25003
5/2 way direct solenoid operated valves
G 1/4, 1/4-18 NPT or flange mounting with NAMUR hole pattern

Working from 0 bar up

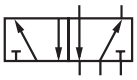
Suitable for medium-high vacuum down to 1.33 x 10-2 mbar

Easily interchangeable solenoid

Ports 2 and 4 can be controlled by throttle check valves

Solenoid system with integrated rectifier for AC supply (40 ... 60 Hz)

These solenoid valves are applicable in Ex protection class ATEX (categories II 2 GD and II 3 GD) and other international approvals





Technical features

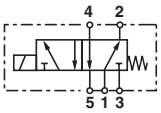
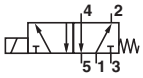
Medium:
Neutral or aggressive gases and liquids (install an upstream filter when using contaminated fluids)
Operation:
Direct solenoid operated poppet valves
Flow direction:
Fixed

Mounting position:
Any, but preferably with solenoid vertical
Port size:
G 1/4, 1/4 NPT
Operating pressure:
0 ... 8 bar
Fluid temperature:
-20 ... +80°C (NBR)
-10 ... +120°C (FKM)
Water +90°C max.

Ambient temperature:
-20 ... +60°C
Solenoid temperature:
See table
Air supply must be dry enough to avoid ice formation at temperatures below +2°C.
Switching cycles:
100/min

Materials*:
Housing: brass, stainless steel 1.4404, hard-anodised aluminium (NAMUR version)
Seal: NBR (Perbunan), FKM
Inner parts: brass, stainless steel 1.4523, 1.4571
*Depending on the chemical corrosivity of the environment or fluid

Technical data

Symbol	Port size	Operating pressure *2) (bar)	kv-value (Cv (US) ≈ kv x 1,2	Material Seat seal	Housing	Weight (kg)	Dimension No.	Model *1)
	G 1/4 NAMUR	0 ... 8	0.48	NBR	Aluminium	0,65	2	2500335
	G 1/4	0 ... 8	0.48	NBR	Brass	1,15	1	2500300
	1/4 NPT	0 ... 8	0.48	NBR	Brass	1,15	1	2500306
	G 1/4	0 ... 8	0.48	NBR	Brass	1,15	1	2500311*3)
	G 1/4	0 ... 8	0.48	NBR	Brass	1,15	1	2500316*4)
	G 1/4	0 ... 8	0.48	FKM	1.4404	1,35	1	2500302
	1/4 NPT	0 ... 8	0.48	FKM	1.4404	1,35	1	2500308

*1) Please add solenoid, voltage and power supply data (frequency) when ordering
*2) With gaseous and liquid fluids up to 40 mm^2
*3) With detenting manual override
*4) With non-detenting manual override

