

**5/2 poppet valves**  
electromagnetic actuated, directly controlled  
G 1/4, 1/4 NPT or flanged with NAMUR Interface

**Working from 0 bar up**

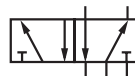
**Suitable for medium-high vacuum**  
down to  $1.33 \times 10^{-2}$  mbar

**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**



Approval depends on magnetic system, see page 2!

**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 (0 ... 116 psi)

**Fluid temperature:**

-20 ... +80°C (-4 ... +176°F) (NBR)  
-10 ... +120°C (+14 ... +248°F) (FKM)

Water +90°C (+194°F) max.

Depending on solenoid system and sealing

**Ambient temperature:**

-20 ... +60°C (-4 ... +140 °F)

Depending on solenoid system

Air supply must be dry enough

to avoid ice formation at

temperatures below +2°C (+35°F)

**Switching cycles:**

100/min

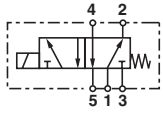
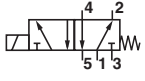
**Materials:**

Housing: brass 2.0401 (Ms 58), stainless steel 1.4404 (316 L), hard-anodised aluminium 3.0615 (NAMUR version)

Seal: NBR (Perbunan), FKM  
Inner parts: brass, stainless steel 1.4523

\*Depending on the chemical corrosivity of the environment or fluid

**Technical data**

Symbol	Port size	Operating pressure (bar) *2), *5)	kv-value (Cv (US) ≈ kv x 1,2	Material Seat seal	Housing	Manual override *6)	Weight (kg)	Dimension No.	Model *1)
	G 1/4 NAMUR	0 ... 8	0.48	NBR	Aluminium	Without	0,65	2	2500335
	G 1/4	0 ... 8	0.48	NBR	Brass	Without	1,15	1	2500300
	1/4 NPT	0 ... 8	0.48	NBR	Brass	Without	1,15	1	2500306
	G 1/4	0 ... 8	0.48	NBR	Brass	Without	1,15	1	2500311*3)
	G 1/4	0 ... 8	0.48	NBR	Brass	Without	1,15	1	2500316*4)
	G 1/4	0 ... 8	0.48	FKM	Stainless steel	Without	1,35	1	2500302
	1/4 NPT	0 ... 8	0.48	FKM	Stainless steel	Without	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<sup>2</sup>

\*3) With detenting manual override

\*4) With non-detenting manual override

\*5) Valve can be operated at 10 bar max if there is no specification for examination.

\*6) Manual overrides for type 2500300, 2500306, 2500302 and 2500308 can't be retrofitted

**Solenoid operator**

	Power consumption		Rated current		Ex-Protection (ATEX-Category)	Protection class *7)	Temperature Ambient/ Fluid (°C)	Electrical connection	Weight  (kg)	Dimension  No.	Circuit diagram  No.	Model
	24 V d.c. (W)	230 V a.c. (VA)	24 V d.c. (mA)	230 V a.c. (mA)								
	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	-	I12G I12D	Ex e mb IIC T4/T5 Gb Ex tb IIIC T130°C Db IP66*2), *10)	-40 ... +65 T4 -40 ... +55 T5 -40 ... +65	M20 x 1,5 *6)	0,5	6	4	4270 *8)
	-	10,0	-	43	I12G I12D	Ex e mb IIC T4/T5 Gb Ex tb IIIC T130°C Db IP66*2), *10)	-40 ... +65 T4 -40 ... +55 T5 -40 ... +65	M20 x 1,5 *6)	0,5	6	7	4271 *8)
	8,9	-	369	-	I12G I12D	Ex d mb IIC T4/T6 Gb Ex e mb IIC T4/T6 Gb Ex tb IIIC T130°C Db *3) *10)	-40 ... +70 T4 -40 ... +40 T6 -40 ... +70	1/2 - 14 NPT *6)	0,8	7	20	4670 *8)
	-	10,0	-	43	I12G I12D	Ex d mb IIC T4/T6 Gb Ex e mb IIC T4/T6 Gb Ex tb IIIC T130°C Db *3) *10)	-40 ... +70 T4 -40 ... +40 T6 -40 ... +70	1/2 - 14 NPT *6)	0,8	7	21	4671 *8)
	8,9	-	369	-	I12G I12D	Ex d mb IIC T4/T6 Gb Ex e mb IIC T4/T6 Gb Ex tb IIIC T130°C Db *3) *10)	-40 ... +70 T4 -40 ... +40 T6 -40 ... +70	M20 x 1,5 *6)	0,8	7	20	4672 *8)
	-	10,0	-	43	I12G I12D	Ex d mb IIC T4/T6 Gb Ex e mb IIC T4/T6 Gb Ex tb IIIC T130°C Db *3) *10)	-40 ... +70 T4 -40 ... +40 T6 -40 ... +70	M20 x 1,5 *6)	0,8	7	21	4673 *8)
Stainless steel	8,9	-	369	-	I12G I12D	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	I12G I12D	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	8	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	8	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 protection is used, the solenoid will have protection class Ex emb.

