

Bürkert

Supplement program



bürkert
FLUID CONTROL SYSTEMS

Bürkert Supplement Program

Supplement program for water treatment	page
• TFU006 Pressure regulator for water	2
• TFU001 Strainer	6
• TFU002 Check valve for water and air	8
• TFU005 Swing check valve for water	10
• TKU004 Manually operated ball valve	12
• TKU001 Compact flange ball valve	18
• TAU003 Float-type flow meter	22

Supplement program for process valves	page
• TVG002/TVU002 Push-in connectors	26
• TVU001/TVG003 Fitting connectors	38
• TVG006 Silencer	50
• TVG007 Plastic hoses for pneumatic	54
• TRG001 Flow regulator	56
• TRG001 Shuttle valve	62
• TRG001 Quick exhaust valve	64
• TRG001 Restrictor and restrictor silencer	66
• TPM001 Air preparation units	68
• TCD001 Pressure switch	78
• TZU002 Pneumatic cylinder ISO 15552	80
• TZG001 Pneumatic cylinder DIN 6432	82
• 0044/0045 Pneumatic cylinder according to ISO in plastic	84
• TBU001 Fasteners for cylinder	88
• TEU005 Magnetic field-sensitive sensors for cylinders	98

Supplement program for sensors	page
• TAU001 Gauges	100
• TST001 Resistance thermometer PT100, standard	102
• TST001 Resistance thermometer PT100, compact	104
• TCL001 Simple float switch	106
• 8007 Flowmeter for Gases	112
• 8008 Flowmeter for Gases	114
• 1573 Power supply	118

Pressure regulator for water

TFU006

- Brass version with DVGW and international drinking water approvals
- Stainless steel version with DVGW approval for drinking water
- Compact plastic version
- Manometer port at pressure output



The water pressure regulator works on the principle of pressure reduction. It is preferably for use in the provided water systems. The pressure regulator consists of a housing, a piston or diaphragm valve with an adjustable spring and a spring cap. The inlet pressure reaches the target value, opens the piston or diaphragm against the spring force of the control valve and builds up the output pressure. The output pressure is the controlled variable. When exceeding the nominal value the valve closes, when there is a shortfall the valve opens and thus the output pressure is kept almost constant. By changing the spring tension, the spring setpoint can be continuously adjusted.

Technical data

Version I	
Body material	EN 1982 CC770S
Seal material	EPDM
Diaphragm	EPDM
Valve type	Single seat valve, relieved
Material valve seat	Stainless steel (AISI 304)
Strainer	Mesh size 0.51 mm
Pressure gauge connection	G ¼ (without pressure gauge)
Port connections	½" to 2" (threaded male)
Medium temperature	+60 °C
Inlet pressure	25 bar ¹⁾
Outlet pressure	1-6 bar ¹⁾
Default setting	3 bar ¹⁾
Flow rate	1-2 m/s (optimum values)
Noise class II	<30
Mounting place	If possible directly behind the counter
Installation	Horizontal or vertical, preferably spring cap upright. Observe flow direction!
Approvals	

¹⁾ Pressure values (bar): Overpressure with respect to atmospheric pressure

The pressure regulator is available in 4 versions:

Version I:

Brass housing with DIN DVGW and international drinking water approvals

Version II:

Brass housing with inspectable strainer, DIN DVGW and international drinking water approvals

Version III:


Stainless steel case with DIN DVGW approval

Version IV:

With plastic housing, union connection G ⅜" and G ¼"

Version II	
Body material	Brass DZR EN 1982 CC770S
Seal material	EPDM
Diaphragm	EPDM
Valve type	Single seat valve, relieved
Material valve seat	Stainless steel (AISI 304)
Strainer	Inspectable, mesh size 0.51 mm
Pressure gauge connection	G ¼ (without pressure gauge)
Port connections	½" to 1" (threaded male)
Medium temperature	+40 °C
Inlet pressure	25 bar ¹⁾
Outlet pressure	1-6 bar ¹⁾
Default setting	3 bar ¹⁾
Flow rate	1-2 m/s (optimum values)
Noise class II	<30
Mounting place	If possible directly behind the counter
Installation	Horizontal or vertical, preferably spring cap upright. Observe flow direction!
Approvals	

Technical data *(continued)*







Version III	
Body material	Stainless steel 1.4305
Seal material	NBR
Diaphragm	NBR
Valve type	Single seat valve, relieved
Material valve seat	Stainless steel
Material strainer bowl	Stainless steel
Pressure gauge connection	Both ways 1/4" (without pressure gauge)
Port connections	1/2" to 2" (threaded male)
Medium temperature	+70 °C
Inlet pressure	25 bar ¹⁾
Outlet pressure	1.5-6 bar ¹⁾
Default setting	3 bar ¹⁾
Flow rate	1-2 m/s (optimum values)
Noise class II	<30
Mounting place	If possible directly behind the counter
Installation	In horizontal direction, strainer bowl downwards
Approvals	

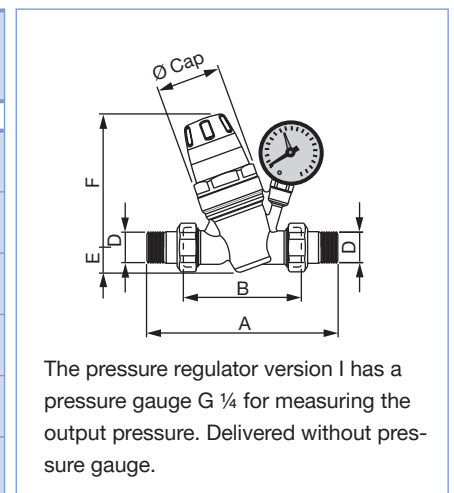
Version IV (plastic body with threaded ports G 1/8 and G 1/4)	
Body material	Technopolymer
Threaded port	Brass
Special roller diaphragm	NBR
Medium	Water
Medium temperature	Max. +50 °C
Pressure gauge connection	G 1/8 (without pressure gauge)
Port connections	Threaded port G 1/8 or G 1/4
Inlet pressure	Max. 13 bar ¹⁾
Outlet pressure (continuously adjustable)	0-4 bar ¹⁾ 0-8 bar ¹⁾ 0-12 bar ¹⁾
Setpoint adjustment	Only ascending pressure, screw can be locked
Installation	As required, preferably controller handle upright. Observe flow direction!
Approvals	None




¹⁾ Pressure values (bar): Overpressure with respect to atmospheric pressure

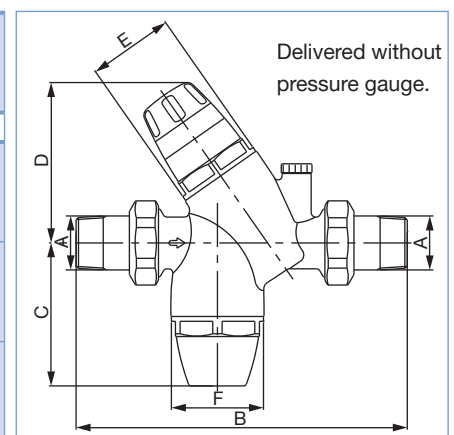
TFU006

Ordering chart pressure regulator for water

Port connections D (inch)	A [mm]	B [mm]	E [mm]	F [mm]	Ø Cover [mm]	K _{vs} [m ³ /h]	Article no.
Version I							
1/2"	140.00	76.00	20.50	112.00	54.00	1.27	788439 
3/4"	160.00	90.00	20.50	112.00	54.00	2.27	788440 
1"	180.00	95.00	20.50	112.00	54.00	3.60	788441 
1 1/4"	200.00	110.00	40.00	178.00	73.00	5.80	788442 
1 1/2"	220.00	120.00	40.00	178.00	73.00	9.10	788443 
2"	250.00	130.00	40.00	178.00	73.00	14.00	788444 



Port connections A (inch)	B [mm]	C [mm]	D [mm]	E [mm]	G [mm]	K _{vs} [m ³ /h]	Article no.
Version II							
1/2"	169.00	86.50	100.50	54.00	58.00	1.27	771130 
3/4"	180.00	89.00	98.00	54.00	58.00	2.27	770991 
1"	205.00	88.50	99.50	54.00	58.00	3.60	770992 



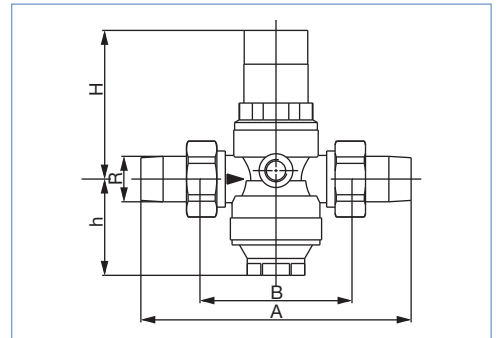
Ordering chart pressure regulator for water (continued)

Spare part	Article no.
Spare parts, Version I and II	
Cartridge for ½"	771847
Cartridge for ¾"	771847
Cartridge for 1"	771848
Cartridge for 1¼"	771849
Cartridge for 1½"	770243
Cartridge for 2"	770243
Tool for filter case	771851
Filter for Version II	771852
Filter case for Version II	771853



Ordering chart for pressure regulators in stainless steel for water

Port connection R (inch)	A [mm]	B [mm]	H [mm]	h [mm]	K _{vs} [m³/h]	Article no.
Version III						
½"	140.00	80.00	89.00	58.00	2.40	770977
¾"	160.00	90.00	89.00	58.00	3.10	771854
1"	180.00	100.00	111.00	64.00	5.80	771855
1¼"	200.00	105.00	111.00	64.00	5.90	771856
1½"	225.00	130.00	173.00	126.00	12.60	771857
2"	255.00	140.00	173.00	126.00	12.00	771858

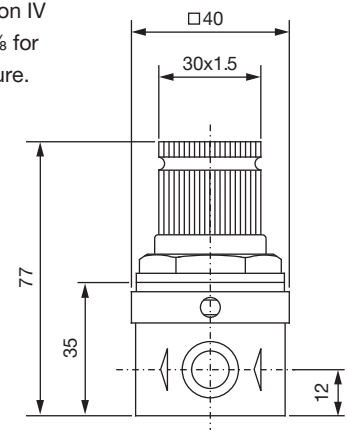


Spare part	Article no.
Spare part, Version III	
Valve insert ½" and ¾"	772210
Valve insert 1" and 1¼"	772211
Valve insert 1½" and 2"	772212
Replacement strainer ½" and ¾"	772213
Replacement strainer 1" and 1¼"	772214
Replacement strainer 1½" and 2"	772216
Tool for releasing	772217

Ordering chart for pressure regulator in plastic for water

Threaded port	Operating pressure [bar] ¹⁾	Article no.
Version IV (plastic body with threaded ports G ½ and G ¼)		
G ½	0-4	783256
	0-8	783257
	0-12	783258
G ¼	0-4	783259
	0-8	783260
	0-12	783261

The pressure regulator version IV has a pressure gauge of G ⅛ for measuring the output pressure.



¹⁾ Pressure values [bar]: Overpressure with respect to atmospheric pressure

Process control made simple.

Trust, but verify. Water treatment demands powerful and precise products which work reliably and intuitively. With their modular design, the multichannel transmitter solutions from Bürkert are able to handle different sensor sizes in parallel – perfectly attuned to the respective application. Their spectrum ranges from simple measurement value recording up to sophisticated control tasks – for high quality process control and your peace of mind.

MultiCELL 8619:
The versatile controller for individual transparency.



We make ideas flow.
www.burkert.com



bürkert
FLUID CONTROL SYSTEMS

FLUID CONTROL SYSTEMS
bürkert

Strainer

TFU001

- Brass and stainless steel housing
- Filter insert stainless steel
- Prevents malfunctions due to contaminated media



The dirt trap prevents malfunctions and extends the service life of downstream valves.

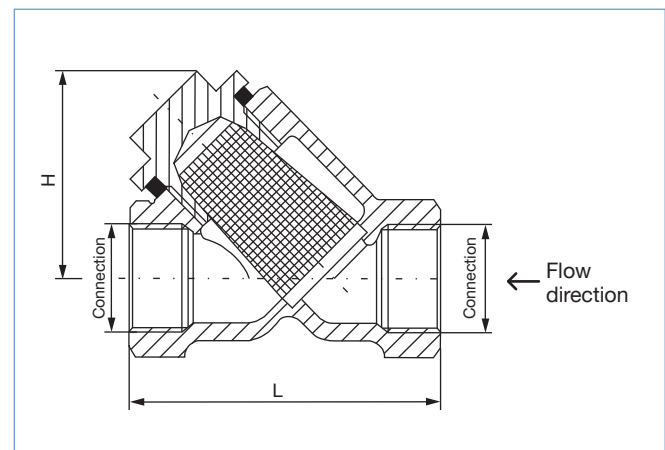
Technical data

Brass material CW 617N	
Filter material (sieve)	Stainless steel 1.4305
Medium	Air, neutral gases, liquid
Medium temperature	-10 to +100 °C
Seal material	C-4400
Nominal pressure	10 bar (g) at +20 °C
Stainless steel material 1.4408	
Filter material (sieve)	Stainless steel 1.4401
Medium	Air, neutral gases, liquid
Medium temperature	-10 to +200 °C
Seal material	PTFE
Nominal pressure	40 bar (g)

Pressure values [bar]: overpressure with respect to atmospheric pressure.

