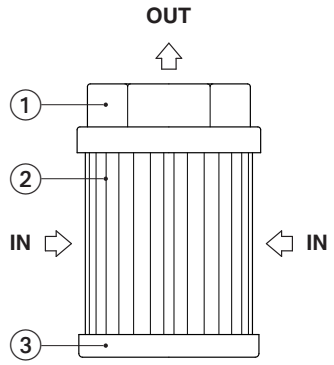
Suction filters type SFSS

Threaded ports



SFSS-20-*

① Filter head
② Wire mesh
③ End cap

SFSS

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.

SFSS filters are available with following features:

- four sizes with BSPP threaded ports, from 1/2" to 3 "
- wire mesh 125 µm (c)
- version without or with by-pass valve

Max flow **450 l/min**

1 MODEL CODE

SFSS	-	10	-	A	-	W125	-	00	-	N		**

Suction filter

Filter size:

10
20
30
40

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

Filtration rating:

W125 = wire mesh 125 µm

By-pass:

N = without by-pass
R = by-pass valve, cracking pressure 0,35 bar

Series number

Port size:

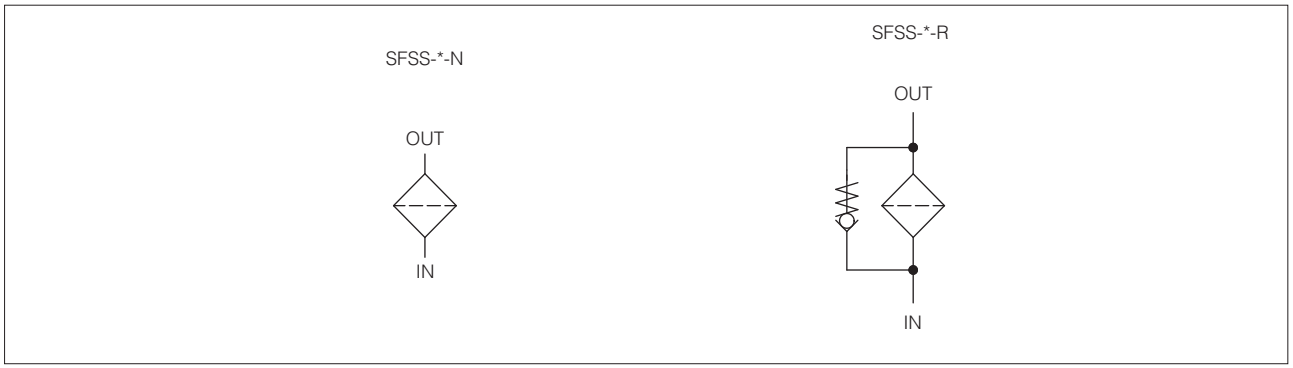
BSPP threaded:

SFSS-10-A **00** = G 1/2"		
SFSS-20-A **01** = G 3/4"	SFSS-20-B **02** = G 1"	
SFSS-30-A **03** = G 1 1/4"	SFSS-30-B **04** = G 1 1/2"	SFSS-30-C **05** = G 2"
SFSS-40-A **06** = G 2 1/2"	SFSS-40-B **07** = G 3"	

(1) Max flow rates are performed in following conditions:
- clean filter element
- Δp = 0,015 bar
- mineral oil with viscosity 32 mm²/s

In case of different conditions see Q/Δp diagrams at section 6

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

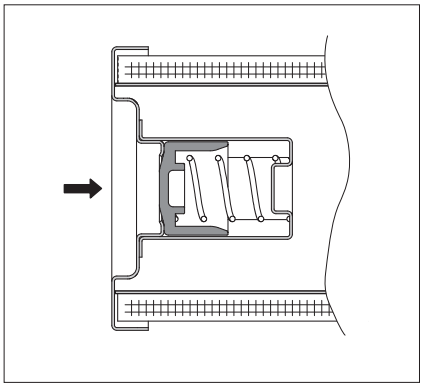
4 HYDRAULIC FLUIDS - for other fluids not included in below table, consult our technical office

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 BY-PASS VALVE - version **-R**

The by-pass valve allows the oil flow to by-pass the suction filter when the pressure drop across the element exceeds 0,35 bar, so that to avoid the pump cavitation.

