



QTM2

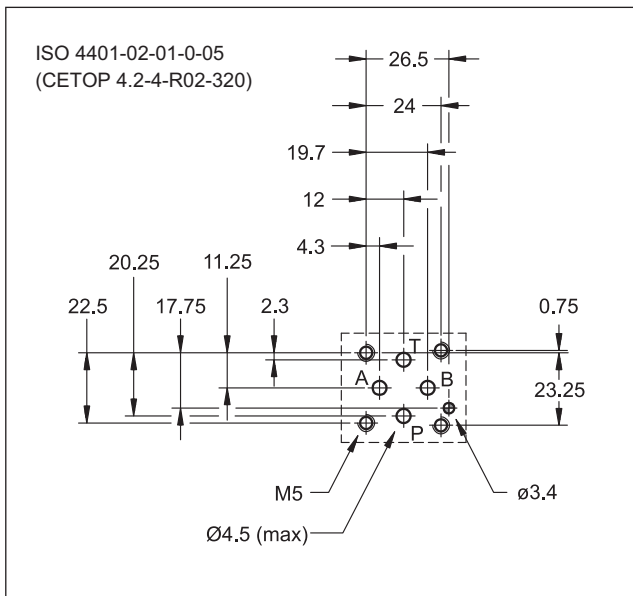
FLOW RESTRICTOR VALVE

SERIES 10

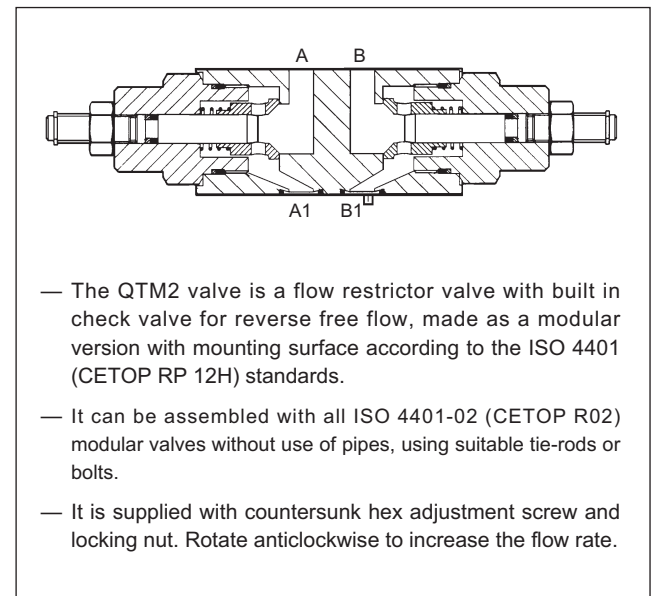
MODULAR VERSION
ISO 4401-02 (CETOP R02)

p max **320** bar
Q max **30** l/min

MOUNTING SURFACE



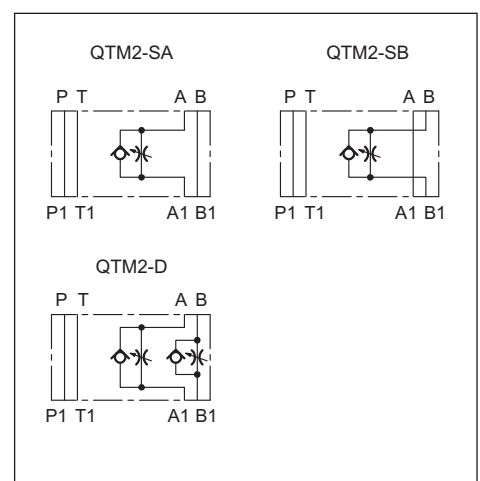
OPERATING PRINCIPLE



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

Maximum operating pressure	bar	320
Maximum flow rate	l/min	30
Ambient temperature range	°C	-20 / +50
Check valve opening pressure	bar	0,4
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	0,8

HYDRAULIC SYMBOLS





MERS

FLOW RESTRICTOR VALVE

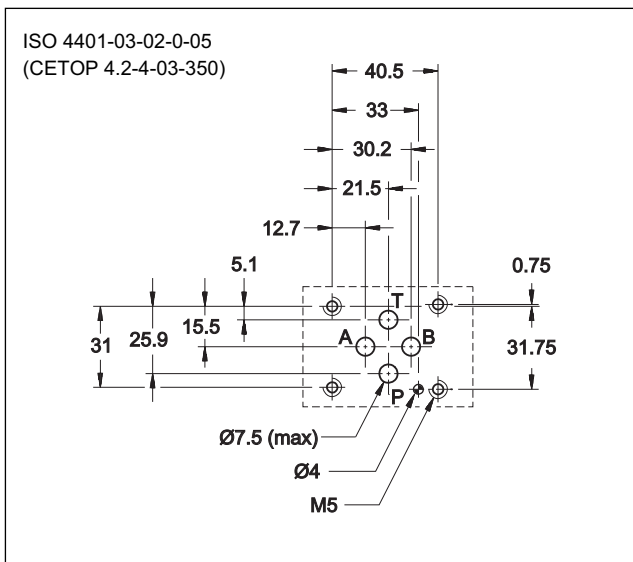
SERIES 50

MODULAR VERSION

ISO 4401-03 (CETOP 03)

p max 350 bar
Q max (see table of performances)

MOUNTING INTERFACE



OPERATING PRINCIPLE

- This is a non-compensated flow control valve with a check valve for reverse free flow. It is made in the modular version and with mounting surface according to the ISO 4401 (CETOP RP 121 H) standards; it can be assembled quickly without use of pipes, but using only suitable tie-rods or bolts, thus forming compact modular groups.
- It is also available as a reversible valve (G* versions). Meter-in or meter-out control depending on the way of assembly the valve on the OR subplate.
- All the configurations have an incorporated check valve that allows reverse free flow (cracking pressure of 0,5 bar).
- It is normally supplied with a hexagonal head adjustment screw.

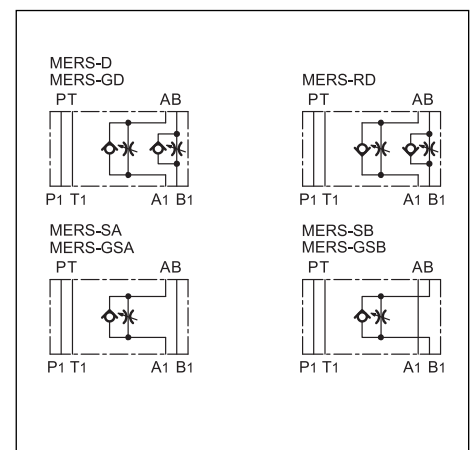
CONFIGURATIONS (see hydraulic symbols table)

- “SA”: control of the flow exiting from the actuator on line A .
- “SB”: control of the flow exiting from the actuator on line B.
- “D”: Allows an independent flow control exiting from the two chambers of the actuator. (Standard)
- “RD”: Allows an independent flow control entering in the two chambers of the actuator.
- “G*”: Reversible valve. See at par. 1

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

Maximum operating pressure	bar	350
Check valve cracking pressure		0,5
Maximum flow rate in the controlled lines	l/min	50
Maximum flow rate in the free lines		75
Min. controlled flowrate with Δp 10 bar		$\leq 0,060$
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	1,3

HYDRAULIC SYMBOLS



1 - IDENTIFICATION CODE

	M	E	R	S	-		/		/	50	/	
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ISO 4401-03 (CETOP 03) size Modular version

