

# SYNTESI® PILOT OPERATED REGULATOR

The pilot operated regulator can adjust pressure remotely via a pneumatic command.

The two rolling diaphragms offer several advantages:

- increased stroke, which allows greater opening of the valve and hence increased flow rate;
- reduced dynamic and pickup friction, which results in increased response speed and high sensitivity;
- high precision in maintaining the set pressure, both with variable flow rates and different inlet pressures.

The design features the same construction characteristics as those used for a standard regulator, so the advantages are the same, namely: compensation of the regulated pressure varies with the upstream pressure; presence of a relieving valve and downstream pressure quick relieving.

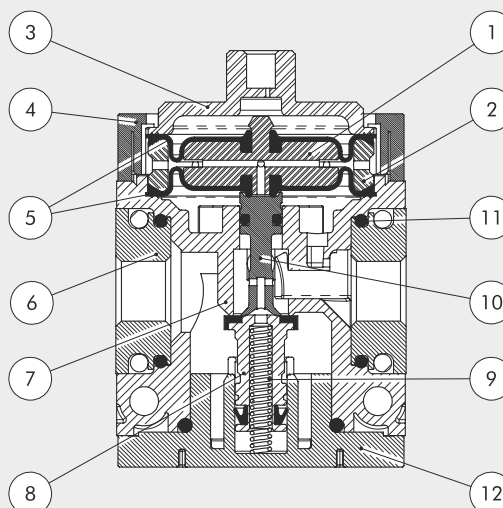


## TECHNICAL DATA

TECHNICAL DATA		REG SY1			REG SY2			
Threaded port		1/8"	1/4"	3/8"	3/8"	1/2"	3/4"	1"
Max. inlet pressure	bar	15			13			
	MPa	1.5			1.3			
	psi	217			188			
Flow rate at 6.3 bar (0.63 MPa; 91 psi) ΔP 0.5 bar (0.05 MPa; 7 psi)	Nl/min	900	1700	3300	5500	5500	7300	
(inlet pressure 10 bar)	scfm	32	60	116	194	194	258	
Flow rate at 6.3 bar (0.63 MPa; 91 psi) ΔP 1 bar (0.1 MPa; 14 psi)	Nl/min	1000	2800	3550	6800	6800	7700	
(inlet pressure 10 bar)	scfm	53	99	120	240	240	272	
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						
Upstream pressure compensation		Included, via balanced valve						
Weight	g	149	144	135	456	429	425	413
Fluid		Compressed air or other inert gases						
Mounting position		In any position						
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		500			1400			
(0.63 MPa; 91 psi) ΔP 1 bar (0.1 MPa; 14 psi)		18			50			
Wall fixing screws		No. 2 M4 screws			No. 2 M5 screws			
Notes on use		The pressure must always be set upwards.						

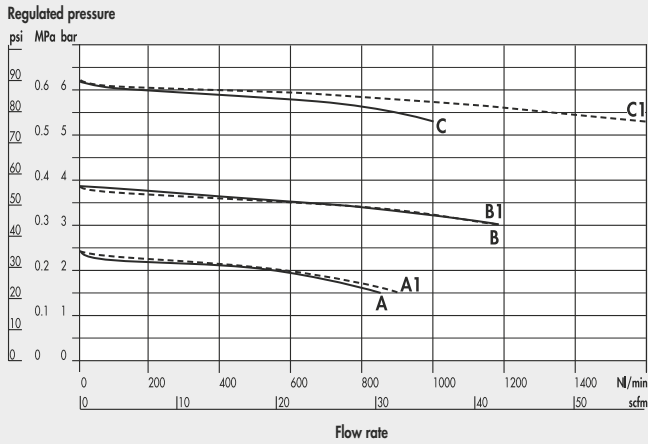
## COMPONENTS

- ① Anodized aluminium plate
- ② Anodized aluminium diaphragm washer
- ③ Anodized aluminium upper cap
- 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 regulator body
- ⑧ OT58 brass valve, with NBR vulcanized gasket
- ⑨ Stainless steel valve spring
- ⑩ Technopolymer rod
- ⑪ NBR o-ring gasket
- ⑫ Technopolymer plug

