

25003, 5/2

Direct actuated poppet valves



- > **1/4" (G or NPT)**
Inline & NAMUR
- > **Main application:**
Double acting actuators
- > **Approval according**
to 2014/68/EU
- > **Ports 2 and 4 can be**
controlled by throttle
check valves



Technical features

Medium:

Neutral or aggressive, gaseous fluids which do not damage the product or affect the function (e.g. compressed air, nitrogen). Based on ISO 8573-1:2010 classification 1-2-3.

Operation:

Direct solenoid operated poppet valves

Operating pressure:

0 ... 8 bar (0 ... 116 psi) or
0 ... 10 bar (0 ... 145 psi)

Flow:

530 l/min

Kv: 0,48

Port size:

G1/4, G1/4 NAMUR, 1/4 NPT

Flow direction:

Fixed

Mounting position:

Any, but preferably with solenoid vertical

Switching cycles:

100/min

Fluid temperature:

NBR: -20 ... +80°C (-4 ... +176°F)

FKM: -10 ... +120°C (+14 ...

+248°F)

Water +90°C (+194°F) max.

Depending on solenoid system and sealing

Ambient temperature:

-20 ... +80°C (-4 ... +176°F)

Depending on solenoid system
Air supply must be dry enough to avoid ice formation at temperatures below +2°C (+35°F).

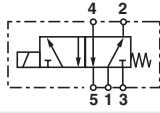
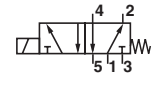
Materials:

Valve housing: brass 2.0401 (Ms 58), stainless steel 1.4404 (316 L), hard-anodised aluminium 3.0615 (NAMUR version)
Seal: NBR, FKM
Inner parts: brass, stainless steel

Flow conversion:

Cv US Gallon/min (water) =
l/min (air) x 0,001
Kv m³/h (water) =
l/min (air) x 0,000906

Technical data

Symbol	Port size	Operating pressure (bar)	Material Seat seal	Housing	Manual override	Test certificate 2014/68/EU	Weight (kg)	Dimension No.	Model *1)
	G1/4 NAMUR	0 ... 8	NBR	Aluminium	Without	X	0,65	3	2500335
	G1/4	0 ... 8	NBR	Brass	Without	X	1,15	1	2500300
	1/4 NPT	0 ... 10	NBR	Brass	Without		1,15	1	2500306
	G1/4	0 ... 10	NBR	Brass	With		1,15	2	2500311
	G1/4	0 ... 10	NBR	Brass	With		1,15	2	2500316
	G1/4	0 ... 10	FKM	Stainless steel	Without		1,35	1	2500302
	1/4 NPT	0 ... 10	FKM	Stainless steel	Without		1,35	1	2500308

*1) Please add solenoid, voltage and power supply data (frequency) when ordering

Solenoids operators

	Power consumption		Rated current		Protection class IP/NEMA	Ex-Protection (ATEX-Category)	Temperature Ambient/Media (°C)	Electrical connection	Drawing	Circuit diagram	Model
	24 V d.c. (W)	230 V a.c. (VA)	24 V d.c. (mA)	230 V a.c. (mA)					No.	No.	
	16,9	—	703	—	IP65 (with connector)	—	-25 ... +60 Media: +80 max	Connector DIN EN 175301-803, Form A *2)	3	1	0800
	—	17,3	—	75	IP65 (with connector)	—	-25 ... +60 Media: +80 max	Connector DIN EN 175301-803, Form A *2)	4	6	3803
	8,9	—	369	—	IP66 (with cable gland)	II 2G Ex eb mb IIC T4/T5 Gb II 2D Ex tb IIIC T130°C Db	T4: -40 ... +65 T5: -40 ... +55 -40 ... +65	M20 x 1,5 *2)	6	4	4270
	—	10,0	—	43	IP66 (with cable gland)	II 2G Ex eb mb IIC T4/T5 Gb II 2D Ex tb IIIC T130°C Db	T4: -40 ... +65 T5: -40 ... +55 -40 ... +65	M20 x 1,5 *2)	6	7	4271
	8,9	—	369	—	IP66 (with cable gland)	II 2G Ex db mb IIC T4/T6 Gb II 2G Ex eb mb IIC T4/T6 Gb II 2D Ex tb IIIC T130°C Db	T4: -40 ... +70 T6: -40 ... +40 -40 ... +70	1/2 NPT *2)	7	20	4670
	—	10,0	—	43	IP66 (with cable gland)	II 2G Ex db mb IIC T4/T6 Gb II 2G Ex eb mb IIC T4/T6 Gb II 2D Ex tb IIIC T130°C Db	T4: -40 ... +70 T6: -40 ... +40 -40 ... +70	1/2 NPT *2)	7	21	4671
	8,9	—	369	—	IP66 (with cable gland)	II 2G Ex db mb IIC T4/T6 Gb II 2G Ex eb mb IIC T4/T6 Gb II 2D Ex tb IIIC T130°C Db	T4: -40 ... +70 T6: -40 ... +40 -40 ... +70	M20 x 1,5 *2)	7	20	4672
	—	10,0	—	43	IP66 (with cable gland)	II 2G Ex db mb IIC T4/T6 Gb II 2G Ex eb mb IIC T4/T6 Gb II 2D Ex tb IIIC T130°C Db	T4: -40 ... +70 T6: -40 ... +40 -40 ... +70	M20 x 1,5 *2)	7	21	4673