Flow restrictor valve with check valve for reverse free flow

Configurations:

- D:** meter out control on lines A and B (**standard**)
- RD:** meter in control on lines A and B
- SA:** meter out control on line A
- SB:** meter out control on line B

Configurations G* - reversible valve (**NOTE**)

- GD:** control on lines A and B
- GSA:** control on lines A
- GSB:** control on lines A

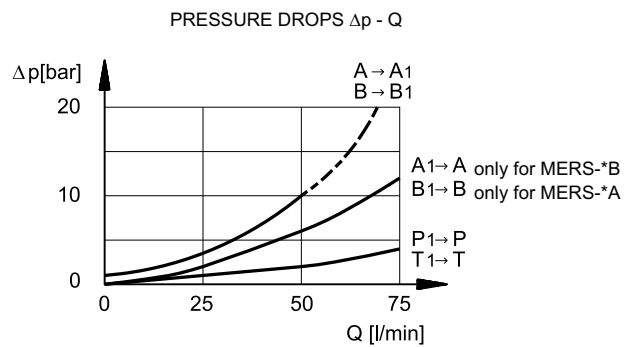
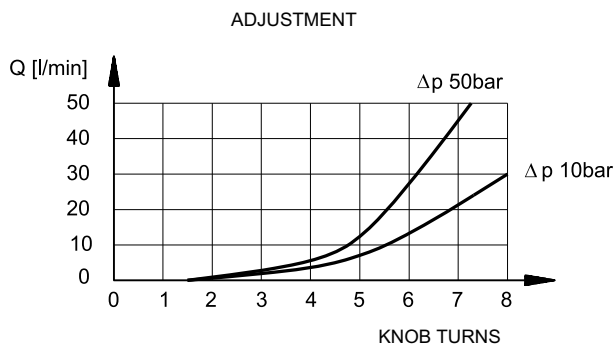
Seals: omit for mineral oils
V = viton for special fluids

Series No. (the overall and mounting dimensions remain unchanged from 50 to 59)

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

NOTE: the valve body does not provide the OR seats. The mounting interface is achieved by interposition of an OR subplate. The control of flow (meter-in or meter-out) is depending on the way of assembly the valve on the subplate.