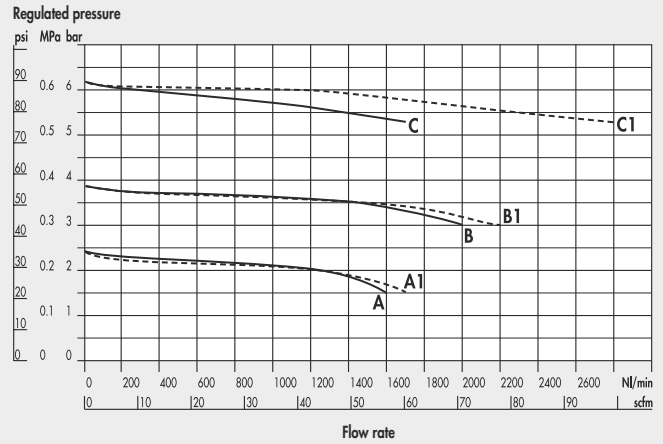


## FLOW CHARTS

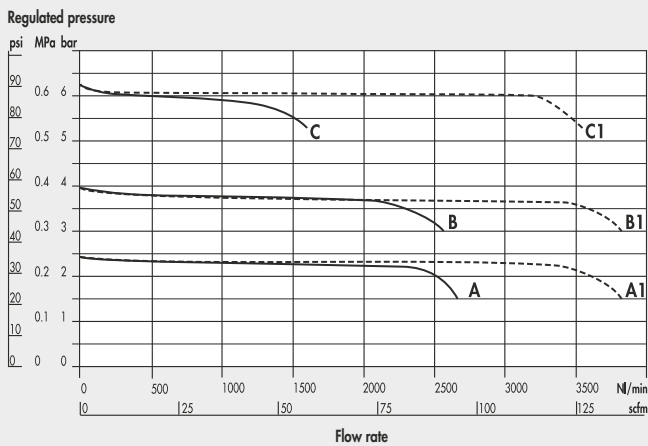
REG PIL Syntesi® SY1 1/8"



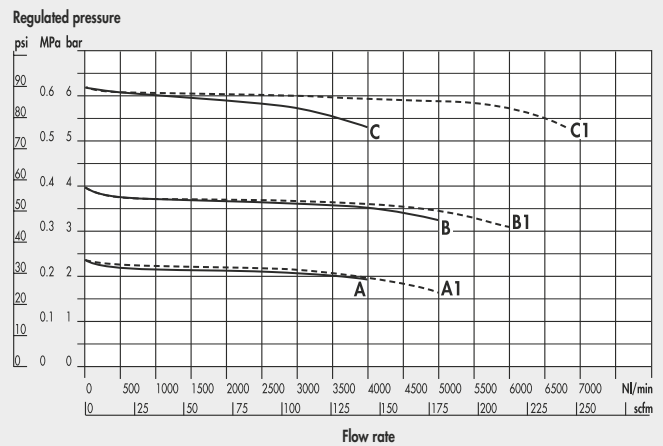
REG PIL Syntesi® SY1 1/4"



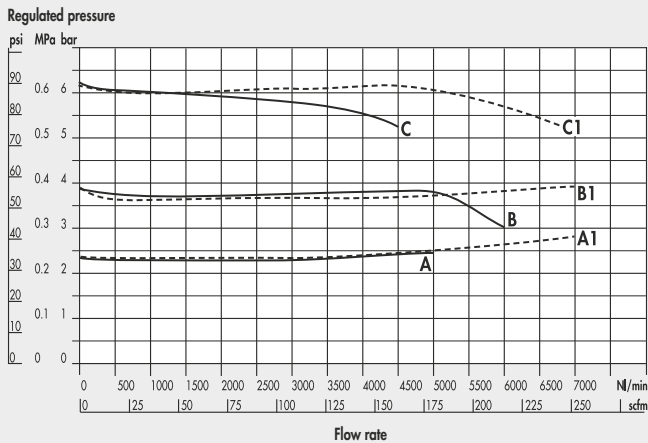
REG PIL Syntesi® SY1 3/8"



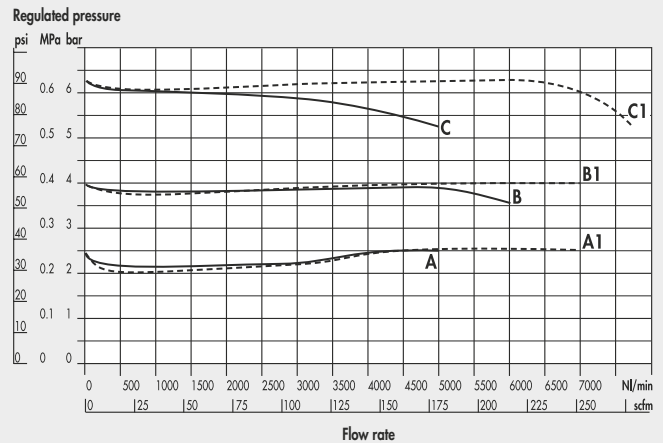
REG PIL Syntesi® SY2 3/8"



