A Quality Filtration Company

12 bar
170 psi

Series **FST**

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 the **FST** series of complete 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.

FST filters provide a valid solution to filtration problems granting their best performances when fitted into intake lines, hydraulic plants return and delivery lines and lubricating plants; they are particularly suitable for earthworks machineries, agricultural machines and generally speaking into any movable/ mobile machines with pressure peaks up to **12 bar**.

The fundamental characteristic of these elements is 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 300 l/min and each filter is equipped with an anti-emptying membrane and can have an optional by-pass valve.

Specifically, FAI FILTRI spin-on cartridges, equipped with new-generation “A” filtering media, can grant very 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

- Galvanized stamped plate flange
- Sinned and painted sheet steel vessel
- Perforated/drilled supporting pipes and galvanized steel end-caps
- Aluminum casted head

CARTRIDGE PRESSURE VALUES

Operatine pressure:	**12 bar**
Impulse test in compliance with ISO 3724:	**from 0-12-0 bar 1Hz 50.000 cycles min.**

TESTS CARRIED OUT ON FILTERING ELEMENTS

Filtering elements differential collapsing pressure tested in compliance with ISO 2941:

“P” Type	**5 bar**
“A” and “M” Types	**10 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

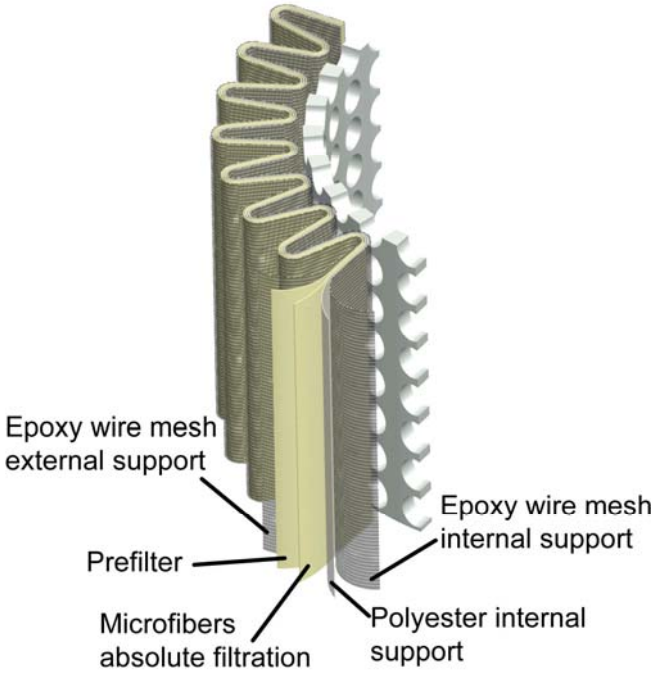
FILTERING ELEMENTS

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

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

"M" 60 and 90 nominal micron made of wire net

New generation "A" filtering elements structure



RETENTION POWER

In compliance with ISO 4572 Multi-pass test method

Filter element	Dimensions for β (μm) Value				Filtration 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

Assembled straight on the SPIN-ON cartridge with an opening differential pressure of 2 bar ±10%
Other values under request (custom-made)

GASKETS

Buna-N “A” type gaskets
Viton “V” type gaskets

COUPLINGS

“G” Series	GAS Thread
“X” Series	Specifically under request (custom-made)

OPERATING TEMPERATURE

From –25°C up to +110°C [For different temperatures please contact our technical department]

FLOW RATE

Up to 200 l/min
Choose the cartridge according to the filtration and to the recommended pressure drop.

