

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:

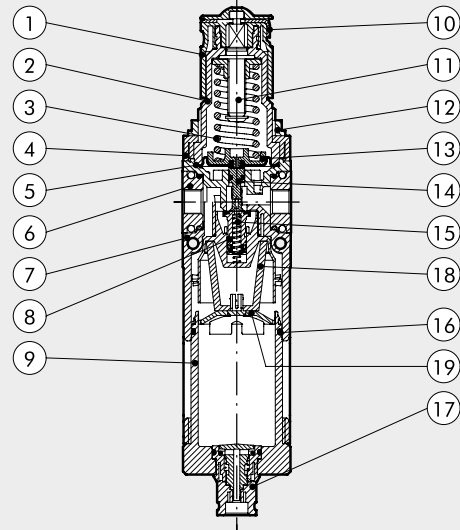
- Separation of condensate and larger liquid and solid particles by centrifugation.
- Three condensate drain options (RMSA, RA and SAC).
- 360° visually inspection of the condensate level, via transport spy-holes.
- Rolling diaphragm regulator, allowing maximum precision and flow rate, and minimal friction.
- 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.



TECHNICAL DATA	FR SY1			FR SY2			
	1/8"	1/4"	3/8"	3/8"	1/2"	3/4"	1"
Threaded port							
Degree of filtration	5 (yellow) - output air purity class ISO8573-1: 3.7.4 20 (white) - output air purity class ISO8573-1: 4.7.4 50 (blue) - 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 psi)	Nl/min	500	800	2200	3200	4300	5200
(inlet pressure 10 bar)	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 psi)	Nl/min	1300	2000	3000	5800	7200	7400
(inlet pressure 10 bar)	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		
Full outflow with zero inlet pressure	Included						
Padlockable knob	Included						
Upstream pressure compensation	Included, via balanced valve						
Weight	g	244	239	230	623	596	592
Fluid	Compressed air or other inert gases						
Mounting position	Vertical						
Additional air take-off, for pressure gauges or fittings	1/8", front and rear			1/4", 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 psi)	scfm	18			50		
Bowl capacity	cm³	30			70		
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 pressure drop – requires variable air take-offs. Note: the maximum input pressure for the RA version must not exceed 10 bar No. 2 M4 screws No. 2 M5 screws 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.						
Wall fixing screws							
Notes on use							

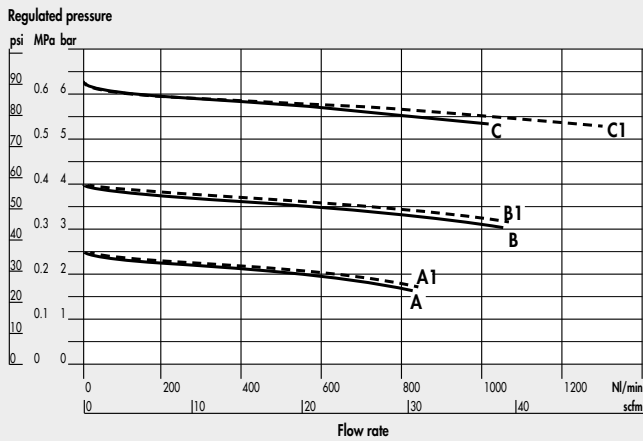
COMPONENTS

- ① Technopolymer adjusting knob
- ② Technopolymer bell
- ③ Steel adjusting spring (with Geomet® treatment for anti-corrosion version)
- ④ Technopolymer flange
- ⑤ Rolling diaphragm
- ⑥ IN/OUT bushing made of OT58 nickel-plated brass or passivated aluminium for 3/4" - 1"
- ⑦ Technopolymer body
- ⑧ OT58 brass valve, with NBR vulcanized gasket
- ⑨ Clear technopolymer bowl
- ⑩ Zinc-plated steel 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

