



12 bar
170 psi



Series

CS-CTT

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.

CS-CTT spin-on cartridges are engineered to provide an efficient solution to filtration problems offering their highest performances when fitted into inlet, return and exhaust lines of mobile machineries (such as earthworks machines, agricultural machines, industrial vehicles, compressors, hydraulic systems) 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 270 l/min and each element can be equipped with a by-pass valve and an anti-emptying membrane (**CTT series**).

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 PRESSURES VALUES

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

TESTS CARRIED OUT ON FILTER ELEMENTS

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

"P" type	5 bar
"A" e "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

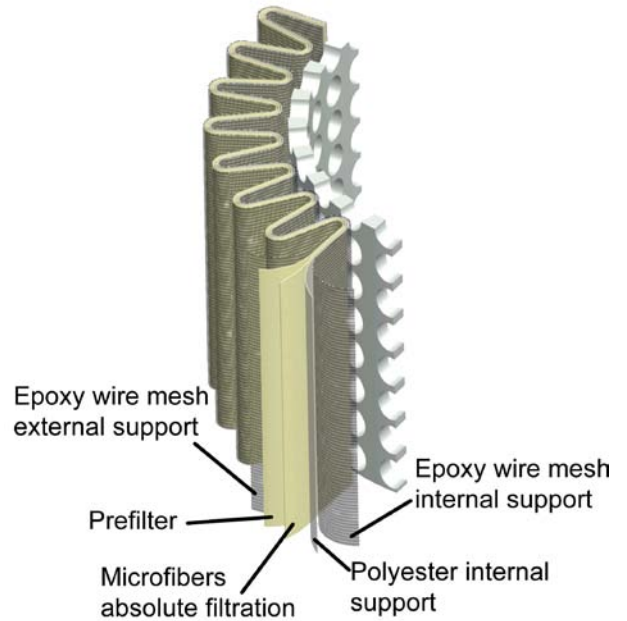
FILTER ELEMENTS

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

“A”: 3, 6, 10, 16 and 25 absolute micron made of $\beta_x \geq 200$ reinforced inorganic microfibers with polyester protections

“M”: 60 and 90 nominal micron made of wire net/gauze

New generation “A” filtering elements structure



RETENTION POWER

In compliance with ISO 4572 Multi-pass test method

Filter element	Dimension for β (μm) Value				Filtration rappings			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

BY-PASS VALVES

- Type -1- setting 0,3 bar
- Type -2- setting 1,0 bar
- Type -3- setting 1,75 bar
- Type -4- setting 2,5 bar

GASKETS

Buna-N "A" type gaskets/seals

Viton "V" type gaskets/seals

COUPLINGS

For the different coupling see order forms

[Specifically on request]

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.

FILTERING SURFACE

Type	P10/P25	A03/A06/A10/ A16/A25	M60/M90	Type	P10/P25	A03/A06/A 10/A16/A2	M60/M90
CS/CTT – 12	2300 cm ²	1370 cm ²	680 cm ²	CS/CTT – 83	3450 cm ²	2900 cm ²	1000 cm ²
CS/CTT – 15	2060 cm ²	1325 cm ²	470 cm ²	CS/CTT – 85	4400 cm ²	3710 cm ²	1360 cm ²
CS/CTT – 20	1270 cm ²	880 cm ²	360 cm ²	CS/CTT – 90	4990 cm ²	4200 cm ²	1575 cm ²
CS/CTT – 25	1460 cm ²	1020 cm ²	470 cm ²	CS/CTT – 100	5000 cm ²	4440 cm ²	1660 cm ²
CS/CTT – 50	2440 cm ²	1700 cm ²	785 cm ²	CS/CTT – 150	6730 cm ²	5980 cm ²	2230 cm ²
CS/CTT – 60	2930 cm ²	2040 cm ²	950 cm ²	CS – 300	6250 cm ²	3580 cm ²	1300 cm ²
CS/CTT – 70	3960 cm ²	2700 cm ²	1275 cm ²	CS – 350	9350 cm ²	5440 cm ²	1980 cm ²
CS/CTT – 80	2100 cm ²	1130 cm ²	680 cm ²	CS – 400	13580 cm ²	7900 cm ²	2770 cm ²

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

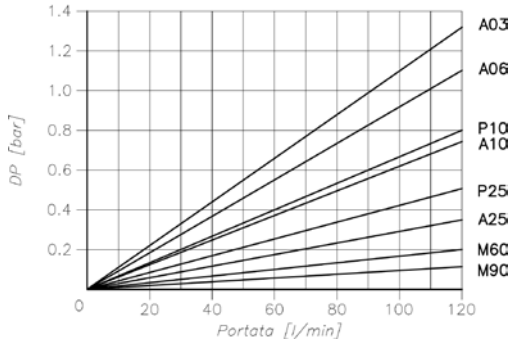
$$\Delta P_1 = \frac{v_1}{v} \Delta P$$

② Dynamic viscosity variations > 5

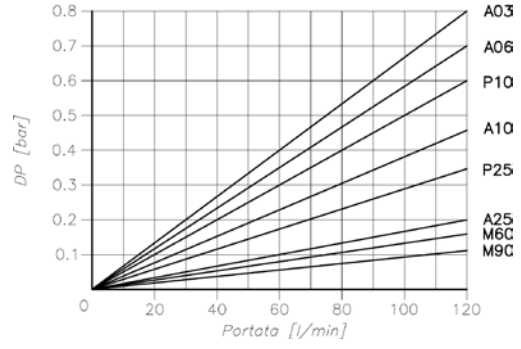
$$\Delta P_1 = \frac{\frac{v_1}{v} + \sqrt{\frac{v_1}{v}}}{2} \Delta P$$