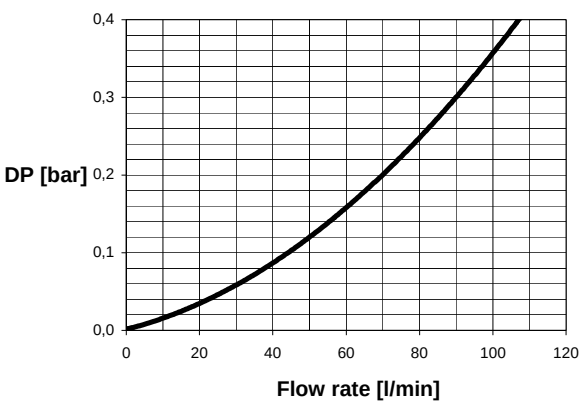
INDICATORS

VR Type	:	Pressure gauge witrh 0÷10 bar scale		
L1 Type	:	Manostat with **1,5 bar gauging**:	Max operating tension:	250V
		(Exchanging contatcs)	Max current:	6 resistive/1 inductive
			Protection index:	IP65

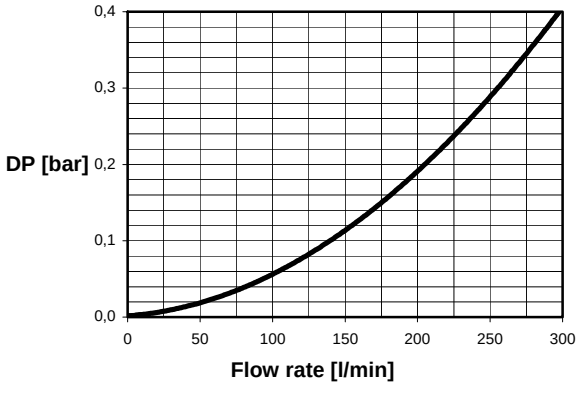
PRESSURE DROP

Curves are calculate in compliance with ISO 3968 and are applicable to 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 return line
(The total pressure loss is to be calculated by adding up the spin-on filter pressure drop. See CS-CTT catalogue)

