

Part number:

**HYDROMA**

HYDRAULICKÉ SYSTÉMY

**HIDROMA  
SYSTEMS**

UKŁADY HYDRAULICZNE

**HYDROMA**

ГИДРАВЛИЧЕСКИЕ СИСТЕМЫ

# XTT

## PRESSURE FILTERS

### DESCRIPTION

High pressure inline filter

### MATERIALS

Head: Cast iron

Bowl: Steel

Bypass valve: Steel

Seals: NBR Nitrile (FKM Fluoroelastomer on request)

Indicator housing: Brass

### PRESSURE

Max. working: 31,5 MPa (315 bar)

Collapse, differential for the filter element series standard 2,1 MPa (21 bar)

### BYPASS VALVE

Setting:

350 kPa (3,5 bar)  $\pm$  10%

600 kPa (6 bar)  $\pm$  10%

### FLOW RATE

Qmax 95 l/min

### WORKING TEMPERATURE

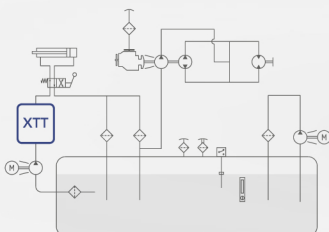
From -25° to +110° C

### COMPATIBILITY (ISO 2943)

Full with fluids: HH-HL-HM-HV-HTG (according to ISO 6743/4)

For fluids different than the above mentioned, please contact our Customer Service

### HYDRAULIC DIAGRAM






# XTT

## PRESSURE FILTERS

### ORDERING AND OPTION CHART (SOFIMA CODIFICATION)

X	T	T	COMPLETE FILTER FAMILY				FILTER ELEMENT FAMILY	C	C	H
			<b>SIZE &amp; LENGTH</b>	301	306	302	<b>SIZE &amp; LENGTH</b>			
			<b>FormulaUFI MEDIA*</b>				<b>FormulaUFI MEDIA*</b>			
			FT = FormulaUFI.MICRON 5 $\mu\text{m}_{(c)}$ $\beta > 1.000$	FT	FT	FT				
			FC = FormulaUFI.MICRON 7 $\mu\text{m}_{(c)}$ $\beta > 1.000$	FC	FC	FC				
			FD = FormulaUFI.MICRON 12 $\mu\text{m}_{(c)}$ $\beta > 1.000$	FD	FD	FD				
			FS = FormulaUFI.MICRON 16 $\mu\text{m}_{(c)}$ $\beta > 1.000$	FS	FS	FS				
			FV = FormulaUFI.MICRON 21 $\mu\text{m}_{(c)}$ $\beta > 1.000$	FV	FV	FV				
			<b>SEALS</b>				<b>SEALS</b>			
			1 = NBR Nitrile	1	1	1				
			2 = FKM Fluoroelastomer	2	2	2				
			<b>BYPASS VALVE</b>							
			C = 600 kPa (6 bar)	C	C	C				
			D = 350 kPa (3,5 bar)	D	D	D				
			<b>PORT TYPE</b>							
			B = BSP thread	B	B	B				
			M = Metric thread (only M 22 x 1,5)	M	M	M				
			<b>PORT SIZE</b>							
			3 = 1/2" (B) - M 22 x 1,5 (M)	3	3	3				
			4 = 3/4"	4	4	4				
			<b>CLOGGING INDICATOR**</b>							
			03 = port, plugged	03	03	03				
			5E = visual differential 500 kPa (5 bar)	5E	5E	5E				
			6E = electrical differential 500 kPa (5 bar)	6E	6E	6E				
			XD = electrical differential 240 kPa (2,4 bar)	XD	XD	XD				
X	X		<b>ACCESSORI / ACCESSORIES</b>							
			XX = no accessory available	XX	XX	XX				

