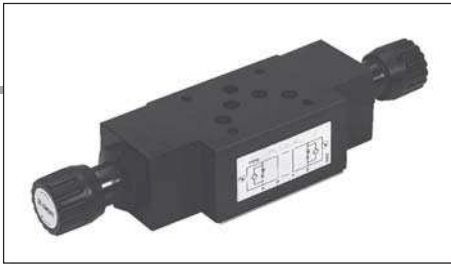


AM.5.QF... MODULAR FLOW REGULATOR CETOP 5



AM.5.QF...

SCREWS AND STUDS

CH. IV PAGE 35

AM.5.QF type one way non-compensated throttle valve are fitted with an O-Ring mounting plate which allows its assembly for either input or output regulation. Adjustment is obtained by means of a grub screw or a plastic knob. They are available in the four regulating configurations shown in the hydraulic diagrams.

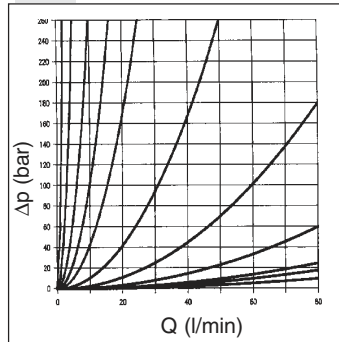
These valves are supplied with related hydraulic scheme. In case of inversion of rated flow direction, turn valve 180° right or left (attention: in this case the label will appear upside down with A and B inverted).

Max. operating pressure	350 bar
Max. pressure adjustable	250 bar
Flow rate regulation	on 9 screw turns
Max. flow	80 l/min
Hydraulic fluids	Mineral oils DIN 51524
Fluid viscosity	10 ÷ 500 mm ² /s
Fluid temperature	-25°C ÷ 75°C
Ambient temperature	-25°C ÷ 60°C
Max. contamination level	class 10 in accordance with NAS 1638 with filter $\beta_{25} \geq 75$
Weight	3,7 Kg

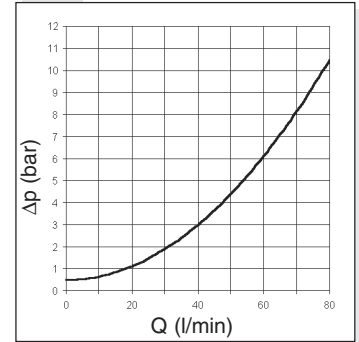
ORDERING CODE

AM	Modular valve
5	CETOP 5/NG10
QF	Non compensated throttle valve
**	Control on lines A / B / P / AB
*	Type of adjustment M = Plastic knob C = Grub screw
**	00 = No variant V1 = Viton
4	Serial No.

