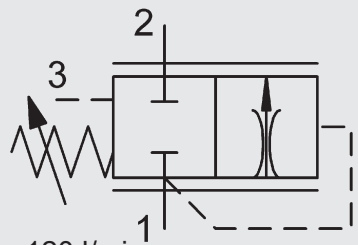


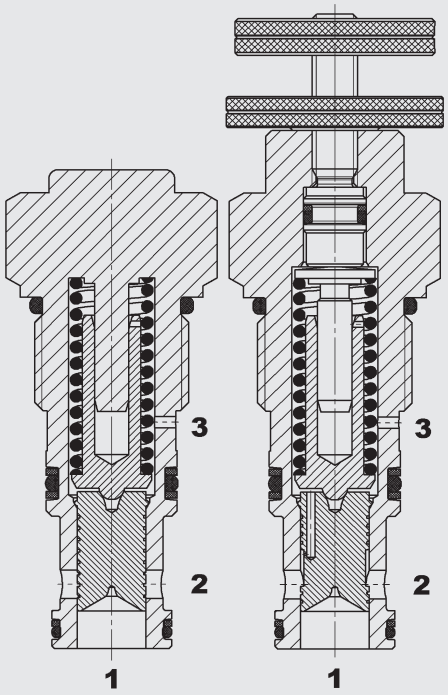
up to 120 l/min
up to 350 bar

Pressure Compensator spool valve, direct-acting normally closed Metric Cartridge – 350 bar

DWM12121Z B / H

FUNCTION

DWM12121Z **DWM12121Z H**



The pressure compensator is a direct-acting, normally closed, spring-loaded valve in spool design which operates smoothly.
By maintaining a constant differential between the inlet and outlet pressure of an orifice (ports 1 and 3 of the pressure compensator), a constant flow rate is maintained (independently of the load pressure). As soon as the pressure differential at the external orifice exceeds the value pre-set by the spring force, the control piston opens an orifice cross-section and diverts the surplus flow which is not required at the consumer, through a third port (port 2).

FEATURES

- The valve function in version B/H can be locked by switching the pressure supply from a fixed to a variable displacement pump
- Used as a load-sensing valve to control the flow rate of consumers independently of the pressure
- Versions available for various control pressure differentials
- Excellent stability throughout the entire pressure and flow range
- Excellent dynamic performance
- Reliable operation due to integrated stroke limitation
- External surfaces with Zn-Ni coating for advanced corrosion protection (1,000 h salt spray test)
- Optional internal draining of the load-sensing tube
- Optional hydrodynamic damping available
- Can be locked with a hand wheel (version H) or a tool (version B)

SPECIFICATIONS*

Operating pressure:	max. 350 bar	
Nominal flow:	max. 120 l/min	
Control pressure differential ranges:	03, 05, 06, 08, 10, 13, 14 bar	
Temperature range of operating fluid:	min. -30 °C to max. +100 °C	
Ambient temperature range:	min. -30 °C to max. + 80°C	
Operating fluid:	Hydraulic oil to DIN 51524 Part 1, 2 and 3	
Viscosity range:	min. 10 mm²/s to max. 420 mm²/s	
Filtration (according to ISO 4406):	< 210 bar: min. 20/18/15 > 210 bar: min. 19/17/14	
$MTTF_d$:	150 – 1200 years, according to DIN EN ISO 13849-1	
Installation:	No orientation restrictions	
Materials:	Valve body:	Steel
	Piston:	Hardened and ground steel
	Seals:	NBR (standard) FKM (optional, temperature range -20 °C to +120 °C)
	Back-up rings:	PTFE
Cavity:	12121 metric	
Weight:	0.5 kg	

The circuit pressure compensator can, for example, be used when raising variable loads at the same velocity. Together with a proportional flow control valve it can be used as a flow regulator.

If there is no demand from the consumer in load sensing circuits with a fixed displacement pump, the valve allows the oil to flow back to tank and therefore vents the whole system. In the lockable versions (H and B), variable displacement pumps and fixed displacement pumps are interchangeable.

