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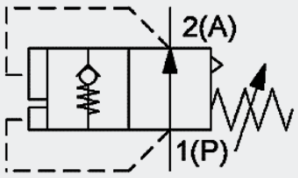
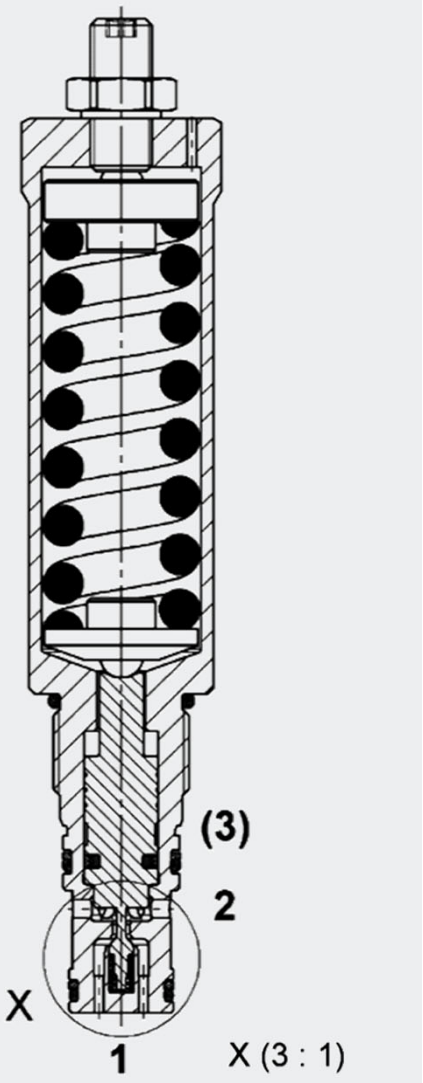



up to 25 l/min
up to 450 bar

# 2-way pressure reducing valve
# DMM10121-11

## with atmospheric spring chamber relief
## poppet type, direct-acting
## Metric Cartridge - 450 bar

## FUNCTION




## PRODUCT ADVANTAGES

- Optimum control behaviour
- Low hysteresis
- High repeatability
- Extremely low leakage in seat-tight control position
- Very compact design
- Adjustable range up to 320 bar
- Also available as a low-temperature version
- Exposed surfaces zinc-nickel plated for increased corrosion protection (1,000 h salt spray test)

## FUNCTION DESCRIPTION

The pressure reducing valve is a 2-way pressure valve with atmospheric spring chamber relief.

It reduces an inlet pressure at port 1 to a lower outlet pressure for the consumer at port 2. The level of the reduced outlet pressure can be set at the valve. When the pressure value at port 2 reaches the pressure setting, the valve closes leak-free at the control point which prevents leakage at the consumer.

**Hint**
The tank pressure adds to the set pressure.
The valve is primary pressure-dependent.

**Caution**
Port 3 is not used and must not be occupied in cavity.

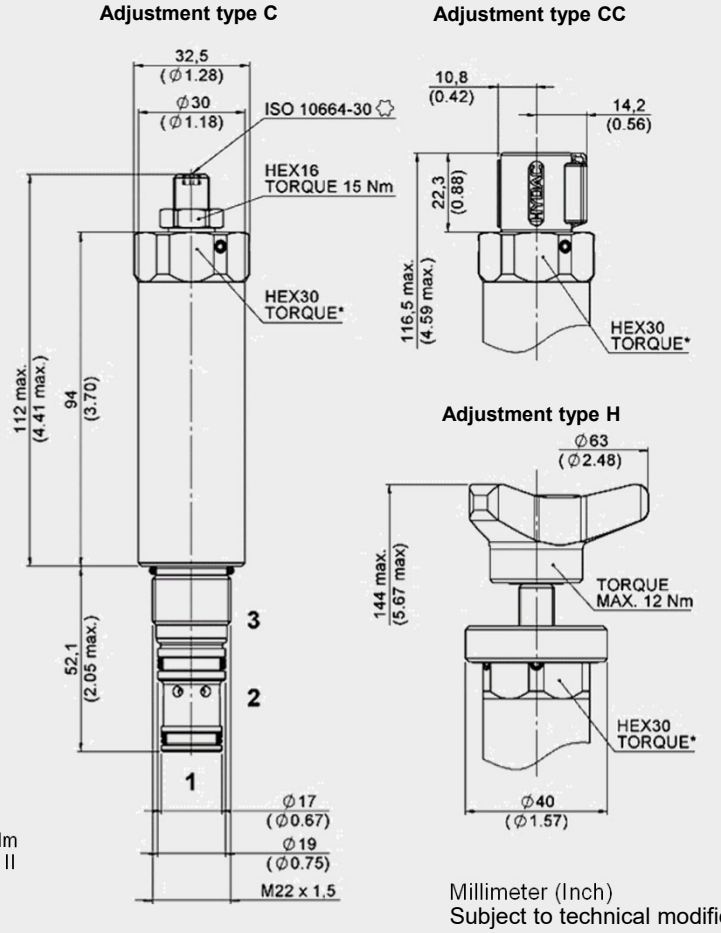
## SPECIFICATIONS [1)]

