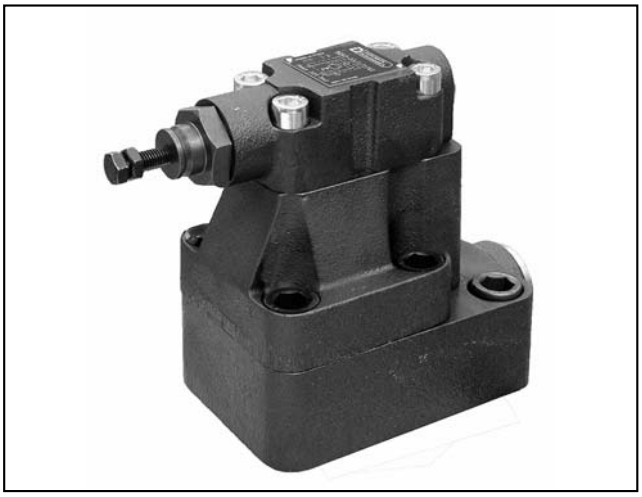


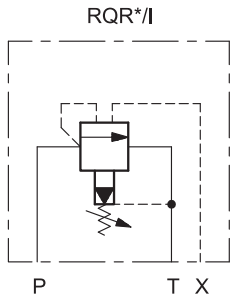
RQ**-P
UNLOADING VALVE
(FOR CIRCUITS WITH ACCUMULATOR)
SERIES 42

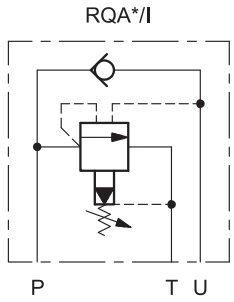
RQR*-P
FOR REMOTE PILOTING

RQA*-P
WITH INCORPORATED CHECK VALVE

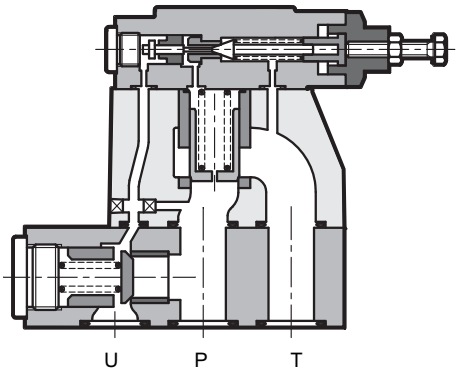
SUBPLATE MOUNTING

HYDRAULIC SYMBOLS





OPERATING PRINCIPLE



— The RQR*-P and RQR*-A valves have not only the normal function of relief valves or safety valves but also the characteristic of freely discharging the pump flow when the set pressure value is reached.

In order to assure this condition, the use of an accumulator that guarantees pressure in the circuit is required. The use of a check valve prevents the accumulator from discharging through the valve in the open position.

— Those valves are made with a balanced shutter main stage that has wide passages for big flows and reduced pressure drops.

PERFORMANCES (measured with mineral oil of viscosity 36 cSt at 50°C)

		RQR3-P	RQR5-P	RQR7-P	RQA5-P	RQA7-P
Maximum operating pressure	bar	350				
Maximum flow rate	l/min	200	400	500	400	500
Ambient temperature range	°C	-20 / +50				
Fluid temperature range	°C	-20 / +80				
Fluid viscosity range	cSt	10 ÷ 400				
Fluid contamination degree	According to ISO 4406:1999 class 20/18/15					
Recommended viscosity	cSt	25				
Mass	Kg	3,5	4,3	6,5	10	17

1 - IDENTIFICATION CODE

R	Q			-	P		/		/	I	/		/	42	/	

Unloading valve

Automated unloading
for circuits with accumulator
R = for remote piloting
A = with incorporated
check valve (size 3 excluded)

Size:
3 = RQR3-P ISO 6264-06-09-*-97 (CETOP R06)
5 = RQR5-P ISO 6264-08-13-*-97 (CETOP R08)
5 = RQA5-P
7 = RQR7-P ISO 6264-10-07-*-97 (CETOP R10)
7 = RQA7-P

Subplate mounting

Pressure adjustment range:
3 = up to 70 bar
5 = up to 210 bar
6 = up to 350 bar

1 = pump switch on at 85% of the set value
2 = pump switch on at 70% of the set value

Internal drainage.