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Solenoid operators

Solenoids group A

	Power consumption 24 V d.c. (W)	230 V a.c. (VA)	Rated current 24 V d.c. (m A)	230 V a.c. (m A)	Ex-Protection (ATEX-Category)	Protection class *7)	Temperature Ambient/ Fluid (°C)	Electrical connection	Weight (kg)	Dimension No.	Circuit diagram No.	Model
	16,9	-	703	-	-	IP 65 (with connector) *5)	-25 ... +60 Fluid: max. 80	Connector DIN EN 175301-803 Form A *6)	0,26	3	1	0800
	-	17,3	-	75	-	IP 65 (with connector) *5)	-25 ... +60 Fluid: max. 80	Connector DIN EN 175301-803 Form A *6)	0,35	4	6	3803
	8,9	-	369	-		IP65	-30...+90 Fluid: 110	Terminals, cable gland Pg 13,5	0,5	9	2	4120
	-	10,0	-	43		IP65	-30...+90 Fluid: 110	Terminals, cable gland Pg 13,5	0,5	9	6	4121
	8,9		369	-		IP67	-30...+90 Fluid: 110	3 m cable, encapsulated in EP resin	0,7	9	2	4122
	-	10,0	-	43		IP67	-30...+90 Fluid: 110	3 m cable, encapsulated in EP resin	0,7	9	6	4123
	8,9	-	369	-	II2G, II2D	Ex emb II T4/T5 Ex tD A21 IP66 T130°C *2), *10)	-40 ... +65 T4 -40 ... +55 T5 -40 ... +65	M20 x 1,5 *6)	0,500	6	4	4270 *8)
	-	10,0	-	43	II2G, II2D	Ex emb II T4/T5 Ex tD A21 IP66 T130°C *2), *10)	-40 ... +65 T4 -40 ... +55 T5 -40 ... +65	M20 x 1,5 *6)	0,500	6	7	4271 *8)
	8,9	-	369	-	II2G II2D	Ex dmb IIC T4/T6 Ex emb II T4/T6 Ex tD A21 IP66 T130°C *3)	-40 ... +70 T4 -40 ... +40 T6 -40 ... +70	1/2 - 14 NPT *6)	0,800	7	4	4670 *8)
	-	10,0	-	43	II2G II2D	Ex dmb IIC T4/T6 Ex emb II T4/T6 Ex tD A21 IP66 T130°C *3)	-40 ... +70 T4 -40 ... +40 T6 -40 ... +70	1/2 - 14 NPT *6)	0,800	7	7	4671 *8)
	8,9	-	369	-	II2G II2D	Ex dmb IIC T4/T6 Ex emb II T4/T6 Ex tD A21 IP66 T130°C *3)	-40 ... +70 T4 -40 ... +40 T6 -40 ... +70	M20 x 1,5 *6)	0,800	7	4	4672 *8)
	-	10,0	-	43	II2G II2D	Ex dmb IIC T4/T6 Ex emb II T4/T6 Ex tD A21 IP66 T130°C *3)	-40 ... +70 T4 -40 ... +40 T6 -40 ... +70	M20 x 1,5 *6)	0,800	7	7	4673 *8)
Stainless steel 	8,9	–	369	–	II2G II2D	Ex mb d IIC T4/T6 Ex mb e II T4/T6 Ex mbD 21 tD A21 IP66 T100°C Ex tD A21 IP66 T100°C *1) *10)	-40 ... +50 T4 -40 ... +40 T6 -40 ... +50	M20x1,5 *6)	1,2	10	4	4872 *8), *11)
	–	10	–	43	II2G II2D	Ex mb d IIC T4/T6 Ex mb e II T4/T6 Ex mbD 21 tD A21 IP66 T100°C Ex tD A21 IP66 T100°C *1) *10)	-40 ... +50 T4 -40 ... +40 T6 -40 ... +50	M20x1,5 *6)	1,2	10	7	4873 *8), *11)
	13,6	-	567	-	-	XP/DIP, Div. 1 & 2 Cl. I, Gr. A-D Cl. II/III, Gr. E-G T3 (160°C) *4) NEMA 4, 4X, 6, 6P, 7, 9 *4)	-20 ... +60	Flying leads 450 mm long	0,5	9	1	3826
	-	15,7	-	68	-	XP/DIP, Div. 1 & 2 Cl. I, Gr. A-D Cl. II/III, Gr. E-G T3 (160°C) *4) NEMA 4, 4X, 6, 6P, 7, 9 *4)	-20 ... +60	Flying leads 450 mm long	0,5	9	5	3827

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

*1) EG-Type-Examination-Certificate KEMA 02 ATEX 1347 X
*2) EG-Type-Examination-Certificate KEMA 98 ATEX 4452 X
*3) EG-Type-Examination-Certificate PTB 02 ATEX 2085 X
*4) CSA-LR 57643-6, FM-Approval
*5) Required connector: type 0570275
*6) Connector cable gland not supplied, see table »Accessories«
*7) IP-Protection class according to EN60529
*8) Suitable for outdoor installation
*10) IEC Ex Certificate of Conformity
*11) EG-Type-Examination-Certificate PTB 06 ATEX 2054 X

Attention:

The protection class for coil series 46xx and 48xx 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 dmb; if a cable gland with Ex e type of proteciton is used, the solenoid will have protection class Ex emb.

