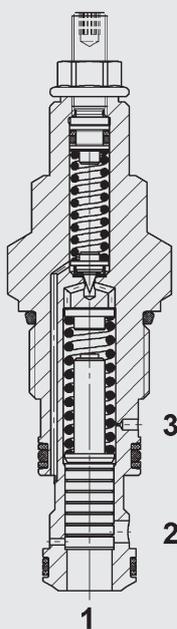


up to 120 l/min  
up to 350 bar

## FUNCTION



The pressure compensator is a direct-acting, normally closed, spring-loaded, spool type needle valve which operates smoothly.

It's task is to keep a set flow rate constant independently of any pressure fluctuations. As a control valve used in combination with the spring, it maintains the pressure drop at a constant level using the measuring throttle (inflow to consumer).

The flow rate remains constant by using an identical measuring throttle area.

The pressure compensator thus becomes a 3-way flow regulator in conjunction with a needle valve. If the load pressure decreases to the tank pressure in load-sensing circuits (all consumers discharged to tank), the pressure compensator opens the by-pass to the tank (unloading circuit).

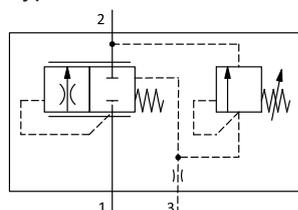
The pressure compensator can be used e.g. for raising variable loads at the same speed. The particular advantage of the pressure compensator is an integrated pressure relief valve, which limits the maximum system pressure and thus saves on an additional valve with cavity. (If the load pressure exceeds the set value at port 3, the valve opens and discharges the pump's flow to tank port 2).

## Pressure compensator spool type, direct-acting with integrated PR function normally closed Cartridge valve – 350 bar DWM12121ZD

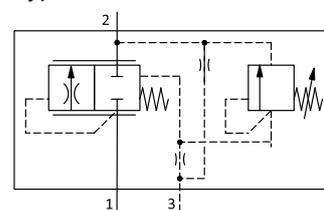
### FEATURES

- Used as a load-sensing valve to control the flow rate of consumers independently of the pressure
- Integrated pressure relief function replaces an additional PR valve
- Versions available for various control pressure differences
- Excellent stability throughout pressure and flow range
- Excellent dynamic performance
- Reliable operation due to integrated stroke limitation
- Exposed surfaces zinc-nickel plated for increased corrosion protection (1000 h Salt spray test)
- Optional with (-3X) and without (-2X) relief bore available

Type -2X



Type -3X



### SPECIFICATIONS\*

Operating pressure:	max. 350 bar
Pressure ranges:	60, 125, 230, 350 bar
Flow rate:	max. 120 l/min
Control pressure differential ranges:	03, 05, 06, 08, 10, 13, 14 bar
Media operating temperature range:	min. -30°C to max. +100°C
Ambient temperature range:	min. -30°C to max. +100°C
Operating fluid:	Hydraulic oil acc. to DIN 51524 Part 1, 2 and 3
Viscosity range:	min. 10 mm <sup>2</sup> /s to max. 420 mm <sup>2</sup> /s
Filtration:	Permitted operating fluid contamination level according to ISO 4406 Class 21/19/16 or better
MTTF <sub>d</sub> :	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:	0.4 kg

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

## MODEL CODE

**DWM12121ZD - 31 - C - N - 14 - 230 V 200**

### Basic model

Circuit pressure compensator,  
normally closed

### Type

- 21 = without damping,  
without relief bore
- 22 = with damping,  
without relief bore
- 24 = with damping on one side,  
without relief bore,  
quick closing
- 31 = without damping,  
with relief bore
- 33 = with heavy damping,  
with relief bore
- 34 = with damping on one side,  
with relief bore,  
quick closing

### Body and ports

C = Cartridge valve

### Sealing material

N = NBR (standard)  
V = FKM

### Control pressure difference

- 03 = 3 bar
  - 05 = 5 bar
  - 06 = 6 bar
  - 08 = 8 bar
  - 10 = 10 bar
  - 13 = 13 bar
  - 14 = 14 bar
- (others on request)