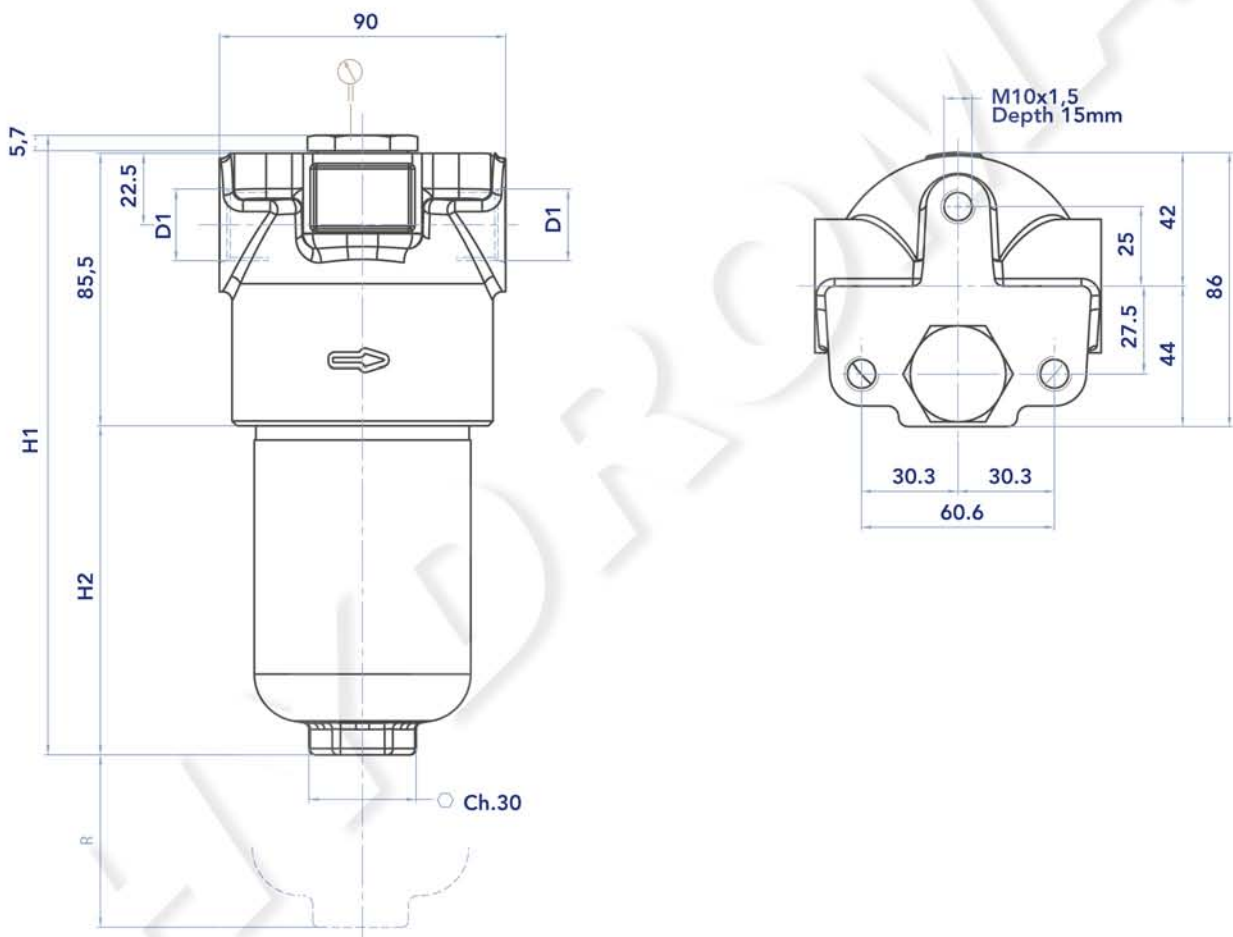
### SPARE PARTS

FILTER HOUSING				FILTER ELEMENT				CLOGGING INDICATOR			
											
B	T	T		C	C	H					
			XX								

## SPARE SEAL KIT

	NBR	FKM
XTT301 - 306 - 302	021.0137.2	021.0210.2

## INSTALLATION DRAWING



## FILTER HOUSING

	D1	H1	H2	R	Kg
XTT301	M22x1,5 - 1/2" - 3/4"	187	104,0	90,0	3,7
XTT306	M22x1,5 - 1/2" - 3/4"	234	149,0	90,0	4,2
XTT302	M22x1,5 - 1/2" - 3/4"	278	199,0	90,0	4,6

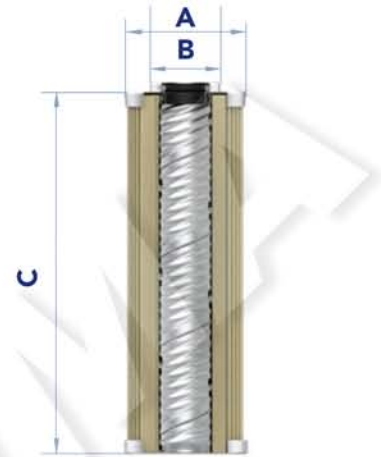
# XTT

## PRESSURE FILTERS

### FILTER ELEMENT

	A	B*	C	Kg	AREA (cm <sup>2</sup> ) Media F+
CCH301	52	23,5	115	0,25	975
CCH306	52	23,5	161	0,30	1.380
CCH302	52	23,5	210	0,35	1.830

