

HIGH PRESSURE FILTERS - HF2P

HF2P Series - High Pressure Filters



Features and Benefits		Filter Housing Performance	
<ul style="list-style-type: none"> Conforms to HF2 automotive specifications Compact design for use with servo and proportional valves Available in non-bypassing model High crush pressure elements available for non-bypass applications Accepts a wide variety of clogging indicator options Accepts a wide variety of filter media options Fatigue rated at 280 bar for max reliability in the toughest applications 	Flow Rating:	Up to 80 lpm for 32 cSt fluids	
	Max Working Pressure:	280 Bar	
	Rated Fatigue Pressure:	280 Bar	
	Temperature Range:	- 26 °C TO 121 °C	
	Bypass Setting Options:	6 Bar or without bypass	
	Porting Head:	Ductile Iron	
	Element Case:	Carbon Steel	

Filter Housing - Part Number Formulation						
Filter Series	Element Collapse Pressure	Port Size	Bypass Valve Setting	Indicator Port	Seal material	Length Code
HF2P	1 = 18 Bar 4 = 200 Bar	BA= 3/4" BSP	6 = 6 Bar Bypass 1 = Non-Bypass (Use only high strength Hpak element)	JN = 1/2" BSP port drilled and plugged	B = Buna V = Viton	1 = 219 mm 2 = 304.9 mm

Sample Housing Part Number

HF2P1BA6JNB2

Filter Element Performance	
Media Options:	Cpak High Efficiency Microglass; Hpak High Crush Pressure
Element Collapse Rating:	Cpak = 20 Bar; Hpak = 200 Bar
Fluid Compatibility with Buna Seals:	Petroleum Based Fluids, Polyol Esthers, Water Glycols, Invert Emulsions
Fluid Compatibility with Viton Seals:	Petroleum Based Fluids, Polyol Esthers, Water Glycols, Invert Emulsions, Phosphate Esters

Commonly Used Element Part Numbers						
Filter Series	Length Code	Element Part Number	Media Type	Media Grade (Cleanliness Target)	*Max Recommended Flow (lpm)	Clean ΔP at Max Recommended Flow
HF2P	1	V3041B1C03	Cpak $\frac{3}{4}$ (MicroGlass)	3μm (16/14/12 or Better)	24	<1.5 Bar
		V3041B1C05	Cpak $\frac{3}{4}$ (MicroGlass)	5μm (18/16/14 or Better)	30	<1.5 Bar
		V3041B1C10	Cpak $\frac{3}{4}$ (MicroGlass)	10μm (20/18/15 or Better)	40	<1.5 Bar
		V3041B1C20	Cpak $\frac{3}{4}$ (MicroGlass)	20μm (22/19/16 or Better)	50	<1.5 Bar
		V3045B1H03	HPak (High Strength)	3μm (16/14/12 or Better)	21	<1.5 Bar
	2	V3041B2C03	Cpak $\frac{3}{4}$ (MicroGlass)	3μm (16/14/12 or Better)	32	<1.5 Bar
		V3041B2C05	Cpak $\frac{3}{4}$ (MicroGlass)	5μm (18/16/14 or Better)	47	<1.5 Bar
		V3041B2C10	Cpak $\frac{3}{4}$ (MicroGlass)	10μm (20/18/15 or Better)	59	<1.5 Bar
		V3041B2C20	Cpak $\frac{3}{4}$ (MicroGlass)	20μm (22/19/16 or Better)	71	<1.5 Bar
		V3045B2H03	HPak (High Strength)	3μm (16/14/12 or Better)	28	<1.5 Bar

For element options other than those listed above please contact our call centre

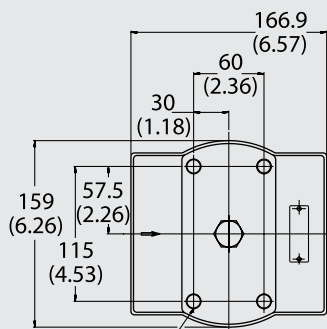
Max Recommended Flow is calculated for both filter housing and element using fluid of viscosity <46 cSt with specific gravity <0.9. For fluids with viscosity other than 46 cSt, contact the call centre and allow us to do the calculations for you.

HIGH PRESSURE FILTERS - HF3P

HF3P Series - High Pressure Filters

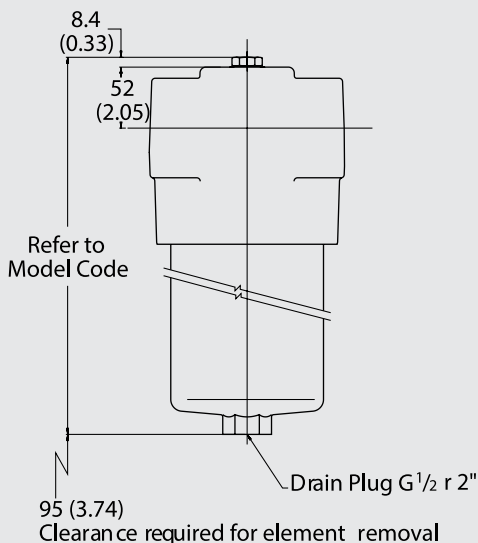
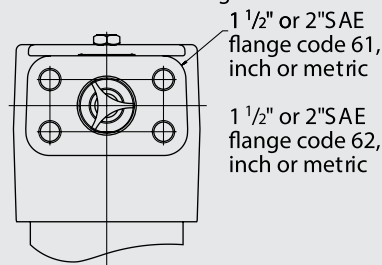


Features and Benefits	Filter Housing Performance	
<ul style="list-style-type: none"> ● Conforms to HF3 automotive specifications ● Available with reverse low valve for hydrostatic transmissions ● Fatigue rated at 410 bar for max reliability in the toughest applications ● High collapse elements available for non-bypass applications ● Accepts a wide variety of clogging indicator options ● Accepts a wide variety of filter media options 	Flow Rating:	Up to 454 lpm for 32 cSt fluids
	Max Working Pressure:	410 Bar
	Rated Fatigue Pressure:	410 Bar
	Temperature Range:	- 26 ° C To 121 ° C
	Bypass Setting Options:	6 Bar, reverse low, or non-bypass
	Porting Head:	Ductile Iron
	Element Case:	Carbon Steel

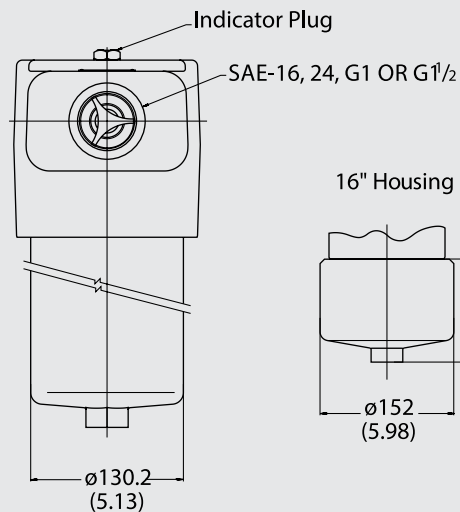


1/2-20UNF-2B in. X 17 (0.67)deep 4 Places

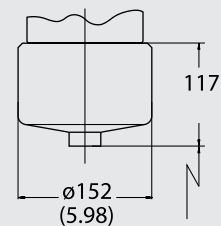
Inlet & Outlet Porting



95 (3.74) Clearance required for element removal



16" Housing



427 Clearance required (16.8) for element removal

HIGH PRESSURE FILTERS - HF3P

HF3P Series - High Pressure Filters

Filter Housing - Part Number Formulation						
Filter Series	Element Collapse Pressure	Port Size	Bypass Valve Setting	Indicator Port	Seal material	Length Code
HF3P	1 = 18 Bar 4 = 200 Bar	BB= 1" BSP BD = 1 1/2" BSP FE = 1 1/2" SAE Flange (Code 61, UNC Bolts) FU = 2" SAE Flange (Code 62, UNC Bolts)	6 = 6 Bar Bypass 1 = Non Bypass 9 = Reverse Flow Valve with 3 Bar Bypass	JN = 1/2" BSP port drilled and plugged	B = Buna V = Viton	1 = 230mm 2 = 293m 4 = 414mm 5 = 569mm

Sample Housing Part Number

HF3P1BD6JNB2

Filter Element Performance	
Media Options:	Cpak High Efficiency Microglass; Hpak High Crush Pressure
Element Collapse Rating:	Cpak = 20 Bar; Hpak = 200 Bar
Fluid Compatibility with Buna Seals:	Petroleum Based Fluids, Polyol Esthers, Water Glycols, Invert Emulsions
Fluid Compatibility with Viton Seals:	Petroleum Based Fluids, Polyol Esthers, Water Glycols, Invert Emulsions, Phosphate Esters

Commonly Used Element Part Numbers						
Filter Series	Length Code	Element Part Number	Media Type	Media Grade (Cleanliness Target)	*Max Recommended Flow (lpm)	Clean ΔP at Max Recommended Flow
HF3P	1	V6021B1C03	Cpak¾ (MicroGlass)	3µm (16/14/12 or Better)	60	<1.0 Bar
		V6021B1C05	Cpak¾ (MicroGlass)	5µm (18/16/14or Better)	75	<1.5 Bar
		V6021B1C10	Cpak¾ (MicroGlass)	10µm (20/18/15 or Better)	100	<1.5 Bar
		V6021B1C20	Cpak¾ (MicroGlass)	20µm (22/19/16 or Better)	110	<1.5 Bar
		V6024B1H03	HPak (High Strength)	3µm (16/14/12 or Better)	45	<1.5 Bar
	2	V6021B2C03	Cpak¾ (MicroGlass)	3µm (16/14/12 or Better)	110	<1.5 Bar
		V6021B2C05	Cpak¾ (MicroGlass)	5µm (18/16/14or Better)	135	<1.5 Bar
		V6021B2C10	Cpak¾ (MicroGlass)	10µm (20/18/15 or Better)	180	<1.5 Bar
		V6021B2C20	Cpak¾ (MicroGlass)	20µm (22/19/16 or Better)	210	<1.5 Bar
		V6024B2H03	HPak (High Strength)	3µm (16/14/12 or Better)	65	<1.5 Bar
	4	V6021B4C03	Cpak¾ (MicroGlass)	3µm (16/14/12 or Better)	150	<1.5 Bar
		V6021B4C05	Cpak¾ (MicroGlass)	5µm (18/16/14or Better)	176	<1.5 Bar
		V6021B4C10	Cpak¾ (MicroGlass)	10µm (20/18/15 or Better)	235	<1.5 Bar
		V6021B4C20	Cpak¾ (MicroGlass)	20µm (22/19/16 or Better)	290	<1.5 Bar
		V6024B4H03	HPak (High Strength)	3µm (16/14/12 or Better)	120	<1.5 Bar
	5	V6021B5C03	Cpak¾ (MicroGlass)	3µm (16/14/12 or Better)	205	<1.5 Bar
		V6021B5C05	Cpak¾ (MicroGlass)	5µm (18/16/14or Better)	230	<1.5 Bar
		V6021B5C10	Cpak¾ (MicroGlass)	10µm (20/18/15 or Better)	290	<1.5 Bar
		V6021B5C20	Cpak¾ (MicroGlass)	20µm (22/19/16 or Better)	350	<1.5 Bar
		V6024B5H03	HPak (High Strength)	3µm (16/14/12 or Better)	150	<1.5 Bar

For element options other than those listed above please contact our call centre

Max Recommended Flow is calculated for both filter housing and element using fluid of viscosity <46 cSt with specific gravity <0.9. For fluids with viscosity other than 46 cSt, contact the call centre and allow us to do the calculations for you.

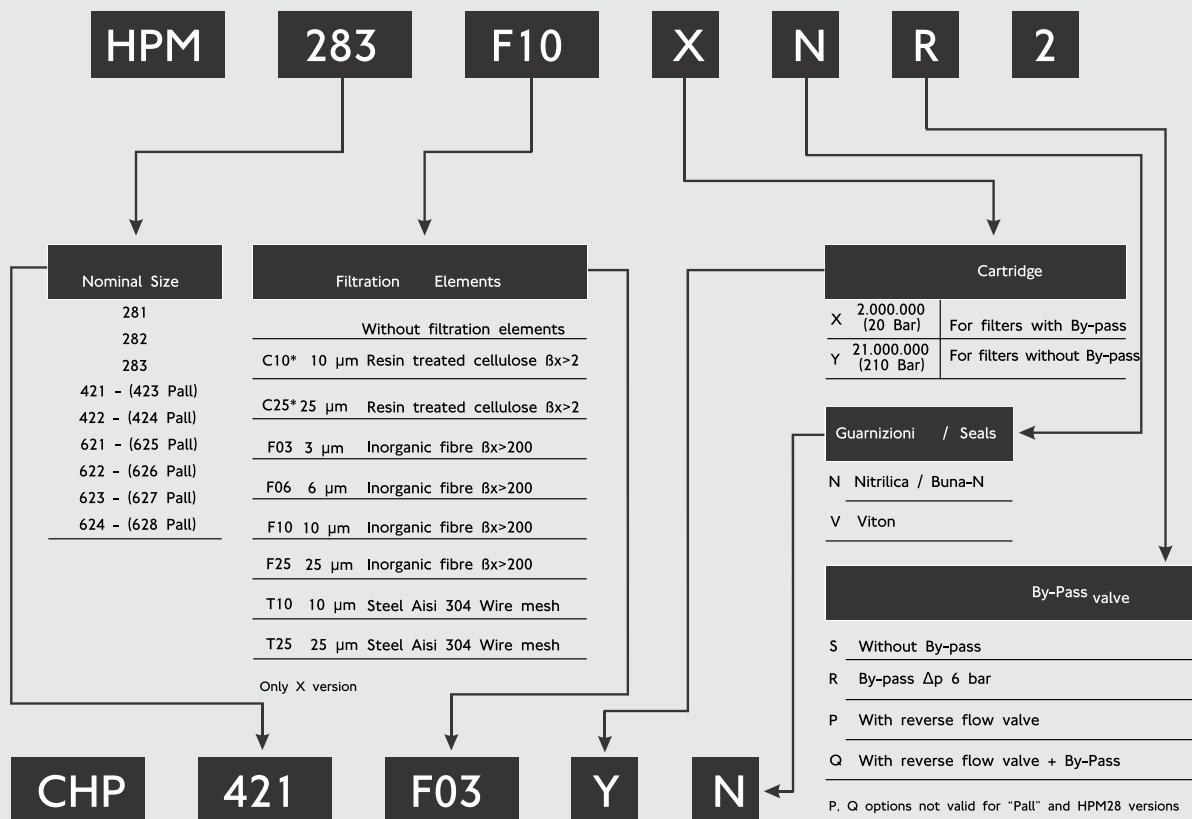
HIGH PRESSURE FILTERS

HPM Series - High Pressure Filters



Features and Benefits	Filter Housing Performance	
<ul style="list-style-type: none"> • HPM series is a high pressure filter series up to 420Bar. • The range is composed by 3 different sizes with nominal low rates up to 410L/min. • Filter housing available with threaded or langed connection. • Filter elements are made with the most advanced materials, as a guarantee for a high filtration efficiency and a long life. 	Flow Rating:	Up to 400 lpm for 30 cSt luids
	Max Working Pressure:	420 Bar
	Rated Fatigue Pressure	125 Bar
	Temperature Range:	- 20 ° C TO 95° C
	Bypass Setting Option:	6 Bar ± 10% (from opeing)
	Porting Head:	Cast Iron
	Element Case:	Steel or Cast Iron

FILTER HOUSING AND ELEMENT PART NO FORMULATION



HIGH PRESSURE FILTERS

Filter Housing And Element Part Number Formulation

HPM	Replace Element	Flow (L/min) X series	Flow (L/mn) Y series	Material (Glass Fibre)	Filtra-tion
281	F03	17	15	p	3
281	F06	20	18	p	6
281	F10	35	33	p	10
281	F25	50	47	p	25
282	F03	26	22	p	3
282	F06	40	29	p	6
282	F10	55	50	p	10
282	F25	80	70	p	25
283	F03	38	32	p	3
283	F06	50	40	p	6
283	F10	70	60	p	10
283	F25	95	85	p	25
421	F03	55	38	p	3
421	F06	65	55	p	6
421	F10	80	60	p	10
421	F25	104	75	p	25
422	F03	100	80	p	3
422	F06	113	90	p	6
422	F10	135	115	p	10
422	F10	170	145	p	10
621	F25	110	155	p	25
621	F06	125	80	p	6

HPM	Replace Element	Flow (L/min) X series	Flow (L/mn) Y series	Material (Glass Fibre)	Filtra-tion
622	F03	206	145	p	3
622	F06	250	180	p	6
622	F10	300	220	p	10
622	F25	345	245	p	25
623	F03	250	225	p	3
623	F06	290	260	p	6
623	F10	330	290	p	10
623	F25	375	365	p	25
624	F03	285	240	p	3
624	F06	330	265	p	6
624	F10	360	310	p	10
624	F25	410	345	p	25



