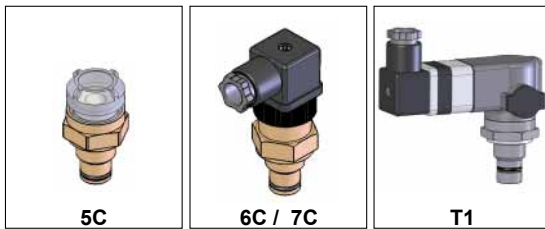


# TANK CARE

## Return Filters



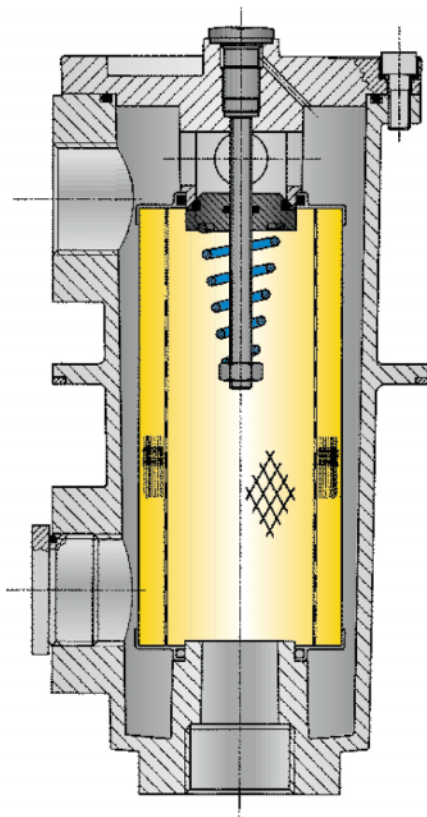
**CLOGGING INDICATOR**  
 A differential visual or electrical indicator allows monitoring of the element condition, and gives an exact indication of the most proper time for replacement. The port for the indicator is a standard feature.



**STRONG CONSTRUCTION**  
 The strong filter housing makes the FRD filters particularly suitable for applications where each component must provide the highest reliability.

**FLEXIBILITY OF ASSEMBLING**  
 A second inlet port, supplied plugged, permits you to easily solve special installation needs.

**NO LEAKS**  
 The end caps with captive O-ring ensure a perfect sealing between filter element and housing.



### MATERIALS

Cover & housing:  
 Anodized aluminium alloy

Bypass valve:  
 Polyamide

Seals:  
 NBR Nitrile  
 (FKM - on request fluoroelastomer)

Indicator housing:  
 Brass

### PRESSURE (ISO 10771-1:2002)

Max working:  
 2 MPa (20 bar)

Test:  
 3 MPa (30 bar)

Bursting:  
 6 MPa (60 bar)

Collapse, differential  
 for the filter element (ISO 2941): 1 MPa (10 bar)