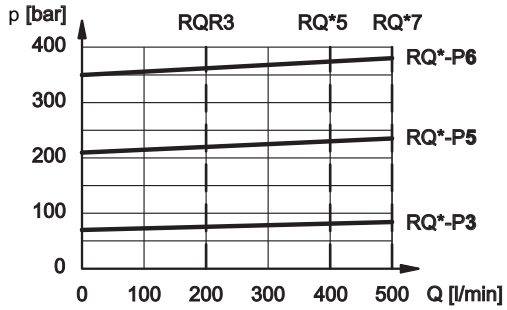
M = adjustment with SICBLOC knob
(omit for adjustment with hexagonal
head screw)

Series No.
(the overall and mounting
dimensions remain
unchanged from 40 to 49)

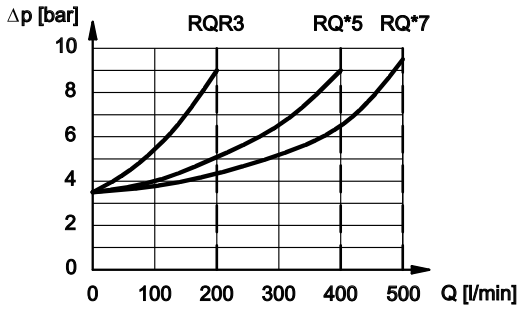
Seals: omit for
mineral oils
V = viton for
special fluids

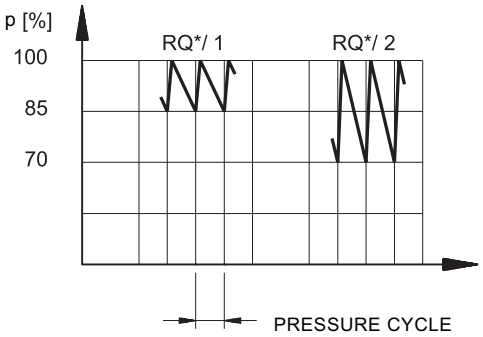
2 - CHARACTERISTIC CURVES (values obtained with viscosity of 36 cSt at 50°C)

ADJUSTMENT



MINIMUM CONTROLLED PRESSURE



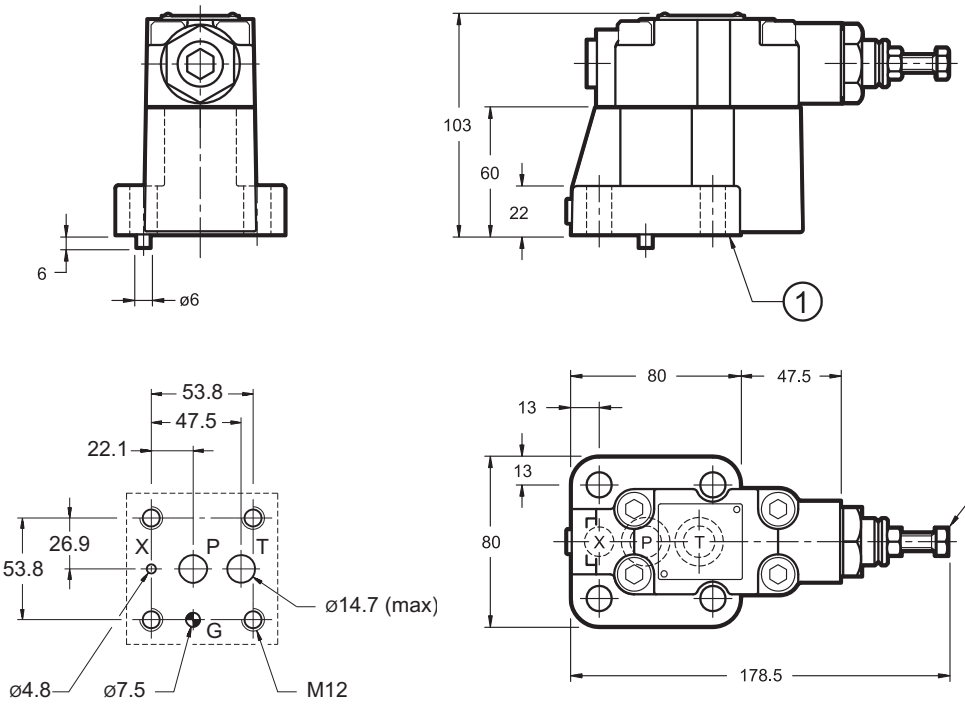


3 - HYDRAULIC FLUIDS

Use mineral oil-based hydraulic fluids HL or HM type, according to ISO 6743-4. For these fluids, use NBR seals. For fluids HFDR type (phosphate esters) use FPM seals (code V). For the use of other kinds of fluid such as HFA, HFB, HFC, please consult our technical department. Using fluids at temperatures higher than 80 °C causes a faster degradation of the fluid and of the seals characteristics.
The fluid must be preserved in its physical and chemical characteristics.