Other versions on request

Dimensions [mm]



Ordering charts

Connection ISO 228/1	Orifice [mm]	Sieve μm	L [mm]	H [mm]	K_v Flow range	Pressure level PN [bar]	Article no.	Article no. Replacement sieve
Brass body								
3/8"	10	400	55	40	3.41	20	783671	788904
1/2"	15	400	59	40	4.47	20	783672	788905
3/4"	20	400	70	50	7.85	20	783673	788906
1"	25	400	87	60	11.08	20	783674	788907
1 1/4"	32	500	96	68	16.0	20	783675	788908
1 1/2"	40	500	106	75	22.28	20	783676	788909
2"	50	500	136	90	25.37	20	783677	788910

Replacement comes without seal cover.

Connection ISO 228/1	Orifice [mm]	Sieve μm	L [mm]	H [mm]	K_v Flow range	Pressure level PN [bar]	Article no. Mesh size 0.5 mm	Article no. Mesh size 0.25 mm	Article no. Replacement sieve Mesh size 0.5 mm	Article no. Replacement sieve Mesh size 0.25 mm
Stainless steel body										
1/4"	8	500	65	48	3.05	40	771820	771145	771829	771837
3/8"	10	500	65	48	3.41	40	789890	771822	771830	771838
1/2"	15	500	65	48	4.47	40	789305	771823	771831	771839
3/4"	20	500	80	50	7.85	40	789741	771824	771832	771840
1"	25	500	90	70	11.08	40	789272	771149	771833	771841
1 1/4"	32	500	105	74	16.0	40	789273	771826	771834	771842
1 1/2"	40	500	120	82	22.28	40	789274	771827	771835	771843
2"	50	500	140	95	25.37	40	771100	771828	771836	771844

Replacement comes with seal cover and O-ring for cleaning plug.

Check valve for water and air

TFU002

- Brass or stainless steel body
- Internal parts stainless steel



Non-return valve for horizontal or vertical installation.

Technical Data

Type TFU002, heavy design

Orifice	DN10 to 40
Body material	Pressed brass CW 617N
Valve cone	Polyamide (PA)
Spring	Stainless steel
Sealing	NBR
Nominal pressure	See ordering chart
Opening pressure ¹⁾	0.02 bar
Medium temperature	-20 °C to max. +100 °C
Installation	Horizontal or vertical

Type TFU002, light design

Orifice	DN10 to 100
Body material	Pressed brass CW 617N
Valve cone	Polyamide (PA)
Spring	Stainless steel
Sealing	NBR
Nominal pressure	See ordering chart
Opening pressure ¹⁾	0.02 bar
Medium temperature	Max. 100 °C
Installation	Horizontal or vertical

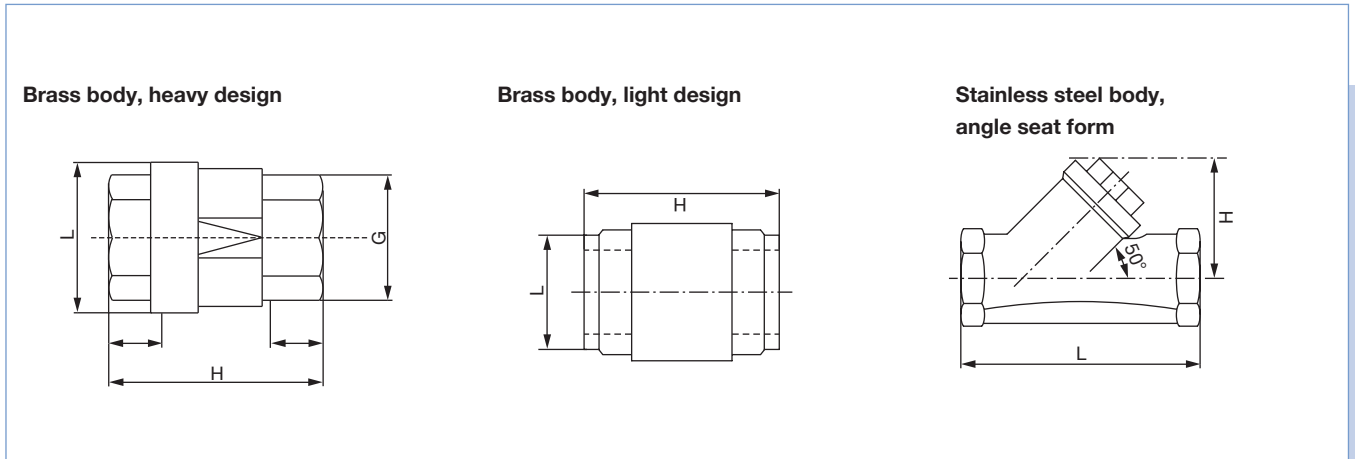
Type TFU002, angle seat form

Orifice	DN8 to 50
Body material	Stainless steel 1.4408
Sealing	PTFE
Nominal pressure	See ordering chart
Opening pressure ¹⁾	0.8 bar
Medium temperature	-20 °C to +200 °C
Installation	Horizontal or vertical

¹⁾ Pressure values [bar]: Overpressure with respect to atmospheric pressure

Other versions on request

Dimensions [mm]



Ordering chart for water check valve

Brass body						
DN [mm]	Port connection ISO 228/1	H [mm]	L [mm]	Nominal pressure [bar] ¹⁾	Flow rate K_v	Article no.
Heavy design						
10	G 3/8	47.0	27.0	40	3.7	783275
15	G 1/2	59.0	34.5	40	5.8	783276
20	G 3/4	65.0	42.0	40	8.6	783277
25	G 1	75.0	49.0	25	13.8	783278
32	G 1 1/4	83.0	61.0	25	20.2	783279
40	G 1 1/2	89.0	73.0	16	30.9	783280
50	G 2	101.5	88.0	16	48.8	783281
Light design						
10	G 3/8	45.0	34.0	16	2.8	783285
15	G 1/2	45.0	28.0	40	3.7	783286
20	G 3/4	48.0	35.0	40	5.8	783287
25	G 1	56.0	42.0	25	8.6	783288
32	G 1 1/4	62.0	51.0	25	13.8	783289
40	G 1 1/2	69.0	61.0	16	20.2	783290
50	G 2	77.0	73.0	16	30.9	783291
65	G 2 1/2	93.0	90.0	12	48.8	783292
80	G 3	113.0	113.0	12	79.4	783293
100	G 4	135.0	140.0	10	124.9	783294
Stainless steel body						
DN [mm]	Port connection DIN 2999	H [mm]	L [mm]	Nominal pressure [bar] ¹⁾	Flow rate K_v	Article no.
Angle seat form						
8	R 1/4	30.0	65.0	40	3.7	783305
10	R 3/8	30.0	65.0	40	3.7	783306
15	R 1/2	34.0	65.0	40	5.8	783307
20	R 3/4	39.0	75.0	40	8.6	783308
25	R 1	42.0	90.0	40	13.8	783309
32	R 1 1/4	50.0	110.0	40	20.2	783310
40	R 1 1/2	57.0	120.0	40	30.9	783311
50	R 2	70.0	150.0	40	48.8	783312

¹⁾ Pressure values [bar]: Overpressure with respect to atmospheric pressure

Swing check valve for water

TFU005

- Brass body
- Metal seal



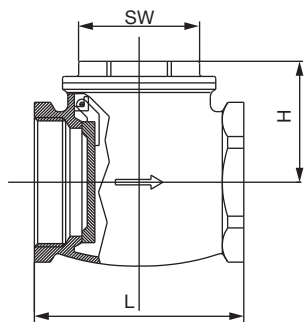
Non-return flap with metal seal for horizontal or vertical installation.
A pressure difference of 0.1 bar is required to open them.

Technical data

Orifice	DN15-50
Body material	CW 617N
Disc	CW 617N
Seal	Metallic
Pressure	Max. 10 bar ¹⁾ at +20 °C
Opening pressure	Pressure difference >0.1 bar
Medium temperature	Max. +110 °C
Installation	Horizontal

¹⁾ Pressure values [bar]: Measured as overpressure with respect to the atmospheric pressure.

Dimensions [mm]



See ordering chart below for dimensions.

Ordering chart

DN [mm]	Port connection	L [mm]	H [mm]	SW [mm]	Article no.
15	R ½	47.0	32.0	20.0	783458
20	R ¾	53.0	34.0	26.5	783459
25	R 1	64.0	40.0	26.0	783460
32	R 1¼	74.0	47.0	34.5	783461
40	R 1½	87.0	54.0	39.5	783462
50	R 2	97.0	57.0	49.5	783463

Further versions on request

Manually operated 2 and 3 way ball valves

TKU004

- Various types of valve bodies
- Full bore
- Can also be supplied with DVGW approval



Manual ball valve in brass and stainless steel for shutting off and distributing medium flows.

Versions

- Manual shut-off ball valve, full bore
- Ball valve DVGW approved
- Mini lux ball valve with rotary wing
- Ball valve with rotary wing, full bore
- 3 way ball valve with L or T bore
- Stainless steel ball valve

Technical data

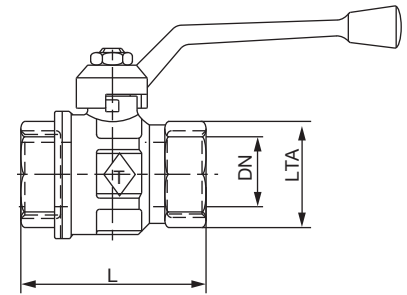
Orifice	DN6 - DN100	
Body material	Brass, nickel plated	Stainless steel
Ball material	Brass, hard-chrome plated	Stainless steel
Sealing material	PTFE	PTFE
Pressure range¹⁾	Technical vacuum (10^{-3} Torr) to nominal pressure PN (see ordering charts)	
Temperature range	See ordering charts	

¹⁾ Pressure data [bar]: Overpressure with respect to atmospheric pressure

Ordering charts - TKU004

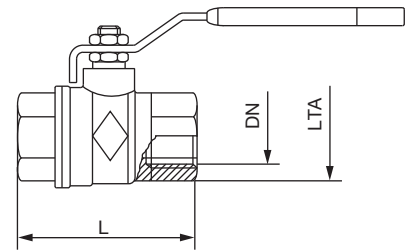
2 and 3 way ball valves, brass body							
Material	Temperature range	DN [mm]	LTA	L [mm]	K _v -Value [m ³ /h]	PN (80 °C) [bar]	Article no.
Manual shut-off ball valve, full bore, internal thread							
Body: Brass, nickel plated	-20 °C to +160 °C	8	¼"	51.5	5.4	64	780230
Ball: Brass, hard-chrome plated		10	⅜"	51.5	6.0	64	780231
Seal: PTFE		15	½"	55.0	16.3	30	780232
Lever: Aluminium, plastic coated		20	¾"	57.0	29.5	30	780233
		25	1"	69.5	43.0	30	780234
		32	1¼"	81.5	89	25	781746
		40	1½"	95	230	25	781747
		50	2"	113	265	25	781748

TKU004



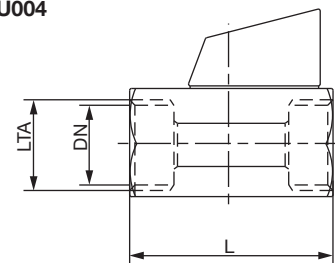
Material	Temperature range	DN [mm]	LTA	L [mm]	K _v -Value [m ³ /h]	PN [bar]	Article no.
Ball valve, DVGW approval (DIN DVGW-NG-4312BU0103), full bore							
Body: Brass, nickel plated	-20 °C to +60 °C	10	¼"	47.5	5.4	5	773239
Ball: Brass, hard-chrome plated		10	⅜"	49.5	6	5	773240
Seal: PTFE		15	½"	65.0	16.3	5	773241
Lever: Aluminium, anodised, yellow coated		20	¾"	73.5	29.5	5	773242
		25	1"	86.5	43	5	773243
		32	1¼"	101.5	89	5	773244
		40	1½"	111.5	230	5	773245
		50	2"	132.5	265	5	773246

TKU004



Material	Temperature range	DN [mm]	LTA	L [mm]	K _v -Value [m ³ /h]	PN [bar]	Article no.
Mini lux ball valve with rotary wing, internal thread							
Body: Brass, nickel plated	-20 °C to +90 °C	6	⅛"	41	4.3	10	781653
Ball: Brass, hard-chrome plated		8	¼"	41	4.3	10	781654
Seal: PTFE		10	⅜"	41	4.3	10	781655
		15	½"	46	4.3	10	781656

TKU004

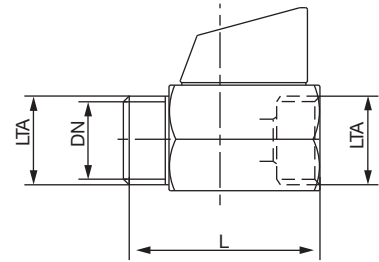


Ordering charts - TKU004 (continued)

2 and 3 way ball valves, brass body (continued)

