

SYNTESI® DEPURATOR

The job of the filter purifier is to separate liquid and solid particles dispersed in the compressed air with a high degree of efficiency. This separation is achieved by means of a special filtering element called a "coalescence cartridge".

It is particularly indicated for eliminating traces of oil present in the compressed air. The air flow rate must remain below the maximum values to achieve the desired degree of purification. Beyond this value, there may be a decline in the quality of air from the purifier.

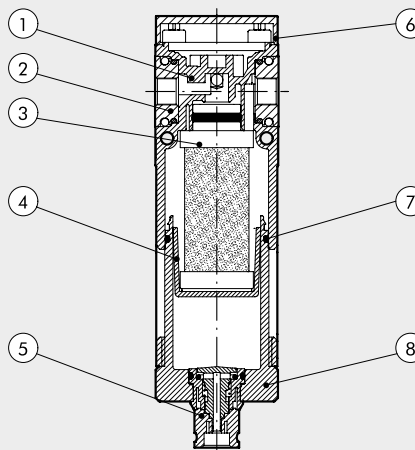
On the front and back there is a port (1/8" BSPP for size 1 and 1/4" BSPP for size 2) that can be used with pressure gauges, pressure switches or as an additional air intake. **The air taken from here is not purified.**



TECHNICAL DATA	DEP SY1			DEP SY2			
	1/8" NPT	1/4" NPT	3/8" NPT	3/8" NPT	1/2" NPT	3/4" NPT	1" NPT
Threaded port	1/8" NPT	1/4" NPT	3/8" NPT	3/8" NPT	1/2" NPT	3/4" NPT	1" NPT
Degree of filtration	0.01 (0.4 microinch) - output air purity class ISO8573-1: 1.7.2						
Max. input pressure	15 bar			13 bar			
	1.5 MPa			1.3 MPa			
Suggested flow rate at 6.3 bar (0.63 MPa; 91 psi)	217 psi			188 psi			
	550 NL/min			620 NL/min			
Maximun suggested flow rate	9 scfm			37 scfm			
	See graph on the next page						
Min/max temperature at 10 bar; 1 MPa; 145 psi	N.B.: flow rates higher than the recommended value reduces purification efficiency						
	From -10 to +50 °C			From -10 to +50 °C			
Weight	From 14 to +122 °F			From 14 to +122 °F			
	0.43	0.42	0.40	1.06	1	0.99	0.97
Condensate drain	RMSA: drain with manual condensate discharge and automatic discharge at zero pressure						
Fluid	SAC: automatic drain with condensate discharge. Operates by depression - requires variable air take-offs.						
Cup capacity	Compressed air or other inert gases						
Mounting position	0.51 fluid ounce oz			1.35 fluid ounce oz			
Port for additional air take-off (not purified air)	Vertical			Vertical			
Additional air take-off flow rate at 6.3 bar (0.63 MPa; 91 psi) ΔP 1 bar (0.1 MPa; 14.5 psi)	1/8" BSPP, front and rear			1/4" BSPP, front and rear			
Wall fixing screws	500 NL/min			1500 NL/min			
Notes on use	18 scfm			53 scfm			
	N. 8-32 unc x 2			N. 10-24 unc x 2			
	It is advisable to mount a 5 μm (200 microinch) filter upstream of the purifier to retain solid particles						

