

Catalogue HY11-3500/UK

**Characteristics / Ordering Code**
**Throttle Valve with Check  
Series ZRD (Denison)**

Throttle check valves series ZRD are designed for maximum flow rates.

The throttle check function can be located in port A or B as well as in A + B. Meter-in or meter-out functionality can be selected by model code.

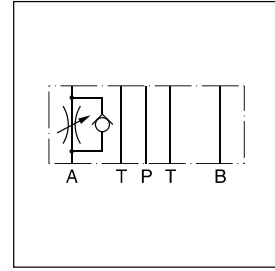
A low flow / high resolution version in NG06 for sensitive shifting time adjustment of pilot operated directional control valves is available on request.

**Features**

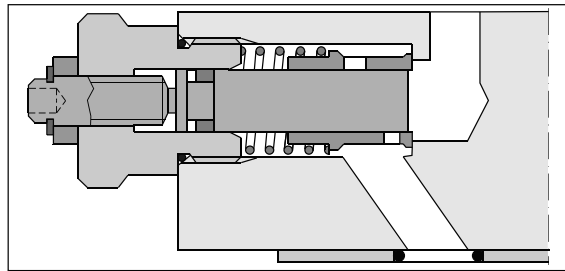
- High flow capacity
- Various functional arrangements
- ZRD01 - NG06 (CETOP3)  
ZRD02 - NG10 (CETOP5)