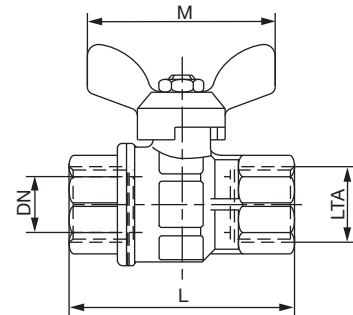
Material	Temperature range	DN [mm]	LTA	L [mm]	K _v -Value [m ³ /h]	PN [bar]	Article no.
Mini lux ball valve with rotary wing, internal and external thread							
Body: Brass, nickel plated	-20 °C to +90 °C	8	1/8"	41	4.3	10	781657
Ball: Brass, hard-chrome plated		8	1/4"	41	4.3	10	781658
Seal: PTFE		10	3/8"	41	2.7	10	781659
		15	1/2"	46	5.4	10	781660

TKU004



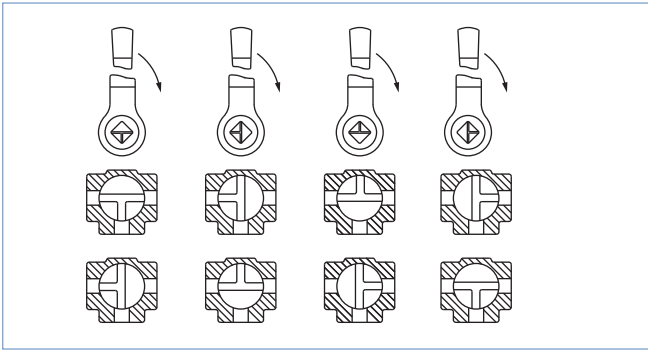
Material	Temperature range	DN [mm]	LTA	L [mm]	M [mm]	K _v -Value [m ³ /h]	PN [bar]	Article no.
Ball valve with rotary wing, full bore, internal thread								
Body: Brass, nickel plated	-20 °C to +160 °C	8	1/4"	51.5	50	5.4	64	781752
Ball: Brass, hard-chrome plated		10	3/8"	51.5	50	6.0	64	781753
Seal: PTFE		15	1/2"	55	50	16.3	30	781754
Lever: Aluminium		20	3/4"	57.5	64	29.5	30	781755
		25	1"	69.5	94	43	30	781756

TKU004

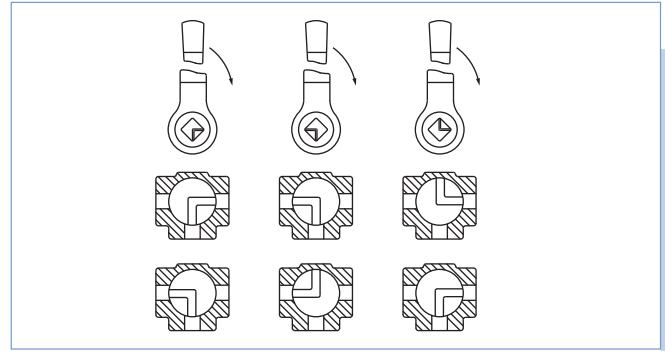


3 way ball valve with L or T bore, full bore

Switch positions T-bore



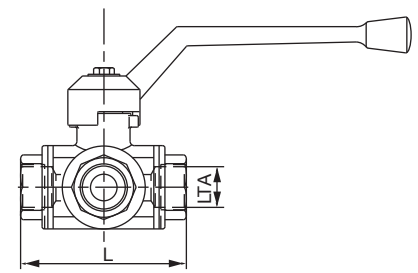
Switch positions L-bore



Ordering chart - TKU004

Material	Temperature range	DN [mm]	LTA	L [mm]	K _v -Value [m³/h]	PN [bar]	Article no. L-Bore
2 and 3 way ball valve, brass body							
Body:	-20 °C to +160 °C	8	¼"	80.5	2.8	40	781762
Brass, nickel plated		10	⅜"	80.5	3	40	781763
Ball:		15	½"	80.5	3.6	40	781764
Brass, hard-chrome plated		20	¾"	93.4	6	40	781765
Seal:		25	1"	107.3	11	25	781766
PTFE		32	1¼"	118	16	16	781767
Lever:		40	1½"	141	25.5	16	781768
Aluminium		50	2"	169	37.5	16	781769

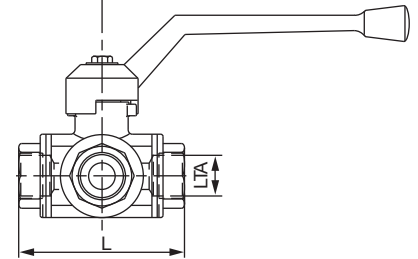
TKU004



Ordering chart - TKU004

Material	Temperature range	DN [mm]	LTA	L [mm]	K _v -Value [m³/h]	PN [bar]	Article no. T-Bore
2 and 3 way ball valve, brass body							
Body:	-20 °C to +160 °C	8	¼"	80.5	3	40	781770
Brass, nickel plated		10	⅜"	80.5	3.5	40	781771
Ball:		15	½"	80.5	4.3	40	781772
Brass, hard-chrome plated		20	¾"	93.4	6.6	40	781773
Seal:		25	1"	107.3	12.2	25	781774
PTFE		32	1¼"	118	16.9	16	781775
Lever:		40	1½"	141	26.3	16	781776
Aluminium		50	2"	169	38.2	16	781777

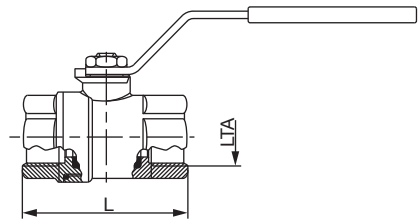
TKU004



Ordering chart - TKU004

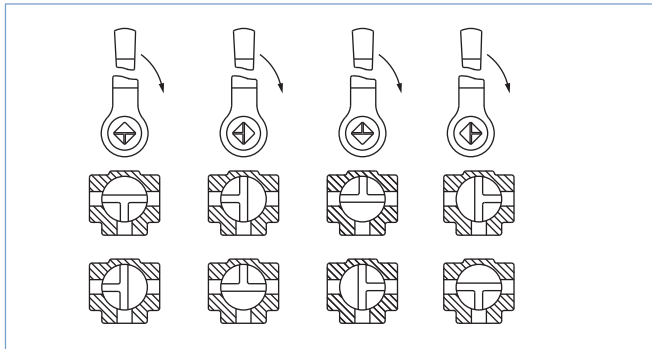
2 and 3 way ball valve, stainless steel body							
Material	Temperature range	DN [mm]	LTA	L [mm]	K _v -Value [m ³ /h]	PN (80 °C) [bar]	Article no.
Body: Stainless steel AISI 351-CF 8M	-20 °C to +160 °C	8	¼"	53.5	5.4	64	781824
		10	⅜"	53.5	6	64	781825
Ball: Stainless steel AISI 351		15	½"	60	16.3	64	781826
Seal: PTFE		20	¾"	70	29.5	40	781827
O-Ring: FKM		25	1"	79	43	40	781828
Lever: Stainless steel AISI 430		32	1¼"	91	89	25	781829
		40	1½"	103	230	25	781830
		50	2"	124	265	25	781831

TKU004

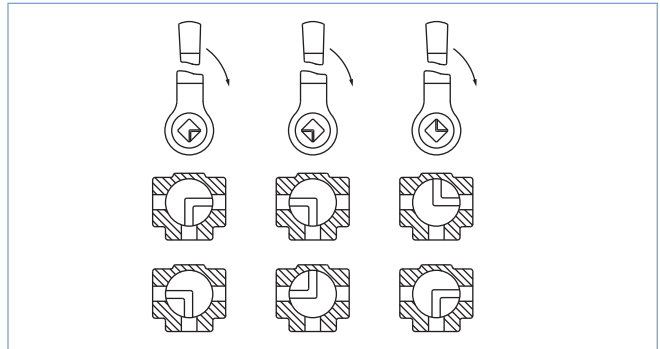


3 way ball valve with L or T bore, reduced flow with flange mounting, ISO 5211 and hand lever

Switch positions T-bore

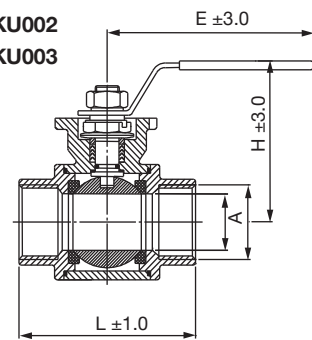


Switch positions L-bore



Ordering chart - TKU002/TKU003

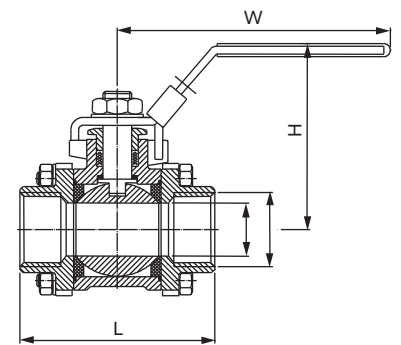
Material	Temperature range	DN [mm]	LTA	L [mm]	E [mm]	H [mm]	K _v -Value [m ³ /h]	PN [bar]	Article no. L-Bore	Article no. T-Bore
Body: Stainless steel 1.4401	-10 °C to +200 °C	11	¼"	80.5	114	73	2.8	63	789439	789446
		12	⅜"	80.5	114	73	3	63	789493	789447
Ball: Stainless steel 1.4401		12	½"	80.5	114	73	3.6	63	789331	789448
Seal: PTFE		15	¾"	88	133	78	6	63	789441	789449
O-Ring: FKM		20	1"	100	133	83	11	63	789442	789397
Lever: Stainless steel 1.4301		25	1¼"	123	187	92	16	63	789443	789450
		32	1½"	140	187	98	25.5	63	789444	789451
		40	2"	170	187	126	37.5	63	789445	789452

TKU002
TKU003

Ordering chart - TKU001

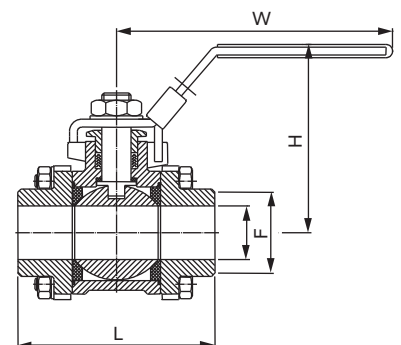
2 and 3 way ball valve, stainless steel body									
Material	Temperature range	DN [mm]	LTA	L [mm]	H [mm]	W [mm]	K _v -Value [m ³ /h]	PN [bar]	Article no.
3-piece, threaded port									
Body: Stainless steel 1.4408	-10 °C to +200 °C	8	¼"	60	55	97.5	5.4	63	789453
Ball: Stainless steel 1.4401		10	⅜"	60	55	97.5	6	63	789454
Seal: PTFE		15	½"	75	64	125.5	16.3	63	789455
O-Ring: FKM		20	¾"	80	67	125.5	29.5	63	789456
Lever: Stainless steel 1.4301		25	1"	90	83	143.5	43	63	789457
		32	1¼"	110	89	143.5	89	63	789458
		40	1½"	120	100	203.5	230	63	789459
		50	2"	140	108	203.5	265	63	789460
		65	2½"	185	150	251.5	540	63	789461
		80	3"	205	161	251.5	880	63	789373
	100	4"	240	180	291.5	1380	63	789463	

TKU001



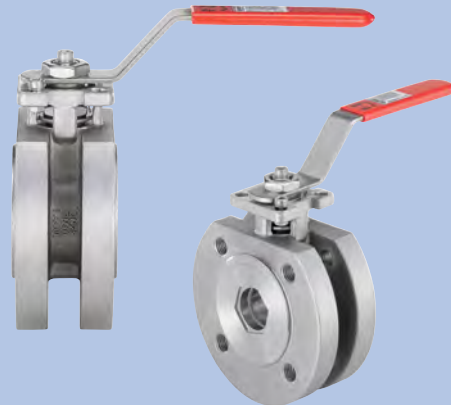
Material	Temperature range	DN [mm]	F [mm]	L [mm]	H [mm]	W [mm]	K _v -Value [m ³ /h]	PN (80 °C) [bar]	Article no.
3-piece, butt weld connection									
Body: Stainless steel 1.4408	-10 °C to +200 °C	8	12.5	65	55	97.5	5.4	63	789464
Ball: Stainless steel 1.4401		10	15	70	55	97.5	6	63	789465
Seal: PTFE		15	18	75	64	125.5	16.3	63	789430
O-Ring: FKM		20	22	90	67	125.5	29.5	63	789467
Lever: Stainless steel 1.4301		25	28	100	83	143.5	43	63	789468
		32	35	110	89	143.5	89	63	789469
		40	43	125	100	203.5	230	63	789470
		50	54	150	108	203.5	265	63	789471
		65	69	190	150	251.5	540	63	789472
		80	84	220	161	251.5	880	63	789473
	100	104	270	180	291.5	1380	63	789474	

TKU001



2/2 way compact flange ball valve

- Manually operated
- Low torques
- Long lifespan
- Maintenance friendly
- High flow rate



2/2 way compact flange ball valve in stainless steel used to shut off medium flows DN15...DN150.

