SYNTESi® PILOT OPERATED REGULATOR

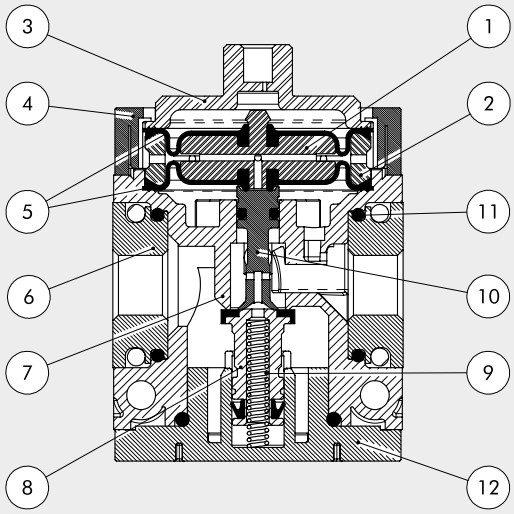
The pilot operated regulator can adjust pressure remotely via a pneumatic command.
The two rolling diaphragms offer several advantages:
- increased stroke, which allows greater opening of the valve and hence increased flow rate;
- reduced dynamic and pickup friction, which results in increased response 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		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

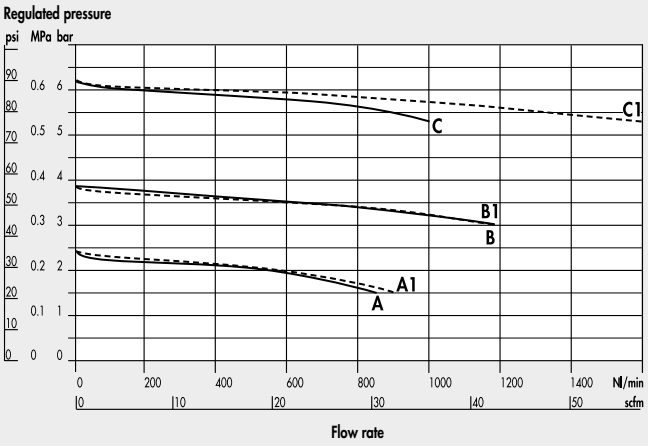
① Anodized aluminium plate
② Anodized aluminium diaphragm washer
③ Anodized aluminium upper cap
④ Technopolymer flange
⑤ Rolling diaphragm
⑥ IN/OUT bushing made of OT58 nickel-plated brass or passivated aluminium for 3/4" - 1"
⑦ Technopolymer regulator body
⑧ OT58 brass valve, with NBR vulcanized gasket
⑨ Stainless steel valve spring
⑩ Technopolymer rod
⑪ NBR o-ring gasket
⑫ Technopolymer plug