| | |
|---|---|
| Operating pressure | max. 450 bar (max. supply pressure at port 1) |
| Pressure balance | see typical performance |
| Tank pressure (port 3) | max. 30 bar |
| Pressure setting range | 10 to 70 bar<br>20 to 110 bar<br>20 to 250 bar<br>20 to 320 bar |
| Flow rate | max. 25 l/min (port 1 to 2) |
| Primary pressure dependence | as primary pressure increases, the control pressure drops10% ± 3% of the primary pressure change |
| Internal leakage | leakage-free,<br>pressure change at port 2 max. ±2 bar in 10 seconds at consumer volume < 100 $cm^3$ |
| Media operating temperature range | NBR: min. -30 °C to max. +100 °C<br>FKM: min. -20 °C to max. +120 °C<br>TT NBR: min. -40 °C to +80 °C [2)] |
| Ambient temperature range | NBR: min. -30 °C to max. +100 °C<br>FKM: min. -20 °C to max. +100 °C<br>TT NBR: min. -40 °C to max. +80 °C [2)] |
| Operating fluid | Hydraulic oil according to DIN 51524 Part 1, 2 and 3 |
| Viscosity range | min. 10 mm²/s to max. 420 mm²/s |
| Filtration of operating fluid (to ISO 4406) | p ≤ 210 bar: min. class 20/18/15<br>p > 210 bar: min. class 19/17/14 |
| MTTFd | 150 - 1200 years, measurement according to DIN EN ISO 13849-1 |
| Installation | No orientation restrictions |
| Material | Valve body steel<br>Piston hardened and ground steel<br>Seals NBR (standard), FKM, TT-NBR<br>Back-up rings PTFE |
| Cavity | 10121 metric |
| Weight | 0.48 kg |

[1)] see “Conditions and Instructions for Valves” in brochure 53.000

[2)] For more detailed information see brochure 5.253.1 "Cartridge valves in low temperature version“