Technical data

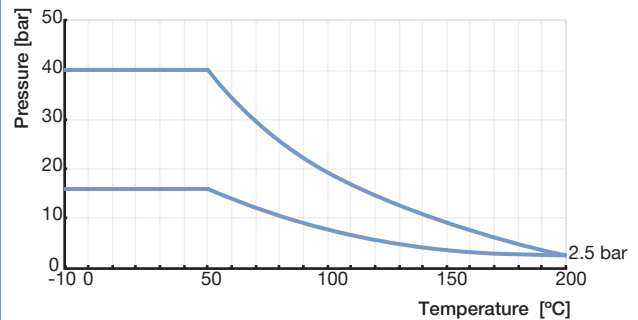
Orifice	Manually operated steel DIN/ISO 5211 DN15...DN150 Manually operated stainless steel DIN/ISO 5211 DN15...DN150
Body material	Steel 1.0619 Stainless steel 1.4408
Ball material	Stainless steel 1.4401
Seal material	PTFE
Pressure range	Technical vacuum (10^{-3} Torr) ... 40 bar ¹⁾ PN40: Orifice 15...50 mm PN16: Orifice 65...150 mm (other pressure ranges on request)
Temperature range	Version steel DIN/ISO 5211 -10 °C to +200 °C Version stainless steel DIN/ISO 5211 -10 °C to +200 °C (see also pressure temperature restart points)

¹⁾ Pressure values [bar]: Measured as overpressure to the atmospheric pressure

DIN/ISO 5211 flange fitting

Pressure temperature restart points

For general industrial use



Torque

Orifice [mm]	Torque
15	8
20	11
25	15
32	22
40	26
50	42
65	56
80	84
100	105
125	139
150	184

K_{vs} Value

Orifice [mm]	K _{vs} Value water [m ³ /h]
15	35
20	46
25	72
32	105
40	170
50	275
65	507
80	905
100	1414
125	2362
150	3674

K_{vs} Value [m³/h]

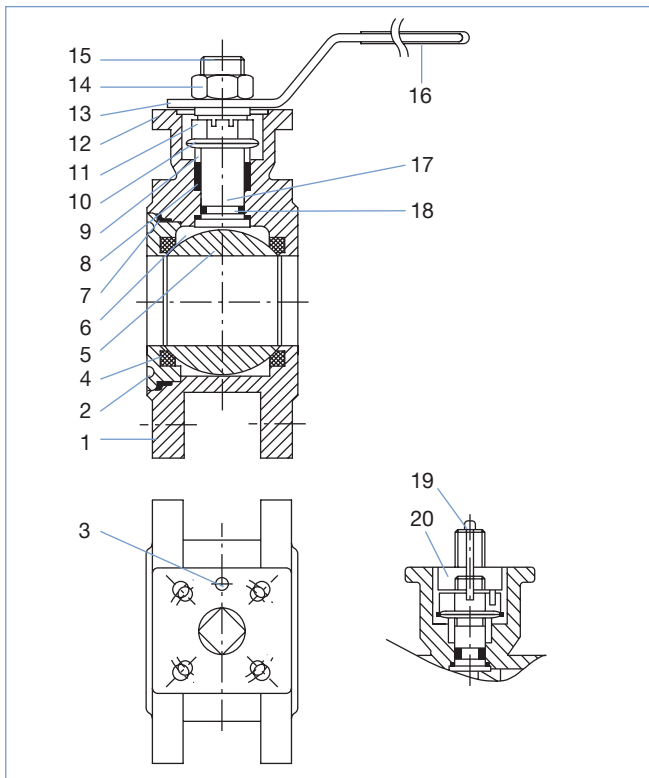
Nominal flow rate value for water acc. to VDI/VDE 2173.

Measured at a Medium temperature from +15 °C, 1 bar¹⁾ pressure at inlet and free outlet

¹⁾ Pressure values [bar]: Measured as overpressure to the atmospheric pressure

Material

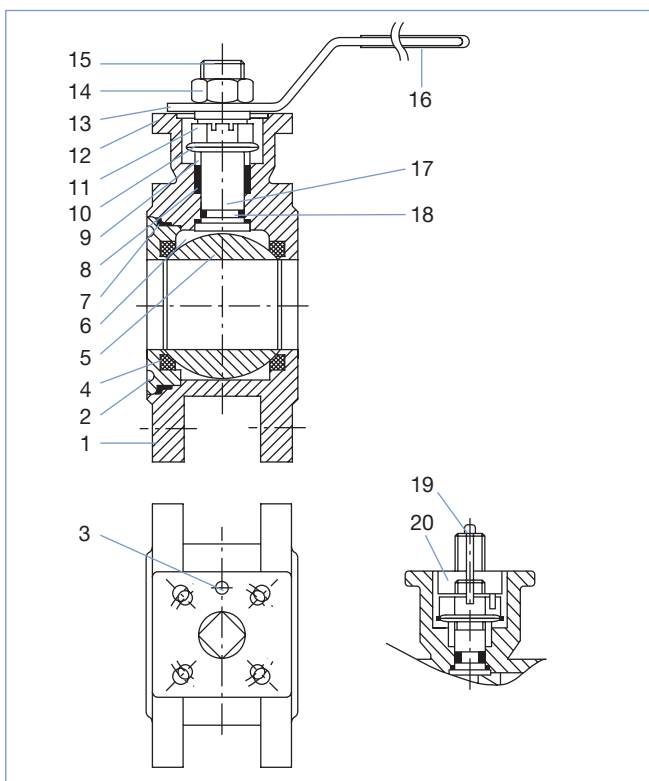
Steel version, DIN/ISO 5211 flange fitting



1	Body	1	1.0619
2	Screw-in fitting	1	1.0619
3	Stopper	1	1.4301
4	Ball seal	2	PTFE
5	Ball	1	1.4301
6	Pressure ring	1	PTFE
7	Body seal	1	PTFE
8	Ball stem seal	1 unit	PTFE
9	Packing gland ring	2	1.4301
10	Spring cup	2	SUS 301
11	Packing gland	1	1.4301
12	Safety ring	1	1.4301
13	Handle	1	1.4301
14	Locknut	1	1.4301
15	Gearshift lever shaft	1	1.4301
16	Handle cover	1	Plastic
17	Anti-static (optional)	1	1.4301
18	O-Ring	1	FKM
19	Spigot	1	1.4301
20	Driver	1	1.4301

Integrated DIN/ISO 5211-Flange configuration

Stainless steel version, DIN/ISO 5211 flange fitting

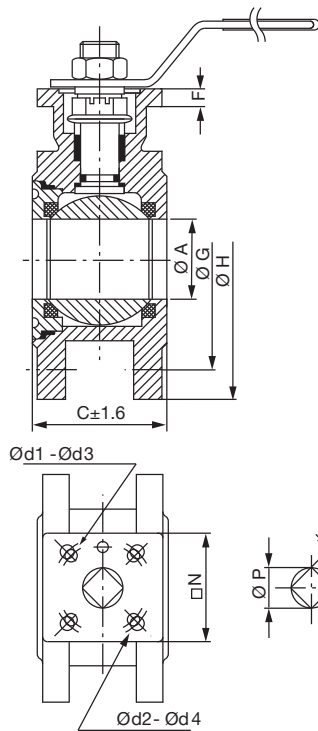


1	Body	1	1.4408
2	Screw-in fitting	1	1.4408
3	Stopper	1	1.4301
4	Ball seal	2	PTFE
5	Ball	1	1.4401
6	Pressure ring	1	PTFE
7	Body seal	1	PTFE
8	Ball stem seal	1 unit	PTFE
9	Packing gland ring	2	1.4301
10	Spring cup	2	SUS 301
11	Packing gland	1	1.4301
12	Safety ring	1	1.4301
13	Handle	1	1.4301
14	Locknut	1	1.4301
15	Gearshift lever shaft	1	1.4401
16	Handle cover	1	Plastic
17	Anti-static (optional)	1	1.4301
18	O-Ring	1	FKM
19	Spigot	1	1.4301
20	Driver	1	1.4301

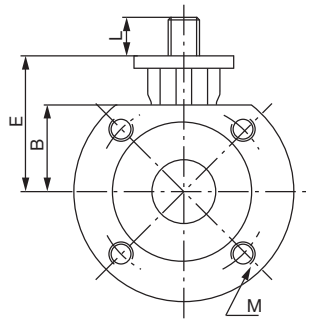
Integrated DIN/ISO 5211-Flange configuration

Dimensions [mm] – Steel version, DIN/ISO 5211 flange fitting

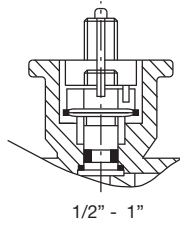
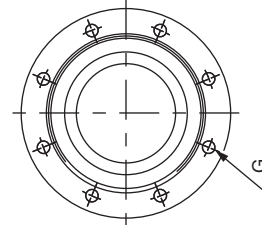
Measurements



Mounting face DN15...DN50



Mounting face DN65...DN150

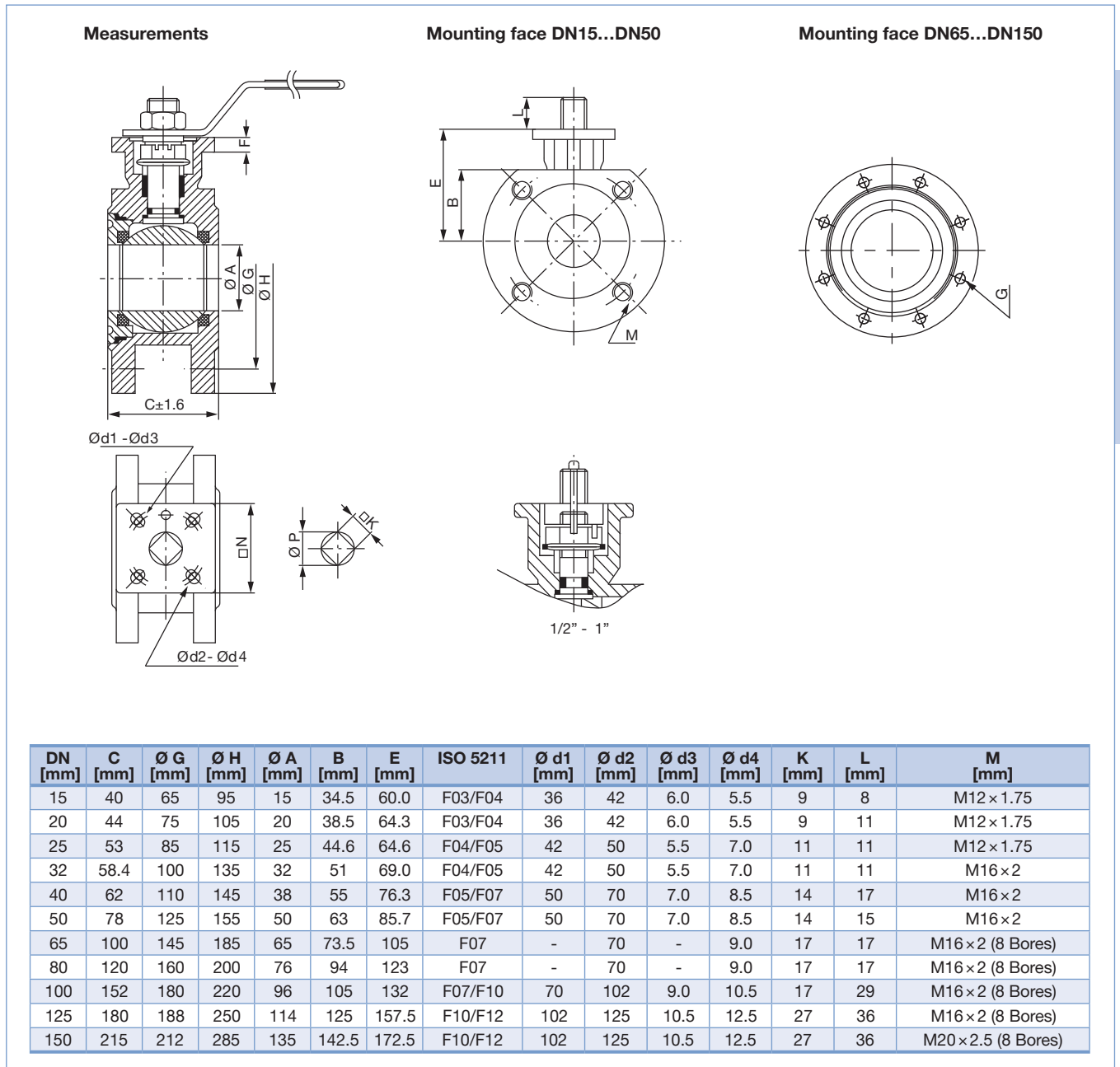


DN [mm]	C [mm]	Ø G [mm]	Ø H [mm]	Ø A [mm]	B [mm]	E [mm]	ISO 5211	Ø d1 [mm]	Ø d2 [mm]	Ø d3 [mm]	Ø d4 [mm]	K [mm]	L [mm]	M [mm]
15	40	65	95	15	34.5	60.0	F03/F04	36	42	6.0	5.5	9	8	M12×1.75
20	44	75	105	20	38.5	64.3	F03/F04	36	42	6.0	5.5	9	11	M12×1.75
25	53	85	115	25	44.6	64.6	F04/F05	42	50	5.5	7.0	11	11	M12×1.75
32	58.4	100	135	32	51	69.0	F04/F05	42	50	5.5	7.0	11	11	M16×2
40	62	110	145	38	55	76.3	F05/F07	50	70	7.0	8.5	14	17	M16×2
50	78	125	155	50	63	85.7	F05/F07	50	70	7.0	8.5	14	15	M16×2
65	100	145	185	65	73.5	105	F07	-	70	-	9.0	17	17	M16×2 (8 Bores)
80	120	160	200	76	94	123	F07	-	70	-	9.0	17	17	M16×2 (8 Bores)
100	152	180	220	96	105	132	F07/F10	70	102	9.0	10.5	17	29	M16×2 (8 Bores)
125	180	188	250	114	125	157.5	F10/F12	102	125	10.5	12.5	27	36	M16×2 (8 Bores)
150	215	212	285	135	142.5	172.5	F10/F12	102	125	10.5	12.5	27	36	M20×2.5 (8 Bores)

Ordering chart

Orifice [mm]	Article no.
15	788860
20	788861
25	788862
32	788863
40	788864
50	788865
65	788866
80	788867
100	788868
125	788869
150	788870

Dimensions [mm] – Stainless steel version, DIN/ISO 5211 flange fitting



Ordering chart

Orifice [mm]	Article no.
15	784971
20	787066
25	784775
32	784776
40	784777
50	784778
65	784779
80	784780
100	784781
125	784968
150	784969

Float type flow meter

TAU003

- Flow measurement for translucent liquids and gases
- DN10 bis DN65 mm



If a medium with sufficient flow rate flows from bottom to top through a vertically inserted measuring tube, then the floated element is raised so far, till an equilibrium between the lift strength of the medium itself and the weight of the floated element is adjusted. Since the average flow rate is proportional to the flow quantity per time unit, the determined equilibrium corresponds to the flow volume.

