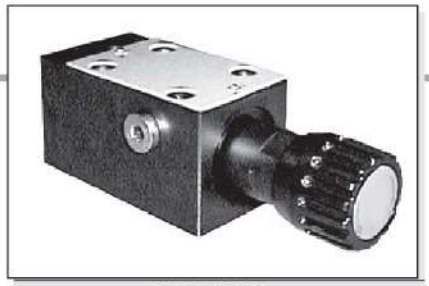
ABBREVIATIONS	
AP	HIGH PRESSURE CONNECTION
AS	PHASE LAG (DEGREES)
BP	LOW PRESSURE CONNECTION
C	STROKE (MM)
CH	ACROSS FLATS
CH	INTERNAL ACROSS FLATS
DA	AMPLITUDE DECAY (DB)
DP	DIFFERENTIAL PRESSURE (BAR)
F	FORCE (N)
I%	INPUT CURRENT (A)
M	MANOMETER CONNECTION
NG	KNOB TURNS
OR	SEAL RING
P	LOAD PRESSURE (BAR)
PARBAK	PARBAK RING
PL	PARALLEL CONNECTION
PR	REDUCED PRESSURE (BAR)
Q	FLOW (L/MIN)
QP	PUMP FLOW (L/MIN)
SE	ELASTIC PIN
SF	BALL
SR	SERIES CONNECTION
X	PILOTING
Y	DRAINAGE

SUBPLATE MOUNTING PRESSURE CONTROL VALVES

SUBPLATE MOUNTING PRESSURE CONTROL VALVES



PVR3 / PVS3...

PV*3 / PV*U3 PRESSURE REDUCING AND SEQUENCING VALVES CETOP 3/NG6

These subplate mounting piloted type pressure reducing and sequencing valves ensure a minimum variation in their calibrated pressure value with changing flow rate.

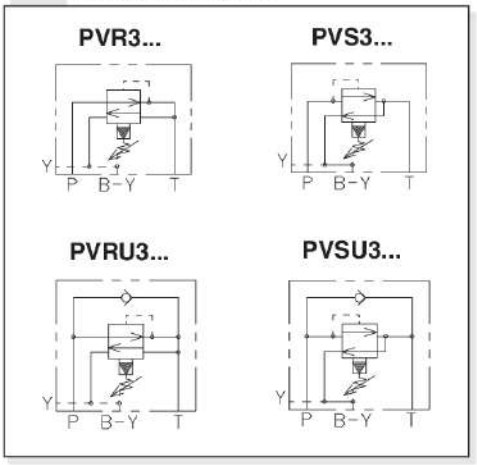
They are normally supplied with internal piloting and internal drainage on B, but they are already provided with a hole on the front cover to allow for external drainage.

They are available with two different types of adjustment and three calibrated ranges that cover pressure 7 ÷ 250 bar, with and without check valve.

The adjustment is carried out by means of a grub screw or a metric plastic knob.

Max. pressure		320 bar
Setting ranges	Spring 1	max. 60 bar
	Spring 2	max. 120 bar
	Spring 3	max. 250 bar
Maximum allowed Δp pressure between the inlet and outlet pressure (PVR only)		150 bar
Max. flow		40 l/min
Draining on port T		0.5 ÷ 0.7 l/min
Hydraulic fluids		Mineral oils DIN 51524
Fluid viscosity		10 ÷ 500 mm²/s
Fluid temperature		-25°C ÷ 75°C
Ambient temperature		-25°C ÷ 60°C
Max. contamination lever		class 10 in accordance with NAS 1638 with filter $\beta_{25} \geq 75$
Weight (without check valve)		1,5 Kg
Weight (with check valve)		2 Kg

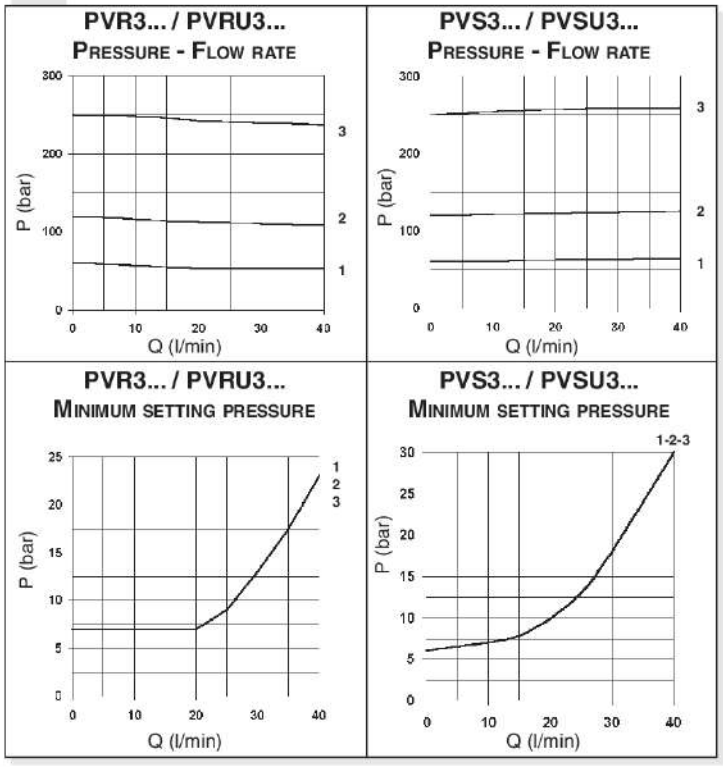
HYDRAULIC SYMBOLS



ORDERING CODE

PV*	**R** = Reducing valve **S** = Sequencing valve
U	Check valve (omit if not required)
3	CETOP 3/NG6
*	Type of adjustment: **M** = Plastic knob **C** = Grub screw
*	Setting ranges **1** = max. 60 bar **(white spring)** **2** = max. 120 bar **(yellow spring)** **3** = max. 250 bar **(green spring)**
**	**00** = No variant **V1** = Viton
1	Serial No.

