faifiltri®
A Quality Filtration Company

35 bar
500 psi

Series FSD

Hydraulics FAI FILTRI

DESCRIPTION

Many years of in-field experience have shown the necessity of more and more efficient controls on the contamination level of hydraulic fluids and fuels.

With this goal uppermost in its mind, and thanks to sophisticated design patterns and the use of cutting-edge materials and technologies, FAI FILTRI has engineered a complete series of spin-on filters , in different models and sizes, designed to meet a wide array of filtration and operating requirements, in order to allow a more effective control of contamination levels in hydraulic, lubricating, engine circuits, etc.

FSD complete filters, engineered to support medium pressures with peaks up to **50 bar**, provide a valid solution for filtration problems, granting their best performances when fitted into hydraulic drives, in presence of supercharged hydrostatic drives, earthworks machines, compressors, converters, hydraulic systems exhaust lines.

The main characteristics of these expendable elements the possibility, for any clogged filter, to be easily replaced, by a quick and clean procedure, condition that has to be considered of great importance in working contexts where highly deteriorated environmental conditions usually occur.

They can support flow rates up to 200 l/min.

Specifically, FAI FILTRI spin-on cartridges, equipped with new-generation “A” filtering media, can grant high standards of performance even in the hardest conditions.

“A” type elements with absolute filtration power of 3, 6, 10, 25 micron ($\beta x \geq 200$), are formed by inorganic impregnated and resin bonded inert micro-fibers, supported upstream and downstream. The result is a very compact filtering core which ensures the resistance of the media itself to deformation, distortion and strain ,preventing any contaminants to get released, thus improving filtering performances and allowing contaminants to accumulate efficiently, also in the event of phenomena such as high differential pressure and water hammering derived from cold starts and discharge flow rates.

The above mentioned features make the FAI FILTRI spin-on filters consistent with the use of hydraulic, lubricating oils, fuels, glycol water, emulsions and most synthetic fluids.

TECHNICAL DATA

MATERIALS

- Aluminum head derived from fusion
- Aluminum flange derived from fusion
- Sinned and painted sheet steel vessel
- Perforated/drilled supporting pipes and galvanized steel end-caps

FILTERS PRESSURE VALUE

Max operating pressure:	**35 bar (25 bar for model FSD180)**
Impulse test in compliance with ISO 3724:	**from 0-35-0 bar 1Hz 50.000 min. cycles (FSD050÷070)** **from 0-30-0 bar 1Hz 50.000 min. cycles (FSD180)**

TESTS CARRIED OUT ON FILTERING ELEMENTS

Differential collapsing pressure of the filtering elements tested in compliance with ISO 2941: **20 bar**

Resistance to axial deformation tested in compliance with ISO 3723

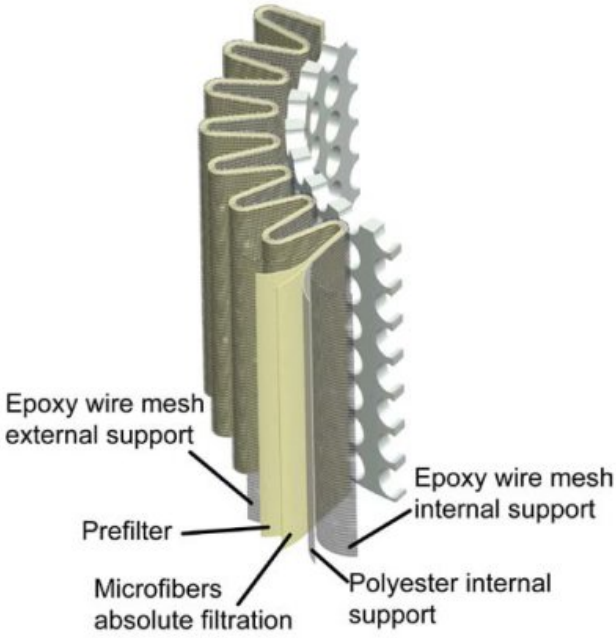
Manufacturing conformity and determination/assessment of the first bubble point in compliance with ISO 2942

