



35 bar
500 psi



Series **CSD**

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.

CSD filtering cartridges, engineered to support medium pressure values up to max. **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 return or exhaust lines.

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 140 l/min.

FAI FILTRI spin-on cartridges, equipped with new-generation "A" filtering media, can specifically 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

- ❑ Cast aluminum flange
- ❑ Sinned and painted sheet steel vessel
- ❑ Perforated/drilled supporting pipes and galvanized steel end-caps

CARTRIDGES PRESSURES VALUES

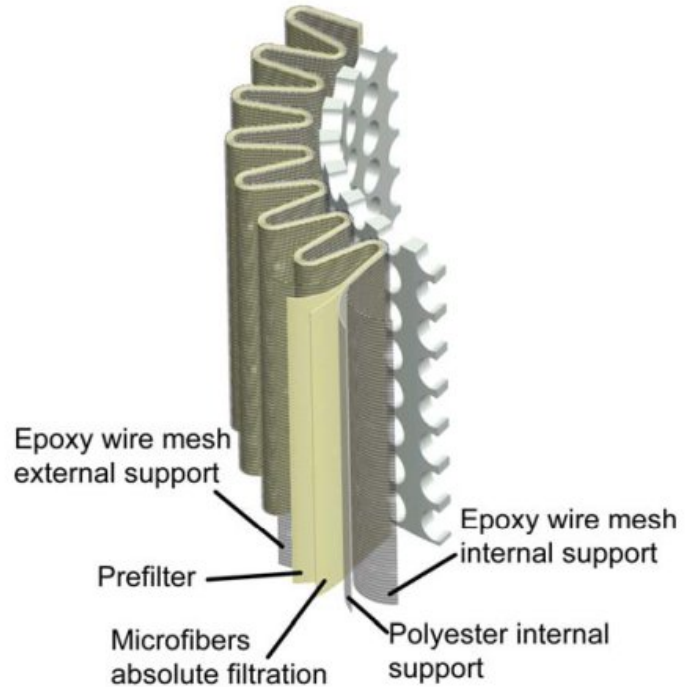
| | |
|---|--|
| Max operating pressure: | 35 bar (25 bar for model CSD 400) |
| Impulse test in compliance with ISO 3724: | from 0-35-0 bar 1Hz 50.000 min. cycles from 0-25-0 bar 1Hz 50.000 min. cycles (CSD 400) |

FILTERING ELEMENTS

“P” 10 and 25 nominal micron made of $\beta_x > 2$ impregnated cellulose fibers

“A” 3, 6, 10, 16 and 25 absolute micron made of $\beta_x \geq 200$ reinforced, inorganic fibers 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 rapports | | | Final ΔP (bar) |
|----------------|--|------------------------|--------------------------|---------------------------|--------------------|--------------|--------------|------------------------|
| | $\beta \geq 2$ 50% | $\beta \geq 20$ 95% | $\beta \geq 75$ 98,7% | $\beta \geq 200$ 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 | | $\beta_x \geq 200$ | |
| 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 |

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 SURFACES

| Type | P10/P25 | A03/A06/A10/A16/A25 |
|-----------|----------------------|----------------------|
| CSD – 020 | 1090 cm ² | 940 cm ² |
| CSD – 050 | 2180 cm ² | 1680 cm ² |
| CSD – 060 | 2720 cm ² | 2090 cm ² |
| CSD – 070 | 3700 cm ² | 2830 cm ² |
| CSD – 400 | 8600 cm ² | 5010 cm ² |

BY-PASS VALVES

No by-pass valve – in case a valve is present it is fitted directly on the head or cartridge casing.