DIAGRAMS

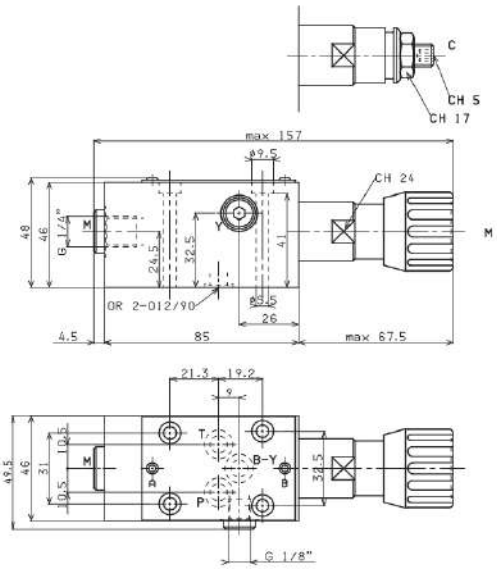


Curves n° 1 - 2 - 3 = setting ranges

The fluid used is a mineral oil with viscosity of 46 mm²/s at 40°C. The tests were carried out at a fluid temperature of 50°C.

OVERALL DIMENSIONS

REDUCING VALVE AND SEQUENCING VALVE PVR3... / PVS3... CETOP 3



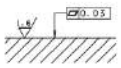
Type of adjustment

M Plastic knob

C Grub screw

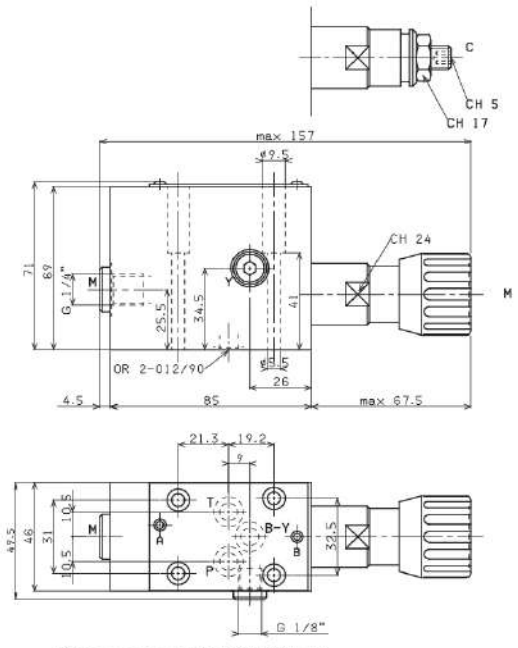
Fixing screws UNI 5931 M5x50
with material specifications min. 8.8
Tightening torque 5 Nm / 0.5 Kgm

Support plane specifications



OVERALL DIMENSIONS

REDUCING VALVE WITH CHECK VALVE AND SEQUENCING VALVE WITH CHECK VALVE PVRU3... / PVSU3... WITH CHECK VALVE CETOP 3



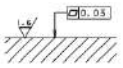
Type of adjustment

M Plastic knob

C Grub screw

Fixing screws UNI 5931 M5x50
with material specifications min. 8.8
Tightening torque 5 Nm / 0.5 Kgm

Support plane specifications



PVR5 / PVS5...

PV*3 / PV*U3 Pressure reducing and sequencing valves CETOP 3/NG6

These subplate mounting piloted type pressure reducing and sequencing valves ensure a minimum variation in their calibrated pressure value with changing flow rate.

They are normally supplied with internal piloting and internal drainage on B, but they are already provided with a hole on the front cover to allow for external drainage.

They are available with two different types of adjustment and three calibrated ranges that cover pressure 7 ÷ 250 bar, with and without check valve.

The adjustment is carried out by means of a grub screw or a metric plastic knob.

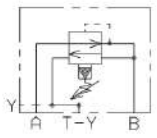
Max. pressure		320 bar
Setting ranges	Spring 1	max. 60 bar
	Spring 2	max. 120 bar
	Spring 3	max. 250 bar
Maximum allowed Δp pressure between the inlet and outlet pressure (PVR only)		150 bar
Max. flow		40 l/min
Draining on port T		0.5 ÷ 0.7 l/min
Hydraulic fluids		Mineral oils DIN 51524
Fluid viscosity		10 ÷ 500 mm²/s
Fluid temperature		-25°C ÷ 75°C
Ambient temperature		-25°C ÷ 60°C
Max. contamination lever		class 10 in accordance with NAS 1638 with filter $\beta_{25} \geq 75$
Weight (without check valve)		1,5 Kg
Weight (with check valve)		2 Kg

Ordering code

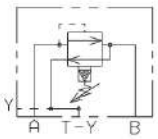
PV*	**R** = Reducing valve **S** = Sequencing valve
U	Check valve (omit if not required)
3	CETOP 3/NG6
*	Type of adjustment: **M** = Plastic knob **C** = Grub screw
*	Setting ranges **1** = max. 60 bar **(white spring)** **2** = max. 120 bar **(yellow spring)** **3** = max. 250 bar **(green spring)**
**	**00** = No variant **V1** = Viton
1	Serial No.

Hydraulic symbols

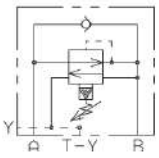
PVR5...



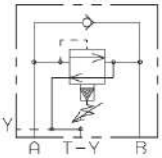
PVS5...