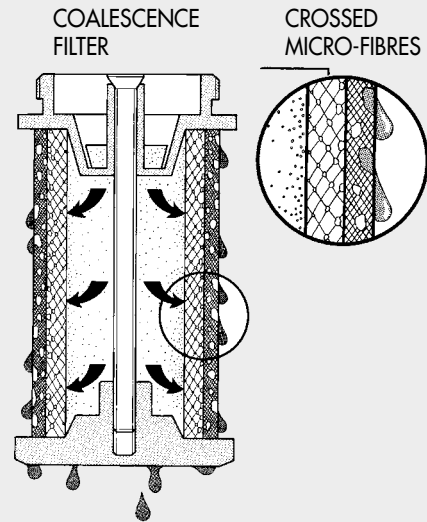
COMPONENTS

- ① Technopolymer depurator body
- ② IN/OUT bushing made of OT58 nickel-plated brass or passivated aluminium
- ③ Coalescence cartridge
- ④ Technopolymer cartridge support
- ⑤ Drain (RMSA)
- ⑥ Technopolymer plate
- ⑦ NBR o-ring gaskets
- ⑧ Clear technopolymer bowl



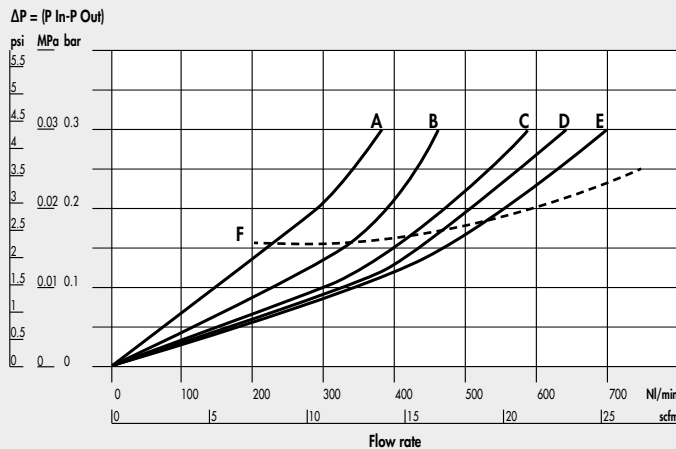
HOW THE COALESCENCE CARTRIDGE WORKS

Air from the mains – full of impurities – flows into the coalescence cartridge and then passes through the crossed micro-fibres that make up the cartridge. During this movement the liquid particles come into contact with the crossed micro-fibres and adhere to them. Due to the air pressure and gravity they join up with other micro-drops at each cross-over point and gradually increase in volume, leading to the physical phenomenon called coalescence. When they stop moving, the drops deposit on the outside of the cartridge, from which they detach and drop to the bottom. Since the volume of liquid leaving the cartridge is exactly the same as the drops arriving, the coalescence cartridge ought to work indefinitely. Solid particles are caught with the same efficiency but, unlike drops, they are not drained out and clog the cartridge. To get round this problem, it is necessary to mount a 5µm (200 microinch) prefilter before the fine oil filter to separate the solid particles first.