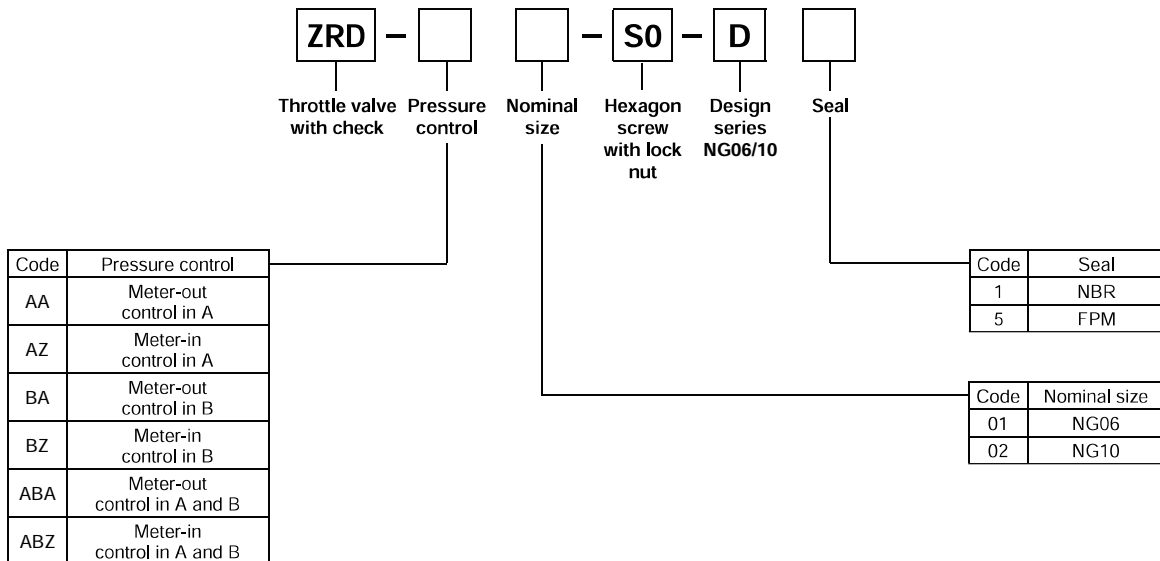
ZRD-ABZ01



ZRD-AA02



ZRD-AA02

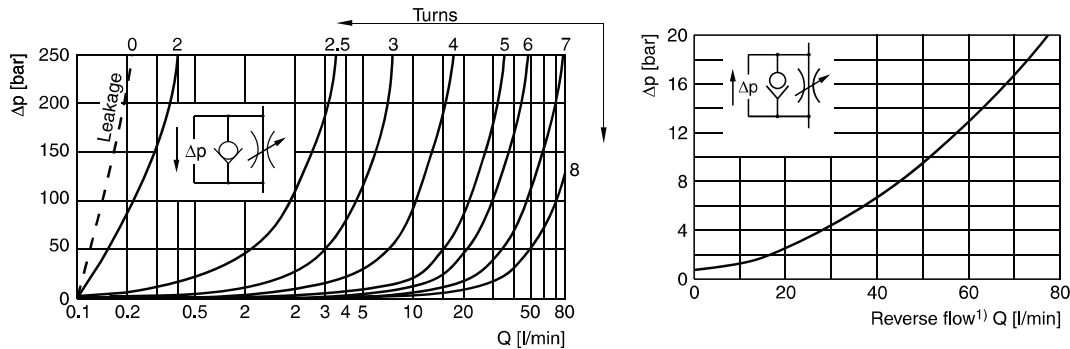
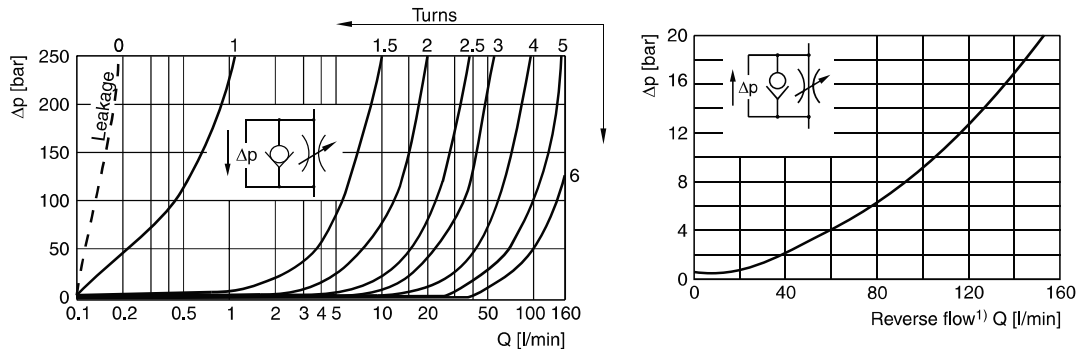
**Ordering code**


Ordering code details see end of chapter.

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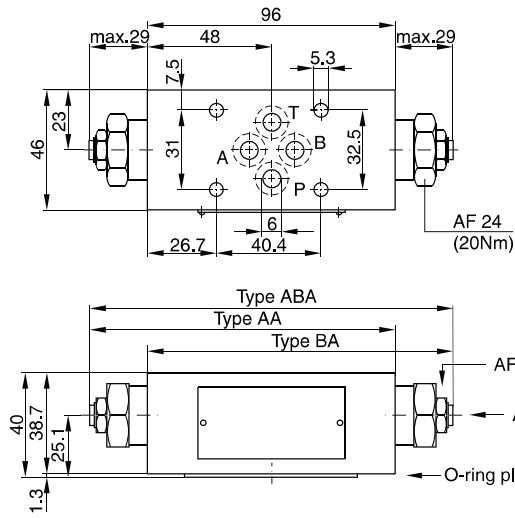
| General                 |                 |  |                                       |
|-------------------------|-----------------|--|---------------------------------------|
| Size                    |                 | NG06   | NG10                                  |
| Mounting interface      |                 | DIN 24340 A6<br>ISO 4401<br>NFPA D03         | DIN 24340 A10<br>ISO 4401<br>NFPA D05 |
|                         |                 | CETOP RP 121                                 |                                       |
| Mounting position       |                 | unrestricted                                 |                                       |
| Ambient temperature     | [°C]            | -20...+50                                    |                                       |
| MTTF <sub>D</sub> value | [years]         | 150  |                                       |
| Weight                  | 1 cartridge     | 1.2  | 2.8                                   |
|                         | 2 cartridges    | 1.3  | 2.9                                   |
| Hydraulic               |                 |  |                                       |
| Max. operating pressure | [bar]           | 350  | 315                                   |
| Nominal flow            | [cSt] / [l/min] | 80   | 160                                   |
| Leakage                 | [cSt] / [l/min] | 0.1...0.2 (at closed throttle)               | 0.1...0.2 (at closed throttle)        |
| Opening pressure        | [bar]           | 0.7  | 0.7                                   |
| Fluid                   |                 | Hydraulic oil according to DIN 51524...51525 |                                       |
| Fluid temperature       | [°C]            | -20...+80                                    |                                       |
| Viscosity               | permitted       | [cSt] / [mm <sup>2</sup> /s]                 | 10...650                              |
|                         | recommended     | [cSt] / [mm <sup>2</sup> /s]                 | 30                                    |
| Filtration              |                 | ISO 4406 (1999); 18/16/13 (meet NAS 1638:7)  |                                       |