DUPLEX FILTERS - Pi370

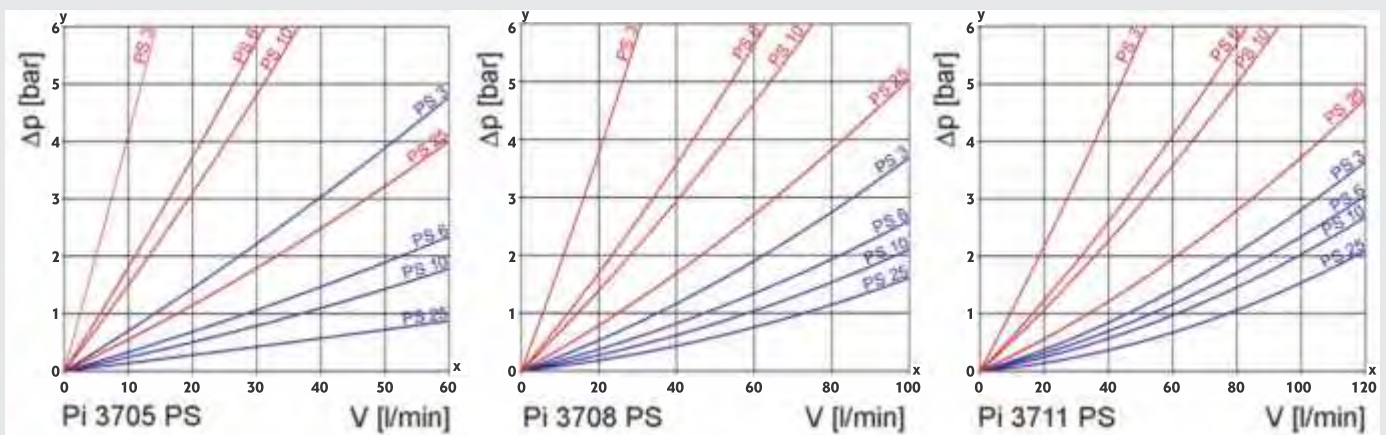


Technical specifications

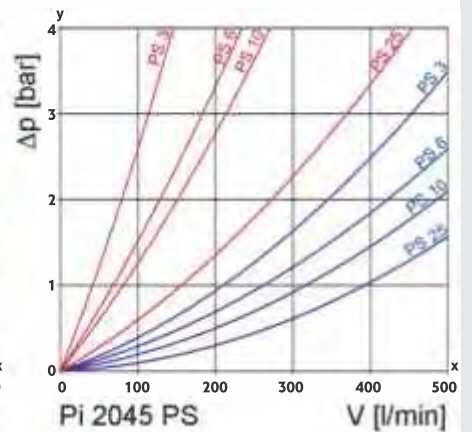
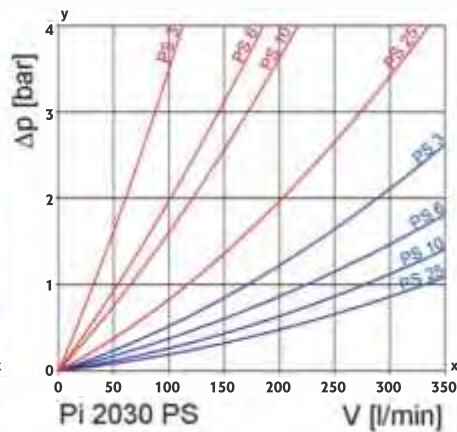
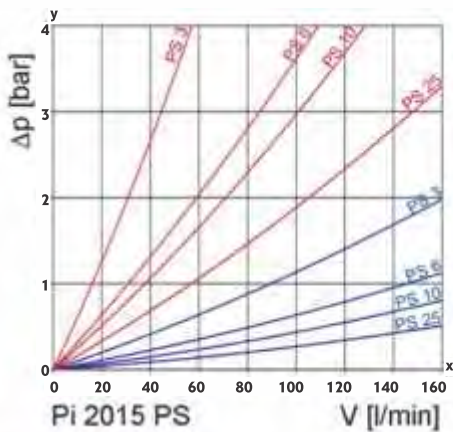
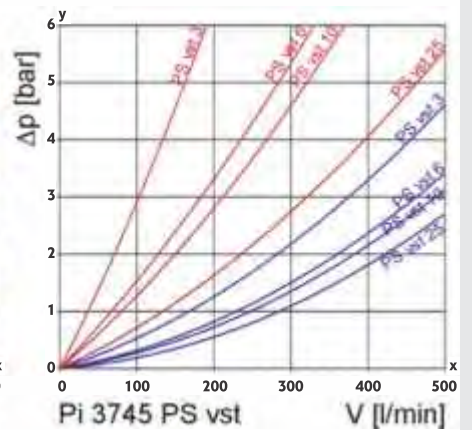
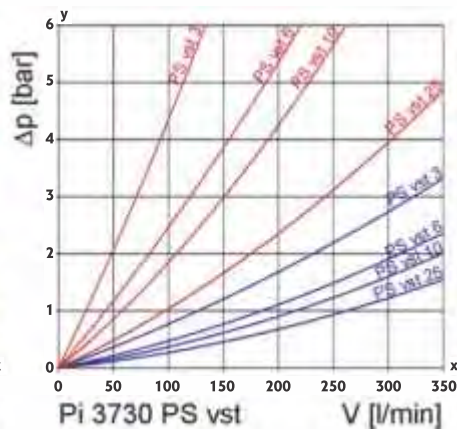
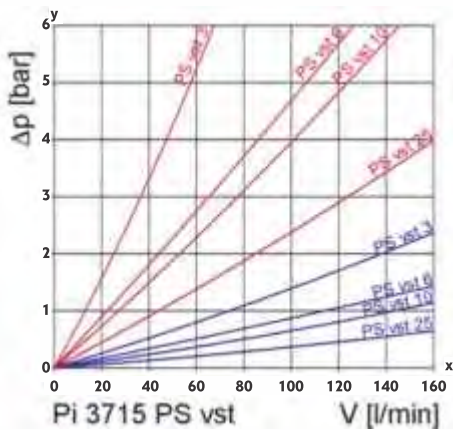
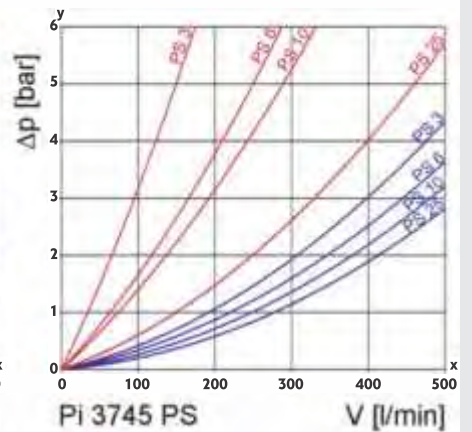
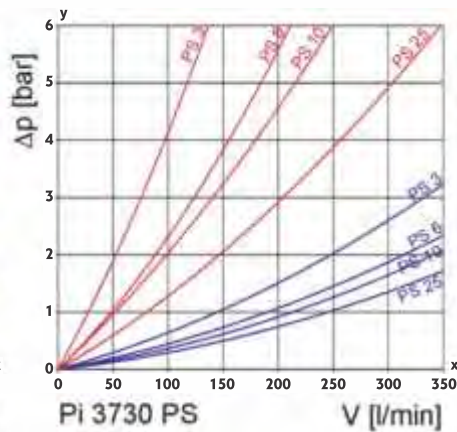
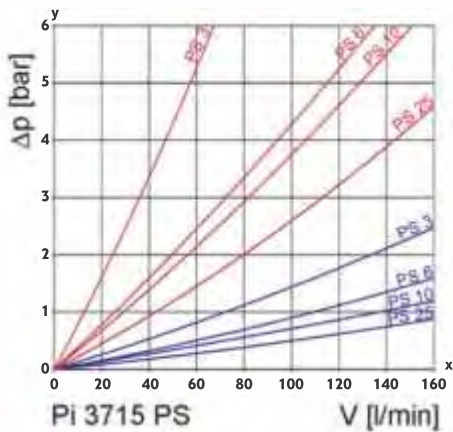
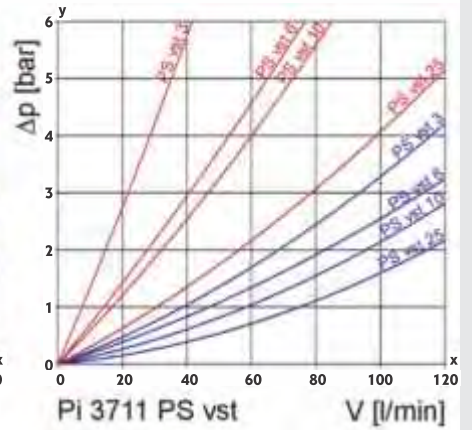
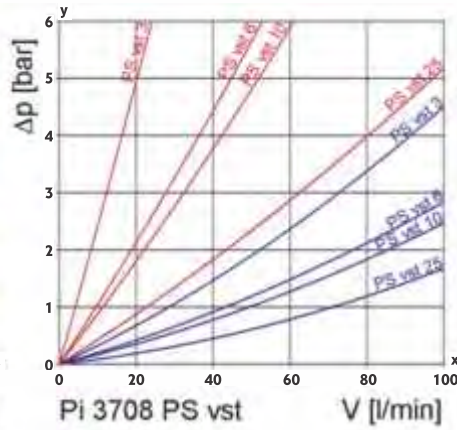
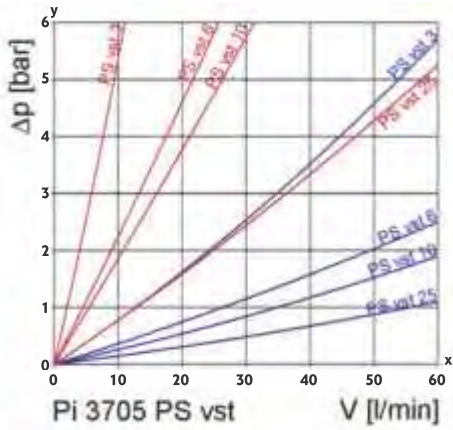
Design:	line mounting filter	Bypass opening pressure:	D p 7 bar – 10 %
Operating pressure:		Filter head material:	GGG
Pi 3705 - Pi 3711	10 ⁷ load changes 250 bar (3620 psi)	Filter bowl material:	St
	10 ⁶ load changes 315 bar (4570 psi)	Sealing material:	NBR/PTFE
Pi 3715 - Pi 3745	2x 10 ⁶ load changes 210 bar (3040 psi)	Activating pressure of optical /electrical differential pressure indicator	D p 5 bar – 10 %
Test pressure:		Electrical data of contamination indicator:	
Pi 3705 - Pi 3711	450 bar (6520 psi)	Maximum voltage:	250 V AC/200 V DC
Pi 3715 - Pi 3745	300 bar (4350 psi)	Maximum current on contact:	1 A
Pi 3705 - Pi 3745 when used on ships operating/test pressure	200/260 bar (2900/3770 psi)	Inrush current:	70 W
Temperature range:	-10 °C to +120 °C (other temperature ranges on request)	Type of protection:	IP 65 when inserted and secured
		Contact:	bistable
		Cable connection:	M20x1.5

Flow rate/pressure drop curve complete filter

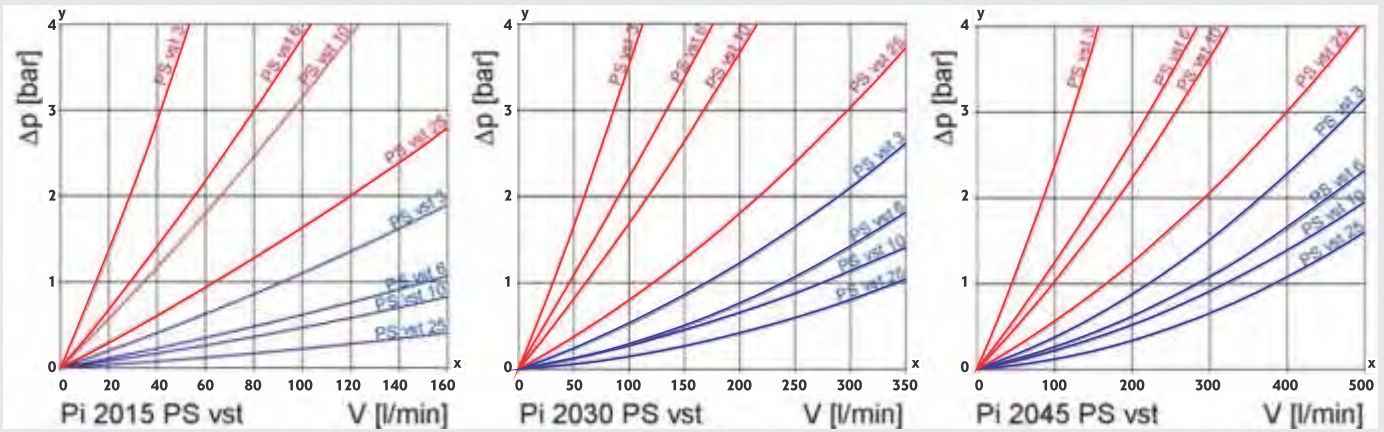
■ 190 mm²/s
■ 33 mm²/s



DUPLEX FILTERS - Pi370



DUPLEX FILTERS - Pi370



y = differential pressure Dp [bar]

x = flow rate V [l/min]

Order numbers

Example for ordering filters:

Filter housing	2x Filter elements
V = 80 l/min and electrical maintenance indicator	PS vst 3
Type: Pi 3708-015	Type: Pi 2208 PS vst 3
Order number: 77810369	Order number: 77680200

Housing design						
Nominal size NG [l/min]	Order number	Type	① with bypass valve and visual indicator	② with bypass valve and electrical indicator	③ with visual indicator	④ with electrical indicator
50	77810294	Pi 3705-012				
	77810302	Pi 3705-013				
	77810310	Pi 3705-014				
	77810328	Pi 3705-015				
80	77810336	Pi 3708-012				
	77810344	Pi 3708-013				
	77810351	Pi 3708-014				
	77810369	Pi 3708-015				
110	77810377	Pi 3711-012				
	77810385	Pi 3711-013				
	77810393	Pi 3711-014				
	77810401	Pi 3711-015				
150	77810419	Pi 3715-012				
	77810427	Pi 3715-013				
	77810435	Pi 3715-014				
	77810443	Pi 3715-015				
300	77810450	Pi 3730-012				
	77810468	Pi 3730-013				
	77810476	Pi 3730-014				
	77810484	Pi 3730-015				
450	77810492	Pi 3745-012				
	77814403	Pi 3745-013				
	77814411	Pi 3745-014				
	77814429	Pi 3745-015				

When filter with non-bypass configuration is selected, the collapse pressure of the element must not be exceeded.

DUPLEX FILTERS - Pi370

Filter elements (a wider range of element types is available on request)

Nominal size NG [l/min]	Order number	Type	Filter material	max. Dp [bar]	Filter surface [cm ²]
50	77680135	Pi 2105 PS 3	PS 3	20	590
	77943509	Pi 5105 PS 6	PS 6		590
	77680325	Pi 3105 PS 10	PS 10		590
	77680440	Pi 4105 PS 25	PS 25		590
50	77680192	Pi 2205 PS vst 3	PS vst 3	210	425
	77943533	Pi 5205 PS vst 6	PS vst 6		425
	77680382	Pi 3205 PS vst 10	PS vst 10		425
	77680507	Pi 4205 PS vst 25	PS vst 25		425
80	77680143	Pi 2108 PS 3	PS 3	20	1150
	77943517	Pi 5108 PS 6	PS 6		1150
	77680341	Pi 3108 PS 10	PS 10		1150
	77680457	Pi 4108 PS 25	PS 25		1150
	77680200	Pi 2208 PS vst 3	PS vst 3	210	850
	77943541	Pi 5208 PS vst 6	PS vst 6		850
	77681190	Pi 3208 PS vst 10	PS vst 10		850
	77680515	Pi 4208 PS vst 25	PS vst 25		850
110	77680150	Pi 2111 PS 3	PS 3	20	1700
	77943525	Pi 5111 PS 6	PS 6		1700
	77680333	Pi 3111 PS 10	PS 10		1700
	77680465	Pi 4111 PS 25	PS 25		1700
	77680218	Pi 2211 PS vst 3	PS vst 3	210	1275
	77943558	Pi 5211 PS vst 6	PS vst 6		1275
	77680390	Pi 3211 PS vst 10	PS vst 10		1275
	77680523	Pi 4211 PS vst 25	PS vst 25		1275
150	77680168	Pi 2115 PS 3	PS 3	20	2425
	77955099	Pi 5115 PS 6	PS 6		2425
	77680358	Pi 3115 PS 10	PS 10		2425
	77680473	Pi 4115 PS 25	PS 25		2425
	77680226	Pi 2215 PS vst 3	PS vst 3	210	2010
	77955123	Pi 5215 PS vst 6	PS vst 6		2010
	77680408	Pi 3215 PS vst 10	PS vst 10		2010
	77680531	Pi 4215 PS vst 25	PS vst 25		2010
300	77680176	Pi 2130 PS 3	PS 3	20	4620
	77955107	Pi 5130 PS 6	PS 6		4620
	77680366	Pi 3130 PS 10	PS 10		4620
	77680481	Pi 4130 PS 25	PS 25		4620
	77680234	Pi 2230 PS vst 3	PS vst 3	210	3800
	77955131	Pi 5230 PS vst 6	PS vst 6		3800
	77680416	Pi 3230 PS vst 10	PS vst 10		3800
	77680549	Pi 4230 PS vst 25	PS vst 25		3800
450	77680184	Pi 2145 PS 3	PS 3	20	6865
	77955115	Pi 5145 PS 6	PS 6		6865
	77680374	Pi 3145 PS 10	PS 10		6865
	77680499	Pi 4145 PS 25	PS 25		6865
	77680242	Pi 2245 PS vst 3	PS vst 3	210	5600
	77955149	Pi 5245 PS vst 6	PS vst 6		5600
	77680424	Pi 3245 PS vst 10	PS vst 10		5600
	77680556	Pi 4245 PS vst 25	PS vst 25		5600

Order numbers

Example for ordering filters:

Filter housing	2x Filter elements
V = 80 l/min and electrical maintenance indicator	PS vst 3
Type: Pi 3708-015	Type: Pi 2208 PS vst 3
Order number: 77810369	Order number: 77680200

Housing design						
Nominal size NG [l/min]	Order number	Type	① with bypass valve and visual indicator	② with bypass valve and electrical indicator	③ with visual indicator	④ with electrical indicator
50	77810294	Pi 3705-012				
	77810302	Pi 3705-013				
	77810310	Pi 3705-014				
	77810328	Pi 3705-015				
80	77810336	Pi 3708-012				
	77810344	Pi 3708-013				
	77810351	Pi 3708-014				
	77810369	Pi 3708-015				
110	77810377	Pi 3711-012				
	77810385	Pi 3711-013				
	77810393	Pi 3711-014				
	77810401	Pi 3711-015				
150	77810419	Pi 3715-012				
	77810427	Pi 3715-013				
	77810435	Pi 3715-014				
	77810443	Pi 3715-015				
300	77810450	Pi 3730-012				
	77810468	Pi 3730-013				
	77810476	Pi 3730-014				
	77810484	Pi 3730-015				
450	77810492	Pi 3745-012				
	77814403	Pi 3745-013				
	77814411	Pi 3745-014				
	77814429	Pi 3745-015				

When filter with non-bypass configuration is selected, the collapse pressure of the element must not be exceeded.

