31 200/110 ED





RS* DOUBLE-ACTING THROTTLE FLOW CONTROL VALVE SERIES 30

THREADED PORTS CARTRIDGE TYPE

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

OPERATING PRINCIPLE



- The RS* and RS*-I valves are throttle flow control valves for in-line mounting, directly in the line or as a cartridge complete with threading for in-block mounting.
- Adjustment is obtained with a conical throttle that operates in a cylindrical seat and allows a good linearity of the adjusted flow.
- They are also used as flow shut-off valves since they guarantee good sealing when completely closed.
- The valves are always supplied with an adjustment knob that can be locked in any
 position with a transverse positioned grub screw, as may be required.

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

| Valve code | Port dimensions BSP | Nominal flow rate [l/min] | Mass [kg] | Max. operating pressure [bar] |
|------------|---------------------------|---------------------------------|--------------|-------------------------------------|
| RS2 | 1/4" | 15 | 0,2 | |
| RS3 | 3/8" | 30 | 0,4 | 400 |
| RS4 | 1/2" | 50 | 0,6 | 400 |
| RS5 | 3/4" | 80 | 1,3 | |
| RS6 | 1" | 150 | 2,6 | |
| RS7 | 1 1⁄4" | 200 | 3,0 | 320 |
| RS8 | 1 1⁄2" | 220 | 4,2 | - |
| RS2-I | _ | 15 | 0,15 | |
| RS3-I | _ | 30 | 0,2 | |
| RS4-I | _ | 50 | 0,3 | 320 |
| RS5-I | _ | 80 | 0,6 | |
| RS6-I | _ | 150 | 1,2 | |

| 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 | | |

HYDRAULIC SYMBOL





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.

3 - OVERALL AND MOUNTING DIMENSIONS RS*



4 - OVERALL AND MOUNTING DIMENSIONS RS*-I

| dimension | i in mm | max | | | CH B K | 1.6∕ ⊻ | N R S | | M | E | | | | s | eal exclu | * "BON uded fror | IDED SEAL" n the supply |
|-----------|---------|------|------|---------|--------------|-----------|-------------|------|------------|----|-----|------|------|----|-----------|---------------------|----------------------------|
| sigla | ØF | G | н | L | ØМ | Ν | Р | R | S | ØТ | ØU | V | Z | СН | OR | BK | BS* |
| valvola | | max | | 6H | + 0.2 0 | | min | ±0.2 | + 0.2 0 | H8 | max | ±0.2 | min | | type | type | type |
| RS2-I | 50 | 49.5 | 26.5 | M20x1.5 | 27 | 1 | 12 | 16.5 | 1 | 14 | 5 | 13.3 | 27 | 27 | 2043 | 2043 | 400-513 |
| RS3-I | 70 | 57.5 | 30.5 | M20x1.5 | 27 | 1 | 12 | 20 | 1.2 | 16 | 8 | 15.2 | 32 | 27 | 2050 | 2050 | 400-513 |
| RS4-I | 80 | 66.5 | 40 | M27x2 | 33 | 1.3 | 18 | 28 | 1.2 | 19 | 10 | 22 | 41 | 32 | 2062 | 2062 | 400-520 |
| RS5-I | 100 | 76.5 | 44 | M33x2 | 40 | 1.3 | 18 | 30.5 | 1.2 | 27 | 12 | 23 | 45.5 | 41 | 130 | 130 | 400-515 |
| RS6-I | 120 | 102 | 52.5 | M42x2 | 50 | 1.3 | 21.5 | 36.5 | 1.5 | 35 | 16 | 28.5 | 55 | 50 | 3118 | 3118 | 400-516 |