## 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	0588925
M 20x1,5	9,0...13 mm	Stainless steel 1.4571 (316 Ti)	II2GD Ex e	0589385
M 20x1,5	7,0...12 mm	Stainless steel 1.4404 (316 L)	II2GD Ex d	0589395
M 20x1,5	10...14 mm	Stainless steel 1.4404 (316 L)	II2GD Ex d	0589387

Connector  
Form A



0570275

Silencer \*1)



Page 8

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

Exhaust guard \*2)



Page 8

0613422 (G1/4, 1/4 NPT)

Filter



Page 8

0681173 (G1/4, 1/4 NPT)

Add-on manual override /manual reset \*3)  
Without detent



Page 4

0600205



0601765

\*1) For indoors use

\*2) For outdoors use

\*3) Manual override

Solenoid not energized with button actuation valve is connected and reset by spring. [For testing only prior to commissioning]

Manual reset

Solenoid energized. When button operation valve is switched and remains switched to magnetic current.

Throttle control plate



Page 7

4040239

Flange plate



Page 7

0612790 (NAMUR single connection plate, for G1/4 only)  
0612791 (NAMUR-rip use in combination with 0612790, AtU)

Yoke



Page 7

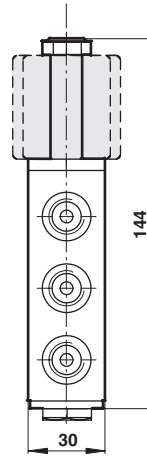
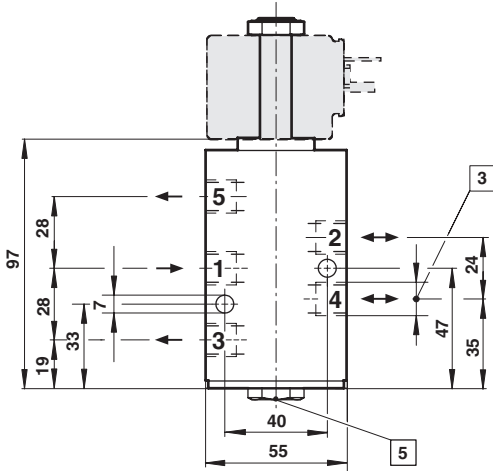
0540593

**Dimensions  
Valves**

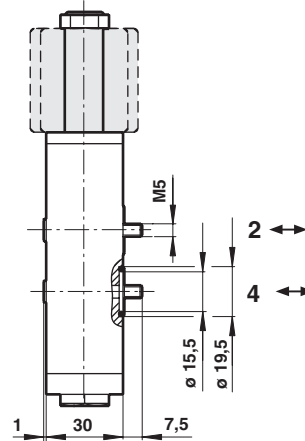
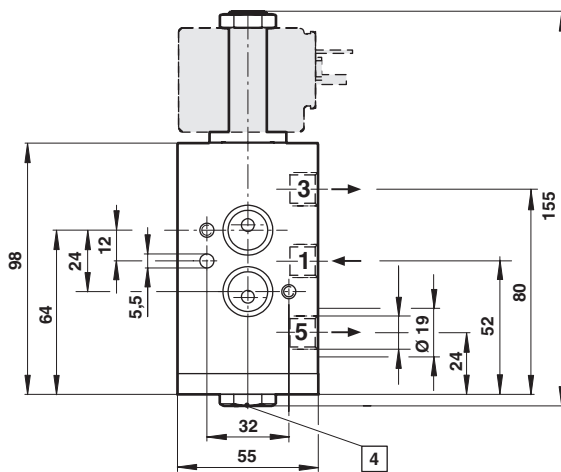
Dimensions shown in mm  
Projection/First angle



1



2

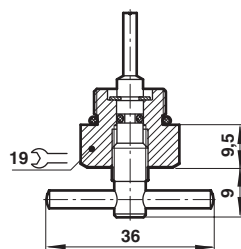
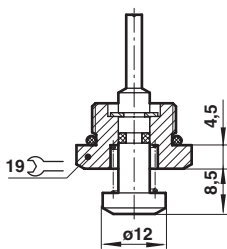