Filter elements (a wider range of element types is available on request)

Nominal size NG [l/min]	Order number	Type	Filter material	max. Dp [bar]	Filter surface [cm ²]
50	77680135	Pi 2105 PS 3	PS 3	20	590
	77943509	Pi 5105 PS 6	PS 6		590
	77680325	Pi 3105 PS 10	PS 10		590
	77680440	Pi 4105 PS 25	PS 25		590
	77680192	Pi 2205 PS vst 3	PS vst 3	210	425
	77943533	Pi 5205 PS vst 6	PS vst 6		425
	77680382	Pi 3205 PS vst 10	PS vst 10		425
	77680507	Pi 4205 PS vst 25	PS vst 25		425
80	77680143	Pi 2108 PS 3	PS 3	20	1150
	77943517	Pi 5108 PS 6	PS 6		1150
	77680341	Pi 3108 PS 10	PS 10		1150
	77680457	Pi 4108 PS 25	PS 25		1150
	77680200	Pi 2208 PS vst 3	PS vst 3	210	850
	77943541	Pi 5208 PS vst 6	PS vst 6		850
	77681190	Pi 3208 PS vst 10	PS vst 10		850
	77680515	Pi 4208 PS vst 25	PS vst 25		850
110	77680150	Pi 2111 PS 3	PS 3	20	1700
	77943525	Pi 5111 PS 6	PS 6		1700
	77680333	Pi 3111 PS 10	PS 10		1700
	77680465	Pi 4111 PS 25	PS 25		1700
	77680218	Pi 2211 PS vst 3	PS vst 3	210	1275
	77943558	Pi 5211 PS vst 6	PS vst 6		1275
	77680390	Pi 3211 PS vst 10	PS vst 10		1275
	77680523	Pi 4211 PS vst 25	PS vst 25		1275
150	77680168	Pi 2115 PS 3	PS 3	20	2425
	77955099	Pi 5115 PS 6	PS 6		2425
	77680358	Pi 3115 PS 10	PS 10		2425
	77680473	Pi 4115 PS 25	PS 25		2425
	77680226	Pi 2215 PS vst 3	PS vst 3	210	2010
	77955123	Pi 5215 PS vst 6	PS vst 6		2010
	77680408	Pi 3215 PS vst 10	PS vst 10		2010
	77680531	Pi 4215 PS vst 25	PS vst 25		2010
300	77680176	Pi 2130 PS 3	PS 3	20	4620
	77955107	Pi 5130 PS 6	PS 6		4620
	77680366	Pi 3130 PS 10	PS 10		4620
	77680481	Pi 4130 PS 25	PS 25		4620
	77680234	Pi 2230 PS vst 3	PS vst 3	210	3800
	77955131	Pi 5230 PS vst 6	PS vst 6		3800
	77680416	Pi 3230 PS vst 10	PS vst 10		3800
	77680549	Pi 4230 PS vst 25	PS vst 25		3800
450	77680184	Pi 2145 PS 3	PS 3	20	6865
	77955115	Pi 5145 PS 6	PS 6		6865
	77680374	Pi 3145 PS 10	PS 10		6865
	77680499	Pi 4145 PS 25	PS 25		6865
	77680242	Pi 2245 PS vst 3	PS vst 3	210	5600
	77955149	Pi 5245 PS vst 6	PS vst 6		5600
	77680424	Pi 3245 PS vst 10	PS vst 10		5600
	77680556	Pi 4245 PS vst 25	PS vst 25		5600

DUPLEX FILTER - Pi2100



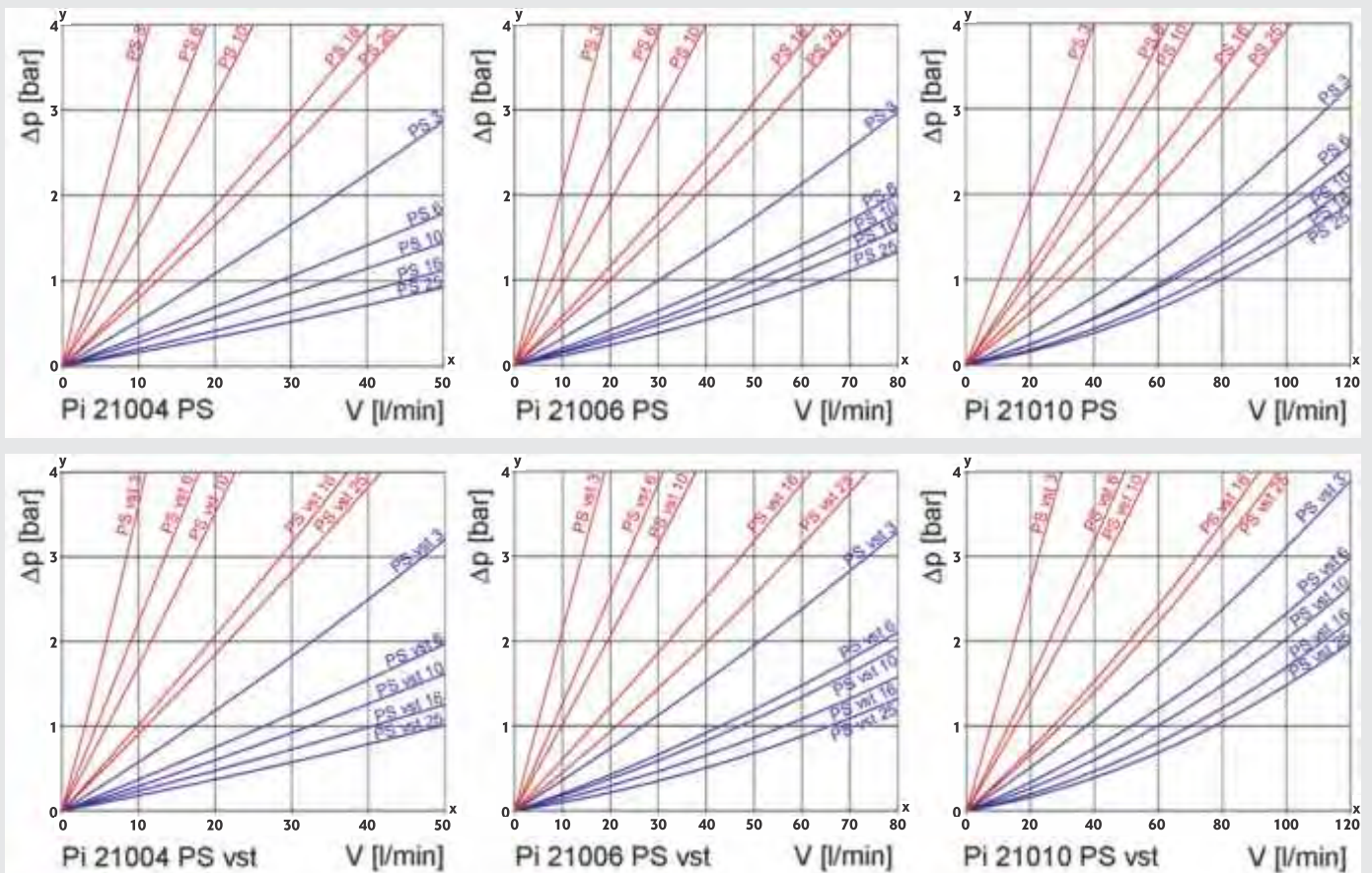
Nominal pressure 32/63 bar (460/900 psi), nominal size up to 400 according to DIN 24550

Technical specifications

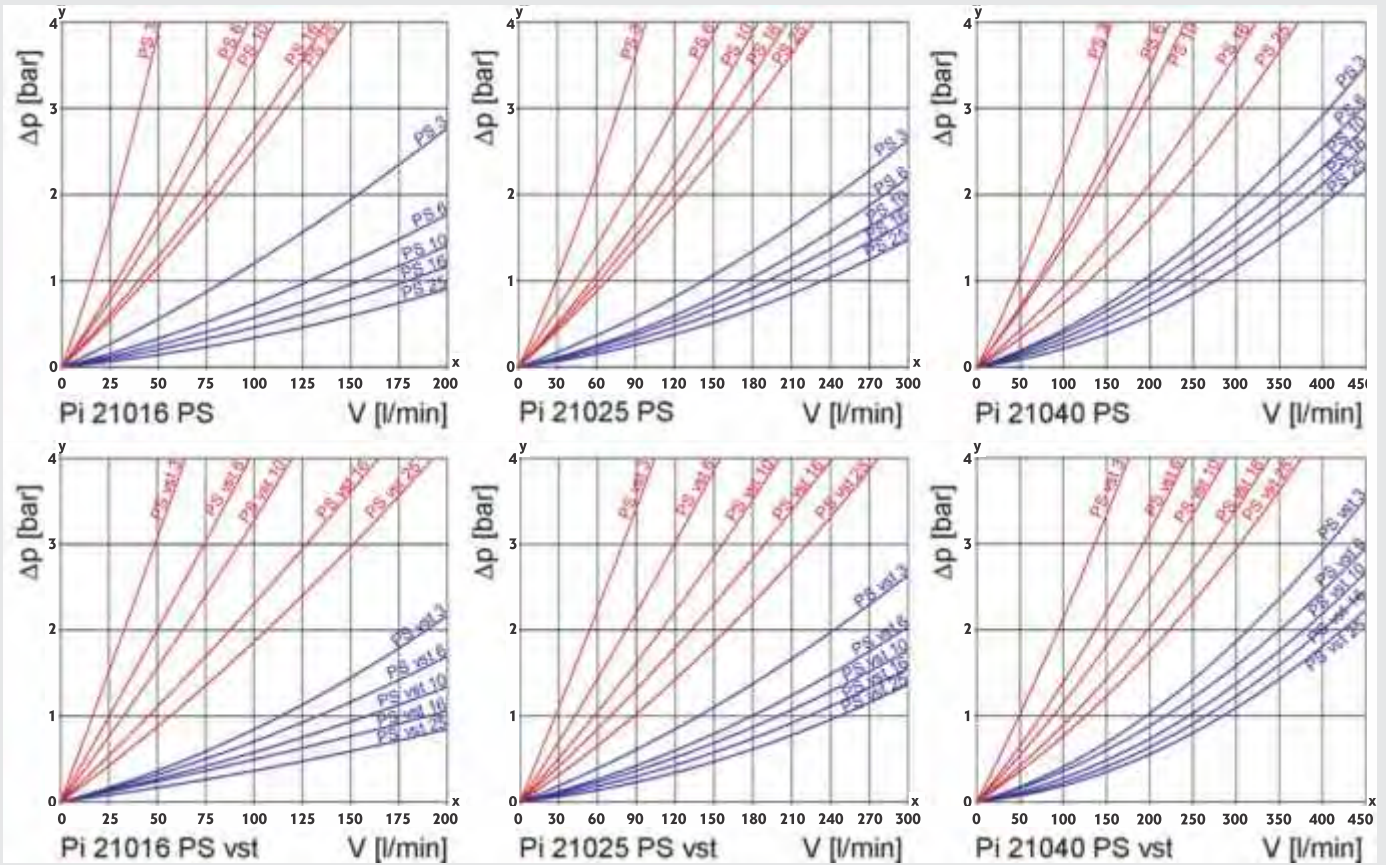
Design:	line mounting filter	Bypass setting:	Dp 3.5 bar – 10 %
Nominal pressure:		Filter head material:	GAL
Pi 21004-21010	10 ⁷ load changes 63 bar (900 psi)	Filter housing material:	AL/St.
Pi 21016-21040	10 ⁷ load changes 25 bar (360 psi) 2x 10 ⁶ load changes 32 bar (460 psi)	Sealing material:	NBR/AL
Test pressure:		Maintenance indicator setting:	Dp 2.2 bar – 10 %
Pi 21004-21010	95 bar (1370 psi)	Electrical data of maintenance indicator:	
Pi 21016-21040	48 bar (690 psi)	Max. voltage:	250 V AC/200 V DC
Temperature range:	-10 °C to +120 °C survival temperature - 40 °C (other temperature ranges on request)	Max. current:	1 A
		Contact load:	70 W
		Type of protection:	IP 65 in inserted and secured status
		Contact:	normally open/closed
		Cable connection:	M20x1.5

Flow rate/pressure drop curve complete filter

190 mm²/s
33 mm²/s



DUPLEX FILTER - Pi2100



y = differential pressure Δp [bar]

x = flow rate V [l/min]

Order numbers

Example for ordering filter:

Housing design	2x Filter elements
$V = 100$ l/min and electrical maintenance indicator	PS vst 3 NBR
Type: Pi 21010-069	Type: Pi 71010 DN PS vst 3
Order number: 78204158	Order number: 78227480



DUPLEX FILTER - Pi2100

Filter elements*					
Nominal size NG [l/min]	Order number	Type	Filter material	max. D p [bar]	Filter surface [cm ²]
40	78260929	Pi 21004 DN PS 3	PS 3	20	475
	77960859	Pi 22004 DN PS 6	PS 6		475
	77925571	Pi 23004 DN PS 10	PS 10		475
	78260937	Pi 24004 DN PS 16	PS 16		475
	78260945	Pi 25004 DN PS 25	PS 25		475
	78216079	Pi 71004 DN PS vst 3	PS vst 3	210	445
	77960156	Pi 72004 DN PS vst 6	PS vst 6		445
	77925654	Pi 73004 DN PS vst 10	PS vst 10		445
	78216087	Pi 74004 DN PS vst 16	PS vst 16		445
	78216095	Pi 75004 DN PS vst 25	PS vst 25		445
63	78260960	Pi 21006 DN PS 3	PS 3	20	835
	77960867	Pi 22006 DN PS 6	PS 6		835
	77925589	Pi 23006 DN PS 10	PS 10		835
	78260978	Pi 24006 DN PS 16	PS 16		835
	78260986	Pi 25006 DN PS 25	PS 25		835
	78216137	Pi 71006 DN PS vst 3	PS vst 3	210	780
	77960149	Pi 72006 DN PS vst 6	PS vst 6		780
	77925662	Pi 73006 DN PS vst 10	PS vst 10		780
	78216145	Pi 74006 DN PS vst 16	PS vst 16		780
	78216152	Pi 75006 DN PS vst 25	PS vst 25		780
100	78227472	Pi 21010 DN PS 3	PS 3	20	1375
	77960875	Pi 22010 DN PS 6	PS 6		1375
	77925597	Pi 23010 DN PS 10	PS 10		1375
	78261000	Pi 24010 DN PS 16	PS 16		1375
	78261018	Pi 25010 DN PS 25	PS 25		1375
	78227480	Pi 71010 DN PS vst 3	PS vst 3	210	1275
	77960131	Pi 72010 DN PS vst 6	PS vst 6		1275
	77925670	Pi 73010 DN PS vst 10	PS vst 10		1275
	78261281	Pi 74010 DN PS vst 16	PS vst 16		1275
	78216160	Pi 75010 DN PS vst 25	PS vst 25		1275
160	78261034	Pi 21016 DN PS 3	PS 3	20	2530
	77960826	Pi 22016 DN PS 6	PS 6		2530
	77925605	Pi 23016 DN PS 10	PS 10		2530
	78261042	Pi 24016 DN PS 16	PS 16		2530
	78261059	Pi 25016 DN PS 25	PS 25		2530
	77940638	Pi 71016 DN PS vst 3	PS vst 3	210	1885
	77960123	Pi 72016 DN PS vst 6	PS vst 6		1885
	77925688	Pi 73016 DN PS vst 10	PS vst 10		1885
	78269797	Pi 74016 DN PS vst 16	PS vst 16		1885
	78216178	Pi 75016 DN PS vst 25	PS vst 25		1885

*A wider range of elements is available on request

DUPLEX FILTER - Pi2100

Housing design						
Nominal size NG [l/min]	Order number	Type	① with bypass valve and visual indicator	② with bypass valve and electrical indicator	③ with visual indicator	④ with electrical indicator
40	79328261	Pi 21004-057				
	78304263	Pi 21004-058				
	79328279	Pi 21004-068				
	79328287	Pi 21004-069				
63	79715905	Pi 21006-057				
	78304271	Pi 21006-058				
	79715913	Pi 21006-068				
	79715921	Pi 21006-069				
100	78204125	Pi 21010-057				
	78204133	Pi 21010-058				
	78204141	Pi 21010-068				
	78204158	Pi 21010-069				
160	79715939	Pi 21016-057				
	79715947	Pi 21016-058				
	79715954	Pi 21016-068				
	79715962	Pi 21016-069				
250	79328295	Pi 21025-057				
	79328303	Pi 21025-058				
	79328311	Pi 21025-068				
	79328329	Pi 21025-069				
400	79715970	Pi 21040-057				
	79715988	Pi 21040-058				
	79715996	Pi 21040-068				
	79716002	Pi 21040-069				

When filter with non-bypass configuration is selected, the collapse pressure of the element must not be exceeded.