In both formulas ΔP stands for the pressure loss calculated on the curves, v stands for the reference dynamic viscosity (30 mm²/sec); ΔP_1 is the pressure loss to be calculated and v_1 stands for the actual dynamic viscosity of the tested fluid.

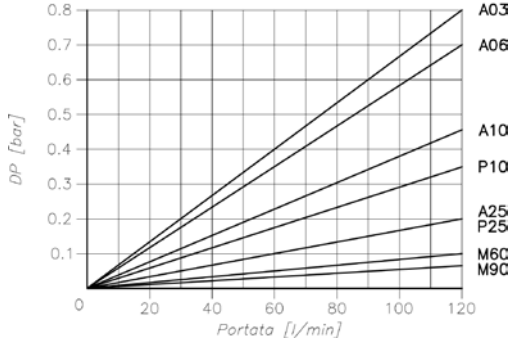
CS-CTT 012



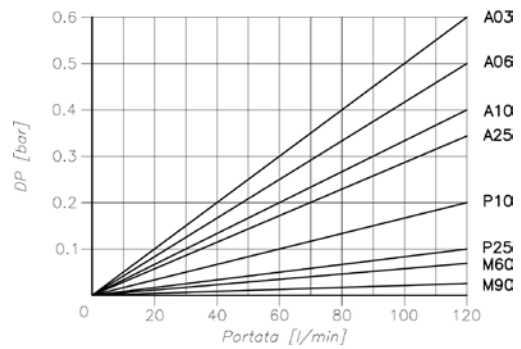
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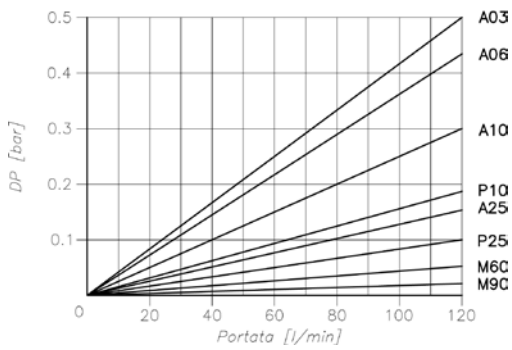
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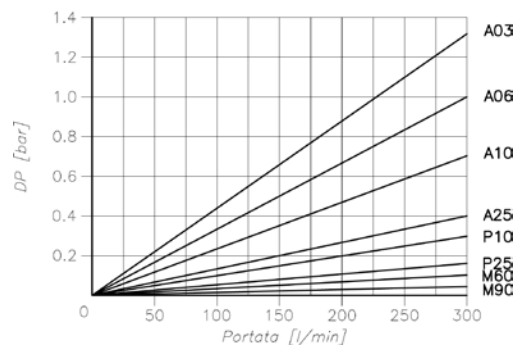
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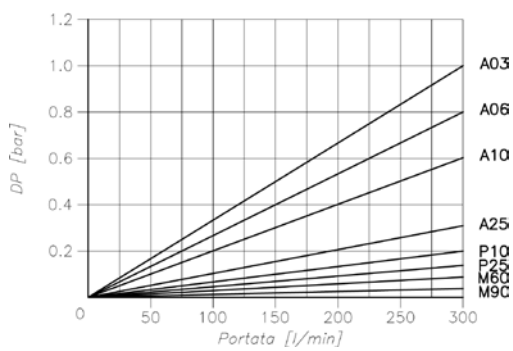
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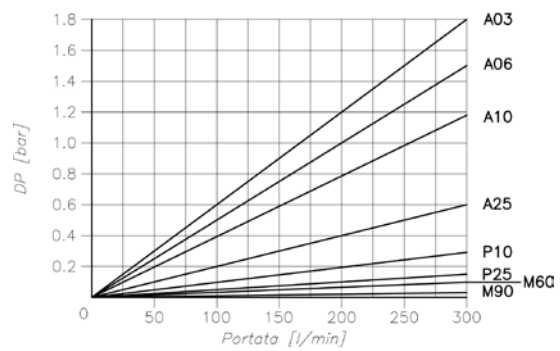
CS-CTT 100