Flow meters with solenoid floated elements can be equipped with limit value contacts.

Technical data

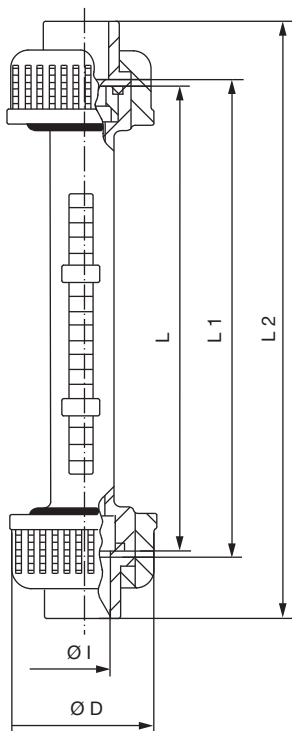
Orifice	DN10 to 65				
Material	Measuring tube Polyamide (PA), Polysulfon (PSU), PVC-U Float Stainless steel, PVDF coated (without and with solenoid) Inserts PVDF Connection Standard PVC-U true union				
	On request:				
	PVC-U internal thread				
	PP welded sleeve				
	PP weld end				
	PP internal thread				
	PVDF welded sleeve				
	PVDF weld end				
	Malleable cast iron internal thread				
	Stainless steel V4 A internal thread				
Seal (O-Ring)	O Ring EPDM, (FPM on request)				
Medium	Neutral and aggressive fluids				
Medium temperature	Measuring tube material	Fittings material			
		PVC-U	PVDF	Cast iron	Stainless steel
	PVC-U	40 °C	40 °C	40 °C	40 °C
	PA	60 °C	60 °C	60 °C	60 °C
	PSU	60 °C	100 °C	100 °C	100 °C
Ambient temperature	Max. +55 °C				
Nominal pressure	Max. 10 bar ¹⁾				
Measurement range	1.5 to 60000 l/h				
Accuracy up to 200 mm	Flow rate in %	20 %	50 %	70 %	100 %
Class 4 acc. to VDE/VDI 3513 Sheet 2	Total error v. measured value in %	8	5	4.25	4
	Total error v. final value in %	1.6	2.5	3.4	4
Accuracy from 335 mm	Flow rate in %		50 %		
Class 4 acc. to VDE/VDI 3513:1:2014 and 3513-2:2008	Total error v. measured value in %		5		
	Total error v. final value in %		5		
Indicating scale	Absolute in l/h and relative % 2 adjustable limit indicators				
Option	Contact limit switch Measuring value sensor				
Installation	Vertical medium current from below to above				

¹⁾ Pressure values [bar]: Measured as overpressure to the atmospheric pressure

Other versions, non standard scales for gases, medium with special viscosity, special measuring units on request.

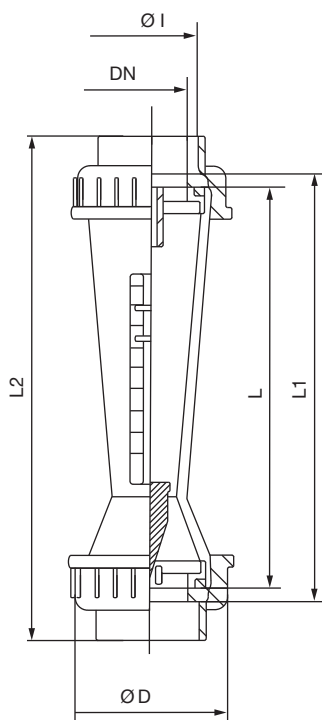
Dimensions [mm]

Overall length 165, 185, 200 mm



DN [mm]	Ø I (internal spigot) [mm]	L [mm]	L1 [mm]	L2 [mm]	Ø D [mm]
10	16	165	171	199	35
15	20	185	191	223	43
20	32	200	206	250	60

Overall length 335, 350 mm



Measurement chart for overall length 335





































































































DN [mm]	Ø I (Core) [mm]	D [mm]	L [mm]	L1 [mm]	L2 [mm]
25	32	60	335	341	385
32	40	72	335	341	393
40	50	83	335	341	403
50	63	103	335	341	417
65	75	122	335	341	429

Measurement chart for overall length 350

DN [mm]	Ø I (Core) [mm]	D [mm]	L [mm]	L1 [mm]	L2 [mm]
25	32	60	350	356	400
32	40	72	350	356	408
40	50	83	350	356	418
50	63	103	350	356	432
65	75	122	350	356	444

Ordering chart

TAU003

Orifice DN [mm]	Connection [mm]	Measuring range H ₂ O l/h	Pressure value loss mbar	Article no. without solenoid	Article no. with solenoid
Overall length 165 mm measuring tube PSU					
10	16	1.5-15	4.5	781308 	781319 
10	16	2.5-25	4.5	781309 	781320 
10	16	5-50	4.5	781310 	781321 
10	16	10-100	4.5	781311 	781322 
Overall length 185 mm measuring tube PSU					
15	20	8-80	5	781312 	781323 
15	20	15-150	5	781313 	781324 
15	20	20-200	5	781314 	781325 
Overall length 200 mm measuring tube PSU					
25	32	15-150	9	781315 	781326 
25	32	30-300	9	781316 	781327 
25	32	50-500	9	781317 	781328 
25	32	100-1000	9	781318 	781329 
Overall length 335 mm measuring tube PVC-U					
25	32	50-500	23	770352 	770365 
25	32	100-1000	23	770353 	770366 
32	40	150-1500	23	770354 	770367 
32	40	250-2500	23	770355 	770368 
40	50	200-2000	25	770356 	770369 
40	50	300-3000	25	770357 	770370 
40	50	600-6000	25	770358 	770371 
50	63	600-6000	25	770359 	770372 
50	63	1000-10000	25	770360 	770373 
50	63	1500-15000	29	770361 	770374 
65	75	2000-20000	46	770362 	770375 
65	75	3000-30000	46	770363 	770376 
65	75	8000-60000	48	770364 	770377 
Overall length 335 mm measuring tube PA					
25	32	50-500	23	770300 	770313 
25	32	100-1000	23	770301 	770314 
32	40	150-1500	23	770302 	770315 
32	40	250-2500	23	770303 	770316 
40	50	200-2000	25	770304 	770317 
40	50	300-3000	25	770305 	770318 
40	50	600-6000	25	770306 	770319 
50	63	600-6000	25	770307 	770320 
50	63	1000-10000	25	770308 	770321 
50	63	1500-15000	29	770309 	770322 
65	75	2000-20000	46	770310 	770323 
65	75	3000-30000	46	770311 	770324 
65	75	8000-60000	48	770312 	770325 
Overall length 335 mm measuring tube PSU					
25	32	50-500	23	770326 	770339 
25	32	100-1000	23	770327 	770340 
32	40	150-1500	23	770328 	770341 
32	40	250-2500	23	770329 	770342 
40	50	200-2000	25	770330 	770343 
40	50	300-3000	25	770331 	770344 
40	50	600-6000	25	770332 	770345 
50	63	600-6000	25	770333 	770346 
50	63	1000-10000	25	770334 	770347 
50	63	1500-15000	29	770335 	770348 
65	75	2000-20000	46	770336 	770349 
65	75	3000-30000	46	770337 	770350 
65	75	8000-60000	48	770338 	770351 

Ordering chart

Orifice DN [mm]	Connection [mm]	Measuring range H ₂ O l/h	Pressure value loss mbar	Article no. without solenoid	Article no. with solenoid
Overall length 350 mm measuring tube PVC-U					
25	32	50-500	23	770430	770443
25	32	100-1000	23	770431	770444
32	40	150-1500	23	770432	770445
32	40	250-2500	23	770433	770446
40	50	200-2000	25	770434	770723
40	50	300-3000	25	770435	773247
40	50	600-6000	25	770436	770533
50	63	600-6000	25	770437	770534
50	63	1000-10000	25	770438	770535
50	63	1500-15000	29	770439	770536
65	75	2000-20000	46	770440	770537
65	75	3000-30000	46	770441	770538
65	75	8000-60000	48	770442	770539
Overall length 350 mm measuring tube PA					
25	32	50-500	23	770378	770391
25	32	100-1000	23	770379	770392
32	40	150-1500	23	770380	770393
32	40	250-2500	23	770381	770394
40	50	200-2000	25	770382	770395
40	50	300-3000	25	770383	770396
40	50	600-6000	25	770384	770397
50	63	600-6000	25	770385	770398
50	63	1000-10000	25	770388	770399
50	63	1500-15000	29	770387	770400
65	75	2000-20000	46	770388	770401
65	75	3000-30000	46	770389	770402
65	75	8000-60000	48	770390	770403
Overall length 350 mm measuring tube PSU					
25	32	50-500	23	770404	770417
25	32	100-1000	23	770405	770418
32	40	150-1500	23	770406	770419
32	40	250-2500	23	770407	770420
40	50	200-2000	25	770408	770421
40	50	300-3000	25	770409	770422
40	50	600-6000	25	770410	770423
50	63	600-6000	25	770411	770424
50	63	1000-10000	25	770412	770425
50	63	1500-15000	29	770413	770426
65	75	2000-20000	46	770414	770427
65	75	3000-30000	46	770415	770428
65	75	8000-60000	48	770416	770429

Accessories, TEU007

Technical data - Contact limit value	
Switching voltage	230 V/50 Hz
Switching current	Max. 0.5 A
Contact rating	Max. 10 W/12 VA
Contact mounting with inductive load	Reed contact, bistable Protective relay contact used
Resistor channel	<200 Ohm
Isolation resistor	>10 ¹¹ Ohm
Protection class	IP65
Installation	Flowmeter dovetail guide

Method of operation, TEU007

Version	Switching hysteresis [mm] float	Contact limit value		Float flow meter
		closed, if float	open, if float	
Min. contact	1 to 2	under contact	above contact	all sizes
Max. contact	1 to 2	above contact	under contact	all sizes

Ordering chart for accessories

Version	Float flow rate balance	Article no.
Min.	all sizes	770460
Max.	all sizes	770461

Push-in connectors

TVG002/TVJ002

- M3 to M7, 1/8" to 3/4" , threaded connection
- 3 to 22 mm push-in connection
- Brass nickel plated, stainless steel, plastic POM, plastic PBTP
- POM with FDA-Approval



- Straight push-in connector
- Basic threaded connector, short, male
- Basic threaded connector, long, male
- Bulkhead connector
- Elbow connector
- T-connector
- Y-connector
- Reducer
- Banjo bolt, single
- Banjo bolt, double
- Elbow threaded connection, rotatable
- Plug
- Pressure gauge plug connector
- Connector
- Straight reducing connector
- Elbow reducing connector
- T-reducing connector
- Tube plug
- Disassembly tool

Technical data

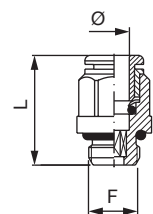
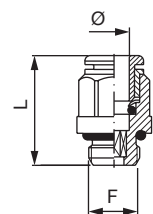
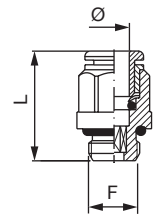
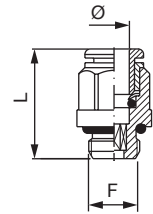
Material	Brass nickel plated
Medium	Air, neutral gases
Medium temperature	-10 to +70 °C
Seal material O-Ring	NBR
Nominal pressure	16 bar ¹⁾
Material	Stainless steel AISI 316
Medium	Air, neutral gases
Medium temperature	-20 to +150 °C
Seal material O-Ring	FKM
Nominal pressure	20 bar ¹⁾
Material	POM (FDA-Approval)
Medium	Air, neutral gases, fluids
Medium temperature	-20 to +70 °C
Seal material O-Ring	NBR
Nominal pressure	10 bar ¹⁾
Material	Plastic PBTP
Medium	Air, neutral gases
Medium temperature	0 to +60 °C
Seal material O-Ring	NBR
Nominal pressure	10 bar ¹⁾

¹⁾ Pressure values [bar]: Overpressure with respect to atmospheric pressure

Other versions, connection, materials, seal materials on request.
Connectors with certification for drinking water (NSF) on request.

