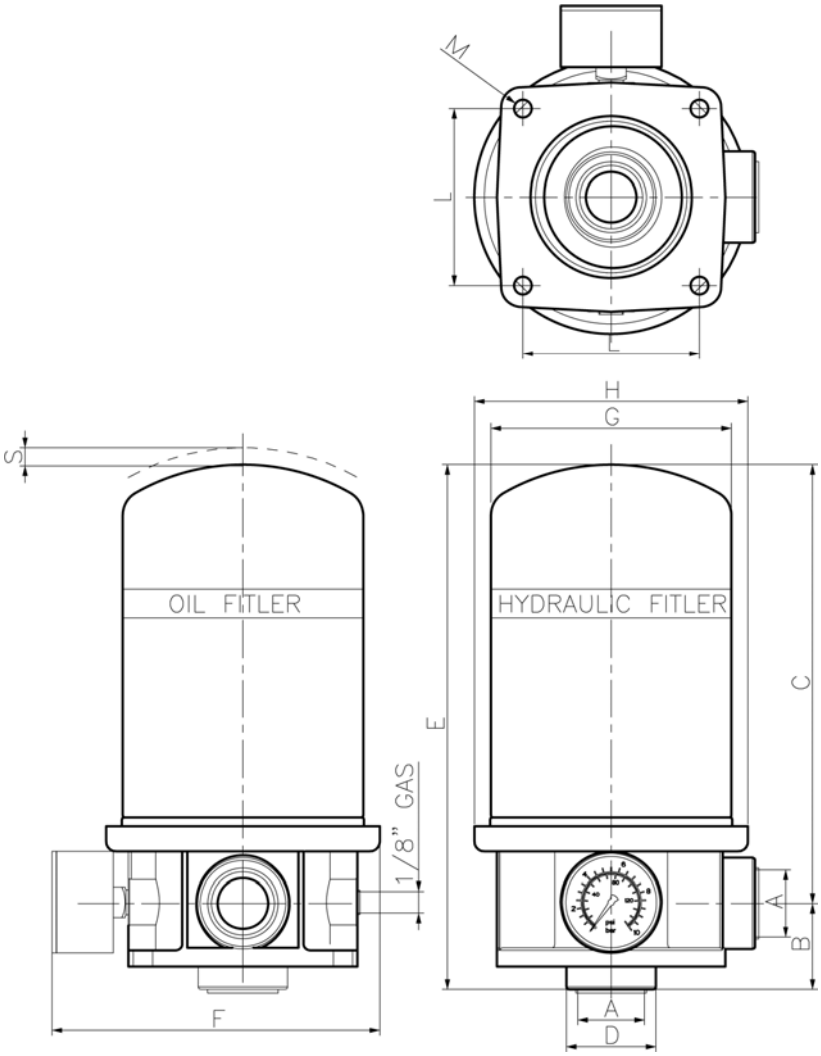
FST50-70 - Ritorno

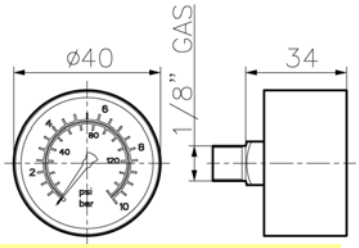


FCS100-150 - Ritorno

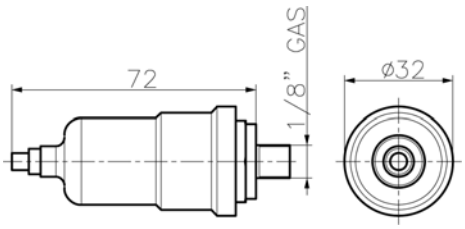


DIMENSIONAL INFORMATION





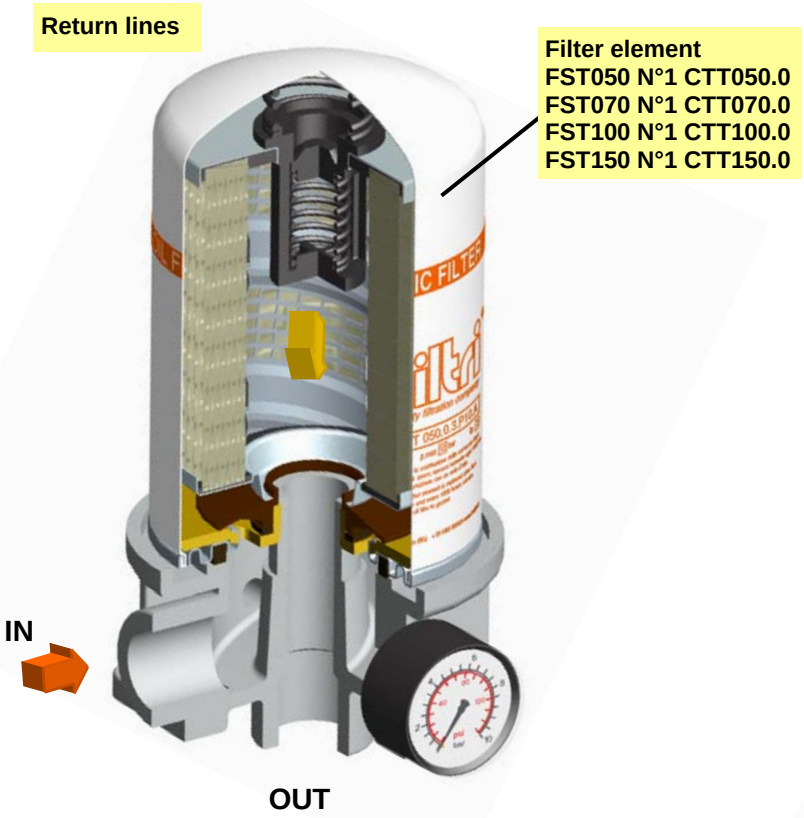
Return filter indicator
Scale: 0÷10 bar - VR Type