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Tel. +39 0331.895.111

Fax +39 0331.895.339 www.duplomatic.com • e-mail: sales.exp@duplomatic.com

31 210/110 ED





RSN* SINGLE-ACTING THROTTLE FLOW CONTROL VALVE

SERIES 30

THREADED PORTS CARTRIDGE TYPE

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

OPERATING PRINCIPLE



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

| Valve Code | Port | Nomi | nal | Max. flow | Mass | 6 | Max. operating | |
|----------------------------|---------------|-----------|--|----------------|----------|------|----------------|--|
| | dimensions | flow rate | | with open flow | []] | | pressure | |
| | BSP | [l/mi | n] | [l/min] | [Kg] | | [bar] | |
| RSN2 | 1/4" | 15 | 5 35 | | 0,25 | 6 | | |
| RSN3 | 3/8" | 30 | | 80 | 0,5 | | 400 | |
| RSN4 | 1/2" | 50 | | 150 | 0,75 | | 400 | |
| RSN5 | 3/4" | 80 | | 200 | 1,6 | | | |
| RSN6 | 1" | 150 | | 300 | 3,05 | 5 | | |
| RSN7 | 1 ¼" | 200 | | 400 | 3,75 | 5 | 320 | |
| RSN8 | 1 1⁄2" | 220 | | 500 | | 5 | | |
| RSN2-I | _ | 15 | | 35 | 0,13 | 5 | | |
| RSN3-I | - | 30 | | 80 | 0,25 | | 200 | |
| RSN4-I | _ | 50 | | 150 | 0,34 | | 320 | |
| RSN5-I | _ | 80 | | 200 | 0,62 | 2 | | |
| | | | | | | | | |
| Direct check v pressure | alve opening | | bar | | | 0,35 | | |
| Ambient temp | erature range | | °C | | | | -20 / +50 | |
| Fluid temperat | ure range | | °C | | | | -20 / +80 | |
| Fluid viscosity | range | | | cSt | 10 ÷ 400 | | | |
| Fluid contamir | ation degree | | According to ISO 4406:1999 class 20/18/1 | | | | | |
| Recommende | d viscosity | | cSt | | | | 25 | |
| | | | | | | | | |

HYDRAULIC SYMBOL





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 RSN*



4 - OVERALL AND MOUNTING DIMENSIONS RSN*-I





*"BONDED SEAL" seal excluded from the supply

| | ØF | G | н | L | ØМ | Ν | Р | R | S | ØТ | Øυ | V | Z | СН | OR | BK | BS* |
|--------|-----|-----|------|---------|------------|-----|------|-------|------------|----|-----|-------|------|----|------|------|---------|
| Valve | | max | | 6H | + 0.2 0 | | min | ± 0.2 | + 0.2 0 | H8 | max | ± 0.2 | min | | type | type | type |
| RSN2-I | 50 | 49 | 30.5 | M20x1.5 | 27 | 1 | 12 | 20 | 1.2 | 16 | 8 | 15.2 | 32 | 27 | 2050 | 2050 | 400-513 |
| RSN3-I | 70 | 56 | 40 | M27x2 | 33 | 1.3 | 18 | 28 | 1.2 | 19 | 10 | 22 | 41 | 32 | 2062 | 2062 | 400-520 |
| RSN4-I | 80 | 70 | 44.5 | M33x2 | 40 | 1.3 | 18 | 30.5 | 1.2 | 27 | 12 | 23 | 45.5 | 41 | 130 | 130 | 400-515 |
| RSN5-I | 100 | 80 | 52.5 | M42x2 | 50 | 1.3 | 21.5 | 36.5 | 1.5 | 35 | 16 | 28.5 | 55 | 50 | 3118 | 3118 | 400-516 |

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20015 PARABIAGO (MI) • Via M. Re Depaolini 24

Tel. +39 0331.895.111 Fax +39 0331.895.339

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32 200/110 ED





RPC1 PRESSURE AND TEMPERATURE COMPENSATED FLOW CONTROL VALVE

SERIES 41

SUBPLATE MOUNTING

ISO 6263-03 (CETOP 03)

p max 250 bar

Q max (see table of performances)

MOUNTING INTERFACE



OPERATING PRINCIPLE



- The RPC1 valve is a pressure and temperature compensated flow control valve.
- The flow is adjusted by a calibrated knob that modulates the opening of the control gap and can be locked in any adjustment position. Adjustment is made with three turns, and upon request one-turn adjustment, RPC1*/M, is available.
- It is available in seven different flow rate adjustment ranges from 0,5 l/min up to 30 l/min.