Ordering charts

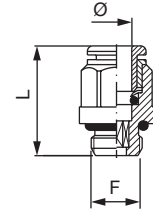
Straight push-in connector with O-Ring						
Material	Medium	Diameter [mm]	F	L [mm]	Packaging unit [piece]	Article no.
TVG002, cylindrical						
Brass, nickel plated	Air	4	M3	16.4	1	782534
		4	M5	20.3	10	787810
		4	M5	21.9	10	780000
		4	M7	18.9	10	787811
		4	G 1/8	18.0	10	780001
		4	G 1/4	19.8	10	780002
		6	M5	21.9	10	780556
		6	M7	23.0	10	787813
		6	G 1/8	21.6	10	780003
		6	G 1/4	20.3	10	780004
		8	G 1/8	25.4	10	780005
		8	G 1/4	24.4	10	780006
		8	G 3/8	22.8	10	780007
		10	G 1/4	29.2	10	780008
		10	G 3/8	26.5	10	780009
12	G 3/8	28.1	10	780010		
12	G 1/2	29.3	10	780011		
TVG002, cylindrical						
Stainless steel	Air, neutral gases	4	M5	24.4	1	787801
		4	G 1/8	22.6	1	787802
		4	G 1/4	24.1	1	771473
		6	G 1/8	24.6	1	787800
		6	G 1/4	24.6	1	787803
		8	G 1/8	27.6	1	787804
		8	G 1/4	26.6	1	787805
		10	G 1/4	29.6	1	789532
		10	G 3/8	26.8	1	771474
		12	G 3/8	31.0	1	771475
12	G 1/2	30.5	1	771476		
TVG002, conical without O-Ring						
Stainless steel	Air, neutral gases	4	R 1/8	18.6	1	771609
		4	R 1/4	23.0	1	771610
		6	R 1/8	23.7	1	771611
		6	R 1/4	23.7	1	771612
		8	R 1/8	26.7	1	771613
		8	R 1/4	27.7	1	771614
		10	R 1/4	29.0	1	787806
		10	R 3/8	27.7	1	787807
		12	R 3/8	30.9	1	787808
		12	R 1/2	32.4	1	787809
TVU002, cylindrical						
POM	Air, water	4	G 1/4	24.0	10	782298
		6	G 1/8	25.5	10	782296
		6	G 1/4	24.0	10	782299
		8	G 1/8	25.5	10	782297
		8	G 1/4	24.0	10	782300
		8	G 3/8	25.5	10	782302
		10	G 1/4	31.0	10	782301
		10	G 3/8	28.5	10	782303
		10	G 1/2	30.5	1	782305
		12	G 3/8	30.5	1	782304
		12	G 1/2	34.5	1	782306
		15	G 1/2	38.5	1	782307
		18	G 1/2	58.5	1	782308
		22	G 3/4	61.0	1	782309


















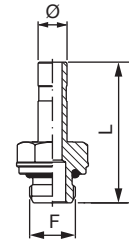
Ordering charts









TVG002/TVJ002

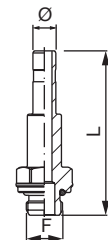
Straight plug-in connector, general pneumatic duty with O-Ring						
Material	Medium	Diameter [mm]	F	L [mm]	Packaging unit [piece]	Article no.
TVG002, cylindrical						
Brass, nickel plated	Air, neutral gases	4	G 1/8	22.1	10	771499 
		4	G 1/4	21.4	10	771500 
		6	G 1/8	23.2	10	771501 
		6	G 1/4	23.5	10	771502 
		6	G 3/8	20.5	10	771503 
		8	G 1/8	25.5	10	771504 
		8	G 1/4	24.5	10	771505 
		8	G 3/8	21.0	10	771506 
		8	G 1/2	24.5	10	771507 
		10	G 1/8	29.2	10	771508 
		10	G 1/4	30.9	10	771509 
		10	G 3/8	27.2	10	771510 
		10	G 1/2	30.4	10	771511 
		12	G 1/4	33.5	10	771512 
		12	G 3/8	28.5	10	771513 
12	G 1/2	31.0	10	771514 		



Basic connector, short, male, threaded with O-Ring						
Material	Medium	Diameter [mm]	F	L [mm]	Packaging unit [piece]	Article no.
TVG002, cylindrical						
Brass, nickel plated	Air	4	M5	25.2	10	780023 
		4	G 1/8	28.9	10	780024 
		4	G 1/4	32.4	10	780025 
		6	M5	25.7	10	780022 
		6	G 1/8	29.4	10	780026 
		6	G 1/4	32.9	10	780027 
		8	G 1/8	30.6	10	780028 
		8	G 1/4	34.0	10	780029 
		8	G 3/8	35.4	10	780030 
		4	M7	26.5	10	787832 
		10	G 1/4	38.2	10	780031 
		6	M7	25.8	10	787833 
		10	G 3/8	38.7	10	780032 
		12	G 3/8	42.2	10	780033 
		12	G 1/2	44.2	10	780034 

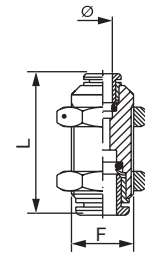


Basic connector, long, male, threaded with O-Ring						
Material	Medium	Diameter [mm]	F	L [mm]	Packaging unit [piece]	Article no.
TVG002, cylindrical						
Brass, nickel plated	Air	4	G 1/8	40.4	10	780094 
		6	G 1/8	43.4	10	780095 
		6	G 1/4	46.9	10	780096 
		8	G 1/8	46.5	10	780097 
		8	G 1/4	50.0	10	780098 
		8	G 3/8	51.4	10	780099 
		10	G 1/4	54.6	10	780100 
		10	G 3/8	56.1	10	780101 

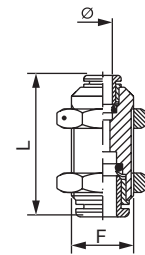


Ordering charts

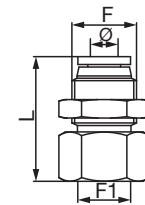
Bulkhead connector						
Material	Medium	Diameter [mm]	F	L [mm]	Packaging unit [piece]	Article no.
TVG002						
Brass, nickel plated	Air	4	M11 × 1	30.6	1	780048
		6	M13 × 1	33.0	1	780049
		8	M15 × 1	35.7	1	780050
		10	M17 × 1	39.2	1	780051
		12	M20 × 1	40.7	1	780052
Stainless steel	Air	4	M11 × 0.75	32.7	1	787834
		6	M14 × 1	35.7	1	787835
		8	M16 × 1.25	36.7	1	787836
		10	M18 × 1	43.2	1	787837
		12	M22 × 1.5	46.8	1	787838
		14	M24 × 1.5	48.2	1	773250
POM	Air, water	4	G 3/8	35.0	1	782339
		6	G 3/8	34.0	1	782340
		8	G 1/2	40.0	1	782341
		10	G 1/2	41.0	1	782342
		12	G 3/4	52.0	1	782343



Bulkhead connector, light						
Material	Medium	Diameter [mm]	F	L [mm]	Packaging unit [piece]	Article no.
TVG002						
Brass, nickel plated	Air, neutral gases	4	M12 × 1.0	30.0	10	771563
		6	M14 × 1.0	31.5	10	771564
		8	M16 × 1.0	34.5	10	771565
		10	M20 × 1.0	41.0	10	771566
		12	M22 × 1.0	44.8	5	771567

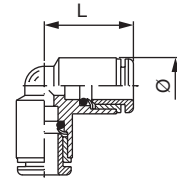


Bulkhead connector, female							
Material	Medium	Diameter [mm]	F1 Threaded Port	F Thread	L [mm]	Packaging unit [piece]	Article no.
TVG002 cylindrical							
Brass, nickel plated	Air, neutral gases	4	G 1/8	M12 × 1.0	23.7	10	771619
		4	G 1/4	M12 × 1.0	27.0	10	771620
		6	G 1/8	M14 × 1.0	24.7	10	771621
		6	G 1/4	M14 × 1.0	27.0	10	771622
		8	G 1/4	M16 × 1.0	29.0	10	770952
		8	G 3/8	M16 × 1.0	28.8	10	771624
		10	G 1/4	M20 × 1.0	32.6	10	770953
		10	G 3/8	M20 × 1.0	33.8	10	771626
		12	G 3/8	M22 × 1.0	34.6	10	771627
		12	G 1/2	M22 × 1.0	37.0	5	771628

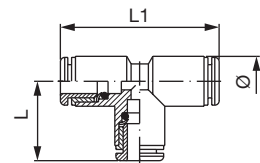


Ordering charts

Elbow connector					
Material	Medium	Diameter [mm]	L [mm]	Packaging unit [piece]	Article no.
TVG002					
Brass, nickel plated	Air	4	16.7	10	780012
		6	19.0	10	780013
		8	21.3	10	780014
		10	23.3	1	780015
		12	26.0	1	780016
TVG002					
Stainless steel	Air	4	16.2	1	787818
		6	20.6	1	787819
		8	21.4	1	787820
		10	24.6	1	787821
		12	25.6	1	787822
TVU002					
POM	Air, water	4	24.0	10	782379
		6	27.0	10	782380
		8	30.0	10	782381
		10	35.0	1	782382
		12	44.0	1	782383
15	50.0	1	782384		
TVG002					
PBTP Plastic	Air, neutral gases	4	24.0	10	771573
		6	25.5	10	771574
		8	29.6	10	771575
		10	36.7	10	771576
		12	39.8	10	771577

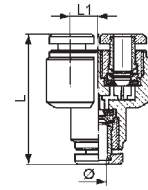


T-connector						
Material	Medium	Diameter [mm]	L [mm]	L1 [mm]	Packaging unit [piece]	Article no.
TVG002						
Brass, nickel plated	Air	4	16.7	33.4	1	780017
		6	19.0	38.0	1	780018
		8	21.3	42.6	1	780019
		10	23.3	46.6	1	780020
		12	26.0	52.0	1	780021
TVG002						
Stainless steel	Air	4	16.4	32.8	1	787827
		6	20.6	41.2	1	787828
		8	21.4	42.8	1	787829
		10	24.6	49.2	1	787830
		12	25.6	51.2	1	787831
TVU002						
POM	Air, water	4	18.0	35.0	10	782387
		6	18.0	40.0	10	782388
		8	20.0	42.0	10	782389
		10	21.0	50.0	1	782390
		12	25.0	65.0	1	782391
15	32.0	73.0	1	782392		
TVG002						
PBTP Plastic	Air, neutral gases	4	18.6	24.0	10	771578
		6	19.3	25.5	10	771579
		8	22.4	29.6	10	771580
		10	28.6	36.7	5	771581
		12	28.8	39.8	5	771582

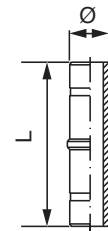


Ordering charts

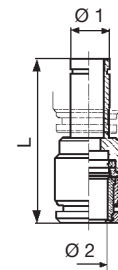
Y-connector						
Material	Medium	Diameter [mm]	L [mm]	L1 [mm]	Packaging unit [piece]	Article no.
TVU002						
POM	Air, water	4	37.0	7.5	10	782395
		6	35.5	9.0	1	782396
		8	50.0	10.8	1	782397
TVG002						
PBTP Plastic	Air, neutral gases	4	32.5	22.2	10	771591
		6	37.0	26.0	10	771592
		8	39.4	29.6	10	771593
		10	50.2	37.2	5	771594
		12	59.2	42.6	5	771595



Connector					
Material	Medium	Diameter [mm]	L [mm]	Packaging unit [piece]	Article no.
TVG002					
Brass, nickel plated	Air	4	34.0	10	780035
		6	37.5	10	780036
		8	37.5	10	780037
		10	45.0	10	780038
		12	48.0	10	780039

