faifiltri
A Quality Filtration Company

25 bar
350 psi

Series CSP

OIL FILTER 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.

The CSP series of reinforced cartridges, 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 return or exhaust lines with pressure peaks up to **25 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 270 l/min and each element can be fitted with a by-pass valve.

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

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

CARTRIDGES PRESSURE VALUES

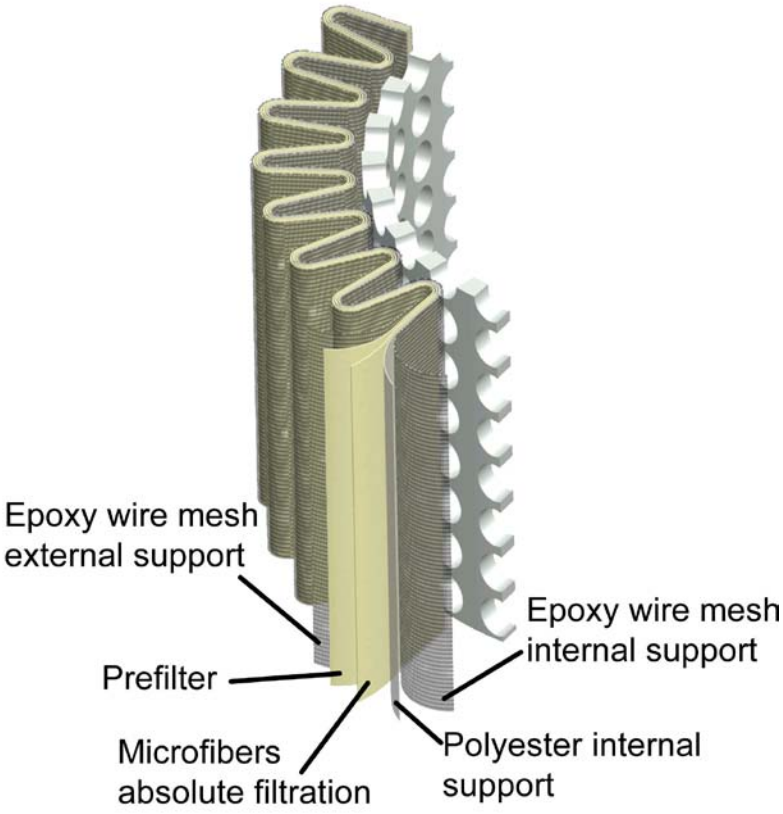
Max operating pressure	**25 bar for models CSP015÷070** **20 bar for models CSP083÷090 - CSP300÷400**
Impulse test in compliance with ISO 3724:	**from 0-25-0 bar 1Hz 50.000 min. cycles (CSP015÷070)** **from 0-20-0 bar 1Hz 50.000 min. cycles (CSP300÷400)**

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	Dimension 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

TESTS CARRIED OUT ON FILTER ELEMENTS

Differential collapsing pressure of the filtering elements 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 SURFACES

Type	P10/P25	A06/A10/A25	Type	P10/P25	A06/A10/A25
CSP - 12	2300 cm^2	1370 cm^2	**CSP – 70**	3960 cm^2	2700 cm^2
CSP – 15	2060 cm^2	1325 cm^2	**CSP – 90**	4900 cm^2	2630 cm^2
CSP – 20	1100 cm^2	765 cm^2	**CSP – 300**	6250 cm^2	3580 cm^2
CSP – 50	2440 cm^2	1700 cm^2	**CSP – 350**	9350 cm^2	5440 cm^2
CSP – 60	2930 cm^2	2040 cm^2	**CSP - 400**	13580 cm^2	7900 cm^2

BY-PASS VALVES

Type -3- setting 1,75 bar

Type -4- setting 2,5 bar

Type –5- setting 3,5 bar

GASKETS

Buna-N "A" type gaskets

Viton "V" type gaskets

COUPLINGS

For the different couplings see order forms [Specifically on request – custom-made]

OPERATING TEMPERATURES

From –25°C up to +110°C

For different temperatures please contact our technical department

FLOW RATE

From 20 up to 190 l/min

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

PRESSURE DROP

Curves are applicable to mineral oil with a dynamic viscosity of 30 mm^2/sec. (cSt). ΔP changes along with the values of dynamic viscosity according to the following formulas:

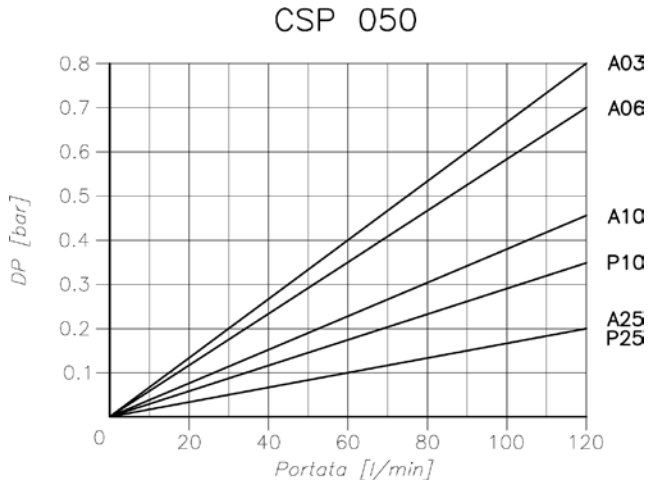
① **Dynamic viscosity variations ≤5**

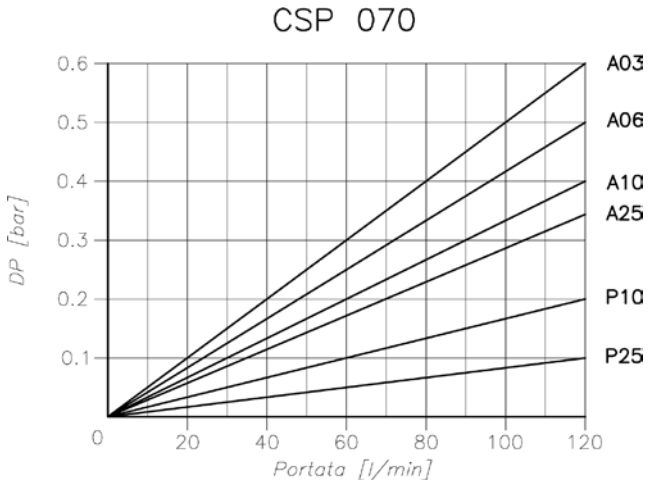
$$\Delta P = \frac{v1}{v}\,\Delta P$$

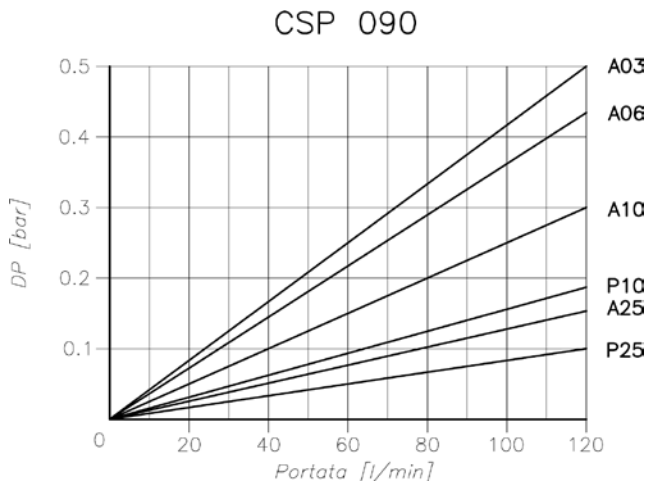
② **Dynamic viscosity variations >5**

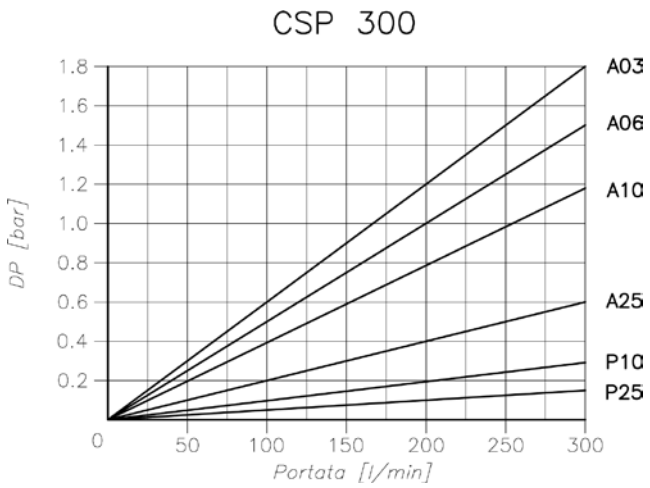
$$\Delta P1 = \frac{\frac{v1}{v} + \sqrt{\frac{v1}{v}}}{2}\,\Delta P$$

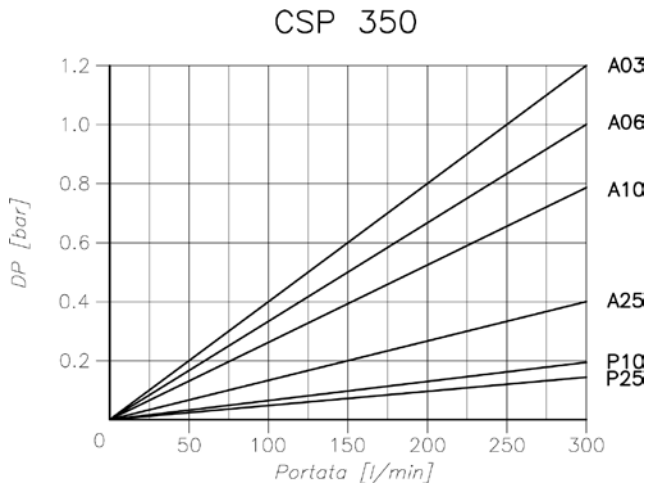
In both formulas **ΔP** stands for the pressure drop calculated on the curves, **v** stands for the reference dynamic viscosity (30 mm^2/sec); **ΔP1** is the pressure drop to be calculated and **v1** stands for the actual dynamic viscosity of the fluid tested.