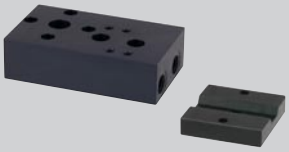
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Accessories

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



Thread	Cable Ø	Material	Protection class (ATEX)	Model
M 20x1,5	5,0...8,0 mm	Nickel plated brass	II2GD Ex e	0588819
M 20x1,5	10...14 mm	Nickel plated brass	II2GD Ex d	0588851
1/2-14-NPT	7,5...11,9 mm	Nickel plated brass	II2GD Ex d, Ex e	0588925
M 20x1,5	9,0...13 mm	Stainless steel 1.4571	II2GD Ex e	0589385
M 20x1,5	7,0...12 mm	Stainless steel 1.4404	II2GD Ex d	0589395
M 20x1,5	10...14 mm	Stainless steel 1.4404	II2GD Ex d	0589387

Connector Form A	Silencer *1)	Exhaust guard *2)	Filter 1*)	Throttle control plate	Flange plate	Yoke
						
	Page 8	Page 8	Page 8	Page 7	Page 7	Page 7
0570275	C/S2 1/4 NPT	0613422 (G1/4, 1/4 NPT)	0681173 (G1/4, 1/4 NPT)	4040239	0612790 (NAMUR single connection plate)	0540593
	M/S2 G 1/4				0612791 (NAMUR-rip use in combination with 0612790, Alu)	

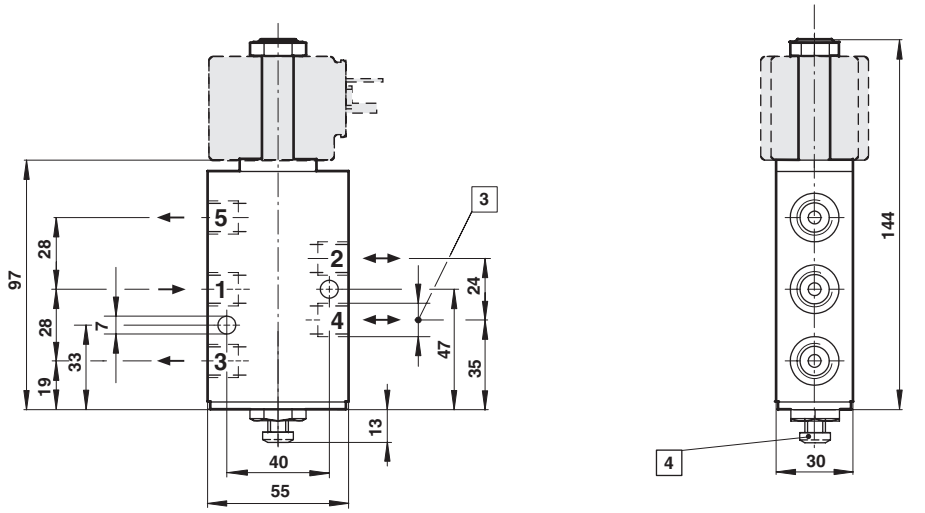
*1) For indoors use
*2) For outdoors use