4 - RQR3-P OVERALL AND MOUNTING DIMENSIONS

dimensions in mm



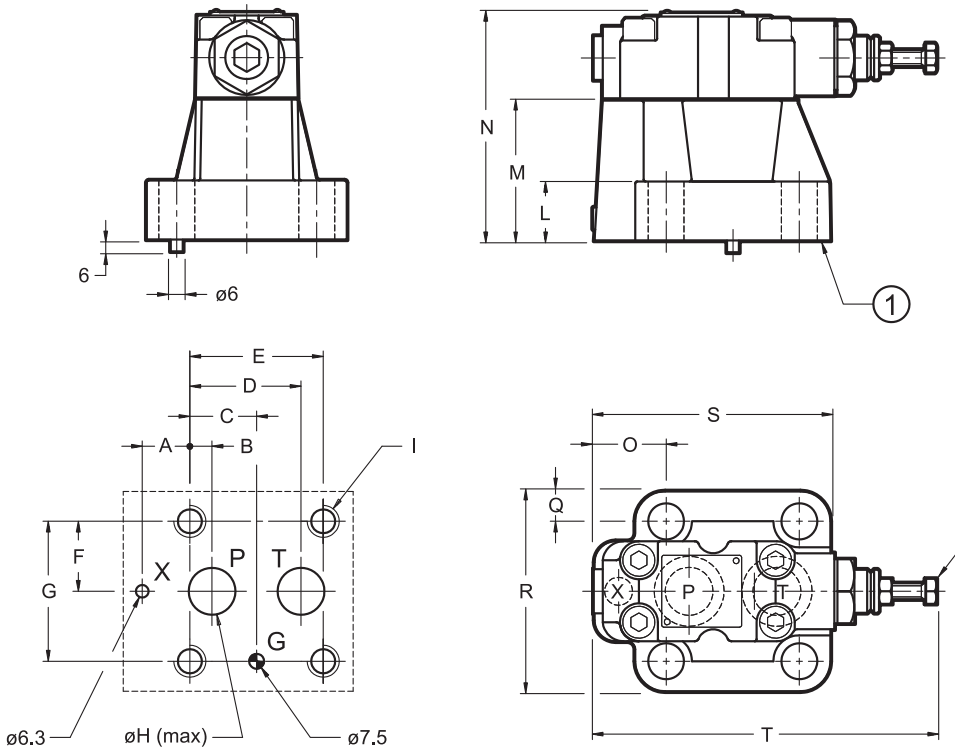
1	Mounting surface with sealing rings: N. 2 OR type 123 (17.86x2.62) N. 1 OR type 109 (9.13x2.62) 90 Shore
2	Hexagonal head adjustment screw. Spanner 13. Clockwise rotation to increase pressure.

FASTENING BOLTS (included):
4 SHC bolts ISO 4762 M12x40
Tightening torque: 69 Nm

MOUNTING SURFACE: ISO 6264-06-09-*-97 (CETOP 4.4.2-2-R06-350)

5 - RQR5-P and RQR7-P OVERALL AND MOUNTING DIMENSIONS

dimensions in mm



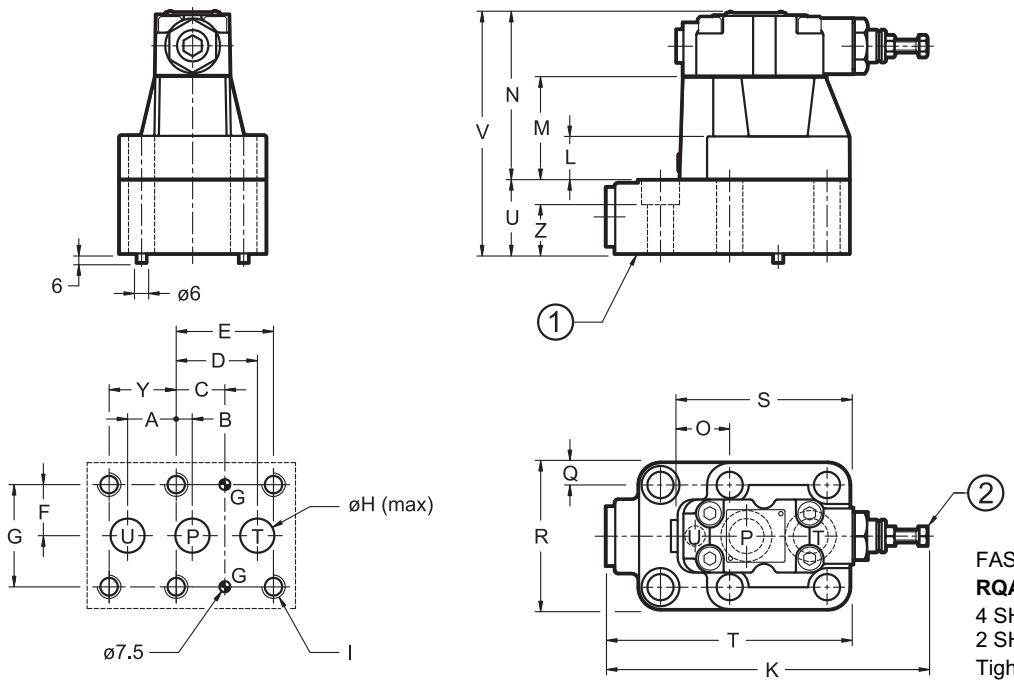
1	Mounting surface with sealing rings: **RQR5** N. 2 OR type 3118 (29.82x2.62) N. 1 OR type 109 (9.13x2.62) - 90 Shore **RQR7** N. 2 OR type 4137 (34.52x3.53) N. 1 OR type 109 (9.13x2.62) - 90 Shore
2	Hexagonal head adjustment screw. Spanner 13.