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

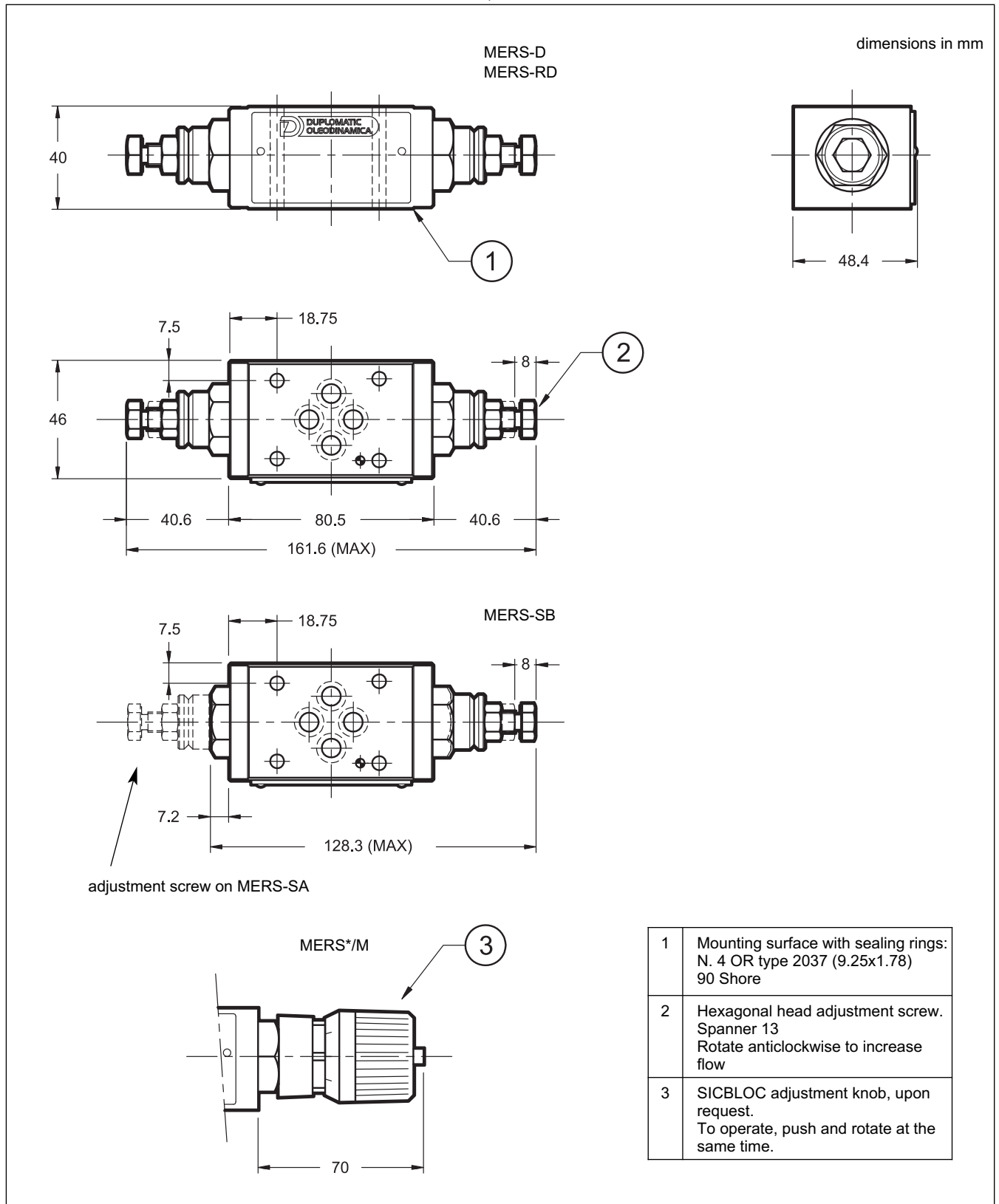


3 - HYDRAULIC FLUIDS

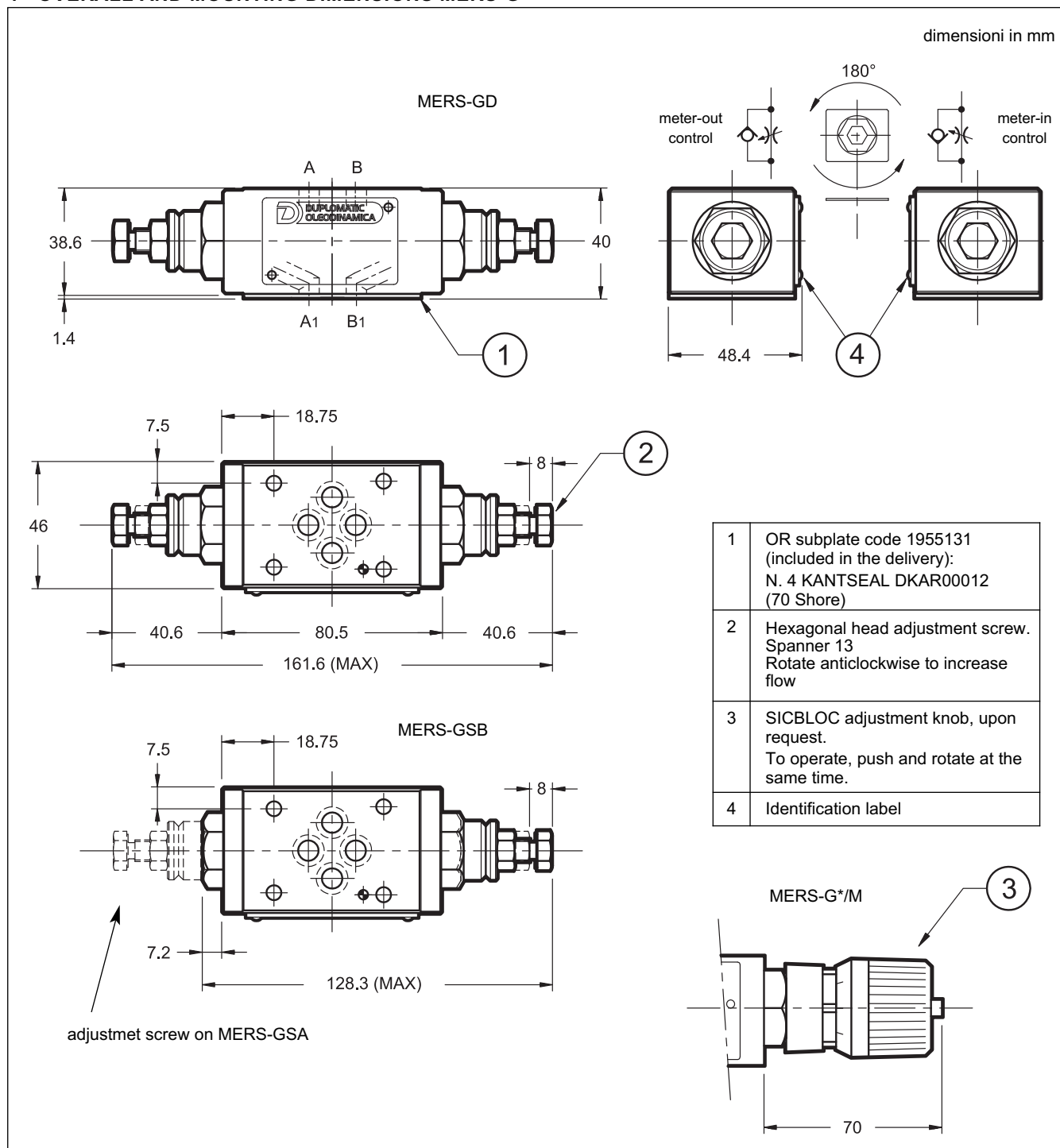
Use mineral oil-based hydraulic fluids HL or HM type, according to ISO 6743-4. For these fluids, use NBR seals. For fluids HFDR type (phosphate esters) use FPM seals (code V). For the use of other kinds of fluid such as HFA, HFB, HFC, please consult our technical department. Using fluids at temperatures 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 - OVERALL AND MOUNTING DIMENSIONS MERS -D, -RD and -S*



4 - OVERALL AND MOUNTING DIMENSIONS MERS-G*





QTM5

FLOW RESTRICTOR VALVE

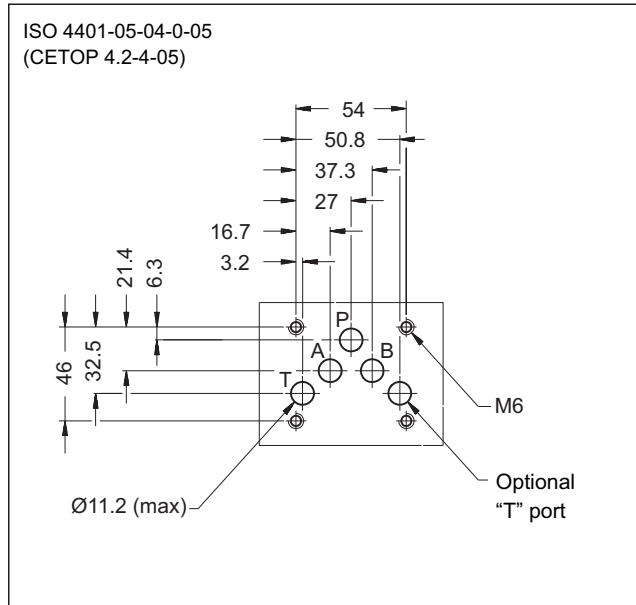
SERIES 10

MODULAR VERSION

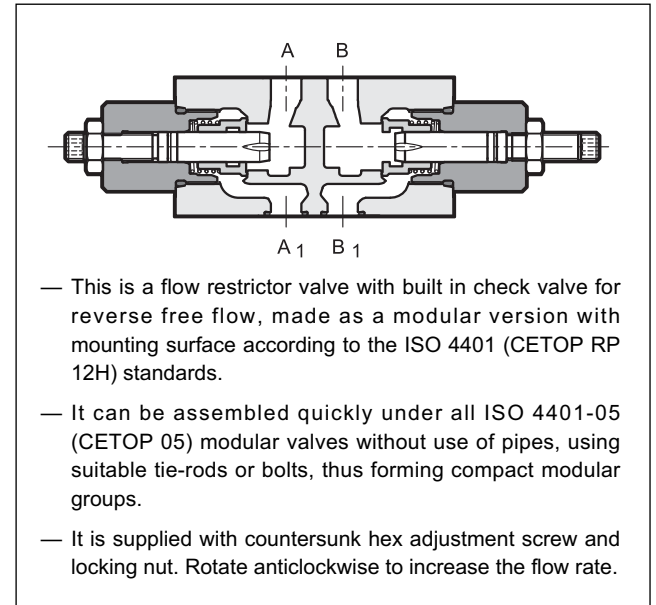
ISO 4401-05 (CETOP 05)

p max 350 bar
Q max 120 l/min

MOUNTING INTERFACE



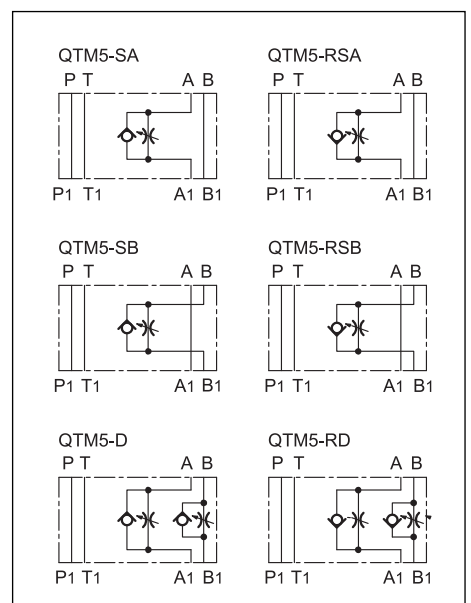
OPERATING PRINCIPLE



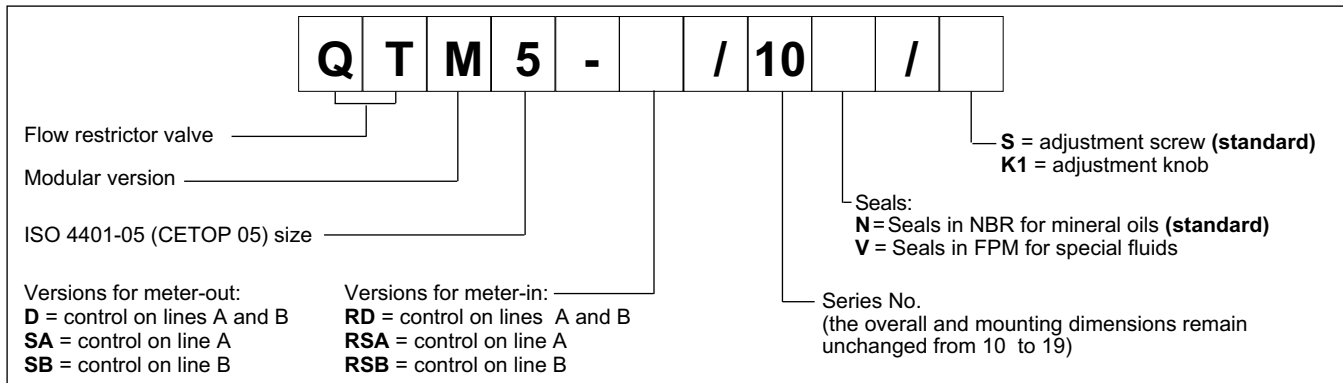
PERFORMANCES (measured with mineral oil of viscosity 36cSt at 50°C)