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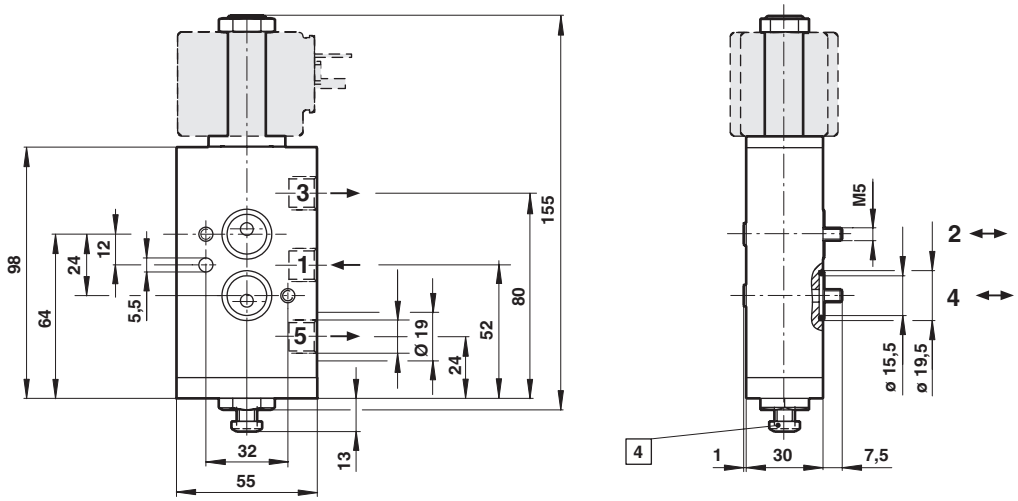
Dimensions

Valves

1



2



3 For port size see technical data

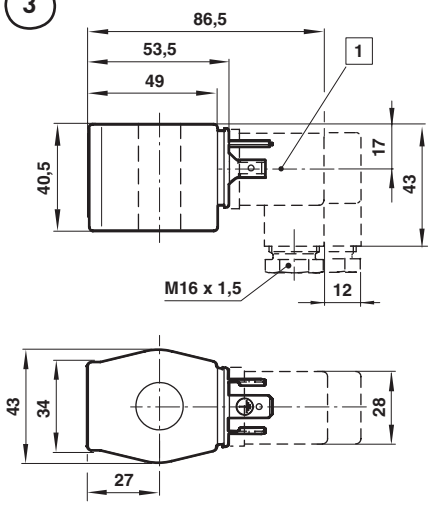
4 Add-on manual override see page 6

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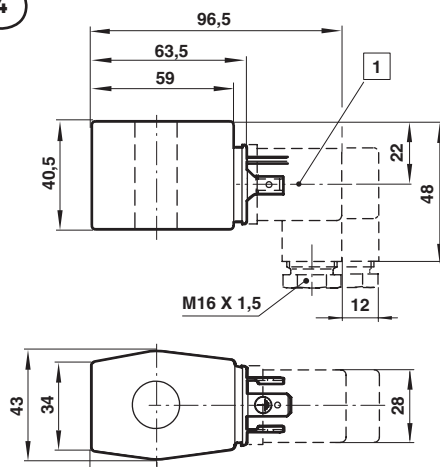
Dimensions