FILTERING ELEMENTS

"P" 10 and 25 nominal micron made of βx > 2impregnated cellulose fibers

"A" 3, 6, 10, 16 and 25 absolute micron made of βx ≥ 200 reinforced inorganic microfibers with polyester protections

New generation "A" filtering elements structure



RETENTION POWER

In compliance with ISO 4572 Multi-pass test method

Filter element	Dimensions for β (μm) Value				Filtering rapport			Final ΔP (bar)
	β ≥ 2 50%	β ≥ 20 95%	β ≥ 75 98,7%	β ≥ 200 99,5%	β_2	β_{10}	β_{20}	
A03	-	2	2.4	3	20	>10000	>10000	7
A06	-	3	4.6	6	8	>2000	>10000	7
A10	3	6	7.8	10	1.5	≥200	>1000	7
A16	7	9	12	16	-	>25	>5000	7
A25	13	19	22	25	-	>1.5	>35	7
P10	10	>30	>30	-	1	2	4.5	4
P25	25	>30	>30	-	1	1	1.3	4

INTERNATIONAL STANDARDS FOR FLUIDS CONTAMINATION CONTROL

ISO 4406 CONTAMINATION CODES		NAS 1638 CORRESPONDING CLASS	SUGGESTED FILTRATION	APPLICATION FIELDS
5 μm	15 μm		βx ≥ 200	
12	9	3	1-2	High accuracy servo-plants – laboratory
15	11	6	3-6	Servo-plants – robotics – aeronautics
16	13	7	10-12	High sensitivity plants – where high standards of operating reliability are required
18	14	9	12-15	
19	16	10	15-25	General plant engineering with limited reliability
21	18	12	25-40	Low pressure plants – desultory services

BY-PASS VALVE

Fitted into the head with opening differential pressure from 1,75 and 3,5 bar ±10%

GASKETS

Buna-N “A” type gaskets

Viton “V” type gaskets

COUPLINGS

For coupling types see order codes

OPERATING TEMPERATURE

From –25°C up to +110°C

For different temperatures, please contact our technical department

FLOW RATE

Up to **180 l/min**

Choose the cartridge according to the filtration and to the recommended pressure drop

INDICATORS

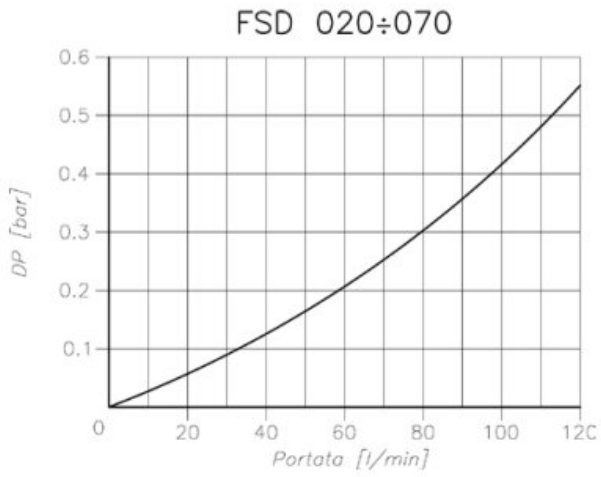
V1 type	:	Visual differential indicator setting **1,5 bar**
V2 type	:	Visual differential indicator setting **3 bar**
Z1 type:		Electrical differential indicator setting **1,5 bar**
Z2 type:		Electrical differential indicator setting **3 bar**