PVRU5...

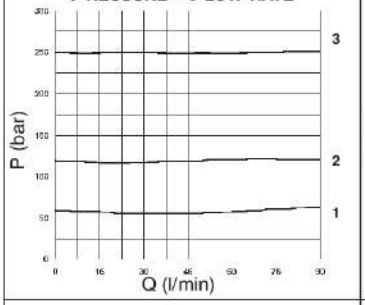


PVSU5...

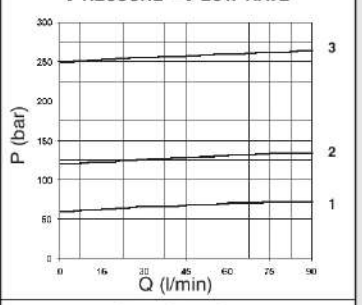


Diagrams

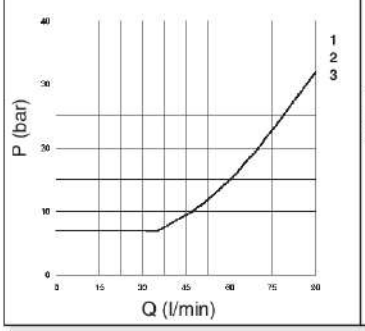
PVR3... / PVRU3...
Pressure - Flow rate



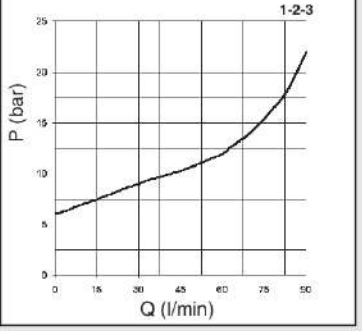
PVS3... / PVSU3...
Pressure - Flow rate



PVR3... / PVRU3...
Minimum setting pressure



PVS3... / PVSU3...
Minimum setting pressure

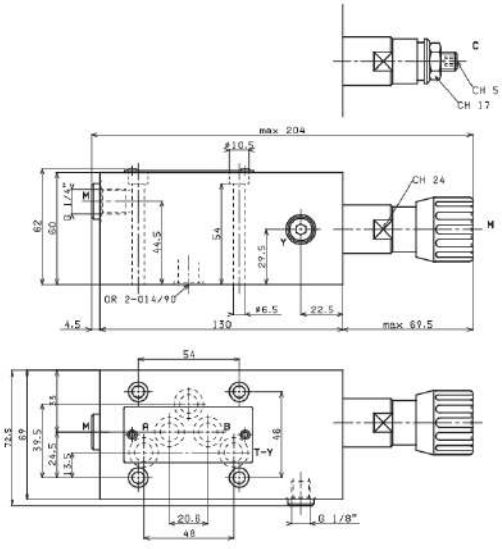


Curves n° 1 - 2 - 3 = setting ranges

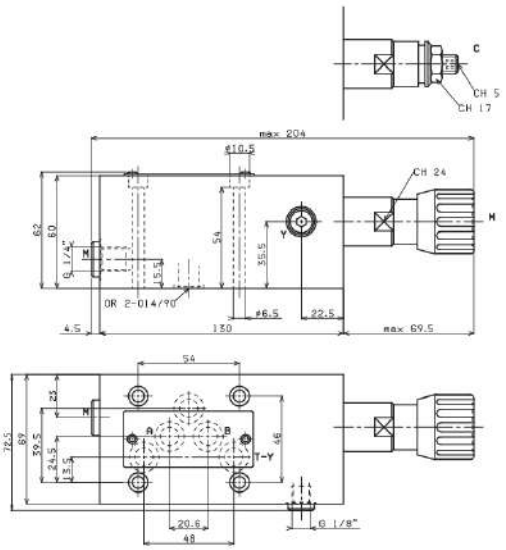
The fluid used is a mineral oil with viscosity of 46 mm²/s at 40°C. The tests were carried out at a fluid temperature of 50°C.

OVERALL DIMENSIONS

REDUCING VALVE
PVR3... CETOP 3/NG6



SEQUENCING VALVE
PVS3... CETOP 3/NG6



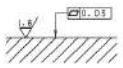
Type of adjustment

M Plastic knob

C Grub screw

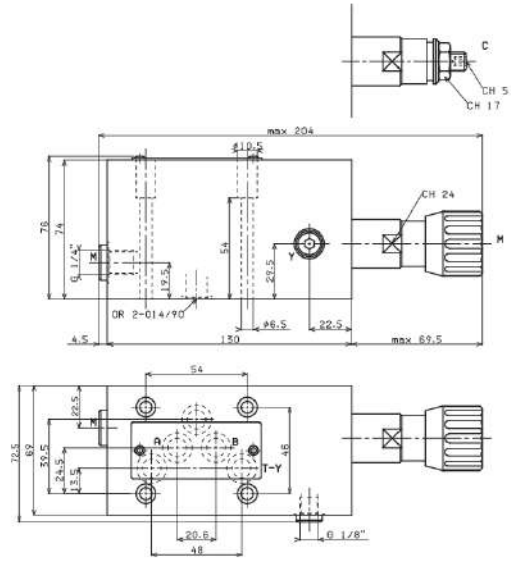
Fixing screws UNI 5931 M5x50
with material specifications min. 8.8
Tightening torque 5 Nm / 0.5 Kgm