Filter elements*					
Nominal size NG [l/min]	Order number	Type	Filter material	max. D p [bar]	Filter surface [cm ²]
250	78227514	Pi 21025 DN PS 3	PS 3	20	4020
	77960834	Pi 22025 DN PS 6	PS 6		4020
	77925613	Pi 23025 DN PS 10	PS 10		4020
	78261075	Pi 24025 DN PS 16	PS 16		4020
	78261083	Pi 25025 DN PS 25	PS 25		4020
	77940646	Pi 71025 DN PS vst 3	PS vst 3	210	3090
	77960115	Pi 72025 DN PS vst 6	PS vst 6		3090
	77925696	Pi 73025 DN PS vst 10	PS vst 10		3090
	78269813	Pi 74025 DN PS vst 16	PS vst 16		3090
	78216186	Pi 75025 DN PS vst 25	PS vst 25		3090
400	78227522	Pi 21 040 DN PS 3	PS 3	20	6770
	77960842	Pi 22 040 DN PS 6	PS 6		6770
	77925621	Pi 23 040 DN PS 10	PS 10		6770
	78261109	Pi 24 040 DN PS 16	PS 16		6770
	78261117	Pi 25 040 DN PS 25	PS 25		6770
	77940653	Pi 71 040 DN PS vst 3	PS vst 3	210	5240
	77960107	Pi 72 040 DN PS vst 6	PS vst 6		5240
	77930829	Pi 73 040 DN PS vst 10	PS vst 10		5240
	78269821	Pi 74 040 DN PS vst 16	PS vst 16		5240
	78260903	Pi 75 040 DN PS vst 25	PS vst 25		5240

*A wider range of elements is available on request

AIR BREATHER FILTER - Pi0101 - Pi0185



Technical specifications

Separation:

Mic	10 µm	Pi 0145 to Pi 0149	polyamide
Sm-L	3 µm	Pi 0152 to Pi 0154	galvanized sheet metal
Mol	oil mist	Pi 0182 to Pi 0185	steel/Al

Temperature range:

-30 °C to +100 °C
(other temperature ranges on request)

Sealing material:

Pi 0126	rubberized cork
Pi 0140 to Pi 0185	NBR

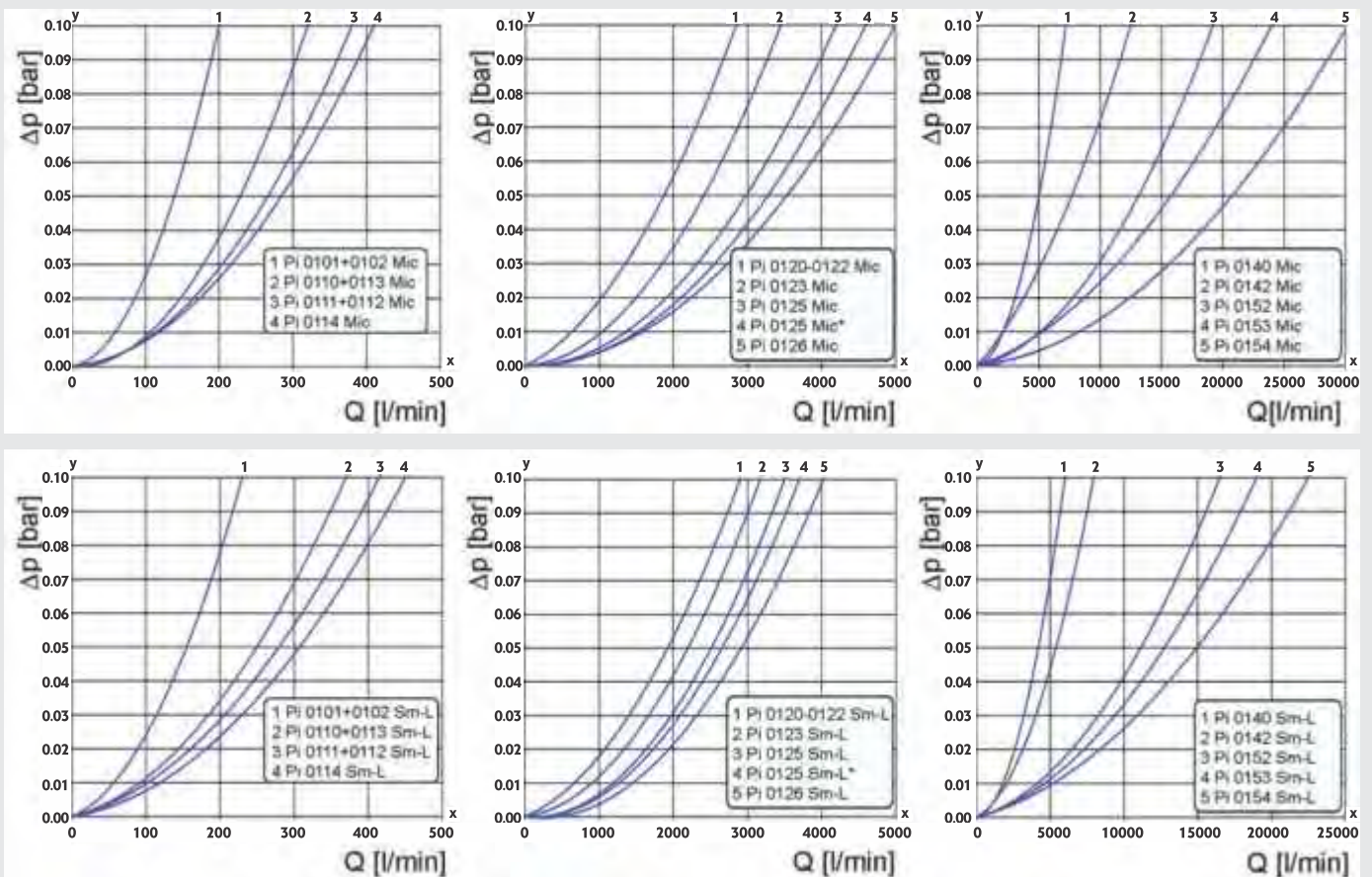
Housing material:

Pi 0101 to Pi 0126	polyamide
Pi 0140 to Pi 0142	galvanized sheet metal

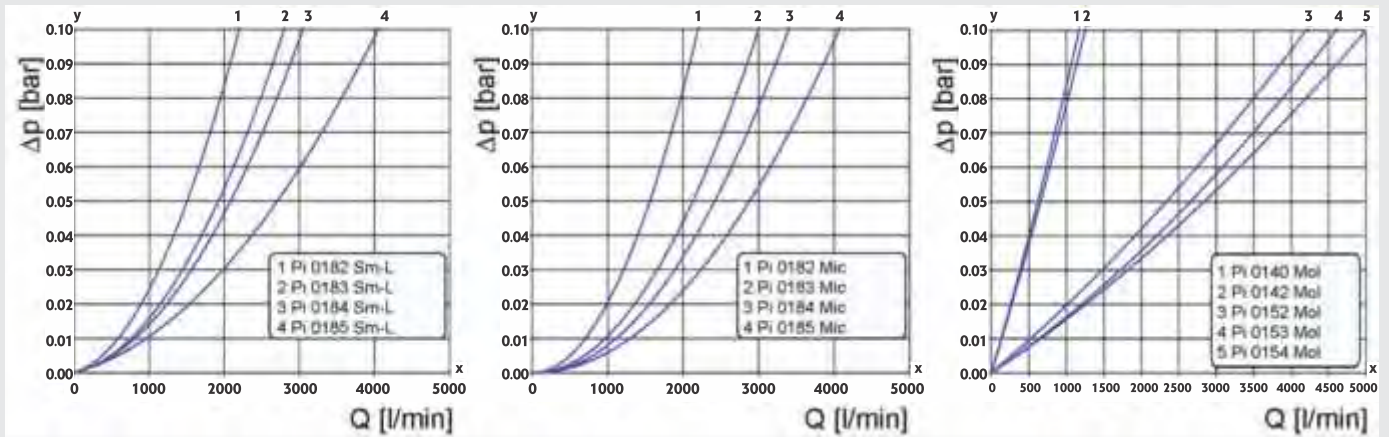
Resistance:

all hydraulic oils

Flow rate/pressure drop curve complete filter



AIR BREATHER FILTER - Pi0101 - Pi0185



y = differential pressure Δp [bar]

x = air flow rate Q [l/min]

* without grid

Filter complete						Filter elements			
Order number	Type	Mic	Sm-L	Mol	Cover with integrated service indicator (UM)	Connection for maintenance indicator (VA)	Order number	Type	Quantity per pack
77575830	Pi 0101 Mic						77687692	852 514 Mic	3
77575848	Pi 0101 Sm-L						77643562	852 514 Sm-L	3
77575806	Pi 0102 Mic						77687692	852 514 Mic	3
77575814	Pi 0102 Sm-L						77643562	852 514 Sm-L	3
77734700	Pi 0110 Mic						77687643	852 507 Mic	3
77734718	Pi 0110 Sm-L						77643547	852 507 Sm-L	3
77734734	Pi 0111 Mic						77687643	852 507 Mic	3
77734742	Pi 0111 Sm-L						77643547	852 507 Sm-L	3
77734767	Pi 0112 Mic						77687643	852 507 Mic	3
77734775	Pi 0112 Sm-L						77643547	852 507 Sm-L	3
77734791	Pi 0113 Mic						77687643	852 507 Mic	3
77734809	Pi 0113 Sm-L						77643547	852 507 Sm-L	3
77734825	Pi 0114 Mic						77687643	852 507 Mic	3
77734833	Pi 0114 Sm-L						77643547	852 507 Sm-L	3
77575681	Pi 0120 Mic						77687767	852 519 Mic	3
77575699	Pi 0120 Sm-L						77643554	852 519 Sm-L	3
70343778	Pi 0120 Mic- UM						77687767	852 519 Mic	3
70343781	Pi 0120 Sm-L/UM						77643554	852 519 Sm-L	3
77575657	Pi 0121 Mic						77687767	852 519 Mic	3
77575665	Pi 0121 Sm-L						77643554	852 519 Sm-L	3
79335928	Pi 0121 Mic/UM						77687767	852 519 Mic	3
79337494	Pi 0121 Sm-L/UM						77643554	852 519 Sm-L	3
77575624	Pi 0122 Mic						77687767	852 519 Mic	3
77575632	Pi 0122 Sm-L						77643554	852 519 Sm-L	3
70344281	Pi 0122 Mic/UM						77687767	852 519 Mic	3
70344282	Pi 0122 Sm-L/UM						77643554	852 519 Sm-L	3
77575590	Pi 0123 Mic						77687767	852 519 Mic	3
77575608	Pi 0123 Sm-L						77643554	852 519 Sm-L	3
79337486	Pi 0123 Mic/UM						77687767	852 519 Mic	3
76317812	Pi 0123 Sm-L/UM						77643554	852 519 Sm-L	3
77728223	Pi 0125 Mic						77687767	852 519 Mic	3
77728231	Pi 0125 Sm-L						77643554	852 519 Sm-L	3

AIR BREATHHER FILTER - Pi0101 - Pi0185

79311853	Pi 0125 Mic/UM					77687767	852 519 Mic	3
79364241	Pi 0125 Sm-L/UM					77643554	852 519 Sm-L	3
77728165	Pi 0126 Mic					77687767	852 519 Mic	3
77728173	Pi 0126 Sm-L					77643554	852 519 Sm-L	3
79343260	Pi 0126 Mic/UM					77687767	852 519 Mic	3
79326695	Pi 0126 Sm-L/UM					77643554	852 519 Sm-L	3
77749732	Pi 0140 Mic					77687999	852 621 Mic	3
77749740	Pi 0140 Sm-L					77645625	852 621 Sm-L	3
77765498	Pi 0140 Mol					77789365	852 621 Mol	3
77749765	Pi 0140 Mic/VA					77687999	852 621 Mic	3
77749773	Pi 0140 Sm-L/VA					77645625	852 621 Sm-L	3
77765506	Pi 0140 Mol/VA					77789365	852 621 Mol	3
77730724	Pi 0142 Mic					77687999	852 621 Mic	3
77730732	Pi 0142 Sm-L					77645625	852 621 Sm-L	3
77765514	Pi 0142 Mol					77789365	852 621 Mol	3
77728272	Pi 0142 Mic/VA					77687999	852 621 Mic	3

Filter complete						Filter elements			
Order number	Type	Mic	Sm-L	Mol	Cover with integrated service indicator (UM)	Connection for maintenance indicator (VA)	Order number	Type	Quantity per pack
77728280	Pi 0142 Sm-L/VA						77645625	852 621 Sm-L	3
77765522	Pi 0142 Mol/VA						77789365	852 621 Mol	3
76102107	Pi 0145 Mic						76101174	852 985 Mic	2
76102123	Pi 0145 Sm-L						76101182	852 985 Sm-L	2
76102115	Pi 0145 Mic/UM						76101174	852 985 Mic	2
76102131	Pi 0145 Sm-L/UM						76101182	852 985 Sm-L	2
76102149	Pi 0146 Mic						76101174	852 985 Mic	2
76102164	Pi 0146 Sm-L						76101182	852 985 Sm-L	2
76102156	Pi 0146 Mic/UM						76101174	852 985 Mic	2
76102172	Pi 0146 Sm-L/UM						76101182	852 985 Sm-L	2
76102180	Pi 0147 Mic						76101174	852 985 Mic	2
76102206	Pi 0147 Sm-L						76101182	852 985 Sm-L	2
76102198	Pi 0147 Mic/UM						76101174	852 985 Mic	2
76102214	Pi 0147 Sm-L/UM						76101182	852 985 Sm-L	2
76102222	Pi 0148 Mic						76101174	852 985 Mic	2
76102248	Pi 0148 Sm-L						76101182	852 985 Sm-L	2
76102230	Pi 0148 Mic/UM						76101174	852 985 Mic	2
76102255	Pi 0148 Sm-L/UM						76101182	852 985 Sm-L	2
76102263	Pi 0149 Mic						76101174	852 985 Mic	2
76102289	Pi 0149 Sm-L						76101182	852 985 Sm-L	2
76102271	Pi 0149 Mic/UM						76101174	852 985 Mic	2
76102297	Pi 0149 Sm-L/UM						76101182	852 985 Sm-L	2
77749328	Pi 0152 Mic						77687726	852 516 Mic	2
77749336	Pi 0152 Sm-L						77687759	852 516 Sm-L	2
77765530	Pi 0152 Mol						77789381	852 516 Mol	2
77749351	Pi 0152 Mic/VA						77687726	852 516 Mic	2
77749369	Pi 0152 Sm-L/VA						77687759	852 516 Sm-L	2
77765548	Pi 0152 Mol/VA						77789381	852 516 Mol	2

AIR BREATHHER FILTER - Pi0101 - Pi0185

77728306	Pi 0153 Mic					77687726	852 516 Mic	2
77728314	Pi 0153 Sm-L					77687759	852 516 Sm-L	2
77765555	Pi 0153 Mol					77789381	852 516 Mol	2
77728330	Pi 0153 Mic/VA					77687726	852 516 Mic	2
77728348	Pi 0153 Sm-L/VA					77687759	852 516 Sm-L	2
77765563	Pi 0153 Mol/VA					77789381	852 516 Mol	2
77749799	Pi 0154 Mic					77687726	852 516 Mic	2
77749807	Pi 0154 Sm-L					77687759	852 516 Sm-L	2
77765571	Pi 0154 Mol					77789381	852 516 Mol	2
77749823	Pi 0154 Mic/VA					77687726	852 516 Mic	2
77749831	Pi 0154 Sm-L/VA					77687759	852 516 Sm-L	2
77765589	Pi 0154 Mol/VA					77789381	852 516 Mol	2
77950918	Pi 0182 Mic					77950298	852 822 Mic	1
77950926	Pi 0182 Sm-L					77950348	852 822 Sm-L	1
77950934	Pi 0182 Mol					77873318	852 822 Mol	1
77950959	Pi 0182 Mic/VA					77950298	852 822 Mic	1
77950967	Pi 0182 Sm-L/VA					77950348	852 822 Sm-L	1

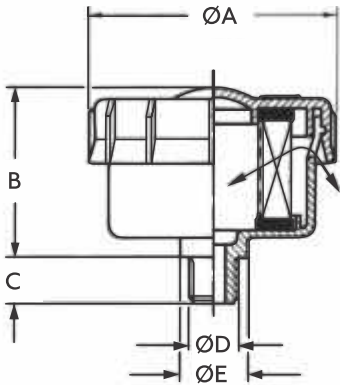
Filter complete						Filter elements			
Order number	Type	Mic	Sm-L	Mol	Cover with integrated service indicator (UM)	Connection for maintenance indicator (VA)	Order number	Type	Quantity per pack
77950975	Pi 0182 Mol/VA						77873318	852 822 Mol	1
77950538	Pi 0183 Mic						77950298	852 822 Mic	1
77950546	Pi 0183 Sm-L						77950348	852 822 Sm-L	1
77873219	Pi 0183 Mol						77873318	852 822 Mol	1
77950785	Pi 0183 Mic/VA						77950298	852 822 Mic	1
77950835	Pi 0183 Sm-L/VA						77950348	852 822 Sm-L	1
77950843	Pi 0183 Mol/VA						77873318	852 822 Mol	1
77950215	Pi 0184 Mic						77950298	852 822 Mic	1
77950223	Pi 0184 Sm-L						77950348	852 822 Sm-L	1
77950850	Pi 0184 Mol						77873318	852 822 Mol	1
77950876	Pi 0184 Mic/VA						77950298	852 822 Mic	1
77950884	Pi 0184 Sm-L/VA						77950348	852 822 Sm-L	1
77950892	Pi 0184 Mol/VA						77873318	852 822 Mol	1
77954498	Pi 0185 Mic						77950298	852 822 Mic	1
77954506	Pi 0185 Sm-L						77950348	852 822 Sm-L	1
77954514	Pi 0185 Mol						77873318	852 822 Mol	1
78224123	Pi 0185 Mic/VA						77950298	852 822 Mic	1
78224149	Pi 0185 Sm-L/VA						77950348	852 822 Sm-L	1
78224131	Pi 0185 Mol/VA						77873318	852 822 Mol	1

AIR BREATHER FILTER - Pi0101 - Pi0185

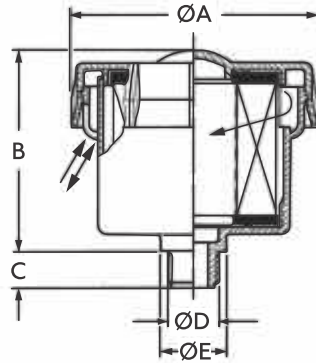
We draw attention to the fact that all values indicated are average values which do not always occur in specific cases of application. Our products are continually being further developed. Values, dimensions and weights can change as a result of this. Our specialized department would be pleased to offer you advice.

