

2-Way Spool Type Cartridge Valve Series D

2-Way Spool Type Cartridge Valve (CKE) ISO 7368 NB16 - NB50

General Description

Cartridge valves, also known as 2-way valves or logic valves, conform to ISO 7368 standards. They have two operational ports A and B. A pilot pressure controls the flow between these two connections hydraulically. The preferred mode of mounting is the manifold block, which can be equipped with several valves depending on the hydraulic circuit for the specific application. Each valve could be connected to each other in the manifold block. The product line contains valves of nominal bores 16, 25, 32, 40 und 50 as per ISO 7368.

The valve has opposed to other cartridge valves a spool instead of a cone. The area ratio is 1:1. The cartridge valve is available as „normally open“ or „normally closed“ version.



Benefits

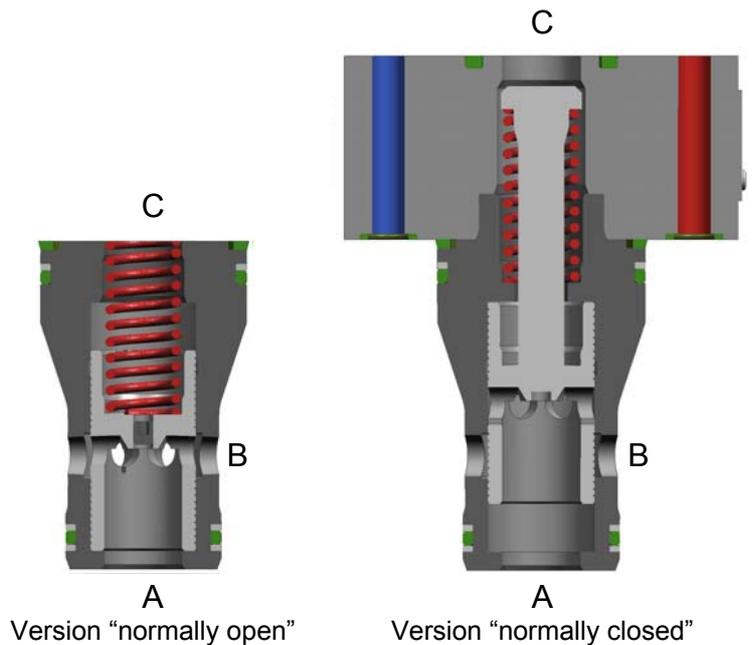
- Improved flow characteristic compared to series B
- No special covers necessary

Sizes

- Maximum operating pressure: 350 bar
- Nominal flow at $\Delta p = 5$ bar (Cartridge completely opened):
 - NB 16 130 L/min
 - NB 25 270 L/min
 - NB 32 480 L/min
 - NB 40 770 L/min
 - NB 50 1150 L/min

Operating Principle

The 2-way cartridge of CKE type is a spool type valve without an effective surface in the B-port. The surfaces of port C versus operational port A are equal (Ratio 1:1). The flow direction is B to A. Within the capacity of the valve, the spool position is determined by the effective pressures in ports A and C including the spring force. Depending on the valve configuration, the spring force works against the pilot pressure in direction of closing or in collaboration with the pilot pressure in direction of opening. According to the hydraulic circuit and adaption of suitable standard covers CKE valves can be used as pressure reducing valves in basic position open or closed. For flow-control functions, it can be used in combination with a throttle valve, as a pressure compensator.