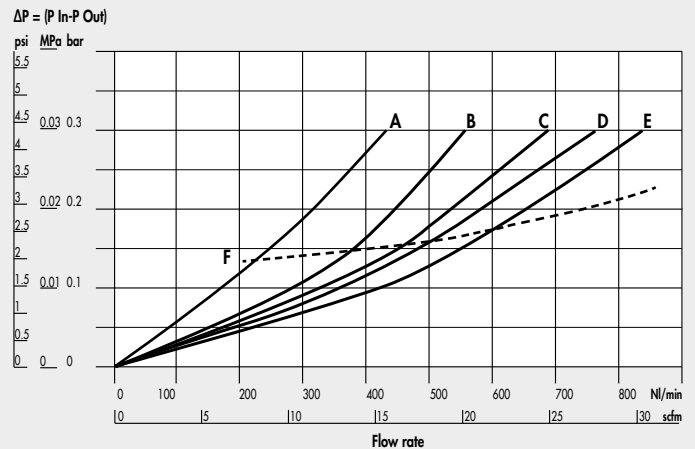


FLOW CHARTS

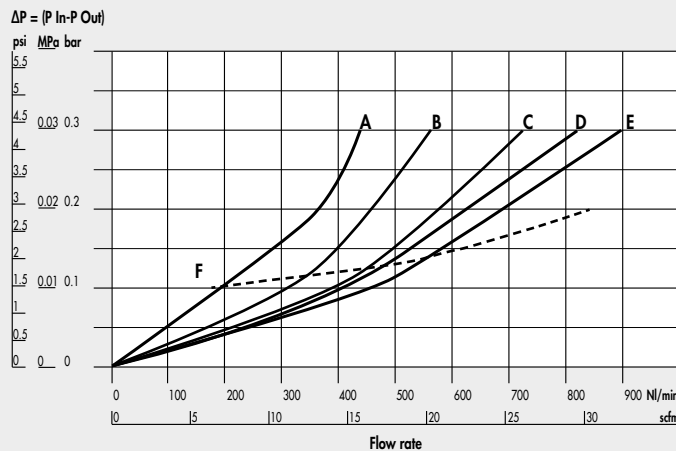
DEP Syntesi® SY1 1/8"



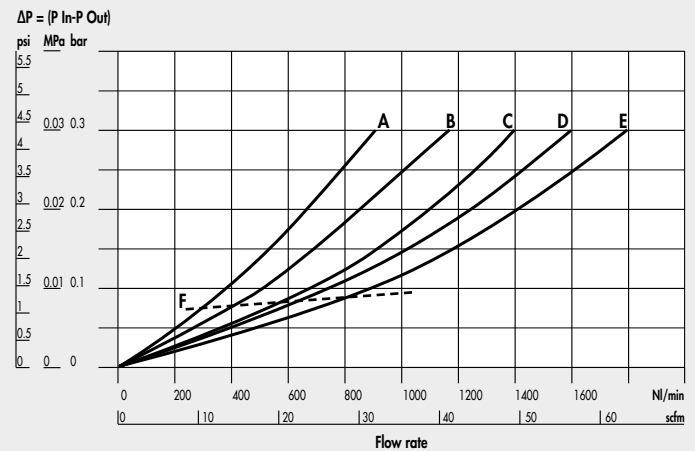
DEP Syntesi® SY1 1/4"



DEP Syntesi® SY1 3/8"

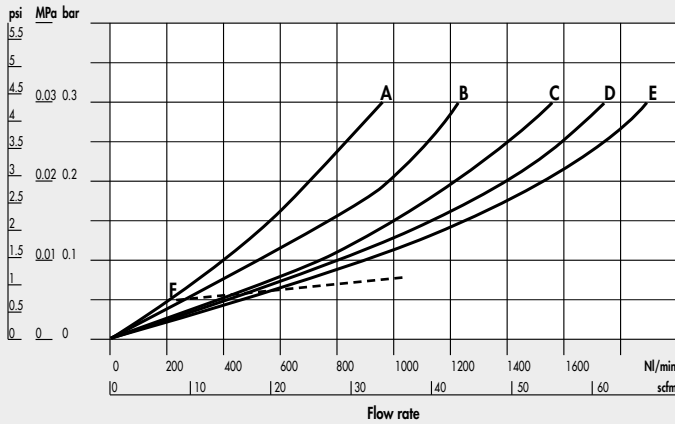


DEP Syntesi® SY2 3/8"



DEP Syntesi® SY2 1/2"