Maximum operating pressure	bar	350
Maximum flow rate	l/min	120
Cracking pressure	bar	0,5
Ambient temperature range	°C	-20 / +50
Fluid temperature range	°C	-20 / +80
Fluid viscosity range	cSt	10 ÷ 400
Recommended viscosity	cSt	25
Fluid contamination degree	According to ISO 4406:1999 class 20/18/15	
Mass: QTM5-SA, -SB, -RSA, -RSB	kg	2,3
QTM5-D, -RD	kg	2,5

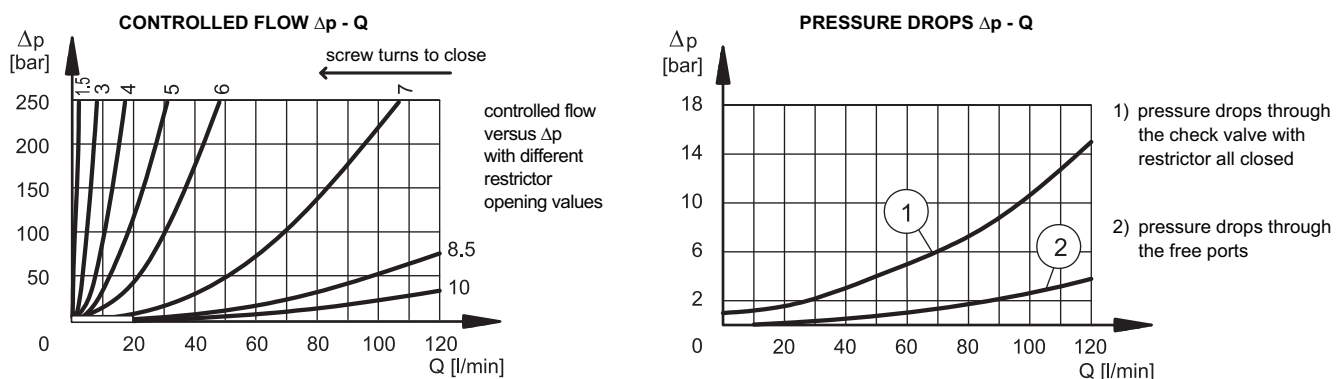
HYDRAULIC SYMBOLS



1 - IDENTIFICATION CODE



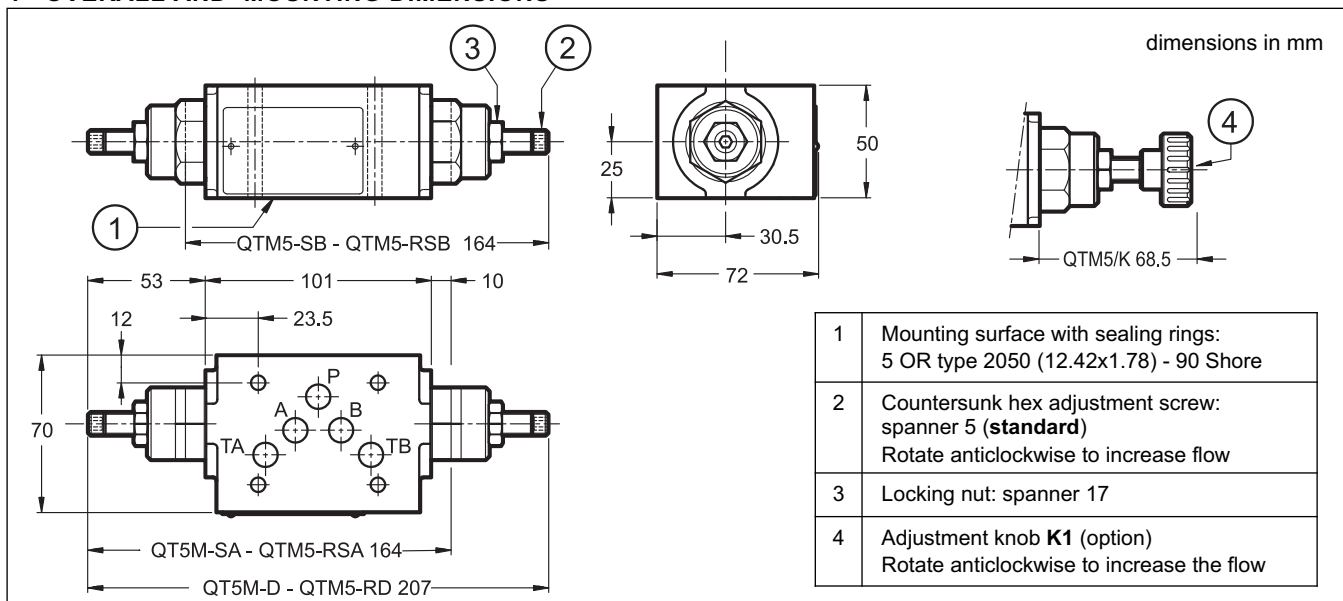
2 - CHARACTERISTIC CURVES (values obtained with viscosity of 36 cSt at 50°C)

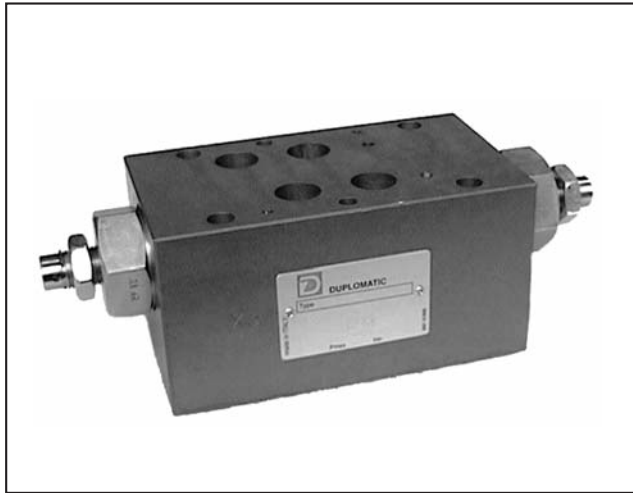


3 - HYDRAULIC FLUIDS

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 - OVERALL AND MOUNTING DIMENSIONS





