

97105 Namur, 3/2 & 5/2

Direct pneumatically actuated spool valves



- > Port size: 1/4" ... 1/2" (ISO G/NPT)
- > Main application: single and double operated actuators
- > TÜV-approval based on type examination DIN EN 161, DIN 3394 and IEC 61 508
- > Valves for safety systems multi-channel up to SIL 3
- > Crossover-free switching
- > Suited for outdoor use under critical environment conditions



Technical features

Medium:

Filtered, non-lubricated and dried compressed air, instrument air, nitrogen and other non-flammable neutral, dry fluids

Operation:

Direct pneumatic actuated spool valves

Operating pressure:

0 ... 8 bar (0 ... 116 psi)

Pilot pressure:

2,5 ... 8 bar (36 ... 116 psi) (\geq operating pressure) at temperatures below -10°C (+14°F)
3 ... 8 bar (43 ... 116 psi) (\geq operating pressure)

Orifice:

DN 6 mm, DN 8 mm

Port size:

G 1/4, 1/4 NPT, G 1/2, 1/2 NPT
NAMUR Interface with integrated exhaust air

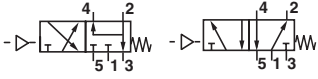
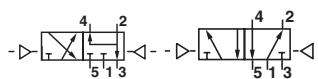
Ambient/Media temperature:

-40°C ... +65°C (-40 ... +149°F) (special NBR)
-25°C ... +80°C (-13 ... +176°F) (HNBR)
Air supply must be dry enough to avoid ice formation at temperatures below +2°C (+35°F).

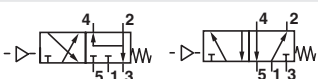
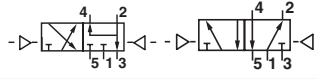
Materials:

Body: aluminium 3.0615 with surface treatment for rough environmental conditions (condensate test with alternating temperatures in sulphuric environment, salt spray test with different sodium chloride solutions, tested in ammonia environment), brass 2.0401 (Ms 58), stainless steel 1.4404 (316 L)
Seals: special NBR or HNBR

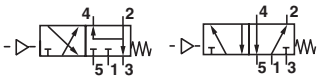
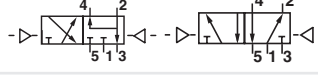
3/2 and 5/2 way valves with seals NBR-40 ... +65°C (-40 ... +149°F) *1)
Housing: aluminium anodized

Symbol	Port size		Actuation/ return	Operating pressure (bar)	Pilot pressure (bar)	Flow (l/min)	Test cert IEC 61508 *2)	Weight (kg)	Dimension No.	Model
	1, 3, 5	2, 4								
	G 1/4	Flange	Air/spring	0 ... 8	2,5 ... 8	1300	X	0,4	1	9710508
	1/4 NPT	Flange	Air/spring	0 ... 8	2,5 ... 8	1300	X	0,4	1	9710518
	G 1/2	Flange	Air/spring	0 ... 8	2,5 ... 8	2600		1,3	3	9710598
	1/2 NPT	Flange	Air/spring	0 ... 8	2,5 ... 8	2600		1,3	3	9710958
	G 1/4	Flange	Air/air	0 ... 8	2,5 ... 8	1300		0,45	2	9711508
	1/4 NPT	Flange	Air/air	0 ... 8	2,5 ... 8	1300		0,45	2	9711518
	G 1/2	Flange	Air/air	0 ... 8	2,5 ... 8	2600		1,3	4	9711598
	1/2 NPT	Flange	Air/air	0 ... 8	2,5 ... 8	2600		1,3	4	9711958

Housing: brass

Symbol	Port size		Actuation/ return	Operating pressure (bar)	Pilot pressure (bar)	Flow (l/min)	Test cert IEC 61508 *2)	Weight (kg)	Dimension No.	Model
	1, 3, 5	2, 4								
	G 1/4	Flange	Air/spring	0 ... 8	2,5 ... 8	1300	X	0,9	1	9710608
	1/4 NPT	Flange	Air/spring	0 ... 8	2,5 ... 8	1300	X	0,9	1	9710618
	G 1/4	Flange	Air/air	0 ... 8	2,5 ... 8	1300		1,0	2	9711608
	1/4 NPT	Flange	Air/air	0 ... 8	2,5 ... 8	1300		1,0	2	9711618