FASTENING BOLTS (included):
RQR5
4 SHC bolts ISO 4762 M16x50
Tightening torque: 170 Nm
RQR7
4 SHC bolts ISO 4762 M18x60
Tightening torque: 235 Nm

	MOUNTING SURFACE	A	B	C	D	E	F	G	ØH	I	L	M	N	O	Q	R	S	T
RQR5-P	ISO 6264-08-13-*-97 (CETOP 4.4.2-2-R08-350)	23.8	11.1	33.4	55.6	66.7	35	70	23.4	M16	27	70	113	35.8	15	100	118	170
RQR7-P	ISO 6264-10-17-*-97 (CETOP 4.4.2-2-R10-350)	31.8	12.7	44.5	76.2	88.9	41.3	82.6	32	M18	35	80	123	44.1	18.7	120	152	180

6 - RQA5-P and RQA7P OVERALL AND MOUNTING DIMENSIONS

dimensions in mm



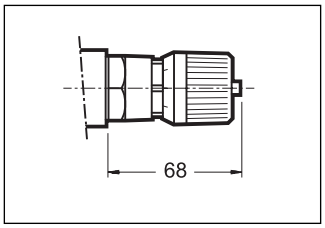
1	Mounting surface with sealing rings: **RQA5** N. 3 OR type 3118 (29.82x2.62) 90 Shore **RQR7** N. 2 OR type 4137 (34.52x3.53) 90 Shore
2	Hexagonal head adjustment screw. Spanner 13.

FASTENING BOLTS (included):
RQA5
4 SHC bolts ISO 4762 M16x100
2 SHC bolts ISO 4762 M16x55
Tightening torque:170 Nm
RQA7
4 SHC bolts ISO 4762 M18x130
2 SHC bolts ISO 4762 M18x70
Tightening torque: 235 Nm

	A	B	C	D	E	F	G	ØH	I	K	L	M	N	O	Q	R	S	T	U	V	Y	Z
RQA5-P	33.3	11.1	33.4	55.6	66.7	35	70	23.4	M16	213	27	70	113	35.8	15	100	118	167	50	163	46	33.5
RQA7-P	38	12.7	44.5	76.2	88.9	41.3	82.6	32	M18	245	35	80	123	44.1	18.7	120	152	222	66	189	50.8	48

7 - ADJUSTMENT KNOB

The valves can be equipped with a SICBLOC adjustment knob. To operate it, push and rotate at the same time.
To request this option, add: /**M** (see paragraph1).



8 - SUBPLATES (see catalogue 51 000)

	RQR3-P	RQR5-P	RQR7-P	RQA5-P	RQA7-P
Type	PMRQ3-AI4G rear ports	PMRQ5-AI5G rear ports	PMRQ7-AI7G rear ports	PMRQA5-AI5G rear ports	PMRQA7-AI7G rear ports
P, T, U ports dimensions	P: 1/2" BSP T: 3/4" BSP	1" BSP	1" 1/4 BSP	3/4" BSP	1" 1/4 BSP
X port dimension	1/4" BSP	1/4" BSP	1/4" BSP	-	-

DUPLOMATIC OLEODINAMICA
DUPLOMATIC OLEODINAMICA S.p.A.
20015 PARABIAGO (MI) • Via M. Re Depaolini 24
Tel. +39 0331.895.111
Fax +39 0331.895.339
www.duplomatic.com • e-mail: sales.exp@duplomatic.com