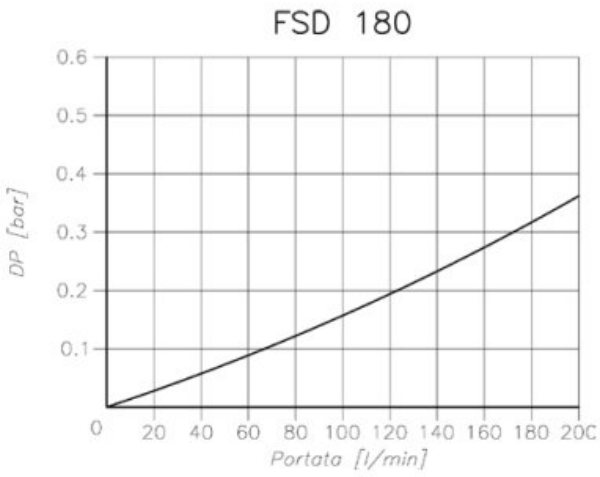
PRESSURE DROP

Curves are calculated in accordance with ISO 3968 and are valid for clean filtering elements.
ΔP changes along with the density in presence of an eddy flow, and along with the dynamic viscosity in presence of a laminar flux. Curves are valid for mineral oils with a density of 0,86 kg/dm^3 and a dynamic viscosity of 30 mm^2/sec (cSt).

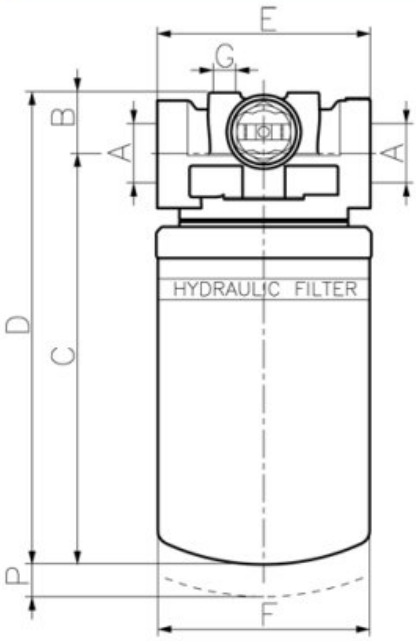
When choosing the filtering medium consider the pressure losses deriving from the flow rate :

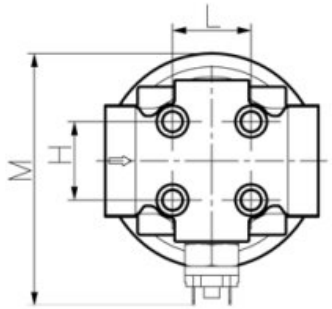
Up to **0,3÷0,5 bar** for filters fitted on the return line
Up to **1÷1,5 bar** for filters fitted on the pressure line
(The total pressure drop is to be calculated by adding up the spin-on filter pressure drop. See CSD catalogue)

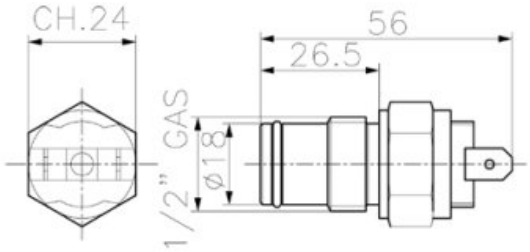




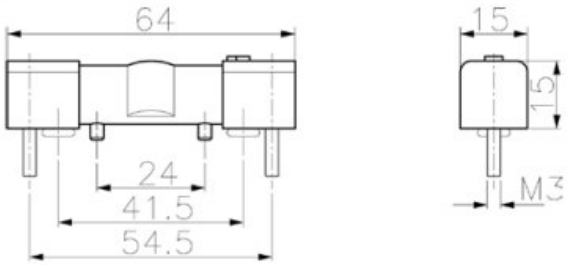
DIMENSIONAL INFORMATION







Electrical differential indicator
Gauging: 1,2 bar – with by-pass 1.75 bar – Z1
Gauging: 3 bar – with by-pass 3.5 bar – Z2



Optical differential indicator
Gauging: 1,5 bar– with by-pass 1.75 bar – V1
Gauging: 3 bar – With by-pass 3.5 bar – V2

