



MAX AIR/OIL **20 bar**  
**290 psi**

**fai filtri**  
A Quality filtration company

Type **DSP 400.0**  
PRESSIONE DI ESERCIZIO MAX. **20** bar  
TEMPERATURA DI ESERCIZIO MAX. **120** °C  
MONTAGGIO - Lubrificare la guarnizione con un velo d'olio e stringere  
SOSTITUZIONE - Si raccomanda la sostituzione del separatore  
ogni periodo di circa 3000-4000 ore di lavoro. Per lo  
smontaggio usare una chiave a stella.  
ATTENZIONE - Non smontare il separatore mentre il compressore  
è in funzione.

Series **FDS - DSP**

Air/oil separator **FAI FILTRI**

# INTRODUCTION

FAI FILTRI high quality standards has allowed the production of air/oil separator for air purification into rotary/vane compressors. This has to be considered as a fundamental premise for systems meant to operate in the food processing, electronic, pharmaceutical, textile fields, etc. These products are manufactured in two distinct ranges: a compact spin-on series and a basket-shaped one for assembly into pressure vessels. FAI FILTRI air/oil separators peculiarity lies into their retaining most of the aerosol oil contained into the

compressed air flow, generated by entrainment during screw or vanes lubrication.

The compressed air, contaminated by microscopic oil drops and solid particles, flows through the first layer of reinforced borosilicate micro-fibers, causing the aerosol microscopic droplets with a diameter lower than 1 micron, to coalesce into larger drops. These are then caught and drained by a second layer of synthetic porous material and end up, due to the gravity, on the dry side of separator.

## DSP SERIES

# DESCRIPTION

DSP Series: spin on cartridge for air/oil separators. In line assembly, suitable for air/oil separation on rotary and vane compressors, no extra costs for pressure vessels .

The peculiarity of these DSP and FDS series of separators is that they can be easily replaced, by a fast and clean procedure, which doesn't require any particular equipment, in any possible situation.

### FILTER ELEMENTS

Differential collapsing pressure of the filtering elements tested in compliance with ISO 2941: **5 bar**

Resistance to axial deformation tested in compliance with ISO 3723

Manufacturing conformity and determination / assessment of the first bubble point in compliance with ISO 2942

### SEPARATION CAPACITY

If suggested flow rates will be not exceeded, it is possible to reach an oil residual not over 1÷3 ppm

# TECHNICAL DATA

### MATERIALS

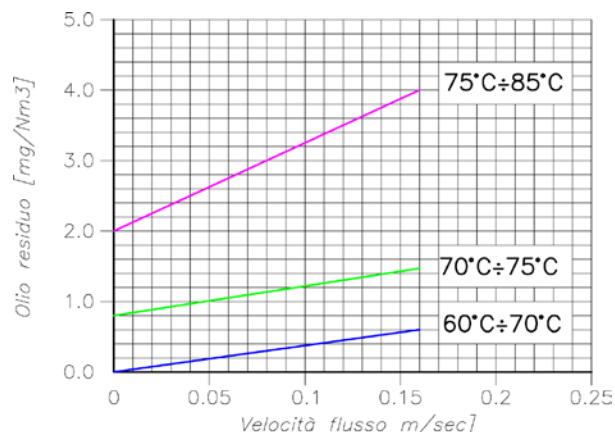
- ❑ Zinc plated sheet steel housing
- ❑ Zinc tropicalized steel flange
- ❑ Galvanized steel end caps and pipe

### CARTRIDGES PRESSURES VALUES

Max. operating pressure: **16 bar**

Impulse test in compliance with ISO 3724:

**from 0-20-0 bar 1Hz 50.000 min. cycles**



**Oil carry over related to flow velocity and temperature**

## GASKETS

Type "F" HNBR

Type "V" Viton

## THREAD

See dimensional table

## WORKING TEMPERATURE

From  $-25^{\circ}\text{C}$  up to  $+120^{\circ}\text{C}$

## FLOW RATE

At working pressure of 7 bar: From 0,6 up to  $7 \text{ m}^3/\text{min}$

## ASSEMBLY

Vertical. For spin-on series, lubricate the gasket by a thin oil film and tighten by hand. Use a strap wrench to dismantle.