Support plane specifications

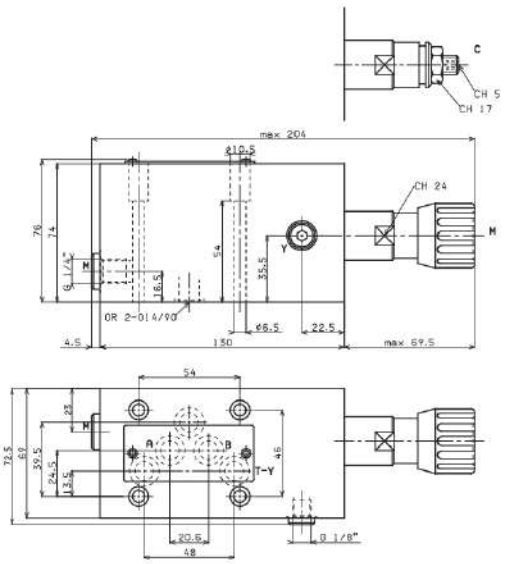


OVERALL DIMENSIONS

REDUCING VALVE WITH CHECK VALVE
PVRU3... CETOP 3/NG6



SEQUENCING VALVE WITH CHECK VALVE
PVSU3... CETOP 3/NG6



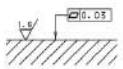
Type of adjustment

M Plastic knob

C Grub screw

Fixing screws UNI 5931 M5x50
with material specifications min. 8.8
Tightening torque 5 Nm / 0.5 Kgm

Support plane specifications



V*P Pressure control valves plate
V*L Pressure control valves in line

These pressure control valves are available in the basic VMP* maximum pressure, VSP* sequence and VUP* exclusion versions, with a single pressure value and three calibration ranges that cover the band 15÷400 bar. It is possible to use auxiliary pilot valves, which can be the simple standard AD3E solenoid valve, by the mere exchange of covers.

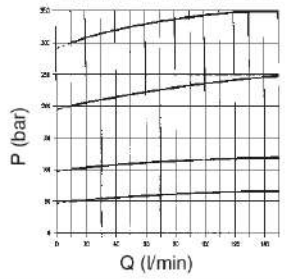
These valves have been fitted with an important safety feature for the operation of the system where they are used; a mechanical end of stroke stop prevents the operator from setting pressure values higher than those specified in the catalogue (it is impossible to compress the spring completely). In the standard configuration these valves are supplied with a 1.6 bar main spring and with calibrated ø1 mm pilot feed orifice (Variant part No. 00).

Pressure max.		400 bar
Setting ranges	Spring 1	15 ÷ 45 bar
	Spring 2	15 ÷ 145 bar
	Spring 3	45 ÷ 400 bar
Max. flow V*P16...		150 l/min
Max. flow V*P25...		350 l/min
Hydraulic fluids		Mineral oils DIN 51524
Fluid viscosity		10 ÷ 500 mm²/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 $\beta_{25}\geq 75$
Drainage V*P16...		1 ÷ 2 l/min
Drainage V*P25...		1 ÷ 2.5 l/min
Dynamic pressure at drainage		Max. 2 bar
Weight V*P16... (without pilot valve)		3,3 Kg
Weight V*P25... (without pilot valve)		7,4 Kg
Weight V*L16... (without pilot valve)		4,6 Kg
Weight V*L161... (without pilot valve)		4,5 Kg
Weight V*L251... (without pilot valve)		7,7 Kg
Weight V*L25... (without pilot valve)		8,3 Kg

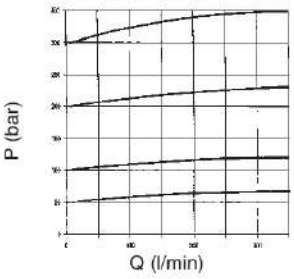
Subplate mounting valves are suitable for covers which do not conform to DIN standards type C*P16/25.. whilst in line mounting valves are suitable for DIN standards covers type KEC16/25...

V*P / V*L...	
V*P...	Cap. II • 7
V*PE...	Cap. II • 8
V*L...	Cap. II • 9 - Cap. II • 10
BSVMP...	Cap. II • 11
KEC16/25...	Cap. II • 9
C*P16/25...	Cap. II • 9
CETOP 3/NG06	Cap. II • 8
Standard spools for AD3E	Cap. II • 10
AD3E...	Cap. II • 11
AM3VM...	Cap. II • 9

Pressure - flow V*16



Pressure - flow V*P25

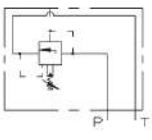
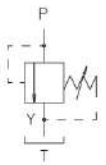
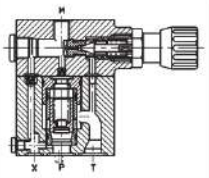
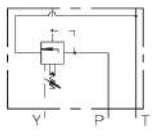
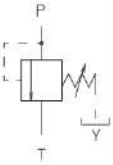
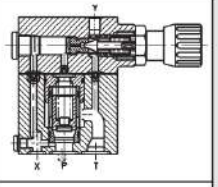
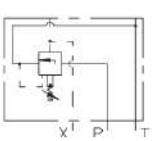
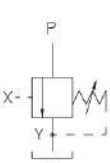
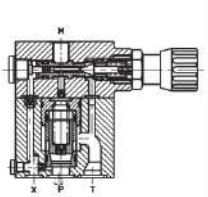


The fluid used is a mineral oil with viscosity of 46 mm²/s at 40°C.
The tests were carried out at a fluid temperature 40°C.