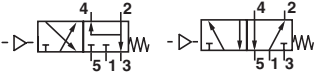
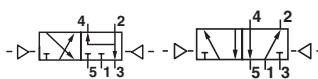
Housing: stainless steel

Symbol	Port size		Actuation/ return	Operating pressure (bar)	Pilot pressure (bar)	Flow (l/min)	Test cert IEC 61508 *2)	Weight (kg)	Dimension No.	Model
	1, 3, 5	2, 4								
	G 1/4	Flange	Air/spring	0 ... 8	2,5 ... 8	1300	X	0,9	1	9710708
	1/4 NPT	Flange	Air/spring	0 ... 8	2,5 ... 8	1300	X	0,9	1	9710718
	G 1/4	Flange	Air/air	0 ... 8	2,5 ... 8	1300		1,0	2	9711708
	1/4 NPT	Flange	Air/air	0 ... 8	2,5 ... 8	1300		1,0	2	9711718

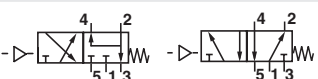
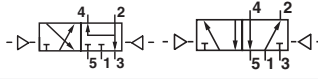
*1) For operation in plants according to IEC 61511/61508 -40 ... +40°C see test certificate (on request)

*2) The details of the TÜV-Examination of Suitability must be observed

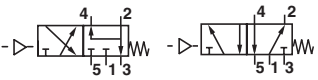
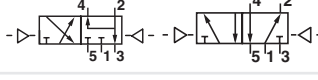
Valves with seals HNBR -25 ... +80°C (-13 ... 176°F) *1)
Housing: aluminium anodized

Symbol	Port size		Actuation/ return	Operating pressure (bar)	Pilot pressure (bar)	Flow (l/min)	Test cert IEC 61508 *2)	Weight (kg)	Dimension No.	Model
	1, 3, 5	2, 4								
	G 1/4	Flange	Air/spring	0 ... 8	2,5 ... 8	1300	X	0,4	1	9710208
	1/4 NPT	Flange	Air/spring	0 ... 8	2,5 ... 8	1300	X	0,4	1	9710218
	G 1/2	Flange	Air/spring	0 ... 8	2,5 ... 8	2600	X	1,3	3	9710298
	1/2 NPT	Flange	Air/spring	0 ... 8	2,5 ... 8	2600	X	1,3	3	9710968
	G 1/4	Flange	Air/air	0 ... 8	2,5 ... 8	1300		0,45	2	9711208
	1/4 NPT	Flange	Air/air	0 ... 8	2,5 ... 8	1300		0,45	2	9711218
	G 1/2	Flange	Air/air	0 ... 8	2,5 ... 8	2600		1,3	4	9711298
	1/2 NPT	Flange	Air/air	0 ... 8	2,5 ... 8	2600		1,3	4	9711968

Housing: brass

Symbol	Port size		Actuation/ return	Operating pressure (bar)	Pilot pressure (bar)	Flow (l/min)	Test cert IEC 61508 *2)	Weight (kg)	Dimension No.	Model
	1, 3, 5	2, 4								
	G 1/4	Flange	Air/spring	0 ... 8	2,5 ... 8	1300	X	0,9	1	9710308
	1/4 NPT	Flange	Air/spring	0 ... 8	2,5 ... 8	1300	X	0,9	1	9710318
	G 1/4	Flange	Air/air	0 ... 8	2,5 ... 8	1300		1,0	2	9711308
	1/4 NPT	Flange	Air/air	0 ... 8	2,5 ... 8	1300		1,0	2	9711318

Housing: stainless steel

Symbol	Port size		Actuation/ return	Operating pressure (bar)	Pilot pressure (bar)	Flow (l/min)	Test cert IEC 61508 *2)	Weight (kg)	Dimension No.	Model
	1, 3, 5	2, 4								
	G 1/4	Flange	Air/spring	0 ... 8	2,5 ... 8	1300	X	0,9	1	9710408
	1/4 NPT	Flange	Air/spring	0 ... 8	2,5 ... 8	1300	X	0,9	1	9710418
	G 1/4	Flange	Air/air	0 ... 8	2,5 ... 8	1300		1,0	2	9711408
	1/4 NPT	Flange	Air/air	0 ... 8	2,5 ... 8	1300		1,0	2	9711418

*1) For operation in plants according to IEC 61511/61508 -25...+65°C or 0...+80°C see test certificate (on request)

