

SYNTESI® FILTER-REGULATOR

This device combines in a single unit the functions of filtration, condensate separation and pressure regulation.

It is made up of the same elements forming the filter and the regulator, so the performance and advantages are the same:

- Separation of condensate and larger liquid and solid particles by centrifugation.
- Two condensate drain options (RMSA, RA and SAC).
- 360° visually inspection of the condensate level, via transport spy-holes.
- Rolling diaphragm regulator, allowing maximum precision and flow rate, and minimal friction.
- Compensation for upstream pressure changes.
- Pressure relief valve.
- Quick downstream pressure relief.
- Padlockable push-lock knob.
- Front and rear ports for pressure gauges, pressure switches or, considering the high flow rate, for use as additional filtered and regulated air take-off.



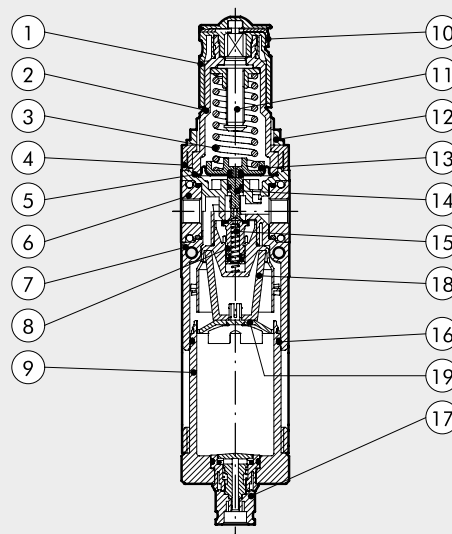
AIR PREP

Syntesi® FILTER-REGULATOR

TECHNICAL DATA	FR SY1			FR 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	yellow: 5 (200 microinch) - output air purity class ISO8573-1: 3.7.4 white: 20 (790 microinch) - output air purity class ISO8573-1: 4.7.4 blue: 50 (2000 microinch) - output air purity class ISO8573-1: 5.7.4						
Max. inlet pressure	bar			bar			
	MPa			MPa			
	psi			psi			
Flow rate at 6.3 bar (0.63 MPa; 91 psi) ΔP 0.5 bar (0.05 MPa; 7.25 psi)	Nl/min	500	800	2200	3200	4300	5200
(inlet pressure 10 bar; 1 MPa; 145 psi)	scfm	18	28	78	113	152	184
Flow rate at 6.3 bar (0.63 MPa; 91 psi) ΔP 1 bar (0.1 MPa; 14.5 psi)	Nl/min	1300	2000	3000	5800	7200	7400
(inlet pressure 10 bar; 1 MPa; 145 psi)	scfm	46	71	106	205	255	262
Relief valve flow rate at 6.3 bar (0.63 MPa; 91 psi)	Nl/min	70			100		
	scfm	2.5			3.5		
Min/max temperature at 10 bar; 1 MPa; 145 psi	°C	From -10 to +50			From -10 to +50		
	°F	From 14 to +122			From 14 to +122		
Full outflow with zero inlet pressure	Included						
Padlockable knob	Included						
Upstream pressure compensation	Included, via balanced valve						
Weight	pounds	0.54	0.53	0.51	1.37	1.32	1.30
Fluid	Compressed air or other inert gases						
Mounting position	Vertical						
Additional air take-off, for pressure gauges or fittings	1/8" BSPP, front and rear			1/4" BSPP, front and rear			
Additional air take-off flow rate at 6.3 bar	Nl/min	500			1400		
(0.63 MPa; 91 psi) ΔP 1 bar (0.1 MPa; 14.5 psi)	scfm	18			50		
Cup capacity	fluid ounce oz	1.02			2.37		
Condensate drain	RMSA: drain with manual condensate discharge and automatic discharge at zero pressure RA: automatic drain with condensate discharge, independent of pressure and flow rate Version conveys the draining by inserting the pipe having internal diameter 6 mm in the lower port. SAC: automatic drain with condensate discharge. Operates by depression – requires variable air take-offs.						
Wall fixing screws	N. 8-32 unc x 2			N. 2 10-24 unc x 2			
Notes on use	The pressure must always be set upwards. For increased sensitivity, use a pressure regulator with a rated pressure as close as possible to the required value. On request version without overpressure exhaust.						