Ordering code

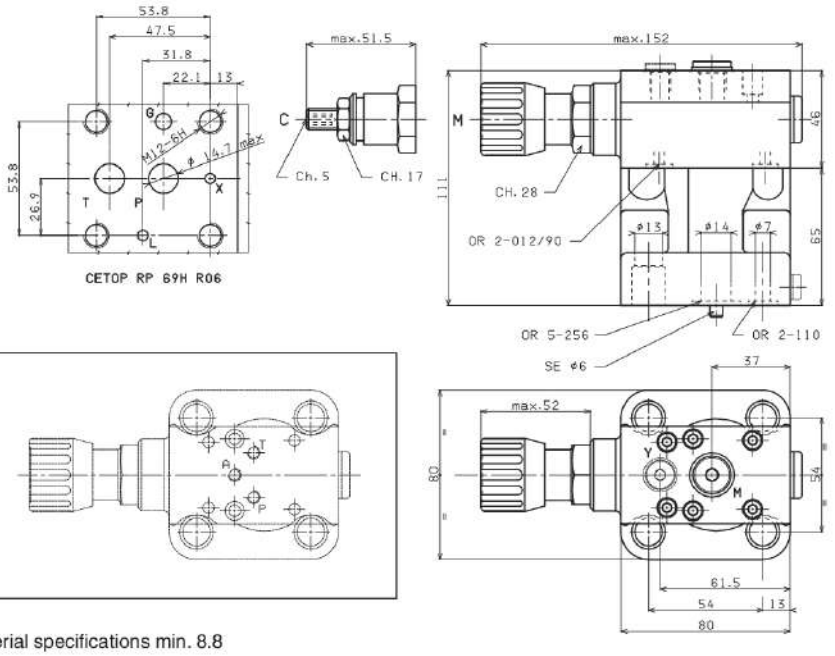
V	Valve
*	**M** = maximum pressure **S** = sequence **U** = exclusion (areas rep. 1,15 : 1)
*	**P** = Plate mounting **L** = In line mounting
*	**E** = Presetting for solenoid valve **Not for sequencing valve V.S.P...** (omit if not required)
***	Size (see overall dimensions) **16 - 25** = NG16 or NG25 **161 - 251** = for V.*.L... only (in line mounting valve)
*	Type of adjustment: **M** = Plastic knob **C** = Grub screw
*	Setting ranges **1** = 15 ÷ 45 bar **(white spring)** **2** = 15 ÷ 145 bar **(yellow spring)** **3** = 45 ÷ 400 bar **(green spring)**
**	**00** = No variant **V1** = Viton **AC** = Exclusion valve for accumulators (only for VU*, logic element areas rep. 12.5 : 1) **AQ** = Presetting for XP3
2	Serial No.

Hydraulic symbols

VMP16... **VMP25**... **Maximum pressure valve** Internal piloting and draining			
VSP16... **VSP25**... **Sequencing valve** Internal piloting External draining			
VUP16... **VUP25**... **Exclusion valve** External piloting Internal draining			

DANA BREVINI Motion Systems

OVERALL DIMENSIONS V*P16...

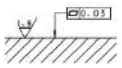


VERSION WITH PRESETTING FOR SOLENOID VALVE

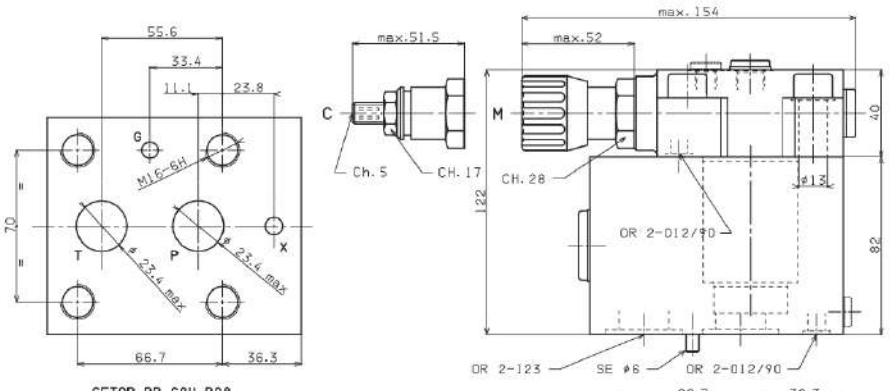
Fixing screws UNI 5931 M12x40 with material specifications min. 8.8
Tightening torque 70 Nm / 7 Kgm

M = 1/4" BSP connector for pressure gauge for maximum pressure valve version only
Y = 1/8" BSP external draining for sequencing valve version only

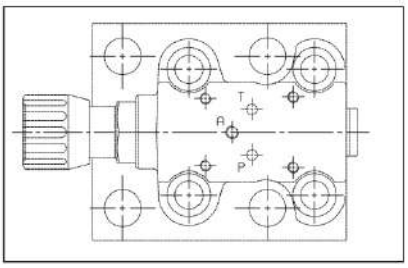
Support plane specifications

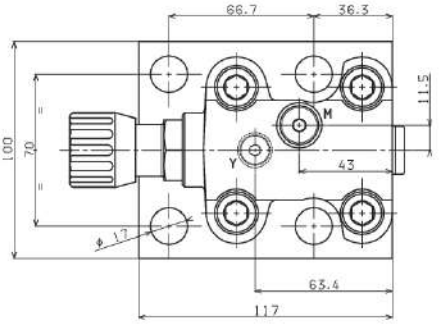


OVERALL DIMENSIONS V*P25...



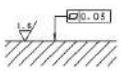
VERSION WITH PRESETTING FOR SOLENOID VALVE





Fixing screws UNI 5931 M16x100 with material specifications min. 8.8
Tightening torque 70 Nm / 7 Kgm
M = 1/4" BSP connector for pressure gauge for maximum pressure valve version only
Y = 1/8" BSP external draining for sequencing valve version only

Support plane specifications

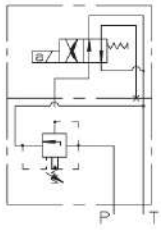


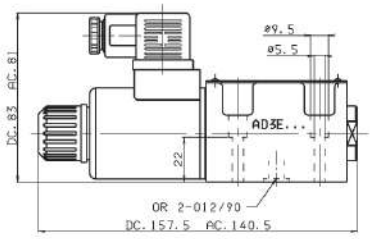
2

MOUNTING TYPE V*PE...