## SERVICE LIFE

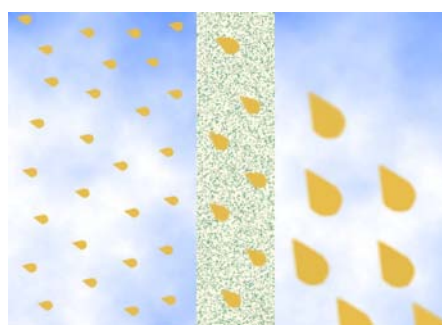
Filter shall be replaced when a differential pressure drop (DP) of 1-1,2 bar is reached. Market researches have shown that an average working life of several thousand hours can be achieved under normal working conditions. An increased pressure drop and, as a consequence, a reduced service life may be opened on the quality.

## FILTERING SURFACE

Type	Filtering surface
DSP 06.0	$1590 \text{ cm}^2$
DSP 12.0	$2065 \text{ cm}^2$
DSP 50.0	$3190 \text{ cm}^2$
DSP 60.0	$3840 \text{ cm}^2$
DSP 70.0	$5440 \text{ cm}^2$
DSP 85.0	$5690 \text{ cm}^2$
DSP 90.0	$9460 \text{ cm}^2$
DSP 300.0	$6380 \text{ cm}^2$
DSP 400.0	$13680 \text{ cm}^2$
DSP 500.0	$21000 \text{ cm}^2$

## PRINCIPLE OF COALESCENCE

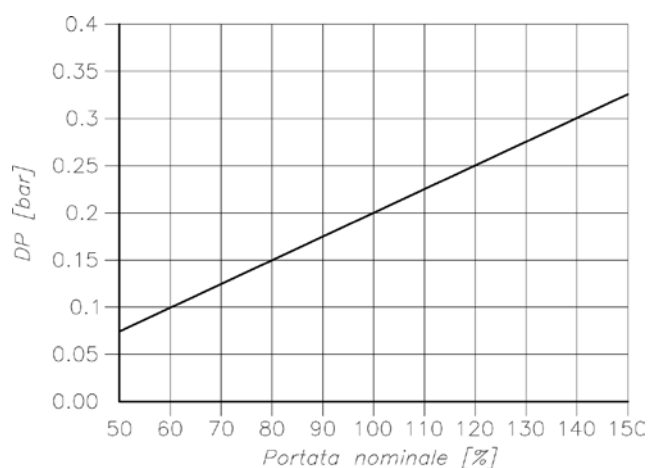
The compressed air, contaminated by a microscopic oil droplets and solid particles, flows through the first layer of reinforced borosilicate micro-fibers, causing the aerosol microscopic droplets with a diameter lower than 1 micron, to coalesce into larger drops. These are then caught and drained by a second layer of synthetic porous material and end up, due to the gravity, on the dry side of separator.



