EB 80 PROPORTIONAL PRESSURE REGULATOR - A

The EB 80 proportional pressure regulator is an extremely precise and reliable component part. It is designed to regulate the pressure of a system with varying values according to the electrical control setting.
It can be inserted in any position and on all EB 80 islands.
Highly flexible, it comes in various types: for the 25/44-pin multi-pole islands, it is possible to use the analogue regulator with external M12 electrical connection, it accepts commands in Volts, mA and via RS232 protocol; in all the versions with a fieldbus, the connections and electrical controls are directly incorporated in the internal hardware/software that can be easily managed by the user in a simple and intuitive way every island and can accommodate up to 16 pressure regulators that are connected to all the protocols available for the EB 80 (also in additional islands).
An island of electronic regulators arranged in a row can be created, without necessarily requiring solenoid valves.

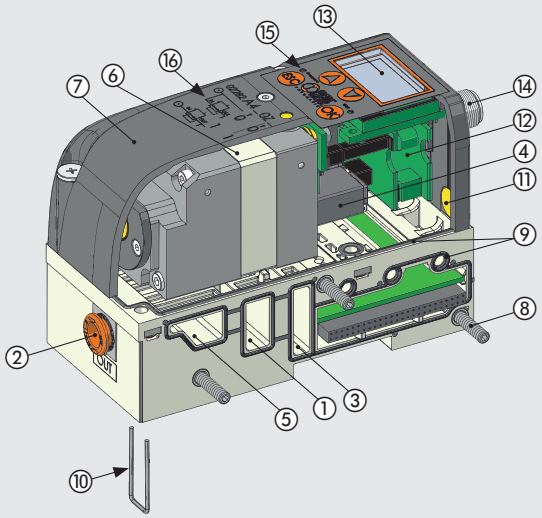
The "closed loop" system has a precision sensor that detects the output pressure value; the control system compares the value read with the value set in real time and two mini-solenoid valves adjust the pressure until the target value is reached.
As for the Regtronic family, in this case too, you can opt for a regulator with a screen that displays the pressure and a whole series of information including diagnostics that facilitates the configuration or a version without display where the configuration is done remotely.
As to the pneumatic system, there are two possibilities: with Local Regulation or Series Regulation. In the former case, the air taken from port 1 of the island is regulated by a quick-fit coupling with the front side in the base; in this way, several regulators can be placed in succession. In the latter case, the pressure is regulated directly at port 1 of the island, so all the valves downstream are supplied with the pressure set by the regulator. The front outlet fitting, which has an RL9 cap in this version, is still present and operational.

TECHNICAL DATA		LOCAL OUTPUT VERSION		SERIES CONTROL VERSION	
Fluid		Filtered, unlubricated air. The air must be filtered at least 10 µm			
MIN inlet pressure	bar	Regulation pressure + 0.5 to 1			
MAX inlet pressure	bar	10.5			
Temperature range	°C	from 0 to 50			
Pressure regulation range	bar	from 0.05 to 10 (settable full scale and minimum pressure)			
Flow rate at 6.3 bar ΔP 0.5	Nl/min	720		850	
Flow rate at 6.3 bar ΔP 1	Nl/min	1000		1250	
Exhaust flow rate at 6.3 bar with 0.1 bar overpressure	Nl/min	380		450	
Exhaust flow rate at 6.3 bar with 0.5 bar overpressure	Nl/min	800		1100	
Response time	Volume [cc]	100	1000	100	1000
from 6 to 7 bar	s	0.1	0.15	0.1	0.15
from 7 to 6 bar	s	0.1	0.15	0.1	0.15
Weight	kg	0.6			
Class of protection		IP 65			
Hysteresis		≤ ± 0.2% (Full scale)			
Repeatability		≤ ± 0.2% (Full scale)			
Sensitivity/Dead-band		setting range 10 to 300 mbar			
Output pressure (display version)	Accuracy	≤ ± 0.3% (Full scale)			
	Unit of measurement	bar, MPa, psi			
	Minimum resolution	0.01 bar - 0.001 MPa - 0.01 psi			
Temperature characteristics		Max 2 mbar / °C			
Installation position		In any position			
Current input in the fieldbus version		Max 220 mA at 12VDC			
Supply voltage range analog version	VDC	12 -10% to 24 +30%			
Minimum operating voltage	VDC	10.8			
Maximum operating voltage	VDC	31.2			
Maximum admissible voltage	VDC	32 *			
Current absorption		Max 220 mA at 12VDC			
Input signal (input impedence)	Voltage	0 to 5 VDC, 0 to 10 VDC (approx. 6.3 KΩ)			
	Current	4 to 20 mA (approx. 100 Ω)			
	Serial ports	RS 232			
	Manual	Keypad			
Output signals in the analogue version					
	Analog in current	4 to 20 mA			
	Analog voltage	0 to 10 VDC (1 VDC = 1 bar) - 1 mA max			
	Digital	PNP open collector output: max 24VDC 60 mA			
		NPN open collector output: max 24VDC 60 mA			
	Analog output accuracy	≤ ± 0.4% (Full scale)			
Notes		The features shown refer to the static condition only. With air consumption the pressure may vary.			
		On all anolog versions you can set the parameters using the software "MWRegtronic" downloadable from the website www.metalwork.eu; to connect the PC to Regtronic you can use the cable code W0970513019			
		For more details, please refer to the User Manual.			