### BYPASS VALVE

Setting:  
 300 kPa (3 bar) +/-10%

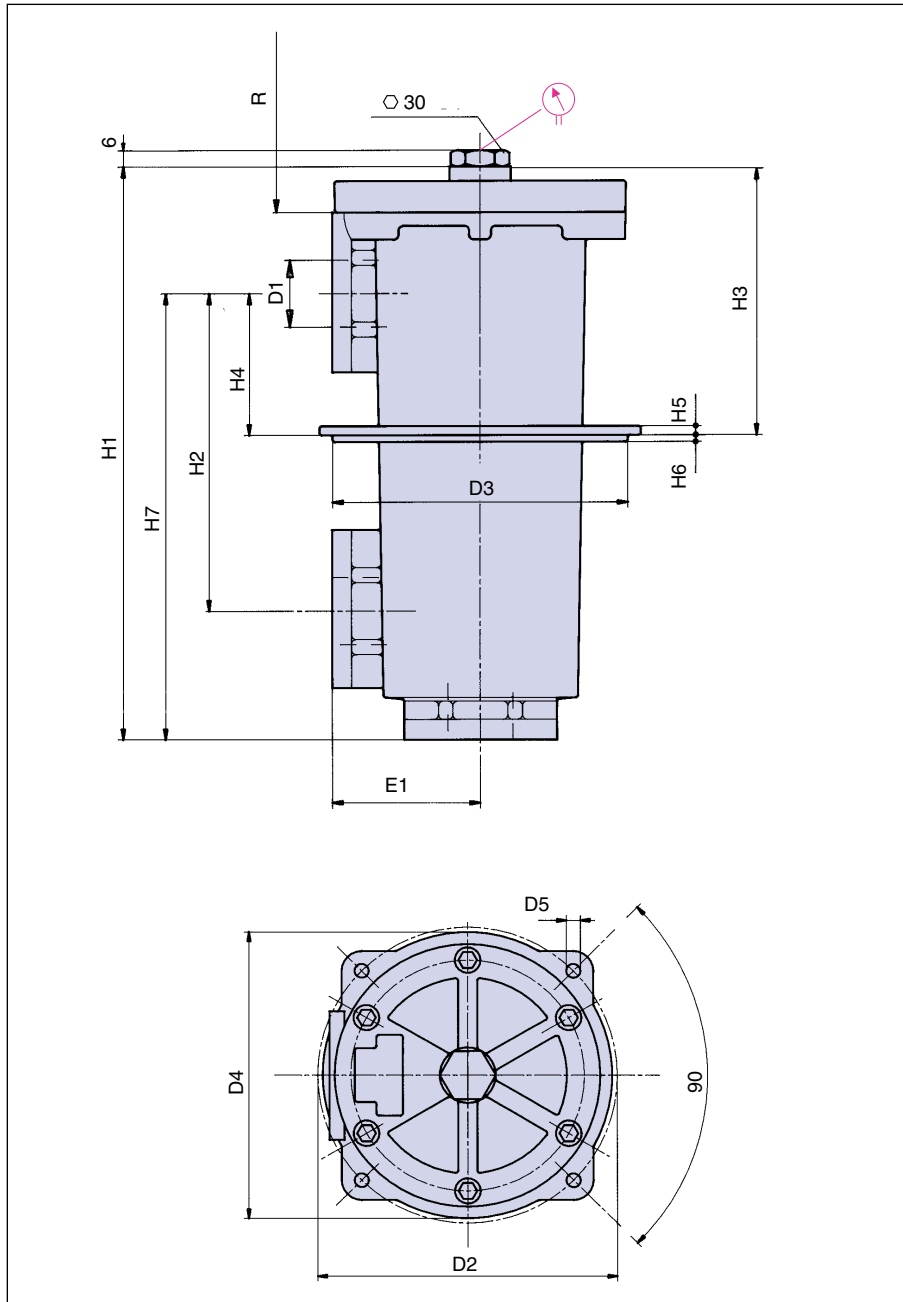
### WORKING TEMPERATURE

From -25° to +110° C

### COMPATIBILITY (ISO 2943:1999)

Full with fluids: HH-HL-HM-HR-HV-HG  
 (according to ISO 6743/4).  
 For fluids different than the above mentioned,  
 please contact our Sales Department.

## INSTALLATION DRAWING



## DIMENSIONS AND WEIGHTS

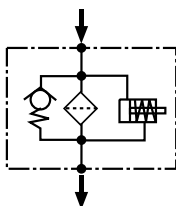
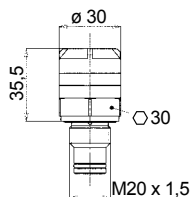
Tank cut out = D3 + 1mm.