Specification

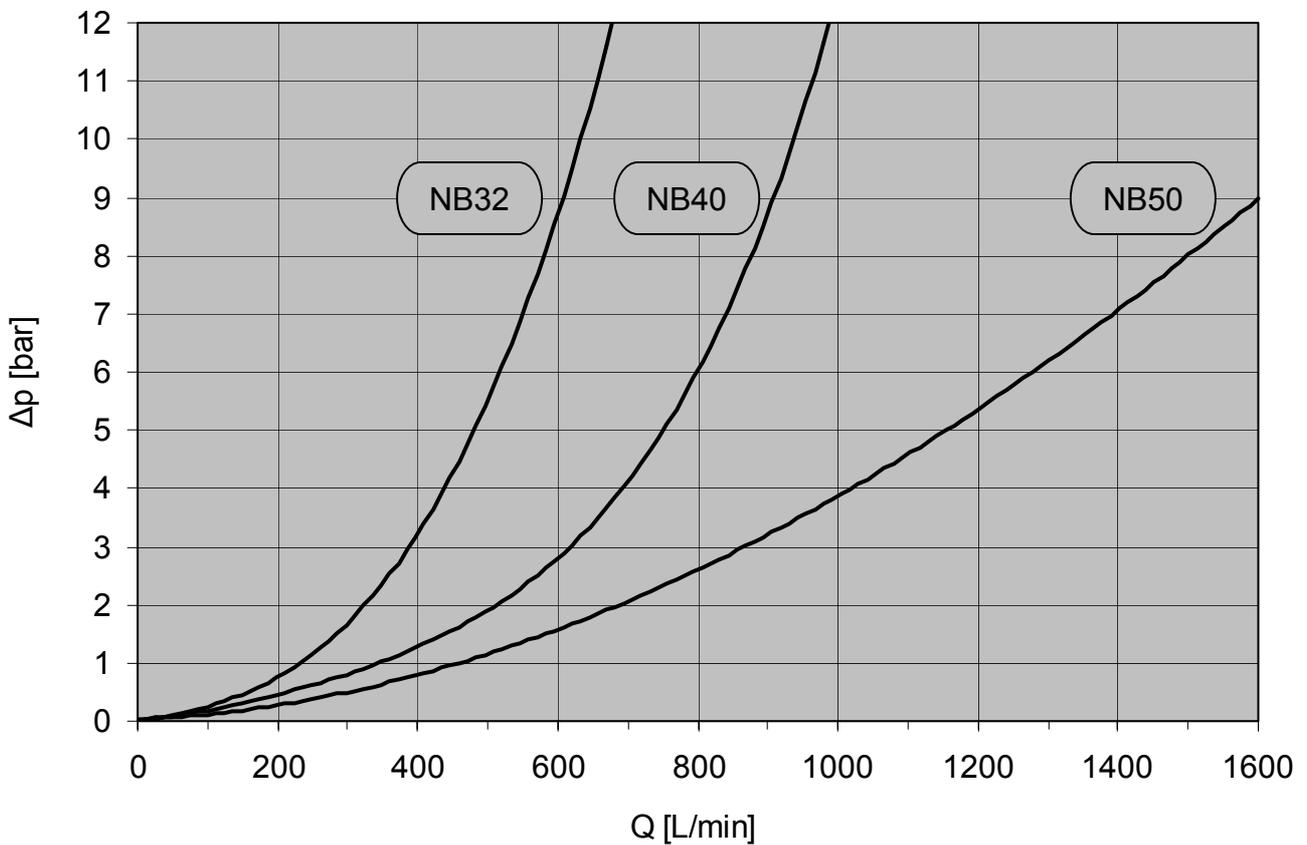
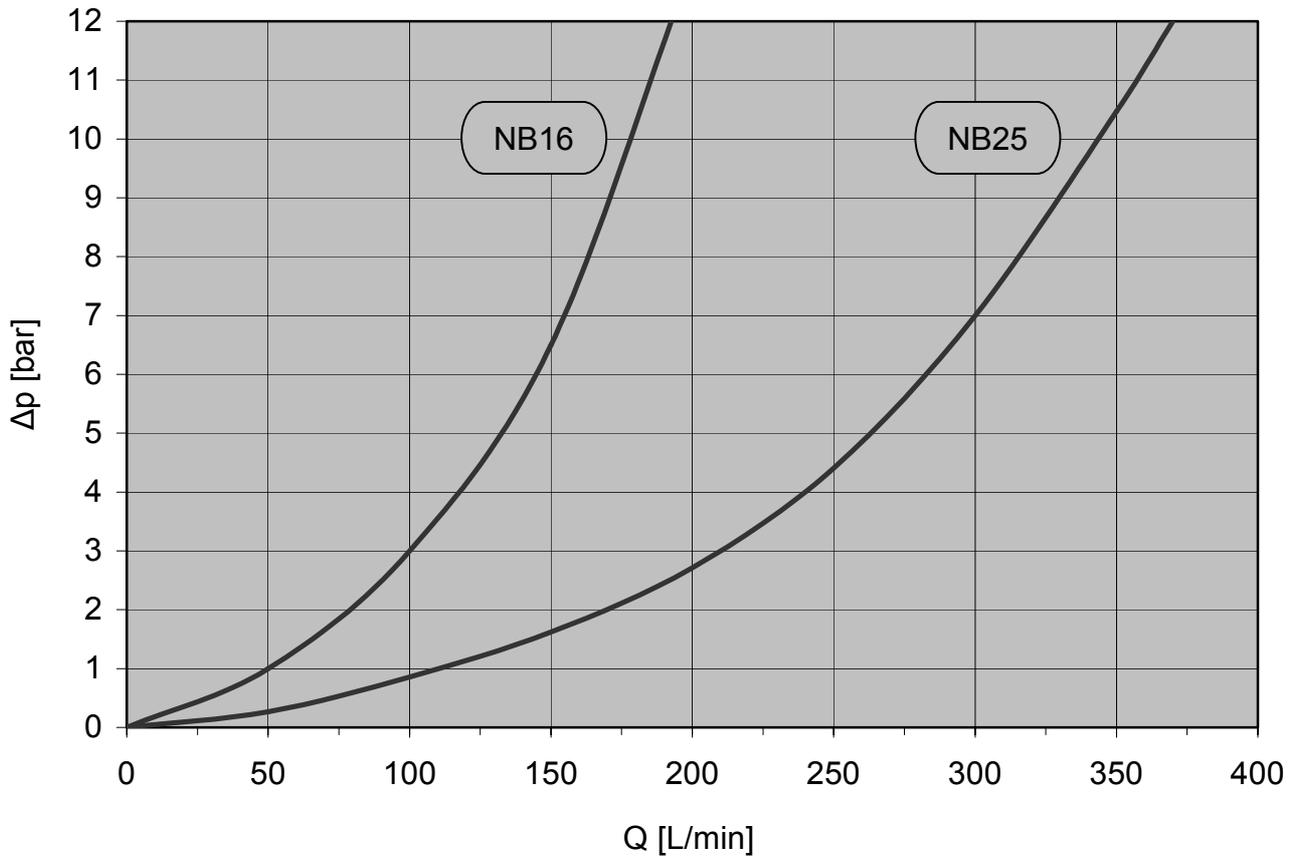
General data	Value	Unit	Specification				
Mode of construction	-	-	2-Way Spool Type Cartridge Valve				
Type	-	-	CKE				
Design	-	-	Cartridge Valve				
Mounting style	-	-	Manifold Cartridge Mounting				
Nominal size	NB	-	16	25	32	40	50
Mounting dimensions according ISO 7368-...	-	-	BA-06-2-A	BB-08-2-A	BC-09-2-A	BD-10-2-A	BE-11-2-A
Mounting position	-	-	Any				
Flow Direction	-	-	B → A				
Operating pressure	max.	MPa	35				
Ambient temperature range	min.	°C	-20				
	max.	°C	+80				
Seals* for hydraulic fluids	-	-	FKM+PU: M-CKE, hydraulic fluids on mineral oil basis				
	-	-	Other hydraulic fluids on request				
Hydraulic fluid temperature range	min.	°C	-10	FKM + PU			
	max.	°C	+80				
Viscosity range	min.	mm ² /s	2,8				
	max.	mm ² /s	380				
Operating viscosity	-	mm ² /s	35				
Cleanliness to ISO-Code	max.		ISO 4406 (C) class 20/18/15				

