Pressure-reducing valves type CDK, CLK, DK, DLZ and DZ

The task of pressure reducing valves is to maintain a largely constant outlet pressure despite a higher and changing inlet pressure. These valves are used when a secondary circuit has to be fed with a lower but constant pressure level by a main (primary) oil circuit with a higher and varying pressure level. The valve described here is directly controlled. Compared with conventional, piston-type pressure reducing valves suffering from leaking oil, where an additional drain port is required, this type is designed according to the 2-way principle, i.e. it has zero leakage when in a closed state. Type CLK has an integrated safety valve function. A reversal of the flow direction is possible up to approx. 2 x Q_{max}. These valves can be screwed into the easily produced threaded holes. A particular feature of type DK is the tracked pressure switch, i.e. the pressure and switch are set at the same time with one adjustment device.

If the primary pressure level at P is below that of the secondary side at V, a reversal of the flow V→P is possible with little pressure loss via the bypass check valve.

The 2-way pressure-reducing valve is designed as an individual valve for manifold mounting. It is incorporated in one block together with a bypass check valve for reducing the flow resistance of V→P and optionally a throttle or orifice (retrofittable) if required.

Features and benefits:

- Zero leakage in closed state
- Version with integrated overpressure function
- Easily produced mounting hole

Intended applications:

- General hydraulic systems
- Jigs
- Test benches

Design and order coding example

CDK 3 -2 | R | - 250

Pressure setting [bar]

Adjustment
- Tool adjustable (-)
- Manually adjustable (R)
- Adjustable with turn knob (self-locking -V/lockable -H)

Basic type and pressure range Type CDK, type CLK (with additional override compensation)
- Screw-in valve
- Version with connection block for pipe connection with/without pressure-limiting valve
- Version with connection block for manifold mounting with/without pressure-limiting valve
- In intermediate plate design NG6 (type NZP)

DK 2 | R | /160 | /4R

Additional elements Orifice/throttle

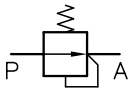
Pressure setting [bar]

Adjustment
- Tool adjustable (-)
- Manually adjustable (R)
- Adjustable with turn knob (self-locking -V/lockable -H)

Basic type and pressure range Type DK (with tracked pressure switch)
Type DZ with type CDK
Type DLZ with type CLK
- With bypass check valve
- Manifold mounting
- Version with connection block for pipe connection

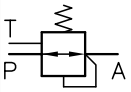
Function

CDK

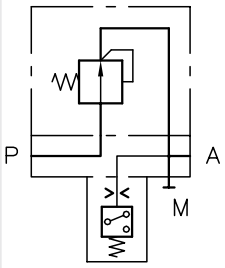


Screw-in valve

CLK

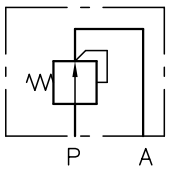


CDK 3. -..-1/4-DG3.



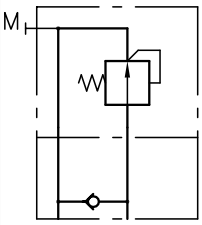
Version for pipe connection, a pressure switch type DG 3. May be installed as option, additional port for pressure gauge

CDK 3. -..-P



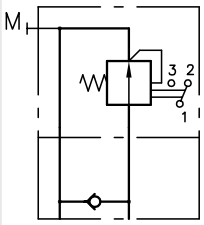
Manifold mounting valve

DZ, DLZ



Manifold mounting valve, optional with orifice/throttle and bypass check valve

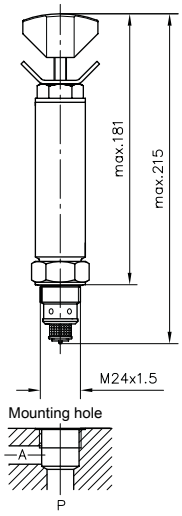
DK



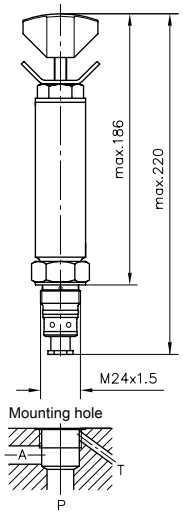
Manifold mounting valve with tracked pressure switch

General parameters and dimensions

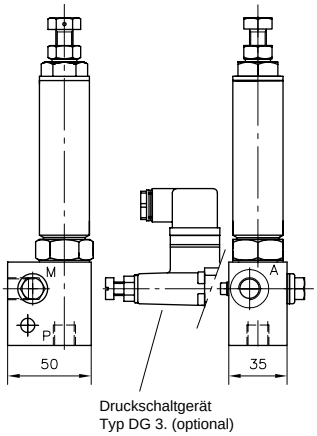
CDK 3..