Standard voltages (±10%) 24 V d.c., 230 V a.c., other voltages on request. Design according to VDE 0580, EN 50014/50028. 100% duty cycle.

*2) Connector/cable gland is not scope of delivery, see table »Accessories»

Attention: The protection class for coil series 46xx is determined by the choice of cable gland. Example: if an ATEX-certified cable gland is used that has Ex d type of protection, the solenoid will have the protection class Ex d mb; if a cable gland with Ex e type of protection is used, the solenoid will have protection class Ex e mb.

Approvals

Model	Approvals ATEX	IECEX	Datasheet
42xx	KEMA 98 ATEX 4452 X	IECEX KEM 09.0068 X	71.580
46xx	PTB 02 ATEX 2085 X	IECEX PTB 11.0094 X	71.585

Partnumbers for international approval

Land/Approval	Coil/Code	42xx	46xx
Europa/ATEX	Standard	x	x
International/IECEX	Standard	x	x
China/NEPSI	-01	x	x
Brasilien/INMETRO	-02	x	x
Korea/KOSHA	-03	x	x
Russland, Kasachstan & Weißrussland/TR-CU 012	-04	x	x
Indien/CCOE	Standard	x	x
Taiwan/ITRI	Standard	x	x
USA/FM	Standard	—	—
Kanada/CSA	Standard	—	—

Example: 0000000427002400-04

(Coil: 4270; Voltage: 24V DC; Approval: TR-CU 012)

Accessories

Electrical connection

Cable gland
Protection class Ex e, Ex d
(ATEX),
Nickel plated brass/
Stainless steel



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For sole-noid	Thread	Cable Ø (mm)	Material	Protection class (ATEX)	Ambient temperatur limitation *3)	Model
42xx	M20 x 1,5	7,0 ... 12,0	Plastic	II 2G Ex e / II 2D Ext	See table	0589735
42xx	M20 x 1,5	10,0 ... 14,0	Plastic	II 2G Ex e / II 2D Ext	See table	0589736
42xx	M20 x 1,5	6,0 ... 12,0	Plastic	II 2G Ex e / II 2D Ext	See table	0589737
42xx	M20 x 1,5	5,0 ... 10,0	Plastic	II 2G Ex e / II 2D Ext	See table	0589739
46xx	M20 x 1,5	5,0 ... 14,0	Nickel plated brass	II 2G Ex e / II 2D Ext	-	0589654
46xx	M20 x 1,5	10,0 ... 14,0	Nickel plated brass	II 2G Ex d / II 2D Ext	-	0588851
46xx	1/2 NPT	7,5 ... 11,9	Nickel plated brass	II 2G Ex d / II 2D Ext	-	0588925

*3) The limitation of the temperature range to the mentioned range is due to the self-heating of the solenoid.

For sole-noid Ambient temperatur limitation solenoid 42xx

	0589735 & 0589736 *4)	0589737	0589739 *4)
422x/427x	T4 & Staub Ex: -35°C +65°C T5: -35°C +55°C	T4 & Staub Ex: -40°C...+62°C T5: -40°C +55°C	T4 & Staub Ex: -40...+65°C T5: -40...+55°C

*4) Tested for the lower level of mechanical risk (4 joule), an additional protection against impacts might be needed.

