



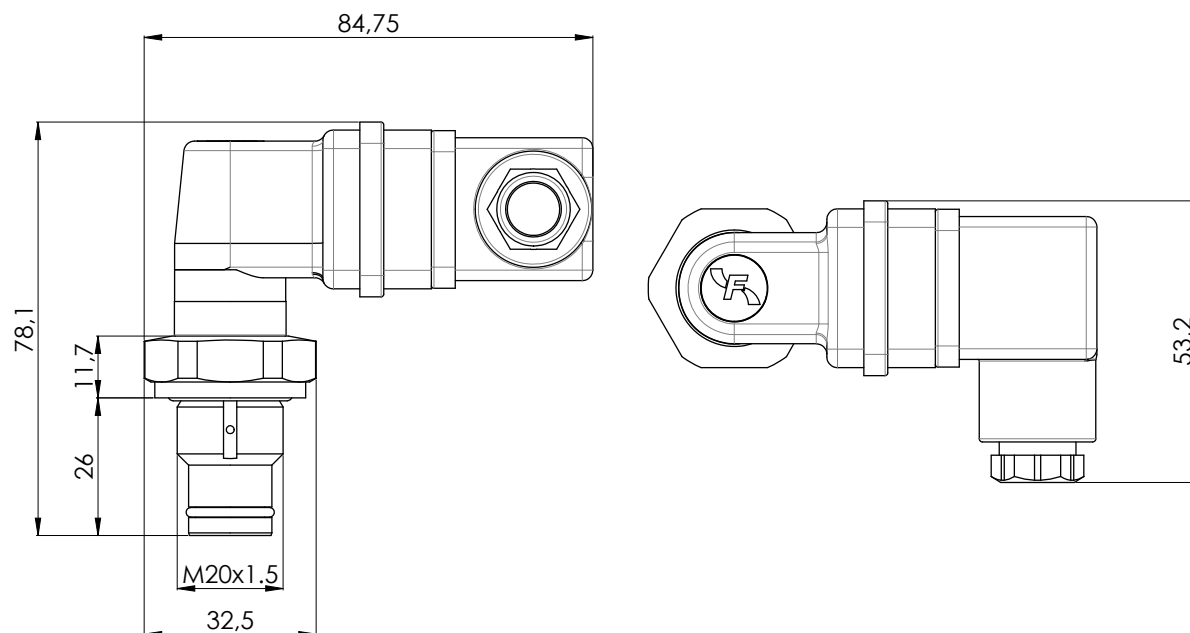
ES SERIES

Electrical differential clogging indicators in stainless steel



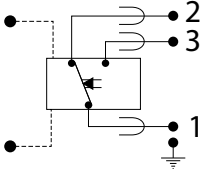
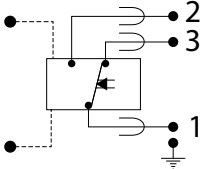
PRESSURE:	Max operating up to 700 bar
CONNECTION:	M20x1,5
MATERIALS:	Body: AISI 304 - 316L Cover and connector: PA66 + G.F. Seal: FKM standard
SETTINGS ΔP :	2,7 bar $\pm 10\%$ 5,0 bar $\pm 10\%$ 8,0 bar $\pm 10\%$
ELECTRICAL SPECS.:	Contact configuration SPDT
CONNECTOR TYPE:	according to DIN 43650 with cable gland PG09
DEGREE OF PROTECTION:	IP65 according to EN60529
OPERATING TEMPERATURE:	-30°C - +80°C
FLUID COMPATIBILITY:	Full with HH-HG-HL-HM-HR-HV-HS-HE...- (HFB and HFC water <50%)-HFDU (acc. to ISO 6743/4) For use with other fluid please contact Filtrec Customer Service (info@filtrec.it).