PERFORMANCE RATINGS (obtained with mineral oil with viscosity of 36 cSt at 50°C) 250 Maximum operating pressure Minimum pressure difference between A and B bar 10 Check valve cracking pressure 0,5 Maximum controlled flow rates 0,5-1-4-10-16-22-30 Minimum controlled flow rate (for 0,5-1 and 4 l/min) l/min 0,025 Maximum flow rate in free flow direction 40 °C -20 / +50 Ambient temperature range Fluid temperature range °C -20 / +80 Fluid viscosity range cSt 10 ÷ 400 According to ISO 4406:1999 class 20/18/15 Fluid contamination degree Fluid contamination degree for flows < 0,5 l/min According to ISO 4406:1999 class 18/16/13 Recommended viscosity cSt 25 Mass 1,3 kg RPC1 3 Number of adjustment knob turns RPC1-*/M 1

HYDRAULIC SYMBOLS





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 - PRESSURE COMPENSATION

Two throttles in series are in the valve. The first is an opening regulated by the knob; the second, piloted by the pressure upstream and downstream of the first throttle, assures a constant pressure drop across the adjustable throttle. In these conditions, the set flow rate value stays constant within a tolerance range of $\pm 2\%$ of the maximum flow controlled by the valve for maximum pressure variation between the intake and outlet chambers of the valve.

5 - TEMPERATURE COMPENSATION

The valve temperature compensation is obtained with the principle of fluid passage across a thin wall orifice in which the flow rate is not subtantially influenced by the oil viscosity fluctuations. For controlled flows of less than 0,5 l/min and with a temperature difference of 50 °C, flow is increased by about 13% of the set flow value. For higher flow rates, and with the same temperature difference, the flow increase is about 4% of the maximum flow controlled by the valve.



6 - REVERSE FREE FLOW

The RPC1 valve, upon request, is supplied with an incorporated check valve to allow free flow in the direction opposite to the controlled flow, $B{\rightarrow}A$.

In this case the valve code becomes RPC1-*/CT.



7 - RPC1-*/CTX

This valve is normally used for intake control and is positioned downstream of the directional valve.

The piloting connection "P" keeps the compensator in the closed position, thus avoiding the initial speed jump that occurs at the time the distributor sends oil to the valve (see the application diagram, paragraph 11).

8 - RPC1-* OVERALL AND MOUNTING DIMENSIONS



9 - RPC1-*/CTX OVERALL AND MOUNTING DIMENSIONS



10 - SUBPLATES (look at datasheet 51 000)

| Туре | PMRPC1-AI3G with rear ports | |
|----------------|---|-------------------|
| | PMRPC1-AL3G with side ports | |
| Туре | PMMD-AI3G with rear ports, with user T plugged | only for valve |
| | PMMD-AL3G with side ports, with user T plugged | RPC1-*/CTX |
| Port dimension | 3/8" BSP | |

11 - APPLICATION EXAMPLES





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MOUNTING INTERFACE





| Maximum operating pressure Minimum pressure difference between A and B | bar | 250 12 |
|---|--------------------------------------|--|
| Maximum controlled flow rates Minimum controlled flow rate (for 1 and 4 l/min) | l/min | 1-4-10-16-22 0,035 |
| Ambient temperature range | °C | -20 / +50 |
| Fluid temperature range | °C | -20 / +80 |
| Fluid viscosity range | cSt | 10 ÷ 400 |
| Fluid contamination degree Fluid contamination degree for flows < 0,5 l/min | According to ISO According to ISC | 9 4406:1999 class 20/18/15 9 4406:1999 class 18/16/13 |
| Recommended viscosity | cSt | 25 |
| Mass | kg | 1,5 |
| Number of adjustment knob turns | RPC1/T3 RPC1-/T3/M | 3 |