Connector Form A



0570275

Silencer *1)



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C/S2 (1/4 NPT)
M/S2 (G1/4)

Exhaust guard *2)



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0613422 (G1/4, 1/4 NPT)

*5) For indoors use

*6) For outdoors use, opening pressure ~ 0,2 bar

NAMUR accessories (only G1/4)

Throttle control plate *7)



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4040239

Flange plate



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0612790
(NAMUR single connection plate)

0612791 (NAMUR-rip use in combination with 0612790)

Yoke



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0540593 (Pipe mounting use in combination with 0612790)

Mounting plate



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0613453 (90°)

Quick exhaust module *8)



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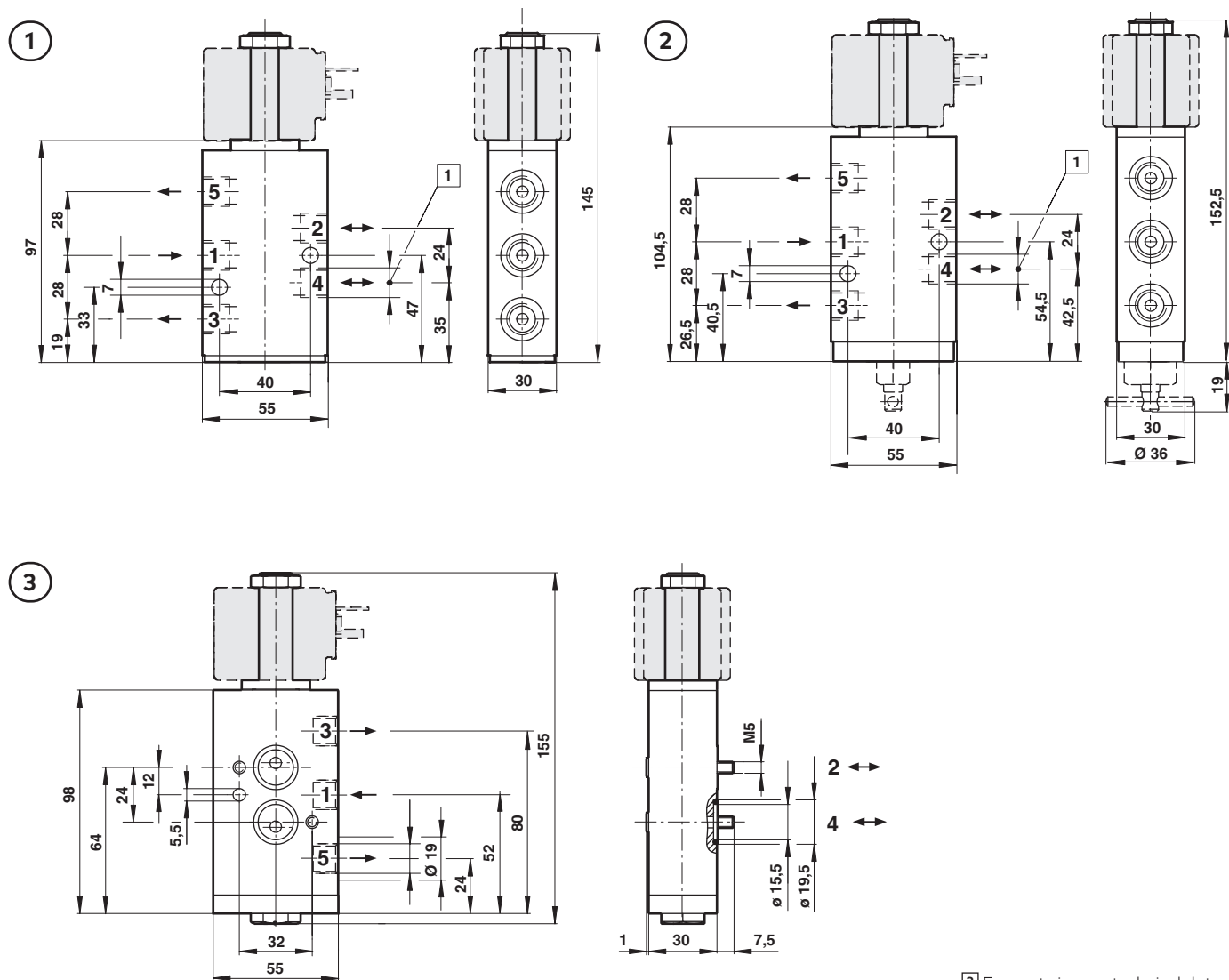
4050218

*7) The throttle control plate 4040239 has a minimum flow rate for safety reason.