Solenoids

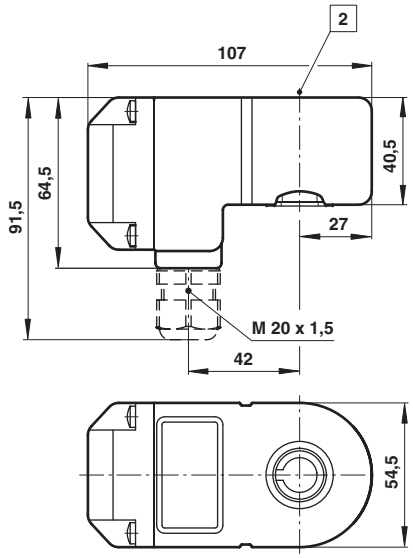
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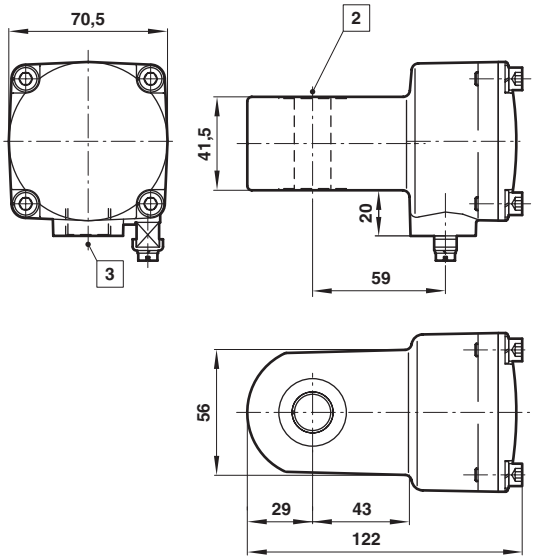
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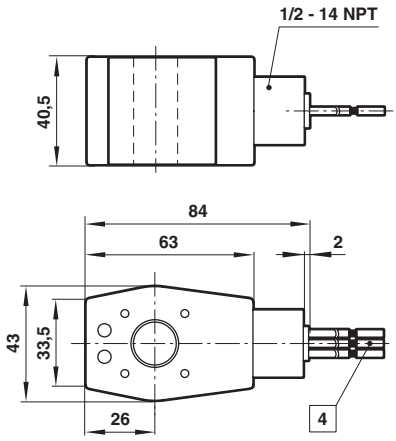
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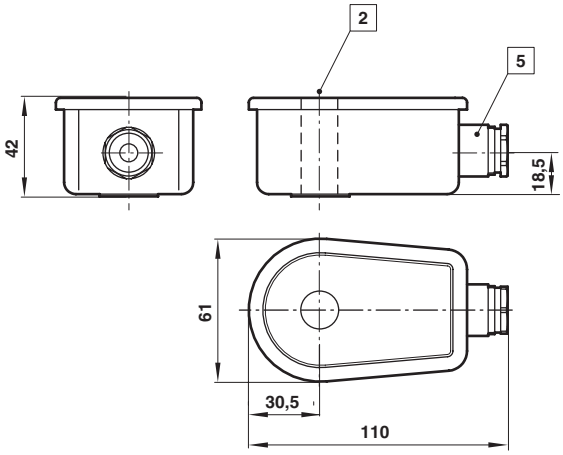
7



8



9



1 Connector can be indexed by 4x90°

2 Ø 16 or 13 (with spacer tube)

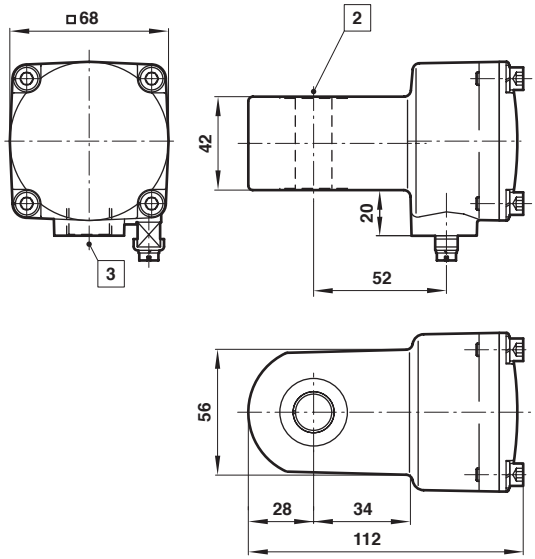
3 M20 x 1,5 or 1/2 - 14 NPT

4 Flying leads AWG 18 (450 mm long)

5 With cable gland, Pg 13,5

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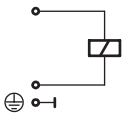
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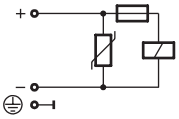
2 Ø 16 or 13 (with spacer tube)

Circuit diagrams

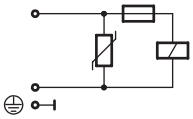
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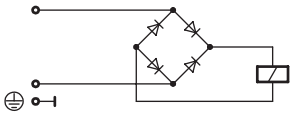
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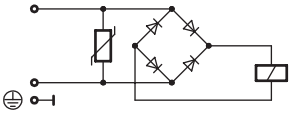
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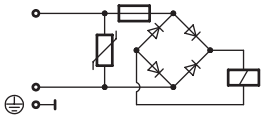
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6