QTM7

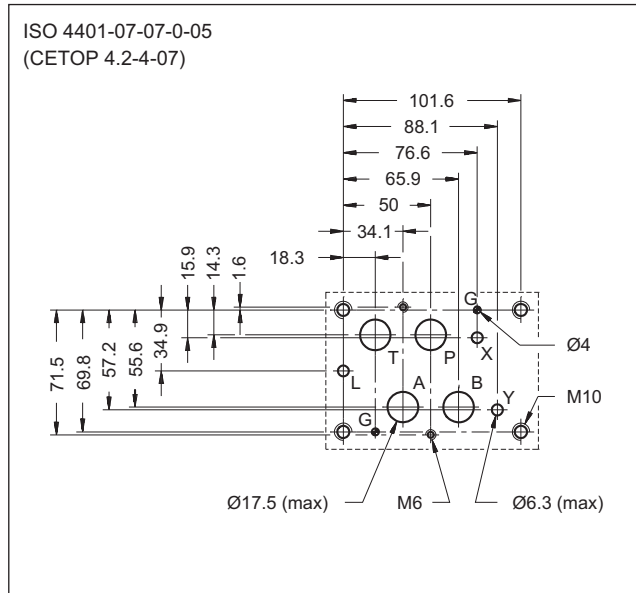
FLOW RESTRICTOR VALVE

SERIES 10

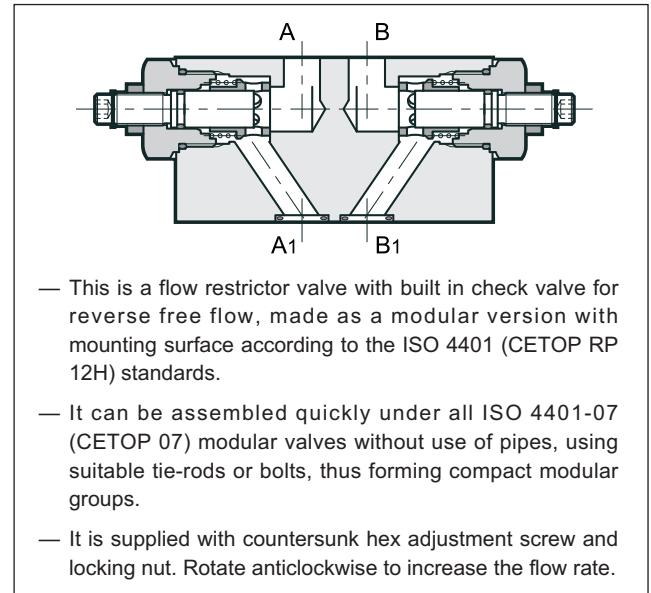
MODULAR VERSION
ISO 4401-07 (CETOP 07)

p max 350 bar
Q max 250 l/min

MOUNTING INTERFACE



OPERATING PRINCIPLE



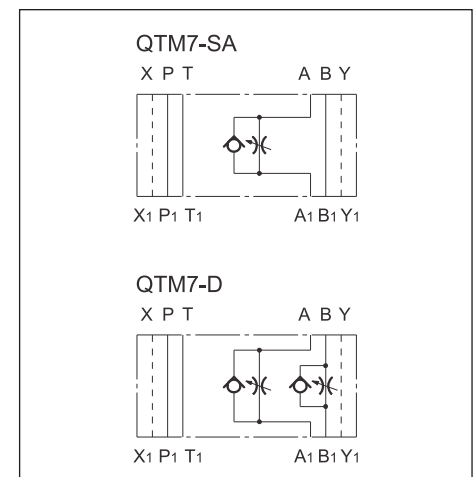
CONFIGURATIONS (see hydraulic symbols table)

- Configuration "SA": Allows the flow control exiting from the actuator on line A.
- Configuration "D": Allows independent control of the flow exiting from the chambers A and B of the actuator.
- All the configurations have a built-in check valve that allows free reverse flow (cracking pressure of 0,7 bar).

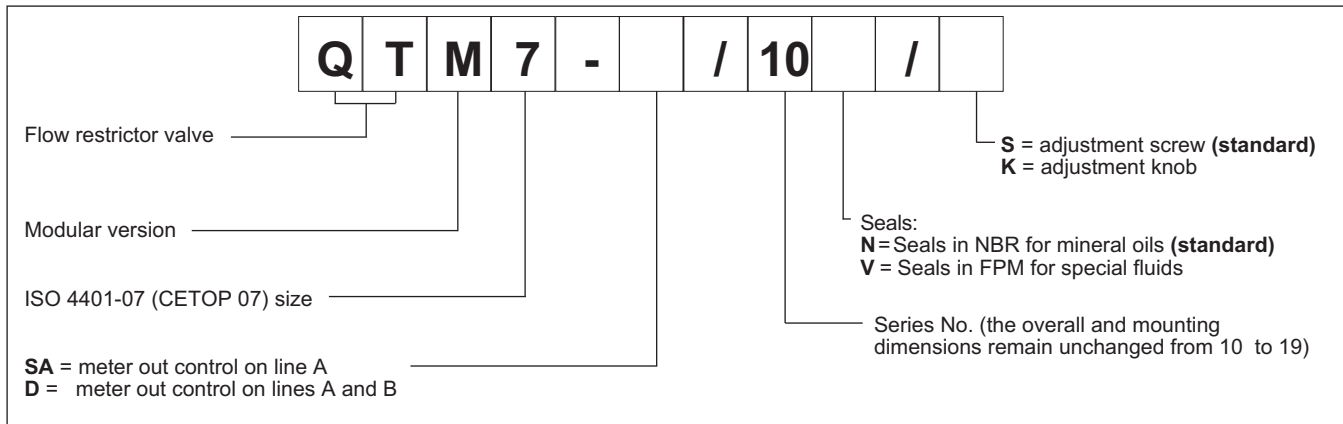
PERFORMANCES (measured with mineral oil of viscosity 36cSt at 50°C)

Maximum operating pressure	bar	350
Maximum flow rate	l/min	250
Leakage flow with restrictor closed	l/min	≤ 0,5
Check valve opening pressure	bar	0,7
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: QTM7-SA	kg	7,35
QTM7-D	kg	7,7