## DIMENSIONS



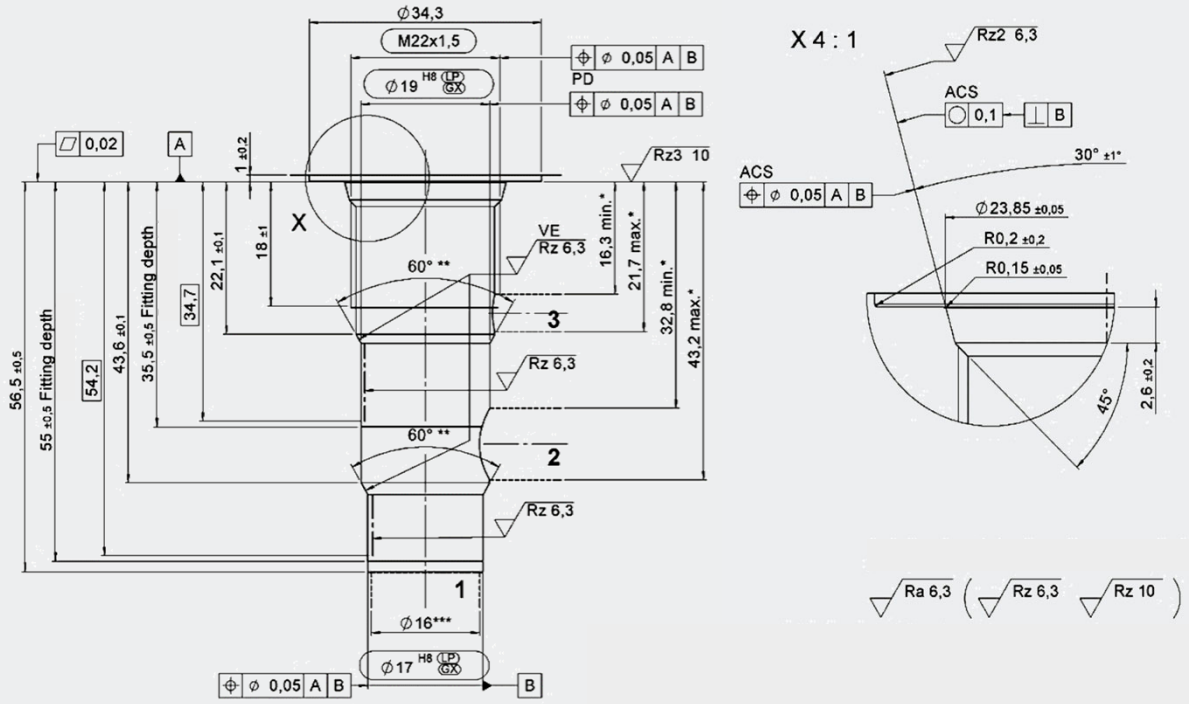

*Torque:
Steel manifold (tensile strength > 360 N/mm²): 70 Nm
Aluminium manifold (tensile strength > 330 N/mm²): 50 Nm
(With torque tool in acc. with DIN EN ISO 6789, tool type II class A or B) For more information see “Conditions and Instructions for Valves” in brochure 53.000

Millimeter (Inch)
Subject to technical modifications.

## CAVITY

10121 metric
(Port 3 is not used)

The valve must be relieved by adjustment when the set pressure is reduced.




VE = Visual examination
* Permitted drilling zone (for manifold design)
** Sharp edges should be avoided by rounding to a radius of 0.1 mm to 0.2 mm
*** Largest pre-drilling diameter (nominal tool diameter)

Millimeter (Inch)
Subject to technical modifications.

## MODEL CODE

**DMM10121 - 11 - C - N 250 C 250 TT**

**Basic model**
2-way pressure reducing valve, metric

**Type**
11 = with atmospheric spring chamber relief

**Body and ports**
C = cartridge only

**Sealing material**
N = NBR (standard)
V = FKM

**Pressure ranges**
070 = 10 to 70 bar
110 = 20 to 110 bar
250 = 20 to 250 bar
320 = 20 to 320 bar

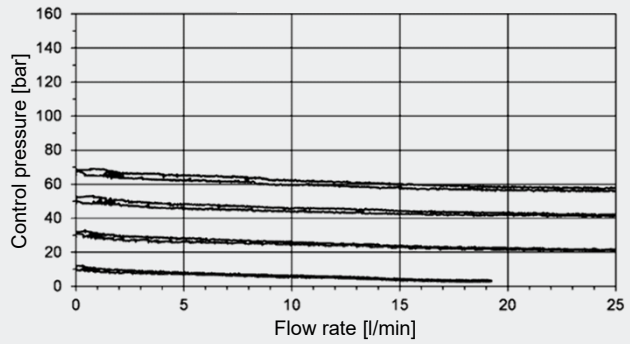
**Adjustment type**
C = adjustable using tool or sealable
CC = sealed with seal cap
H = with handwheel and locking via knurled nut

**Pressure setting**
No details = no setting
250 = preset customer-specific pressure setting (specified in bar)
Hint: setting occurs: - pressure level 70 bar at inlet pressure = 200 bar and Q = 1 ±0,5 l/min
- pressure level 110; 250; 320 bar at inlet pressure = 350 bar and Q = 1 ±0,5 l/min

