



# F100-XD series

In line medium pressure filters



## Technical Information

### Housing

**Pressure: Max working** (acc. to NFPA T 3.10.5.1):  
F100-XD040/063/100: 100 bar (1500 psi)  
F100-XD160/250/400: 80 bar (1200 psi)

**Burst** (acc. to NFPA T 3.10.5.1):  
F100-XD040/063/100: 300 bar (4300 psi)  
F100-XD160/250/400: 200 bar (3000 psi)

**Connection Ports:** 1/2" ÷ 1 1/2" BSP (other thread options on request)

**Materials:** Head: aluminium alloy  
Bowl: aluminium alloy  
Seal: NBR (FKM on request)

**By-pass:** No by-pass or 6 bar (90 psi)

### Element

**Filter Media:** Microglass fiber 4,5 - 7 - 12 - 18 - 27  $\mu\text{m}_{(C)}$  (acc. to ISO 16889)  
Cellulose 10  $\mu\text{m}_{(C)}$  (acc. to ISO 16889)

**Differential collapse pressure:** 21 bar (300 psi) and 210 bar (3000 psi) (acc. to ISO 2941)

Filtrec elements are tested also according to ISO 2942 and ISO 23181

### Common

**Working temperature:** -25°C +120°C (-13°F +248°F)

**Fluid compatibility** (acc. to ISO 2943):  
Full with HH-HL-HM-HV (acc. to ISO 6743/4).  
For use with other fluid applications please contact Filtrec Customer Service (info@filtrec.it).

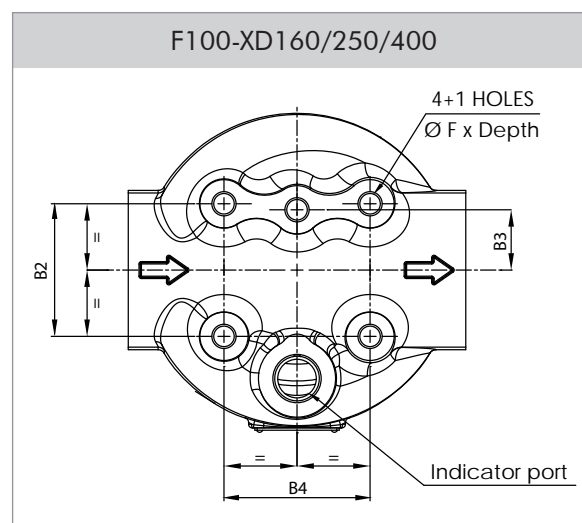
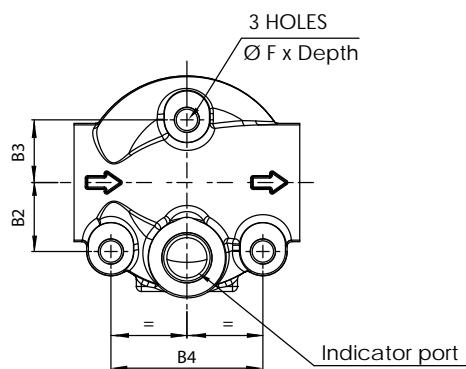
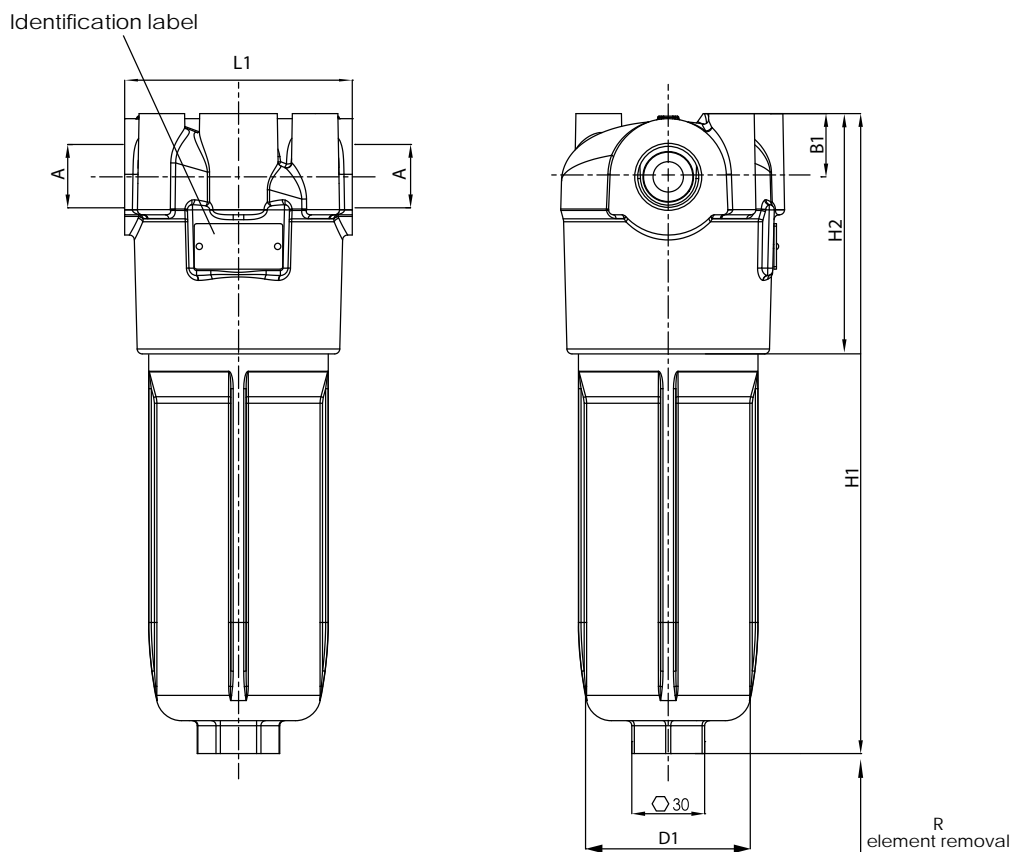
## Ordering information