*2) The details of the TÜV-Examination of Suitability must be observed





Option selector
971★☆☆8

Action/return	Substitute
5/2 way with spring return (3/2 way with adapter plate for NAMUR flange)	0
5/2 way impulses (3/2 way with adapter plate for NAMUR flange)	1
Material: Housing/seals	Substitute
Aluminium/HNBR (-25...+ 80°C)	2
Brass/HNBR (-25...+ 80°C)	3
Stainless steel/HNBR (-25...+ 80°C)	4
Aluminium/NBR (-40...+ 65°C)	5
Brass/NBR (-40...+ 65°C)	6
Stainless steel/NBR (-40...+ 65°C)	7
Special versions	9

Port size	Substitute
G 1/4	0
1/4 NPT	1
G 1/2	9
1/2 NPT (-40 ... +65°C)	5*1)
1/2 NPT (-25 ... +80°C)	6*1)


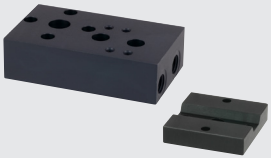

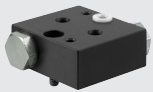

*1) Therefore substitute 5 or 6 at the 6th digit and 9 at the 5th position. Please have a look to table on pages 2 and 3.

Accessories

Silencer *1)	Silencer (stainless steel) *1)	Silencer (brass) *1)	Exhaust guard *2)
			
Page 8	Page 8	Page 8	Page 8
M/S2 (G1/4)	0014613 (G 1/4)	T40C2800 (G 1/4)	0613422 (G1/4, 1/4 NPT)
C/S2 (1/4 NPT)	0613678 (1/4 NPT)	MS002A (1/4 NPT)	0613423 (G1/2, 1/2 NPT)
M/S4 (G1/2)	0014813 (G 1/2)	T40C4800 (G 1/2)	
C/S4 (1/2 NPT)	0613679 (1/2 NPT)	MS004A (1/2 NPT)	

*1) For indoors use only

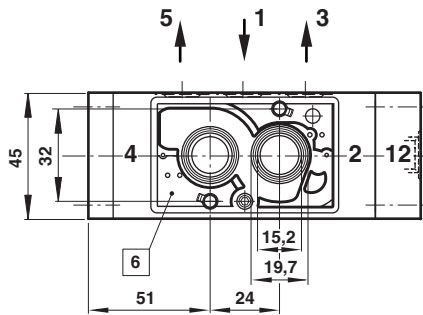
*2) For outdoors use, opening pressure ~ 0,2 bar

Throttle control plate	Flange plate, for G1/4 only	Yoke	Distance plate for pressure switches	Mounting plate 90°, 180° and 270°
				
Page 7	Page 6	Page 7	Page 7	Page 7
4040239 (only for G1/4)	0612790 (NAMUR single connection plate) 0612791 (NAMUR-rip use in combination with 0612790)	0540593	0540109	0613453 (90°) 0612631 (180°) 0613556 (270°)

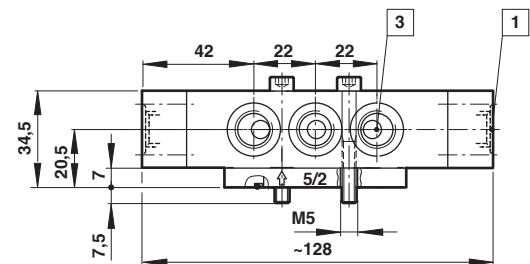
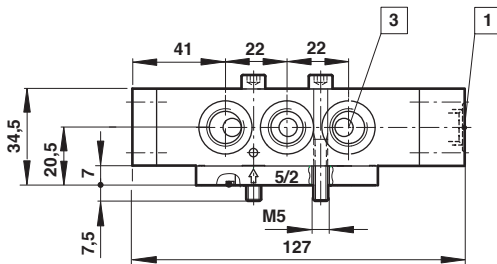
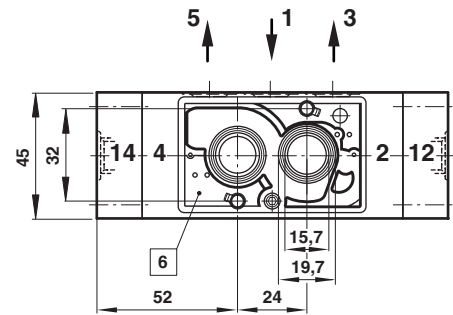
Dimensions

