Air solenoid valve VSVA-B-M52-MZD-A2-1T1L-ANP

FESTO

Part number: 573203





General operating condition

Data sheet

Feature	Value
Valve function	5/2, monostable
Actuation type	Electrical
Width	18 mm
Standard nominal flow rate	550 l/min
Pneumatic working port	Sub-base, size 18 mm according to ISO 15407-2 G1/8
Operating voltage	24V DC
Operating pressure	-0.09 MPa 1 MPa
Operating pressure	-0.9 bar 10 bar
Structural design	Piston gate valve
Reset method	Mechanical spring
KC characters	KC EMC
CE marking (see declaration of conformity)	As per EU EMC directive
UKCA marking (see declaration of conformity)	To UK instructions for EMC
Degree of protection	IP65 NEMA 4
Nominal width	5 mm
Exhaust air function	With flow control option Via throttle plate Via individual sub-base
Sealing principle	Soft
Mounting position	Any
Manual override	Detenting Non-detenting Covered
Type of control	Pilot-controlled
Pilot air supply port	External Internal
Flow direction	Non-reversible
Symbol	00997392
Measuring principle	Inductive
Lap	Overlap
Sensor reverse polarity protection	For all electrical connections
Signal status display	LED
Switching position sensing	Normal position with sensor
Sensor switching status indication	LED
Pilot pressure MPa	0.3 MPa 1 MPa
Pilot pressure	3 bar 10 bar