GASKETS

Buna-N "A" type gaskets/seals

Viton "V" type gaskets/seals

COUPLINGS

For the different coupling 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 RATES

Up to 180 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 mm²/sec. (cSt). ΔP changes along with the values of dynamic viscosity according to the following formulas:

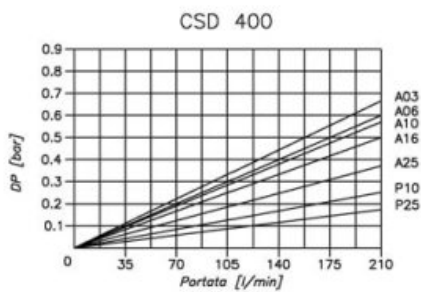
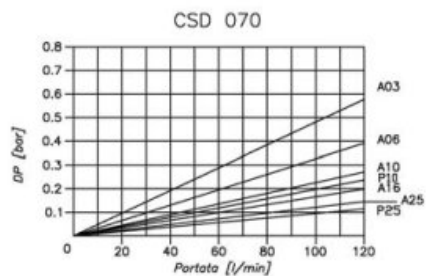
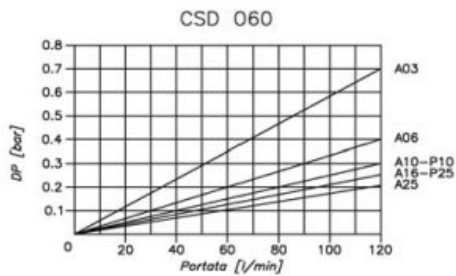
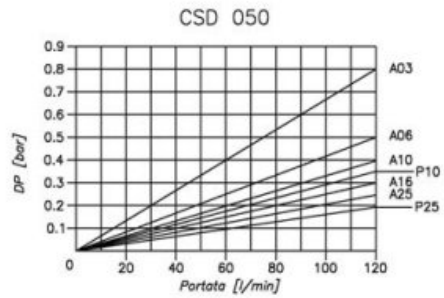
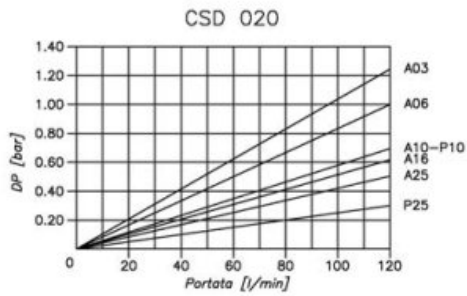
① Dynamic viscosity variations ≤ 5

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

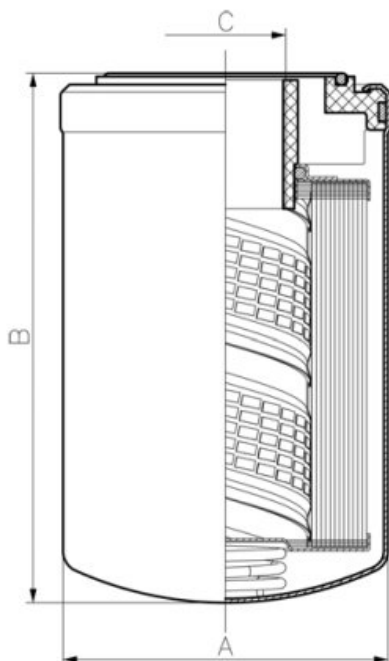
② Dynamic viscosity variations > 5

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

In both formulas ΔP stands for the pressure loss calculated on the curves, v stands for the reference dynamic viscosity (30 mm²/sec); $\Delta P1$ is the pressure loss to be calculated and $v1$ stands for the actual dynamic viscosity of the tested fluid.