**p/Q performance curves**
**ZRD\*01**

**ZRD\*02**


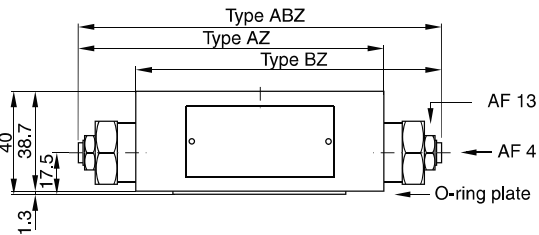
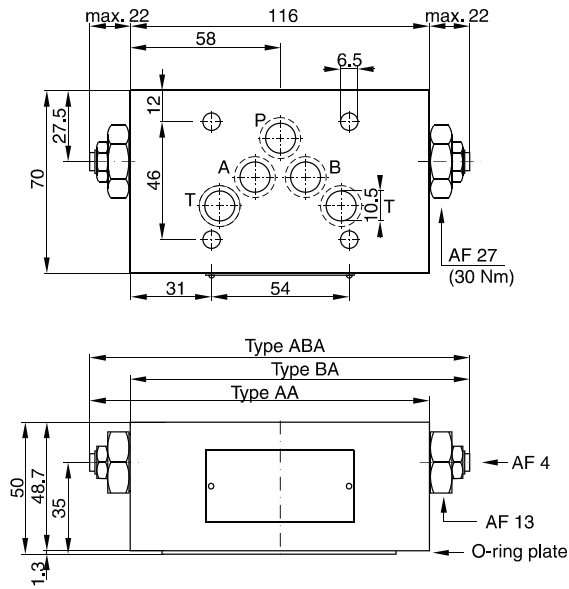
All characteristic curves measured with HLP46 at 50°C.

<sup>1)</sup> Throttle closed

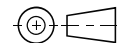
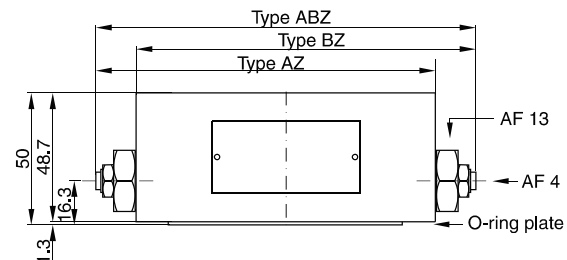
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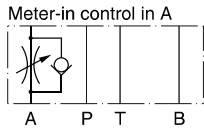
**ZRD\*01**


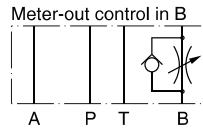
| Seal kit  |             |
|---|-------------|
| Seal  | Order code  |
| 1   | 098-91096-0 |
| 5   | 098-91097-0 |
| Complete cartridge<br>Order code<br>098-91119-0 |             |
| O-ring plate<br>Order code<br>S26-27553-0       |             |

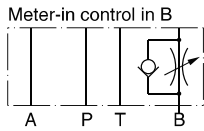

**ZRD\*02**


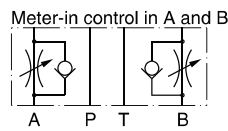
| Seal kit  |             |
|---|-------------|
| Seal  | Order code  |
| 1   | 098-91098-0 |
| 5   | 098-91099-0 |
| Complete cartridge<br>Order code<br>098-91120-0 |             |
| O-ring plate<br>Order code<br>S16-85742-0       |             |

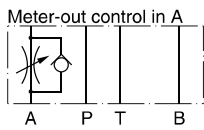


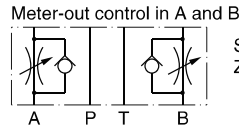
**ZRD\*01**

 Series  
 ZRD-AZ01-S0-D1

 Order No.  
 098-91056-0

 Series  
 ZRD-BA01-S0-D1

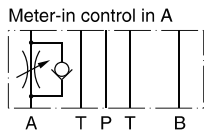
 Order No.  
 098-91013-0

 Series  
 ZRD-BZ01-S0-D1

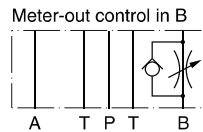
 Order No.  
 098-91057-0

 Series  
 ZRD-ABZ01-S0-D1

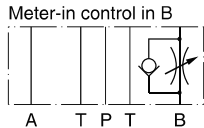
 Order No.  
 098-91058-0

 Series  
 ZRD-AA01-S0-D1

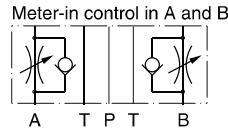
 Order No.  
 098-91012-0

 Series  
 ZRD-ABA01-S0-D1

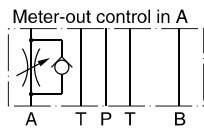
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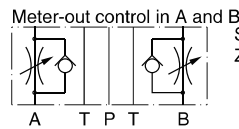
**ZRD\*02**

 Series  
 ZRD-AZ02-S0-D1

 Order No.  
 098-91059-0

 Series  
 ZRD-BA02-S0-D1

 Order no.  
 098-91016-0

 Series  
 ZRD-BZ02-S0-D1

 Order No.  
 098-91060-0

 Series  
 ZRD-ABZ02-S0-D1

 Order no.  
 098-91061-0

 Series  
 ZRD-AA02-S0-D1

 Order no.  
 098-91015-0

 Series  
 ZRD-ABA02-S0-D1

 Order no.  
 098-91017-0