MEDIA	
000	no element
G03	microglass fiber $\beta_{4,5 \mu m (c)} \geq 1000$
G06	microglass fiber $\beta_{7 \mu m (c)} \geq 1000$
G10	microglass fiber $\beta_{12 \mu m (c)} \geq 1000$
G15	microglass fiber $\beta_{18 \mu m (c)} \geq 1000$
G25	microglass fiber $\beta_{27 \mu m (c)} \geq 1000$
*C10	cellulose $\beta_{10 \mu m (c)} \geq 2$

\*Only for  $\Delta p$  21 bar (300 psi)

	NOMINAL SIZE	MEDIA	ELEMENT COLLAPSE	SEALS	CONNECTION	BY-PASS	INDICATOR PORT OPTION	INDICATOR	
Filter assembly F100-XD	100	G10	A	V	B3	D	W	V05	
Filter element XD	100	G10	A	V					
			ELEMENT COLLAPSE						
			A	21 bar / 300 psi					
			*B	210 bar / 3000 psi					
				* recommended with no by-pass option.					
				SEALS					
				B	NBR				
				V	FKM				
					CONNECTION				
					B3	1/2" BSP			
					B4	3/4" BSP			
					B5	1" BSP			
					B6	1 1/4" BSP			
					B7	1 1/2" BSP			
						For different thread options please check availability with Filtrec Customer Service.			
						BY-PASS			
						0	no by-pass		
						D	6 bar / 90 psi		
							INDICATOR PORT OPTION		
							S	indicator port with plug	
							W	indicator port without plug	
								INDICATOR	
								000	no indicator
								V05	differential visual 5 bar/ 70 psi
								E05	differential electrical 5 bar/ 70 psi
								V08	differential visual 8 bar/ 120 psi
								E08	differential electrical 8 bar/ 120 psi
								TO BE USED WITH NO BY-PASS OPTION ONLY	

## Overall dimensions



## Nominal size

CODE	A	B1	B2	B3	B4	D1	F	H1	H2	L1	R	WEIGHT
F100-XD040	1/2" BSP	25	27,5	25	60,6	65	M10x15	183	95	90	110	1,45 Kg
F100-XD063	3/4" BSP							253				1,55 Kg
F100-XD100	1"BSP							332				1,8 Kg
F100-XD160	1 1/4" BSP 1 1/2" BSP	40	55	110	289	129		140	130	3,7 Kg		
F100-XD250					361					4,4 Kg		
F100-XD400					514					5,6 Kg		

For different thread options please contact Filtrec Customer Service.