Max. positive test pulse with 0 signal Max. negative test pulse on 1 signal 800 µs Nominal operating voltage DC 24 V Nominal operating voltage DC 24 V Nominal operating output Nominal operating output Nominal operating voltage DC 24 V DC: 1.6 W Surge resistance 2.5 kV Contamination level 3 Permissible voltage fluctuations Operating medium Compressed air as per ISO 8573-1:2010 [7:4:4] Information on operating and pilot media Operating medium Compressed air as per ISO 8573-1:2010 [7:4:4] Information on operating and pilot media Operation with oil lubrication possible (required for further use) Vibration resistance Transport application test with severity level 2 as per FN 942017-4 and EN 60068-2-6 Shock resistance Shock test with severity level 2 as per FN 942017-5 and EN 60068-2-27 Corrosion resistance class (CRC) 0 - No corrosion stress LABS (PWIS) conformity VDMA24364-B1/B2-L Temperature of medium 5-9°C 50°C Relative air humidity 0 - 90 % Notise level 8 dB(A) Ambient temperature -5°C 50°C Max. tightening torque for valve mounting 0.8 Nm 1.2 Nm Product weight 140 g Sensor operating voltage range 10 V 30 V Sensor operating voltage range 10 V 30 V Sensor operating voltage range 200 mA Sensor idle current 110 mA Max. output current, sensor 200 mA Sensor woltage drop 22 V Electrical connection Plug 3 per ISO 15407-2 Sensor voltage drop Electrical connection Plug 3 per ISO 15407-2 Sensor connection On sub-base	Feature	Value
Optimized flow rate of pneumatic valve, pneumatically concatenated flow Optimized flow rate of pneumatic valve pneumatically concatenated flow Sworking time off 18 ms	Flow rate of pneumatic valve	750 l/min
Times	Flow rate of pneumatic valve on individual sub-base	600 l/min
Switching time off		700 l/min
On switching time 12 ms Precumatic valve - sensor ON switching time 32 ms Premematic valve - sensor switching time off 9 ms Duty cycle 100% Max. positive test pulse with 0 signal 1500 µs Max. Ingative test pulse on 1 signal 800 µs Nominal operating voltage 0.C 24 V Switching output NPN Coll characteristics 22 V DC: 1.6 W Surge resistance 2.5 kV Contamination level 3 Permissible voltage fluctuations 4,7-10 % Operating medium Compressed air as per ISO 8573-1:2010 [7:4:4] Information on operating and pilot media Operating with all lubrication possible (required for further use) Vibration resistance Transport application test with severity level 2 as per FN 942017-4 and no 8068-2-6 Shock resistance Shock test with severity level 2 as per FN 942017-5 and EN 60068-2 27 Corrosion resistance class (CRO) 0 is no corrosion stress Lass (PWIS) conformity VDMA24366-B3/82-L Temperature of medium 5 °C 50 °C Relative air humidity 0 so % Nosie level	Optimized flow rate of pneumatic valve pneumatically concatenated flow	550 l/min
Presumatic valve - sensor ON switching time Presumatic valve - sensor switching time off One Duty cycle 100% Max. positive test pulse with 0 signal Max. negative test pulse with 0 signal Nominal operating voltage DC 24 V Switching output Nominal operating voltage DC Switching output Nominal operating voltage fluctuations Surge resistance 25 NW Contamination level 37 Nominal operating medium Nominal operating medium Nominal operating medium Nominal operating medium Operation with oil flubrication possible (required for further use) Vibration resistance Pransport application test with severity level 2 as per FN 942017-4 and EN 60068-2-6 Shock test with severity level 2 as per FN 942017-5 and EN 60068-2-7 Corrosion resistance class (CRC) No No corrosion stress Nominal operating voltage fluctuation Nominal operating voltage fluctuation Nominal operating voltage fluctuations Nominal operating voltage fluctuation Nominal operating voltage fluctuations Nominal operations Nominal operati	Switching time off	38 ms
Pneumatic valve - sensor switching time of T 100%	On switching time	12 ms
Pneumatic valve - sensor switching time of T 100%	Pneumatic valve - sensor ON switching time	32 ms
Max. positive test pulse on 1 signal Max. negative test pulse on 1 signal Max. negative test pulse on 1 signal 800 μs Norminal operating voltage DC Switching output NPN Coli characteristics 24 V DC: 1.6 W Surge resistance Contamination level 3 Permissible voltage fluctuations - 4/- 10 % Operating medium Compressed air as per ISO 8523-1:2010 [7,4-4] Information on operating and pilot media Vibration resistance Shock resistance Shock resistance Shock resistance Shock resistance Shock tests with severity level 2 as per FN 942017-4 and els 00648-2-6 Shock resistance Shock resistance Shock tests with severity level 2 as per FN 942017-5 and EN 60068-2-6 Shock resistance Shock resistance Shock resistance Shock with severity level 2 as per FN 942017-5 and EN 60068-2-27 Corresion resistance class (CRC) 0 No corrosion stress LABS (PWIS) conformity VDMA24364-B1/82-1. Temperature of medium 5-9°C 50°C Realtive air hundrity Noise level 85 dB(A) Ambient temperature 5-9°C 50°C Ambient temperature 5-9°C 50°C No Max. Lightening torque for valve mounting 10 V 30 V Sensor short circular protection Pulsed DC sensor operating voltage range 10 V 30 V Sensor short circular protection Pulsed Sensor wort circular protection Pulsed Sensor voltage drop 10 V 30 V Sensor residual ripple 10 %	Pneumatic valve - sensor switching time off	9 ms
Mox. negative test pulse on 1 signal 800 µs Nominal operating voltage DC 24 V Switching output NPN Coll characteristics 24 V DC: 1.6 W Surge resistance 2.5 kV Contramination level 3 Permissible voltage fluctuations 4/- 10 % Operating medium Compressed air as per ISO 8573-1:2010 [7:4:4] Information on operating and pilot media Operation with oil lubrication possible (required for further use) Vibration resistance Fransport application test with severity level 2 as per FN 942017-5 and EN 60068-2-27 Shock resistance Shock test with severity level 2 as per FN 942017-5 and EN 60068-2-27 Corrosion resistance class (CRC) 0 - No corrosion stress Corrosion resistance class (CRC) 0 - No corrosion stress Corrosion resistance class (CRC) 0 - No corrosion stress Corrosion mesistance class (CRC) 0 - No corrosion stress Corrosion resistance class (CRC) 0 - No corrosion stress Corrosion resistance class (CRC) 0 - No corrosion stress Corrosion mesistance class (CRC) 0 - No corrosion stress Corrosion mesistance class (CRC) 0 - No corrosion stress	Duty cycle	100%