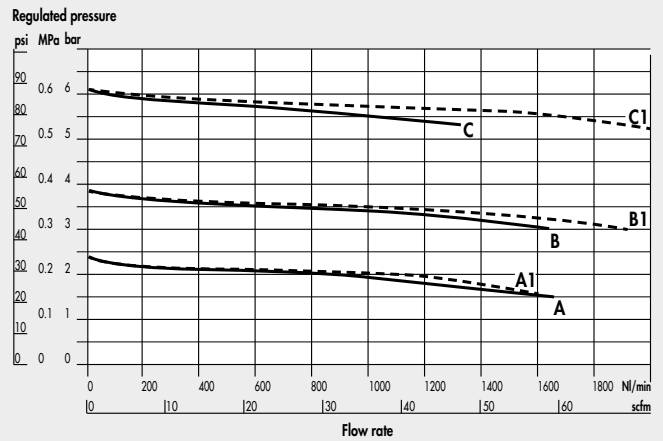


FLOW CHARTS

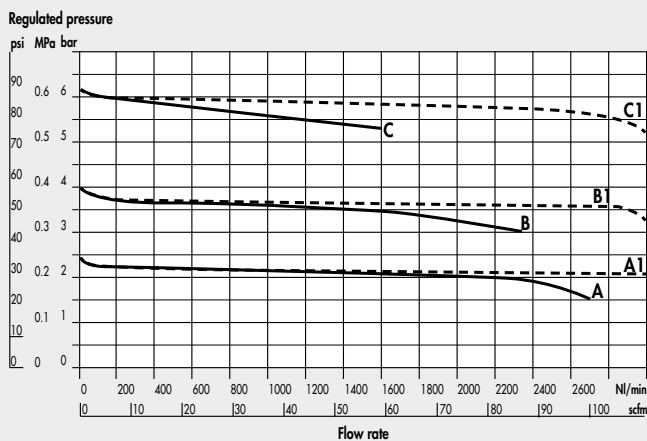
FR Syntesi® SY1 1/8"



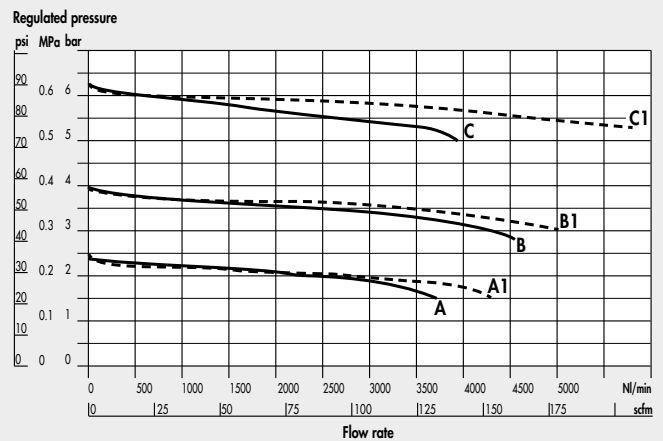
FR Syntesi® SY1 1/4"



FR Syntesi® SY1 3/8"



FR Syntesi® SY2 3/8"

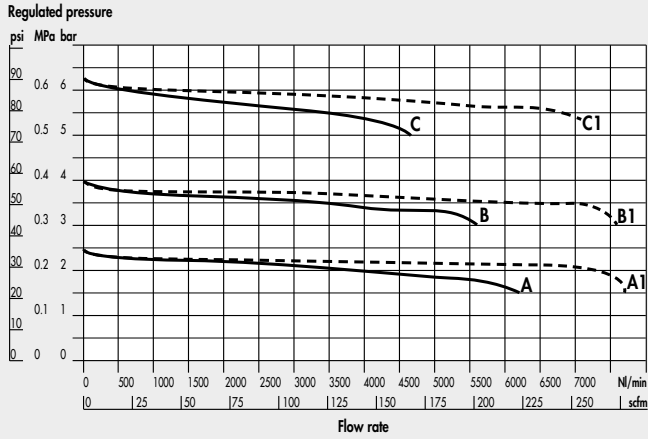


A = P In 7 bar - P Out 2.5 bar
 B = P In 7 bar - P Out 4 bar

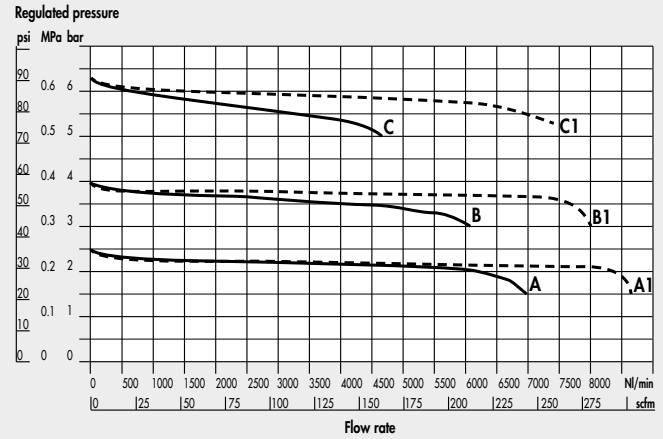
C = P In 7 bar - P Out 6.3 bar
 A1 = P In 10 bar - P Out 2.5 bar

B1 = P In 10 bar - P Out 4 bar
 C1 = P In 10 bar - P Out 6.3 bar

FR Syntesi® SY2 1/2"



FR Syntesi® SY2 3/4" - 1"