- 3 For port size see technical data
- 4 Add-on manual override see below
- 5 Manual overrides for type 2500300, 2500306, 2500302 and 2500308 can't be retrofitted

**Add-on manual override**

**Without detent  
Model: 0600205**

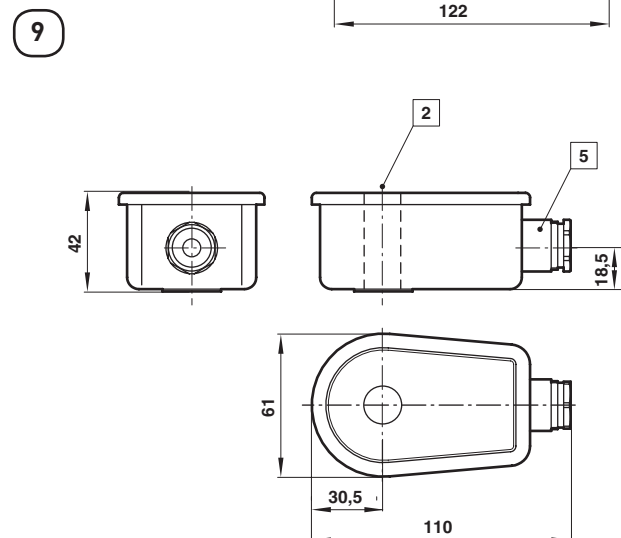
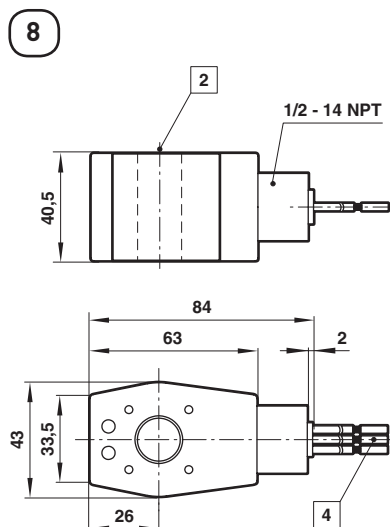
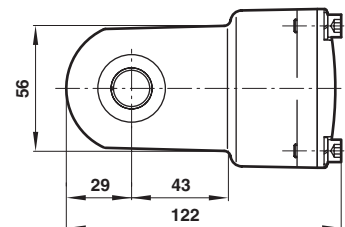
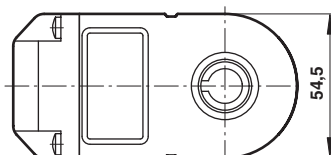
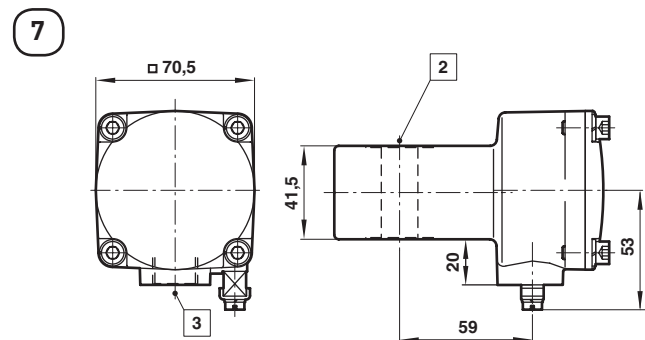
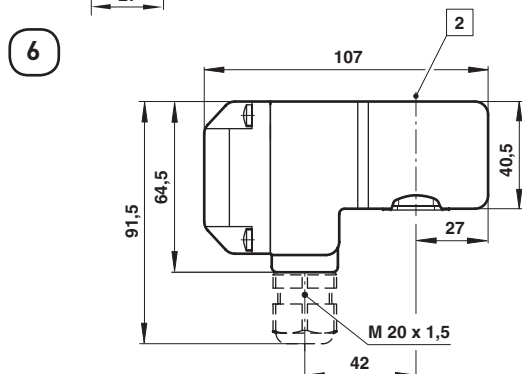
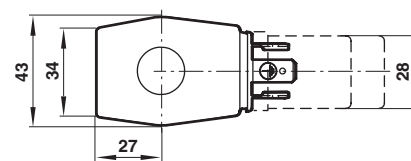
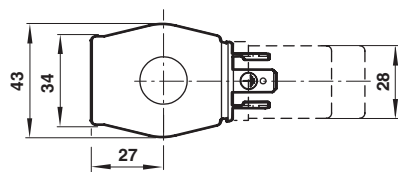
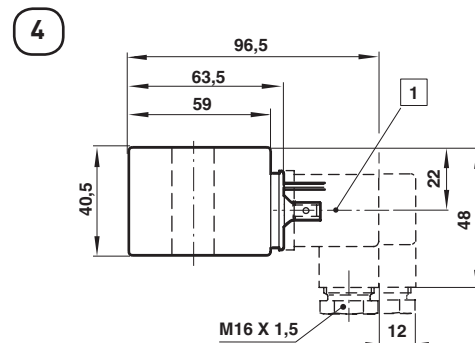
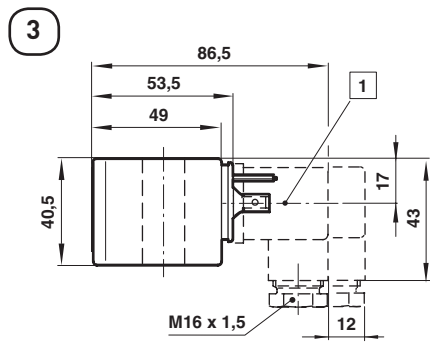
**With detent  
Model: 0601765**