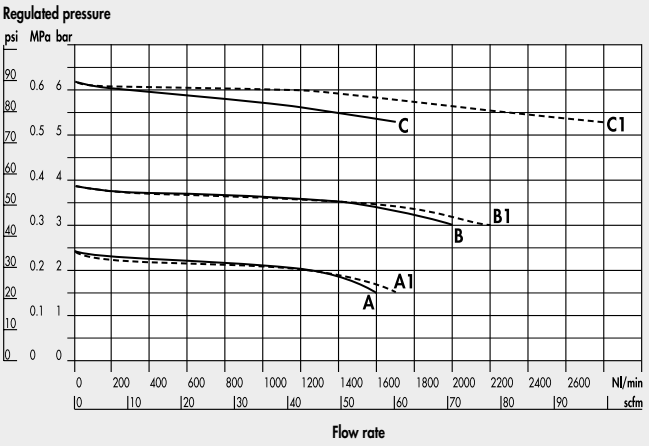
METAL WORK PNEUMATIC

FLOW CHARTS

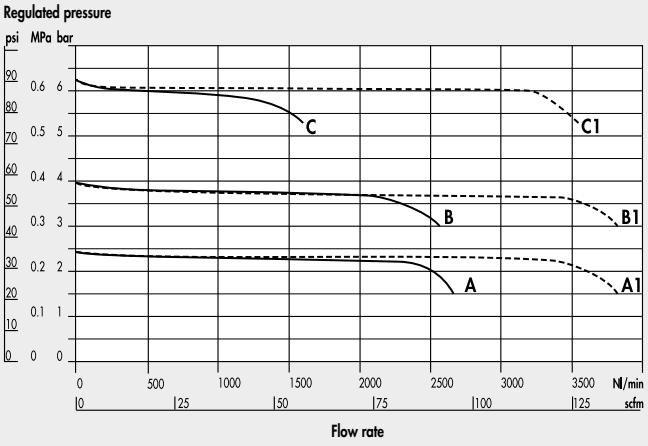
REG PIL Syntesi® **SY1** 1/8"



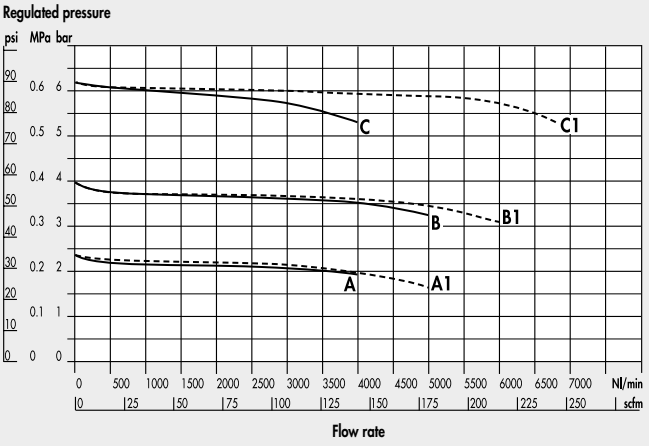
REG PIL Syntesi® **SY1** 1/4"



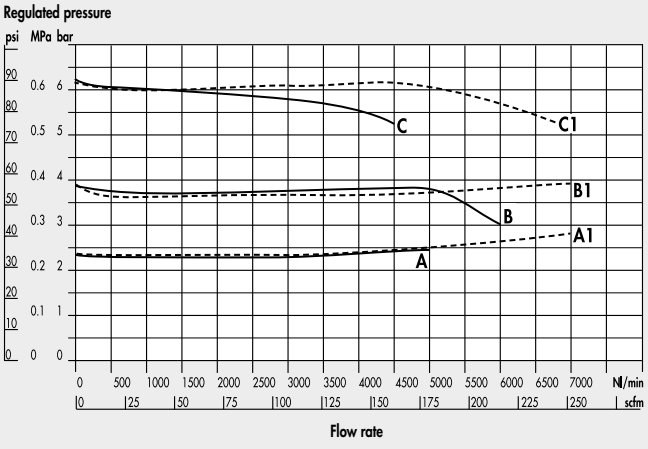
REG PIL Syntesi® **SY1** 3/8"



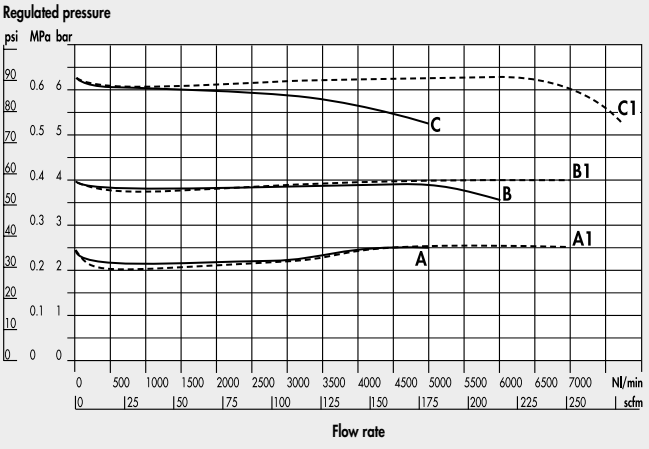
REG PIL Syntesi® **SY2** 3/8"



REG PIL Syntesi® **SY2** 1/2"



REG PIL Syntesi® **SY2** 3/4" - 1"