RPC1-T3

PRESSURE AND TEMPERATURE COMPENSATED THREE-WAY FLOW CONTROL VALVE SERIES 41

SUBPLATE MOUNTING ISO 6263-03 (CETOP 03)

p max 250 barQ max (see table of performances)

OPERATING PRINCIPLE



- The pressure and temperature compensated three-way flow control valves serve to control the flow sent to the actuator and to discharge it, which exceeds that required, back to tank at system pressure rather than at relief value pressure.
- The flow rate adjustment range is carried out with three turns of the knob and an indicator shows the number of turns made. A one-turn adjustment on the knob, RPC1*/M, is available upon request.
- The adjustment knob can be locked in any position in the adjustment range by a screw.

HYDRAULIC SYMBOL





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 - PRESSURE COMPENSATION

Two throttles in series are in the valve. The first is an opening regulated by the knob; the second, piloted by the pressure upstream and downstream of the first throttle, assures a constant pressure drop across the adjustable throttle. In these conditions, the set flow rate value stays constant within a tolerance range of $\pm 2\%$ of the maximum flow controlled by the valve for maximum pressure variation between the intake and outlet chambers of the valve.

5 - TEMPERATURE COMPENSATION

The valve temperature compensation is obtained with the principle of fluid passage across a thin wall orifice in which the flow rate is not subtantially influenced by the oil viscosity fluctuations. For controlled flows of less than 0,5 l/min and with a temperature difference of 50 °C, flow is increased by about 13% of the set flow value. For higher flow rates, and with the same temperature difference, the flow increase is about 4% of the maximum flow controlled by the valve.

RPC1-T3 SERIES 41

6 - OVERALL AND MOUNTING DIMENSIONS



7 - APPLICATION EXAMPLE



8 - SUBPLATES (see datasheet 51 000)

| Туре | PMMD-AI3G with rear ports with user P plugged |
|----------------|---|
| Туре | PMMD-AL3G with side ports with user P plugged |
| Port dimension | 3/8" BSP |



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HYDRAULIC SYMBOL



RPC* PRESSURE AND TEMPERATURE COMPENSATED FLOW CONTROL VALVES

SUBPLATE MOUNTING

| RPC2 | ISO 6263-06 (CETOP 06) |
|------|------------------------|
| RPC3 | ISO 6263-07 (CETOP 07) |

OPERATING PRINCIPLE



- The RPC* valve is a pressure and temperature compensated flow control valve.
- The flow rate is adjusted with a calibrated knob that modulates the opening of the control gap and can be locked in any adjustment position by a screw.
- The flow rate adjustment range is carried out with six turns of the knob, with indication of the number of turns made. A one-turn adjustment on the knob, RPC*/M, is available upon request.

| PERFORMANCES (obtained with mineral oil with viscosity of 36 cSt a | RPC2 | RPC3 | | |
|--|-------|---|--------------------|--|
| Maximum operating pressure Check valve cracking pressure Minimum pressure difference between E and U | bar | 320 250 0,5 0,5 10 12 | | |
| Maximum controlled flow rates Minimum controlled flow rate | l/min | 22 - 38 -70 0,050 | 100 - 150 0,120 | |
| 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 | 3,6 | 7,8 | |

32 300/112 ED







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 - PRESSURE COMPENSATION

Two throttles in series are in the valve. The first is an opening regulated by the knob; the second, piloted by the pressure upstream and downstream of the first throttle, assures a constant pressure drop across the adjustable throttle. In these conditions, the set flow rate value stays constant within a tolerance range of \pm 3% of the maximum flow controlled by the valve for the maximum pressure variation between inlet and outlet chambers of the valve.