V*PE... + AD3E15E... OR AD3E16E...

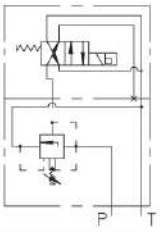
1) Solenoid de-energized, pump to tank.
2) Solenoid energized, circuit pressure controlled by valve on cover.
For mounting valves to have normally discharged configuration it is necessary to use an AD3E15F.. or AD3E16F... type solenoid valve, whilst for subplate mounting valves it is necessary to use type AD3E15E.. or AD3E16E.

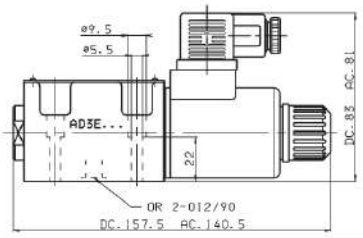




V*PE... + AD3E15F... OR AD3E16F...

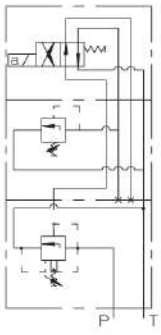
1) Solenoid de-energized, pump pressure controlled by valve on cover.
2) Solenoid B energized, pump to tank.

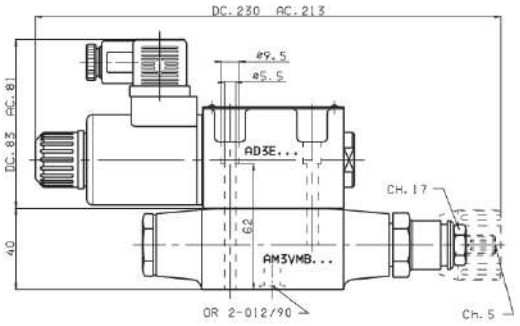




V*PE... + AM3VMB... + AD3E15E... OR AD316E...

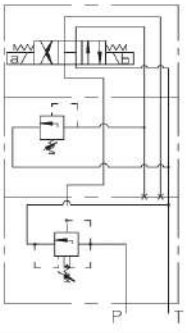
1) Solenoid de-energized, pump pressure controlled by valve on cover.
2) Solenoid energized, pump pressure controlled by valve AM3VMB.

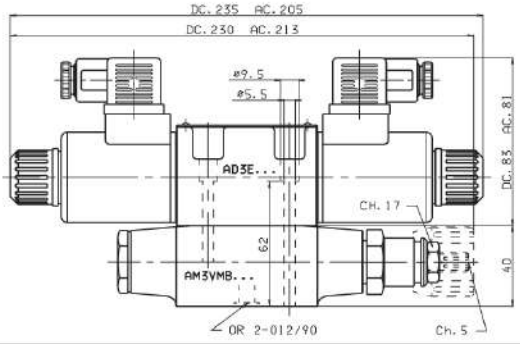




V*PE... + AM3VMB... + AD3E02C...

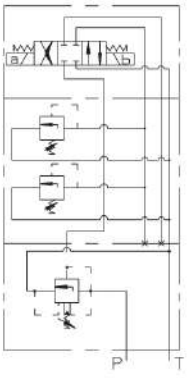
1) Solenoid de-energized, pump to tank.
2) Solenoid A energized, pump pressure controlled by valve AM3VMB.
3) Solenoid B energized, pump pressure controlled by valve on cover.

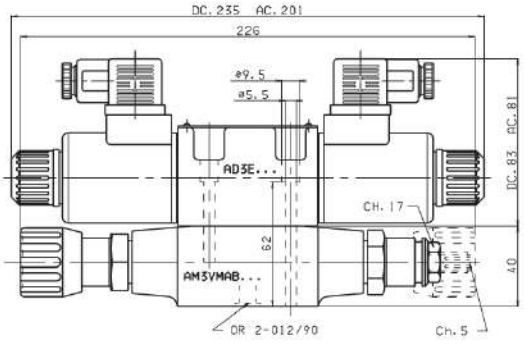




V*PE... + AM3VMB... + AD3E01C...

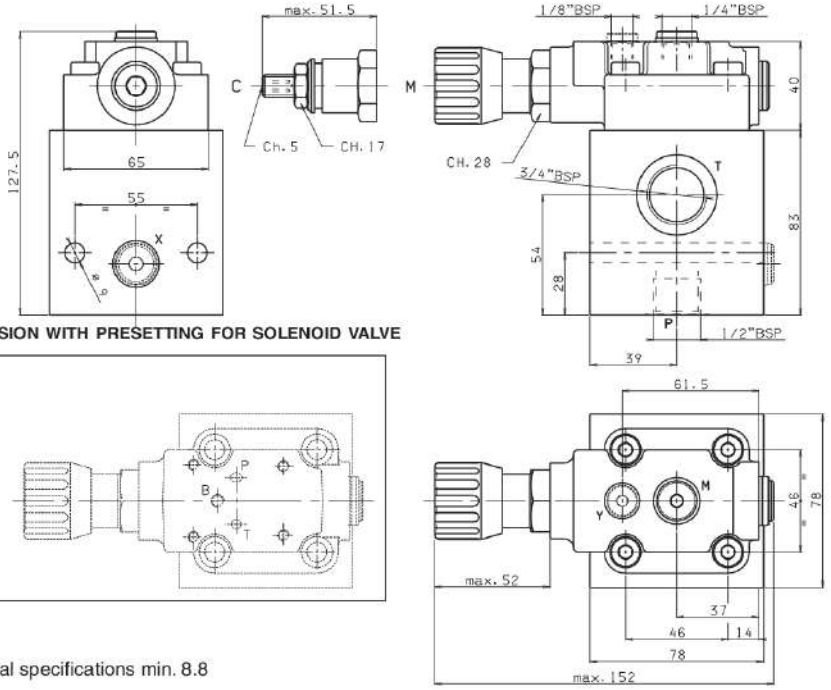
1) Solenoid de-energized, pump pressure controlled by valve on cover.
2) Solenoid A energized, pump pressure controlled by valve AM3VMAB.
3) Solenoid B energized, pump pressure controlled by valve AM3VMAB.