We recommend you to contact us concerning applications of our filters in areas governed by the EU Directive 94/9 EC (ATEX 95). The standard version can be used for liquids based on mineral oil (corresponding to the fluids in Group 2 of Directive 97/23 EC Article 9). If you consider to use other fluids please contact us for additional support.

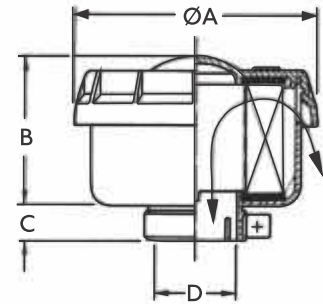
Subject to technical alteration without prior notice.



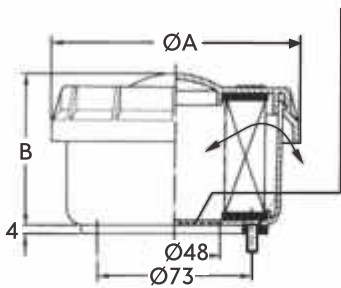
Pi 0101-0102, Pi 0120-0121, Pi0149



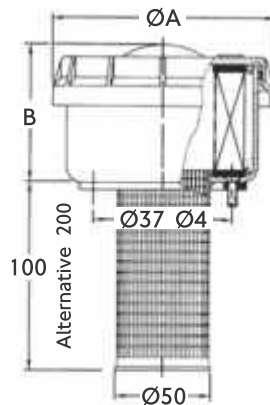
Pi 0111-0114,



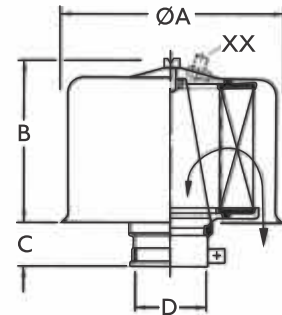
Pi 0122-0123, Pi 0147-0148



Pi 0125-Pi 0145



Pi 0126-Pi 0146



Pi 0140-pi 0142, Pi 0152-0185

- *1 mm dia screen removable
- *2 6x screw M5x16 DIN 7500 (cross-slotted)
- *3 6x screw M5x16 DIN 7500 (cross-slotted)
- *4 optional connection for maintenance indicator (VA)

AIR BREATHER FILTER - Pi0101 - Pi0185

Dimensions

Air flow rate [l/min]*				Dimensions				
Type	Mic	Sm-L	Mol	[mm/inch] D	[mm] A	[mm] B	[mm] C	[mm] E
Pi 0101	60	55	-	M12x1.5	62	44	12	17
Pi 0102	60	55	-	G1/4	62	44	12	17
Pi 0110	100	90	-	M16x1.5	80	67	12	21
Pi 0111	110	100	-	M22x1.5	80	67	13	27
Pi 0112	110	100	-	G1/2	80	67	13	26
Pi 0113	100	90	-	G3/8	80	67	12	22
Pi 0114	120	110	-	G3/4	80	67	15	32
Pi 0120	1000	900	-	M33x2	118	73	20	-
Pi 0121	1000	900	-	G1	118	73	19	-
Pi 0122	1000	900	-	Ø 25	118	73	16	-
Pi 0123	1450	1300	-	Ø 40	118	73	16	-
Pi 0125	750	650	-	Ø 73****	118	81	-	-
Pi 0125 (without enclosure)	1600	1400	-	Ø 73****	118	81	-	-
Pi 0126	1350	1150	-	Ø 73****	118	81	-	-
Pi 0140	2000	1700	130	Ø 40**	142	95	30	-
Pi 0142	2400	2000	140	Ø 52**	142	95	30	-
Pi 0145	2100	1800	***	Ø 73****	118	133	-	-
Pi 0146	1800	1500	***	Ø 73****	118	133	-	-
Pi 0147	2000	1700	***	Ø 40**	118	133	19	-
Pi 0148	2400	2000	***	Ø 52**	118	133	23	-
Pi 0149	1600	1300	***	G1½	118	135	17	38.5
Pi 0152	5300	4200	570	Ø 70**	230	117	30	-
Pi 0153	6300	4600	620	Ø 76**	230	117	30	-
Pi 0154	7700	5200	640	Ø 80**	230	117	30	-
Pi 0182	7200	5800	-	Ø 70**	230	320	30	-
Pi 0183	9600	7600	-	Ø 76**	230	320	30	-
Pi 0184	10500	8100	-	Ø 80**	230	320	30	-
Pi 0185	13000	9600	-	Ø 100**	230	320	30	-

*) when D p is 0.01 bar (air flow can be reduced by air humidifying)

**) clearance H11

***) in preparation

****) connection according to DIN 24557 T2 (6x screw M5x16 and seal included in delivery)

Maintenance indicator

The types Pi 0101 - 0185 may be equipped with a maintenance indicator for optimal filter element exploitation. They indicate when the filter element must be serviced and thus save unnecessary costs.

Vacuum indicator/ Air breather					
Indicator setting [mbar - 10 %]	Temperature resistance [°C]	Execution	Type	Order number	Indication
- 50		1	TB 745	78309056	visual,
- 50	- 40 to + 110	2	TB 745/1	78309064	self-
- 65		2	TB 746/1	78309049	locking

FILTER BREATHERS & ENVIRONMENTAL AIR FILTERS

EAB Series Air Filters



Product Features

- EAB series - airflow up to 1500 l/min. Visual gauge option.
- Compact EAB10 airflow up to 1000 l/min, visual gauge option.

Technical Specification

Construction:

Glass reinforced composite housing with Eco-element.

Filter media options:

P020: High quality polyester media.
2µm (abs)C015: Polyester media with water-resistant layer. 1.5µm (abs)
Q010: Glass fibre media. 1.0µm (abs).

Mounting options:

With 6 screws. Includes machine and plate screws, a strainer and gaskets External threads G¾, G1Internal thread G¾.

Options:

Visuals gauge type vacuum/pressure indicator. Overpressure valve, pressure setting 0.2 bar. EAB10 cannot be specified with an overpressure valve and vacuum/pressure gauge at the same time.

Ordering Information

Part Number	Pressure Valve	Micron rating	Connection	Option	Replacement Elements
EAB20P020HC73V2	0,2 bar	2	6 hole fixing	none	EAC20P020
EAB10P020HC73	none	2	73mm	none	EAC10P020
EAB20P020GE16	none	2	6 hole fixing	none	EAC20P020
EAB20P020HC73A	none	2	73mm	Pressure gauge	EAC20P020

IP65 Rated Filler Breathers

Part Number	Displacement L/min	Micron rating	Connection	Option	Replacement Elements
AB98212011	0,2 bar	10	single hole	95mm strainer	none
AB98213011	0,35 bar	10	single hole	95mm strainer	none
AB98210011	none	10	single hole	95mm strainer	none
AB98210021	none	10	single hole	telescopic strainer	none
AB98817011	0,7 bar	10	6 hole fixing 73mm	95mm strainer	none
AB98817011	none	10	6 hole fixing 73mm	without strainer	none
AB98817011	none	10	6 hole fixing 73mm	95mm strainer	none

Glass-filled Nylon and Metal Breathers



Product Features

- Ip65 rated, non-corrodible glass-filled nylon range.
- Metal Pressurised and unpressurised range.

Technical Specification

Construction - IP65 Rated filter breathers

Moulded in non-corrodible glass filled nylon combining strength with a light weight design.

Construction - Metal Range

Air breathers and filter breathers designs available in pressurised and unpressurised options.

Ordering Information

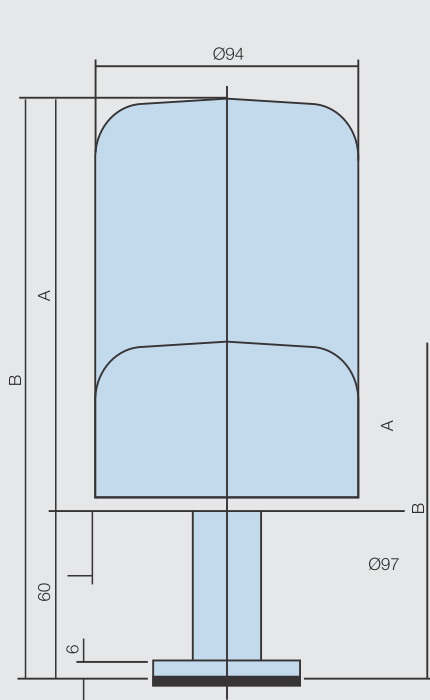
Filter Breathers (Metal)

Part Number	Displacement L/min	Micron rating	Connection	Option	Replacement Cap
Ab116310	430	10	n/a	none	CAP.1163.10
SPA.1731.10.5	430	10	G3/4	crack pressure 0,35 bar	none
SAB.1562.10	430	10	G3/4	n/a	none

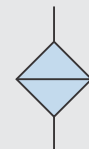
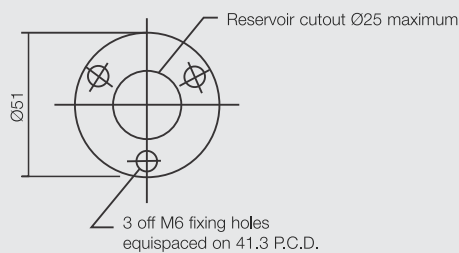
SPIN-ON AIR BREATHERS Reservoir Equipment



- High capacity air breathers designed for the removal of airborne contamination in hydraulic systems to support environmental maintenance.
- Ideal for high flow systems and heavily contaminated environments.
- Disposable spin-on elements quickly and easily replaced.
- 5 micron nominal quality filtration elements.
- 2 modules available - 700 l/min and 1500 l/min.
- Available with a pressurised valve in the mounting adaptor.

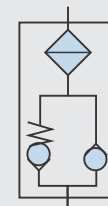
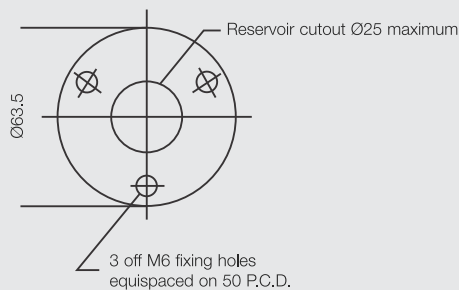


Standard spin-on air breather stem



Circuit symbol (standard)

Pressurised spin-on air breather stem



Circuit symbol (pressurised)

Note: Spin-on air breather elements can also be mounted directly on to any suitable length of 3/4" BSP threaded pipe.

Ordering Information 5µ Spin-on air breathers

Part number	Supersedes	Air flow	Valve crack pressure	A mm	B mm	Weight	Replacement element
S340056	N/A	700 l/min	Unpressured	60	120	0.6 Kg	4930
S340052	N/A	1500 l/min	Unpressured	148	208	0.75 Kg	588410
S340058	*S.340058	700 l/min	0.35 bar	60	120	0.69 Kg	4930
S340059	**S.340059	700 l/min	0.70 bar	60	120	0.69 Kg	4930
S340054	*S340054	1500 l/min	0.35 bar	148	208	0.8 Kg	588410
S340055	**S.340055	1500 l/min	0.70 bar	148	208	0.8 Kg	588410

FILTER BREATHERS

Reservoir Vent Breathers - Selection Matrix With Threaded Port



Part Number	Features - Vent Breathers								
	Particle Control	Water (H2O) Control	Corrosion Resistant	Clogging Indicator	Micron Rating	Efficiency	Max Air Flow lpm (SCFM)	Threaded Connection	Available Adaptors
BR110	ü	ü	ü	ü	3µm	99.00%	2406 (80)	1 1/2"-16 UN - Female	1" BSPF
BR210	ü	-	ü	ü	2µm	99.95%	2406 (80)	1 1/2"-16 UN - Female	1" BSPF
V0211B2R03	ü	-	-	-	3µm	99.95%	1131 (40)	1 1/2"-16 UN - Female	1" BSPF
V0211B1R03	ü	-	-	-	3µm	99.95%	1131 (40)	1 1/2"-16 UN - Female	1" BSPF
ABF-3/10	ü	-	-	-	3µm	99.95%	1131 (40)	3/4" NPT Male	-
MBR110	ü	ü	-	-	10µm	99.00%	475 (16)	3/4" NPT Male	-
TRM234B	ü	-	-	-	40µm	Nominal	700 (24)	3/4" BSP Male	-
TRM234BS10	ü	-	-	-	10µm	Nominal	700 (24)	3/4" BSP Male	-
BPS-40N12	ü	-	ü	-	40µm	Nominal	500 (17.7)	3/4" BSPT Male	-
BPS-40B12	ü	-	ü	-	40µm	Nominal	500 (17.7)	3/4" BSP Male	-
CPS-40B12	ü	-	ü	-	40µm	Nominal	259 (8.8)	3/4" BSP Male	-
TRM112B	ü	-	ü	-	10µm	Nominal	350 (12.3)	1/2" BSP	-
DPS-40B06	ü	-	ü	-	40µm	Nominal	120 (4.2)	3/8" BSP	-
TRM114	ü	-	-	-	40µm	Nominal	250 (8.8)	1/4" BSP	-

Part Number	Features - Pressurised Vent Breathers				
	Pressure Calibration	Micron Rating	Efficiency	Max Air Flow lpm (SCFM)	Threaded Connection
TRVM34035	0.35 Bar	40µm	Nominal	700 (24)	3/4" BSP Male
TRVM34070	0.7 Bar	40µm	Nominal	700 (24)	3/4" BSP Male
TRVM34035S1	0.35 Bar	10µm	Nominal	700 (24)	3/4" BSP Male
TRVM34070S1	0.7 Bar	10µm	Nominal	700 (24)	3/4" BSP Male

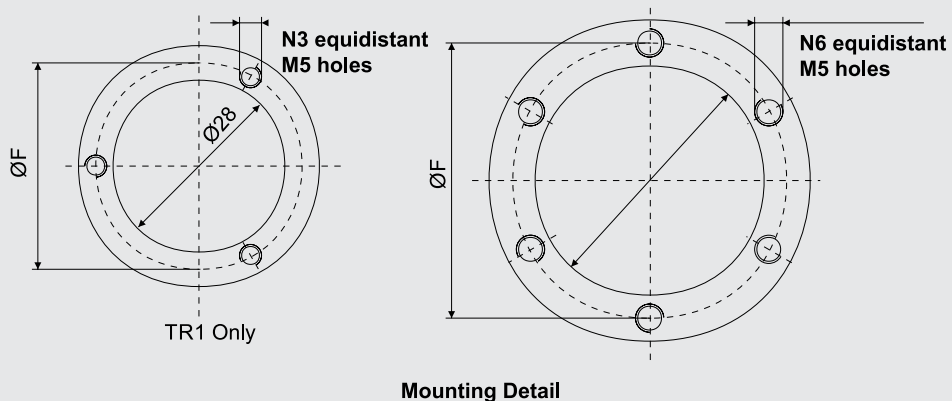
FILTER BREATHERS

Filter Breathers - Selection Matrix With Standard Reservoir Mounting Flange and Strainer Basket



Part Number	Features - Filter Breathers								
	Particle Control	Water (H2O) Control	Corrosion Resistant	Clogging Indicator	Micron Rating	Efficiency	Max Air Flow lpm (SCFM)	Flange PCD (F4)	Lockable
BR110-F	ü	ü	ü	ü	3µm	99.00%	2406 (80)	73 mm	-
BR210-F	ü	-	ü	ü	2µm	99.95%	2406 (80)	73 mm	-
ABF-3/10-S	ü	-	-	-	3µm	99.95%	1131 (40)	73 mm	-
MBR120	ü	ü	-	-	10µm	99.00%	475 (16)	73 mm	-
TR2	ü	-	-	-	40µm	Nominal	700 (24)	73 mm	-
TR2S1D	ü	-	-	-	10µm	Nominal	700 (24)	73 mm	-
TRC2	ü	-	-	-	40µm	Nominal	700 (24)	73 mm	ü
TR1	ü	-	-	-	40µm	Nominal	250 (8.8)	41 mm	-

Part Number	Features - Pressurised Filter Breathers					
	Pressure Calibration	Micron Rating	Efficiency	Max Air Flow lpm (SCFM)	Flange PCD (F4)	Lockable
TRV2035L	0.35 Bar	40µm	Nominal	700 (24)	73 mm	ü
TRV2070	0.7 Bar	40µm	Nominal	700 (24)	73 mm	-
TRV2035LS1	0.35 Bar	10µm	Nominal	700 (24)	73 mm	ü
TRV2070S1	0.7 Bar	10µm	Nominal	700 (24)	73 mm	-



SILICA GEL BREATHER

Triceptor

Installation

Triceptor breathers are designed for simple installation on most equipment, regardless of connection. Since TriCeptor breathers are disposable, the threaded connection allows for quick and easy maintenance. Several mounting adaptors (shown below) are available to provide the desired mounting. The installation / replacement process consists of four easy steps:

- Remove from protective plastic wrap
- Remove 25mm blue cap from standpipe
- Remove foil label to expose the necessary amount of air intake holes
- Twist Triceptor into mounting adapter

Model	Part Number	Quantity
127mm Breather	934330T	6 pcs
128mm Breather	934331T	6 pcs
229mm Breather	934332T	6 pcs
Field Adapter Nylon	937546	1 pc



Air Flow Performance

The curves below show the air flow performance of the three Triceptor breathers. To ensure the longest life possible, the initial clean pressure drop should not exceed 0.103 bar.