*** IMPORTANT! Voltage greater than 32VDC will damage the system irreparably.**

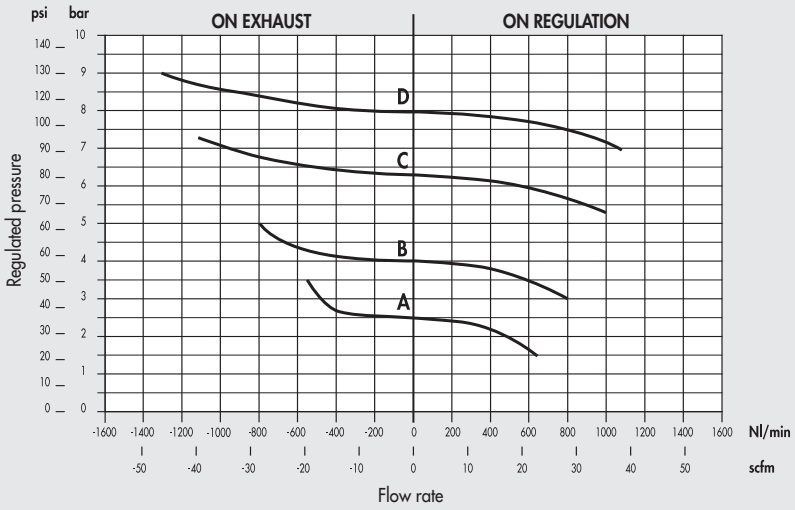
COMPONENTS

① PORT 1 DUCT
② CARTRIDGE Ø8: push-in fitting
③ PORT 3 DUCT
④ SOLENOID VALVE: 10 mm series PLT-10
⑤ PORT 5 DUCT
⑥ BODIES: aluminium
⑦ COVER: technopolymer
⑧ TIE ROD: nickel-plated brass with stainless stell grub screws
⑨ GASKETS: NBR
⑩ CLIP for securing the cartridge: stainless steel
⑪ Compensation DIAPHRAGM: PTFE
⑫ ELECTRONIC BOARDS
⑬ DISPLAY and keypad or cover
⑭ CONNECTOR M12 (for analog version)
⑮ INDICATOR LED
⑯ IDENTIFICATION of wording with laser



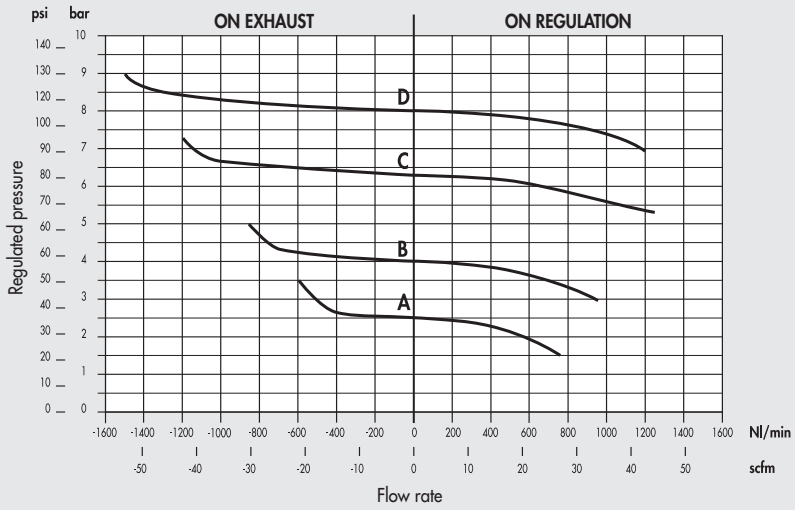
FLOW CHARTS

LOCAL OUTLET (Ø8)