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Coil characteristics 24 V DC: 1.6 W Surge resistance 2.5 kW Contamination level 3 Permissible voltage fluctuations 4/-10 % Operating medium Compressed air as per ISO 8573-1:2010 [7:4:4] Information on operating and pilot media Operation with oil lubrication possible (required for further use) Vibration resistance Transport application test with severity level 2 as per FN 942017-4 and EN 60068-2-6 Shock resistance Shock test with severity level 2 as per FN 942017-5 and EN 60068-2-7 Corrosion resistance class (CRC) O-No corrosion stress Corrosion resistance class (CRC) O-No corrosion stress LABS (PMIS) conformity VDMA24364-B1/B2-L Temperature of medium 5-5 °C 50 °C Relative air humidity O-9 % Noise level 85 dB(A) Ambient temperature 3-5 °C 50 °C Ambient temperature 4-5 °C 50 °C Sensor son operating voltage range 10 V 30 V Sensor operating voltage range 10 V 30 V Sensor of circuit protection Pulsed Sensor idic current 10 mA Max. output current, sensor 200 mA Sensor max. switching frequency 5-500 M2 Sensor short circuit protection 4-pin Plug as per ISO 15407-2 Fluctical connection Pulse 4-pin Plug as per ISO 15407-2 Floor of mounting On sub-base Pilot air port 12/14 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 1 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 2 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 5 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 5 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 5 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 5 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 5 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 5 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 5 Sub-base, size 18 mm as per ISO 15407-2	·	NPN
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Max. tightening torque for valve mounting Product weight DC sensor operating voltage range 10 V 30 V Sensor short circuit protection Pulsed Sensor idle current \$10 mA Max. output current, sensor \$200 mA Sensor max. switching frequency \$5000 Hz Sensor residual ripple \$10 % Sensor roltage drop \$2 V Electrical connection \$4-pin Plug 3-pin M8x1 Type of mounting Pilot air port 12/14 Pilot exhaust air port 82/84 Ducted Not ducted Optionally: Pneumatic connection 2 Pneumatic connection 3 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 4 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 3 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 4 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 3 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 4 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 5 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 4 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 5 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 5		85 dB(A)
Product weight DC sensor operating voltage range 10 V 30 V Sensor short circuit protection Pulsed Sensor idle current 410 mA Max. output current, sensor 200 mA Sensor residual ripple \$10 % Sensor residual ripple \$2 V Electrical connection Plug as per ISO 15407-2 Sensor connection Plug 3-pin M8x1 Type of mounting On sub-base Pilot air port 12/14 Pilot exhaust air port 82/84 Ducted Not ducted Optionally: Pneumatic connection 2 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 3 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 3 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 4 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 5 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 4 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 5 Sub-base, size 18 mm as per ISO 15407-2	Ambient temperature	· · ·
Product weight DC sensor operating voltage range 10 V 30 V Sensor short circuit protection Pulsed Sensor idle current 410 mA Max. output current, sensor 200 mA Sensor residual ripple \$10 % Sensor residual ripple \$2 V Electrical connection Plug as per ISO 15407-2 Sensor connection Plug 3-pin M8x1 Type of mounting On sub-base Pilot air port 12/14 Pilot exhaust air port 82/84 Ducted Not ducted Optionally: Pneumatic connection 2 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 3 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 3 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 4 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 5 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 4 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 5 Sub-base, size 18 mm as per ISO 15407-2	Max. tightening torque for valve mounting	0.8 Nm 1.2 Nm
DC sensor operating voltage range 10 V 30 V Sensor short circuit protection Pulsed Sensor idle current \$10 mA Max. output current, sensor 200 mA Sensor max. switching frequency Sensor residual ripple \$10 % Sensor voltage drop Electrical connection Plug as per ISO 15407-2 Sensor connection Plug 3-pin M8x1 Type of mounting On sub-base Pilot air port 12/14 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 2 Pneumatic connection 3 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 3 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 3 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 3 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 3 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 4 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 5 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 4 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 5 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 5 Sub-base, size 18 mm as per ISO 15407-2		140 g
Sensor short circuit protection Pulsed Sensor idle current ≤10 mA Max. output current, sensor 200 mA Sensor max. switching frequency 5000 Hz Sensor residual ripple ± 10 % Sensor voltage drop ≤2 V Electrical connection 4-pin Plug as per ISO 15407-2 Sensor connection Plug 3-pin M8x1 Type of mounting On sub-base Pilot air port 12/14 Sub-base, size 18 mm as per ISO 15407-2 Pilot exhaust air port 82/84 Ducted Optionally: Pneumatic connection 1 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 2 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 3 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 4 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 4 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 5 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 5 Sub-base, size 18 mm as per ISO 15407-2	-	10 V 30 V