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

**Dimensions  
Solenoids**

Dimensions shown in mm  
Projection/First angle

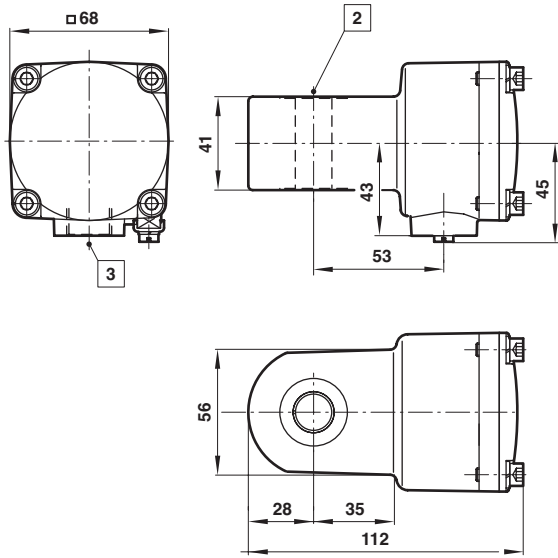


- 1 Connector can be indexed by 4x90
- 2 Ø 16 or 13 (with spacer tube)
- 3 M20 x 1,5 or 1/2 - 14 NPT
- 4 Flying leads AWG 18 (450 mm long)
- 5 With cable gland, Pg 13,5

Dimensions shown in mm  
Projection/First angle



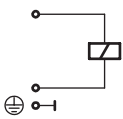
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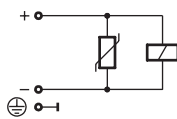
- 2 Ø 16 or 13 (with spacer tube)
- 3 M20 x 1,5

**Circuit diagrams**

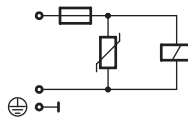
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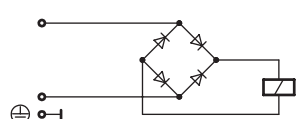
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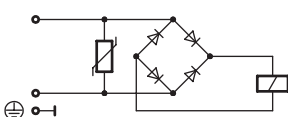
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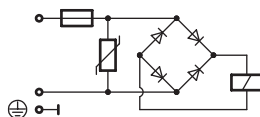
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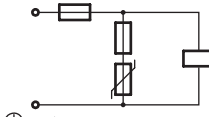
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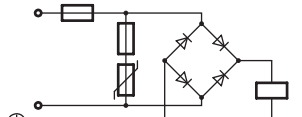
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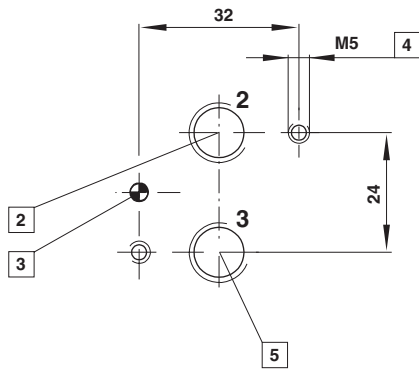
20



21



**NAMUR hole pattern (driving side)**



- 2 Port 2 (A)
- 3 Coding stud threaded
- 4 M5 (10 deep)
- 5 Port 3 (R)