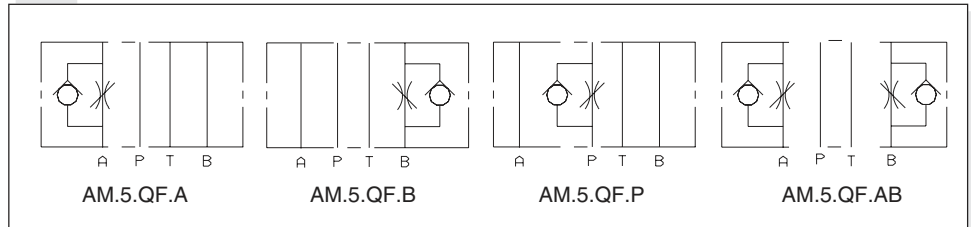
FLOW RATE



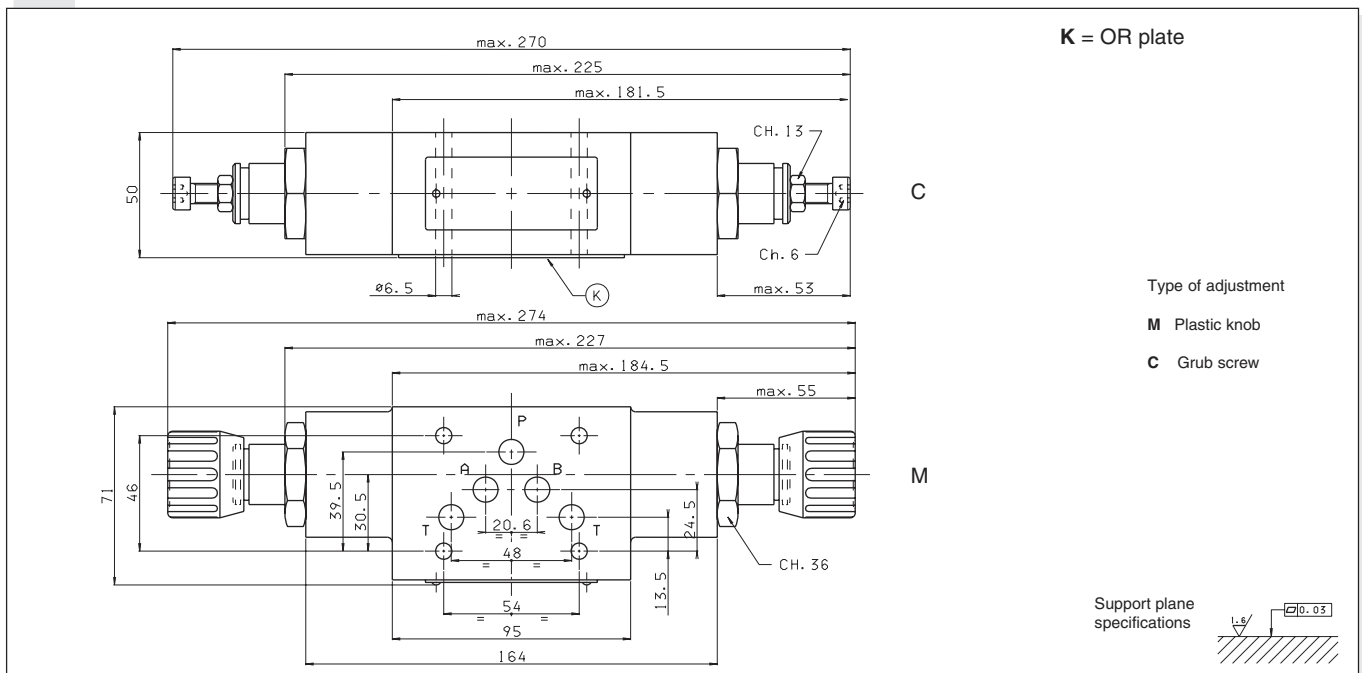
FREE FLOW TOWARDS CHECK VALVE



HYDRAULIC SYMBOLS



OVERALL DIMENSIONS



AM.88... MODULAR COMPENSATED FLOW CONTROL ASSEMBLY CETOP 5



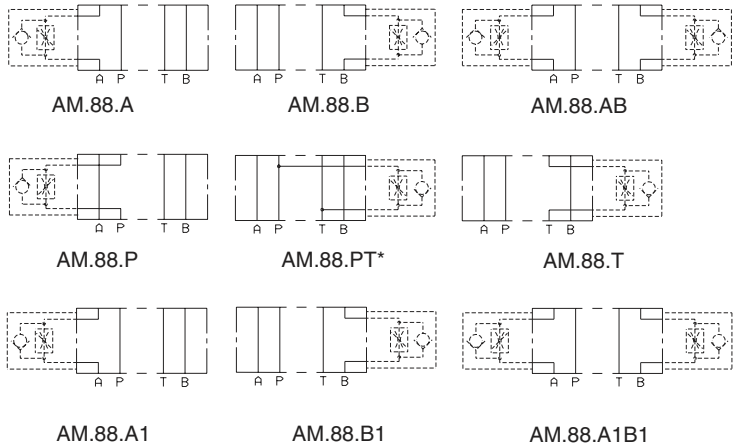
This is an intermediate block (AM.88) for modular mounting of one or two compensated flow rate regulators QC.3...

The flow regulator type QC32 must be ordered separately.