A = 2.5 bar
B = 4 bar
C = 6.3 bar
D = 8 bar
Pm = 10 bar

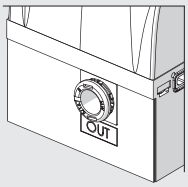
REGULATION IN SERIES

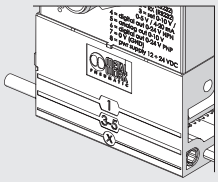


A = 2.5 bar
B = 4 bar
C = 6.3 bar
D = 8 bar
Pm = 10 bar

VERSIONS

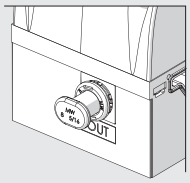
PASS-THROUGH BASE – LOCAL OUTLET

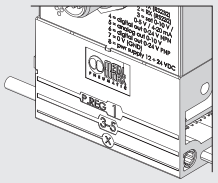




Air outlet regulated only by the front Ø8 fitting.

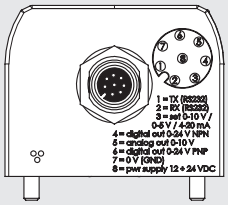
REGULATION IN SERIES





Air outlet adjusted to the next bases.
Front outlet closed, however usable by removing the cap from the fitting.

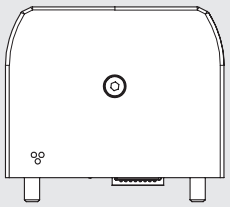
M12 EXTERNAL ANALOGUE CONTROL (MULTI-POLE ISLANDS)



8 PIN M12x1

Pin	Signal	Description	Lead colour
1	TX	RS232	White
2	RX	RS232	Brown
3	Pressure set	0 to 10 VDC / 0 to 5 VDC	Green
		4 to 20 mA	
4	Digital out	NPN	Yellow
5	Analog out	Voltage version 0 to 10 VDC	Gray
		Current version 4 to 20 mA	
6	Digital out	PNP	Pink
7	0 VDC	Power supply	Blue
8	+ VDC	Power supply	Red

FIELDBUS CONTROL



WITH REMOTE-CONTROL

The remote-control version of the Regtronic has two diagnostic LEDs.

WITH DISPLAY

The display version also has buttons for entering the various parameters.

PROGRAMMABLE AND FLEXIBLE

Setting options:

- **LANGUAGE**
- **UNIT OF MEASUREMENT**
- **TYPE OF INPUT**
- **TYPE OF DIGITAL OUTPUT**
- **DEAD-BAND**
- **FULL SCALE**
- **MINIMUM PRESSURE**

PRECISION

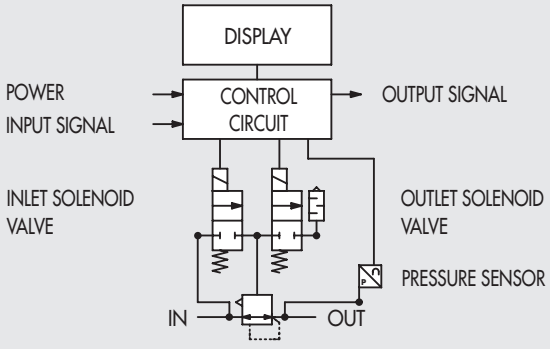
Linearity
± 0.5 % (full scale)

Hysteresis
± 0.2 % (full scale)

Repeatability
± 0.2 % (full scale)