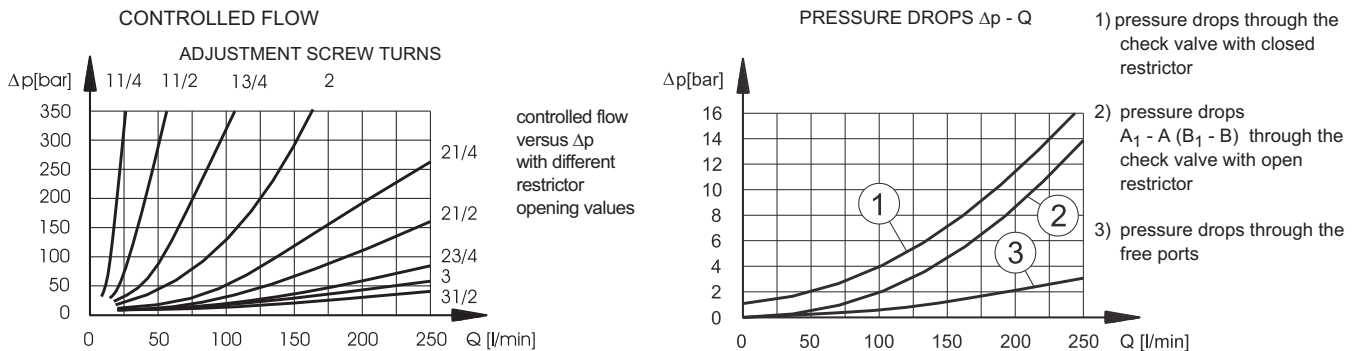
HYDRAULIC SYMBOLS



1 - IDENTIFICATION CODE



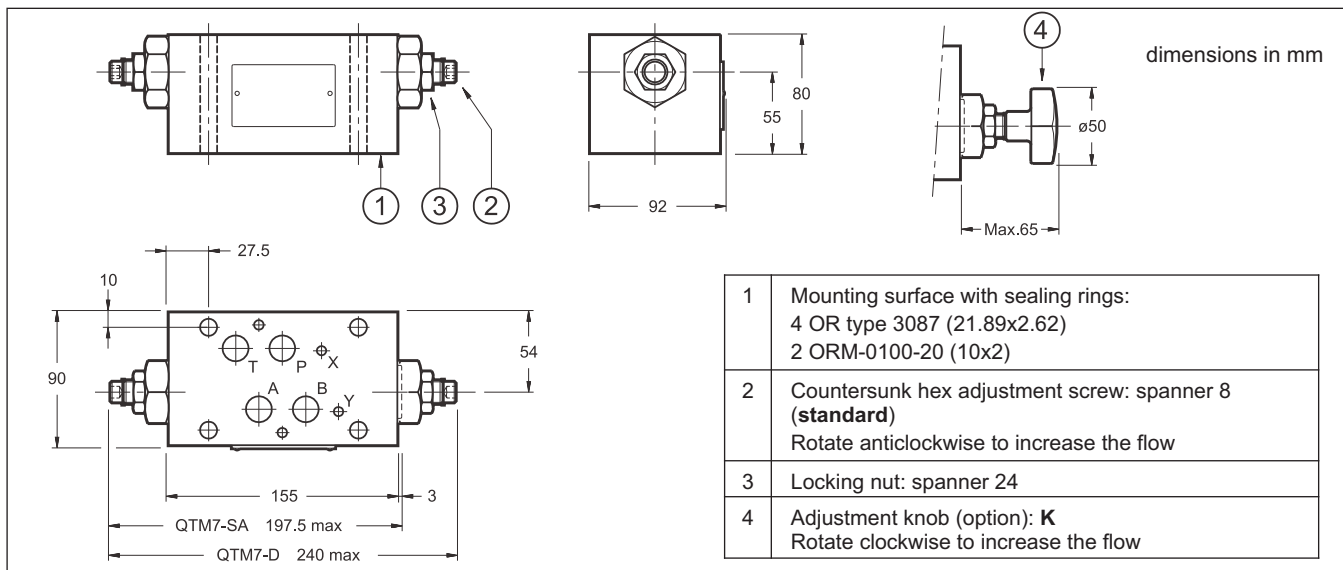
2 - CHARACTERISTIC CURVES (values obtained with viscosity of 36 cSt at 50°C)



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 - OVERALL AND MOUNTING DIMENSIONS





RPC1*/M

FLOW CONTROL VALVE

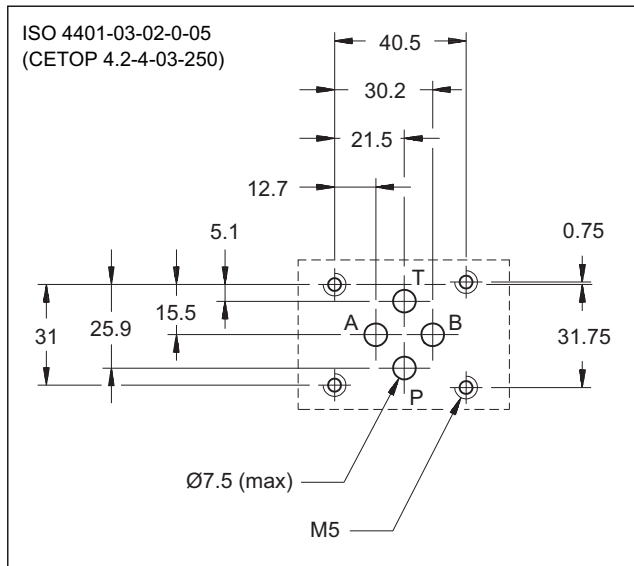
SERIES 10

MODULAR VERSION

ISO 4401-03 (CETOP 03)

p max 250 bar
Q max (see table of performances)

MOUNTING INTERFACE



CONFIGURATIONS

(see Hydraulic symbols table and Identification Code - par. 1)

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

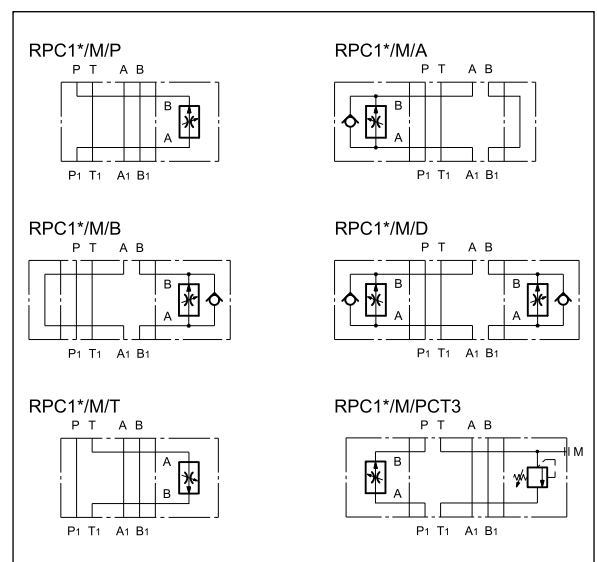
Maximum operating pressure	bar	250
Maximum flow rate in controlled lines		1-4-10-16-22-30
Maximum flow rate in the free lines	l/min	65
Reverse free flow maximum flowrate		40
Ambient temperature range	°C	-20 / +50
Fluid temperature range	°C	-20 / +80
Fluid viscosity range	cSt	10 ÷ 400
Fluid contamination degree	According to ISO 4406:1999 class 20/18/15	
Recommended viscosity	cSt	25
Mass: RPC1-*/M/ A-B-T-P		3
RPC1-*/M/ D		4,1
RPC1-*/M/PCT3		3,7
only modular block ISO 4401-03 without flow control valves:	kg	
RPC1-K/M/*		1,5
RPC1-K/M/PCT3		2,4

NOTE: for detailed information regarding the RPC1 flow control valve, see catalogue 32 200

OPERATING PRINCIPLE

- The RPC1*/M valve is a flow control valve with pressure and temperature compensation, made as a modular version with mounting surface according to the ISO 4401 (CETOP RP 121H) standards.
- It can be assembled quickly under the ISO 4401-03 (CETOP 03) directional solenoid valves and allows easy execution of hydraulic circuits where control of the speed of the actuators is required.
- It is available in six flow adjustment ranges up to 30 l/min.
- Combined with MDD44 type solenoid operated directional control valves (see cat. 41 250), it's possible to obtain circuits for the fast/slow control of the work actuators.