SUCTION FILTERS

Suction Element Specification

Construction

Stainless steel media 30% glass filled nylon head. Zintec centre tube. Epoxy adhesives

Maximum working temperature

90°C

Maximum clear element pressure drop

0.03 bar

Filtration media

125 micron*

Mounting threads

G1/2 up to 3G

* Non-standard elements are available to order. Consult Parker Filtration

Flow range

15-500 l/min (for 30 cst)

Bypass rating

0.17 bar

Part no.	Supersedes	Flow l/min	Ports BSP	Micron rating	Dimension			Weight	Bypass rating
					A	B	C		
SE75111110	SE.1319	15	1/2	125	105.5	46	36	0.08	N/A
SE75221110	SE.1320	25	3/4	125	109.5	64	46	0.15	N/A
SE75231210	SE.1457	50	1	125	139.5	64	55	0.17	N/A
SE75351210	SE.1323	95	1 1/2	125	140	86	65	0.28	N/A
SE75351310	SE.1324	130	1 1/2	125	200	86	65	0.33	N/A
SE75361410	SE.1326	180	2	125	260	86	75	0.40	N/A
SE75461210	SE.1219	225	2	125	150	150	70	0.64	N/A
SE75471310	SE.1220	350	2 1/2	125	212	150	90	0.72	N/A
SE75481410	SE.1221	500	3	125	272	150	100	0.92	N/A

Part no.	Supersedes	Flow l/min	Ports BSP	Micron rating	Dimension			Weight	Bypass rating
					A	B	C		
SE75111111	SE.5100	15	1/2	125	105.5	46	36	0.08	0.17 bar
SE75221111	SE.5101	25	3/4	125	109.5	64	46	0.15	0.17 bar
SE75231211	SE.5102	50	1	125	139.5	64	55	0.17	0.17 bar
SE75351211	SE.5103	95	1 1/2	125	140	86	65	0.28	0.17 bar
SE75351311	SE.5104	130	1 1/2	125	200	86	65	0.33	0.17 bar
SE75361411	SE.5105	180	2	125	260	86	75	0.40	0.17 bar
SE75461211	SE.5106	225	2	125	150	150	70	0.64	0.17 bar
SE75471311	SE.5107	350	2 1/2	125	212	150	90	0.72	0.17 bar
SE75481411	SE.5108	500	3	125	272	150	100	0.92	0.17 bar

FLUID LEVEL MEASUREMENT

Fluid Level Temperature Gauges



SUCTION ELEMENTS

Proven solutions for oil reservoir efficiency



Product Features

- 3 sizes of fluid level/temperature gauge.
- 2 hole mounting.
- 76 mm, 127mm and 254mm mounting centres.
- One-piece design, high visibility viewing lens for added security.
- Moulded in splatterproof, transparent polyamide

For more information see the HFDE product catalogue Ref: FDHB500.

Product Features

- A range of quality elements for reservoir and system application.
- A high quality range of suction elements designed to compliment a reservoir installation including in-tank suction strainers and oil diffusers, metal and polyester in-line filters and drive couplings with nylon sleeve and sintered steel couplings.

- In-tank suction strainers.
- Constricted in stainless steel media with 30% glass-filled nylon head and Zintec centre tube.
- Maximum working temperature 90°C.
- 125 micron filtration media.
- Bypass rating 0.17bar.

Ordering Information

Part Number	Description	Centres	Thread
FL69121	level/temp	76mm	M10
FL69123	level/temp	76mm	M12
FL69111	level	76mm	M10
FL69113	level	76mm	M12
FL69221	level/temp	127mm	M10
FL69223	level/temp	127mm	M12
FL69211	level	127mm	M10
FL69213	level	127mm	M12
FL69321	level/temp	254mm	M10
FL69323	level/temp	254mm	M12
FL69311	level	254mm	M10
FL69313	level	254mm	M12

Ordering Information

Part Number	Flow Rate L/min	Thread	Bypass
SE75231210	50	1"	n/a
SE75351210	95	1 ½"	n/a
SE75351310	130	1 ½"	n/a
SE75361410	180	2"	n/a
SE75481410	500	3"	n/a

SUCTION FILTERS

10F and 50F Series - In Line Suction Filters



Powering Business Worldwide

Vickers



Features and Benefits		Filter Housing Performance	
• Standard integral air bleed feature enables faster priming of pumps		Flow Rating:	Up to 329 lpm
• Stainless steel elements can be cleaned and reused		Max Working Pressure:	0.3 Bar Vacuum to 20 Bar
• Standard bypass valve protects against pump damage resulting from clogged filter		Filtration	149 or 70 Micron
• Standard with large, easy-to-read clogging indicator		Temperature Range:	- 40 ° C TO 107 ° C
• Available with optional magnetic pre-filter to trap ferrous metal particles which greatly extends element life		Cap and Housing:	Aluminium

Part Number Formulation					
Filter Series	Port Size	Media Option	Port Thread Type	Magnetic Pre-filter Option	Indicator
10F	A = 1"	1 = 149µm Stainless Steel Mesh	P = NPT	Omit = Without Magnetic Pre-iltration	12 = Mechanical Indicator
		2 = 70µm Stainless Steel Mesh		M = With Magnetic Pre-ilter	
50F	C = 2" D = 2 1/2"	1 = 149µm Stainless Steel Mesh	P =NPTF	Omit = Without Magnetic Pre-ilter	12 = Visual Indicator
		2 = 70µm Stainless Steel Mesh	F = SAE Flange Code 61	M = With Magnetic Pre-ilter	

Sample	Housing Part Number
	50FC1PM12

Maximum Flow Ratings				
Filter Series	Vacuum Inlet (0.3 Bar Vacuum)		Pressurized Inlet (0 - 20 Bar)	
	Petroleum Oil with Viscosity less than 46cSt	Petroleum Oil with Viscosity greater than 46cSt and fire resistant fluids	Petroleum Oil with Viscosity less than 46cSt	Petroleum Oil with Viscosity greater than 46cSt and fire resistant fluids
10FA	45 lpm	30 lpm	61 lpm	42 lpm
50FC	178 lpm	125 lpm	257 lpm	167lpm
50FD	254 lpm	178 lpm	329 lpm	238 lpm

Filter Element Performance	
Media Options:	Stainless Steel, Mesh
Element Collapse Rating:	0.3 Bar
Fluid Compatibility with Buna Seals:	Petroleum Based Fluids, Polyol Esthers, Water Glycols, Invert Emulsions
Fluid Compatibility with Viton Seals:	Petroleum Based Fluids, Polyol Esthers, Water Glycols, Invert Emulsions, Phosphate Esters

Filter Element Part Numbers				
Filter Series	Porting Code	Element Part Number	Media Type	Micron Rating
10F	A	941052	Stainless Steel Mesh	149µm
		941054	Stainless Steel Mesh	70µm
		736851	Magnetic Preilter	Magnetic
50F	C/D	941060	Stainless Steel Mesh	149µm
		941062	Stainless Steel Mesh	70µm
		736852	Magnetic Preilter	Magnetic

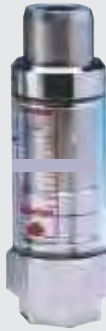
SF Series - In-Tank Suction Strainers



Features and Benefits	Filter Performance	
<ul style="list-style-type: none"> Provide protection for pumps by filtering solid contaminants that can cause catastrophic failure before they can enter the pump 	Flow Rating:	Up to 400 lpm for 32 cSt Fluids
<ul style="list-style-type: none"> Available in a wide variety of sizes 	Temperature Range:	- 25 ° C TO 90 ° C
<ul style="list-style-type: none"> Available with 3/8" to 3" ports 	Porting Head:	Aluminium
<ul style="list-style-type: none"> Stainless steel mesh can be cleaned and reused 	End Cap:	Zinc Plated Steel
<ul style="list-style-type: none"> Readily interchangeable with competitive brands 	Filter Media:	Aisi 304 Stainless Steel Mesh
	Fluid Compatibility:	Petroleum based fluids

Part Numbers and Technical Data					
Part Number	Port Size	Length (mm)	Outside Diameter (mm)	Media Type	Max Recommended Flow Rate
SF46A38GR125	3/8" BSP	90	46	125 µm Steel Mesh	12 lpm
SF46B12GR125	1/2" BSP	105	46	125 µm Steel Mesh	15 lpm
SF64A34GR125	3/4" BSP	109	64	125 µm Steel Mesh	25 lpm
SF64B100GR125	1" BSP	139	64	125 µm Steel Mesh	50 lpm
SF86A100GR125	1" BSP	139	86	125 µm Steel Mesh	50 lpm
SF86A114GR125	1 1/4" BSP	139	86	125 µm Steel Mesh	65 lpm
SF86A112GR125	1 1/2" BSP	139	86	125 µm Steel Mesh	95 lpm
SF86B112GR125	1 1/2" BSP	200	86	125 µm Steel Mesh	140 lpm
SF86C112GR125	1 1/2" BSP	260	86	125 µm Steel Mesh	200 lpm
SF86C200GR125	2" BSP	260	86	125 µm Steel Mesh	230 lpm
SF86D200GR125	2" BSP	331	86	125 µm Steel Mesh	270 lpm
SF150A200GR125	2" BSP	151	150	125 µm Steel Mesh	220 lpm
SF150B212GR125	2 1/2" BSP	211	150	125 µm Steel Mesh	300 lpm
SF150C300GR125	3" BSP	272	150	125 µm Steel Mesh	400 lpm

Flow meters (Brass Version)



Product Features
• Works in any plane.
• Pressure up to 350 bar (5000 psi).
• Flow up to 360 l/min.
• Accuracy $\pm 5\%$ FSD.
• Repeatability $\pm 1\%$ FSD.
• Direct Reading.
• Relatively insensitive to viscosity changes.
• Oil or water calibrated.
• Optional reed switch upgrade.

Technical Specification

Construction:
Brass body to BS 2874 CZ114.

Maximum Working Pressure:
Up to 350 bar.

Minimum Working Pressure:
1 bar.

Temperature Range:
Brass 20°C to +90°C.

Calibration:
Oil Specific gravity
0.856 at 20°C.

Water Specific gravity
1.0 at 20°C.

Viscosity Range:
10 to 200 cSt [oil].

Accuracy:
 $\pm 5\%$ FSD.

Repeatability:
 $\pm 1\%$ FSD.

Min. Scale Reading:
10% FSD.

Connections:
BSP parallel threads.

Wetted/Non-wetted Parts:
Consult Parker for information.

Ordering Information

Part Number	Fluid Type	Port	Flow Range	Pressure
FM26122212	Oil	1/4 BSP female	0.5 - 4.5 l/min	350 Bar
FM26122312	Oil	1/4" BSP female	1 - 9 l/min	350 Bar
FM26222112	Oil	1/2" BSP female	2 - 20 l/min	350 Bar
FM26222122	Water	1/2" BSP female	2 - 20 l/min	350 Bar
FM26222222	Water	1/2" BSP female	5 - 46 l/min	350 Bar
FM26322112	Oil	3/4" BSP female	5 - 55 l/min	350 Bar
FM26322212	Oil	3/4" BSP female	10 - 110 l/min	350 Bar
FM26322222	Water	3/4" BSP female	10 - 110 l/min	350 Bar

LoFlow and Easiflow



Product Features (LoFlow)
• Easy to read, permanent printed scales.
• Large scale definition for precise measurement
• Negligible pressure drop characteristics.
• 10 bar pressure rating.
• Simple to use.

Technical Specification (LoFlow)

Construction:
Body - Grillon TR55.
Back body half - ABS 7020.
Float - Acetal

Maximum working temperature: 60°C.
Accuracy: $\pm 2\%$ typical.
Repeatability: $\pm 1\%$.
Connections: 1/4 and 3/4 tapered threads.

Ordering Information

Product Number	Media	Flow Range (l/min)	Switch Range (l/min)
LF802412	Water	3/4 - 3/4	0.2 - 2.0
LF802432	Oil	3/4 - 3/4	0.1 - 0.9

Product Features (Easiflow)

- Oil and water calibrated.
- Works in any plane.
- Pressures up to 10 bar.
- Flows from 1 to 150 l/min.

Technical Specification (Easiflow)

Meters

Construction:
Body - Glass filled nylon
Viewing glass - Borosilicate glass
Seal - Nitrile

Maximum Working Pressure: 10 bar.
Minimum Working Pressure: 1 bar.

Temperature Range:

+5°C to +80°C - Oil.

+5°C to +60°C - Water.

Flow Rate: 1 to 150 l/min.

Viscosity Range: 10 to 200 centistokes [oil].

Connections: 1 BSP parallel threads.

Flowswitch

The Easiflow switch is a flow measuring device incorporating an AC/DC switch

General Flowmeter Specification:

See material details opposite.

Switch Type Specifications:

Magnetically operated reed switch.

Electrical Details:

Voltage range 300Vac/dc

Maximum current 2.5Amps

Maximum load 100W resistive

70W

Ordering Information

Product Number	Media	Flow Range (l/min)
EF7731111220	Water	2 - 30
EF7731112220	Water	4 - 50
EF7731111120	Oil	2 - 30
EF7731112120	Oil	4 - 50

Product Number	Media	Flow Range (l/min)	Switch Range (l/min)
EF7731110221	Water	1 - 15	5 - 15
EF7731111221	Water	2 - 30	5 - 30
EF7731110121	Oil	1 - 15	5 - 15
EF7731111121	Oil	2 - 30	5 - 30

INDICATOR SERIES

FMU Δp -Indicators and Pressure Indicators, Max. 420 bar



Product Features

- The FMU range of filter condition indicators, designed for use on a wide range of Parker filters.
- Accurate visual, electronic or electrical filter condition feedback.
- Maximum pressure 420 bar.
- Mobile, industrial and marine applications.

Technical Specification

Maximum Working Pressure:
420 bar (250 bar for aluminium)

Maximum Differential Pressure:
210 bar

Working Temperature Range:
-20°C to +85°C with fluoroelastomer seals, -40°C to +85°C with nitrile and EPDM seals

Material of Housing:
Brass, aluminium or stainless steel

Seals:
Fluoroelastomer, Nitrile or EPDM

Mounting Torque:
max. 75 Nm
(max. 50 Nm for aluminium indicator body & filter housing)

Ordering Information

Part Number	Filter Type	Indicator Settings	Ports	Description
FMUG2EBPG02L	TPR, PT	1,2 bar	G1/8	pressure gauge
FMUS2EBMG02L	TPR, PT	1,2 bar	G1/8	pressure switch NO 42Vdc
FMUG1EBPM10L	TTF, BGT	1,2 bar	M10	pressure gauge
FMUS1EBMM10L	TTF, BGT	1,2 bar	M10	pressure switch NO/NC 42Vdc
FMUU2VBMM10L	ATZ	-0,3 bar	M10	vacuum gauge
FMUV2VBMM10L	ATZ	-0,3 bar	M10	vacuum switch NO 42Vdc
FMUM3KVMU14M	CN, DF40	2,5 bar	U14M cavity	visual differential pressure indicator
FMUT1KVMU14M	CN, DF40	2,5 bar	U14M cavity	electrical differential pressure switch
941802	12CS	All	1/8-27NPT	Analogue Electrical Indicator
941814	12CS	All	1/8-27NPT	Reed switch (on-off) Indicator
941945	12CS	All	1/8-27NPT	Visual Red-LED Indicator
FMUM3KVMU12H	130M	2,5 bar	U12H cavity	visual differential pressure indicator
FMUT1KVMU12H	130M	2,5 bar	U12H cavity	electrical differential pressure switch
FMUM3MVMS08	EPF	5,0 bar	S08 cavity	visual differential pressure indicator
FMUT1MVMS08	EPF	5,0 bar	S08 cavity	electrical diff pressure switch. (NO/NC type switch)

*Note: All filter assemblies are supplied with plugged indicator ports. Indicator codes are shown on Page 10. Indicators can be ordered separately from the filter assembly. 10 micron element options have been selected for all filter products in this overview except EPF, DF40 and Eco 130 Series filters.

CLOGGING INDICATORS

Indicating Pressure Gauges - Selection Matrix



- These pressure Gauges are used to indicate when Tank-top or Spin-on type filters are blocked, by observing the reading on the gauge during operation, the operator can see when the pressure reading across the filter media reaches a predetermined level, signalling that the filter is clogging and requires servicing.
- Colour coded versions are available for easy reading, vacuum gauges are also available for suction line filters

Filter Series	Pressure Gauge-Part Numbers	Type	Settings & Features			
			Pressure Range	Scale	Colour Coding	Port Connection
RT OMTF P-237917 T10V0R T05V0R	LFT-134-2	Colour Coded Pressure Gauge	0 - 4 Bar	-	ü	1/8"NPT
	PV1	0 -12 Bar Pressure Gauge	0 - 12 Bar	0 - 12 Bar	-	1/8"BSPT

Filter Series	Pressure Gauge-Part Numbers	Type	Settings & Features			
			Pressure Range	Scale	Colour Coding	Port Connection
T31V0A T10V0A T05V0A	VV1	Colour Coded Vacuum Gauge	0 - 76 Hg (Vacuum)	-	ü	1/8"BSPT
SFB	VV2	Colour Coded Vacuum Gauge	0 - 76 Hg (Vacuum)	-	ü	1/4"BSPT

Indicating Pressure Switches - Selection Matrix

- These pressure switches are used to indicate when Tank-top or Spin-on type filters are blocked, by facilitating an electrical signal to the control when the pressure reading reaches a certain level.
- Simply select the features and settings required for your application in the selection matrix below, and then find the appropriate indicator part number from the list of indicators that are assigned to your selected filter series.
- For special configurations other than those listed in the standard range, please contact the call centre.