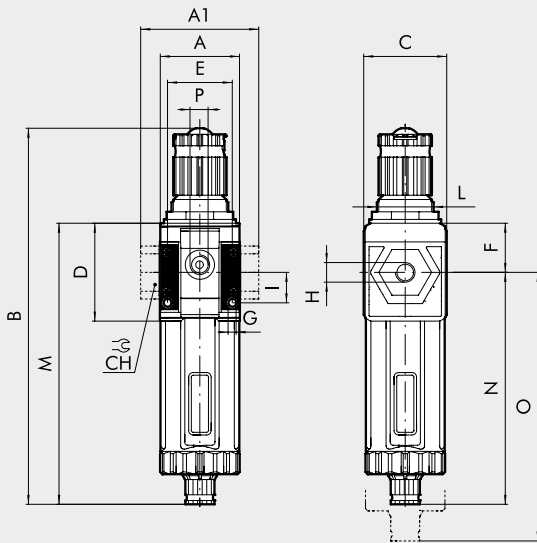


A = P In 7 bar - P Out 2.5 bar
 B = P In 7 bar - P Out 4 bar

C = P In 7 bar - P Out 6.3 bar
 A1 = P In 10 bar - P Out 2.5 bar

B1 = P In 10 bar - P Out 4 bar
 C1 = P In 10 bar - P Out 6.3 bar

DIMENSIONS



	SIZE 1			SIZE 2		
H (threaded port)	1/8"	1/4"	3/8"	3/8"	1/2"	3/4" 1"
A	42			60.5		
A1	-	-	44	-	-	95 95
B	RMSA 198 RA/SAC 202			246 250		
C	44			61		
CH	-			- - 32 36		
D	51.5			70.5		
E	33.5			47.5		
F	25.8			38.2		
G	Hole for M4 screws			Hole for M5 screws		
I	16			22.5		
L	M30x1.5			M38x2		
M	RMSA 148 RA/SAC 152			178 182		
N	RMSA 122.2 RA/SAC 126.2			139.8 143.8		
O	RMSA 202 RA/SAC 206			245 249		
P (pressure gauge port or additional air takes-off)	1/8"			1/4"		

NOTES

KEY TO CODES

56 SYNTESI	1 SIZE	1 THREADED INPUT CONNECTION	B ELEMENT	24 DEGREE OF FILTRATION, TYPE OF CONDENSATE DRAIN AND SETTING RANGE	1 THREADED OUTPUT CONNECTION
56 Syntesi 5X Syntesi anti-corrosion	1 Size 1	0 Without bushing 1 1/8" port 2 1/4" port 3 3/8" port	B Filter-regulator	<ul style="list-style-type: none"> ● 10 5 µm, RMSA, 0 to 2 bar ● 20 20 µm, RMSA, 0 to 2 bar ● 30 50 µm, RMSA, 0 to 2 bar ● 40 5 µm, RA, 0 to 2 bar ● 50 20 µm, RA, 0 to 2 bar ● 60 50 µm, RA, 0 to 2 bar ● 11 5 µm, SAC, 0 to 2 bar ● 21 20 µm, SAC, 0 to 2 bar ● 31 50 µm, SAC, 0 to 2 bar + 12 5 µm, RMSA, 0 to 4 bar + 22 20 µm, RMSA, 0 to 4 bar + 32 50 µm, RMSA, 0 to 4 bar + 42 5 µm, RA, 0 to 4 bar + 52 20 µm, RA, 0 to 4 bar + 62 50 µm, RA, 0 to 4 bar + 13 5 µm, SAC, 0 to 4 bar + 23 20 µm, SAC, 0 to 4 bar + 33 50 µm, SAC, 0 to 4 bar 14 5 µm, RMSA, 0 to 8 bar 24 20 µm, RMSA, 0 to 8 bar 34 50 µm, RMSA, 0 to 8 bar 44 5 µm, RA, 0 to 8 bar 54 20 µm, RA, 0 to 8 bar 64 50 µm, RA, 0 to 8 bar 15 5 µm, SAC, 0 to 8 bar 25 20 µm, SAC, 0 to 8 bar 35 50 µm, SAC, 0 to 8 bar 16 5 µm, RMSA, 0 to 12 bar 26 20 µm, RMSA, 0 to 12 bar 36 50 µm, RMSA, 0 to 12 bar 46 5 µm, RA, 0 to 12 bar 56 20 µm, RA, 0 to 12 bar 66 50 µm, RA, 0 to 12 bar 17 5 µm, SAC, 0 to 12 bar 27 20 µm, SAC, 0 to 12 bar 37 50 µm, SAC, 0 to 12 bar 	<ul style="list-style-type: none"> 0 Without bushing 1 1/8" port 2 1/4" port 3 3/8" port 0 Without bushing 3 3/8" port 4 1/2" port 5 3/4" port 6 1" port
	2 Size 2	0 Without bushing 3 3/8" port 4 1/2" port 5 3/4" port 6 1" port			

- Not available in the anti-corrosion version.
- + Anti-corrosion version available only in size 1.