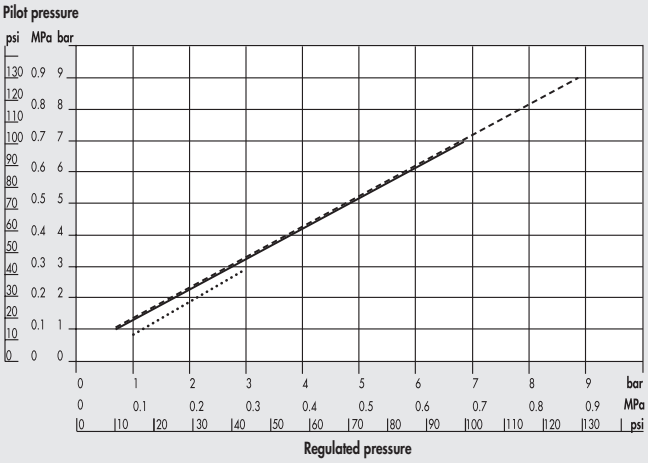


A = P In 7 bar - P Out 2.5 bar
B = P In 7 bar - P Out 4 bar
C = P In 7 bar - P Out 6.3 bar

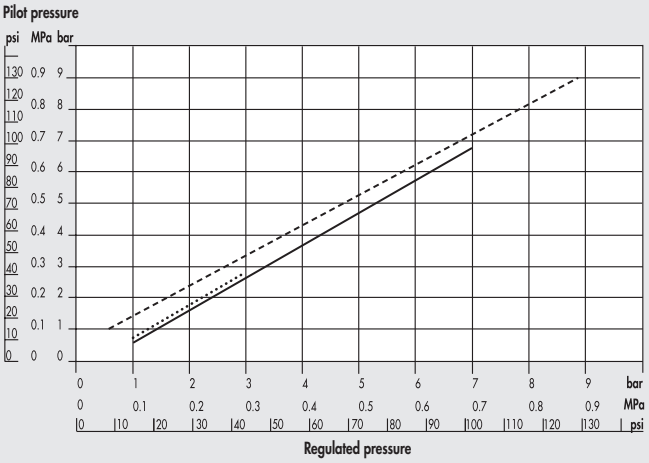
A1 = P In 10 bar - P Out 2.5 bar
B1 = P In 10 bar - P Out 4 bar
C1 = P In 10 bar - P Out 6.3 bar

PILOTING CURVES

REG PIL Syntesi® **SY1**

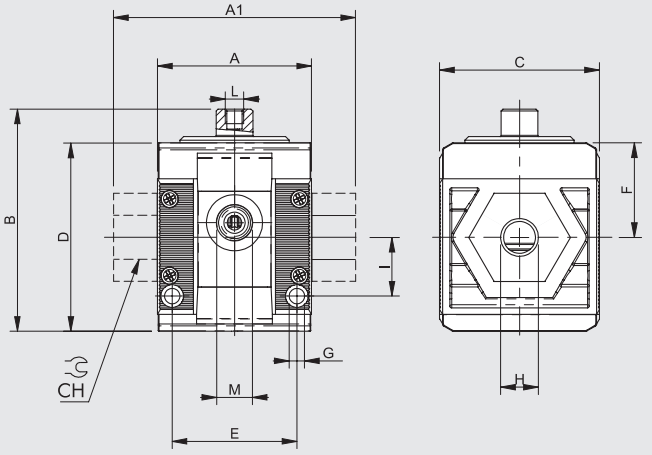


REG PIL Syntesi® **SY2**



..... 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

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
Syntesi® SY1 PILOT OPERATED REGULATOR	
5610R000	REG PIL SY1 without bushings
5611R001	REG PIL SY1 1/8
5612R002	REG PIL SY1 1/4
5613R003	REG PIL SY1 3/8

Code	Description
Syntesi® SY2 PILOT OPERATED REGULATOR	
5620R000	REG PIL SY2 without bushings
5623R003	REG PIL SY2 3/8
5624R004	REG PIL SY2 1/2
5625R005	REG PIL SY2 3/4
5626R006	REG PIL SY2 1

NOTE	
Anti-corrosion version	
5X_ _ _ _ _ _	
Example	
5X11R001	REG PIL SY1 1/8 anti-corrosion

NOTES