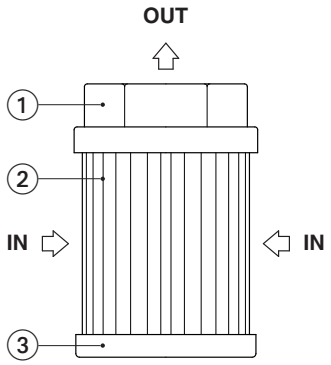
Suction filters type FSS

Threaded ports - max flow 450 l/min



FSS-20-*

① Filter head
② Wire mesh
③ End cap

FSS suction filters are designed to protect pumps from ingestion of solid particles and coarse contamination present in the oil tank, which may cause heavy damage and seizures.
They are designed to be screwed onto the pumps suction line.

FSS filters are available with following features:

- four sizes with BSPP threaded ports, from 1/2" to 3 "
- three different lengths with max flow up to 450 l/min
- wire mesh 125 µm (c)

FSS filters are without by-pass valve.

1 MODEL CODE

FSS	-	10	-	A	-	W125	-	00	-	N		**

Suction filter

Filter size:
10
20
30
40

Filter lenght:		Max flow [l/min] **(1)** FSS-10	FSS-20	FSS-30	FSS-40
A	=	20	38	85	330
B	=	-	60	125	450
C	=	-	-	200	-

Filtration rating:
W125 = wire mesh 125 µm

Port size:
BSPP threaded:

FSS-10-A
00 = G 1/2"

FSS-20-A
01 = G 3/4"

FSS-20-B
02 = G 1"

FSS-30-A
03 = G 1 1/4"

FSS-30-B
04 = G 1 1/2"

FSS-30-C
05 = G 2"

FSS-40-A
06 = G 2 1/2"

FSS-40-B
07 = G 3"

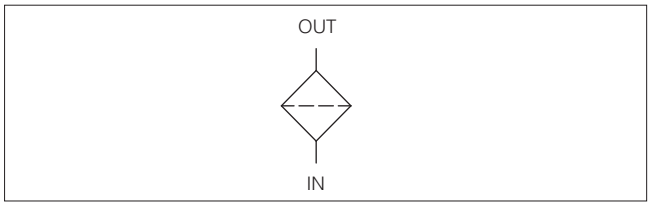
Series number

By-pass:
N = without by-pass

(1) Max flow rates are performed in following conditions:
- clean filter element
- Δp = 0,015 bar
- mineral oil with viscosity 30 mm²/s

In case of different conditions see Q/Δp diagrams at section 5

2 HYDRAULIC SYMBOL (representation according to ISO 1219-1)



3 GENERAL CHARACTERISTICS

Assembly position / location		Any position
Differential collapse pressure [bar]		1
Ambient temperature range		-20°C ÷ +70°C
Storage temperature range		-20°C ÷ +80°C
Materials	Filter head	Nylon
	Filter end cap	Carbon steel, zinc plated
	Filter Mesh	Stainless steel AISI 304

4 HYDRAULIC FLUIDS - for other fluids not included in below table, consult our technical office

Recommended fluid temperature	-25°C ÷ +100°C, with HFC hydraulic fluids = +10°C ÷ +50°C	
Recommended viscosity	15 ÷ 100 mm²/s - max allowed range 2.8 ÷ 500 mm²/s	
Hydraulic fluid	**Classification**	**Ref. Standard**
Mineral oils	HL, HLP, HLPD, HVLP, HVLPD	DIN 51524
Flame resistant without water	HFDU, HFDR	ISO 12922
Flame resistant with water	HFC	

5 FILTER SIZING

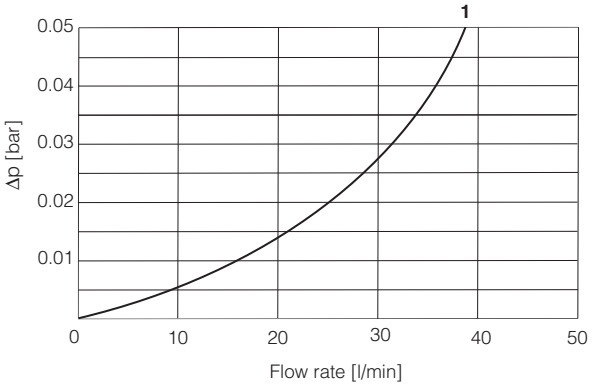
Suction filters must be largely sized to avoid the pumps cavitation. In the best conditions the Δp should not exceed 0.015 bar