Max. operating pressure	320 bar
Hydraulic fluids	Mineral oils DIN 51524
Fluid viscosity	10 ÷ 500 mm ² /s
Fluid temperature	-25°C ÷ 75°C
Ambient temperature	-25°C ÷ 60°C
Max. contamination level	class 10 in accordance with NAS 1638 with filter $\beta_{25} \geq 75$
Weight	2,75 Kg

AM.88...	
QC.3.2...	CH. III PAGE 2
SCREWS AND STUDS	CH. IV PAGE 35

HYDRAULIC SYMBOLS



PT * = From line towards exhaust (P→T drain)

• In order to obtain versions A1, B1 and A1B1 the AM.88.B, AM.88.A or AM.88.AB regulators carrying block should be turned by 180°.

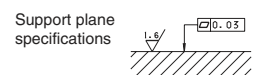
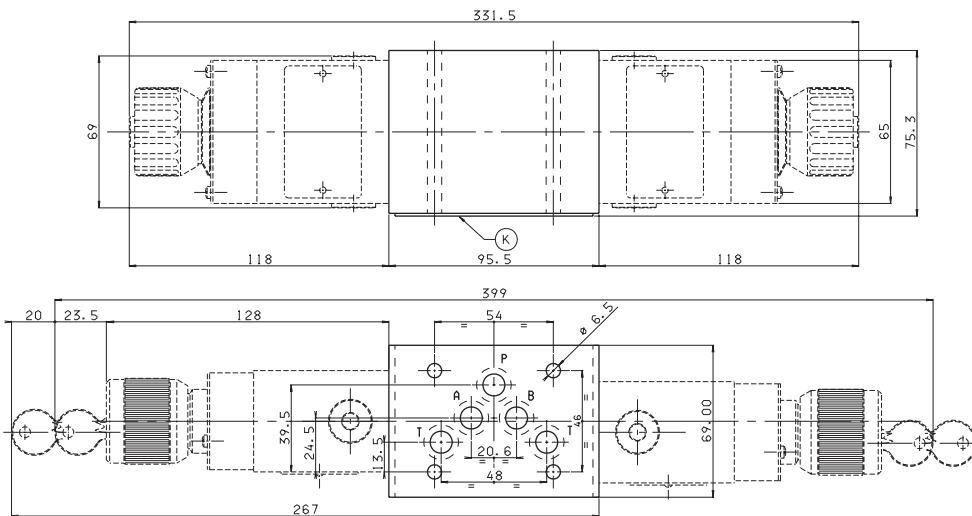
4

ORDERING CODE

AM	Modular valve
88	Size
**	Control on lines A / B / P / T / PT* / AB For A1 / B1 / A1B1 see table "Hydraulic symbols"
**	00 = No variant V1 = Viton
3	Serial No.

OVERALL DIMENSIONS

K = OR plate



A.88... MODULAR FLOW CONTROL VALVES

FAST / SLOW ASSEMBLY CETOP 5



A.88...

"A16" DC COILS	CH. I PAGE 35
STANDARD CONNECTORS	CH. I PAGE 19
QC.3.2...	CH. III PAGE 2
SCREWS AND STUDS	CH. IV PAGE 35

This is a modular assembly ON/OFF solenoid valve which, by fitting a suitable 2 way regulator, allows two speed operation in the same system via an electrical changeover command.

The flow rate regulator type QC.3.2 must be ordered separately.
The limit of use curves have been obtained with the regulator fully closed, and those same limits improve gradually with the opening of the regulator.

• Solenoids used are standard type A16 for DC voltage.

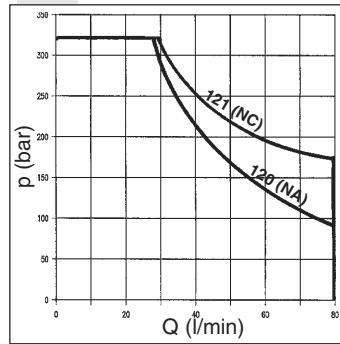
Max. operating pressure	320 bar
Hydraulic fluids	Mineral oils DIN 51524
Fluid viscosity	10 ÷ 500 mm ² /s
Fluid temperature	-25°C ÷ 75°C
Ambient temperature	-25°C ÷ 60°C
Max. contamination level	class 10 in accordance with NAS 1638 with filter $\beta_{25} \geq 75$
Weight with a DC solenoid	4,2 Kg

The test have been carried out at operating temperature, with a voltage 10% lower than rated voltage and with a fluid temperature of 50 degrees C. The fluid used was a mineral based oil with a viscosity of 46 mm²/sec at 40 degrees C.