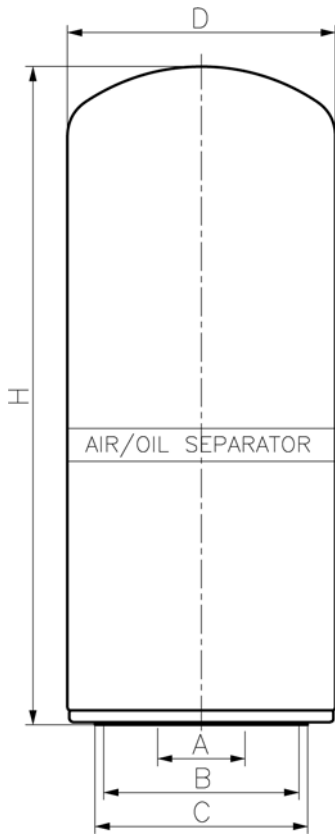
Principle of coalescence

## PRESSURE DROP

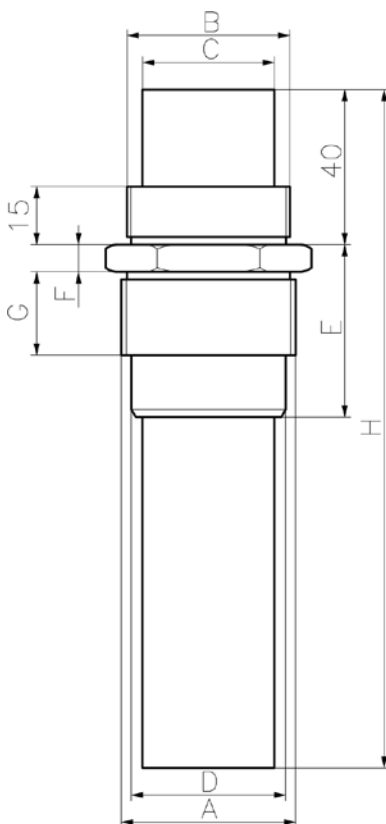
With nominal flow rates and pressure at 7 bar:  
0,2 bar (clean filter)



# DIMENSIONAL INFORMATION



Type	A	B	C	D	H	FLOW RATE m <sup>3</sup> /min
DSP 06.0	M22x1,5	62	72	78	93	0,6
DSP 12.0	M22x1,5	62	72	78	125	1
DSP 50.0	M24x1,5	62	72	95	148	1,5
DSP 60.0	M24x1,5	62	72	95	175	1,8
DSP 70.0	M24x1,5	62	72	95	213	2
DSP 85.0	M32x1,5	92	102	109	177	3
DSP 90.0	M32x1,5	92	102	109	263	4
DSP 300.0	M39x1,5	101	110	137	174	3
DSP 400.0	M39x1,5	101	110	137	307	5,5
DSP 400.6	1"1/2-16 UNF	101	110	137	307	5,5
DSP 500.0	M39x1.5	101	110	137	340	7
DSP 500.L	M45x2	101	110	137	340	7



Type	A	B	C	D	E	F	G	H	CH	for
011.1.0261	M22x1,5	M24x1,5	14	19,2	38	6	25,4	112	27	DSP 06.0
011.1.0206	M22x1,5	M24x1,5	14	19,2	38	6	25,4	135	27	DSP 12.0
011.1.0207	M24x1,5	M21x1,5	15	19,8	38	6	25,4	135	32	DSP 50.0
011.1.0207	M24x1,5	M27x1,5	15	19,8	38	6	25,4	135	32	DSP 70.0
011.1.0208	M32x1,5	M36x1,5	22	28,1	41,5	6	27,4	155	41	DSP 85.0
011.1.0208	M32x1,5	M36x1,5	22	28,1	41,5	6	27,4	155	41	DSP 90.0
011.1.0209	M39x1,5	M42x1,5	30	35,8	47,5	7	34,4	175	46	DSP300.0
011.1.0209	M39x1,5	M42x1,5	30	35,8	47,5	7	34,4	175	46	DSP400.0
011.1.0218	1"1/2-16 UN	M42x1,5	30	35,8	47,5	7	34,4	175	46	DSP400.6

## DESCRIPTION

FDS series of spin-on, in line, air/oil separators are suitable for air/oil separation on rotary and vane compressors, and allow users to cut any further costs for pressure vessels.