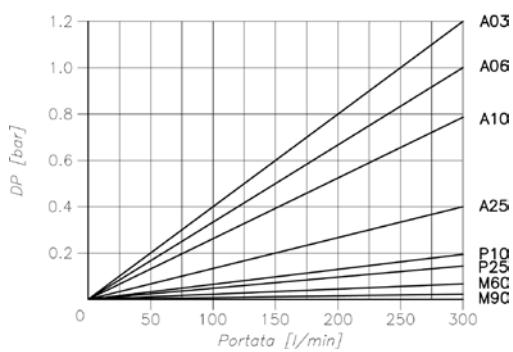
CS-CTT 150



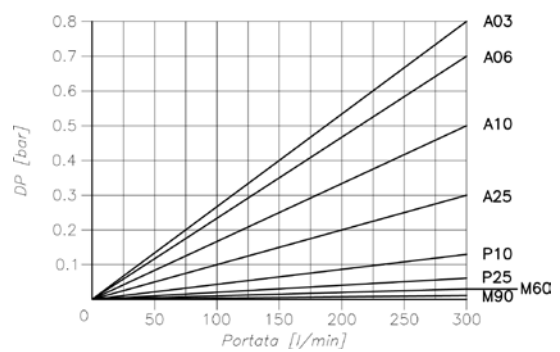
CS-CTT 300



CS-CTT 350

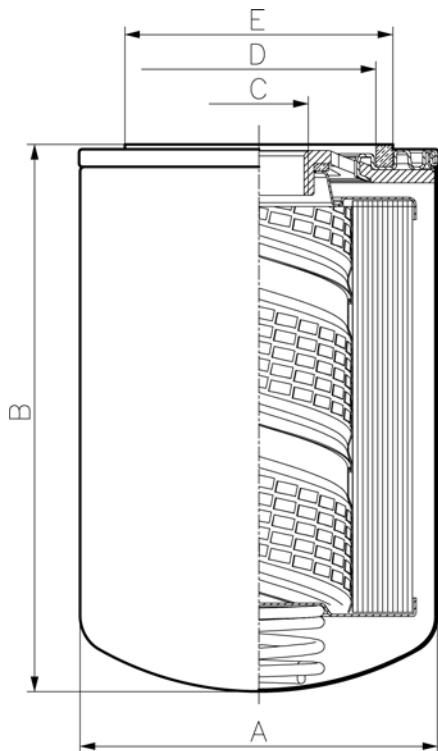


CS-CTT 400

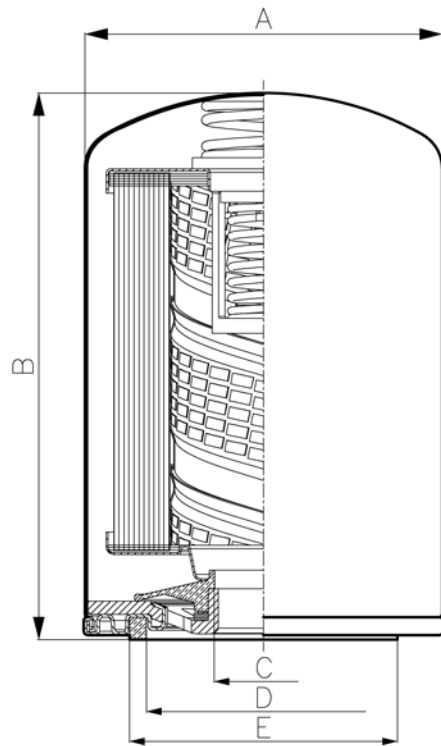


DIMENSIONAL INFORMATION

CS



CTT



Type	Flow rate [l/min]	A	B	C	D	E		
CS/CTT 012	20	76	120	SEE ORDER CODE	62,5	71,5		
CS/CTT 015			140					
CS/CTT 020	25	96	95					
CS/CTT 025			110					
CS/CTT 050			148					
CS/CTT 060	42	170						
CS/CTT 070	55	210						
CS/CTT 080	55	135						
CS/CTT 081	80	230						
CS/CTT 083	60	108	180				91,5	102,0
CS/CTT 085	80		230					
CS/CTT 090	100		260					
CS/CTT 100	75	126	180				96,5	106,5
CS/CTT 150	150		226					
CS 300	120	138	175				100,5	109,5
CS 350	150		230					
CS 400	190		310					

ORDER CODE

Series		Seals		Filter element	
CS	Nitril (Buna - n)	A	Nitril (Buna - n)	P10	Resin impregnated papaer $\beta x \geq 2$
CTT	Membrane Anti-emptying	V	Viton	P25	
Type		Couplings		By-pass valve	
12		1 - 2 - A - E		0	Without by-pass
15				1	0,3 bar
20				2	1 bar
25				3	1,75 bar
50	0-1-2-3-4-5-B-C-D			4	2,5 bar
60					
70					
80					
81					
83	1 - 3 - 4 - H - P				
85					
90					
100		0			
150					
300	0 - 6 - H - L				
350	[only for CS]				
400					

Couplings						
	Type 12 ÷ 15	Type 20 ÷ 70	Type 80 ÷ 90	Type 100 ÷ 150	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					
5	1 1/4"-12 UNF					
6						1"1/2 - 16 UNF
8						1" 1/2 GAS
A	M20x1,5					
B		M24x2				
C		M33x1.5				
D		M24x1,5				
E	M18x1,5					
H			M40x2	M42x2		
P			M30x2			
L				M45x2		