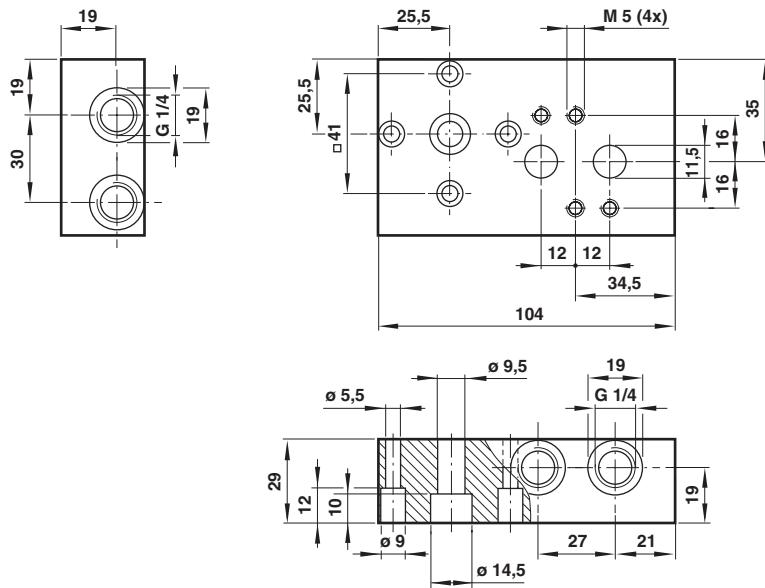
NAMUR quick exhaust module for a better kv-value by exhaust see data sheet 5.4.820

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

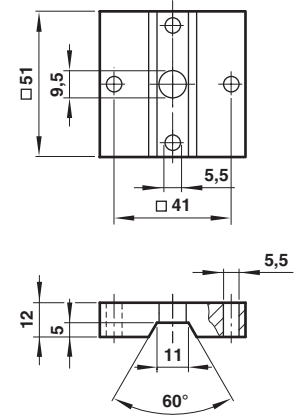
Dimensions shown in mm  
Projection/First angle



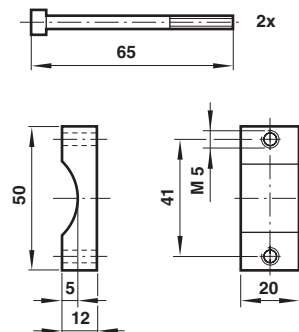
**Single connection plate**  
Model: 0612790



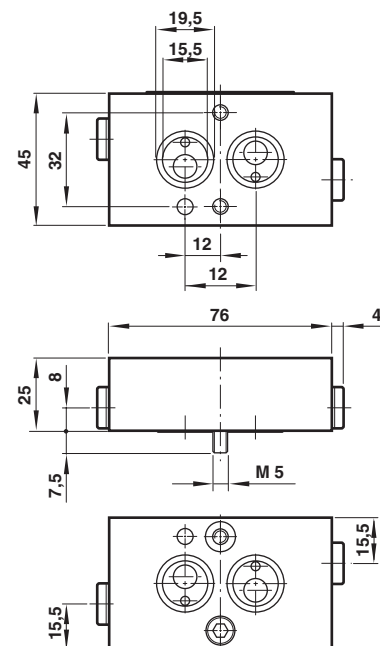
**NAMUR slot**  
Model: 0612791



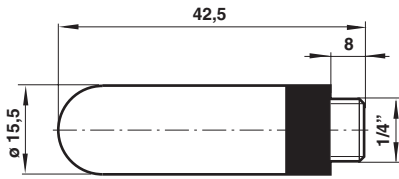
**Yoke**  
Model: 0540593



**Throttle control plate**  
Model: 4040239

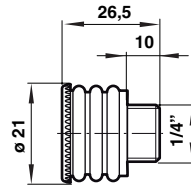


**Silencer**  
Model: M/S2, C/S2



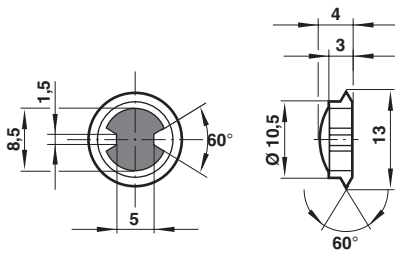
**Exhaust guard**  
Model: 0613422

Dimensions shown in mm



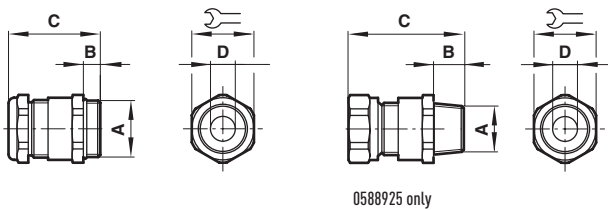
**Filter**  
Model: 0681173

Dimensions shown in mm  
Projection/First angle



Thread pitch diameter max. 11,85 mm

**Cable gland**



A	B	C	∅ 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 features”**. 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.