The peculiarity of these DSP and FDS series of separators in that they can be easily replaced, by a fast and clean procedure, which doesn't require any particular equipment, in any possible situation

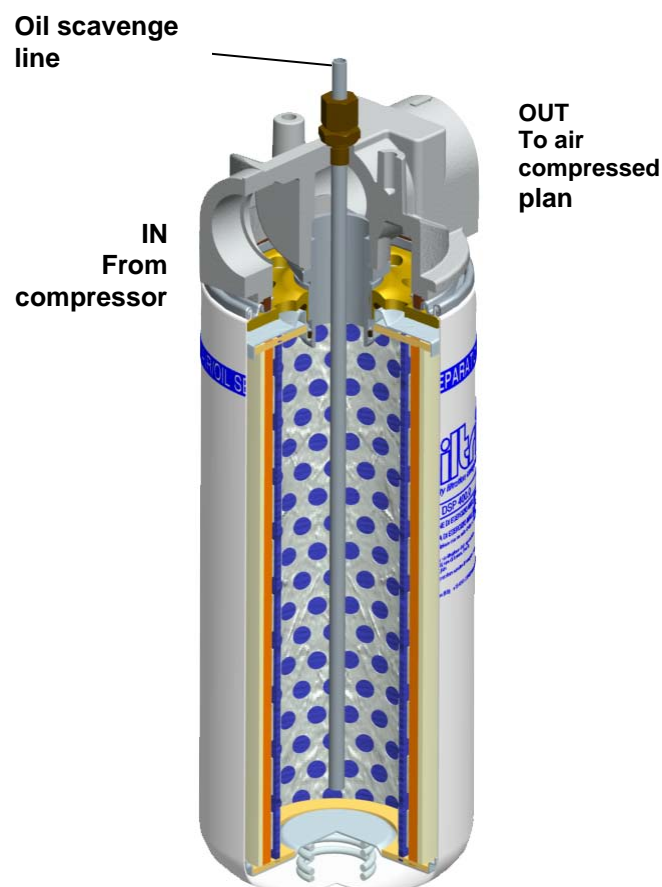
## TECHNICAL DATA

### MATERIALS

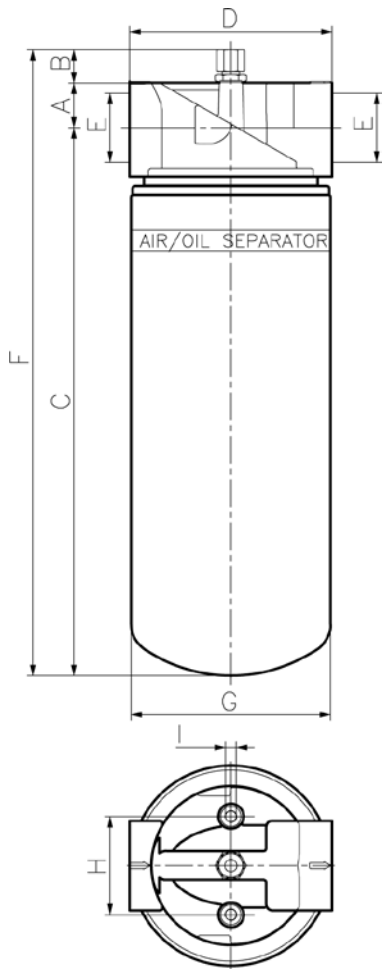
- Aluminun casting head

For other specification see **DSP** series

## FUNCTIONAL SCHEME

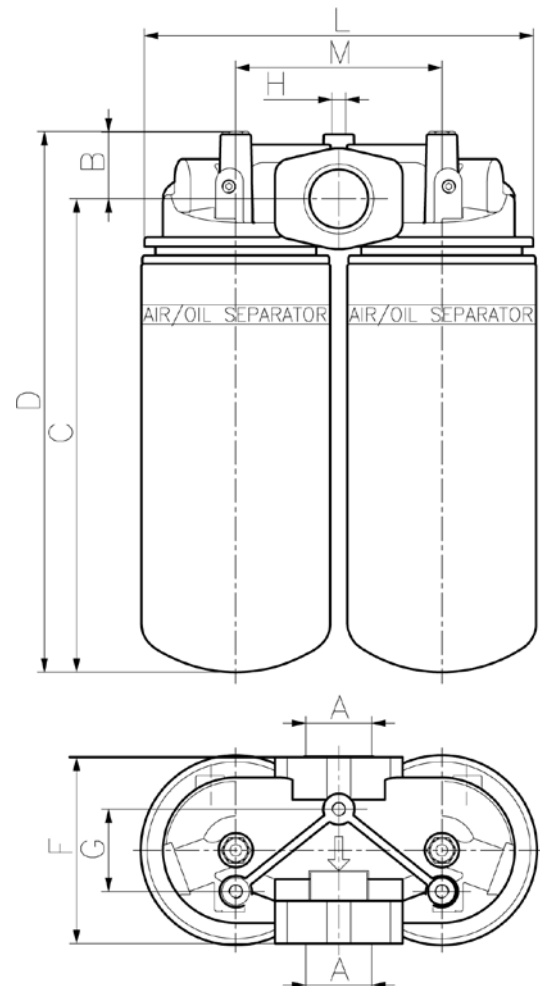


# DIMENSIONAL INFORMATION

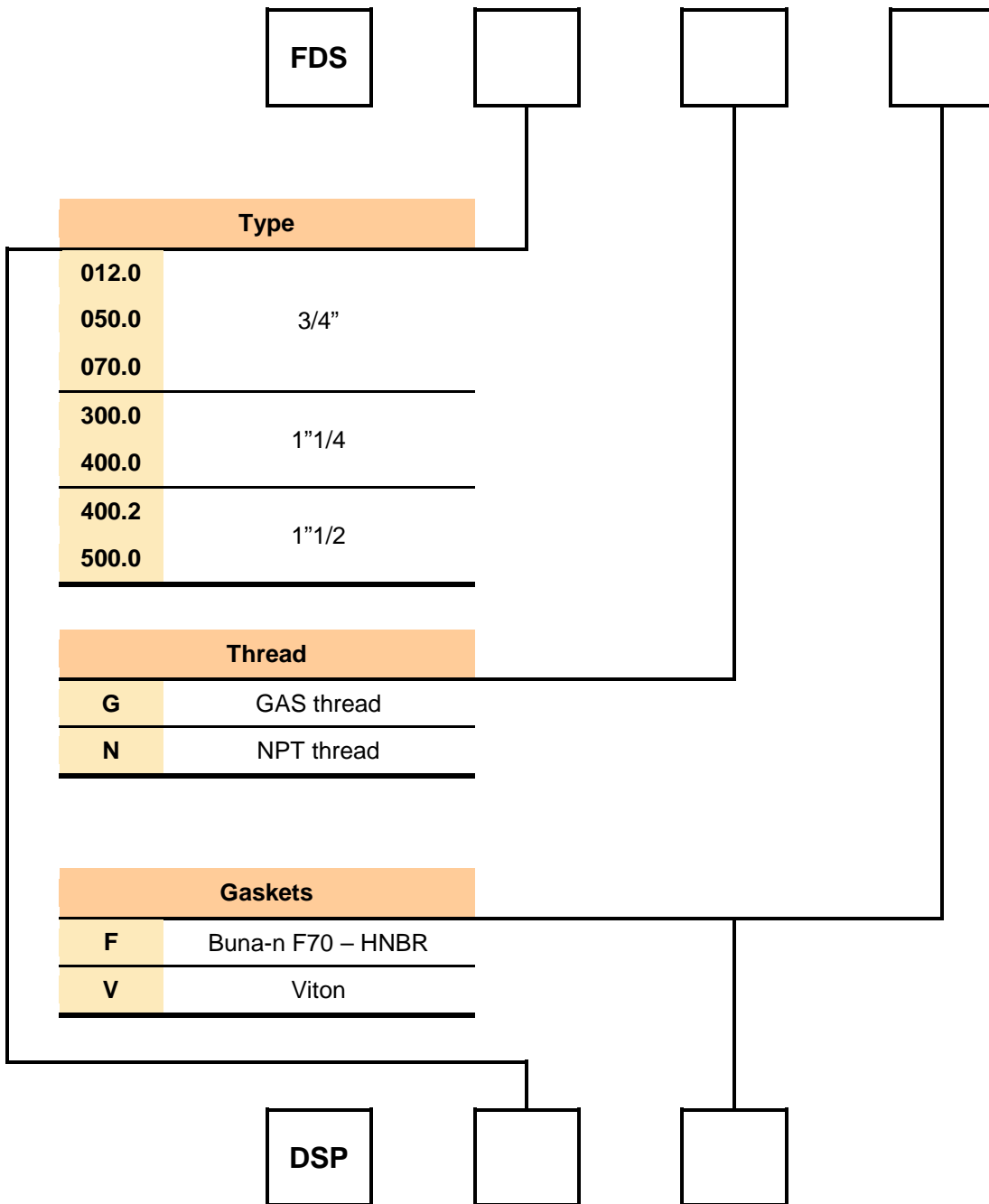


Type	FDS 06.0	FDS 12.0	FDS 50.0	FDS 70.0	FDS 300.0	FDS 400.0	FDS 500.0
A	22	22	22	22	31	31	31
B	26	26	26	26	27	27	27
C	114	146	169	234	212	345	378
D	95	95	95	95	140	140	140
E	3/4" GAS	3/4" GAS	3/4" GAS	3/4" GAS	1" 1/4 GAS	1" 1/4 GAS	1" 1/2 GAS
F	162	194	217	282	270	403	435
G	76	76	96	96	138	138	138
H	38	38	38	38	68	68	68
I	M6	M6	M6	M6	M8	M8	M8