### FILTER HOUSING

	D1	D2	D3	D4	D5	E1	H1	H2	H3	H4	H5	H6	H7	R	kg
FRD11	1/2"	95	83,5	90	5,5	43	160	62,5	96	31,5	4	3	96	105	1,3
FRD21	3/4"	138	121	128	6,5	57	191	105	100	52	6	3	145	110	2,6
FRD31	1"	154	135	147	6,5	67	250	140	117	63	8	4	197	155	3,7
FRD41	1 1/2"	180	162	174	8,5	82	343	177	155	82	8	4	269	240	6,5
FRD51	2 1/2"	275	237	254	10,5	117,5	420	218	192	91	10	8	320	275	14,2
FRD61	3 1/2"	275	237	300	14,5	178	673	-	248	130	10	5	-	525	49,0

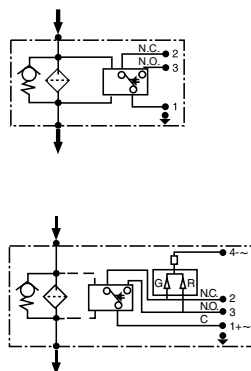
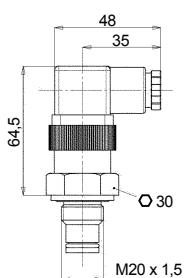
### CLOGGING INDICATORS Differential

#### SERIES 5C



**Series 5C:**  
differential visual indicator  
200 kPa (2 bar)

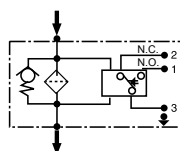
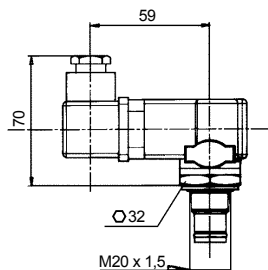
#### SERIES 6C & SERIES 7C



**Series 6C (series 7C with LED - 24V):**  
differential electrical indicator  
200 kPa (2 bar)

Connector according to DIN 43650.  
Protection IP65 according to DIN 40050.  
SPDT: C.A. 125-250 V  
> max resistive or inductive load 1A;  
C.C. 14-30 V  
> max resistive or inductive load 4-3 A resp.

#### SERIES T1



**Series T1:**  
differential electrical indicator  
with thermostat 30°C,  
200 kPa (2 bar)

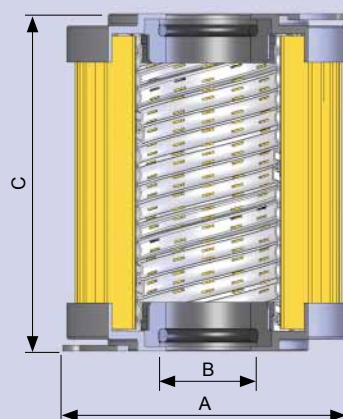
Connector according to DIN 43650.  
Protection IP65 according to DIN 40050.  
SPDT: C.A. 125-250 V  
> max resistive or inductive load 1A;  
C.C. 14-30 V  
> max resistive or inductive load 4-3 A resp.

**SERIES 71 AVAILABLE ONLY ON REQUEST - SEE SUMMING UP OF THE CLOGGING INDICATORS**

Recommended tightening torque 90 Nm

#### FILTER ELEMENT

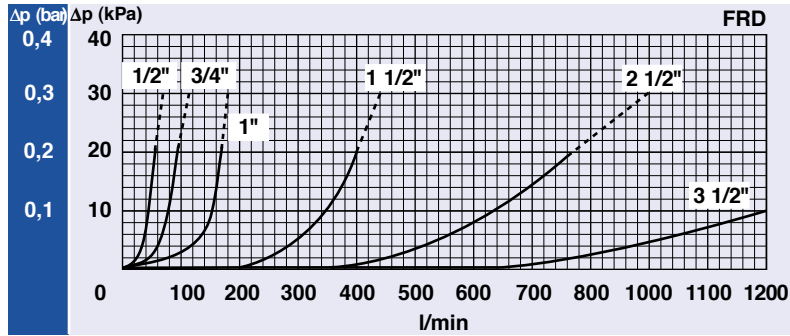
	A	B	C	kg	Area (cm <sup>2</sup> )	
					Media F+	Media C+
ERD11	52	28/24	70	0,10	310	380
ERD21	70	34	85	0,20	620	990
ERD31	70	34	130	0,25	1.000	1.600
ERD41	99	51	211	0,70	3.800	4.280
ERD51	130	74	251	1,50	7.930	8.350
ERD61	130	74/85	500	2,00	16.720	17.600