Filter Series	Pressure Switch - Part Numbers	Type	Settings & Features		
			Pressure Range	Electrical Connection	Port Connection
RT OMTF P-237917 T10V0R T05V0R	P23305101H	Pressure Switch	0 - 2 Bar	Hirschman (DIN43650)	1/8"NPT
	OMTI E	Pressure Switch	0 - 2 Bar	Spade Type connections	1/8"BSPT

CLOGGING INDICATORS

Differential Pressure Indicators - Selection Matrix



- Differential Pressure Indicators indicate when low, medium or high pressure filters are blocked, by providing a visual or electrical signal to the operator or electrical control when the differential pressure reading across the filter media reaches a preset level.
- Simply select the features and settings required for your application in the selection matrix below, and then find the appropriate indicator part number from the list of indicators that are assigned your selected filter series.

Filter Series	Clogging Indicator Part Numbers	Settings & Features					
		Pressure Setting	Visual Δp Indication	Electrical Δp	Electrical and Visual Δp Indication	Electrical Connection	Lamp Option
DF40 KF30 CF40 KF3 CF60 K9 KF50 QLF KFH50 QF	A-LF-2547	2.5 Bar	ü	-	-	-	-
	MS10-30	2.5 Bar	-	ü	-	Hirschman (DIN43650)	-
	MS13DC2-30	2.5 Bar	-	-	ü	Hirschman (DIN43650)	24VDC
	MS13AC1-30	2.5 Bar	-	-	ü	Hirschman (DIN43650)	120VAC
	MS13AC2-30	2.5 Bar	-	-	ü	Hirschman (DIN43650)	240VAC
LF1	D	2 Bar	ü	-	-	-	-
	A-LF-831-1#	2 Bar	-	-	ü	Cam-operated Microswitch	-
G620 W451 G061 W023	PVLNBNN	2.5 Bar	ü	-	-	-	-
	PVINBNN	5 Bar	ü	-	-	-	-
	PERHBNN	2.5 Bar	-	ü	-	Hirschman (DIN43650)	-
	PEUHBNN	5 Bar	-	ü	-	Hirschman (DIN43650)	-
	PDGHBTN	2.5 Bar	-	-	ü	Hirschman (DIN43650)	-
HV3R HV6RD LND	PDVHBTN	5 Bar	-	-	ü	Hirschman (DIN43650)	-
	PV2BVN	2 Bar	ü	-	-	-	-
	PE2BVH	2 Bar	-	ü	-	Hirschman (DIN43650)	-
	PE2BVH L24	2 Bar	-	-	ü	Hirschman (DIN43650)	24VDC
	PE2BVH L115	2 Bar	-	-	ü	Hirschman (DIN43650)	115 VAC
HF3P HF2P LND	PE2BVH L240	2 Bar	-	-	ü	Hirschman (DIN43650)	240VAC
	PHV2BVN	2 Bar	ü	-	-	-	-
	PHV5BVN	5 Bar	ü	-	-	-	-
	PHE2BVH	2 Bar	-	ü	-	Hirschman (DIN43650)	-
	PHE5BVH	5 Bar	-	ü	-	Hirschman (DIN43650)	-
	PHE2BVH L24	2 Bar	-	-	ü	Hirschman (DIN43650)	24VDC
	PHE5BVH L24	5 Bar	-	-	ü	Hirschman (DIN43650)	24VDC
	PHE2BVH L115	2 Bar	-	-	ü	Hirschman (DIN43650)	115 VAC
	PHE5BVH L115	5 Bar	-	-	ü	Hirschman (DIN43650)	115 VAC
PHE2BVH L240	2 Bar	-	-	ü	Hirschman (DIN43650)	240VAC	
HPM	PHE5BVH L240	5 Bar	-	-	ü	Hirschman (DIN43650)	240VAC
	DV 500	5 Bar	ü	-	-	-	-
	DE 500	5 Bar	-	ü	-	Hirschman	240VAC
	DV 800	8 Bar	ü	-	-	-	-
	DE 800	8 Bar	-	ü	-	Hirschman	240VAC

GQPF-S/D Series - PortaFilta

Description
The GQPF series PortaFilta is a compact filtration system designed to be fully portable in just about any environment. The PortaFilta is equipped with either a single or dual high efficiency filtration assembly capable of removing particulate contamination, water, or both, quickly, effectively and economically from mineral and synthetic oils.
Features
<ul style="list-style-type: none"> • Available in Single Head or Dual Head options • Accepts a wide variety of filter media's to suit fluid types and cleanliness requirements • Robust steel construction • Clogging indicator indicates when element needs to be changed • Drip pan • Integral relief valve prevents over-pressurization • Integral suction strainer protects pump • Stop/Start Switch • Legendary BMG reliability



Specifications	
Pump Displacement:	30 lpm
Relief Setting:	4.5 Bar
Max Viscosity:	250 cSt
Electric Motor:	220 VAC, 380 VAC, 525 VAC, 12 VDC, 24 VDC
Clogging Indicator Type:	Visual (Colour Coded Gauge)
Hoses:	3/4" X 3 Meters (X2)
Fluid Compatibility	Contact Call Centre

Filter Housing - Part Number Formulation						
Model	Version	Pump Flow	Motor	Seal Material	Media Option - 1st Filter	Media Option - 2nd Filter (GQPF-D Only)
GQPF	-S = Single Head	30 = 30 lpm	AC1 = 220VAC	B = Buna	C60 = 60µm Steel Mesh	C60 = 60µm Steel Mesh
			AC3 = 380VAC		P25 = 25µm Cellulose	P25 = 25µm Cellulose
			AC5 = 525VAC		P10 = 10µm Cellulose	P10 = 10µm Cellulose
	-D = Dual-Head		DC1 = 12VDC	V = Viton	R10 = 10µm Micro Glass	R10 = 10µm Micro Glass
			DC2 = 24VDC		R05 = 5µm Micro Glass	R05 = 5µm Micro Glass
					R03 = 3µm Micro Glass	R03 = 3µm Micro Glass
			W = Water Removal	W = Water Removal		

GQMF-S/D/V Series - Mobile Filtration Unit

Description
The GQMF Series Mobile Filtration System is a compact, self-contained filtration system equipped with high efficiency, high capacity elements capable of removing particulate contamination, water or both conveniently and economically. It is perfect for cleaning up existing systems as well as for pre-filtering new fluids, since new fluids often have contamination levels significantly higher than that recommended for most hydraulic systems. The GQMF-S single filtration unit can remove either water or particulate contamination. The GQMF-D dual filtration unit can be used to remove both water and particulate contamination, or for staged particulate contaminant removal.
Features
<ul style="list-style-type: none"> • Base ported filter provides easy element change-out from the top without oil spills • Clogging indicator indicated when element needs to be changed • Cleans oil faster than other units due to higher displacement and higher efficiency for the Z Media option • Superior dirt holding capacity • Drip pan • Integral relief valve prevents over-pressurization • Integral suction strainer protects pump



Specifications	
Pump Displacement:	50 lpm (10 lpm for high viscosity version)
Relief Setting:	4.5 Bar
Max Viscosity:	250 cSt (2000 cSt for high viscosity version)
Electric Motor:	220 VAC, 380 VAC, 525 VAC
Clogging Indicator Type:	Visual Differential Pressure (Pop-up with manual reset)
Hoses:	1" X 3 Meters (X2)
Fluid Compatibility:	Contact Call Centre

Filter Housing - Part Number Formulation						
Model	Version	Pump Flow	Motor	Seal Material	Media Option - 1st Filter	Media Option - 2nd Filter (GQMF-D Only)
GQMF	-S = Single Head	50 = 50 lpm	AC1 = 220VAC	B = Buna	M60 = 60µm Steel Mesh	M60 = 60µm Steel Mesh
					E25 = 25µm Cellulose	E25 = 25µm Cellulose
					E10 = 10µm Cellulose	E10 = 10µm Cellulose
	-D = Dual-Head	80 = 80 lpm	AC3 = 380VAC		Z25 = 10µm Micro Glass	Z25 = 25µm Micro Glass
					Z10 = 10µm Micro Glass	Z10 = 10µm Micro Glass
					Z5 = 5µm Micro Glass	Z5 = 5µm Micro Glass
					Z3 = 3µm Micro Glass	Z3 = 3µm Micro Glass
	-V = High Viscosity	10 = 10 lpm (V Model only)	AC5 = 525VAC	V = Viton	Z1 = 2µm Micro Glass	Z1 = 2µm Micro Glass
					W = Water Removal	W10 = Water Removal

PORTABLE FILTRATION SYSTEM

10MFP SERIES

with Moduflow plus Portable Filtration Trolley

SENTINEL™

Portable purification system



Product Features

- 10 MFP hydraulic trolley is the ideal way to pre-filter and transfer fluids into reservoirs or to clean up a system.
- Maximum flow 38 l/min.
- Par-Gel water removal elements available.
- icountPD particle detector option available.
- Ms Moisture Sensor option (IPD integrated).

Product Features

- Proven vacuum dehydration technology, ensuring only clean, dry oil re-enters the reservoir.
- On board data display and storage via IQAN MD3 display screen.
- Rapid detection and removal - embedded % RH moisture, and optional solid particle contamination detector.
- Sentinel mode - long life automatic switch on, measurement, operation and shut-off.

Technical Specification

Product description:

Transfers fluid from drums or storage tanks

Maximum Recommended

Fluid Viscosity:

10MFP (108 cSt)

0.85 specific gravity

Visual Indicator (outlet filter):

Visual differential type 3-band (clean, change, bypass)

Filter Bypass Valve Settings

(Integral to Element):

Inlet 0.2 bar

Outlet 2.4 bar

Flow Rate:

38 L/min

Operating Temperature:

-40°C to +66°C

Electrical Service Required:

10MFP 110/220 volts, 60/50 Hz, single phase, 10/5 amps

Electrical Motor:

10MFP ¾ hp @ 3450 rpm, O.D.P.

Thermal overload protection

Construction:

Cart frame Steel

Filter head Aluminum

Filter bowl Steel

Hoses PVC (Std.)

EPDM (high temp option)

Wands PVC (Std.)

Steel tube (high temp option)

Weight:

45.4kg

Technical Specification

Principle of operation

Vacuum dehydrator. 24 inHg

Working pressure

0-4 bar (0 -60 psi)

Working viscosity

1-460 cSt Packed Tower

Flow range

12 l/min 5GPM

Fluid connection inlet & outlet:

22L metric

Fluid working condition

+ 70C at - 0.8bar

Ambient storage temp. unit

-40°C to +80°C; -40°F to +176°F

Operating temperature for unit

-30°C to +80°C; -22°F to +176°F

Operating humidity range

5%RH to 100%RH

Fluid operating temperature

+5°C to +80°C; +41°F to +176°F

Moisture sensor linear scale within the range

5%RH to 100%RH

Computer compatibility connection

Unit to be connected to a laptop computer via USB port

Seals

Fluorocarbon

Vacuum pump type

Dry sealed vacuum pump

Particle filter type

5 micron 'iprotect' element

Heater type

6KW low - density heater

Power requirement

380-420VAC, 3P, 50Hz

Noise level at standard operation

75 dBA

Certification

IP54 rating (unit open)

CE marked

EC Declaration of Conformity

Machinery Directive

Weight

190 kg

icount Fluid Property Sensor (FPS)

Contact Parker

IQAN MD3 Display Memory size

Ordering Information

Part Number	Motor Option	Element	
		Inlet	Outlet
10MFP140SA10Q1UK	220/240 VAC	940802	937399Q
10MFP140SA10Q1EUR	220/240 VAC	940802	937399Q
10MFP240SA10Q1IND	110 VAC	940802	937399Q

Ordering Information

Part Number	Description
945274	Standard unit 80,000 logs
Optional accessories	943237 - Service Kit (Triceptor element, Coalescer element, Filter element, Vacuum Pump Oil) ACC6JH003 - Vacuum Pump Oil (1 LITRE) MS1504 - Moisture Sensor

FLUID PARTICLE DETECTORS

icount Oil sampler (IOS)



Product Features
• Portable monitoring tool providing fluid qualification to ISO 4406: 1999 standards.
• Quick, simple to use monitoring tool for sampling fluids from containers, fuel bunkers and holding tanks.
• Field solution to laboratory methods for the detection of solid contamination and freewater inference
• On-board 250,000 test memory.
• MS moisture sensor standard.

Technical Specification



The IOS quality condition monitor for hydraulic oils and hydrocarbon fuels uses advanced technology to produce extremely repeatable results.

At the heart of the system is a sophisticated laser detector, using a light obscuration flow cell, providing continuous measurement of fluid flow passing through a sample tube.

Measurements are taken every second as standard, although measurement intervals and test period can be defined by the user, with results being reported immediately and updated in real time.

Data is displayed on a built-in OLED digital display and can also be stored for subsequent upload via the embedded icounts web page interface connecting through a RJ45 cable

For pressure systems (more than 2.5 bar) a Pressure Reducing Valve (PRV) is included as standard

Ordering Information

Part Number	Fluid Type	Calibration	Included
IOS1220EUR	Mineral	MTD	Online connection adaptor
SER.MISC.067	Mineral	MTD	Verification fluid 2x500ml

Moisture Sensing

icountMS Range

Product Features
• MS moisture sensors provide fast, reliable and accurate inline detection of moisture in fluids
• Ms200 Programmable sensor monitoring and reporting relative humidity (RH), moisture content in oils. 420 bar MAOP
• Temperature Outputs.



icountPD Online Particle Detector



Product Features
• Independent monitoring of system contamination trends.
• Warning LED or digital display indicators for Low, Medium and High contamination levels
• Visual indicators with power and alarm output warnings.
• Continuous performance for prolonged analysis.
• Moisture Sensor RH% integrated option
• Full PC/PLC integration technology.

Typical Applications

Mobile Equipment

Earth Moving Machinery
Harvesting
Forestry
Agriculture

Industrial Equipment

Production Plants
Fluid Transfers
Pulp & Paper
Refineries

Power Generation

Wind Turbines
Gearboxes
Lubrication Systems

Maintenance

Test Rigs
Flushing Stands

Fuel Contamination Detection

Fuel Storage Tanks
Vehicle Fuel Tanks
Uploading Fuel into an Aircraft



Ordering Information

Part Number	Display	Moisture Sensor	Option	Output Option
IPD12322230	Digital	YES	8 pin plug connector	RS232/4-20mA
ACC6NN018	n/a	n/a	M12 - Rs232 adapter	n/a
ACC6NN022	n/a	n/a	M12 - Power cable adapter	n/a
ACC6NN019	n/a	n/a	Flow control	n/a

Part Number	Fluid Type	Output Options	Thread
MS2202110	Mineral	0-5VDC	G1/4 BSP BONDED SEAL
MS2204110	Mineral	4-20MA	G1/4 BSP BONDED SEAL
ACC6NF000	n/a	n/a	M12 X 8 pin cable

PAROFIT™
SmaRT1000

Pall SRT replacement filter element range

PALL UE 219 & UE 319

Replacement Elements

PALL UE 619

Replacement Elements

The Par Fit Smart1000 is a new range of replacement elements designed to be 100% interchangeable with the PALL UE219, UE319 and UE619 element series, but with greater affordability, advanced filter technology and availability 'on-demand'.

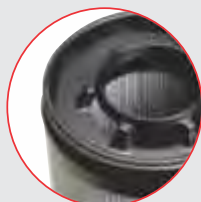
Product Features

- Extraction handle - UE219 and UE319. Unique extraction handle, designed clean and simple removal of the element from the filter housing.
- Strengthened extraction ring - UE619. Increased material thickness around the extraction ring and support ribs prevents break-off during removal.
- Quantum fiber media - unique fibre composition that ensures maximum filter efficiency over an extended lifetime.
- Static Control filter media eliminates electro-static charging in hydraulic fluids, without compromising efficiency.