5 - TEMPERATURE COMPENSATION

A device located on the first throttle which is sensitive to the temperature fluctuations corrects the position keeping the controlled flow more or less unaltered even should the oil viscosity change.

The fluctuation of the set flow rate stays within \pm 2,5% of the maximum flow controlled by the valve.

6 - REVERSE FREE FLOW

The RPC* valves, upon request, are supplied with an incorporated check valve to allow free flow in the direction opposite of the controlled flow. In this case the valve code becomes RPC*-**CT**.

7 - COMPENSATING STROKE GOVERNOR

In order to avoid jumps in the actuator when it is started, the RPC valve can be equipped with a special accessory that controls the compensating stroke, thus preventing it from making uncontrolled movements.

Add the suffix **RC** to the identification code to request this governor. See paragraph 1.

RPC*

8 - RPC2 SERIES 31 OVERALL AND MOUNTING DIMENSIONS



9 - RPC3 SERIES 43 OVERALL AND MOUNTING DIMENSIONS



RPC*

10 - SUBPLATES (see catalogue 51 000)

| | RPC2 | RPC3 |
|-----------------|---------------------------|---------------------------|
| Туре | PMRPC2-Al4G rear ports | PMRPC3-Al6G rear ports |
| Port dimensions | 1/2" BSP | 1" BSP |



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HYDRAULIC SYMBOLS



RPC*-*T3

PRESSURE AND TEMPERATURE COMPENSATED THREE-WAY FLOW CONTROL VALVES

SUBPLATE MOUNTING

| RPC-2T3 | ISO 6263-06 (CETOP 06) |
|---------|------------------------|
| RPC-3T3 | ISO 6263-07 (CETOP 07) |

OPERATING PRINCIPLE



- The RPC*-*T3 valve is a pressure and temperature compensated three-way flow control valve.
- It allows the control of flow rate to an actuator by discharging the flow exceeding that required by the plant at any one moment. As a consequence, energy consumption is reduced and appropriate at every instant throughout the cycle.
- Single-turn adjustment knob (RPC**/M) and built-in pressure relief valve (RPCQ*) are available upon request.

PERFORMANCE RATINGS (obtained with mineral oil with viscosity of 36 cSt at 50°C)

| | | RPC*-2T3 | RPC*-3T3 |
|---|-------|--|--------------|
| Maximum operating pressure Minimum pressure difference between E and U | bar | 320 10 | 250 12 |
| Maximum controlled flow rate Minimum controlled flow rate | l/min | 50 0,060 | 150 0,130 |
| Ambient temperature range | °C | -20 / +50 | |
| Fluid temperature range | °C | -20 / +80 | |
| Fluid viscosity range | cSt | 10 ÷ 400 | |
| Fluid contamination degree Fluid contamination degree for flow rate <0,5 l/min | | According to ISO 4406:1999 class 20/18/15 According to ISO 4406:1999 class 18/16/13 | |
| Recommended viscosity | cSt | 25 | |
| Mass | kg | 4,7 | 9 |

32 350/112 ED



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 $^\circ\text{C}$ causes a faster degradation of the fluid and of the seals characteristics.

The fluid must be preserved in its physical and chemical characteristics.

4 - PRESSURE COMPENSATION

Two throttles in series are in the valve. The first is an opening regulated by the knob; the second, piloted by the pressure upstream and downstream of the first throttle, assures a constant pressure drop across the adjustable throttle. In these conditions, the set flow rate value stays constant within a tolerance range of $\pm 3\%$ of the maximum flow controlled by the valve for maximum pressure variation between the intake and outlet chambers of the valve.

5 - TEMPERATURE COMPENSATION

A device located on the first throttle which is sensitive to the temperature fluctuations corrects the position keeping the controlled flow more or less unaltered even should the oil viscosity change.