FSD 050 – equipped with N°1 CSD 050.0.0
FSD 060 – equipped with N°1 CSD 060.0.0
FSD 070 – equipped with N°1 CSD 070.0.0
FSD 180 – equipped with N°1 CSD 400.0.0

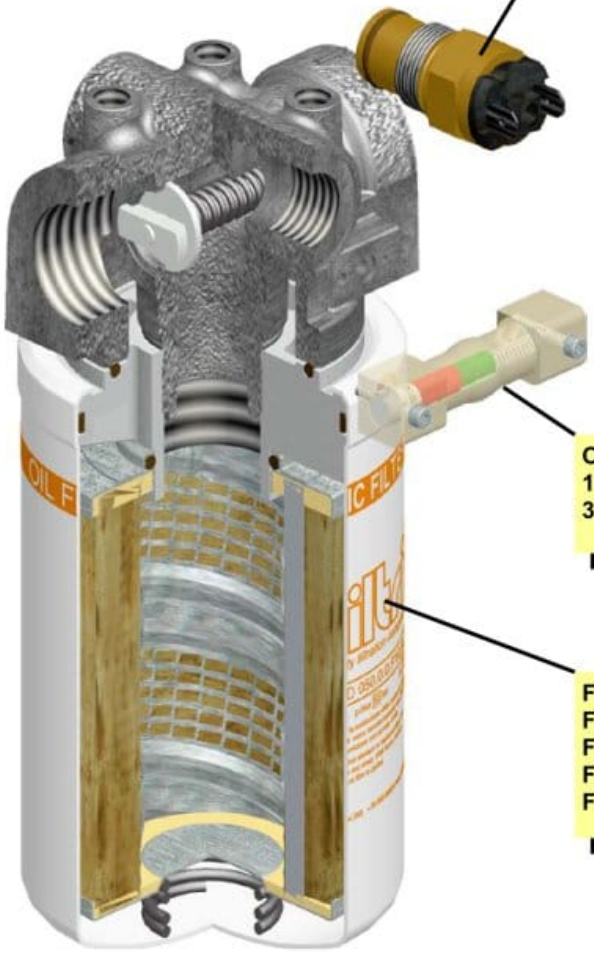
Type	A	B	C	D	E	F	G	H	L	M	P
FSD 050	3/4" GAS	34	185	219	95	95	M8	38		112	25
FSD 060	1" GAS		212	246							
FSD 070			260	294							
FSD 180	1"1/4 GAS	39	330	369	121	117	M10	48		135	30

