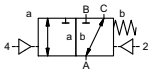
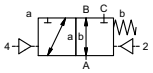
coax® data sheet - coaxial valve

type VMK 50 DR
VFK 50 DR

09/2022

3/2 way valve	**externally controlled**	
pressure range	PN 0-100 bar	
orifice	DN 50 mm	
connection	thread/flange	
function	valve normally closed (A ▶B) symbol **NC**	
	valve normally open (A ▶B) symbol **NO**	
operating principle	pressure balanced, with spring return, intersecting switch-over	
body material	① ③ ④ steel, nickel plated	② steel galvanized ⑤ without non-ferr. Metals ⑥ stainless steel
valve seat	synthetic materials on metal	
seal materials	NBR	PTFE, FPM, CR, EPDM

⚠ Above stated body materials refer to the valve port connections that get in contact with the media only!

details needed for main valve

- orifice
- port
- function NC/NO
- operating pressure
- inlet pressure at A, B or C
- flow rate
- media
- media temperature
- ambient temperature
- type of actuation

details needed for pneumatic actuation

- nominal voltage
- type of protection
- actuation pressure range min/max
- pilot valve type

details needed for hydraulic actuation

- actuation pressure range min/max
- hydraulic control valve function

⚠ The valves' technical design is based on media and application requirements. This can lead to deviations from the general specifications shown on the data sheet with regards to the design, sealing materials and characteristics.

⚠ If order or application specifications are incomplete or imprecise there exists a risk of an incorrect technical design of the valve for the required application. As a consequence, the physical and / or chemical properties of the materials or seals used, may not be suitable for the intended application. To avoid hydraulic shocks in pipelines, the flow velocities must be taken into account when designing valves for liquids.

general specifications			**options**
ports	VMK	threads G 2	special threads
	VFK	flanges PN 63 / 100	special flanges
function		NC	NO
pressure range	bar	0-63 / 0-100	> 100 bar upon request
		A ⇨ B max. 100 / B ⇨ A max. 16 / A ⇨ C max. 100 / C ⇨ A max. 100	
Kv value	m^3/h	43.0	
vacuum	leak rate		< 10^{-6} mbar•l•s^{-1}
pressure-vacuum	$P_1 \Leftrightarrow P_2$		pressure side max. 100 bar vacuum side leak rate upon request
back pressure	$P_2 > P_1$	see pressure range	
media		gaseous - liquid - highly viscous - gelatinous - pasty - contaminated	
abrasive media			available
damping	opening closing	by throttles on pilot valve	
flow direction		see pressure range	
switching cycles	1/min	100	
switching time	ms	opening 150-3000 closing 150-3000	
media temperature	°C	direct mounted pilot valve 60	remote mounted pilot valve outside
ambient temperature	°C	direct mounted pilot valve 50	temperatur range of media max. 160 °C
flush ports			available
leak ports			available
limit switches			inductive / mechanical upon request
manual override		via pilot valve	
approvals			LR/DNV/WAZ
mounting			mounting brackets
weight	kg	VMK 19.5 VFK 31.4	
additional equipment			upon request

electrical specifications			**options**
nominal voltage	U_n	DC 24 V	special voltage upon request
	U_n	AC 230 V 50 Hz	special voltage upon request
power consumption	DC	4.8 W	2.5 W (actuation pressure range 4-7 bar)
	AC	pick up 11.0 VA holding 8.5 VA	
protection	IP65 (P54)	acc. DIN 40050	
energized duty rating	ED	100%	
connection		plug acc. DIN EN 175301-803 form B, 2 positions x180° / wire diameter 6-8 mm	
optional	M12x1	connector acc. DESINA	connector acc. VDMA
additional equipment		illuminated plug with varistor	
max. temperature	media	60°C	
	ambient	50°C	
explosion proof	E Ex e II T5	nominal voltage U_n	DC 24 V 3.25 W
		power consumption	AC 230 V 50 Hz 2.90 W

pneumatic specifications			**options**
actuation pressure range	bar	4-8	
air consumption	cm^3/stroke	65	
cycle speed		main valve speed variable by throttleson pilot valve	
control		preferably 5/2 way pilot valve	
pilot valve interface		co-ax / Namur	ISO 1
actuator ports	2/4	G 1/8	G 1/4

hydraulic specifications			**options**
actuation pressure range	bar	15-30 / 30-60	
control		preferably 4/2 way control valve	
actuator ports	X/Y	G 1/4	NPT 1/4
by media			