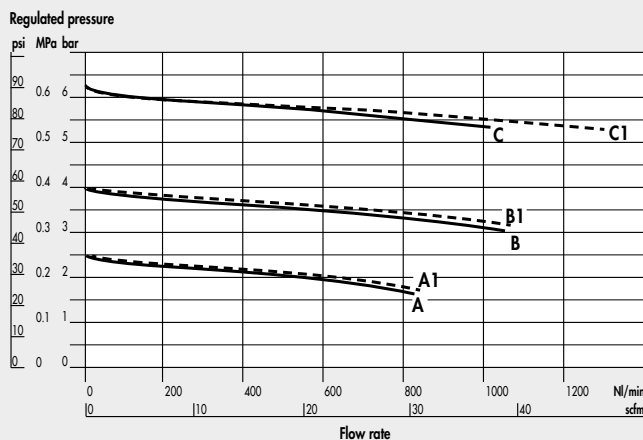
COMPONENTS

- ① Technopolymer adjusting knob
- ② Technopolymer bell
- ③ Steel adjusting spring (with Geomer[®] treatment for anti-corrosion version)
- ④ Technopolymer flange
- ⑤ Rolling diaphragm
- ⑥ IN/OUT bushing made of OT58 nickel-plated brass or passivated aluminium
- ⑦ Technopolymer body
- ⑧ OT58 brass valve, with NBR vulcanized gasket
- ⑨ Clear technopolymer bowl
- ⑩ Plate for knob locking (stainless steel for anti-corrosion version)
- ⑪ OT58 brass adjusting screw
- ⑫ Technopolymer ring nut
- ⑬ Technopolymer plate
- ⑭ Technopolymer rod
- ⑮ Stainless steel valve spring
- ⑯ O-ring NBR gaskets
- ⑰ Drain (RMSA)
- ⑱ Sintered HDPE filter cartridge
- ⑲ Technopolymer screen

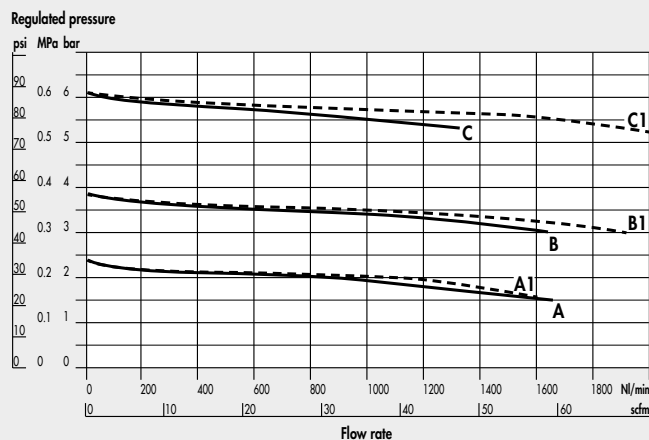


FLOW CHARTS

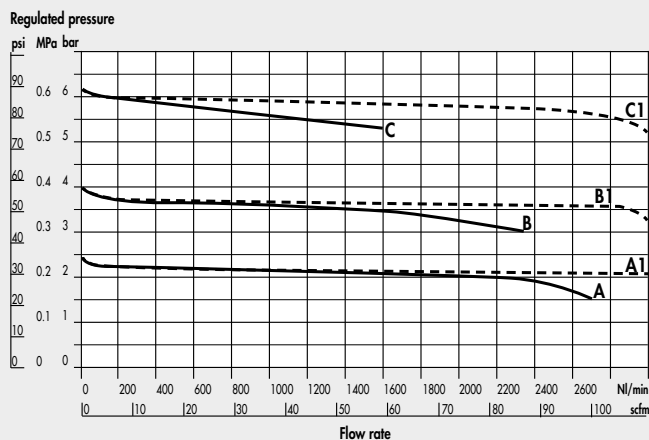
FR Syntesi[®] SY1 1/8"



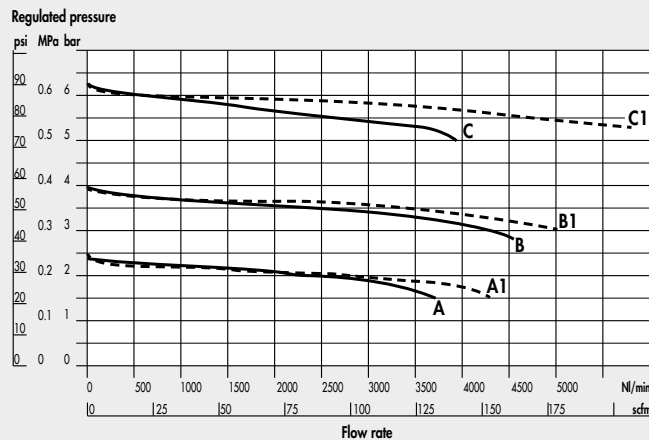
FR Syntesi[®] SY1 1/4"