PALL UE 219 & UE 319
Replacement Elements

Unique extraction handle – prevents direct contact with contaminated elements



PALL UE 619
Replacement Elements

Extra thick extraction ring and support ribs – prevents break-off during replacement



Filter Element Competitor	Filter Element Competitor Part Number	Parker Part Number
Pall	UE219AP04Z	940400Q
Pall	UE219AN04Z	940401Q
Pall	UE219AS04Z	940402Q
Pall	UE219AT04Z	940403Q
Pall	UE219AP08Z	940404Q
Pall	UE219AN08Z	940405Q
Pall	UE219AS08Z	940406Q
Pall	UE219AT08Z	940407Q
Pall	UE219AP13Z	940408Q
Pall	UE219AN13Z	940409Q
Pall	UE219AS13Z	940410Q
Pall	UE219AT13Z	940411Q
Pall	UE219AP20Z	940412Q
Pall	UE219AN20Z	940413Q

Filter Element Competitor	Filter Element Competitor Part Number	Parker Part Number
Pall	UE219AS20Z	940414Q
Pall	UE219AT20Z	940415Q
Pall	UE319AP08Z	940416Q
Pall	UE319AN08Z	940417Q
Pall	UE319AS08Z	940418Q
Pall	UE319AT08Z	940419Q
Pall	UE319AP13Z	940420Q
Pall	UE319AN13Z	940421Q
Pall	UE319AS13Z	940422Q
Pall	UE319AT13Z	940423Q
Pall	UE319AP20Z	940424Q
Pall	UE319AN20Z	940425Q
Pall	UE319AS20Z	940426Q
Pall	UE319AT20Z	940427Q

Filter Element Competitor	Filter Element Competitor Part Number	Parker Part Number
Pall	UE319AP40Z	940428Q
Pall	UE319AN40Z	940429Q
Pall	UE319AS40Z	940430Q
Pall	UE319AT40Z	940431Q
Pall	UE619AP20Z	940432Q
Pall	UE619AN20Z	940433Q
Pall	UE619AS20Z	940434Q
Pall	UE619AT20Z	940435Q
Pall	UE619AP40Z	940436Q
Pall	UE619AN40Z	940437Q
Pall	UE619AS40Z	940438Q
Pall	UE619AT40Z	940439Q

INTERCHANGE TABLES

QUALITY INTERCHANGE ELEMENTS WITH A PROVEN RECORD

The Par Fit range offers end users, maintenance engineers and manufacturers a range of over 50,000 Parker Par Fit quality interchange elements using Microglass III and Ecoglass III media. Reduce stockholding, cut costs and ensure reliable and quality filter performance



Product Features
• Par Fit elements are manufactured to the same exacting standards as Parker original elements using Microglass III and Ecoglass III media.
• Quality backed by Parker's unrivalled technical resources.
• Reduce stockholding and costs by sourcing all your replacement elements from Parker.
• Interchange elements for Pall, Hydac, Mahle, Internormen, MP Filtri, Donaldson and over 300 more manufacturers.
• Cross reference information available for over 50,000 part numbers.

Filter Element Competitor	Filter Element Competitor Part Number	Parker Part Number
Agro	V2.1217-08	PR4467
Agro	V2.1217-03	938194Q
Agro	P2.1217-21	PR4466
Agro	V2.1217-36	PR4468
Agro	V3.0520-08	PR4476
Agro	V3.0607-08	PR4472
Agro	P3.0510-00	PR4469
Agro	P3.0510-02	PR4475
Agro	P2.1217-12	PR4465
Donaldson	P165569	944035Q
Donaldson	P164378	944023Q
Donaldson	P164375	944022Q
Donaldson	P163322	944012Q
Donaldson	P165659	944036Q
Donaldson	P165338	944029Q
Eaton Vickers	V30PV1C10	932624Q
Eaton Vickers	VRF2B2C10	932694Q
Eaton Vickers	V30PV2C10	932630Q
Eaton Vickers	V30PV2H10	932633Q
Eppensteiner	2.0018.H10XL-A00-0-P	939778Q
Eppensteiner	2.0030-G10-A-000-P	939824Q
Eppensteiner	2.0015.H10XL-A00-0-P	939776Q
Eppensteiner	2.0045.H10XL-A00-0-P	939777Q
Eppensteiner	2.0013.H10XL-A00-0-P	939775Q
Hydac	0110D010BN3HC	PR3087Q
Hydac	0165R010BN4HC	938275Q
Hydac	0850R010BN4HC	938295Q
Hydac	0095D010BN4HC	938309Q
Hydac	0850R020BN4HC	938296Q
Hydac	0060D010BN3HC	PR3058Q
Hydac	0240D010BN3HC	PR3145Q

Filter Element Competitor	Filter Element Competitor Part Number	Parker Part Number
Hydac	0330R010BN4HC	938283Q
Hydac	0110D010BH3HC	PR3095Q
Hydac	0160D010BN3HC	PR3116Q
Hydac	2600R010BN4HC	938312Q
Hydac	0660D010BN3HC	PR3203Q
Hydac	0160R010BN4HC	938271Q
Hydac	0240R010BN4HC	938279Q
Hydac	0165R020BN4HC	938276Q
Hydac	0660R010BN4HC	938291Q
Hydac	0660D020BN3HC	PR3204Q
Hydac	0330R020BN4HC	938284Q
Hydac	0030D010BH3HC	PR3037Q
Hydac	0330D010BN3HC	PR3174Q
Hydac	0110D020BN3HC	PR3088Q
Hydac	0160D020BN3HC	938267Q
Hydac	0110R010BN4HC	PR3117Q
Hydac	0060D010BH3HC	PR3066Q
Hydac	0240D003BH3HC	PR3151Q
Hydac	1300R010BN4HC	938303Q
Hydac	0330D010BH3HC	PR3182Q
Hydac	0060D020BN3HC	PR3059Q
Hydac	0850R005BN4HC	938294Q
Hydac	0030D010BN3HC	PR3033Q
Hydac	0240R010BN3HC	PR3292Q
Hydac	0060D003BH3HC	PR3064Q
Hydac	0060R010BN4HC	938259Q
Hydac	0500R010BN4HC	938287Q
Hydac	0240D020BN3HC	PR3146Q
Hydac	0240D005BN3HC	PR3144Q
Hydac	0140D010BN3HC	937064Q
Hydac	1300R020BN4HC	938304Q

Filter Element Competitor	Filter Element Competitor Part Number	Parker Part Number
Hydac	0280D005BH3HC	937069Q
Hydac	0240R020BN4HC	938280Q
Hydac	0110R020BN4HC	938268Q
Hydac	0110D003BN3HC	PR3085Q
Hydac	0660D010BH3HC	PR3211Q
Hydac	0060R020BN4HC	938260Q
Hydac	0110D005BN3HC	PR3086Q
Hydac	0060D020BH3HC	PR3067Q
Hydac	0850R003BN4HC	938293Q
Hydac	0060D005BH3HC	PR3065Q
Hydac	0240D003BN3HC	PR3143Q
Hydac	2600R020BN4HC	938313Q
Hydac	0060D005BN3HC	PR3057Q
Hydac	0160D010BH3HC	PR3124Q
Hydac	2600R005BN4HC	938311Q
Hydac	0030R020BN4HC	938256Q
Hydac	0160R010BN3HC	PR3275Q
Hydac	0330D005BH3HC	PR3181Q
Hydac	0660D003BN3HC	PR3201Q
Hydac	1300R003BN4HC	938301Q
Hydac	0240D010BH3HC	PR3153Q
Hydac	0280D010BN3HC	937072Q
Hydac	0030R010BN4HC	938255Q
Hydac	0140D020BN3HC	937066Q
Hydac	0140D010BH3HC	937063Q
Hydac	0950R010BN4HC	938299Q
Hydac	0110D005BH3HC	PR3094Q
Hydac	0330D003BN3HC	PR3172Q
Hydac	0075R010BN4HC	938263Q
Hydac	0030D005BN3HC	PR3032Q
Hydac	0160R020BN4HC	938272Q

INTERCHANGE TABLES

Filter Elements Competitor	Filter Elements Competitor Part Number	Parker Part Number
Hydac	0030D020BN3HC	PR3034Q
Hydac	0030D005BH3HC	PR3036Q
Hydac	0330D005BN3HC	PR3173Q
Hydac	1300R005BN4HC	938302Q
Hydac	0280D010BH3HC	937071Q
Hydac	0160D005BN3HC	PR3115Q
Hydac	0660R005BN4HC	938290Q
Hydac	0185R010BN4HC	939782Q
Hydac	0095D015MM	939827Q
Internormen	01.E 170.10VG.HR.E.V	938172Q
Internormen	01.E 320.25VG.16.S.V	938169Q
Internormen	01.E 210.25VG.16.S.V	938189Q
Internormen	01.E 360.10VG.HR.E.V	938176Q
Internormen	01.E 210.10VG.16.S.V	938188Q
Internormen	01.E 90.10VG.HR.E.V	938240Q
Internormen	01.NL 63.10VG.30.E.V	938180Q
Internormen	01.NL 63.25VG.30.E.V	938181Q
Internormen	01.E 320.10VG.16.S.V	938168Q
Mahle	Pi23025DNSM-X10	PR4539Q
Mahle	Pi23010RNSM-X10	PR4500Q
Mahle	Pi3130 SMX10	PR2863Q
Mahle	Pi3108 SMX 10	PR2839Q
Mahle	Pi3230 SMXVST10	PR2866Q
Mahle	Pi23040RNSM-X10	PR4510Q
Mahle	Pi4105 SMX25	PR2832Q
Mahle	Pi25100RNSM-X25	PR4519Q
Mahle	Pi3115 SMX10	PR2855Q
Mahle	852 519 Mic 10	937106Q
Mahle	Pi3145 SMX10	PR2871Q
Mahle	Pi3208 SMXVST10	PR2842Q
Mahle	Pi1005Mic25	PR2829Q
Mahle	Pi3105 SMX 10	PR2831Q
Mahle	Pi23010DNSM-X10	PR4531Q
Mahle	Pi23016RNSM-X10	PR4503Q
Mahle	Pi2230SMXVST3	PR2865Q
Mahle	Pi73025DN SMXVST10	PR4537Q
Mahle	Pi3205 SMXVST10	PR2834Q
Mahle	Pi23040DNSM-X10	PR4543Q
Mahle	Pi23100RNSM-X10	PR4518Q
Mahle	Pi4145 SMX25	PR2872Q
Mahle	Pi21040DNSM-X3	PR4542Q
Mahle	Pi23025RNSM-X10	PR4506Q
Mahle	Pi23063RNSM-X10	PR4514Q
Mahle	Pi3111 SMX 10	PR2847Q
Mahle	Pi21025DNSM-X3	PR4538Q
MP Filtri	MF1001A25HV	943710Q
MP Filtri	MF1003A25HV	943718Q
MP Filtri	MF1002A25HV	943714Q
MP Filtri	HP3202A10VN	938359Q
MP Filtri	MF1801A25HV	943722Q
MP Filtri	HP1352A10VN	938347Q
MP Filtri	MF1801A10HV	943721Q

Elements Competitor	Filter Element Competitor Part Number	Parker Part Number
MP Filtri	HP0371A25VN	938324Q
MP Filtri	MF1002A10HV	943713Q
MP Filtri	MR2503A10V	943920Q
MP Filtri	HP3203A10VN	943502Q
MP Filtri	MF7501A10HV	943741Q
MP Filtri	HP1351A25VN	938344Q
MP Filtri	HP0652A10VN	938335Q
MP Filtri	CU630A10V	943819Q
MP Filtri	MF4002A10HV	943733Q
MP Filtri	CU040A25V	943800Q
MP Filtri	CU250A25V	943812Q
MP Filtri	CU100A25V	943804Q
MP Filtri	HP1352A25VN	938348Q
MP Filtri	MF0301A10HV	943705Q
MP Filtri	HP1353A10VN	938351Q
MP Filtri	HP3202A25VN	938360Q
MP Filtri	CU250A10V	943811Q
MP Filtri	HP0371A10VN	938323Q
MP Filtri	HP0372A10VN	938327Q
MP Filtri	MF0301A25HV	943706Q
MP Filtri	HP0651A10VN	938331Q
MP Filtri	HP0653A25VN	938340Q
MP Filtri	HP1351A10VN	938343Q
MP Filtri	MF4002A25HV	943734Q
MP Filtri	CU350A10V	943815Q
MP Filtri	MR2504A25V	943929Q
MP Filtri	HP0651A25VN	938332Q
MP Filtri	MF1802A10HV	943725Q
MP Filtri	MF4003A10HV	943737Q
MP Filtri	HP0651A10VH	943615Q
Pall	HC9800FKN4H	930197Q
Pall	HC6300FKS13H	937123Q
Pall	HC9600FKS13H	926839Q
Pall	HC9600FKT16H	930164Q
Pall	HC9800FKS8H	930193Q
Pall	HC9800FKS4H	930190Q
Pall	HC9600FKT8H	PR3441Q
Pall	HC9600FKN13H	926845Q
Pall	HC9800FKT8H	930194Q
Pall	HC9600FKN8H	926843Q
Pall	HC9600FKS8H	PR3438Q
Pall	HC9800FKT4H	930191Q
Pall	HC9600FKN16H	926890Q
Pall	HC9800FKN8H	930198Q
Pall	HC8300FKS16H	PR3456Q
Pall	HC9020FKN8H	933246Q
Pall	HC9020FKS8H	925600Q
Pall	HC9020FKN4H	933239Q
Pall	HC9600FKS16H	926888Q
Pall	HC9600FKT4H	PR3440Q
Pall	HC9600FKT13H	930162Q
Pall	HC9600FKP16H	926699Q

Filter Elements Competitor	Filter Element Competitor Part Number	Parker Part Number
Pall	HC9600FKS4H	PR3437Q
Pall	HC9600FKN4H	926841Q
Pall	HC9700FKS18H	932679Q
Pall	HC9700FKS9H	932670Q
Pall	HC6200FKS8H	938160Q
Pall	HC9020FKT8H	PR3446Q
Pall	HC9020FKS4H	925580Q
Pall	HC8900FKS13H	933204Q
Pall	HC8300FKS39H	932874Q
Pall	HC9021FKP8H	927723Q
Pall	HC9020FKP8H	925602Q
Pall	HC9601FKT8H	927175Q
Pall	HC9020FKP4H	925582Q
Pall	HC9650FKS13H	937213Q
Pall	HC9601FKP8H	927176Q
Pall	HC9600FKP13H	926698Q
Pall	HC9021FKT4H	928642Q
Pall	HC9600FKP8H	PR3436Q
Pall	HC9600FKP4H	PR3435Q
Pall	HC8300FKT16H	933047Q
Pall	HC9801FKS8H	937223Q
Pall	HC9021FKT8H	928643Q
Pall	HC6300FKS26H	937125Q
Pall	HC9651FKT8H	928150Q
Pall	HC8300FKP39H	932872Q
Pall	HC9021FKP4H	927725Q
Pall	HC8300FKP16H	PR3455Q
Pall	HC9604FKT16H	937206Q
Pall	HC8900FKP13H	933202Q
Pall	HC9800FKP8H	930192Q
Pall	HC9020FKT4H	PR3444Q
Pall	HC8900FKN16H	933211Q
Pall	HC9601FKP4H	927170Q
Pall	HC9801FKS4H	937222Q
Pall	HC9601FKT13H	927181Q
Pall	HC9901FKN26H	939784Q
Pall	HC9601FKP13H	927182Q
Pall	HC9801FKP13H	PR2759Q

TYPE CODE FILTER HOUSING

Pi	2	0	05	-	058
Purolator Industry 20 years ago	1 = suction	1 = duplex	value*10 = nominal size in l/min		Housing code
	2 = low pressure	7 = duplex			
	3 = medium pressure	0 = single filter			
	4 = high pressure				
	5 = return line				

There are a few expectations:

Low pressure filters Pi 1941, Pi 1975, P i150

High pressure filters Pi 1123

Return-line filters Pi 1907

Duplex filters Pi 281

Please note: The suitable filter elements also have a 4-digit designation.

Example:

Pi 2005-058 with filter element Pi 3105 ps 10

Housing Codes	
Code	Description
000	Flanged blind plug
001	Bypass-valve / flanged blind plug
002	Bypass-valve / visual indicator, flanged
003	Bypass-valve / electrical indicator, flanged
004	Visual indicator, flanged
005	Electrical indicator, flanged
006	
007	Special design (in connection with an explaining text)
008	
009	Bypass-valve 7 bar for high-pressure / 1.5 bar for return-line
010	Blind plug for indicator / without bypass-valve
011	Bypass valve 7 bar for high-pressure / 1.5 bar for return-line old (Pi 1844) blind plug for indicator
012	Bypass valve 7 bar for high-pressure / 1.5 bar for return-line visual indicator
013	Bypass valve 7 bar for high-pressure / 1.5 bar for return-line / electrical indicator
014	Visual indicator 5 bar
015	Electrical indicator 5 bar
016	Reverse-flow valve / blind plug for indicator
017	
018	
019	Bypass-valve / air breather element / magnet / electrical indicator
020	Bypass-valve / air breather element
021	Bypass-valve / air breather element / magnet
022	Bypass-valve / air breather element / magnet / filler / strainer
023	Bypass-valve / air breather element / filler / strainer
024	Bypass-valve / air breather element / strainer / visual indicator
025	Bypass-valve / air breather element / strainer / electrical indicator
026	Bypass-valve / air breather element / visual indicator
027	Bypass-valve / air breather element / electrical indicator
028	Bypass-valve / air breather element / blind plug for indicator
029	Bypass-valve / air breather element / magnet / filler strainer / electrical indicator
030	Bypass-valve / filler strainer

Pi	31				05 PS 10
Purolator industry	Filter material and retention rate				Nominal size
	01 = Sm-N2	71 = Drg vst 10 V2A	81 = Drg 10	91 = Drg vst 10	05 = NG 50
	10 = Mic 25	72 = Drg vst 25 V2A	82 = Drg 25	92 = Drg vst 25	08 = NG 80
	21 = PS 3	73 = Drg vst 40 V2A	83 = Drg 40	93 = Drg vst 40	11 = NG 110
	22 = PS vst 3	74 = Drg vst 60 V2A	84 = Drg 60	94 = Drg vst 60	15 = NG 150
	31 = PS 10	75 = Drg vst 100 V2A	85 = Drg 100	95 = Drg vst 100	30 = NG 300
	32 = PS vst 10	76 = Drg vst 200 V2A	86 = Drg 200	96 = Drg vst 200	45 = NG 450
	41 = PS 25	77 = Drg vst 300 V2A	87 = Drg 300	97 = Drg vst 300	60 = NG 600
	42 = PS vst 25	78 = Drg vst 500 V2A	88 = Drg 500 &	98 = Drg vst 500	
	51 = PS 6		cylindrical	99 = Drg vst	
	52 = PS vst 6		89 = Drg 250/400/500	cylindrical	

Please note: Filter elements are without sealing. The sealing is integrated in the filter head, not in the filter element. The suitable filter housings have a 4-digit designation. The nominal size of the filter element has to correspond to the filter housing.

Example:

Pi 2005-058 with filter element Pi 3105 PS 10

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