FUNCTIONAL DIAGRAM

By-pass valve
1.75 bar
3.5 bar

FSD 050
FSD 060
FSD 070
FSD 180

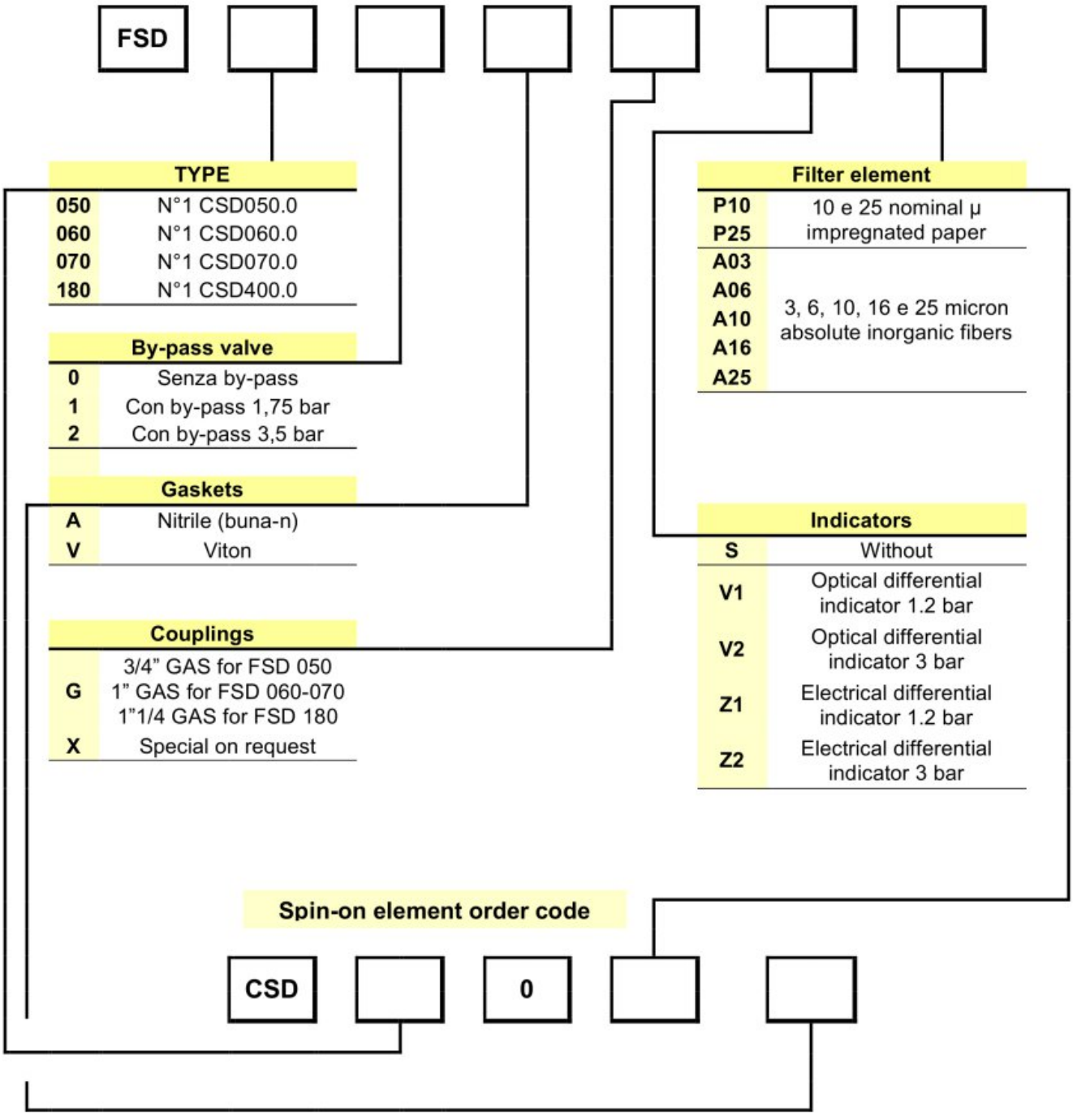
Electrical differential indicator
1.2 bar
3 bar



Optical differential indicator
1.2 bar
3 bar

Filter element
FSD 050 – N°1 CSD 050.0
FSD 060 – N°1 CSD 060.0
FSD 070 – N°1 CSD 070.0
FSD 180 – N°1 CSD 400.0

ORDER CODE


FSD
TYPE
050 N°1 CSD050.0
060 N°1 CSD060.0
070 N°1 CSD070.0
180 N°1 CSD400.0
By-pass valve
0 Senza by-pass
1 Con by-pass 1,75 bar
2 Con by-pass 3,5 bar
Gaskets
A Nitrile (buna-n)
V Viton
Couplings
G 3/4" GAS for FSD 050
1" GAS for FSD 060-070
1"1/4 GAS for FSD 180
X Special on request
Filter element
P10 P25 10 e 25 nominal µ impregnated paper
A03 A06 A10 A16 A25 3, 6, 10, 16 e 25 micron absolute inorganic fibers
Indicators
S Without
V1 Optical differential indicator 1.2 bar
V2 Optical differential indicator 3 bar
Z1 Electrical differential indicator 1.2 bar
Z2 Electrical differential indicator 3 bar
Spin-on element order code
CSD
0

Il mondo Fai Filtri é diventato più grande per offrirvi di più
Fai Filtri's world has grown bigger to offer you more and more

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