\* Connection



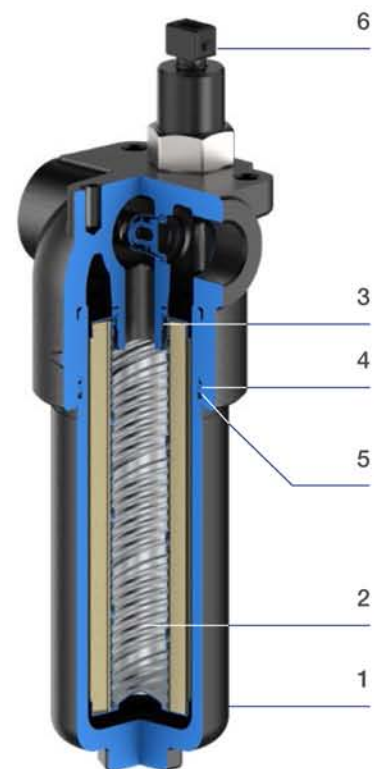
### MAINTENANCE

- 1) Stop the system and verify there is no pressure in the filter.
- 2) Collect the oil inside the filter with a suitable container.
- 3) Unscrew the bowl (1) and clean it.
- 4) Remove the dirty filter element (2).  
N.B. The used filter elements and oil dirty filter parts dirty are classified "Dangerous waste material" and must be disposed of according to the local laws, by authorized Companies.
- 5) Check the filter element part number on the filter label or in the ordering and option chart. Use only original spare parts.
- 6) Lubricate the new element o-ring gasket (3) with oil.
- 7) Insert the clean element into its seat with care.
- 8) Check the bowl o-ring condition (4) and lubricate with oil.  
If damaged, check the seal kit part number in the spare seal kit table.  
N.B. The anti-extrusion o-ring (5) must be positioned downwards (under the gasket).
- 9) Screw the bowl (1) until it stops, with a tightening torque of 70 Nm + 5/0.

Accessories:

Clogging indicator (6).

If damaged, unscrew and replace it (check the part number in the ordering and option chart). Lubricate the o-ring gasket with oil and tighten until it stops, with a tightening torque of 40 Nm +5/0.

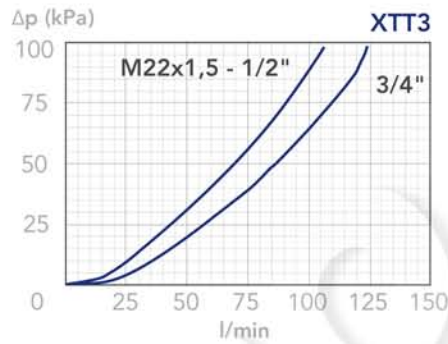


## PRESSURE DROP CURVES ( $\Delta P$ )

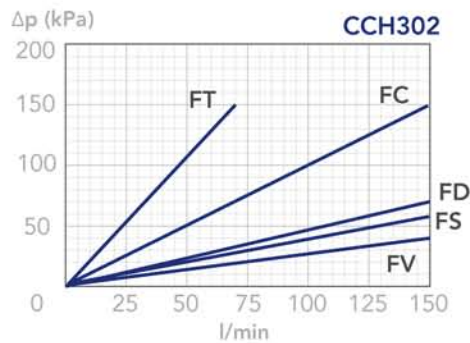
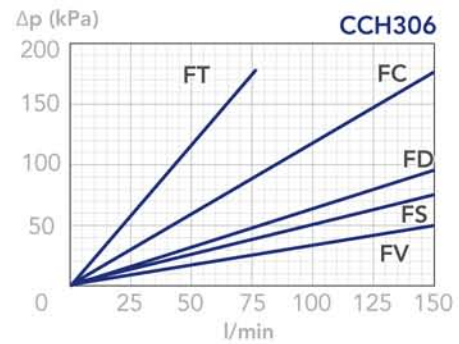
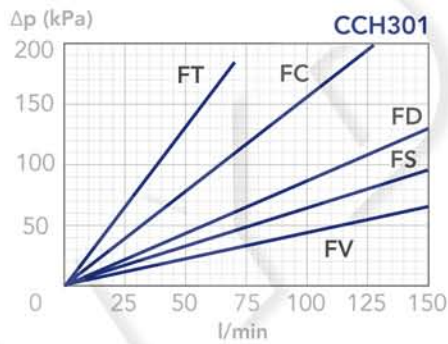
The "Assembly Pressure Drop ( $\Delta p$ )" is obtained by adding the pressure drop values of the Filter Housing and of the Clean Filter Element corresponding to the considered Flow Rate and it must be

lower than 120 kPa (1,2 bar). In any case this value should never exceed 1/3 of the bypass valve setting.