This may happens in particular conditions as:
- instantaneous high flow peaks
- filter mesh clogged by contamination



6 FILTER SIZING

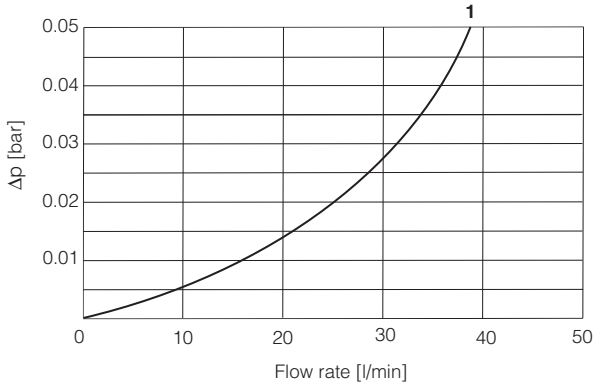
Suction filters must be largely sized to avoid the pumps cavitation. In the best conditions the Δp should not exceed 0.015 bar

6.1 Q/Δp DIAGRAMS

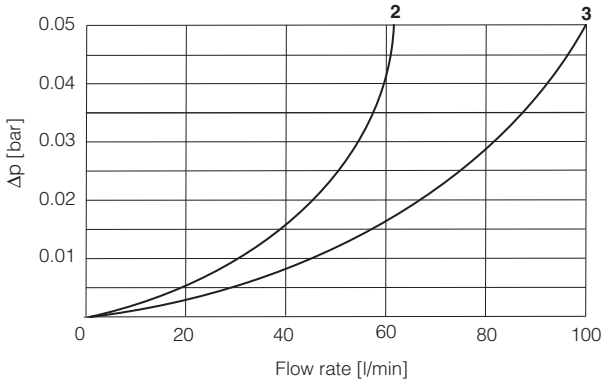
In following diagrams are reported the Δp characteristics of filter based on mineral oil with density 0,86 kg/dm² and viscosity 32 mm²/s.
in case of different viscosity the effective Δp_E is given by the formula:

$$\Delta p_E = \Delta p \times \frac{\text{viscosity}}{32}$$

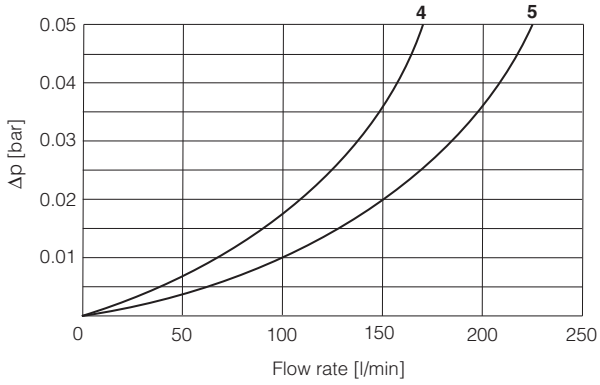
Δp_E = pressure drop calculated at the effective viscosity
Δp = pressure drop reported in the below diagrams
Viscosity = effective fluid viscosity in the working condition (mm²/s)