The fluctuation of the set flow rate stays within $\pm 2,5\%$ of the maximum flow controlled by the valve.

RPC*-*T3

6 - RPC*-2T3 SERIES 31 OVERALL AND MOUNTING DIMENSIONS



7 - RPC*-3T3 SERIES 43 OVERALL AND MOUNTING DIMENSIONS



RPC*-*T3

11 - APPLICATION EXAMPLES



12 - SUBPLATES (see catalogue 51 000)

| | RPC*-2T3 | RPC*-3T3 |
|-------------------------|----------------------------|----------------------------|
| Туре | PMRPCQ2-AI4G rear ports | PMRPCQ3-Al6G rear ports |
| E, U, T port dimensions | 1/2" BSP | 1" BSP |
| X port dimensions | 1/4" BSP | 1/4" BSP |



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OPERATING PRINCIPLE



CP1R*-W ROLLER OPERATED FAST/SLOW SPEED SELECTION VALVE

SERIES 21

THREADED PORTS

p max 70 barQ max 40 l/min

- The CP1R*-W valve is used for the selection and control of fast/slow speed of hydraulic axis by mechanical roller Е operation. - The slow working speed adjustment is obtained by using a pressure compensated flow control valve. The special shape of the control openings allows fine adjustment even with very low flow rates. - Adjustment of the flow rate is carried out with three turns U of the knob that can be locked in any position with a screw. - It is available in two configurations: normally open CP1RA, normally closed CP1RC. - It is supplied with an incorporated check valve that allows free passage of the reverse flow.

CONFIGURATIONS (see Hydraulic symbols table)

- CP1RA-W: normally open - fast movement with roller in rest position and controlled slow movement with roller in operation.

- CP1RC-W: normally closed - controlled slow movement with roller in rest position and fast movement with roller in operation.

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

| Maximum operating pressure | | bar | 70 |
|------------------------------------|-----|--|-------------|
| Fast movement maximum flow rate | | l/min | 40 |
| Controlled slow monement flow rate | max | l/min | 4 - 10 - 16 |
| | min | l/min | 0,1 |
| Roller working movement | | mm | 6 |
| 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 |
| Massa | | kg | 3,2 |

HYDRAULIC SYMBOLS





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





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36 200/111 ED





OPERATING PRINCIPLE



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

| FERIORMANCES (measured with mineral on of viscosity so est at so e) | | | | |
|--|---|-------------|--|--|
| Maximum operating pressure | bar | 150 | | |
| Cracking pressure of the check valve | bar | 0,5 | | |
| Maximum flow rate | l/min | 40 | | |
| Needed force on the lever to operate: - at beginning - at end stroke | Kg | 6,8 12,0 | | |
| Maximum leakage with closed valve (Δp 100 bar) | l/min | 0,05 | | |
| Stroke (from all open to completely closed) | mm | 20 | | |
| 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 | 2,5 | | |

K4WA/C DECELERATION VALVE SERIES 10

THREADED PORTS

p max 150 barQ max 40 l/min

- The K4WA/C valve is a mechanically operated decelerating valve with BSPP threaded ports for in-line mounting on hydraulic lines.
- It is normally used to change the movement speed of the hydraulic axis, such as changing from fast to slow, or for slow stops.
- The valve is normally open in the free condition and allows free flow passage from port P to port A.

The flow is partially or completely shut off by operating the mechanical drive of the valve.

 It is always supplied with a built in check valve that allows reverse free flow from port A to port P.

HYDRAULIC SYMBOL









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





Tel. +39 0331.895.111 Fax +39 0331.895.339

DOLEODINAMICA DUPLOMATIC OLEODINAMICA S.p.A. 20015 PARABIAGO (MI) • Via M. Re Depaolini 24

www.duplomatic.com • e-mail: sales.exp@duplomatic.com