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

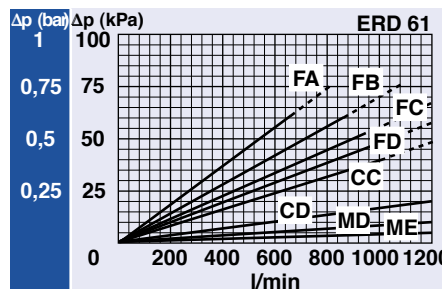
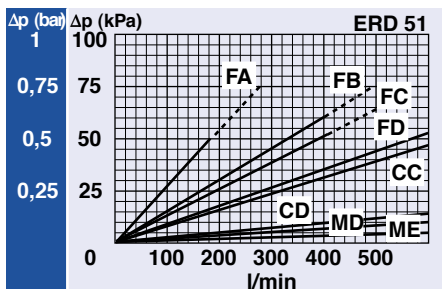
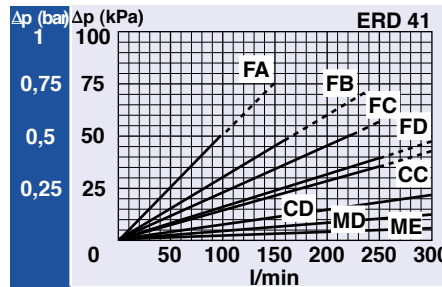
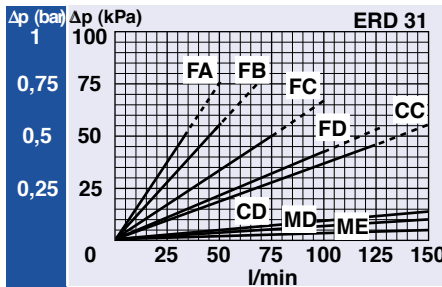
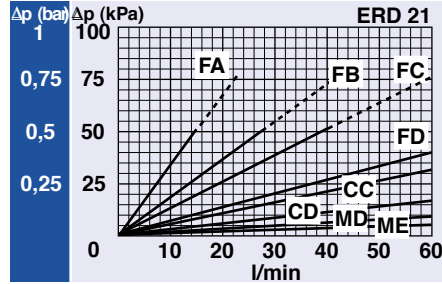
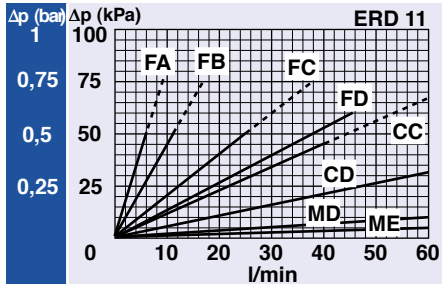
The "Assembly Pressure Drop ( $\Delta p$ )" is obtained by adding the pressure drop values of the Filter Housing and of the Clean Filter Element corresponding to the considered Flow Rate and it must be lower than 50 kPa (0,5 bar).

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



### CLEAN FILTER ELEMENT PRESSURE DROP WITH F+, C+ AND M+ MEDIA

(depending both on the internal diameter of the element and on the filter media)



N.B. All the curves have been obtained with mineral oil having a kinematic viscosity 30 cSt and specific gravity 0,9 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 HYDRAULIC DIVISION 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.

### 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 50 kPa (0,5 bar).

#### 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.

