# XQ3... Proportional flow control valves pressure compensated CETOP 3

brevini

This is a proportional valve where both the flow rate and pressure control flow functions have been integrated according to the 3 way regulation concept.

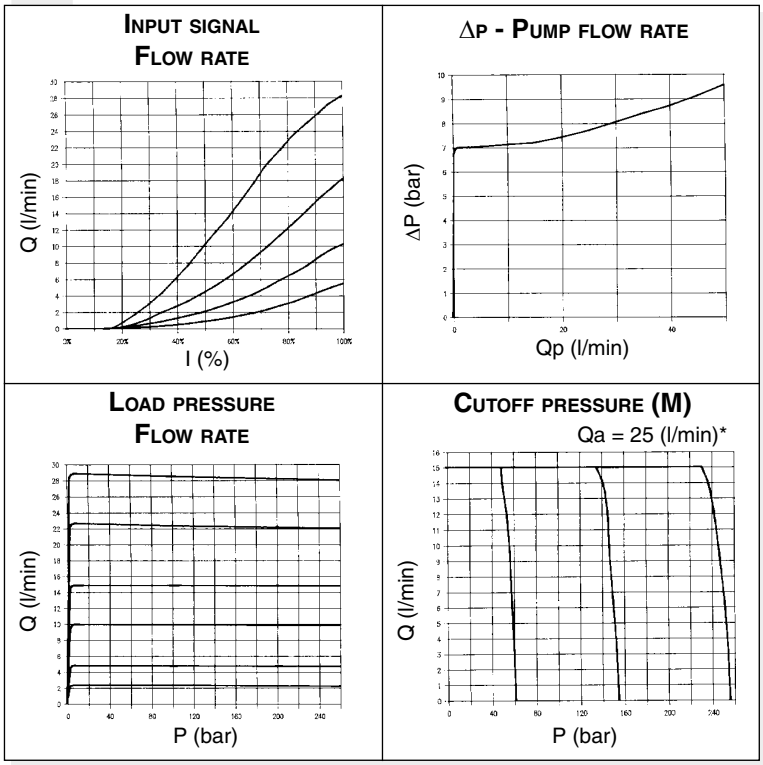
The interface UNI ISO 4401 - 03 - 02 - 0 - 94 standard (ex CETOP R 35 H 4.2-4-03) allows for direct mounting on modular block or multiple sub-bases, which makes possible many advantageous and extremely compact application solution as a consequence of their simplicity of installation.

The 3 way type pressure compensator, inserted into the valve, holds the pressure drop across the flow rate proportional regulator constant (approx. 8 bar) independently from the controlled load variations, whereby ensuring proportional between the set flow rate and the electrical command signal.

Additionally, the system maximum safety pressure can be regulated through a manual command. This valve, if mounted on the feed line to the manifold block, can be used to control several circuits which are not operating at the same time.

| XQ3... | |
|---|---|
| Standard connectors | Ch. I page 20 |
| "D15P" Proport. solenoids | Ch. VIII page 21 |
| REMSRA... | Ch. IX page 4 |
| BC308. / BC309. / BC06XQ3. | Ch. VII page 13 |

## Diagrams




The fluid used is a mineral based oil with a viscosity of 46 mm²/s at 40°C. The tests have been carried out at with a fluid of a 40°C.

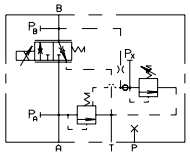
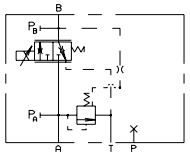
(*) Tested with 25 l/min supply

## Ordering code

| | |
|---|---|
| XQ | Proportional flow control valve |
| 3 | No. of way |
| C | Pressure compensation |
| 3 | CETOP 3/NG6 |
| * | Flow rates<br>**F** = 5 l/min<br>**G** = 10 l/min<br>**H** = 16 l/min<br>**I** = 28 l/min |
| * | **M** = With manual pressure limiter<br>**S** = Without manual pressure limiter |
| * | Setting ranges<br>**1** = 8 ÷ 50 bar<br>**2** = 25 ÷ 170 bar<br>**3** = 50 ÷ 315 bar<br>Omit for **XQ3C.*.S** version |
| * | **E** = With rotary emergency (type **P2**)<br>**S** = Without rotary emergency |
| * | Voltage<br>**E** = 9VDC (2,35 A)<br>**F** = 12VDC (1.76 A)<br>**G** = 24VDC (0.88 A) |
| ** | Variant (*):<br>**S1** = No variant (without connectors)<br>**SV** = Viton<br>**L5** = emergency lever<br>**R5** = Rotary emergency180° |
| 2 | Serial No. |

(*) All variants are considered without connectors.
The connectors must be order separately.
See Ch. I Page 20