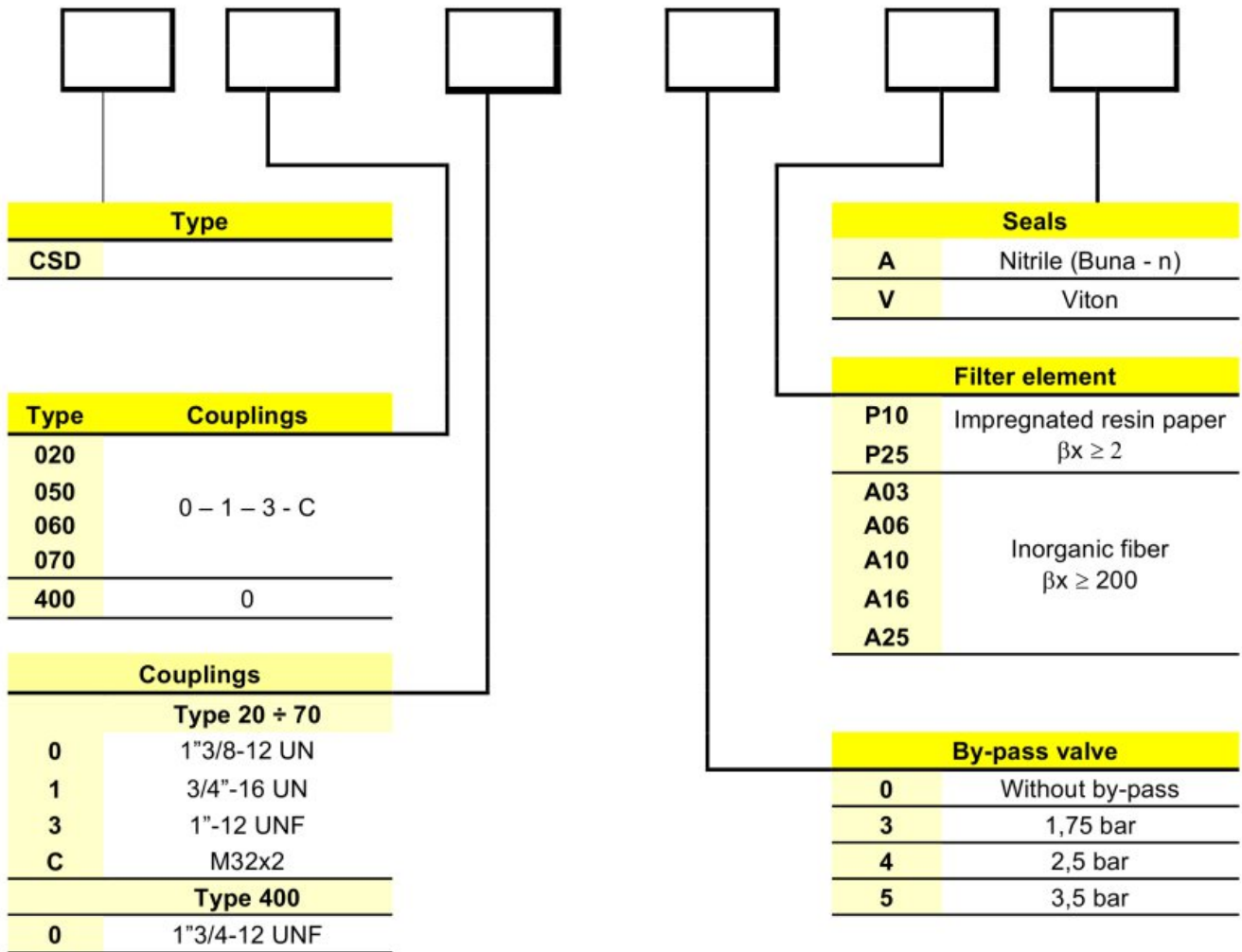


DIMENSIONAL INFORMATION



| Type | Flow rate [l/min] | A | B | C |
|---------|-------------------|------|-----|----------------|
| CSD 020 | 50 | 95,6 | 100 | SEE ORDER CODE |
| CSD 050 | 100 | | 152 | |
| CSD 060 | 120 | | 180 | |
| CSD 070 | 140 | | 228 | |
| CSD 400 | 180 | 117 | 295 | |

ORDER CODE





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Fai Filtri's world has grown bigger to offer you more and more

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