*see "Conditions and Instructions for Valves" in brochure 53.000

MODEL CODE

DWM12121Z B – 21 – C – N – 14

Basic model
Pressure compensator, metric

Additional functions
No details = Standard
B = can be locked using a tool
H = can be locked using a hand wheel

Type
21 = without damping, without relief bore
22 = with damping, without relief bore
31 = without damping, with relief bore
32 = with damping, with relief bore (standard)

Body and ports*
C = cartridge only
versions with in-line bodies on request

Seals
N = NBR (standard)
V = FKM

Control pressure differential
14 = 14 bar differential pressure
(currently available with: 03, 05, 06, 08, 10, 13, 14 bar)

Standard models

Model code	Part no.
DWM12121Z-31-C-N-08	3353146
DWM12121Z-32-C-N-14	3275204
DWM12121Z-22-C-N-05	3275144
DWM12121ZH-32-C-N-13	3311649
DWM12121ZH-22-C-N-13	3411894
DWM12121ZB-31-C-N-13	3256331
DWM12121ZB-21-C-N-08	3283802

*Standard in-line bodies

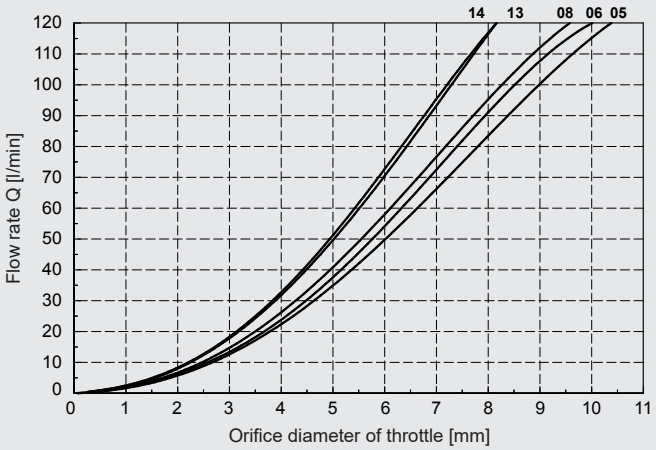
Code	Part no.	Material	Ports	Pressure
R12121-01X-01	3130704	Steel, zinc-plated	G3/4", G3/8"	350 bar

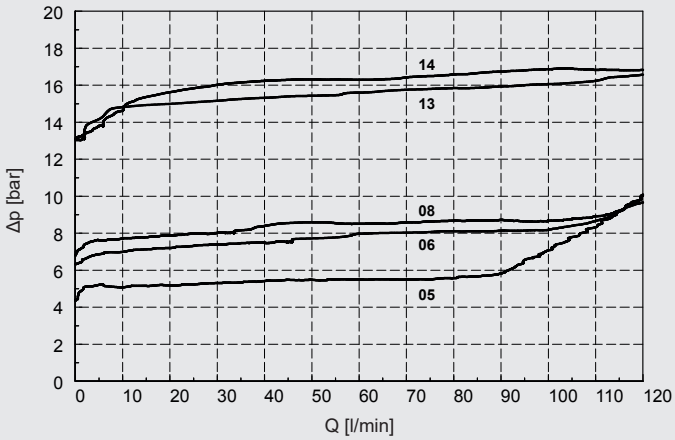
Seal kits

Code	Part no.
FS METRIC 12121/N	3651335
FS METRIC 12121/V	4080086

TYPICAL PERFORMANCE

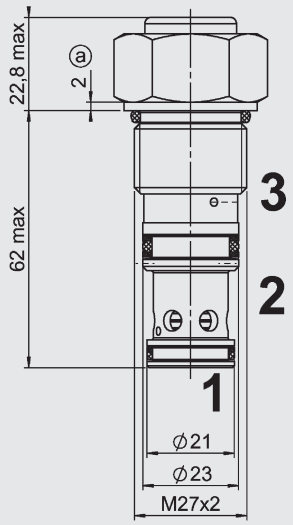
Measured at ν = 33 mm²/s, T_{oil} = 46 °C