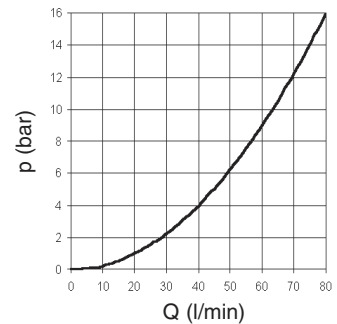
ORDERING CODE

A	Speed control valve
88	Size
E	Electrical operator
***	120 = Normally open 121 = Normally closed See table "Hydraulic symbols"
*	Control on lines A/B/P/T (see symbols) The interface holder "H" must be turned by 180° in order to obtain the A1 and B1 versions.
*	Voltage : see tab.1
**	Variants: see tab.2
3	Serial No.

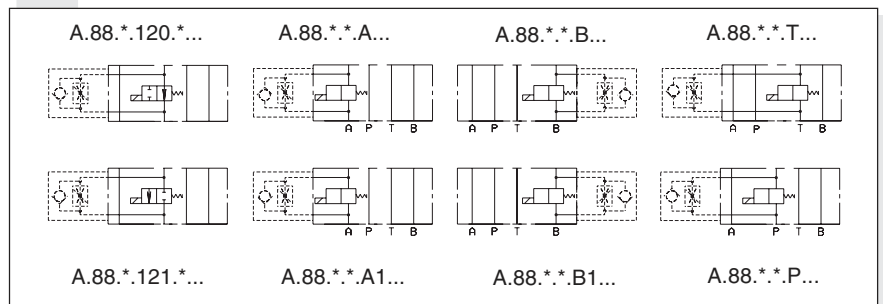
LIMITS OF USE DC SOLENOID



FREE FLOW THROUGH SPOOL



HYDRAULIC SYMBOLS



TAB.1 - A16 COIL

DC VOLTAGE

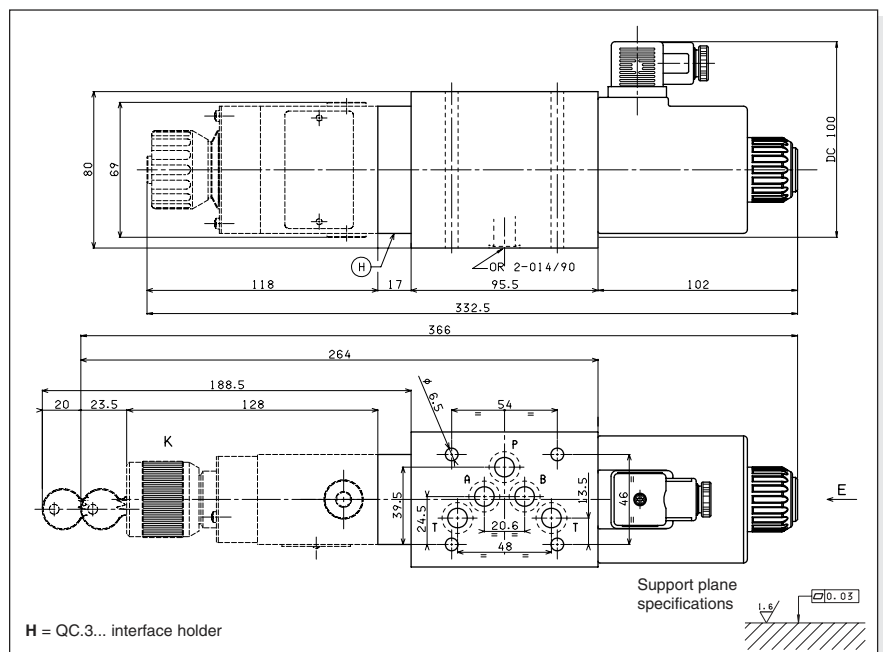
L	12V	115Vac/50Hz 120Vac/60Hz with rectifier
M	24V	
N	48V*	230Vac/50Hz 240Vac/60Hz with rectifier
P	110V*	
Z	102V*	
X	205V*	
W	Without DC coil	

Voltage codes are not stamped on the plate, they are readable on the coils.