## Pressure drop diagrams

The total Pressure Drop ( $\Delta p$ ) value is obtained by adding the  $\Delta p$  values of filter housing and filter element at the given flow rate. This ideally should not exceed 1,0 bar (14,5 psi) and should never exceed 1/3 of the set value of the by-pass valve.

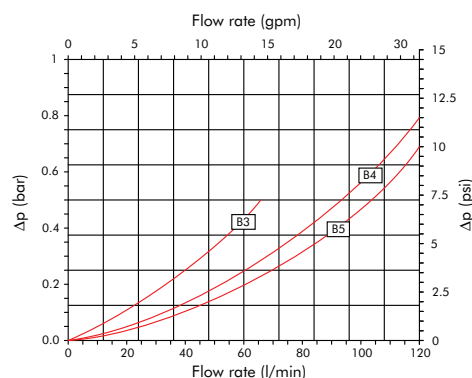
### PRESSURE DROP THROUGH THE FILTER HOUSING

The Pressure Drop through the filter housing is governed by the port, not the bowl length and the oil viscosity.

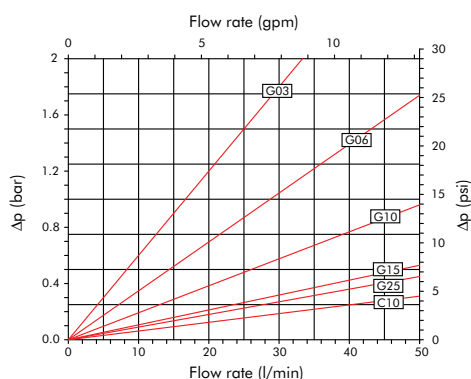
### PRESSURE DROP THROUGH THE CLEAN FILTER ELEMENT

The Pressure Drop through the filter element is related both to the internal diameter of the filter element and to the filter media; this value is affected by the oil viscosity in a roughly proportional way: e.g. when the  $\Delta p$  value from the curve is 0,2 bar and a 46 cSt oil is used, the corresponding value is 0,31 ( $=0,2 \times 46/30$ ) bar.