OVERALL DIMENSIONS

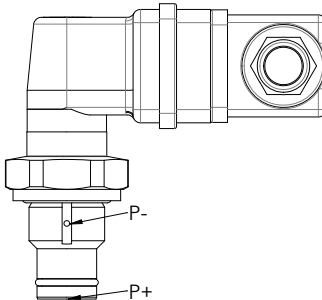


Weight: 181 gr

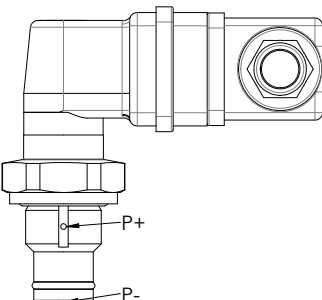
MECHANICAL CONDITION

ΔP CONDITION	ELECTRIC SYMBOL
$P+ - P- < \Delta P_{set}$	
$P+ - P- \geq \Delta P_{set}$	

ORDERING INFORMATION / DETAILS

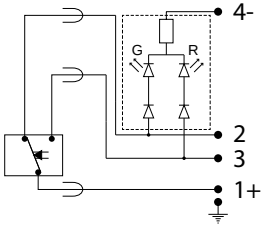
ORDER CODE	MODEL	BODY MATERIAL	VIEW	SETTING	ELECTRICAL SPECS.
04.006.00609 04.006.00651	ESF2 ESLF2	AISI 304 AISI 316L		2,7 bar	• Connector DIN 43650 • Max AC voltage: 250Vac • Max current: 5A resistive 1A inductive • Max DC voltage: 30Vdc • Max current: 4A resistive 3A inductive • Protection: IP65 EN60529
04.006.00611 04.006.00653	ESF5 ESLF5	AISI 304 AISI 316L		5,0 bar	
04.006.00613 04.006.00655	ESF8 ESLF8	AISI 304 AISI 316L		8,0 bar	

 50 / 90 / 100 Nm - See hydraulic filter catalogues

ORDER CODE	MODEL	BODY MATERIAL	VIEW	SETTING	ELECTRICAL SPECS.
04.006.00616 04.006.00658	ESXF2 ESLXF2	AISI 304 AISI 316L		2,7 bar	• Connector DIN 43650 • Max AC voltage: 250Vac • Max current: 5A resistive 1A inductive • Max DC voltage: 30Vdc • Max current: 4A resistive 3A inductive • Protection: IP65 EN60529
04.006.00618 04.006.00660	ESXF5 ESLXF5	AISI 304 AISI 316L		5,0 bar	
04.006.00620 04.006.00662	ESXF8 ESLXF8	AISI 304 AISI 316L		8,0 bar	
 50 / 90 / 100 Nm - See hydraulic filter catalogues					

OPTIONAL VERSION

The LC24 connector, supplied separately, can replace the standard black connector of the “ES” indicator. Powered with 24Vdc, it gives a visual indication of the filter element conditions: normally the GREEN LED is on, the RED LED switch on when the element is clogged.

ORDER CODE	MODEL	VIEW	ELECTRICAL SPECS.
04.006.00146	LC24		

INSTRUCTIONS FOR REPLACING THE std CONNECTOR WITH THE LC24 CONNECTOR

1. UNSCREW THE SCREW



2. DISCONNECT THE STANDARD CONNECTOR



3. ATTACH THE LC04 CONNECTOR



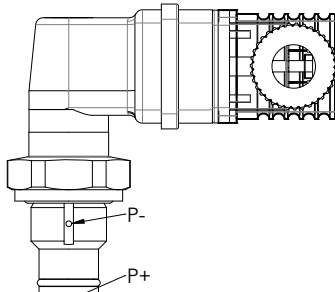
4. TIGHTEN THE SCREW

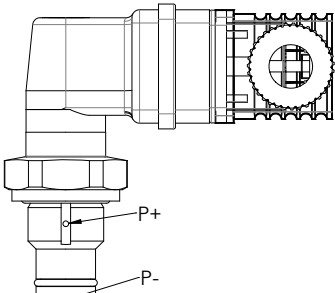


VERSION WITH INTEGRATED LED CONNECTOR

Subject to MOQ our differential indicators type ES... can be supplied in special versions with **INTEGRATED LC24 connector**.