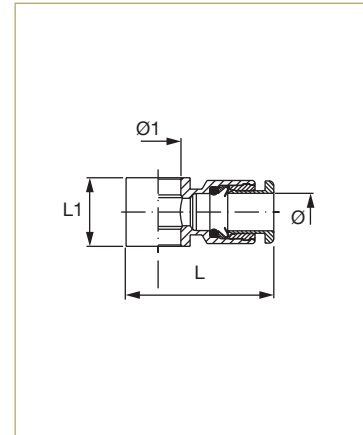


Reducer						
Material	Medium	Diameter 1 [mm]	Diameter 2 [mm]	L [mm]	Packaging unit [piece]	Article no.
TVG002						
Brass, nickel plated	Air	6	4	29.9	10	780040
		8	4	29.9	10	780041
		8	6	31.9	10	780042
		10	6	36.2	10	780043
		10	8	40.8	10	780044
		12	6	42.0	10	780046
		12	8	40.1	10	780047
		12	10	44.3	10	781013
TVG002						
Stainless steel	Air, neutral gases	6	4	35.6	1	771477
		8	4	35.6	1	771478
		8	6	42.1	1	771479
		10	6	43.1	1	771480
		10	8	43.1	1	771481
		12	10	46.6	1	771482
TVG002						
PBTP Plastic	Air, neutral gases	6	4	36.5	10	771596
		8	4	37.0	10	771597
		8	6	41.6	10	771598
		10	6	43.6	10	771599
		10	8	45.6	10	771600
		12	6	46.6	10	771601
		12	8	47.6	10	771602
		12	10	52.0	10	771603

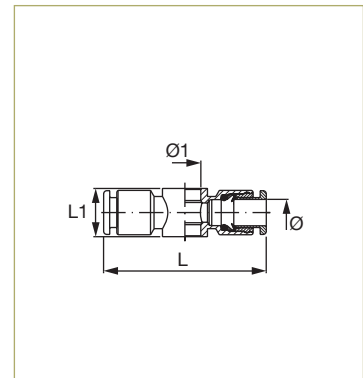


Ordering charts

Banjo, single							
Material	Medium	Diameter [mm]	for banjo bolt $\varnothing 1$	L [mm]	L1 [mm]	Packaging unit [piece]	Article no.
TVG002							
Brass, nickel plated	Air	4	G 1/8	21.3	15.0	10	780062
		6	G 1/8	23.0	15.0	10	780063
		6	G 1/4	24.5	17.0	10	780064
		8	G 1/8	24.8	15.0	10	780065
		8	G 1/4	26.5	17.0	10	780066
		8	G 3/8	28.5	20.0	1	780067
		10	G 1/4	31.4	17.0	1	780068
		10	G 3/8	32.8	20.0	1	780069
		12	G 3/8	35.3	20.0	1	780070
		12	G 1/2	37.0	24.0	1	780504

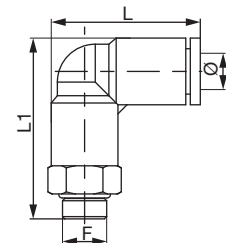
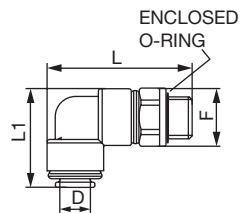
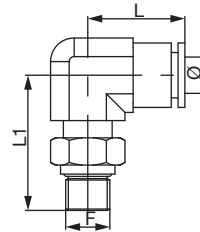
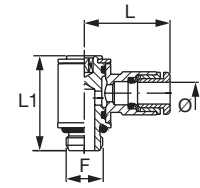


Banjo, double							
Material	Medium	Diameter [mm]	for banjo bolt $\varnothing 1$	L [mm]	L1 [mm]	Packaging unit [piece]	Article no.
TVG002							
Brass, nickel plated	Air	4	G 1/8	42.6	15.0	1	780071
		6	G 1/8	46.0	15.0	1	780072
		6	G 1/4	49.0	17.0	1	780073
		8	G 1/8	49.6	15.0	1	780074
		8	G 1/4	53.0	17.0	1	780075
		8	G 3/8	57.0	20.0	1	780076
		10	G 1/4	62.8	17.0	1	780077
		10	G 3/8	65.5	20.0	1	780078



Ordering charts

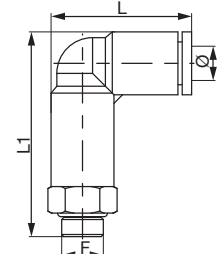
Elbow threaded connection, rotatable with O-Ring							
Material	Medium	Diameter [mm]	F	L [mm]	L1 [mm]	Packaging unit [piece]	Article no.
TVG002, cylindrical							
Brass nickel plated	Air	4	M5	20.2	18.4	1	780080
		4	G 1/8	21.3	24.9	1	780081
		6	M5	23.5	18.4	1	787814
		6	G 1/8	23.0	24.9	1	780082
		6	G 1/4	24.5	29.4	1	780083
		8	G 1/8	24.8	24.9	1	780086
		8	G 1/4	26.5	25.4	1	780084
		10	G 1/4	31.4	29.4	1	780085
TVG002, cylindrical							
Stainless steel	Air, neutral gases	4	M5	17.1	26.5	1	771488
		4	G 1/8	17.1	26.9	1	771489
		4	G 1/4	17.1	28.9	1	771490
		6	G 1/8	20.6	27.8	1	770757
		6	G 1/4	20.6	30.0	1	770758
		8	G 1/8	21.4	29.8	1	771491
		8	G 1/4	21.4	32.0	1	771492
		8	G 3/8	21.4	32.0	1	771493
		10	G 3/8	24.6	33.1	1	771494
		12	G 3/8	25.6	35.8	1	771495
		12	G 1/2	25.6	38.8	1	771496
		TVU002, cylindrical					
POM	Air, water	4	G 1/8	35.5	24.0	10	782344
		4	G 1/4	39.0	24.0	10	782347
		6	G 1/8	39.5	27.0	10	782345
		6	G 1/4	43.0	27.0	10	782348
		8	G 1/8	41.5	30.0	10	782346
		8	G 1/4	45.0	30.0	10	782349
		8	G 3/8	46.5	30.0	1	782351
		10	G 1/4	50.0	35.0	1	782350
		10	G 3/8	51.5	35.0	1	782352
		10	G 1/2	54.5	35.0	1	782355
		12	G 3/8	59.5	44.0	1	782353
		12	G 1/2	62.5	44.0	1	782356
		15	G 3/8			1	782354
		15	G 1/2			1	782357
		18	G 1/2	on request	on request	1	782358
		22	G 1/2			1	782359
		22	G 3/4			1	782360
		TVG002, cylindrical					
PBTP Plastic	Air, neutral gases	4	G 1/8	22.1	30.3	10	771515
		4	G 1/4	21.4	32.0	10	771516
		6	G 1/8	23.2	32.3	10	771517
		6	G 1/4	23.5	34.8	10	771518
		6	G 3/8	20.5	36.2	10	771519
		8	G 1/8	25.5	32.5	10	771520
		8	G 1/4	24.5	32.5	10	771521
		8	G 3/8	21.0	37.5	10	771522
		8	G 1/2	24.5	40.0	10	771523
		10	G 1/8	29.2	38.9	10	771524
		10	G 1/4	30.9	42.5	10	771525
		10	G 3/8	27.2	44.1	10	771526
		10	G 1/2	30.4	46.9	5	771527
		12	G 1/4	33.5	44.5	5	771528
		12	G 3/8	28.5	46.6	5	771529
		12	G 1/2	31.0	49.6	5	771530



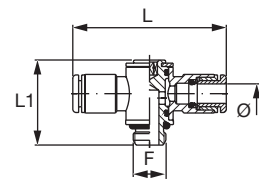
Ordering charts

TVG002/TVU002

Elbow connector, long version, male, rotatable, threaded with O-Ring							
Material	Medium	Diameter [mm]	F	L [mm]	L1 [mm]	Packaging unit [piece]	Article no.
TVG002 cylindrical							
PBTP Plastic	Air, neutral gases	4	G 1/8	24.0	42.0	10	771531
		4	G 1/4	24.0	44.0	10	771532
		6	G 1/8	25.2	45.8	10	771533
		6	G 1/4	25.2	47.8	10	771534
		6	G 3/8	25.2	49.0	10	771535
		8	G 1/8	30.5	48.0	10	771536
		8	G 1/4	30.5	51.3	10	771537
		8	G 3/8	30.5	52.6	5	771538
		8	G 1/2	30.5	51.7	5	771539
		10	G 1/8	37.4	57.4	5	771540
		10	G 1/4	37.4	59.2	5	771541
		10	G 3/8	37.4	60.8	5	771542
		10	G 1/2	37.4	65.8	5	771543
		12	G 1/4	40.4	66.0	5	771544
		12	G 3/8	40.4	67.6	5	771545
12	G 1/2	40.4	73.1	5	771546		

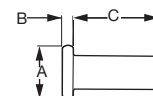
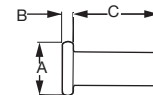
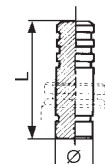


T-connector, rotatable, threaded with O-Ring							
Material	Medium	Diameter [mm]	F	L [mm]	L1 [mm]	Packaging unit [piece]	Article no.
TVG002, cylindrical							
Brass nickel plated	Air	4	M5	40.4	18.4	1	780087
		4	G 1/8	42.6	24.9	1	780088
		6	G 1/8	46.0	24.9	1	780089
		6	G 1/4	49.0	29.4	1	780090
		8	G 1/8	49.6	24.9	1	780093
		8	G 1/4	53.0	29.4	1	780091
10	G 1/4	62.8	29.4	1	780092		
TVU002, cylindrical							
POM	Air, water	4	G 1/8	35.0	35.5	10	782361
		4	G 1/4	35.0	39.0	10	782364
		6	G 1/8	40.0	38.5	10	782362
		6	G 1/4	40.0	42.0	10	782365
		8	G 1/8	42.0	41.5	1	782363
		8	G 1/4	42.0	45.0	1	782366
		8	G 3/8	42.0	46.5	1	782368
		10	G 1/4	50.0	50.0	1	782367
		10	G 3/8	50.0	51.5	1	782369
		10	G 1/2	50.0	56.0	1	782372
12	G 3/8	65.0	51.5	1	782370		
12	G 1/2	65.0	62.5	1	782373		
TVG002, cylindrical							
PBTP Plastic	Air, neutral gases	4	G 1/8	36.6	30.3	10	771547
		4	G 1/4	36.6	32.0	10	771548
		6	G 1/8	37.8	32.3	10	771549
		6	G 1/4	37.8	34.8	10	771550
		6	G 3/8	37.8	36.2	10	771551
		8	G 1/8	45.0	32.5	10	771552
		8	G 1/4	45.0	35.5	10	771553
		8	G 3/8	45.0	37.5	10	771554
		8	G 1/2	45.0	40.0	5	771555
		10	G 1/8	55.4	38.9	5	771556
		10	G 1/4	55.4	42.5	5	771557
		10	G 3/8	55.4	44.1	5	771558
		10	G 1/2	55.4	46.9	5	771559
		12	G 1/4	59.0	44.5	5	771560
		12	G 3/8	59.0	46.6	5	771561
12	G 1/2	59.0	49.6	5	771562		

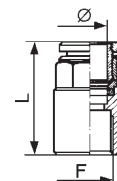


Ordering charts

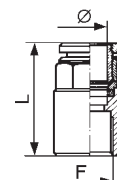
Plug					
Material	Medium	Diameter [mm]	L [mm]	Packaging unit [piece]	Article no.
TVG002					
Brass, nickel plated	Air	4	27.0	10	781664
		6	29.5	10	781665
		8	34.0	10	781666
		10	36.0	10	781667
		12	37.0	10	781668
TVU002					
POM	Air, water	4	25.4	10	782398
		6	26.2	10	782399
		8	26.9	10	782400
		10	31.2	10	782401
		12	33.9	10	782402
		15	40.0	10	782403
		18	40.0	10	782404
22	40.3	1	782405		
TVG002					
PBTP Plastic	Air, neutral gases	4	30.0	10	771604
		6	34.0	10	771605
		8	38.0	10	771606
		10	42.0	10	771607
		12	46.0	10	771608



Straight push-in connector, female						
Material	Medium	Diameter [mm]	F	L [mm]	Packaging unit [piece]	Article no.
TVG002, cylindrical						
Brass, nickel plated	Air	3	M5	15.7	10	787840
		4	G 1/8	26.2	10	782275
		4	G 1/4	28.6	10	782278
		6	G 1/8	27.1	10	782276
		6	G 1/4	29.3	10	782279
		8	G 1/8	28.1	10	782277
		8	G 1/4	30.0	10	782280
TVU002, cylindrical						
POM	Air, water	4	G 1/8	28.0	10	782406
		6	G 1/8	31.0	10	782407
		6	G 1/4	32.0	10	782408



















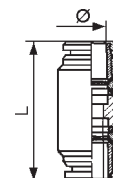
Straight push-in connector, female, light						
Material	Medium	Diameter [mm]	F	L [mm]	Packaging unit [piece]	Article no.
TVG002, cylindrical						
Brass, nickel plated	Air, neutral gases	4	G 1/8	24.0	10	771587
		6	G 1/4	24.0	10	771588
		8	G 1/4	28.2	10	771589
		10	G 3/8	33.2	10	771590