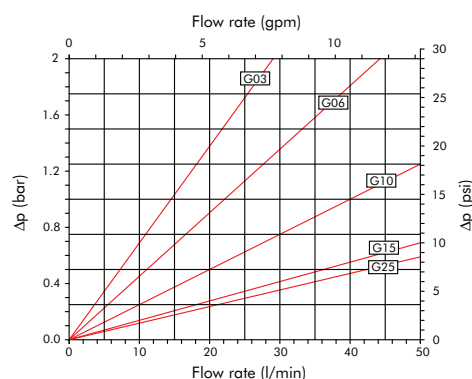
### Housing F100-XD040/063/100



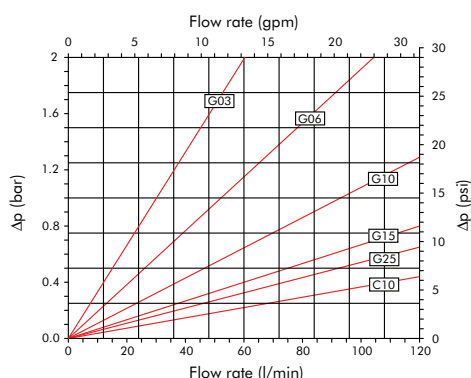
### Element XD040-...-A



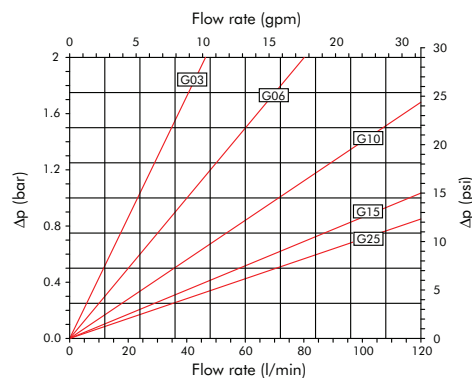
### Element XD040-...-B



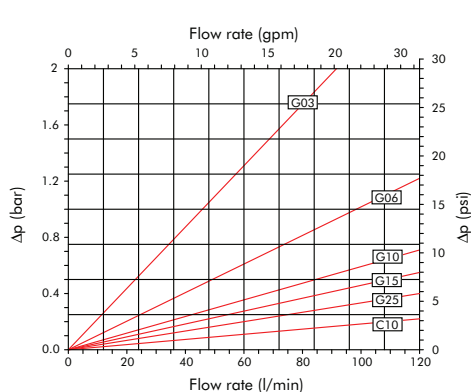
### Element XD063-...-A



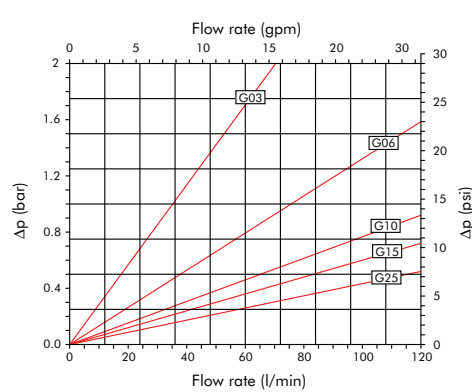
### Element XD063-...-B



### Element XD100-...-A



### Element XD100-...-B



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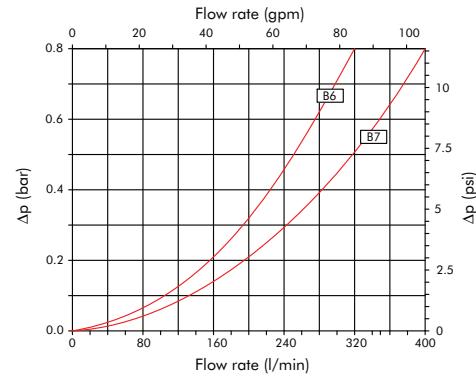
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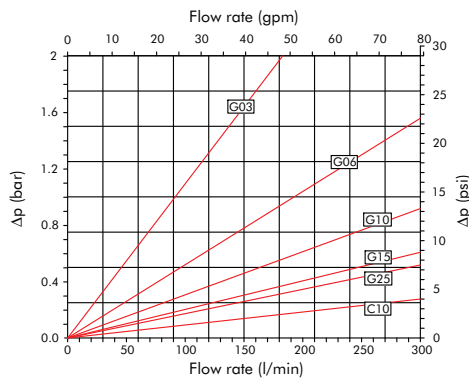
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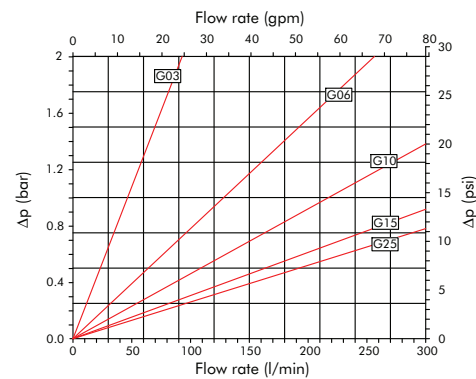
### Housing F100-XD160/250/400