HYDRAULIC SYMBOLS



1 - IDENTIFICATION CODE

R	P	C	1	-		/	M	/		-		/	10	/	
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Pressure and temperature compensated flow control valve

Flow adjustment range:
1 = 1 l/min **16** = 16 l/min
4 = 4 l/min **22** = 22 l/min
10 = 10 l/min **30** = 30 l/min
K = only ISO 4401-03 (CETOP 03) modular block supplied without flow control valve

Modular version size ISO 4401-03 (CETOP 03)

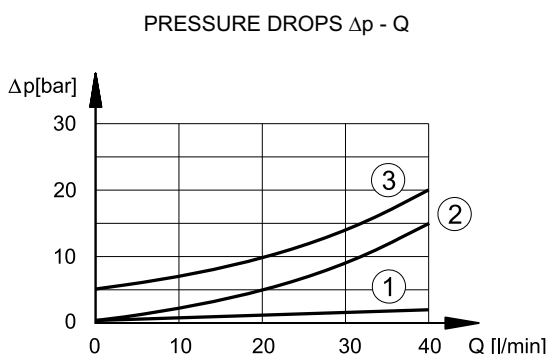
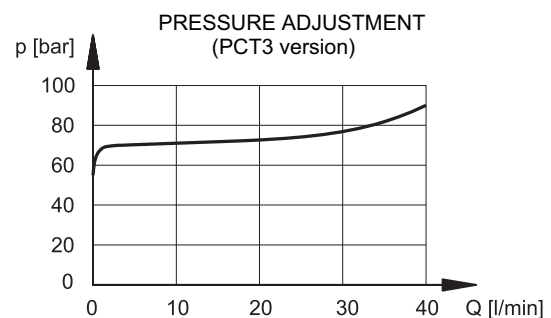
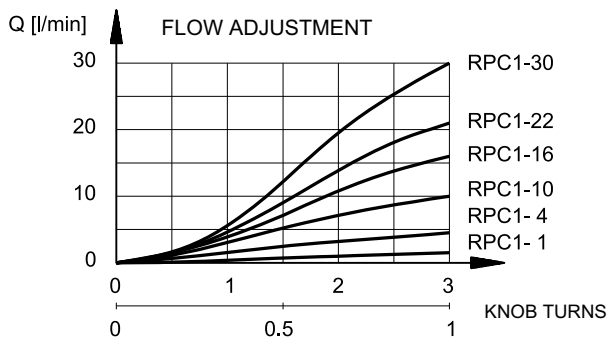
Seals: omit for mineral oils
V = viton for special fluids

Series No. (the overall and mounting dimensions remain unchanged from 10 to 19)

M1 = adjustment knob only for PCT3 version (omit for adjustment with countersunk hex screw)

Configurations:
P = meter in control on line P
A = control from chamber A of the actuator
B = control from chamber B of the actuator
D = control from chambers A and B of the actuator
T = meter out control on line T
PCT3 = meter in control on line P with backpressure adjustable on line T up to 70 bar (A and B configurations are not available in **K** version)

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



- 1) pressure drops on free lines
- 2) pressure drops through check valve
- 3) pressure drops through the backpressure valve (PCT3 version)

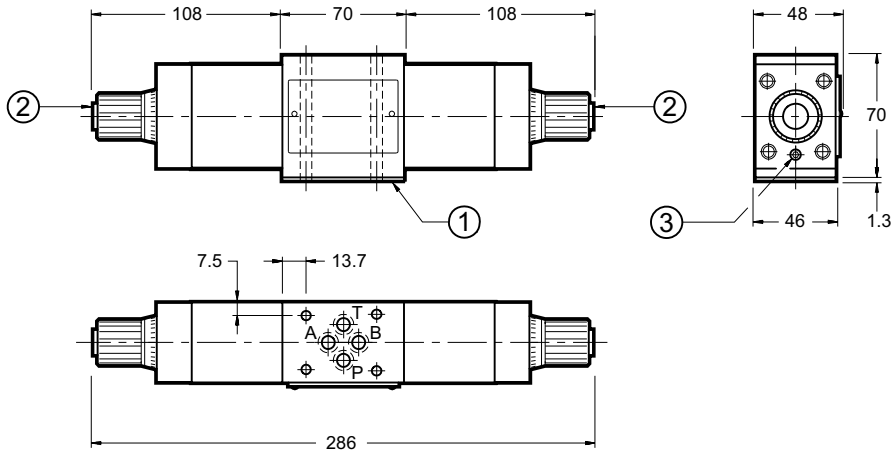
3 - HYDRAULIC FLUIDS

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.

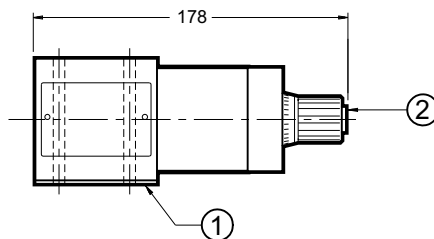
4 - OVERALL AND MOUNTING DIMENSIONS RPC1*/M VALVES

dimensions in mm

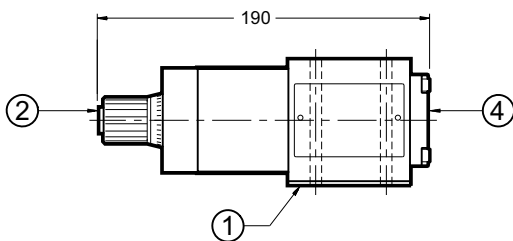
RPC1*/M/D



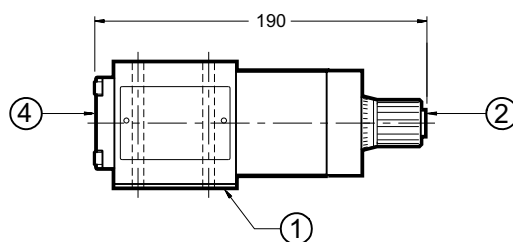
RPC1*/M/P
RPC1*/M/T



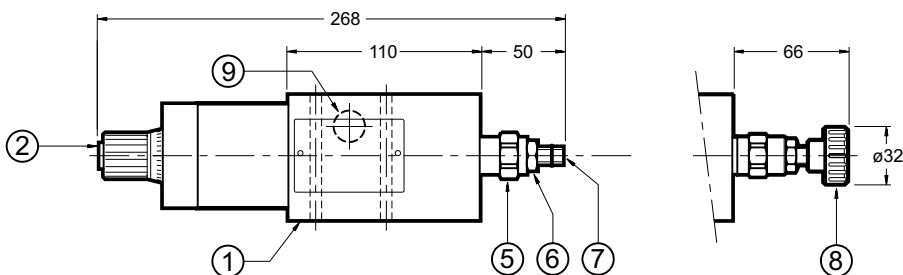
RPC1*/M/A



RPC1*/M/B



RPC1*/M/PCT3

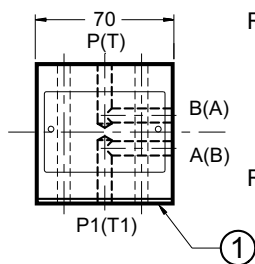
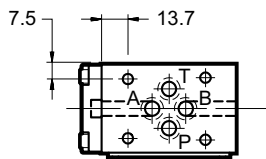
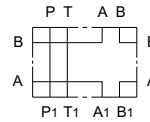
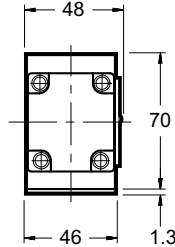
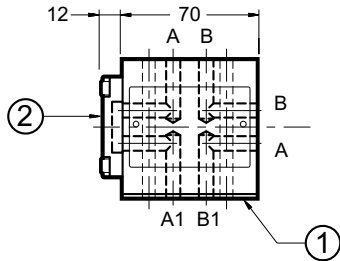