 Dimensions in mm
 Projection/First angle

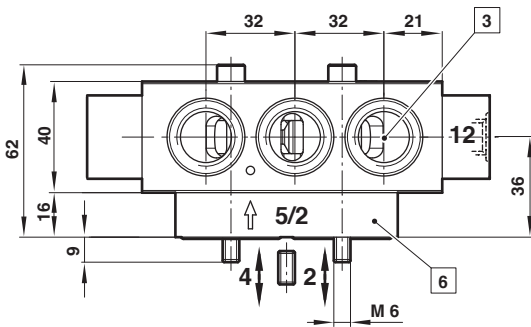
①



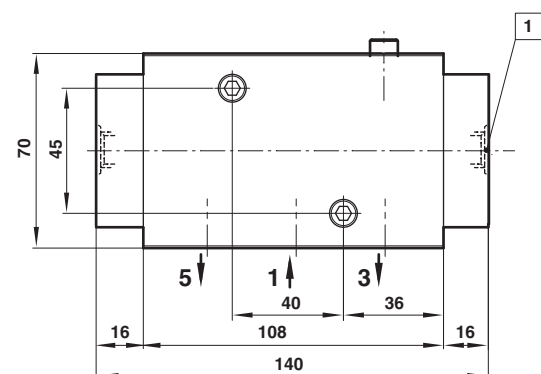
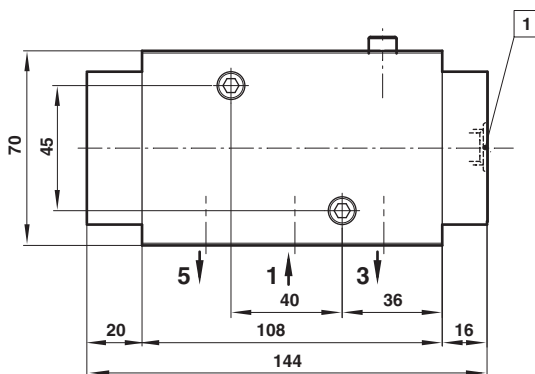
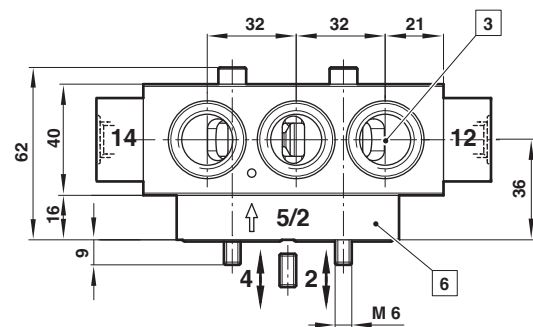
②



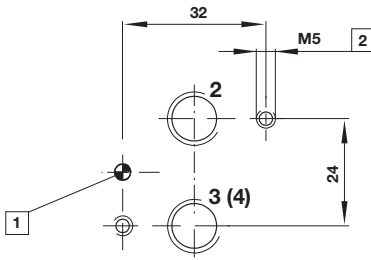
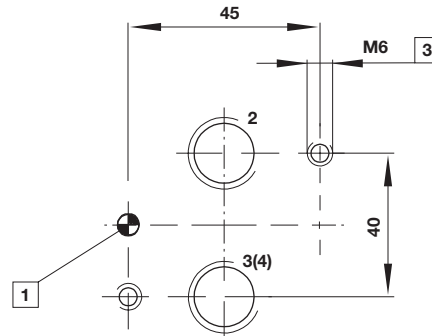
③



④



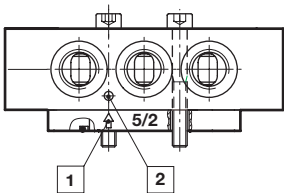
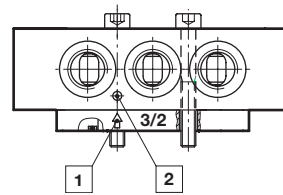
- ① Pilot port G1/4 or 1/4 NPT
- ③ Port G1/4, 1/4 NPT, G1/2 or 1/2 NPT
- ⑥ NAMUR connection plate 3/2 or 5/2 way function