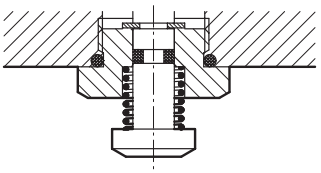


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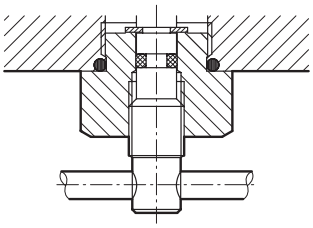


Add-on manual override

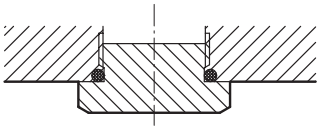
Without detent
Model: 0602767



With detent
Model: 0602768



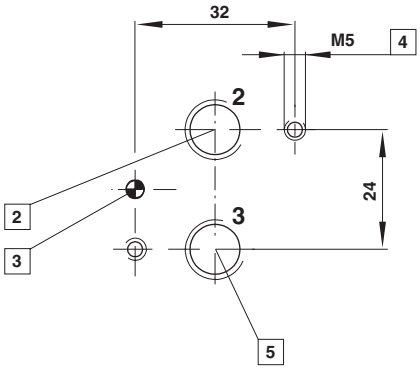
Screw plug
Model: 0602764



Please note: add-on manual override
for NAMUR valves provided
only for commissioning and tests

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NAMUR hole pattern



2 Port 2 (A)

3 Coding stud threaded

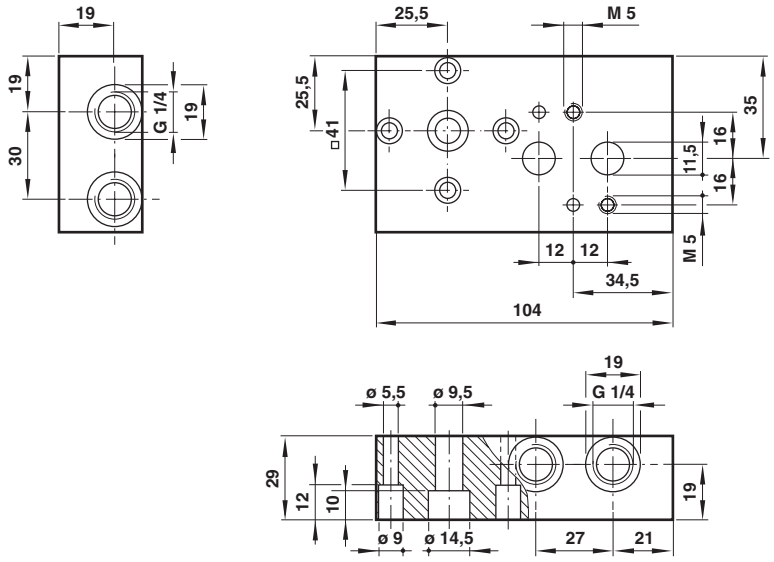
4 M5 (10 deep)

5 Port 3 (R)

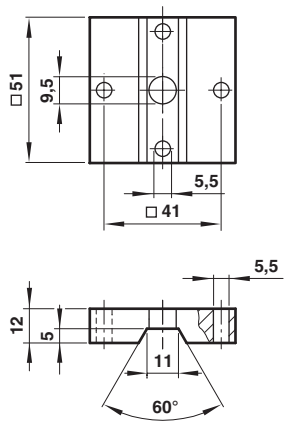
NAMUR quick exhaust module for a better kv-value by exhaust see data sheet 5.4.820

NAMUR interlinking plates in redundancy design for »safety exhausting« and »safety ventilating« see data sheet 5.4.830