* PU: Polyurethane rubber; FKM: Fluorosilicone rubber (Viton®)

Characteristic Curves

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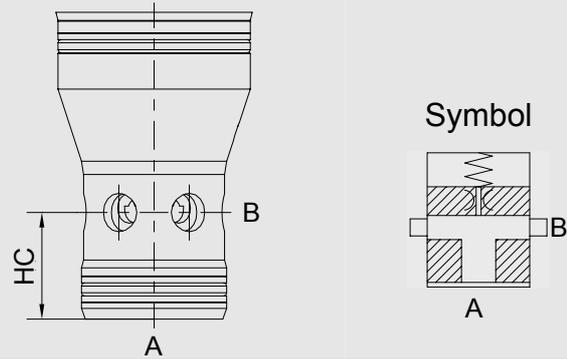
Direction of flow B→A; oil temperature: 40°C; Cartridge completely opened



Dimensions

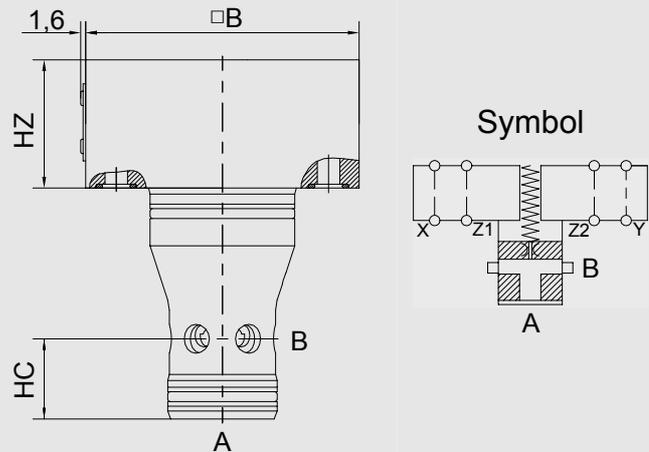
Spool Type Cartridge Valve
 CKE_D6M_/K_
 Function: Normally Open
 Spring: 0,5 bar/3,0 bar

NB	16	25	32	40	50
HC [mm]	18,5	25	28	32	Only with ZWD
Weight [kg]	0,2	0,5	1,0	1,9	



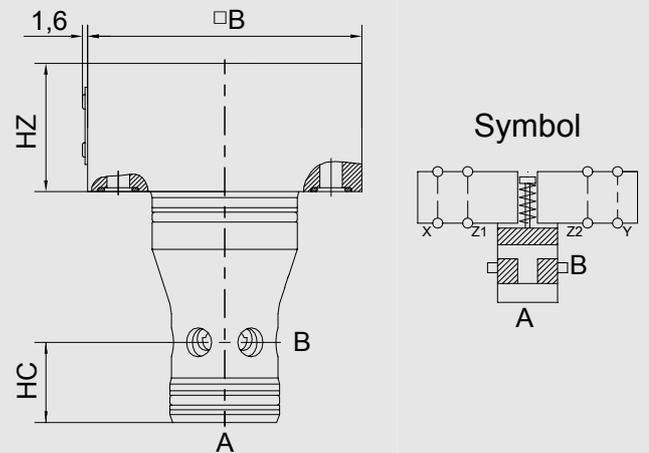
Spool Type Cartridge Valve
 including sandwich cover
 CKE_D6MQ/K_ ;Q8;ZWD
 Function: Normally Open
 Spring: 8,0 bar (NB 50: 0,5 bar/3,0 bar)

NB	16	25	32	40	50
HC [mm]	18,5	25	28	32	37
B [mm]	65	85	102	125	140
HZ [mm]	30	40	70	90	110
Weight [kg]	1,1	2,5	5,8	11,4	17,7



Spool Type Cartridge Valve
 including sandwich cover
 CKE_D6N_/ZWD
 Function: Normally Closed
 Spring: 0,5 bar/3,0 bar

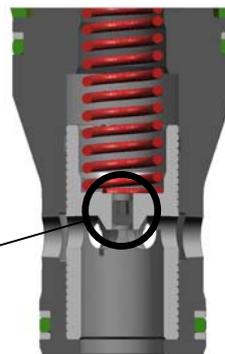
NB	16	25	32	40	50
HC [mm]	18,5	25	28	32	37
B [mm]	65	85	102	125	140
HZ [mm]	30	40	70	90	110
Weight [kg]	1,1	2,5	5,8	11,4	18,1