## Table 1 - Flow / pressure specifications

| Model | Hydraulic symbol | Max flow rate (l/min) | Max flow in P (l/min) | Max limiter pressure (bar) | Max load pressure (bar) | Δp Control (bar) |
|---|---|---|---|---|---|---|
| XQ.3.C.3.*.M |  | 5<br>10<br>16<br>28 | 40 | 8÷50<br>25÷170<br>50÷315 | 250 | 8 |
| XQ.3.C.3.*.S |  | 5<br>10<br>16<br>28 | 40 | | 250 | 8 |

| | |
|---|---|
| Max. operat. pressure ports A/B / With P port blocked on subplate | 315 bar |
| Max. operating pressure ports T - for dynamic pressure see note (*) | 250 bar |
| Regulated flow rate | See diagram page before |
| Relative duty cycle | Continuous 100% ED |
| Type of protection | IEC 144 class IP 65 |
| Flow rate gain | See diagrams |
| Hysteresis with connection P/A/B/T Δp = 5 bar (P/A) | ≤4% of max. flow rate |
| Fluid viscosity | 10 ÷ 500 mm²/s |
| Fluid temperature | -20°C ÷ 75°C |
| Max. contamination level | class 8 in accordance with NAS 1638 with filter $ß_{10}≥75$ |
| Weight version XQ.3.C.*.M... | 2,89 Kg |
| Weight version XQ.3.C.*.S... | 2,39 Kg |

| | | | |
|---|---|---|---|
| Type of voltage | 9V | 12V | 24V |
| Max. current | 2.35A | 1.76 A | 0.88 A |
| Solenoid coil resistance at 25°C (77°F) | 2.25 Ohm | 4.0 Ohm | 16.0 Ohm |

(*) Pressure dynamic allowed for 2 millions of cycles.

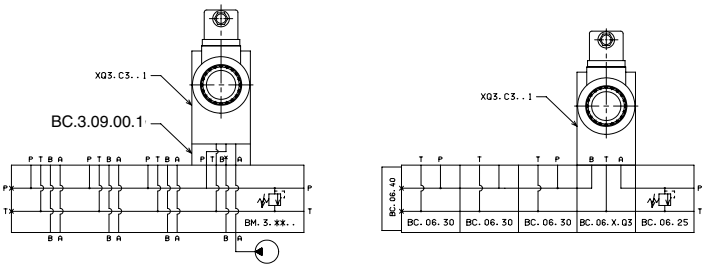
## ELECTRONIC CONTROL UNIT

**REMSRA.*.*.**
Card type control for single solenoid.
Recommended dither frequency 100 Hz.

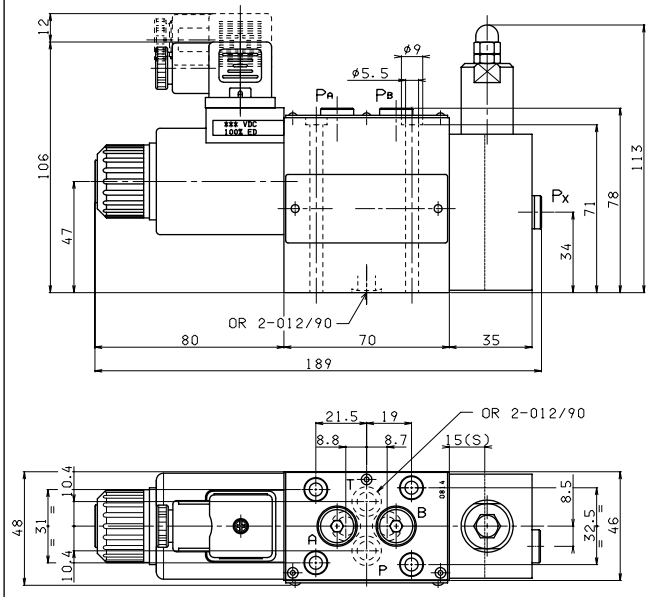
**SE3AN2100...**
EUROCARD type control for single solenoid

**• Operating specifications are valid for fluid with 46 mm²/s viscosity at 40°C, using the specified ARON electronic control units**

## TYPICAL INSTALLATION




## OVERALL DIMENSIONS

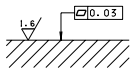


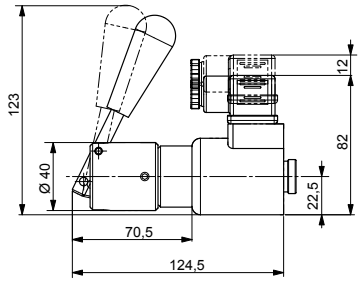




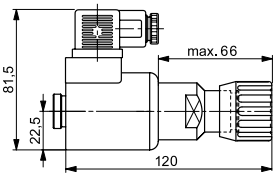
Fixing screws UNI 5931 M5x80 (min. 8.8 material screws are recommended )
Tightening torque 4 ÷ 5 Nm / 0.4 ÷ 0.5 Kgm

Support plane specification

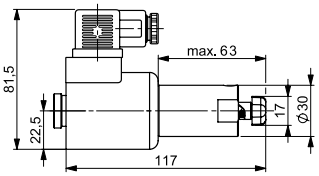



**L5** Emergency lever

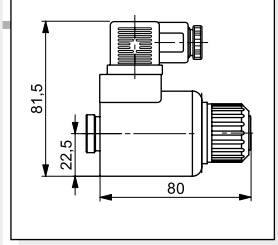



Rotary emergency version XQ.3.C.3.*.*.**E**




**R5** Rotary emergency 180°*(1)*

*(1)* Two positions hand emergency. The regulated flow with emergency actuated can be less than nominal value.




## "D15P" PROPORTIONAL SOLENOIDS

| | |
|---|---|
| Type of protection (in relation to connector used) | IP 66 |
| Duty cycle | 100% ED |
| Insulation class wire | H |
| Weight (coil) | 0,354 Kg |
| Weight (solenoid) | 0,608 Kg |

ETD15P - 01/2002/e