1	Mounting plate with sealing rings: P-OR1L/20N (NBR seals) P-OR1L/20V (Viton seals) For RPC1*/M/PCT3 without mounting plate: 4 OR 2037 (9.25x1.78) - 90 Shore
2	Flow adjustment knob (3 turns total) Rotate anticlockwise to increase flow.
3	Knob locking screw
4	Cross-connection cover
5	Backpressure valve on line T. Pressure adjustment range up to 70 bar
6	Locking nut: spanner 17
7	Countersunk hex screw: spanner 5 Rotate clockwise to increase pressure
8	Adjustment knob: M1
9	Pressure gauge port 1/4" BSP

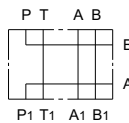
5 - OVERALL AND MOUNTING DIMENSIONS OF BLOCKS WITHOUT FLOW CONTROL VALVE

dimensions in mm

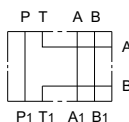
RPC1-K/M/D



RPC1-K/M/P

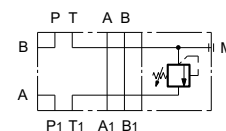
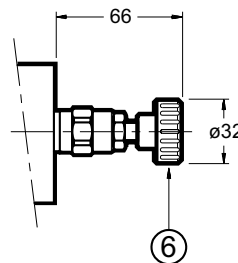
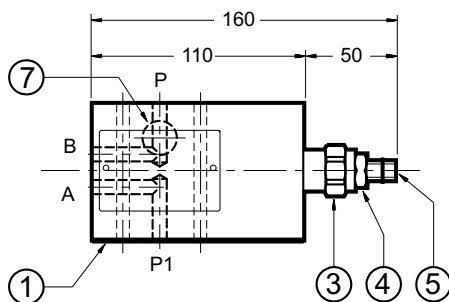


RPC1-K/M/T



1	Mounting plate with sealing rings: P-OR1L/20N (NBR seals) P-OR1L/20V (Viton seals) For RPC1-*/M/PCT3 without mounting plate: 4 OR 2037 (9.25x1.78) - 90 Shore
2	Cross-connection cover
3	Backpressure valve on line T. Pressure adjustment range up to 70 bar
4	Locking nut: spanner 17
5	Countersunk hex screw: spanner 5 Rotate clockwise to increase pressure
6	Adjustment knob: M1
7	Pressure gauge port 1/4" BSP

RPC1-K/M/PCT3





RPC1-*/4M

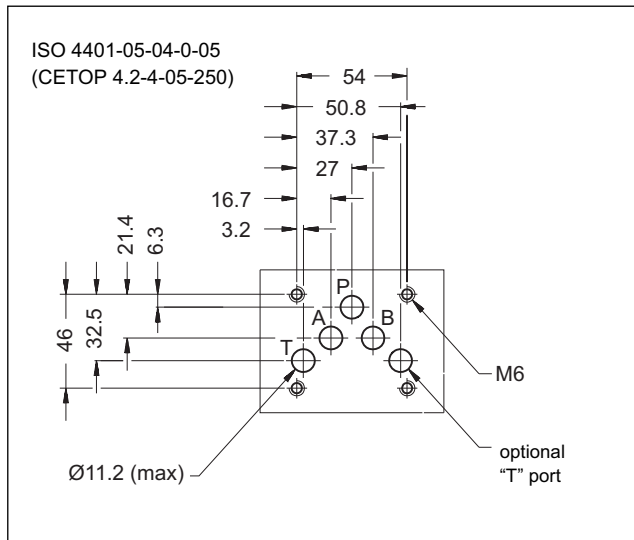
FLOW CONTROL VALVE

SERIES 10

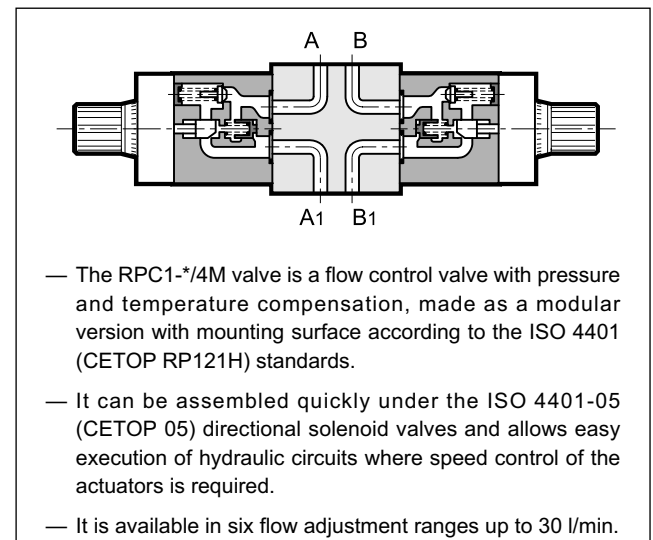
MODULAR VERSION
ISO 4401-05 (CETOP 05)

p max **250** bar
Q max (see table of performances)

MOUNTING INTERFACE



OPERATING PRINCIPLE

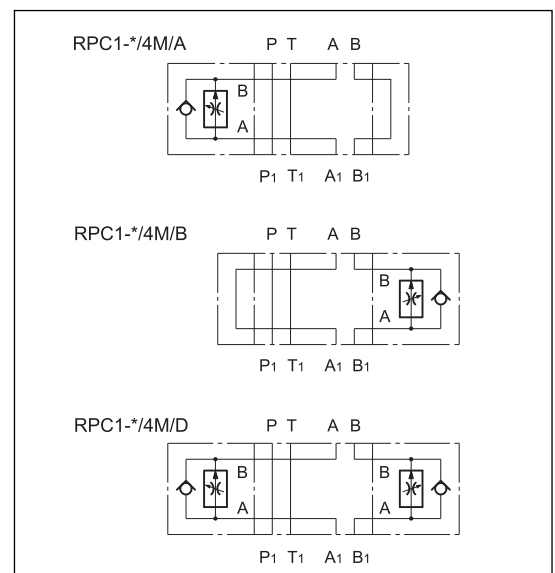


CONFIGURATIONS (see Hydraulic symbols table and Identification Code - par. 1)

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

Maximum operating pressure	bar	250
Maximum flow rate in controlled lines	l/min	1-4-10-16-22-30
Maximum flow rate in the free lines		100
Reverse free flow maximum flowrate		40
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: RPC1*/4M/ A-B	kg	4,3
RPC1*/4M/ D		5,6
only modular block ISO 4401-05 without flow control valves: RPC1-K/4M/D		3

HYDRAULIC SYMBOLS



NOTE: for detailed information regarding the RPC1 flow control valve, see catalogue 32 200.



RPC1*/4M

SERIES 10

1 - IDENTIFICATION CODE

R	P	C	1	-	/	4	M	/	/	10	/	
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Pressure and temperature compensated flow control valve

Flow adjustment range:

1 = 1 l/min	16 = 16 l/min
4 = 4 l/min	22 = 22 l/min
10 = 10 l/min	30 = 30 l/min

K = only for ISO 4401-05 (CETOP 05) modular block supplied without flow control valves

Modular version _____
ISO 4401-05 (CETOP 05) size

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

Series No. (the overall and mounting dimensions remain unchanged from 10 to 19)

A = control from chamber A of the actuator
B = control from chamber B of the actuator
D = control from chambers A and B of the actuator
(A and B configurations are not available in K version)

2 - 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.

3 - OVERALL AND MOUNTING DIMENSIONS

dimensions in mm

1	Mounting surface with sealing rings: 5 OR type 2050 (12.42x1.78) - 90 Shore
2	Adjustment knob. Adjustment in 3 turns of the knob. Rotate anticlockwise to increase flow.
3	Knob locking screw
4	Side locking plate



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