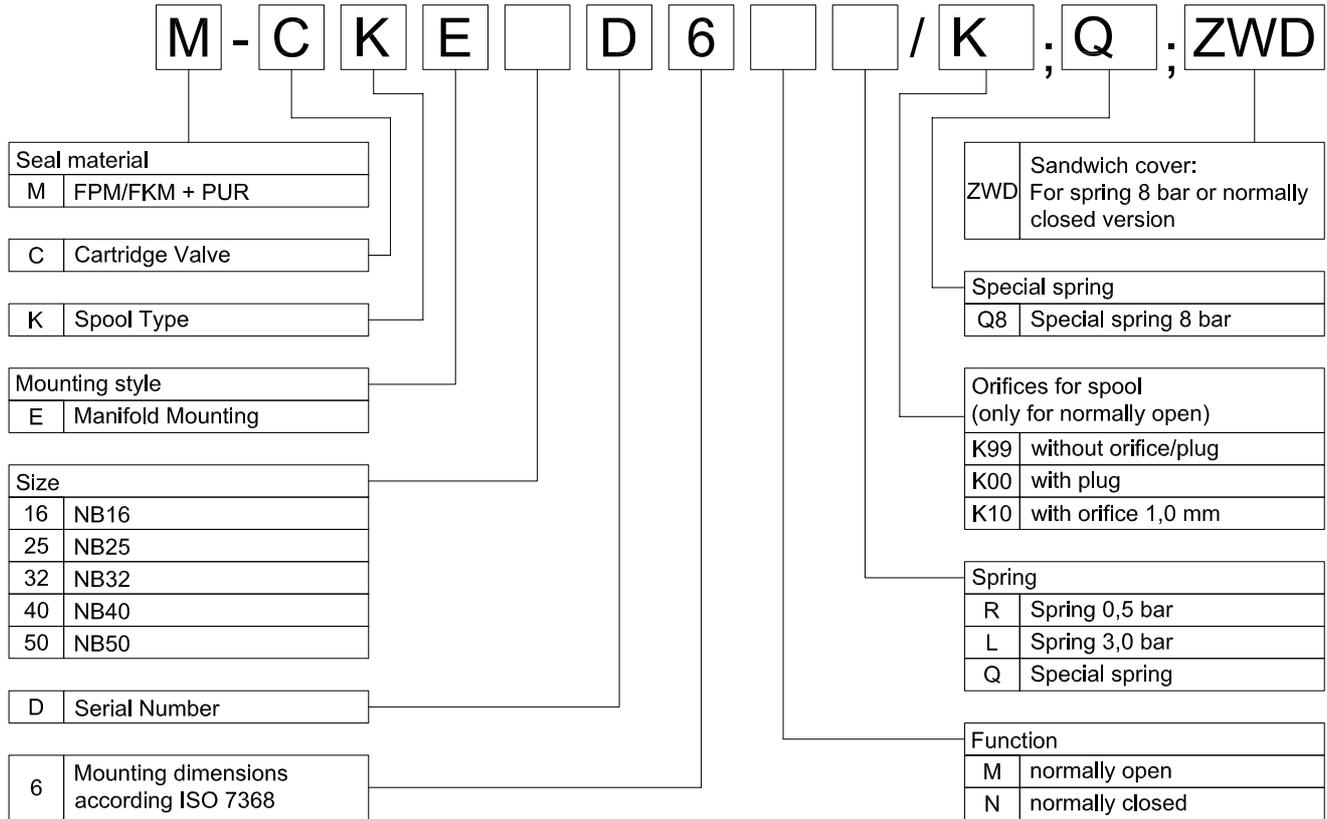
Orifice Installation Option in the cartridge spool

NB	16	25	32	40	50
Thread	M5	M5	M6	M6	M8

Installation option for orifice or plug in cartridge spool
 (Only for „Normally open“)