5.1 Q/Δp DIAGRAMS

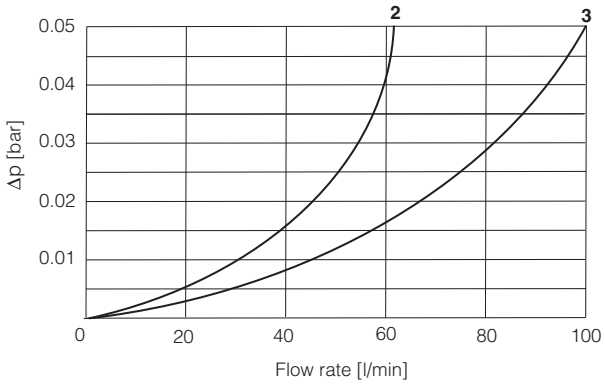
In following diagrams are reported the Δp characteristics of filter based on mineral oil with density 0,86 kg/dm² and viscosity 30 mm²/s.
in case of different viscosity the effective Δp_E is given by the formula:

$$\Delta p_E = \Delta p \times \frac{\text{viscosity}}{30}$$

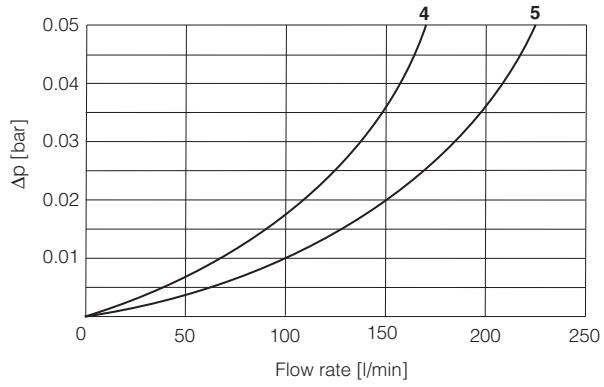
Δp_E = pressure drop calculated at the effective viscosity
Δp = pressure drop reported in the below diagrams
Viscosity = effective fluid viscosity in the working conditiond (mm²/s)



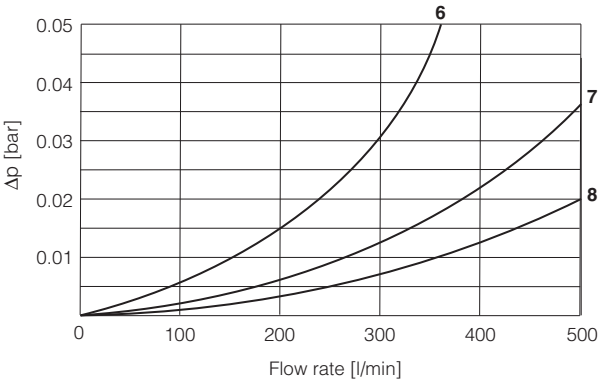
1 = FSS-10-A



2 = FSS-20-A
3 = FSS-20-B

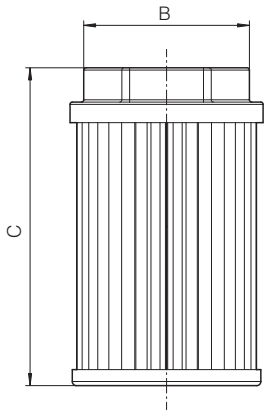


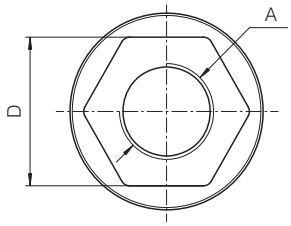
4 = FSS-30-A
5 = FSS-30-B



6 = FSS-30-C
7 = FSS-40-A
8 = FSS-40-B

6 INSTALLATION DIMENSIONS OF FSS FILTERS [mm]

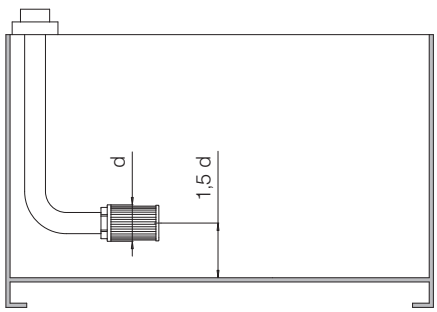




Code	A	B	C	D	Mass (Kg)
FSS-10-A	1/2” BSPP	46	106	36	0,1
FSS-20-A	3/4” BSPP	64	109	50	0,21
FSS-20-B	1” BSPP		139		0,23
FSS-30-A	1 1/4” BSPP	86		65	0,37
FSS-30-B	1 1/2” BSPP		200		0,45
FSS-30-C	2” BSPP		260	75	0,57
FSS-40-A	2 1/2” BSPP	150	212	110	1,02
FSS-40-B	3” BSPP		272		1,06

7 INSTALLATION AND COMMISSIONING

During the filter installation, pay attention that the filter remains below the minimum oil level in the tank.
A minimum distance between the filter and the tank bottom must be considered as rapresented in the aside drawing.



8 MAINTENANCE

The filter must be replaced according to the system manufacturer's reccomendations

WARNING: The dirty filters cannot be cleaned and re-used. They are classified as "dangerous waste material", then they must be disposed of by authorized Companies, according to the local laws.

8.1 FILTER IDENTIFICATION

1 Model code of filter