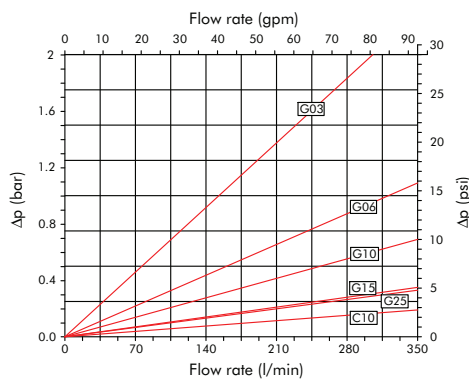
### Element XD160-...-A



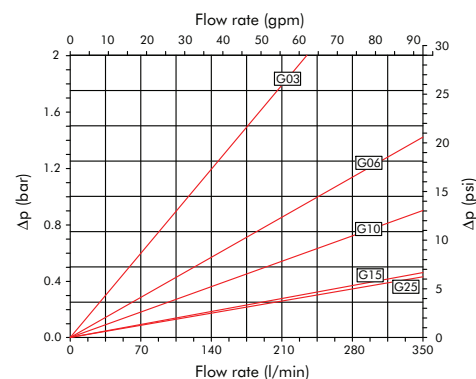
### Element XD160-...-B



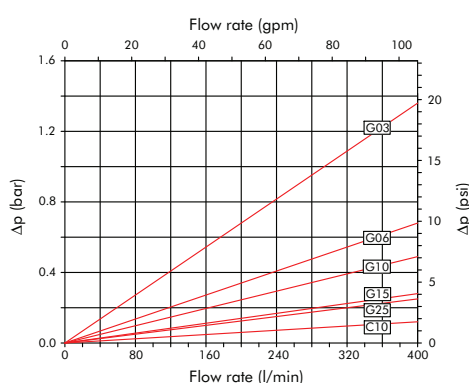
### Element XD250-...-A



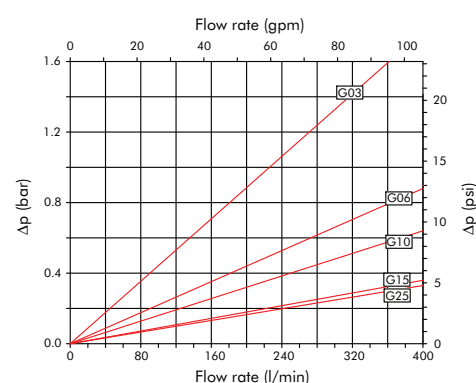
### Element XD250-...-B



### Element XD400-...-A



### Element XD400-...-B



series F100-XD

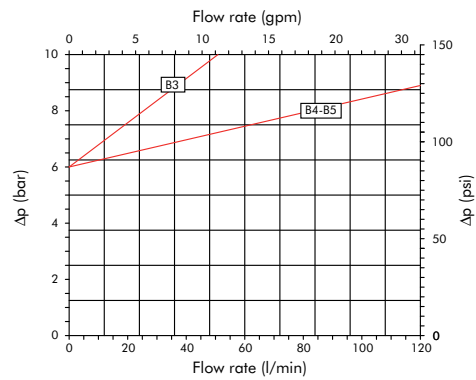


Pressure drop diagrams

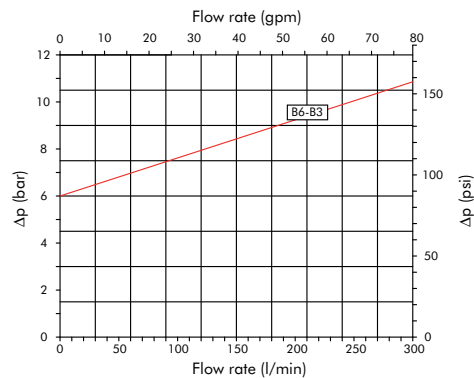
PRESSURE DROP THROUGH THE BY-PASS VALVE

The by-pass valve is a safety device to prevent element collapse in case of differential pressure peaks due to flow peaks, cold start conditions or when the clogged element is not replaced in a timely manner.