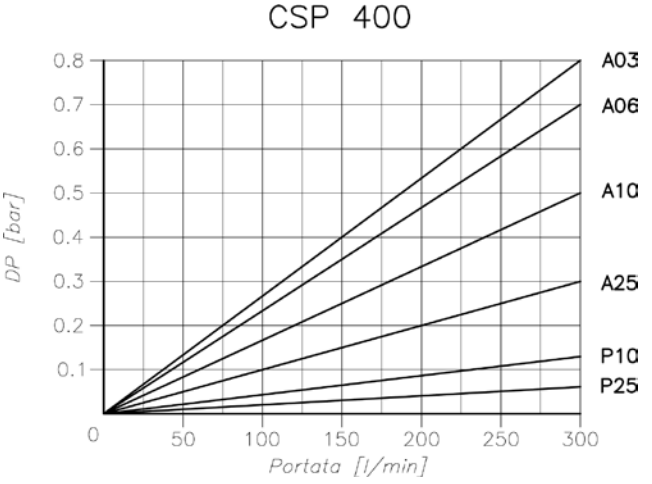




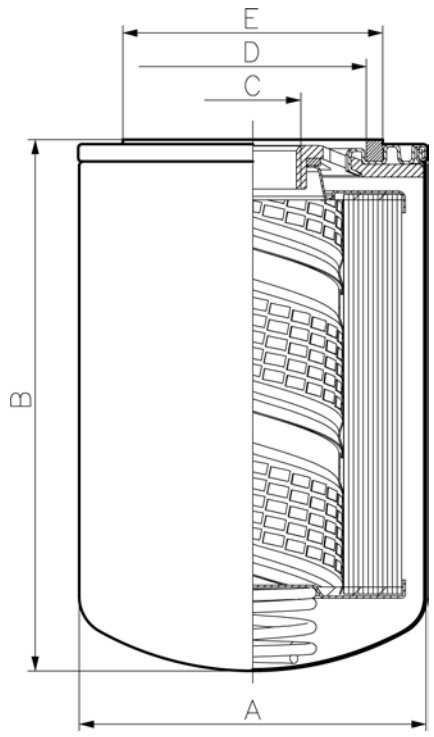






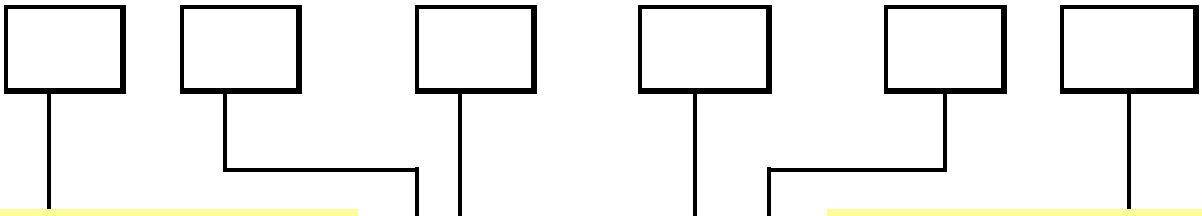


DIMENSIONAL INFORMATION



Type	Flow rate [l/min]	A	B	C	D	E
CSP 012	20	76	120	SEE ORDER CODE	62,5	71,5
CSP 015			140			
CSP 020	25	96	95			
CSP 025			110			
CSP 050	35		148			
CSP 060	42		170			
CSP 070	55		210			
CSP 090	100	108	260		96,5	106,5
CSP 300	120	138	175		100,5	109,5
CSP 350	150		230			
CSP 400	190		310			

ORDER CODE



Type
CSP

Type	Couplings
12	1 - 2 - A - E
15	
20	0-1-2-3-4 - B-C-D
25	
50	
60	
70	
90	3 - 4 - H - P
300	0 - 6
350	
400	

Seals	
A	Nitril (Buna - n)
V	Viton

Filter element	
P10	Impregnated resin paper $\beta x \geq 2$
P25	
A03	Inorganic fibers $\beta x \geq 200$
A06	
A10	
A16	
A25	

By-pass valve	
0	Without by-pass
3	1,75 bar
4	2,5 bar
5	3,5 bar

Couplings

	Type 12 ÷ 15	Type 20 ÷ 70	Type 90	Type 300 ÷ 400
0		3/4" GAS		1 1/4" GAS
1	3/4" - 16 UNF			
2	13/16" - 16 UNF			
3		1" - 12 UNF		
4		1"1/8 - 16 UNF		
6				1"1/2 - 16 UNF
A	M20x1,5			
B		M24x2		
C		M33x1,5		
D		M24x1,5		
E	M18x1,5			
H			M42x2	
P			M30x2	