* Special voltage

TAB.2 - VARIANTS

No variant	00
(connectors as in the drawing)	
Viton	V1
Indicator light	X1
Rectifier	R1
Cable gland "PG11"	S1
Valve without connector (coil)	S1
Indicator light + rectifier	XR





QC.3.2...

OVERALL DIMENSIONS

CH. III PAGE 4

QC.3.2... 2 WAY COMPENSATED FLOW RATE REGULATORS

These QC.3.2... compensated flow rate regulators are designed to control and maintain a constant irrespective of the pressure variations upstream and downstream of the regulation section. Their new cast construction has made it possible to obtain a wider flow rate range, taking the upper limit to 35 l/min (4 turns version) while maintaining unchanged the pressure differential required to obtain good pressure compensation.

All models are available with and without reverse flow check valve, complete with an "anti-jump" device on request. This accessory has been designed to eliminate the problem which manifests itself as a "anti-jump" in the controlled actuator due to the instantaneous flow rate variation that takes place under the form of a transient every time the flow is made to pass through the regulator.

Max. operating pressure	320 bar
Opening pressure (with bypass)	1 bar
Min. regulated flow rate (Q1 version)	0.03 ÷ 0.05 l/min
Nominal regulated flow rate (1 turn version)	1,5 ÷ 30 l/min
Nominal regulated flow rate (4 turns version)	1,5 ÷ 35 l/min
Difference in pressure (Δp) for vers. Q1	3 bar
Difference in pressure (Δp) Q2-Q3-Q4-Q5-Q6	8 bar
Hydraulic fluids	Mineral oils DIN 51524
Fluid viscosity	10 ÷ 500 mm ² /s
Fluid temperature	-25°C ÷ 75°C
Ambient temperature	-25°C ÷ 60°C
Max. contamination level(*) class 10 in accordance with NAS 1638 with filter $\beta_{25} \geq 75$	
Dependency on temperature (Q1 vers.)	5%
Dependency on temperature (Q2 vers.)	3%
Dependency on temperature (Q3-Q4-Q5-Q6)	2%
Weight	1,5 Kg

(*) Max contamination level must be respect to obtain the right function of the valve

ORDERING CODE

QC Compensated flow rate regulated

3 CETOP 3/NG6

2 2 way

G Anti-jump system with internal check valve (omit if not required)

****** Nominal flow rate ranges
1 Turn version **4 Turn version**
Q1 = 1,5 l/min **Q1** = 1,5 l/min
Q2 = 3 l/min **Q2** = 4 l/min
Q3 = 9 l/min **Q3** = 10 l/min
Q4 = 19 l/min **Q4** = 21 l/min
Q5 = 24 l/min **Q5** = 28 l/min
Q6 = 30 l/min **Q6** = 35 l/min

K Version with lock (omit if not required)

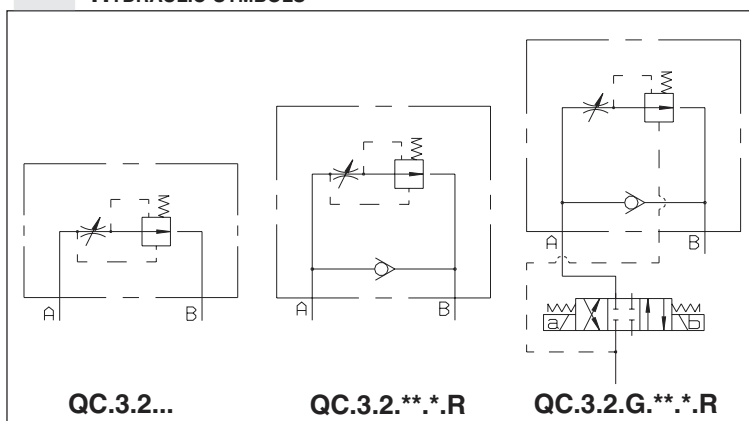
***** **1** = 1 turn version
4 = 4 turns version