OVERALL DIMENSIONS V*L16...

1/2" BSP P connector
3/4" BSP T connector



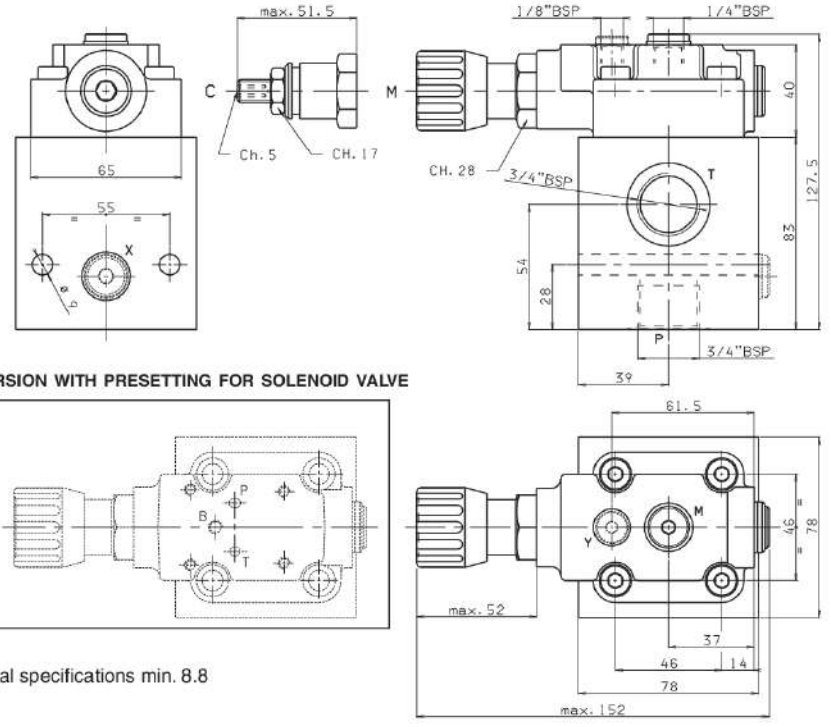
VERSION WITH PRESETTING FOR SOLENOID VALVE

Fixing screws UNI 5931 M8x90 with material specifications min. 8.8
Tightening torque 24 Nm / 2.4 Kgm

M = 1/4" BSP connector for pressure gauge for maximum pressure valve version only
Y = 1/8" BSP external draining for sequencing valve version only

OVERALL DIMENSIONS V*L161...

3/4" BSP P and T connectors



VERSION WITH PRESETTING FOR SOLENOID VALVE

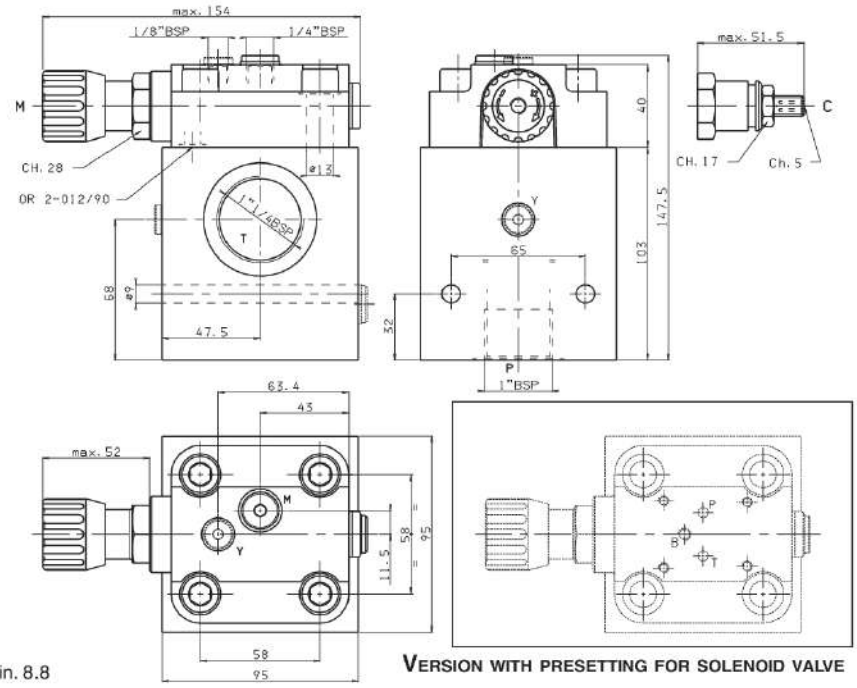
Fixing screws UNI 5931 M8x90 with material specifications min. 8.8
Tightening torque 24 Nm / 2.4 Kgm

M = 1/4" BSP connector for pressure gauge for maximum pressure valve version only
Y = 1/8" BSP external draining for sequencing valve version only

2

OVERALL DIMENSIONS V*L25...