NAMUR hole pattern (actuator side)
Port size G1/4

Port size G1/2


- 1 Coding stud threaded
- 2 10 mm deep

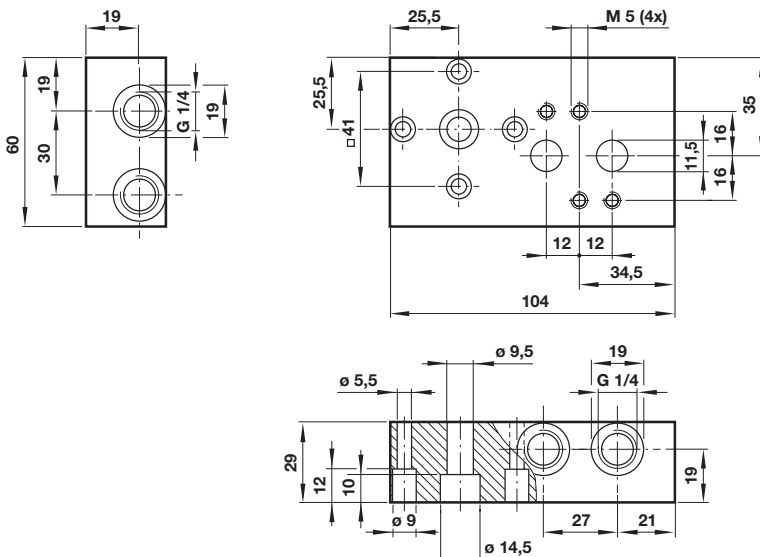
NAMUR quick exhaust module for a better kv-value by exhaust see data sheet 5.4.820

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

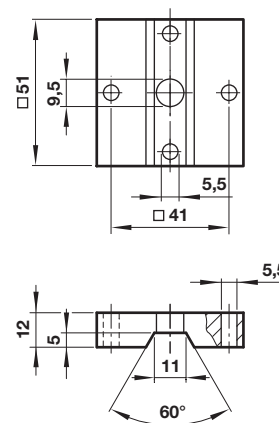
Conversion instructions of 5/2 into 3/2 way function
5/2 way function (original mode of supply)

3/2 way function


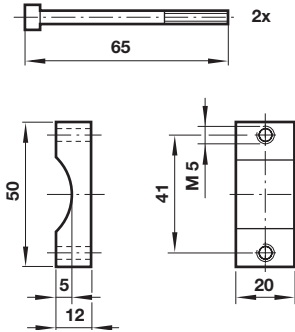
3/2 resp. 5/2 way function according to version by swapping or turning enclosed adaptor plates. Make sure Marker and Arrow do match as shown on above drawing. Original mode of supply: 5/2 function.