FILTER HOUSING PRESSURE DROP  
(mainly depending on the port size)



CLEAN FILTER ELEMENT PRESSURE DROP WITH F+ MEDIA  
(depending both on the internal diameter of the element and on the filter media)

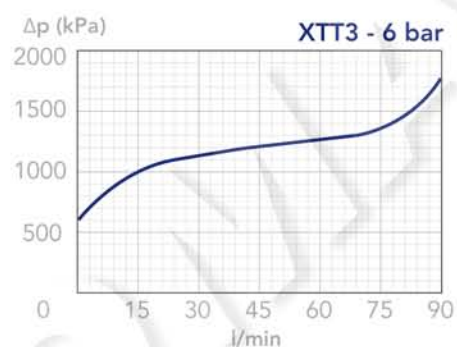
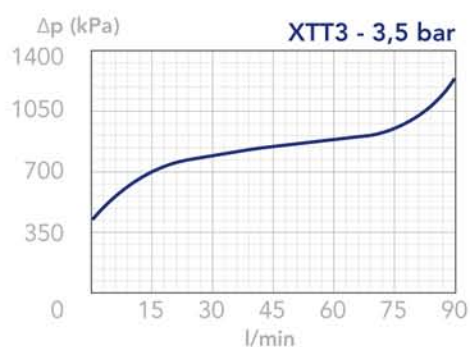


# XTT

## PRESSURE FILTERS

### BYPASS VALVE PRESSURE DROP

When selecting the filter size, these curves must be taken into account if it is foreseen that any flow peak is to be absorbed by the bypass valve, it also must be of proper configuration to avoid pressure peaks. The valve pressure drop is directly proportional to fluid specific gravity.



### N.B.

All the curves have been obtained with mineral oil having a kinematic viscosity 30 cSt and specific gravity 0,86 kg/dm<sup>3</sup>; for fluids with different features, please consider the factors described in the first part of this catalogue. All the curves are

obtained from test done at the UFI FILTERS HYDRAULICS Laboratory, according to the specification ISO 3968:2005. In case of discrepancy, please check the contamination level, viscosity and features of the fluid in use.

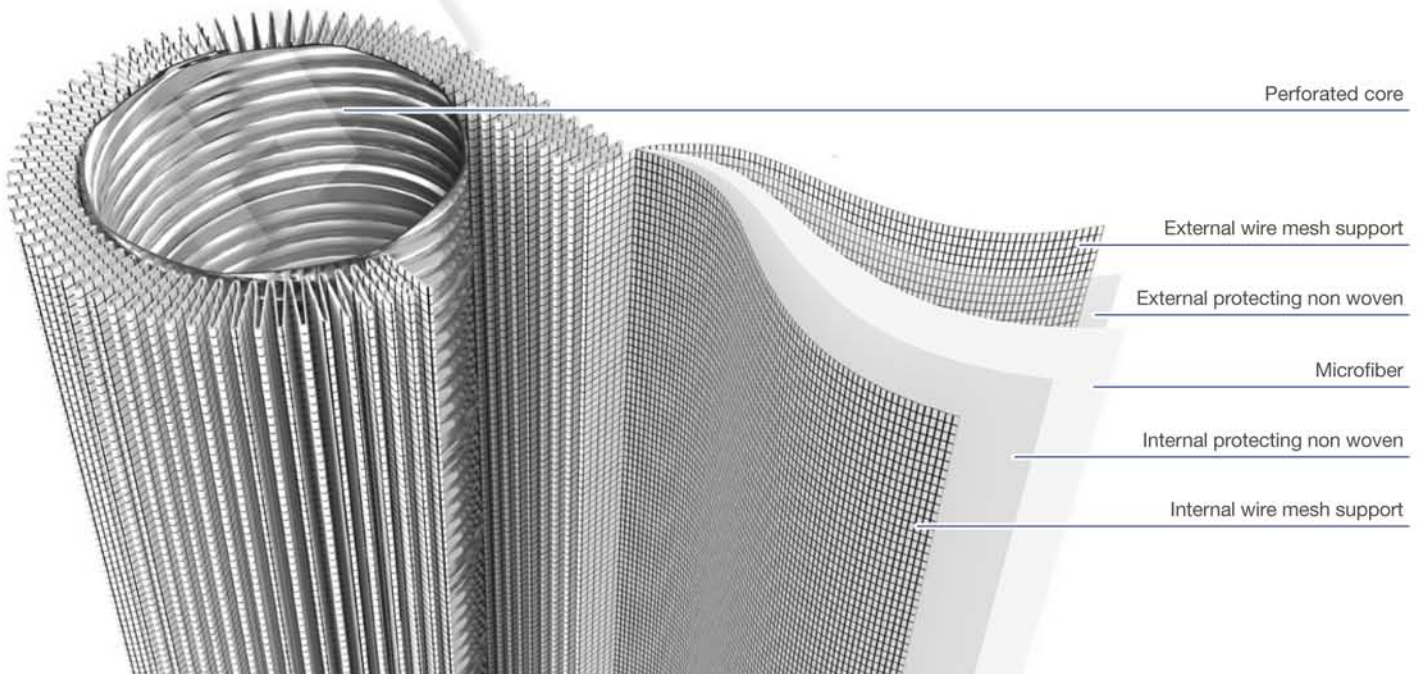
## FILTER MEDIA AND CONTAMINATION CLASSES