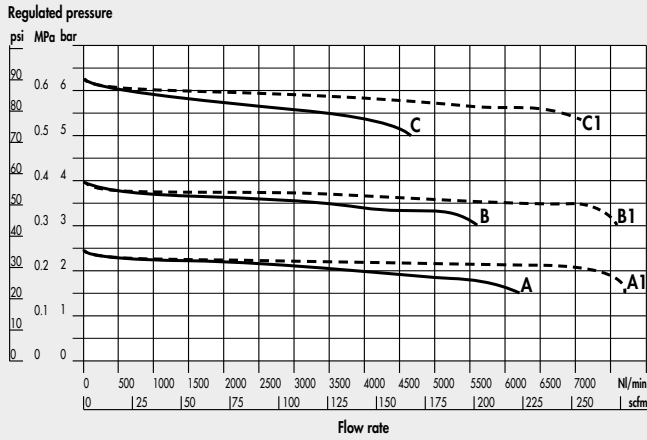
FR Syntesi[®] SY1 3/8"



FR Syntesi[®] SY2 3/8"

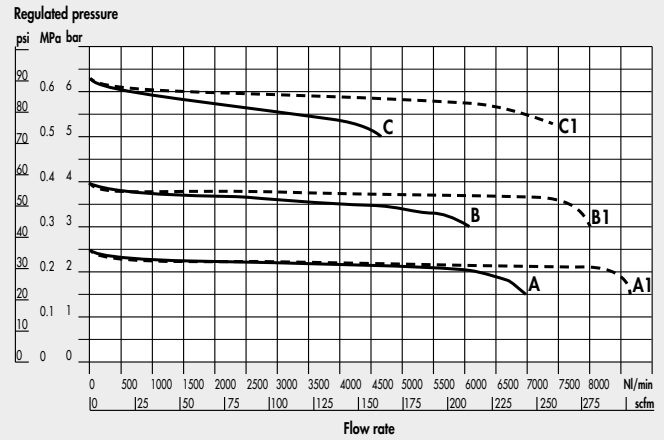


FR Syntesi® SY2 1/2"



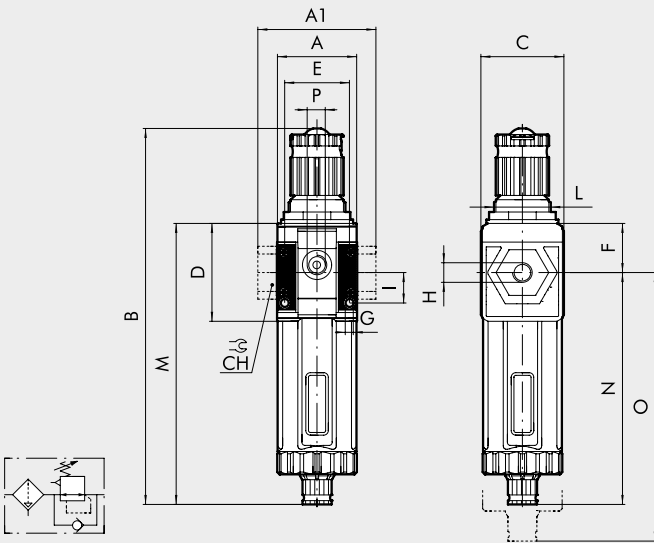
A = P In 7 bar (101.5 psi) - P Out 2.5 bar (36 psi)
 B = P In 7 bar (101.5 psi) - P Out 4 bar (58 psi)
 C = P In 7 bar (101.5 psi) - P Out 6.3 bar (91 psi)

FR Syntesi® SY2 3/4" - 1"



A1 = P In 10 bar (145 psi) - P Out 2.5 bar (36 psi)
 B1 = P In 10 bar (145 psi) - P Out 4 bar (58 psi)
 C1 = P In 10 bar (145 psi) - P Out 6.3 bar (91 psi)

DIMENSIONS



		SIZE 1			SIZE 2		
H (threaded port)	NPT	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	7.60			9.68		
	RA/SAC	7.95			9.84		
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		M30x1.5			M38x2		
M	RMSA	5.83			7		
	RA/SAC	5.99			7.16		
N	RMSA	4.82			5.5		
	RA/SAC	4.97			5.66		
O	RMSA	7.95			9.65		
	RA/SAC	8.11			9.8		
P (pressure gauge port or additional air takes-off)		1/8" BSPP			1/4" BSPP		