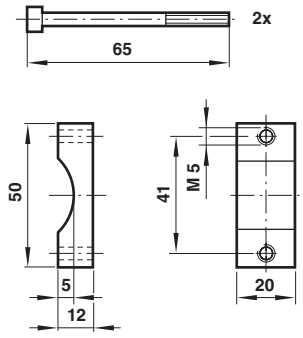
Single connection plate
Model: 0612790



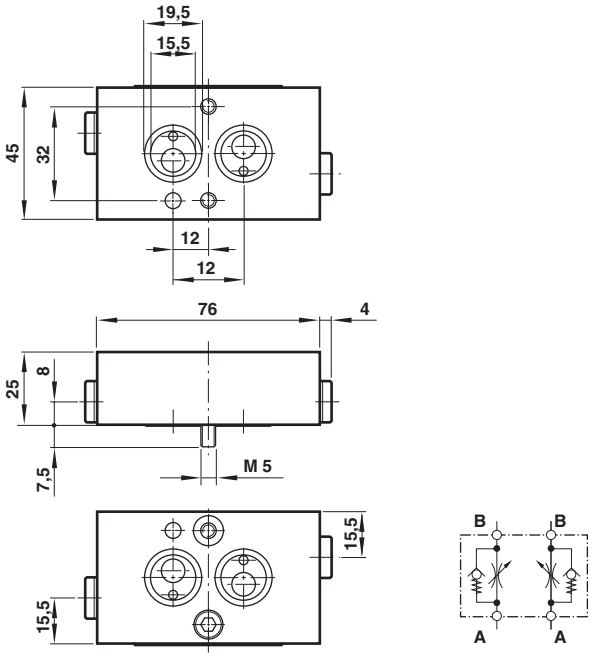
NAMUR slot
Model: 0612791



Yoke
Model: 0540593

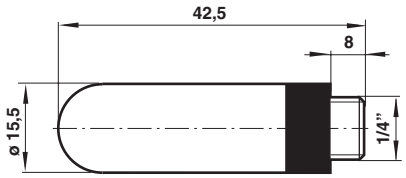


Throttle control plate
Model: 4040239

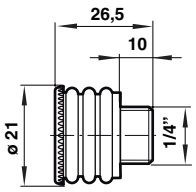


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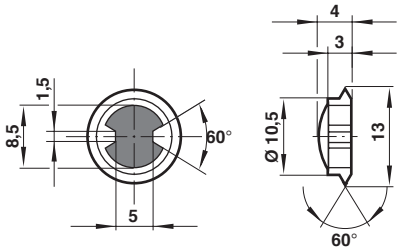
Silencer
Model: M/S2, C/S2



Exhaust guard
Model: 0613422

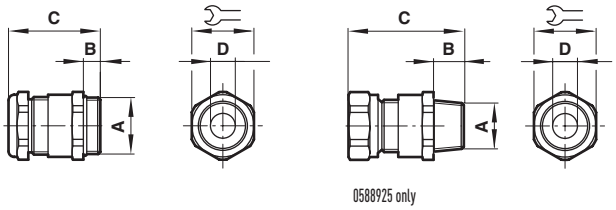


Filter
Model: 0681173



Thread pitch diameter max. 11,85 mm

Cable gland



0588925 only

A	B	C	ø D		Model
M20 x 1,5	9	36	5 ... 8	22	0588819
M20 x 1,5	6,5	27,5	9 ... 13	22	0589385
M20 x 1,5	14	39	10 ... 14	24	0588851
1/2-14 NPT	15	58	7,5 ... 11,9	24	0588925
M20 x 1,5	14	39	7 ... 12	24	0589395
M20 x 1,5	10	34	10 ... 14	24	0589387

Warning

These products are intended for use in industrial compressed air systems only. Do not use these products where pressures and temperatures can exceed those listed under **'Technical data'**.
Before using these products with fluids other than those specified, for non-industrial applications, life-support systems, or other applications not within published specifications, consult NORGREN.
Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes.

The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure.
System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided.
System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.

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