R With internal check valve (omit if not required)

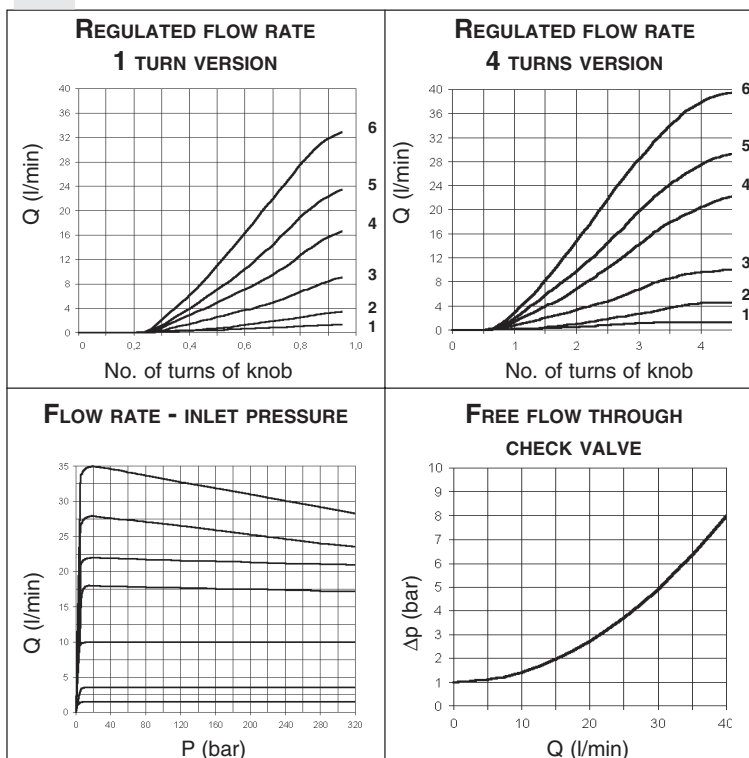
****** **00** = No variant
V1 = Viton

5 Serial No.

HYDRAULIC SYMBOLS



DIAGRAMS



QC.3.3... 3 WAY COMPENSATED FLOW RATE REGULATORS



QC.3.3...

OVERALL DIMENSIONS	CH. III PAGE 4
AM.3.ABU...	CH. III PAGE 4

This regulator type can be used whenever it is necessary to obtain a constant fluid flow irrespective of the pressure variations present upstream or downstream. It is fitted with a third T line for discharging any excessive flow rate.

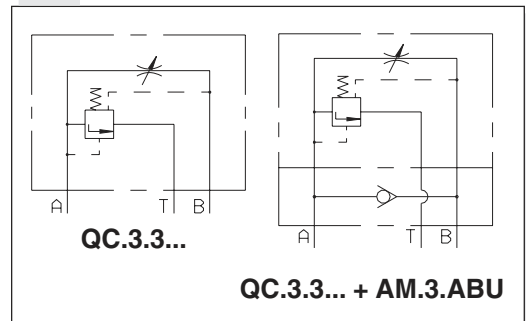
When the reverse flow check valve is needed, the check valve holder type "AM.3.ABU.3..." can be fitted underneath the valve. (The check valve holder must be ordered separately see page III•4)