REG PIL Syntesi® SY2 1/2"



REG PIL Syntesi® SY2 3/4" - 1"

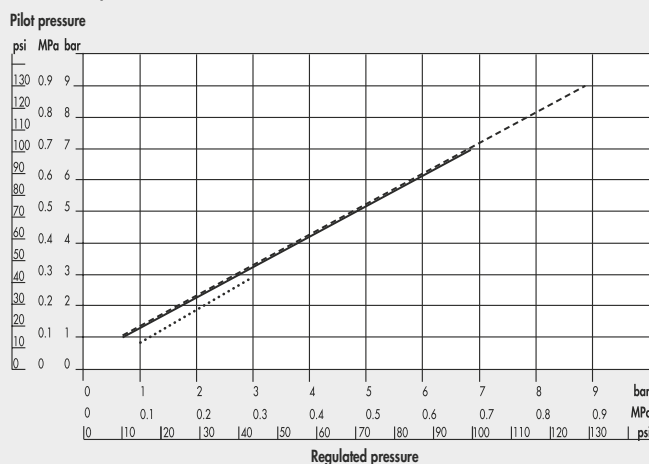


A = P In 7 bar - P Out 2.5 bar  
B = P In 7 bar - P Out 4 bar  
C = P In 7 bar - P Out 6.3 bar

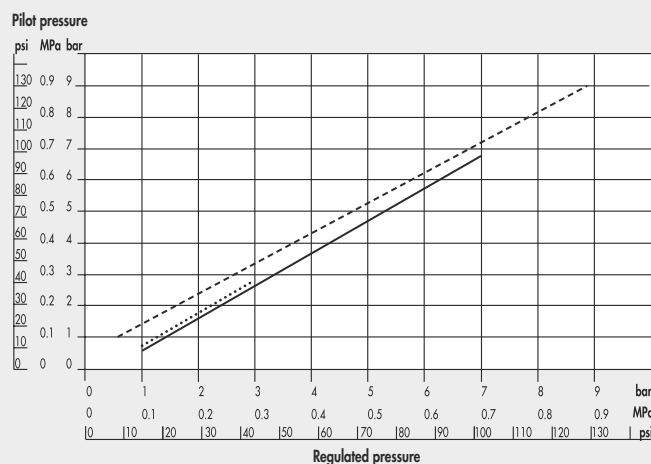
A1 = P In 10 bar - P Out 2.5 bar  
B1 = P In 10 bar - P Out 4 bar  
C1 = P In 10 bar - P Out 6.3 bar

## PILOTING CURVES

## REG PIL Syntesi® SY1



## REG PIL Syntesi® SY2

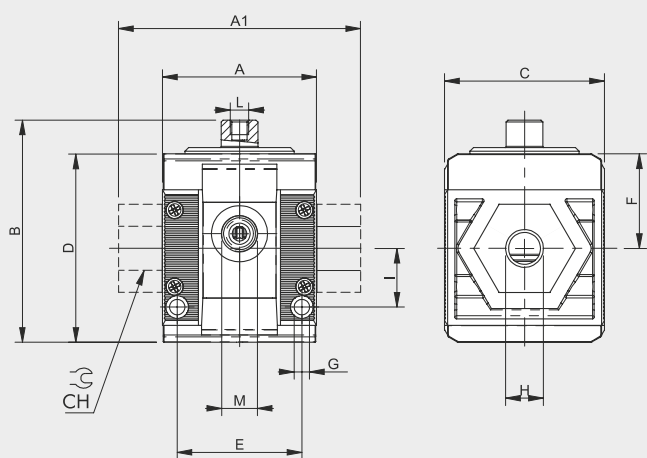


..... P In 4 bar

\_\_\_\_\_ P In 7 bar

----- P In 10 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	63			81			
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 (pilot)	M5			M5			
M (pressure gauge port or air takes-off)	1/8"			1/4"			

## KEY TO CODES

56	1	1	R	00	1
SYNTESI	SIZE	THREADED INPUT CONNECTION	ELEMENT	SETTING RANGE	THREADED OUTPUT CONNECTION
56 Syntesi	1 Size 1	0 Without bushing	R Pressure regulator	00 Pilot operated	0 Without bushing
5X Syntesi anti-corrosion		1 1/8" port			1 1/8" port
		2 1/4" port			2 1/4" port
		3 3/8" port			3 3/8" port
	2 Size 2	0 Without bushing			0 Without bushing
		3 3/8" port			3 3/8" port
		4 1/2" port			4 1/2" port
		5 3/4" port			5 3/4" port
		6 1" port			6 1" port

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

[illegible]

## NOTES