coax® data sheet - coaxial valve

type FMX-2/3/4/5

07/2024

⚠ 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
- flow rate
- media
- media temperature
- ambient temperature
- type of actuation

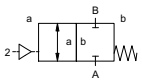
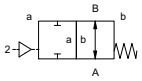
details needed for pneumatic actuation

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

⚠ 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.

■ specifications not highlighted are standard
specifications highlighted in grey are optional

2/2-way valve	**externally controlled**
pressure range	PN 0-25 (0-40) bar
orifice[1]	DN 10 / 15 / 20 / 25 mm
connection	thread
function	valve normally closed symbol **NC** 
	valve normally open symbol **NO** 
operating principle	pressure balanced, with spring return
body material	⓪ aluminium ② ③ ⑤ ④ ⑥ stainless steel 1.4404
valve seat	synthetic materials on metal
seal materials	PTFE, FKM, EPDM, PU, H-Ecopur

general specifications			**options**
ports		threads G 3/8 - G 1 1/4	threads 3/8 NPT - 1 1/4 NPT
function		NC	NO
pressure range	bar	0-16 / 0-25	(0-40 upon request)
Kv value[2]		see table	
vacuum	leak rate	< 10-4 mbar•l•s-1	
pressure-vacuum	$P_1 \Leftrightarrow P_2$		
back pressure	$P_2 > P_1$	available up to 25 bar	(40 bar upon request)
media		gaseous - liquid	
abrasive media			
damping	opening		
	closing	by throttles on pilot valve	
flow direction		bidirectional flow	
switching cycles[3]		see table	
switching time[4]		see table	
media temperature	°C	-20 to +120 °C (consider seal materials)	
ambient temperature	°C	-20 to +80 °C	
flush ports			
leak ports			
limit switches			magnetic, cable 5/10m and ATEX optional
manual override		via pilot valve	
approvals			
mounting			mounting brackets
weight[5]		see table	
explosion proof		⟨Ex⟩ II 2G Ex h IIC T-20°C...+120°C Gb	⟨Ex⟩ II 2D Ex h IIIC T-20°C...+120°C Db

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	
	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	NC 3-8	NO 4-8
air consumption[6]		see table	
cycle speed		main valve speed variable by throttleson pilot valve	
control		pneumatic actuation, 3/2-way pilot valve optional	
pilot valve interface			
actuator port		G 1/8	

hydraulic specifications	
actuation pressure range	
control	
actuator ports	
by media	

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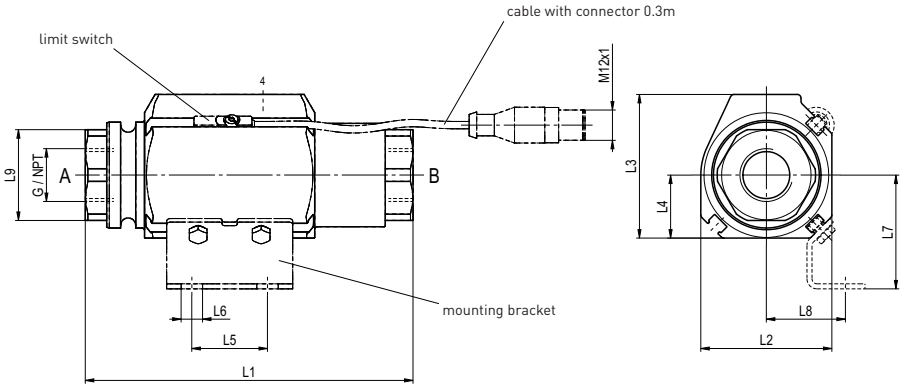
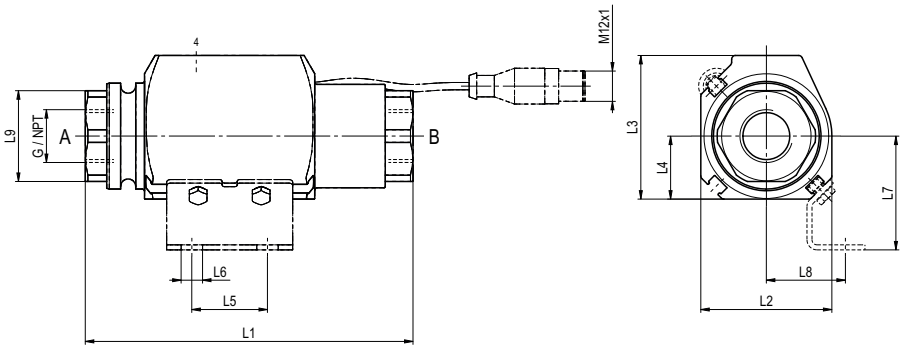
type FMX-2/3/4/5

function: **NC**
closed when not energized

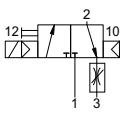


type		**FMX-2**	**FMX-3**	**FMX-4**	**FMX-5**
[1]**orifice**		DN 10 mm	DN 15 mm	DN 20 mm	DN 25 mm
threads	inch	3/8 | 1/2	1/2 | 3/4	3/4 | 1	1 | 1 1/4
[2]**Kv value**	m³/h	3,7 | 4,3	8,5 | 10,5	15,4 | 17,0	23,7 | 24,6
[3]**switching cycles**	1/min	660	550	410	380
[4]**switching time**	ms opening	30	30	35	35
	ms closing	35	40	60	70
[5]**weight**	kg	ⓓ 0,4 ⓚ 0,6	ⓓ 0,7 ⓚ 1	ⓓ 0,9 ⓚ 1,5	ⓓ 1,3 ⓚ 2,2
[6]**air consumption**	cm³/Hub	2	4	8	11
constructive length	L1 mm [inch]	110 [4.33]	130 [5.12]	150 [5.91]	160 [6.30]
	L2 mm [inch]	42,5 [1.67]	52 [2.05]	60 [2.36]	66 [2.60]
	L3 mm [inch]	48 [1.89]	57 [2.24]	64 [2.52]	71 [2.80]
	L4 mm [inch]	20 [0.79]	25 [0.98]	28 [1.10]	33 [1.30]
	L5 mm [inch]	25 [0.98]	30 [1.18]	30 [1.18]	30 [1.18]
	L6 mm [inch]	6,5 [0.26]	8,5 [0.33]	8,5 [0.33]	8,5 [0.33]
	L7 mm [inch]	33 [1.30]	45 [1.77]	47 [1.85]	51 [2.01]
	L8 mm [inch]	24 [0.94]	31,5 [1.24]	33,5 [1.32]	37 [1.46]
	L9 mm [inch]	SW 27 [AF 1.06]	SW 36 [AF 1.42]	SW 41 [AF 1.61]	SW 50 [AF 1.97]

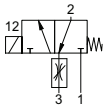
function: **NO**
open when not energized



pneumatic specifications



3/2-way pilot valve
flow rate 280 l/min
pressure range 2-10 bar G 1/8
temperature range -10 to +50 °C



3/2-way pilot valve
without manual override
flow rate 40 l/min
pressure range 2-10 bar G 1/8
temperature range -10 to +50 °C