### Pressure range (PR)

- 060 = 60 bar
  - 125 = 125 bar
  - 230 = 230 bar
  - 350 = 350 bar
- (others on request)

### Type of adjustment

V = adjustable using tool

### Pressure setting

200 = pre-set cracking pressure 200 bar  
(others on request)

## Standard models

Model code	Part no.
DWM12121ZD-21-C-V-14-230V200	3302080
DWM12121ZD-22-C-N-08-350V350	4137846
DWM12121ZD-23-C-V-14-230V180	3576028
DWM12121ZD-33-C-V-06-230V180	3530987

## Standard in-line bodies

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

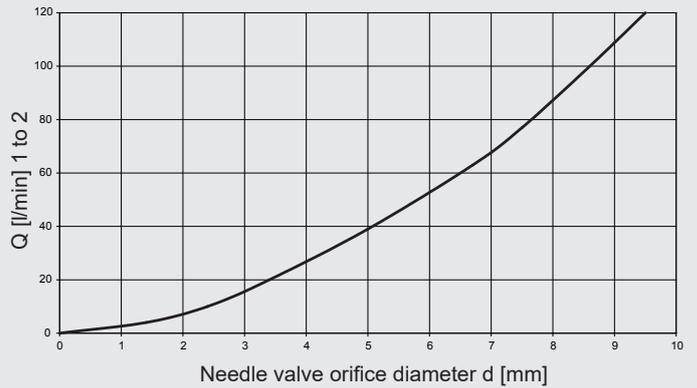
## Seal kits

Code	Material	Part no.
FS METRISCH 12121/N	NBR	3651335
FS METRISCH 12121/V	FKM	4080086

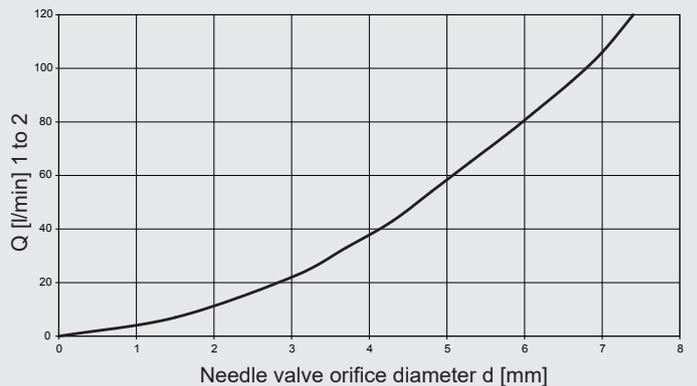
## TYPICAL PERFORMANCE

measured at  $v = 33 \text{ mm}^2/\text{s}$ ,  $T_{\text{oil}} = 46^\circ\text{C}$

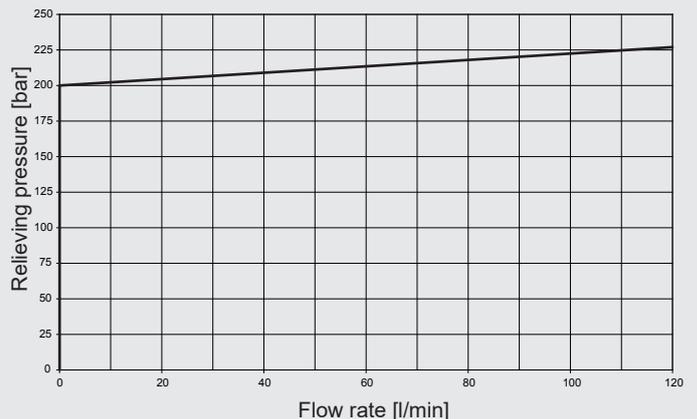
### DWM12121ZD-...-C-N-03-...