Max. operating pressure	320 bar
Opening pressure (with bypass)	1 bar
Min. regulated flow rate (Q1 version)	0.03 ÷ 0.05 l/min
Nominal regulated flow rate	1 ÷ 22 l/min
Difference in pressure (Δp) for vers. Q1	3 bar
Difference in pressure (Δp) Q2-Q3-Q4-Q5-Q6	8 bar
Hydraulic fluids	Mineral oils DIN 51524
Fluid viscosity	10 ÷ 500 mm ² /s
Fluid temperature	-25°C ÷ 75°C
Ambient temperature	-25°C ÷ 60°C
Max. contamination level(*) class 10 in accordance with NAS 1638 with filter $\beta_{25} \geq 75$	
Dependency on temperature (Q1 vers.)	5%
Dependency on temperature (Q2 vers.)	3%
Dependency on temperature (Q3-Q4-Q5)	2%
Weight	1,5 Kg
(*) Max contamination level must be respect to obtain the right function of the valve	

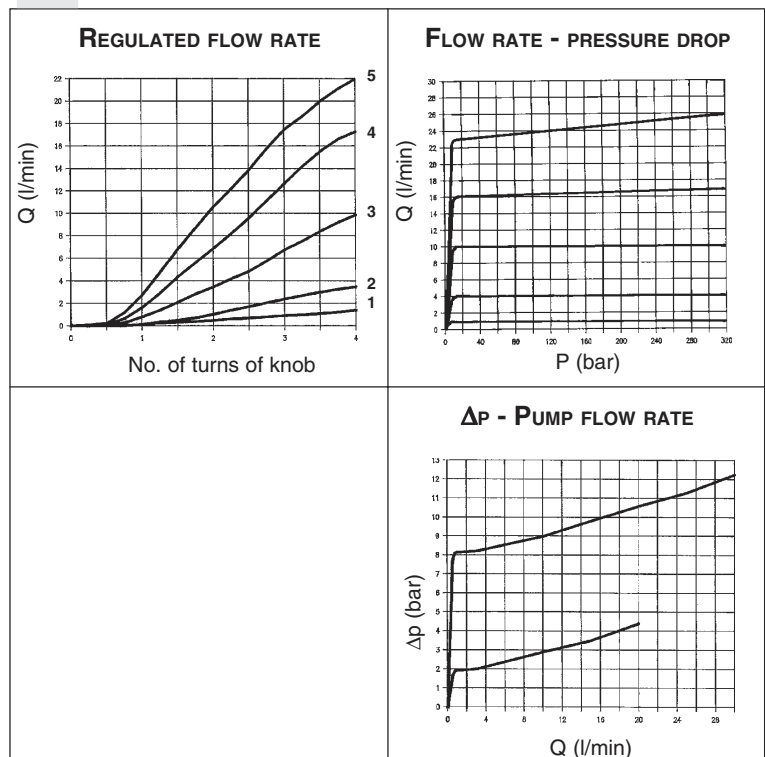
ORDERING CODE

QC	Compensated flow rate regulator
3	CETOP 3/NG6
3	3 way
**	Flow rate ranges Q1 = 1 l/min Q2 = 3 l/min Q3 = 9 l/min Q4 = 17 l/min Q5 = 24 l/min
K	Version with lock (omit if not required)
*	1 = 1 turn version 4 = 4 turns version
**	00 = No variant V1 = Viton
3	Serial No.