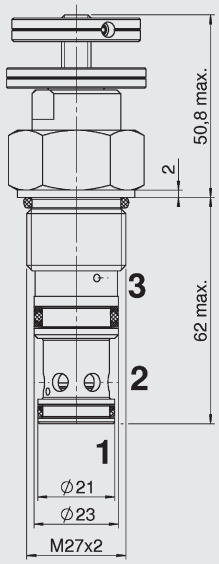
DIMENSIONS

DWM12121Z



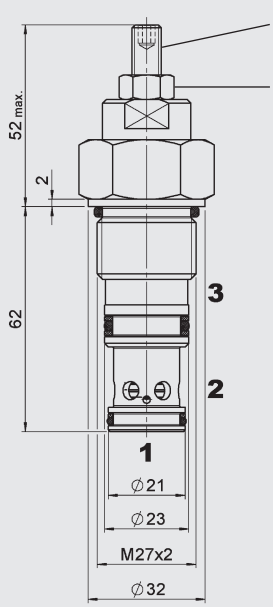
*Torque:
Steel manifold
(ultimate tensile strength < 360 N/mm²):
120 Nm
Aluminium manifold
(ultimate tensile strength < 330 N/mm²):
80 Nm
(tool acc. to DIN EN ISO 6789,
tool type II class A or B)
For further informations see brochure
No. 53.000
"Conditions and instructions for valves"

DWM12121ZH



*Torque:
Steel manifold
(ultimate tensile strength < 360 N/mm²):
120 Nm
Aluminium manifold
(ultimate tensile strength < 330 N/mm²):
80 Nm
(tool acc. to DIN EN ISO 6789,
tool type II class A or B)
For further informations see brochure
No. 53.000
"Conditions and instructions for valves"

DWM12121ZB

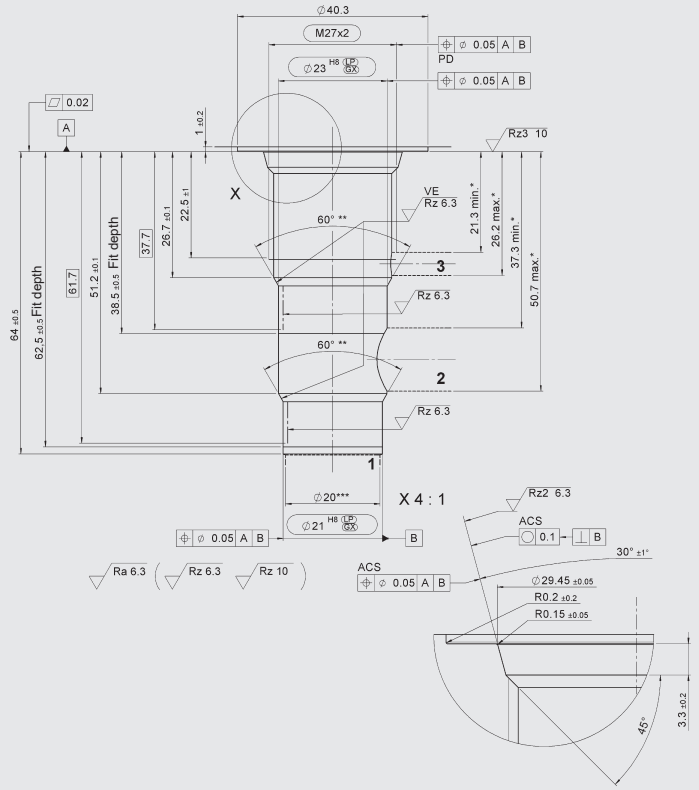


*Torque:
Steel manifold
(ultimate tensile strength < 360 N/mm²):
120 Nm
Aluminium manifold
(ultimate tensile strength < 330 N/mm²):
80 Nm
(tool acc. to DIN EN ISO 6789,
tool type II class A or B)
For further informations see brochure
No. 53.000
"Conditions and instructions for valves"

Millimetres
Subject to technical modifications

CAVITY

metric 12121



VE = Visual examination
* Allowed 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)

Form tools

Tool	Part no.
Spiral countersink	177317
Reamer	175021

Millimetres
Subject to technical modifications

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.

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