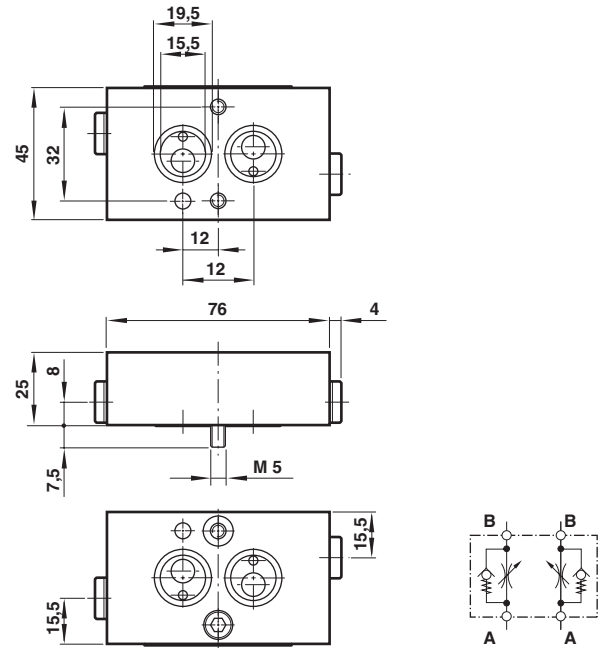
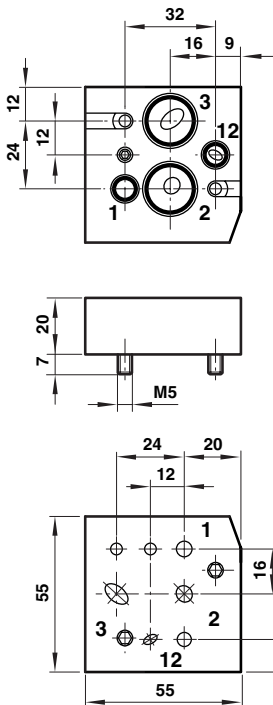
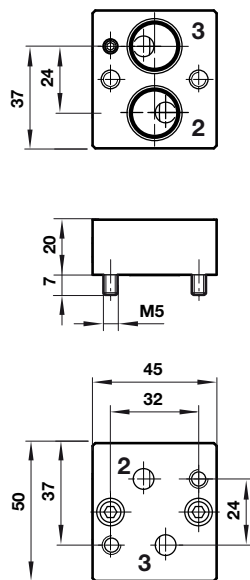
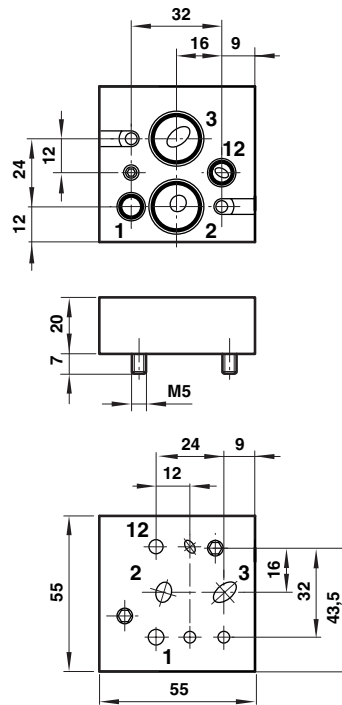
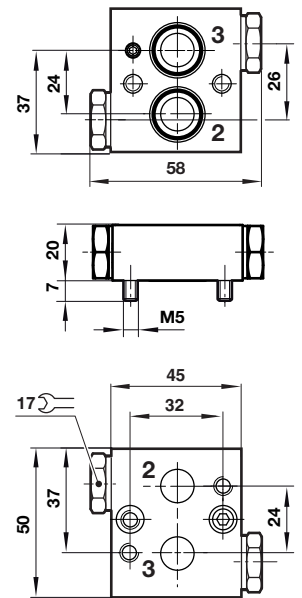
- 6 Arrow
- 7 Marker

Single connection plate
Model: O612790

NAMUR slot
Model: O612791

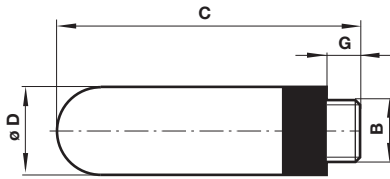
Dimensions in mm
 Projection/First angle



Yoke
Model: 0540593

Throttle control plate
Model: 4040239

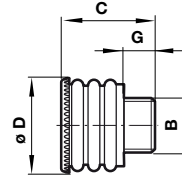
 Dimensions in mm
 Projection/First angle

90° Mounting plate
Model: 0613453

180° Mounting plate
Model: 0612631

270° Mounting plate
Model: 0613556

Distance plate
Model: 0540109


1 G1/4 ports for pressure switches

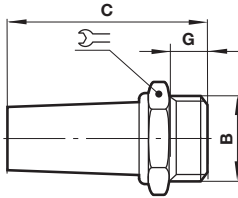
Silencer
Model: M/S2, C/S2


B	G	C	Ø D	Weight (g)	Model
G1/4	7	35,5	15,5	2,9	M/S2
1/4 NPT	7	35,5	15,5	2,9	C/S2

Exhaust guard
Model: 0613422

 Dimensions in mm
 Projection/First angle


B	Suitable for	G	C	Ø D	Weight (g)	Model
1/4"	G1/4, 1/4 NPT	10	26,5	21	5	0613422
1/2"	G1/2, 1/2 NPT	12	33,5	29	11	0613423

Silencer (brass or stainless steel)


B	C	G	Symbol	Weight (g)	Model
G 1/4	33	8	17	18	T40C2800
1/4 NPT	35	8	9/16	18	MS002A
G 1/4	36	8	16	23	0014613 *1)
1/4 NPT	36	8	16	67	0613678 *1)
G 1/2	56	12	27	63	T40C4800
1/2 NPT	48	12	7/8	63	MS004A
G 1/2	49	12	24	81	0014813 *1)
1/2 NPT	49	12	24	235	0613679 *1)

*1) stainless steel

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/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.