Flow rate m <sup>3</sup> /min	0,6	1	1,5	2	3	5,5	7

Type	A	B	C	D	F
FDS 400.2	1 1/2"	47	218	265	130
	G	H	L	M	
	60	M10	284	150	



# ORDER CODE





**Il mondo Fai Filtri è diventato più grande per offrirvi di più**  
**Fai Filtri's world has grown bigger to offer you more and more**



**FAI FILTRI s.r.l.** - (Head Quarter)  
 Strada Provinciale Francesca, 7  
 24040 Pontirolo Nuovo (BG) - Italy  
 Tel. ++39 0363 880024 -  
 Fax ++39 0363 330177  
 faifiltri@faifiltri.it  
 www.faifiltri.it

**www.faifiltri.it**  
**faifiltri@faifiltri.it**

**Divisione Vendite Italia**  
 Tel. +39 0363 88 00 24  
 Fax. +39 0363 33 01 77  
 vendite@faifiltri.it

**Divisione Vendite Export**  
**Sales Department**  
 Tel. +39 0363 88 00 24  
 Fax. +39 0363 33 01 77  
 sales@faifiltri.it

**Divisione Qualità**  
**Quality Department**  
 Tel. +39 0363 88 00 24  
 Fax. +39 0363 33 07 77  
 quality@faifiltri.it