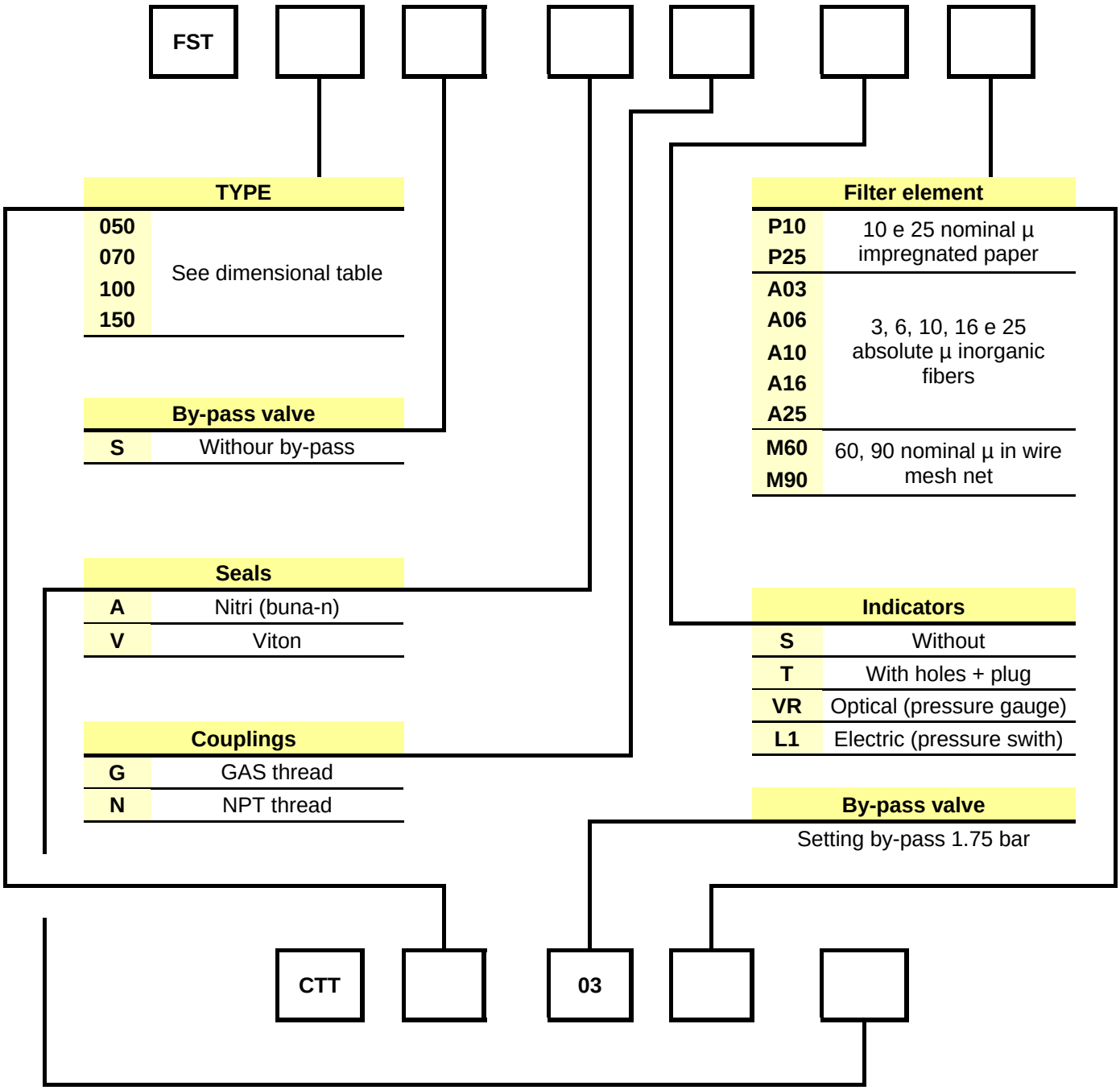
Manostat with exchanging contacts
Gauging: 1.5 bar - L1 type

Type	A	B	C	D	E	F	G	H	L	M	S
FST 050	3/4“	34	174	35	208	130	95	109	70	7	18
FST 070			200		234						
FST 100	1 1/2“	45	205	60	250	160	126	132	100	10	25
FST 150			235		280						

FUNCTIONAL DIAGRAM



ORDER CODE


FST
CTT
03
TYPE
050
070
100
150
See dimensional table
By-pass valve
S
Withour by-pass
Seals
A
Nitri (buna-n)
V
Viton
Couplings
G
GAS thread
N
NPT thread
Filter element
P10
P25
10 e 25 nominal µ impregnated paper
A03
A06
A10
A16
A25
3, 6, 10, 16 e 25 absolute µ inorganic fibers
M60
M90
60, 90 nominal µ in wire mesh net
Indicators
S
Without
T
With holes + plug
VR
Optical (pressure gauge)
L1
Electric (pressure swith)
By-pass valve
Setting by-pass 1.75 bar

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