Each hydraulic component manufacturer specifies the contamination class required for the best performance and life of their components.

To achieve the required contamination class, the proper UFI filter media must be chosen according to this table:

Typical application	Aeronautic, test rigs.	Aeronautic, ind. Robotics	Ind. robotics, precision machine tools	High reliability ind. machines, Hydrostatic transmissions	Industrial machines, earth moving machines	Mobile machines	Machines for heavy industry	Machines for agriculture systems not continuous service
Pumps and/or motors	-	Piston, variable > 21 Mpa	Piston, variable < 21 MPa Vane, variable > 14 Mpa	Pist./vane, variable < 14 MPa Pist./vane, fixed > 14 Mpa	Pistons, fixed < 14 Mpa Vane, fixed > 14 Mpa	Vane, fixed gear > 14 Mpa	Vane, fixed gear < 14 Mpa	Vane, fixed gear < 14 Mpa
Valves	Servovalves > 21 Mpa	Servovalves < 21 MPa Proportional > 21 Mpa	Proportional < 21 MPa Cartridge > 14 Mpa	Cartridge < 14 Mpa	Solenoid > 21 Mpa	Solenoid < 21 Mpa	Solenoid > 14 Mpa	Solenoid > 14 Mpa
Contamination class ISO 4406	15/13/10	16/14/11	17/15/12	18/16/13	19/17/14	20/18/15	21/19/16	22/20/17
Recommended UFI filter media	<b>FA</b> $\beta_{5(c)} > 1.000$	<b>FA - FB</b> $\beta_{5(c)} > 1.000$ $\beta_{7(c)} > 1.000$	<b>FB</b> $\beta_{7(c)} > 1.000$	<b>FB - FC</b> $\beta_{7(c)} > 1.000$ $\beta_{12(c)} > 1.000$	<b>FC - FD</b> $\beta_{12(c)} > 1.000$ $\beta_{21(c)} > 1.000$	<b>FD</b> $\beta_{21(c)} > 1.000$	<b>FD - CC</b> $\beta_{21(c)} > 1.000$ $\beta_{10} > 2$	<b>CC</b> $\beta_{10} > 2$

N.B. NAS 1638 is officially inactive for new designs after May 30, 2001.



# FORMULA UFI.CELL

## DESCRIPTION

FormulaUFI.Cell is based on paper fibers made from pure cellulose impregnated with resin to maximize the filter life and reduce pressure drop.

Cellulose provides effective filtration for a variety of hydraulic applications, like concrete pumps and mining vehicles. It is also used for air breathers, return line filters and spin-on cartridges, in which a good quality-price ratio should be recommended.

Cellulose presents a porous surface, so that filtering media are classified on average pore size.

## APPLICATIONS

AGRICULTURAL  
CONSTRUCTION  
HEAVY DUTY

INDUSTRIAL  
MATERIAL HANDLING  
POWER GENERATION



## PLUS

- + **Improved performances** in mechanical stability and filter life
- + **High stiffness to retain stability** also during low temperature conditions
- + **Effective filtration** for a wide variety of petroleum-based fluids

Main FormulaUFI.Cell available options are highlighted in the following table. Additional customized options are available on request under technical evaluation of the specific application requirements.

FormulaUFI	FILTRATION RATING $\beta_x \geq 2$ ISO 16889	UFI CODIFICATION	SOFIMA CODIFICATION
FormulaUFI.CELL	10 $\mu\text{m}$	CC	CD
FormulaUFI.CELL	25 $\mu\text{m}$	CD	CV
FormulaUFI.CELL - Reinforced version	10 $\mu\text{m}$	RC	DR
FormulaUFI.CELL - Reinforced version	25 $\mu\text{m}$	RD	VR