Sensor idle current Max. output current, sensor 200 mA Sensor max. switching frequency Sensor residual ripple ± 10 % Sensor voltage drop £2 V Electrical connection 4-pin Plug as per ISO 15407-2 Sensor connection Plug 3-pin M8x1 Type of mounting On sub-base Pilot air port 12/14 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 2 Pneumatic connection 2 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 2 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 3 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 4 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 4 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 5 Sub-base, size 18 mm as per ISO 15407-2		Pulsed
Sensor max. switching frequency Sensor residual ripple \$2 V Electrical connection \$4-pin Plug as per ISO 15407-2 Sensor connection Plug 3-pin M8x1 Type of mounting On sub-base Pilot air port 12/14 Sub-base, size 18 mm as per ISO 15407-2 Pleumatic connection 1 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 2 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 3 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 3 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 3 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 4 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 5 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 5 Sub-base, size 18 mm as per ISO 15407-2	· · · · · · · · · · · · · · · · · · ·	-
Sensor residual ripple \$2 V\$ Electrical connection \$4-pin Plug as per ISO 15407-2 Sensor connection Plug 3-pin M8x1 Type of mounting On sub-base Pilot air port 12/14 Sub-base, size 18 mm as per ISO 15407-2 Plug Mot ducted Optionally: Pneumatic connection 1 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 2 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 3 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 4 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 5 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 5 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 5 Sub-base, size 18 mm as per ISO 15407-2	Max. output current, sensor	200 mA
Sensor voltage drop Electrical connection 4-pin Plug as per ISO 15407-2 Sensor connection Plug 3-pin M8x1 Type of mounting On sub-base Pilot air port 12/14 Sub-base, size 18 mm as per ISO 15407-2 Plug Ducted Not ducted Optionally: Pneumatic connection 1 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 2 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 3 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 4 Sub-base, size 18 mm as per ISO 15407-2 Sub-base, size 18 mm as per ISO 15407-2 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 4 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 5 Sub-base, size 18 mm as per ISO 15407-2	Sensor max. switching frequency	5000 Hz
Electrical connection 4-pin Plug as per ISO 15407-2 Sensor connection Plug 3-pin M8x1 Type of mounting On sub-base Pilot air port 12/14 Sub-base, size 18 mm as per ISO 15407-2 Pilot exhaust air port 82/84 Ducted Not ducted Optionally: Pneumatic connection 1 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 2 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 3 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 4 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 5 Sub-base, size 18 mm as per ISO 15407-2 Sub-base, size 18 mm as per ISO 15407-2	Sensor residual ripple	± 10 %
Electrical connection 4-pin Plug as per ISO 15407-2 Sensor connection Plug 3-pin M8x1 Type of mounting On sub-base Pilot air port 12/14 Sub-base, size 18 mm as per ISO 15407-2 Pilot exhaust air port 82/84 Ducted Not ducted Optionally: Pneumatic connection 1 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 2 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 3 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 4 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 5 Sub-base, size 18 mm as per ISO 15407-2 Sub-base, size 18 mm as per ISO 15407-2		≤2 V
3-pin M8x1 Type of mounting On sub-base Pilot air port 12/14 Sub-base, size 18 mm as per ISO 15407-2 Pilot exhaust air port 82/84 Ducted Not ducted Optionally: Pneumatic connection 1 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 2 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 3 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 4 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 5 Sub-base, size 18 mm as per ISO 15407-2 Sub-base, size 18 mm as per ISO 15407-2	Electrical connection	Plug
Pilot air port 12/14 Pilot exhaust air port 82/84 Ducted Not ducted Optionally: Pneumatic connection 1 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 2 Pneumatic connection 3 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 4 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 5 Sub-base, size 18 mm as per ISO 15407-2	Sensor connection	3-pin
Pilot exhaust air port 82/84 Ducted Not ducted Optionally: Pneumatic connection 1 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 2 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 3 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 4 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 5 Sub-base, size 18 mm as per ISO 15407-2 Sub-base, size 18 mm as per ISO 15407-2	Type of mounting	On sub-base
Not ducted Optionally: Pneumatic connection 1 Pneumatic connection 2 Pneumatic connection 3 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 3 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 4 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 5 Sub-base, size 18 mm as per ISO 15407-2 Sub-base, size 18 mm as per ISO 15407-2	Pilot air port 12/14	Sub-base, size 18 mm as per ISO 15407-2
Pneumatic connection 2 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 3 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 4 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 5 Sub-base, size 18 mm as per ISO 15407-2	Pilot exhaust air port 82/84	Not ducted
Pneumatic connection 3 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 4 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 5 Sub-base, size 18 mm as per ISO 15407-2	Pneumatic connection 1	Sub-base, size 18 mm as per ISO 15407-2
Pneumatic connection 4 Sub-base, size 18 mm as per ISO 15407-2 Pneumatic connection 5 Sub-base, size 18 mm as per ISO 15407-2	Pneumatic connection 2	Sub-base, size 18 mm as per ISO 15407-2
Pneumatic connection 5 Sub-base, size 18 mm as per ISO 15407-2	Pneumatic connection 3	Sub-base, size 18 mm as per ISO 15407-2
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Note on materials RoHS-compliant	Pneumatic connection 5	Sub-base, size 18 mm as per ISO 15407-2
	Note on materials	RoHS-compliant

Feature	Value
	FPM NBR
•	Die-cast aluminum PA
Material of screws	Steel, galvanized
Switching element function	N/C contact