*8) Technical details see catalogue page en 5.4.820.

Dimensions

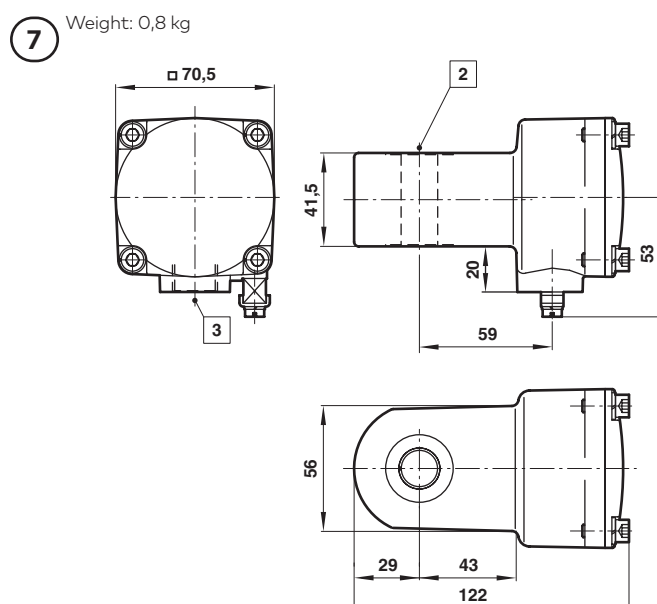
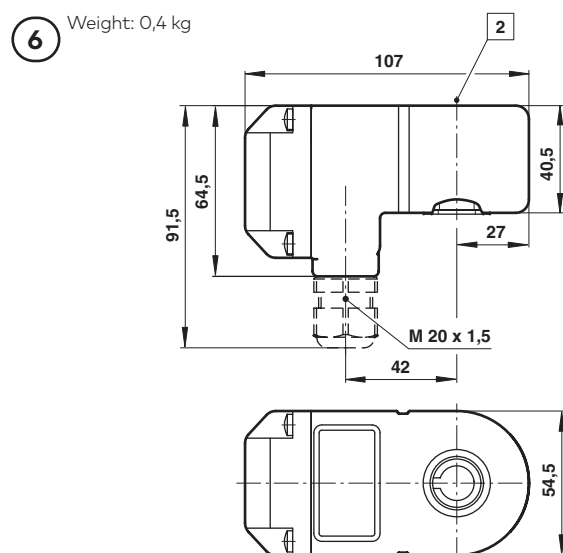
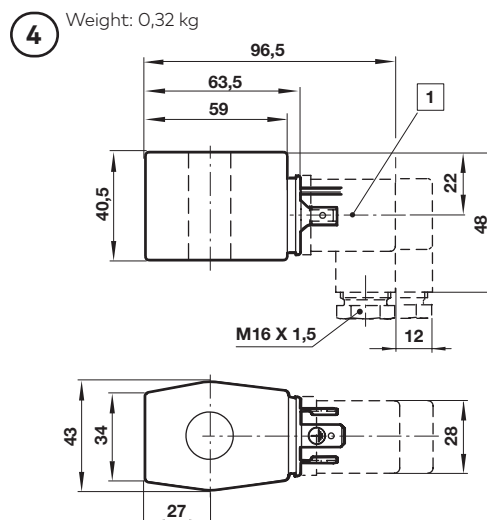
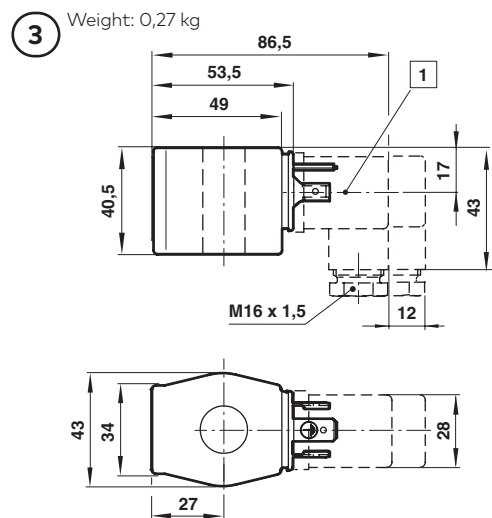
Valves



[3] For port size see technical data

Dimensions

Solenoids



1 Connector can be indexed by 4 x 90

2 Ø 16 or 13 (with spacer tube)

3 M20 x 1,5 or 1/2 NPT

Circuit diagrams