By-pass F100-XD040/063/100

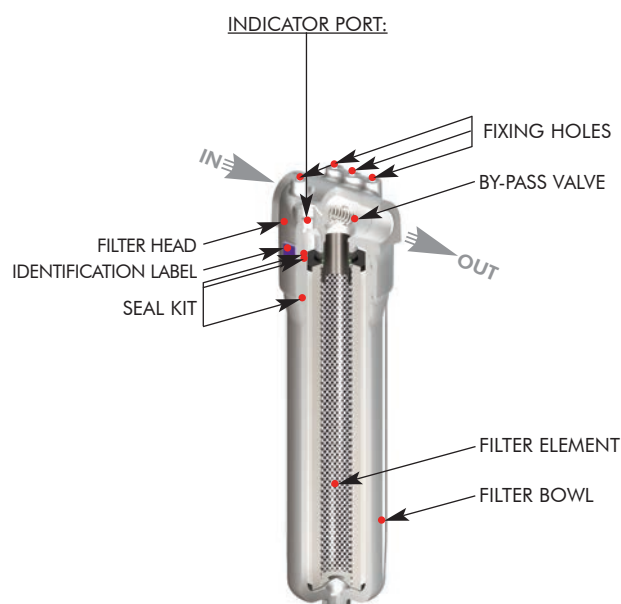


By-pass F100-XD160/250/400



The above diagrams have been obtained at the FILTREC laboratory, according to the ISO 3968 specification, with mineral oil having 30 cSt viscosity and 0,86 Kg/dm3 density.  
In case of discrepancy, please check contamination level, viscosity and features of the oil in use and the sampling points of the differential pressure.

## User Tips



### SPARE SEAL KIT PART NUMBER

	NBR	FKM
F100-XD040/063/100	06.021.00090	06.021.00135
F100-XD160/250/400	06.021.00096	06.021.00114

### BOWL TIGHTENING TORQUE

F100-XD040/063/100	40 Nm
F100-XD160/250/400	60 Nm

### INDICATOR TIGHTENING TORQUE

V05-E05-V08-E08	50 Nm
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### Installation

Make sure that the filter is connected in the correct IN-OUT flow direction (shown by an arrow on the filter head).

The filter housing should be preferably mounted with the bowl downward; the filter head should be properly secured using the threaded fixing holes on the filter head; verify that no tension is present on the filter after mounting.

Make sure that enough space is available for element replacement and that the clogging indicator is in a easily viewable position. If an electrical indicator is used, make sure that it is properly wired.

Never run the system without a filter element fitted. We recommend the stocking of a spare FILTREC filter element for timely replacement when required.

### Operation

Make sure that the filter works within the conditions of pressure, temperature and fluid compatibility given in the first page of this data sheet.

The filter element must be replaced as soon as the clogging indicator signals at working temperature (in cold start conditions, oil temperature lower than 30°C, a false alarm can be given due to oil viscosity).

If no clogging indicator is mounted, make sure that the filter element is replaced according to the system manufacturer's recommendations.

### Maintenance

Before opening the filter housing, ensure that the system is switched off and there is no residual pressure in the filter.

Unscrew the bowl by turning it anticlockwise.

Remove the dirty filter element pulling it carefully; replace it with a FILTREC element, verifying the part number, particularly concerning the micron rating. When fitting the new element, open the plastic protection on the top and insert the element over the spigot in the filter head, then remove completely the plastic protection.

Clean carefully the bowl; check the gaskets conditions and replace if necessary; lubricate the threads and screw by hand the bowl in the filter head by turning it clockwise. Tighten at the recommended torque.

N.B. The used filter elements cannot be cleaned and re-used.

### PED Compliance

F100-XD filters conform to PED 97/23/CE norm, article 3 section 3, and so they can be used with fluids of group 2 (liquids with steam pressure < 0,5 bar at the maximum allowable temperature, article 3, section 1.1(b) – sub-section II).

### WARNING

**Make sure that Personal Protective Equipment (PPE) is worn during installation and maintenance operation.**

### Disposal of filter elements

The used filter elements and the filter parts dirty of oil are classified as "Dangerous waste material": they must be disposed according to the local laws by authorized Companies.