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 pressure drop – requires variable air take-offs.**

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		Anti-corrosion version
5610B140	FR SY1 5 08 RMSA without bushings	5620B140	FR SY2 5 08 RMSA without bushings	5X -----
5610B240	FR SY1 20 08 RMSA without bushings	5620B240	FR SY2 20 08 RMSA without bushings	Example
5610B440	FR SY1 5 08 RA without bushings	5620B440	FR SY2 5 08 RA without bushings	5X11B141 FR SY1 1/8 5 08 RMSA anti-corrosion
5610B540	FR SY1 20 08 RA without bushings	5620B540	FR SY2 20 08 RA without bushings	
5610B160	FR SY1 5 012 RMSA without bushings	5620B160	FR SY2 5 012 RMSA without bushings	
5610B260	FR SY1 20 012 RMSA without bushings	5620B260	FR SY2 20 012 RMSA without bushings	
5610B460	FR SY1 5 012 RA without bushings	5620B460	FR SY2 5 012 RA without bushings	
5610B560	FR SY1 20 012 RA without bushings	5620B560	FR SY2 20 012 RA without bushings	
5611B141	FR SY1 1/8 5 08 RMSA	5623B143	FR SY2 3/8 5 08 RMSA	
5611B241	FR SY1 1/8 20 08 RMSA	5623B243	FR SY2 3/8 20 08 RMSA	
5611B441	FR SY1 1/8 5 08 RA	5623B443	FR SY2 3/8 5 08 RA	
5611B541	FR SY1 1/8 20 08 RA	5623B543	FR SY2 3/8 20 08 RA	
5611B161	FR SY1 1/8 5 012 RMSA	5623B163	FR SY2 3/8 5 012 RMSA	
5611B261	FR SY1 1/8 20 012 RMSA	5623B263	FR SY2 3/8 20 012 RMSA	
5611B461	FR SY1 1/8 5 012 RA	5623B463	FR SY2 3/8 5 012 RA	
5611B561	FR SY1 1/8 20 012 RA	5623B563	FR SY2 3/8 20 012 RA	
5612B142	FR SY1 1/4 5 08 RMSA	5624B144	FR SY2 1/2 5 08 RMSA	
5612B242	FR SY1 1/4 20 08 RMSA	5624B244	FR SY2 1/2 20 08 RMSA	
5612B442	FR SY1 1/4 5 08 RA	5624B444	FR SY2 1/2 5 08 RA	
5612B542	FR SY1 1/4 20 08 RA	5624B544	FR SY2 1/2 20 08 RA	
5612B162	FR SY1 1/4 5 012 RMSA	5624B164	FR SY2 1/2 5 012 RMSA	
5612B262	FR SY1 1/4 20 012 RMSA	5624B264	FR SY2 1/2 20 012 RMSA	
5612B462	FR SY1 1/4 5 012 RA	5624B464	FR SY2 1/2 5 012 RA	
5612B562	FR SY1 1/4 20 012 RA	5624B564	FR SY2 1/2 20 012 RA	
5613B143	FR SY1 3/8 5 08 RMSA	5625B145	FR SY2 3/4 5 08 RMSA	
5613B243	FR SY1 3/8 20 08 RMSA	5625B245	FR SY2 3/4 20 08 RMSA	
5613B443	FR SY1 3/8 5 08 RA	5625B445	FR SY2 3/4 5 08 RA	
5613B543	FR SY1 3/8 20 08 RA	5625B545	FR SY2 3/4 20 08 RA	
5613B163	FR SY1 3/8 5 012 RMSA	5625B165	FR SY2 3/4 5 012 RMSA	
5613B263	FR SY1 3/8 20 012 RMSA	5625B265	FR SY2 3/4 20 012 RMSA	
5613B463	FR SY1 3/8 5 012 RA	5625B465	FR SY2 3/4 5 012 RA	
5613B563	FR SY1 3/8 20 012 RA	5625B565	FR SY2 3/4 20 012 RA	
		5626B146	FR SY2 1 5 08 RMSA	
		5626B246	FR SY2 1 20 08 RMSA	
		5626B446	FR SY2 1 5 08 RA	
		5626B546	FR SY2 1 20 08 RA	
		5626B166	FR SY2 1 5 012 RMSA	
		5626B266	FR SY2 1 20 012 RMSA	
		5626B466	FR SY2 1 5 012 RA	
		5626B566	FR SY2 1 20 012 RA	

NOTES