**Divisione Tecnica**  
**Technical Department**  
 Tel. +39 0363 88 00 24  
 Fax. +39 0363 33 07 77  
 technical@faifiltri.it

**Divisione Acquisti**  
**Purchase Department**  
 Tel. +39 0363 88 00 24  
 Fax. +39 0363 33 07 77  
 purchasing@faifiltri.it

**Pianificazione Produzione**  
**Planning Department**  
 Tel. +39 0363 88 00 24  
 Fax. +39 0363 33 07 77  
 pianificazione@faifiltri.it

**Amministrazione**  
**Account Department**  
 Tel. +39 0363 88 00 24  
 Fax. +39 0363 33 07 77  
 account@faifiltri.it

**FAI FILTRI Canada Inc.**  
 2871 Brighton Road  
 L6H 6C9 Oakville,  
 Ontario - Canada  
 Phone ++001 9058298037  
 Fax ++001 9058292039  
 faifiltri@faifiltri.com  
 www.faifiltri.com

**FAI FILTRI Malaysia Sdn. Bhd.**  
 5, Jalan usj 1/6c, su bang jaya  
 47610 Selangor Darul Ehsan  
 Malaysia  
 Phone 00603 8023 9878  
 Fax 00603 8023 6878  
 faifiltri@tm.net.my