ORDERING INFORMATION / DETAILS

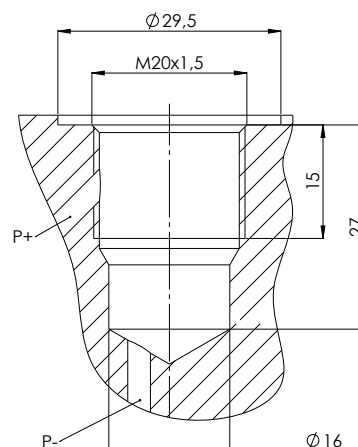
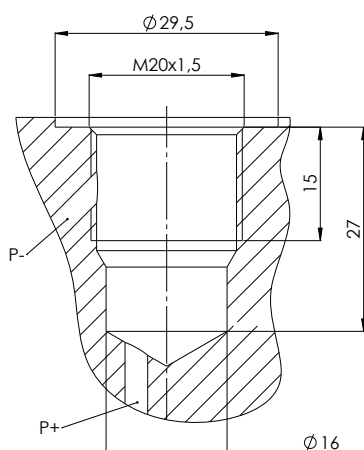
ORDER CODE	MODEL	BODY MATERIAL	VIEW	SETTING	ELECTRICAL SPECS.
04.006.00610 04.006.00652	ESF2L ESLF2L	AISI 304 AISI 316L		2,7 bar	• Connector DIN 43650 • Max DC voltage: 24Vdc • Max current: 4A resistive 3A inductive • Protection: IP65 EN60529
04.006.00612 04.006.00654	ESF5L ESLF5L	AISI 304 AISI 316L		5,0 bar	
04.006.00614 04.006.00656	ESF8L ESLF8L	AISI 304 AISI 316L		8,0 bar	
 50 / 90 / 100 Nm - See hydraulic filter catalogues					

ORDER CODE	MODEL	BODY MATERIAL	VIEW	SETTING	ELECTRICAL SPECS.
04.006.00617 04.006.00659	ESXF2L ESXLF2L	AISI 304 AISI 316L		2,7 bar	• Connector DIN 43650 • Max DC voltage: 24Vdc • Max current: 4A resistive 3A inductive • Protection: IP65 EN60529
04.006.00619 04.006.00661	ESXF5L ESXLF5L	AISI 304 AISI 316L		5,0 bar	
04.006.00621 04.006.00663	ESXF8L ESXLF8L	AISI 304 AISI 316L		8,0 bar	
 50 / 90 / 100 Nm - See hydraulic filter catalogues					

INDICATOR SEAT

ES.../ES...L

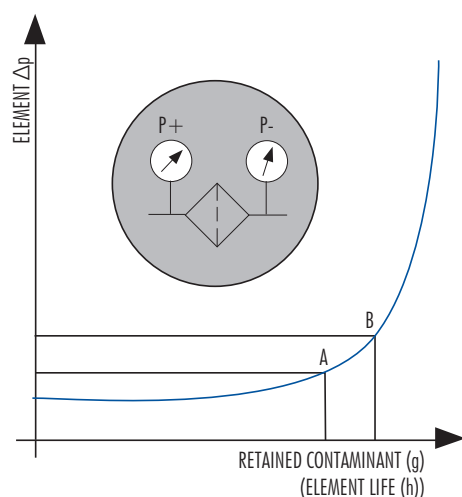
ESX.../ESX...L



Dimensions and tolerances available on request

USER INFORMATION

The Differential indicator measures the Δp between upstream and downstream of the filter element, i.e. it is the ideal indicator for the in line applications.



The **Pressure Drop** (Δp = differential pressure) through the filter increases during the system operation due to the contaminant retained by the filter element.

The filter element must be replaced when the indicator shows an alarm and before the Δp reaches the by-pass set value (i.e. the set value A of the clogging indicator must always be lower than the set value B of the by-pass value).

WARNING: in **cold start** conditions a false alarm can be caused by higher oil viscosity due to low temperature; the indicator alarm must be considered at normal working temperature only.

INDICATOR SEAT

The following table shows the type of indicator available according to the filter used.

APPLICATION	FILTER CODE	INDICATOR MODEL					
		ES(L)F2 ES(L)F2L	ES(L)F5 ES(L)F5L	ES(L)F8 ES(L)F8L	ES(L)XF2 ES(L)XF2L	ES(L)XF5 ES(L)XF5L	ES(L)XF8 ES(L)XF8L
IN LINE HIGH PRESSURE	F100	X	X	X			
	F280		X	X			
	F420		X	X			
	FD3					X	X
	FDM					X	X
	FH100	X	X	X			
	FH250		X	X			
	FH320		X	X			
	FH323		X	X			
	FH324		X	X			
	FH420		X	X			
	FH700					X	X
	FML320		X	X			
IN LINE MEDIUM PRESSURE	FLR				X	X	X
	FLRD				X	X	X
	F040	X	X	X			
RETURN	FCR7F2x	X					
	FCR7F3x	X					
SPIN-ON	FAH	X					
	FA4				X		
	FAP A4				X		
	FA5				X		
	FAP A5				X		