NOTES

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	NOTE
FILTER-REGULATOR Syntesi® SY1		FILTER-REGULATOR Syntesi® SY2		
5U10B140	FR SY1 5 0-120 RMSA NPT without bushings	5U20B140	FR SY2 5 0-120 RMSA NPT without bushings	Anti-corrosion version
5U10B240	FR SY1 20 0-120 RMSA NPT without bushings	5U20B240	FR SY2 20 0-120 RMSA NPT without bushings	5Z _____
5U10B440	FR SY1 5 0-120 RA NPT without bushings	5U20B440	FR SY2 5 0-120 RA NPT without bushings	Example
5U10B540	FR SY1 20 0-120 RA NPT without bushings	5U20B540	FR SY2 20 0-120 RA NPT without bushings	5Z11B141 FR SY1 1/8 5 08 RMSA NPT anti-corrosion
5U10B160	FR SY1 5 0-180 RMSA NPT without bushings	5U20B160	FR SY2 5 0-180 RMSA NPT without bushings	
5U10B260	FR SY1 20 0-180 RMSA NPT without bushings	5U20B260	FR SY2 20 0-180 RMSA NPT without bushings	
5U10B460	FR SY1 5 0-180 RA NPT without bushings	5U20B460	FR SY2 5 0-180 RA NPT without bushings	
5U10B560	FR SY1 20 0-180 RA NPT without bushings	5U20B560	FR SY2 20 0-180 RA NPT without bushings	
5U11B141	FR SY1 1/8 5 0-120 RMSA NPT	5U23B143	FR SY2 3/8 5 0-120 RMSA NPT	
5U11B241	FR SY1 1/8 20 0-120 RMSA NPT	5U23B243	FR SY2 3/8 20 0-120 RMSA NPT	
5U11B441	FR SY1 1/8 5 0-120 RA NPT	5U23B443	FR SY2 3/8 5 0-120 RA NPT	
5U11B541	FR SY1 1/8 20 0-120 RA NPT	5U23B543	FR SY2 3/8 20 0-120 RA NPT	
5U11B161	FR SY1 1/8 5 0-180 RMSA NPT	5U23B163	FR SY2 3/8 5 0-180 RMSA NPT	
5U11B261	FR SY1 1/8 20 0-180 RMSA NPT	5U23B263	FR SY2 3/8 20 0-180 RMSA NPT	
5U11B461	FR SY1 1/8 5 0-180 RA NPT	5U23B463	FR SY2 3/8 5 0-180 RA NPT	
5U11B561	FR SY1 1/8 20 0-180 RA NPT	5U23B563	FR SY2 3/8 20 0-180 RA NPT	
5U12B142	FR SY1 1/4 5 0-120 RMSA NPT	5U24B144	FR SY2 1/2 5 0-120 RMSA NPT	
5U12B242	FR SY1 1/4 20 0-120 RMSA NPT	5U24B244	FR SY2 1/2 20 0-120 RMSA NPT	
5U12B442	FR SY1 1/4 5 0-120 RA NPT	5U24B444	FR SY2 1/2 5 0-120 RA NPT	
5U12B542	FR SY1 1/4 20 0-120 RA NPT	5U24B544	FR SY2 1/2 20 0-120 RA NPT	
5U12B162	FR SY1 1/4 5 0-180 RMSA NPT	5U24B164	FR SY2 1/2 5 0-180 RMSA NPT	
5U12B262	FR SY1 1/4 20 0-180 RMSA NPT	5U24B264	FR SY2 1/2 20 0-180 RMSA NPT	
5U12B462	FR SY1 1/4 5 0-180 RA NPT	5U24B464	FR SY2 1/2 5 0-180 RA NPT	
5U12B562	FR SY1 1/4 20 0-180 RA NPT	5U24B564	FR SY2 1/2 20 0-180 RA NPT	
5U13B143	FR SY1 3/8 5 0-120 RMSA NPT	5U25B145	FR SY2 3/4 5 0-120 RMSA NPT	
5U13B243	FR SY1 3/8 20 0-120 RMSA NPT	5U25B245	FR SY2 3/4 20 0-120 RMSA NPT	
5U13B443	FR SY1 3/8 5 0-120 RA NPT	5U25B445	FR SY2 3/4 5 0-120 RA NPT	
5U13B543	FR SY1 3/8 20 0-120 RA NPT	5U25B545	FR SY2 3/4 20 0-120 RA NPT	
5U13B163	FR SY1 3/8 5 0-180 RMSA NPT	5U25B165	FR SY2 3/4 5 0-180 RMSA NPT	
5U13B263	FR SY1 3/8 20 0-180 RMSA NPT	5U25B265	FR SY2 3/4 20 0-180 RMSA NPT	
5U13B463	FR SY1 3/8 5 0-180 RA NPT	5U25B465	FR SY2 3/4 5 0-180 RA NPT	
5U13B563	FR SY1 3/8 20 0-180 RA NPT	5U25B565	FR SY2 3/4 20 0-180 RA NPT	
		5U26B146	FR SY2 1 5 0-120 RMSA NPT	
		5U26B246	FR SY2 1 20 0-120 RMSA NPT	
		5U26B446	FR SY2 1 5 0-120 RA NPT	
		5U26B546	FR SY2 1 20 0-120 RA NPT	
		5U26B166	FR SY2 1 5 0-180 RMSA NPT	
		5U26B266	FR SY2 1 20 0-180 RMSA NPT	
		5U26B466	FR SY2 1 5 0-180 RA NPT	
		5U26B566	FR SY2 1 20 0-180 RA NPT	

NOTES