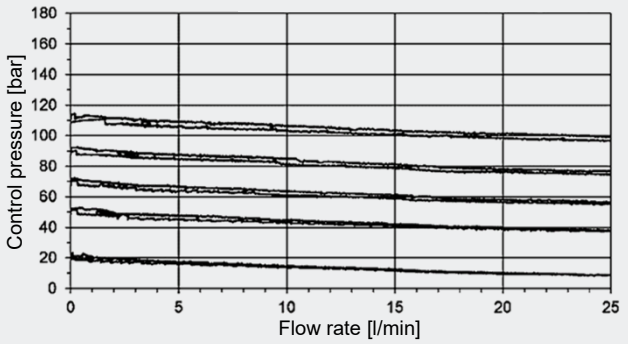
**Low Temperatur version**
No details = not suitable for low temperatures
TT = suitable for low temperatures, with TT-NBR seal

## TYPICAL PERFORMANCE

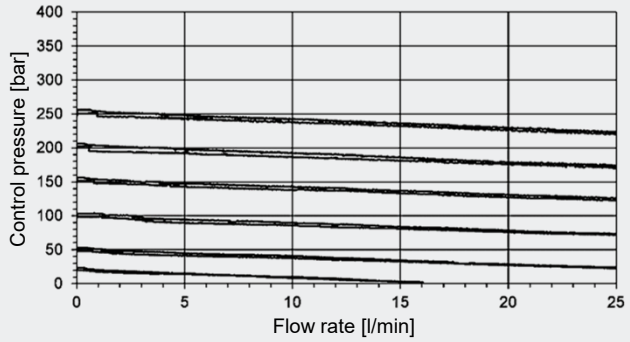
**DMM10121-1.-C-.-070**
measured at $p_1$ = 160 bar, v = 33 mm²/s and $T_{oil}$ = 46°C



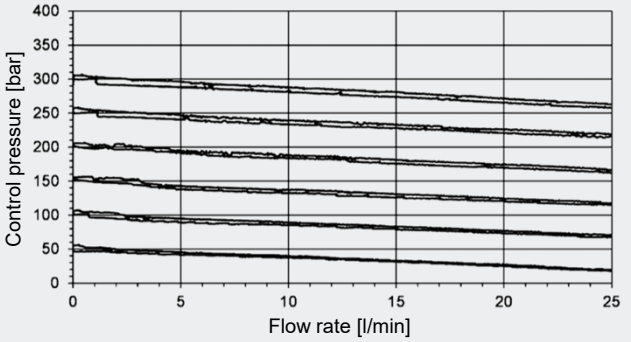

**DMM10121-1.-C-.-110**
measured at $p_1$ = 200 bar, v = 33 mm²/s and $T_{oil}$ = 46°C




**DMM10121-1.-C-.-250**
measured at $p_1$ = 350 bar, v = 33 mm²/s and $T_{oil}$ = 46°C




**DMM10121-1.-C-.-320**
measured at $p_1$ = 400 bar, v = 33 mm²/s and $T_{oil}$ = 46°C




## MATERIAL OVERVIEW

### Standard models

| Model code | Part no. |
|---|---|
| DMM10121-11-C-N-070C | 4406448 |
| DMM10121-11-C-N-110C | 4462462 |
| DMM10121-11-C-N-110C080 | 4469156 |
| DMM10121-11-C-V-250C | 4462497 |
| DMM10121-11-C-V-320C | 4462498 |

Other versions on request

### Spare parts seal kits

| Code | Material | Part no. |
|---|---|---|
| FS Metric 1012./V | NBR | 3651563 |
| FS 10121 TT-NBR | TT-NBR | 3676021 |
| FS Metric 1012./V | FKM | 3919374 |

### Accessories, standard in-line bodies

| Code | Material | Ports | Pressure | Part no. |
|---|---|---|---|---|
| H-R10121-SB4/2 | steel, zinc-plated | G1/4“, G1/2“ | 420 bar | 395236 |

Other housings on request

### Accessories, form tools for cavity

| Tool | Part no. |
|---|---|
| Countersink | 163910 |
| Reamer | 163911 |

## NOTE

The information in this brochure relates to the operating conditions and applications described. For applications or operating conditions not described, please contact the relevant technical department. Subject to technical modifications.

**HYDAC Fluidtechnik GmbH**
Justus-von-Liebig-Str.
**D-66280 Sulzbach/Saar**
Tel: 0 68 97 /509-01
Fax: 0 68 97 /509-598
E-Mail: valves@hydac.com