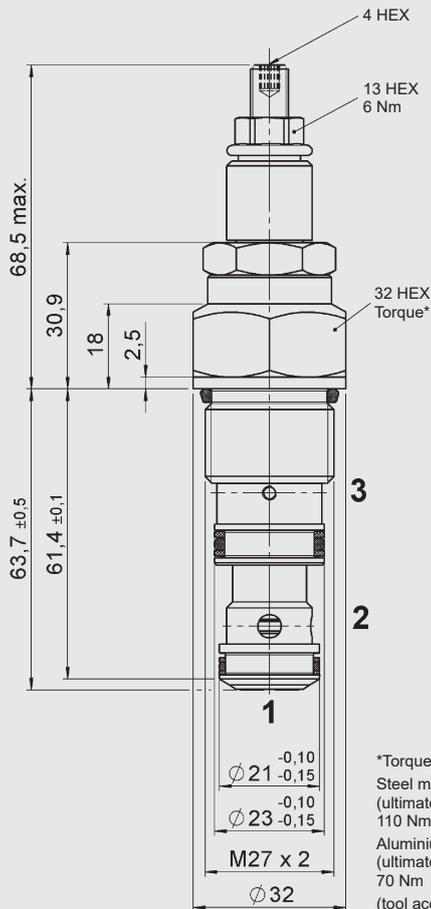
### DWM12121ZD-...-C-N-14-...



### DWM12121ZD-11-C-N-230V200



## DIMENSIONS

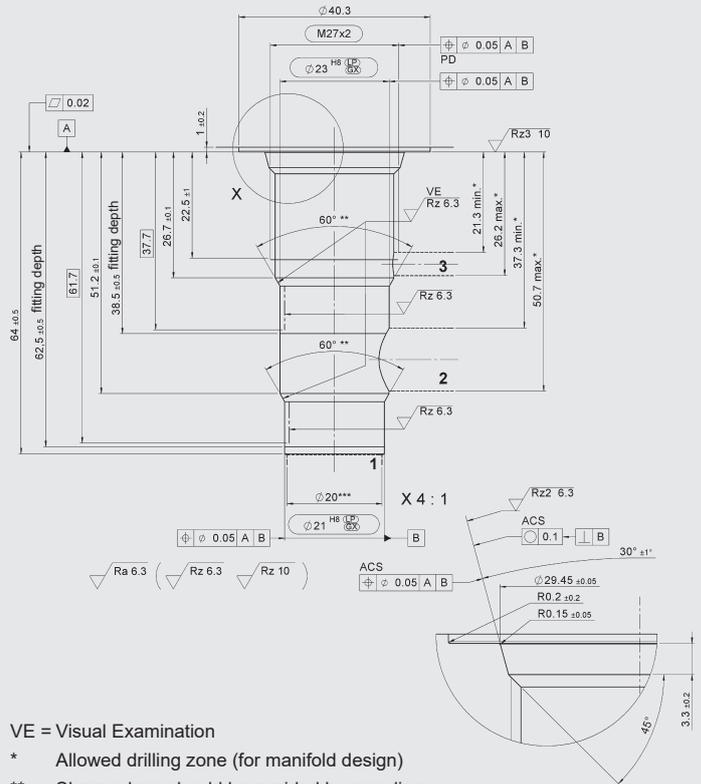


\*Torque:  
 Steel manifold  
 (ultimate tensile strength < 360 N/mm<sup>2</sup>):  
 110 Nm  
 Aluminium manifold  
 (ultimate tensile strength < 330 N/mm<sup>2</sup>):  
 70 Nm  
 (tool acc. to DIN EN ISO 6789,  
 tool type II class A or B)  
 For further informations see brochure  
 No. 53.000  
 "Conditions and instructions for valves"

millimetre  
 subject to technical modifications

## CAVITY

12121 metric



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

Designation	Part no.
Spiral countersink	177317
Reamer	175021
KK countersink	162128

millimetre  
 subject to technical modifications

## NOTE

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

**HYDAC Fluidtechnik GmbH**  
 Justus-von-Liebig-Str.  
**D-66280 Sulzbach/Saar**  
 Tel.: +49 (0) 68 97 /509-01  
 Fax: +49 (0) 68 97 /509-598  
 E-mail: valves@hydac.com