HYDRAULIC SYMBOLS

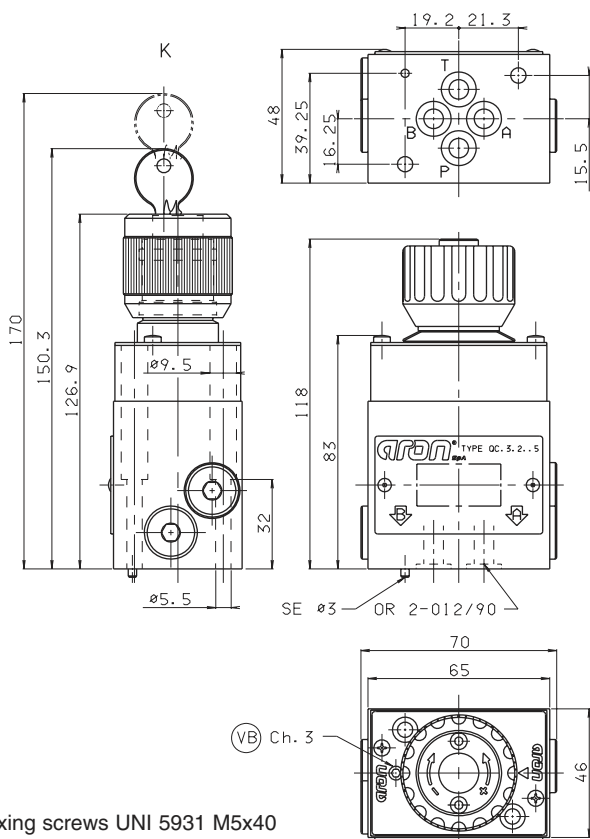


DIAGRAMS

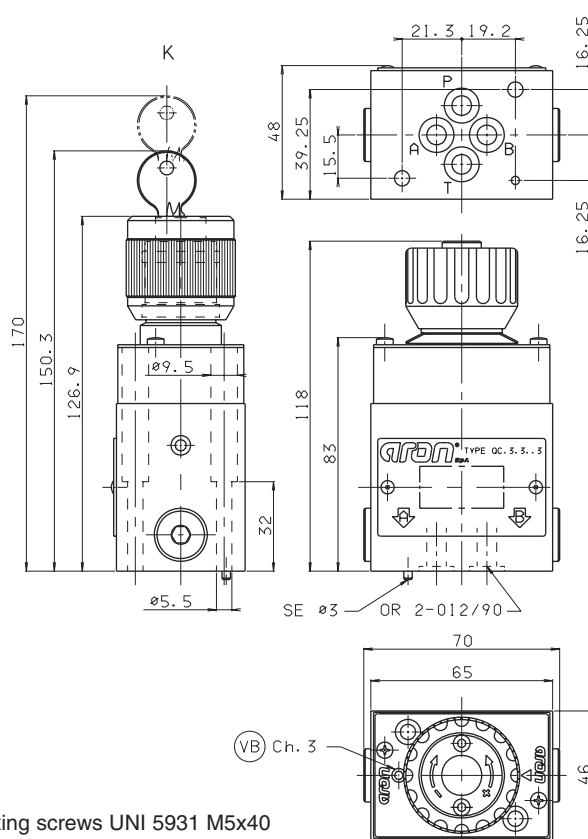


QC.3.2... 2 WAY FLOW RATE REGULATOR

QC.3.3... 3 WAY FLOW RATE REGULATOR



Fixing screws UNI 5931 M5x40 are supplied by Aron with material specifications min. 8.8
Tightening torque 5 Nm / 0.5 Kgm



Fixing screws UNI 5931 M5x40 are supplied by Aron with material specifications min. 8.8
Tightening torque 5 Nm / 0.5 Kgm

File: ETQC3\$00\$

00/2000/e

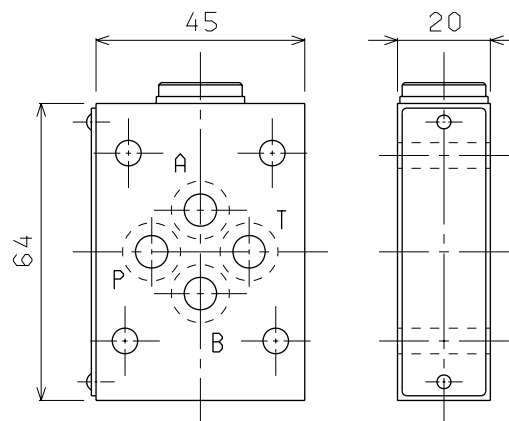
AM.3.ABU... CHECK VALVE HOLDER FOR REGULATORS TYPE QC.3...



This check valve holder must be fitted underneath the QC valve when the reverse flow function is needed.

ORDERING CODE

- AM** Modulating valve
- 3** CETOP 3/NG06
- ABU** External check valve for QC.3.*.
- 3** For 2 way and 3 way
- 00** No variant
- 1** Serial No.



Weight: 0,4 Kg
Fixing screws for regulator and modular check valve M5x60 UNI 5931 - 12K