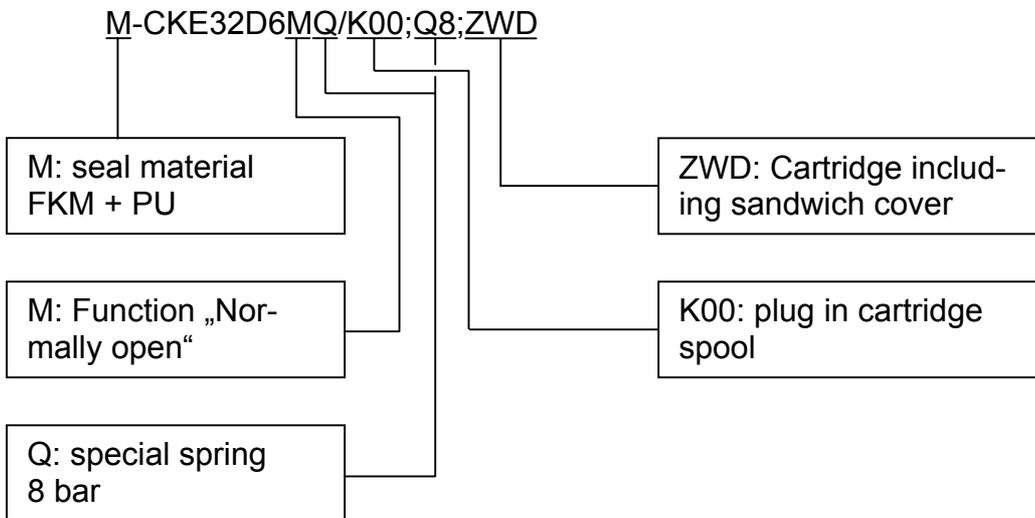
Ordering Information



Cartridge covers, sandwich plates and pilot valves have to be ordered separately.
For cartridges with sandwich covers please pay attention to longer fastening screws!

Order Example

2-Way Spool Type Cartridge Valve „Normally open“ size NB32 with 8 bar spring.



Order Numbers

Please note: Cartridges with plug in the spool

Function: Normally open; Spring: 0,5 bar/3,0 bar				
Symbol	Size	Spring	Type code	Order number
	16	0,5 bar	M-CKE16D6MR/K00	XCB11813-001M00
		3,0 bar	M-CKE16D6ML/K00	XCB11808-001M00
	25	0,5 bar	M-CKE25D6MR/K00	XCB11767-001M00
		3,0 bar	M-CKE25D6ML/K00	XCB11721-001M00
	32	0,5 bar	M-CKE32D6MR/K00	XCB11814-001M00
		3,0 bar	M-CKE32D6ML/K00	XCB11701-001M00
	40	0,5 bar	M-CKE40D6MR/K00	XCB11815-001M00
		3,0 bar	M-CKE40D6ML/K00	XCB11700-001M00
	50	0,5 bar	M-CKE50D6MR/K00;ZWD (Available only incl. sandwich cover!)	XCB11816-001M01
		3,0 bar	M-CKE50D6ML/K00;ZWD (Available only incl. sandwich cover!)	XCB11811-001M01

Function: Normally open; Spring: 8,0 bar				
Symbol	Size	Spring	Type code	Order number
	16	8,0 bar	M-CKE16D6MQ/K00;Q8;ZWD	XCB11809-001M01
	25	8,0 bar	M-CKE25D6MQ/K00;Q8;ZWD	XCB11751-001M01
	32	8,0 bar	M-CKE32D6MQ/K00;Q8;ZWD	XCB11749-001M01
	40	8,0 bar	M-CKE40D6MQ/K00;Q8;ZWD	XCB11750-001M01
	50	8,0 bar	Not available!	

Function: Normally closed; Spring: 0,5 bar/3,0 bar				
Symbol	Size	Spring	Type code	Order number
	16	0,5 bar	M-CKE16D6NR/ZWD	XCB11817-000M01
		3,0 bar	M-CKE16D6NL/ZWD	XCB11807-000M01
	25	0,5 bar	M-CKE25D6NR/ZWD	XCB11818-000M01
		3,0 bar	M-CKE25D6NL/ZWD	XCB11720-000M01
	32	0,5 bar	M-CKE32D6NR/ZWD	XCB11819-000M01
		3,0 bar	M-CKE32D6NL/ZWD	XCB11710-000M01
	40	0,5 bar	M-CKE40D6NR/ZWD	XCB11820-000M01
		3,0 bar	M-CKE40D6NL/ZWD	XCB11711-000M01
	50	0,5 bar	M-CKE50D6NR/ZWD	XCB11821-000M01
		3,0 bar	M-CKE50D6NL/ZWD	XCB11812-000M01

As a recognized leader in motion control technologies, Moog offers a full range of services to support our products and ensure that they meet the expectations of customers. Moog experts are the best at helping customers select the right products and ensuring that they run reliably for a long time.

When it is time for new machine commissioning, refurbishment or routine maintenance, our engineers can help to optimize machine performance, minimize downtime and ensure the smooth application of our products.

Moog Authentic Repair™ is designed to provide the highest quality repair services using original equipment parts, the latest design specifications, and highly trained technicians. This ensures that our repaired products will run as well as when they were new.

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