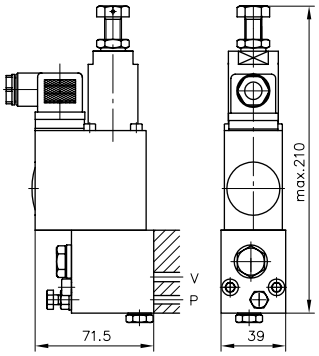
CLK 3..



CDK 3. -..-1/4-DG3.



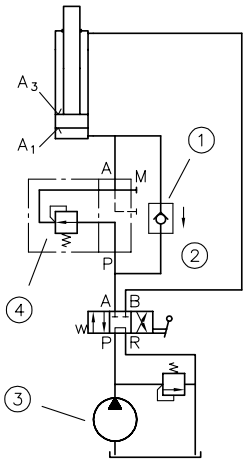
DK 2.



	Q_{max} [lpm]	Pressure range p_{max} [bar]		Ports (BSPP)	m [kg]
CDK 3.-..., CLK 3.-...	6... 22	**..-08:** 450[1)]	**..-2:** 200..	-	0.7
CDK 3. -..-1/4-DG3.		**..-081:** 500[1)]	**..-21:** 250..	G1/4	1.25
CDK 3. -..-P		**..-1:** 300..	**..-5:** 130..	-	1.4
DZ..., DLZ..., DK...		**..-11:** 380...	**..-51:** 165	-	

1) Only available as type CDK and DK

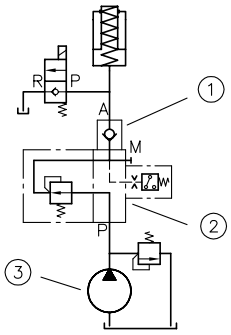
Example of a version
with large flows $Q_{A \rightarrow P}$
Example: Q_P = 15 l/min [formula]



Application example for large flows

1. e.g. Type RK 2G acc. to D 7445
2. Q_{reflow} = 45 lpm
3. Q_P = 15 lpm
4. Type CDK 3-2-1/4

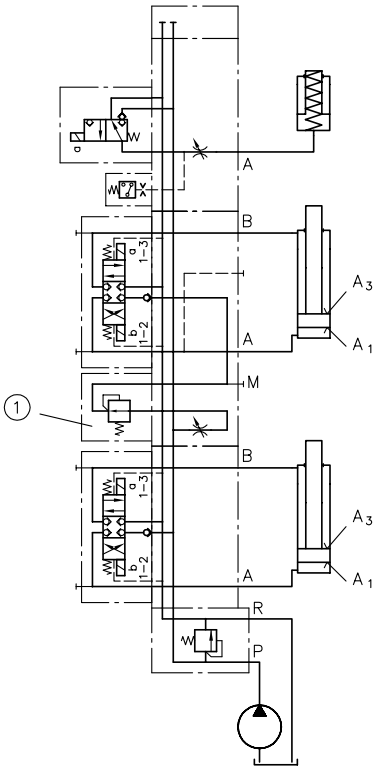
Example of a version
with undesired return flow



Application example for undesired return flow

1. e.g. type RK 1E in acc. with D 7445 (shown here screwed into port A of the CDK 3 valve)
2. Type CDK 3- 2-1/4-DG 34

Use in the valve bank,
shown here with seated valves type BVZP 1
in acc. with D 7785 B
BVZP 1 A - 1/300 - G22/0
- G22/CZ2/100/4/2
- WN1H/10/4
- 1 - 1 - G 24



Application example in the valve bank

1. Type CDK 3-2-100 shown here incorporated as
-/CZ 2/100...

Associated technical data sheets:

- Pressure-reducing valves type CDK: D 7745
- Pressure-reducing valves type CLK: D 7745 L
- Pressure reducing valve with tracked pressure switch type DK, DZ: D 7941

Similar products:

- Pressure-reducing valves type ADM, VDM, VDX: D 7120, D 5579
- Miniature pressure-reducing valves type ADC etc.: D 7458
- Prop. pressure-reducing valves type PDM: D 7486, D 7584/1

Intermediate plates:

- Intermediate plate NG 6 type NZP: D 7788 Z

Accessories:

- Pressure switches type DG 3., DG 5 E: D 5440, D 5440 E/1