- specifications not highlighted are standard

specifications highlighted in grey are optional

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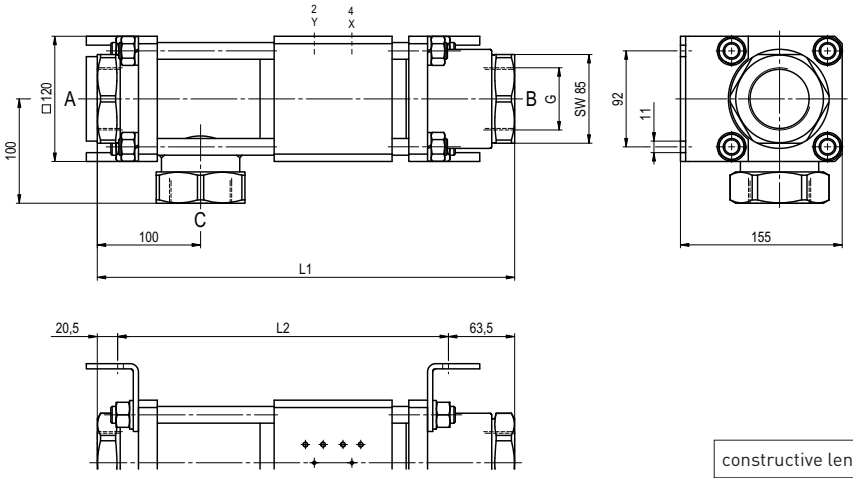
type VMK 50 DR
VFK 50 DR

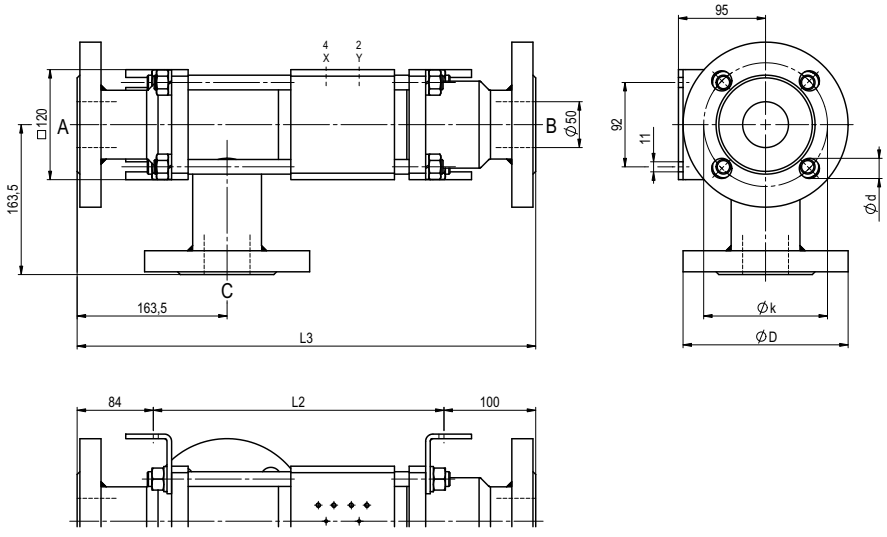
function: **NC**
closed when not energized (A ▶B)



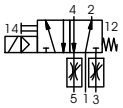
constructive length	L1	L2	L3
standard	400	316	500
with inductive limit switches	400	316	500
with force-feed lubrication nipple	400	316	500
with mechanical limit switches	-	-	-

flanges PN	DIN	ØD	Øk	Ød
63	EN 1092-1	180	135	22
100	EN 1092-1	195	145	26

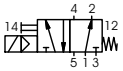
function: **NO**
open when not energized (A ▶B)



pneumatic specifications



5/2 way pilot valve
flow rate 700 l/min
pressure range 3-10 bar G 1/8



5/2 way pilot valve ISO 1
flow rate 700 l/min
pressure range 3-10 bar G 1/4