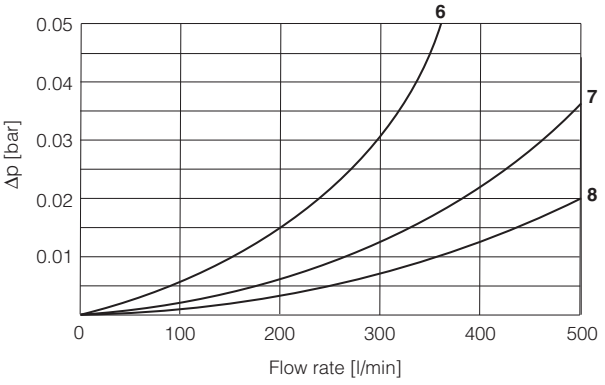
1 = SFSS-10-A



2 = SFSS-20-A
3 = SFSS-20-B

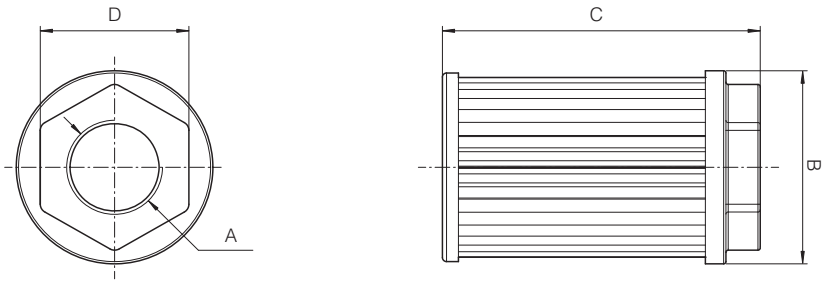


4 = SFSS-30-A
5 = SFSS-30-B



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

7 INSTALLATION DIMENSIONS OF SFSS FILTERS [mm]



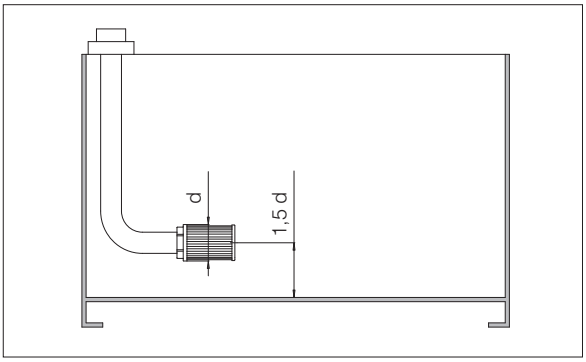
Code	A	B	C	D	Mass (Kg)
SFSS-10-A	1/2" BSPP	46	106	36	0,10
SFSS-20-A	3/4" BSPP	64	109	50	0,19
SFSS-20-B	1" BSPP		139		0,21
SFSS-30-A	1 1/4" BSPP	86		65	0,33
SFSS-30-B	1 1/2" BSPP		200		0,24
SFSS-30-C	2" BSPP		260	75	0,51
SFSS-40-A	2 1/2" BSPP	150	212	110	1,07
SFSS-40-B	3" BSPP		272		0,92

8 INSTALLATION AND COMMISSIONING

The suction filters SFSS must be generously sized to avoid pump cavitation.
The size of the OUT port of the SFSS filter must be equal to or greater than the corresponding suction port of the pump.

The SFSS filter must always remain below the oil level in the tank, in any operating condition.
During installation, a minimum distance must be observed between the filter and the bottom of the tank (see figure on the side) to avoid the possibility that the contaminant deposited on the bottom is sucked up.

The SFSS filter should be installed as far as possible from the return pipe. It is advisable to use separators inside the tank to keep the suction area separate from the area affected by the return flow.

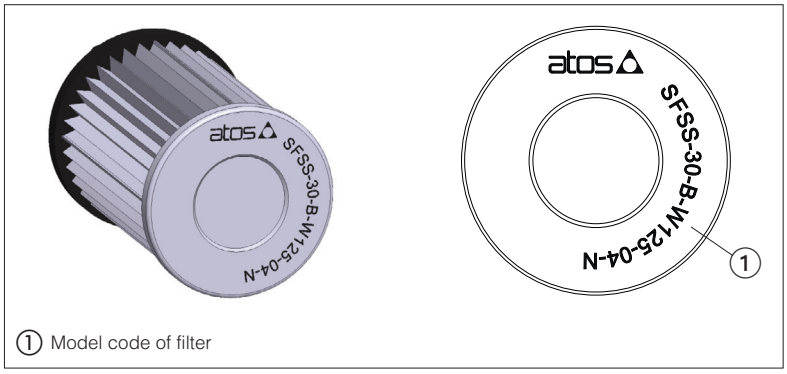


9 MAINTENANCE

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

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.

9.1 FILTER IDENTIFICATION



① Model code of filter

10 RELATED DOCUMENTATION

LF010	Fluid contamination
LF020	Filtration guidelines