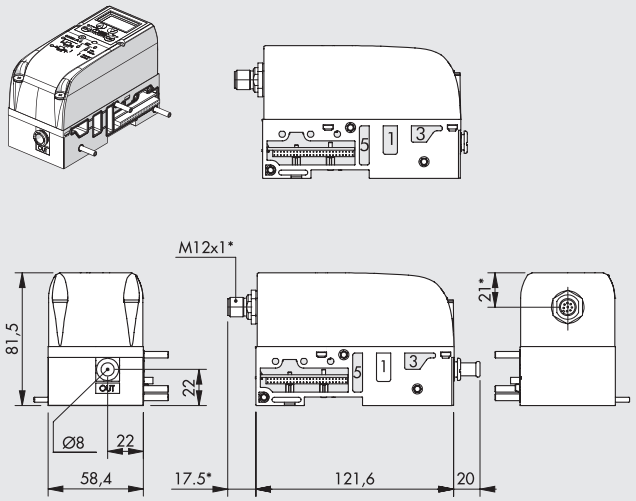
Sensitivity
range 10 to 300 mbar

FUNCTION DIAGRAM



DIMENSIONS - ORDERING CODES

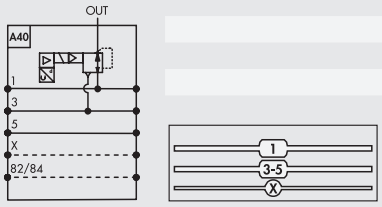
PROPORTIONAL PRESSURE REGULATOR

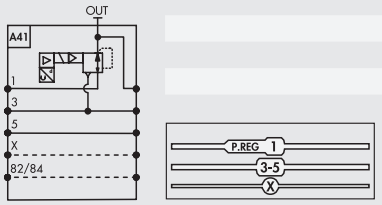


* For version with electrical analogue control only.

Electrical connection with M12 connector

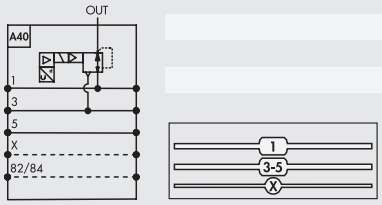
Symbol	Display	Code 0-10V analogue OUT	Code 4-20 mA analogue OUT	Weight [g]
Port 1 pass-through	WITH	02282**A400Z00**	02282**A402Z00**	600
	WITHOUT	02282**A400Z10**	02282**A402Z10**	600
Port 1 sectioned	WITH	02282**A410Z00**	02282**A412Z00**	600
	WITHOUT	02282**A410Z10**	02282**A412Z10**	600

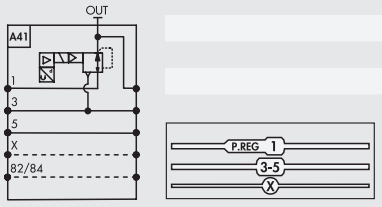




Electrical connection via fieldbus

Symbol	Display	Code	Weight [g]
Port 1 pass-through	WITH	02282**A401Z00**	600
	WITHOUT	02282**A401Z10**	600
Port 1 sectioned	WITH	02282**A411Z00**	600
	WITHOUT	02282**A411Z10**	600



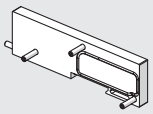


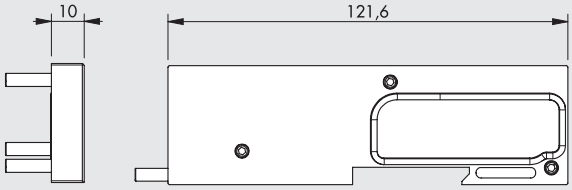
KEY TO CODES

02282	A4	0	1	Z	0	0
FAMILY	**SUBSYSTEM**	**TYPE OF BASE**	**TYPE OF ELECTRICAL CONNECTION**	**SPECIALTY**	**DISPLAY**	**SPECIALTY**
02282 EB 80	**A4** Proportional pressure regulator	**0** Base port 1 pass-through local outlet **1** Base port 1 sectioned in-series regulation	**0** External electrical analogue control connector M12 0-10V analogue OUT **1** Electrical control via fieldbus **2** External electrical analogue control connector M12, 4-20 mA analogue OUT	**Z** Standard	**0** With **1** Without	**0** Standard

ACCESSORIES: ANALOG VERSION

END-PLATE FOR EB 80 PROPORTIONAL PRESSURE REGULATOR IN-SERIES WITH M12 CONNECTOR



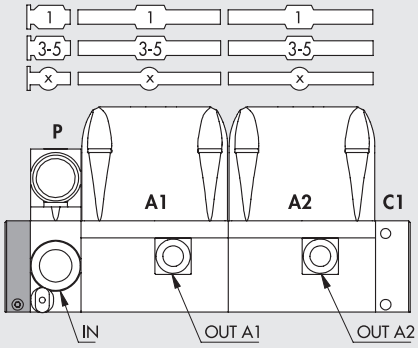


Code	Description	Weight [g]
02282R8000	End-plate for EB 80 proportional pressure regulator in-series with M12 connector	118