1" BSP P connector
1 1/4" BSP T connector



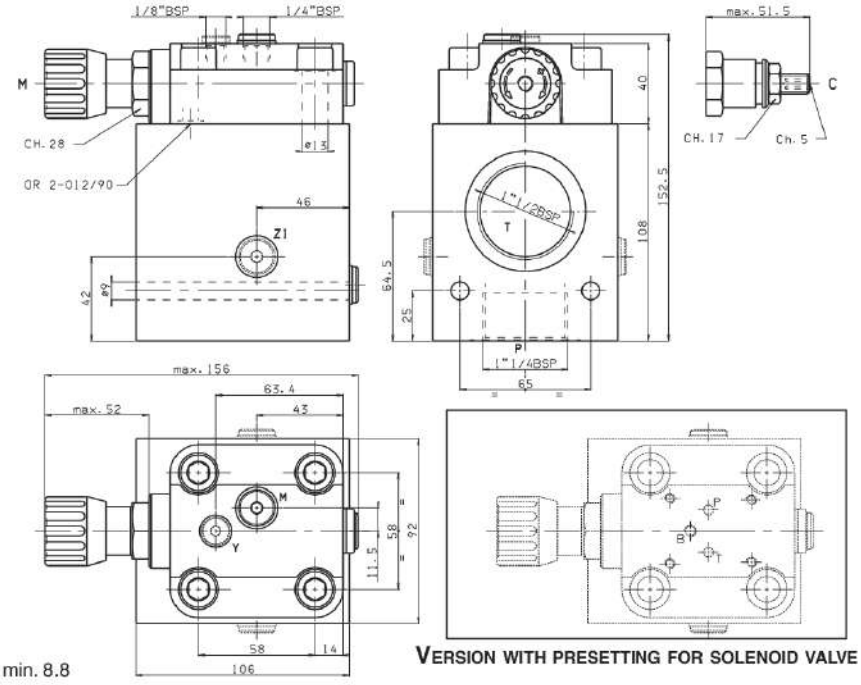
Fixing screws UNI 5931
M8x110 with material specifications min. 8.8
Tightening torque 24 Nm / 2.4 Kgm

VERSION WITH PRESETTING FOR SOLENOID VALVE

M = 1/4" BSP connector for pressure gauge for maximum pressure valve version only
Y = 1/8" BSP external draining for sequencing valve version only

OVERALL DIMENSIONS V*L251...

1 1/4" BSP P connector
1 1/2" BSP T connector



Fixing screws UNI 5931
M8x120 with material specifications min. 8.8
Tightening torque 24 Nm / 2.4 Kgm

VERSION WITH PRESETTING FOR SOLENOID VALVE

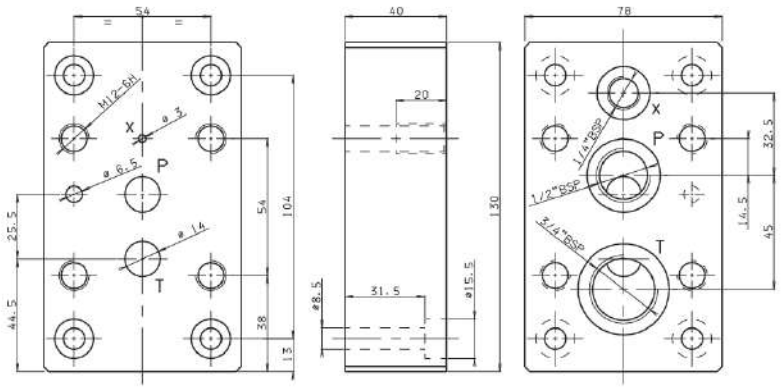
M = 1/4" BSP connector for pressure gauge for maximum pressure valve version only
Y = 1/8" BSP external draining for sequencing valve version only

BSVMP16... CONNECTORS: P = 1/2" BSP - T = 3/4" BSP - X = 1/4" BSP

BS	Single plate
VMP	Maximum pressure
16	Size NG16
00	No variant
1	Serial No.

Weight: 2,2 Kg

Fixing screws M8x45 UNI 5931

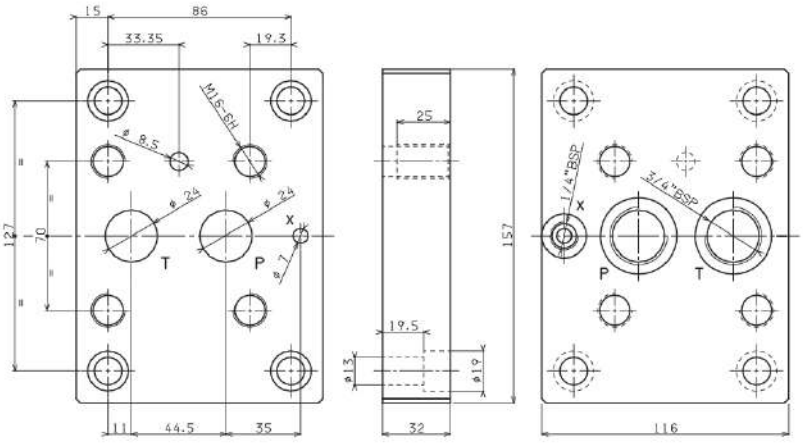


BSVMP25... CONNECTORS: P AND T = 3/4" BSP - X = 1/4" BSP

BS	Single plate
VMP	maximum pressure
25	Size NG25
00	No variant
1	Serial No.

Weight: 3,6 Kg

Fixing screws M12x35 UNI 5931



BSVMP25/1... CONNECTORS: P AND T = 1" BSP - X = 1/4" BSP

BS	Single plate
VMP	maximum pressure
25/1	Size NG25
00	No variant
1	Serial No.

Weight: 4,2 Kg

Fixing screws M10x45 UNI 5931