$\Delta P = (P \text{ In-P Out})$

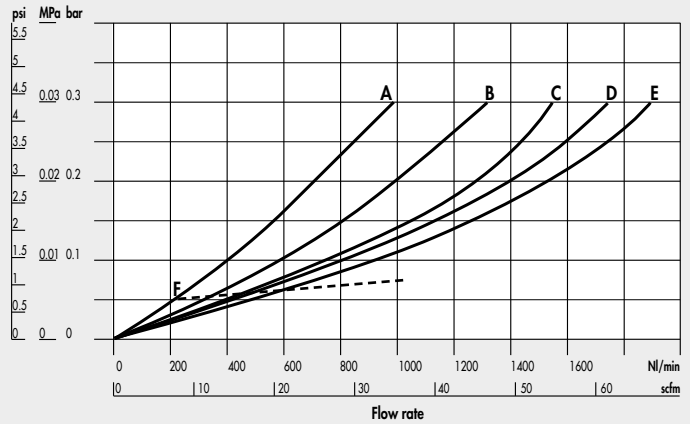


A = 2.5 bar - 0.25 MPa - 36 psi
 B = 4 bar - 0.4 MPa - 58 psi

C = 6.3 bar - 0.63 MPa - 91 psi
 D = 8 bar - 0.8 MPa - 116 psi

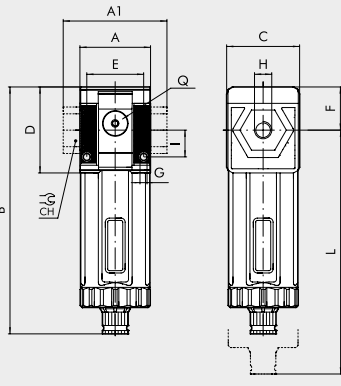
DEP Syntesi® SY2 3/4" - 1"

$\Delta P = (P \text{ In-P Out})$



E = 10 bar - 1 MPa - 145 psi
 F = max suggested flow

DIMENSIONS



	SIZE 1			SIZE 2			
H (threaded port)	1/8"	1/4"	3/8"	3/8"	1/2"	3/4"	1"
A	1.65			2.38			
A1	-	-	1.73	-	-	3.74	3.74
B	RMSA 5.83			7			
	SAC 5.99			7.16			
C	1.73			2.4			
CH	-	-	-	1.26	1.41		
D	2.03			2.77			
E	1.32			1.87			
F	1.02			1.5			
G	0.165			0.21			
I	0.63			0.89			
L	RMSA 7.95			9.65			
	SAC 8.11			9.8			
Q (no. 2 additional air takes-off)	1/8" BSPP			1/4" BSPP			

KEY TO CODES

5U	1	1	D	10	1
SYNTESI	SIZE	THREADED INPUT CONNECTION	ELEMENT	TYPE	THREADED OUTPUT CONNECTION
5U Syntesi NPT	1 Size 1	0 Without bushing 1 1/8" NPT port 2 1/4" NPT port 3 3/8" NPT port	D Depurator	10 RMSA 11 SAC	0 Without bushing 1 1/8" NPT port 2 1/4" NPT port 3 3/8" NPT port
5Z Syntesi anti-corrosion NPT	2 Size 2	0 Without bushing 3 3/8" NPT port 4 1/2" NPT port 5 3/4" NPT port 6 1" NPT port			0 Without bushing 3 3/8" NPT port 4 1/2" NPT port 5 3/4" NPT port 6 1" NPT port

RMSA: drain with manual condensate discharge and automatic discharge at zero pressure.
 SAC: automatic drain with condensate discharge.
Operates by depression - requires variable air take-offs.

PURCHASE ORDER CODES HAVING A MORE FREQUENT USE

N.B. Besides the below mentioned codes, you can order elements composed at your will according to the key to codes.

Code	Description	Code	Description
Syntesi® SY1 DEPURATOR		Syntesi® SY2 DEPURATOR	
5U10D100	DEP SY1 RMSA NPT without bushings	5U20D100	DEP SY2 RMSA NPT without bushings
5U11D101	DEP SY1 1/8 RMSA NPT	5U23D103	DEP SY2 3/8 RMSA NPT
5U12D102	DEP SY1 1/4 RMSA NPT	5U24D104	DEP SY2 1/2 RMSA NPT
5U13D103	DEP SY1 3/8 RMSA NPT	5U25D105	DEP SY2 3/4 RMSA NPT
		5U26D106	DEP SY2 1 RMSA NPT

NOTE
 Anti-corrosion version

Example
 5Z11D101 DEP SY1 1/8 RMSA NPT anti-corrosion