N.B.: Can only be used with regulators code 02282**A400Z00** - 02282**A400Z10** - 02282**A410Z00** - 02282**A410Z10** - 02282**A402Z00** - 02282**A402Z10** - 02282**A412Z00** - 02282**A412Z10**

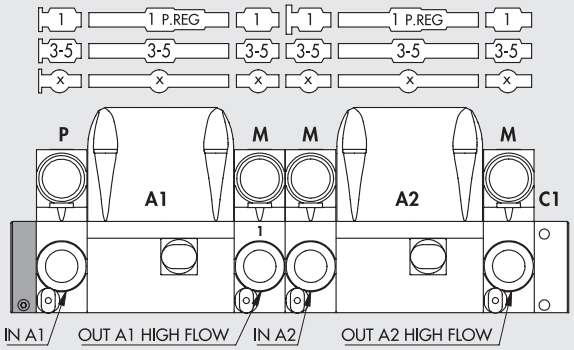
This terminal is used to fit multiple EB 80 pressure proportional regulators controlled by an M12 connector, without using EB 80 power supplies.
Each regular can be controlled individually via its own M12 connector.
Several configurable solutions can thus be obtained, as illustrated in examples below:

COMMON POWER SUPPLY



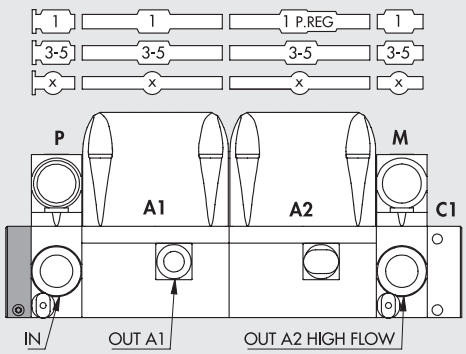
Island consisting of a single pneumatic supply (P) and front outlet from individual regulators.

INDEPENDENT POWER SUPPLY AND HIGH-FLOW RATE



Island consisting of independent regulator power supply, via P supplies and intermediate elements M (with port 1 closed) placed upstream of the regulator. High-flow outputs are obtained via intermediate elements M placed downstream of the individual regulators.

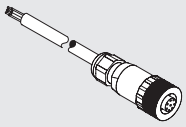
HYBRID



Hybrid island.
It consists of regulators with a local output (**A1**) and in-series high-flow rate regulators via intermediate element **M** downstream of regulator **A2**. Power supply **P** is in common.

P = compressed-air supply, page B2.46
M = intermediate support, page B2.64
C1 = closed end-plate for islands with multi-pole connector, page B2.70
A = proportional pressure regulator

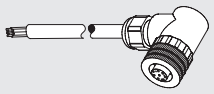
CONNECTOR M12x1, 8-PIN, A-CODED, FEMALE, STRAIGHT



Pin	Cable color
1	White
2	Brown
3	Green
4	Yellow
5	Grey
6	Pink
7	Blue
8	Red

Code	Description
W0970513010	Connector M12x1, 8-pin, A-coded, female, straight, with cable L = 5 m

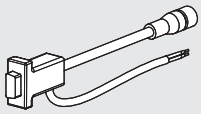
CONNECTOR M12x1, 8-PIN, A-CODED, FEMALE, 90°, WITH CABLE



Pin	Cable color
1	White
2	Brown
3	Green
4	Yellow
5	Grey
6	Pink
7	Blue
8	Red

Code	Description
W0970513011	Connector M12x1, 8-pin, A-coded, female, 90°, with cable L = 5 m

CONFIGURATION CABLE



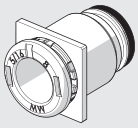
Code	Description
W0970513019	Configuration cable

The cable consists of:
- M12 8-PIN female connector to be connected to regulator
- RS232 serial connector to be connected to PC
- 2 wires to supply 24VDC power

The package also includes a RS232-USB adapter

SPARE PARTS

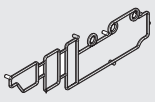
CARTRIDGE



Code	Description	Ø
02282R2001	EB 80 Ø 4 base square cartridge kit	4 (5/32")
02282R2002	EB 80 Ø 6 base square cartridge kit	6
02282R2003	EB 80 Ø 8 base square cartridge kit	8 (5/16")
02282R2006	EB 80 Ø 1/4 base square cartridge kit	1/4"

Comes in 10-pc. packs

BASE INTERFACE GASKET



Code	Description
02282R1000	EB 80 base interface gasket kit

Comes in 10-pc. packs