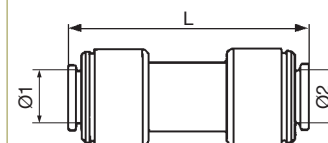
Ordering charts









TVG002/TVU002

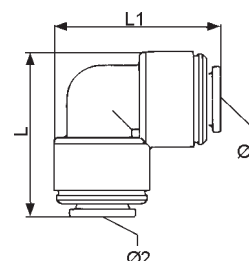
Connector					
Material	Medium	Diameter [mm]	L [mm]	Packaging unit [piece]	Article no.
TVG002					
Brass, nickel plated	Air	3	18.4	1	787841 
		4	30.6	10	787842 
		6	33.0	10	782282 
		8	35.7	10	782283 
		10	39.2	1	782284 
		12	40.7	1	782285 
TVG002					
Stainless steel	Air, neutral gases	4	29.2	1	771483 
		6	34.6	1	771484 
		8	35.7	1	771485 
		10	37.8	1	771486 
		12	40.8	1	771487 
TVG002					
PBTP Plastic	Air, neutral gases	4	32.6	10	771568 
		6	35.0	10	771569 
		8	36.5	10	771570 
		10	47.6	10	771571 
		12	48.8	10	771572 



Straight reducing connector						
Material	Medium	Diameter 1 [mm]	Diameter 2 [mm]	L [mm]	Packaging unit [piece]	Article no.
TVU002						
POM	Air, water	6	4	35.0	10	782430 
		8	4	42.0	10	782431 
		8	6	42.0	10	782432 
		10	4	42.0	10	782433 
		10	6	42.0	10	782434 
		10	8	42.0	10	782435 
		12	8	53.0	10	782436 
		12	10	54.0	1	782437 
TVG002						
PBTP Plastic	Air, neutral gases	6	4	35.5	10	771583 
		8	6	36.7	10	771584 
		10	8	43.4	10	771585 
		12	10	45.4	10	771586 

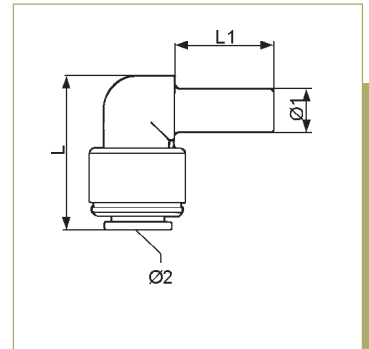


Elbow reducing connector							
Material	Medium	Diameter 1 [mm]	Diameter 2 [mm]	L [mm]	L1 [mm]	Packaging unit [piece]	Article no.
TVU002							
POM	Air, water	6	4	27.0	27.0	10	782438 
		8	4	30.0	29.0	10	782439 
		8	6	30.0	29.0	10	782440 
		10	4	35.0	34.0	1	782441 
		10	6	35.0	34.0	1	782442 
		10	8	35.0	35.0	1	782443 
		12	8	43.0	41.0	1	782444 
		12	10	45.0	43.0	1	782445 

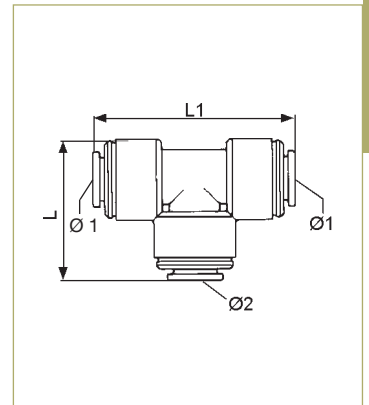


Ordering charts

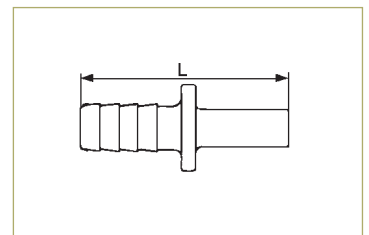
Elbow connector							
Material	Medium	Diameter 1 [mm]	Diameter 2 [mm]	L [mm]	L1 [mm]	Packaging unit [piece]	Article no.
TVU002							
POM	Air, water	4	4	22.0	17.0	10	782446
		6	6	25.0	18.0	10	782447
		8	8	27.0	19.0	10	782448
		10	10	33.0	24.0	10	782449
		12	12	39.0	28.0	1	782450
		15	15	51.0	34.0	1	782451
		18	18	53.0	32.0	1	782452



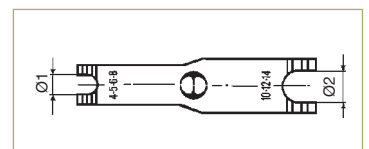
T-reducing connector							
Material	Medium	Diameter 1 [mm]	Diameter 2 [mm]	L1 [mm]	L [mm]	Packaging unit [piece]	Article no.
TVU002							
POM	Air, water	18	15	87.0	56.0	1	782456
		22	15	90.0	60.0	1	782457
TVG002							
PBTP Plastic	Air, neutral gases	6	4	41.6	25.4	10	771629
		8	6	46.1	29.4	10	771630
		10	6	49.2	31.9	10	771631
		10	8	49.2	33.5	10	771632
		12	8	56.0	35.8	5	771633
		12	10	56.0	37.6	5	771634



Tube plug						
Material	Medium	Pipe, external [mm]	Pipe, internal [mm]	L [mm]	Packaging unit [piece]	Article no.
TVU002						
POM	Air, water	6	4	42.0	10	782453
		8	6	43.1	10	782454
		10	8	50.0	10	782455



Disassembly tool, 4 to 14 mm			
Material	L [mm]	Packaging unit [piece]	Article no.
TVU002			
Brass, nickel plated	95.0	1	780109



Fitting connectors

TVU001/TVG003

- M5 to G 2
- Nickel plated brass, stainless steel, plastic, aluminium



Standard fittings

- Double nipple
- Double nipple 3-pc
- Reducers
- Reducer sleeves
- Extension nipple
- Extensions
- Sleeves
- Elbow
- Plug
- Hose connectors
- Blanking nut
- Tee
- Cross

Screw fittings

- Screwed fittings
- Bulkhead fittings
- Pressure gauge fittings
- Elbow
- Tee connector
- Tee
- Union nut
- Hose connection
- Banjo bolt
- Banjo body
- Seal rings
- Distribution manifold
- Four way distributor blocks
- Flow manifold

Technical data

Maximum nominal pressure¹⁾

Brass, nickel plated brass

Standard fittings	60 bar (except double nipple 3-pc and plug)
Double nipple 3-pc and plug	16 bar
Screw fittings	18 bar

Stainless steel

Standard fittings	40 bar (except double nipple 3-pc)
Double nipple 3-pc	16 bar

Plastic

Screw fittings	10 bar (except elbow, seal rings and distributor block)
Elbow, seal rings	18 bar
Distributor block	13 bar

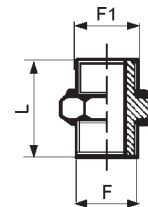
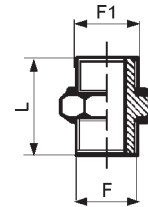
Aluminium

Seal rings	18 bar
Distribution and flow manifold	16 bar

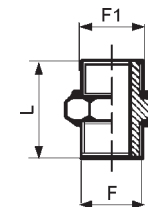
¹⁾ Pressure data [bar]: Overpressure to the atmospheric pressure.

Ordering charts for standard fittings

Double nipple, cylindrical UNI-ISO 228/1 without O-ring					
Max. nominal pressure [bar]	F	F1	L [mm]	Packaging unit [piece]	Article no.
Nickel plated, brass					
60	M5	M5	11.5	10	782000
	M5	G 1/8	14.5	10	782001
	G 1/8	G 1/8	17.0	10	780123
	G 1/8	G 1/4	19.0	10	780124
	G 1/8	G 3/8	20.0	10	780125
	G 1/4	G 1/4	21.0	10	780126
	G 1/4	G 3/8	22.0	10	780127
	G 1/4	G 1/2	24.0	10	780128
	G 3/8	G 3/8	24.0	10	780129
	G 3/8	G 1/2	24.0	10	780130
	G 1/2	G 1/2	26.5	10	780131
	G 1/2	G 3/4	27.0	10	782002
	G 3/4	G 3/4	28.0	10	782003
Stainless steel 1.4571					
40	M5	M5	15.0	1	787843
	G 1/8	G 1/8	18.0	1	787844
	G 1/4	G 1/4	23.0	1	787845
	G 3/8	G 3/8	23.0	1	787846
	G 1/2	G 1/2	30.0	1	787847
	G 3/4	G 3/4	33.0	1	787848
	G 1	G 1	50.0	1	787849
	G 1 1/4	G 1 1/4	58.0	1	787850
	G 1 1/2	G 1 1/2	61.0	1	787851
	G 2	G 2	61.0	1	787852

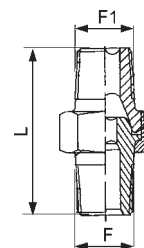


Double nipple, conical UNI-ISO 7/1					
Max. nominal pressure [bar]	F	F1	L [mm]	Packaging unit [piece]	Article no.
Brass, nickel plated					
60	R 1/8	R 1/8	21.0	10	782006
	R 1/8	R 1/4	24.0	10	782007
	R 1/8	R 3/8	25.0	10	782008
	R 1/4	R 1/4	27.0	10	782009
	R 1/4	R 3/8	28.0	10	782010
	R 1/4	R 1/2	32.0	10	782011
	R 3/8	R 3/8	29.0	10	782012
	R 3/8	R 1/2	32.5	10	782013
	R 1/2	R 1/2	35.0	10	782014
	R 1/2	R 3/4	37.5	10	782015
	R 3/4	R 3/4	40.5	10	782016

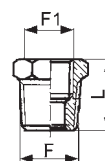


Ordering charts for standard fittings

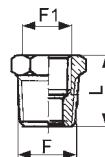
Double nipple 3-pc, male, UNI-ISO 7/1					
Max. nominal pressure [bar]	F	F1	L [mm]	Packaging unit [piece]	Article no.
Brass					
16	R 1/8	R 1/8	27.0	10	782090
	R 1/4	R 1/4	34.0	10	782091
	R 3/8	R 3/8	36.0	10	782092
	R 1/2	R 1/2	44.0	1	782093
	R 3/4	R 3/4	52.0	1	782094
	R 1	R 1	65.0	1	782095
	R 1/8	R 1/4	30.0	10	782096
	R 1/4	R 3/8	35.0	10	782097
Stainless steel 1.4571					
16	R 1/8	R 1/8	27.0	1	787853
	R 1/4	R 1/4	35.0	1	787854
	R 3/8	R 3/8	36.0	1	787855
	R 1/2	R 1/2	44.0	1	787856
	R 3/4	R 3/4	75.0	1	787857
	R 1	R 1	90.0	1	787858
	R 1 1/2	R 1 1/2	110.0	1	787859
	R 2	R 2	120.0	1	787860



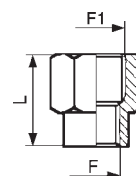
Reducer, cylindrical UNI-ISO 228/1					
Max. nominal pressure [bar]	F	F1	L [mm]	Packaging unit [piece]	Article no.
Brass, nickel plated					
60	G 1/8	M5	10.5	10	781843
	G 1/4	G 1/8	13.0	10	780136
	G 3/8	G 1/8	14.0	10	780137
	G 1/2	G 1/4	14.0	10	780138
	G 3/4	G 1/4	15.5	10	780139
	G 1	G 3/8	15.5	10	780140
Stainless steel 1.4571					
40	G 1/4	G 1/8	11.0	1	787861
	G 3/8	G 1/4	14.0	1	787862
	G 1/2	G 3/8	18.0	1	787863
	G 3/4	G 1/2	24.0	1	787865
	G 1	G 3/4	21.0	1	787866



Reducer, conical UNI-ISO 228/1 - UNI-ISO 7/1					
Max. nominal pressure [bar]	F	F1	L [mm]	Packaging unit [piece]	Article no.
Brass, nickel plated					
60	R 1/4	G 1/8	16.0	10	782017
	R 3/8	G 1/8	17.0	10	782018
	R 1/2	G 1/4	17.0	10	782019
	R 3/4	G 1/4	20.0	10	782020
	R 1	G 3/8	20.0	10	782021
	R 1 1/4	G 1/2	23.0	10	782022

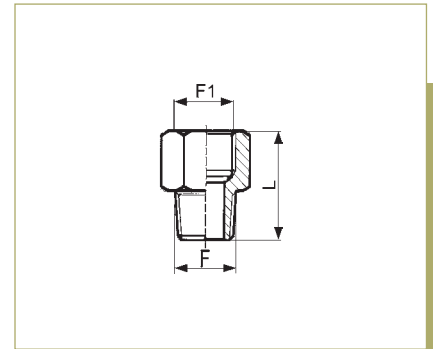


Reducer sleeve UNI-ISO 228/1					
Max. nominal pressure [bar]	F	F1	L [mm]	Packaging unit [piece]	Article no.
Brass, nickel plated					
60	G 1/8	G 1/4	21.5	10	782038
	G 1/4	G 3/8	25.5	10	782040
	G 1/4	G 1/2	28.5	10	782041
	G 3/8	G 1/2	29.5	10	782042

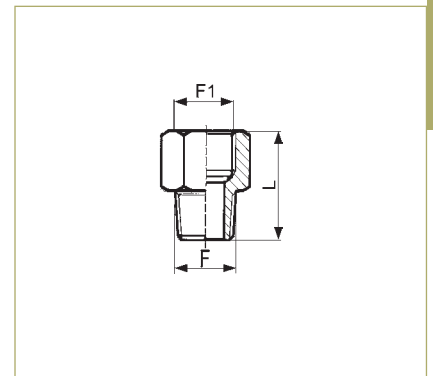


Ordering charts for standard fittings

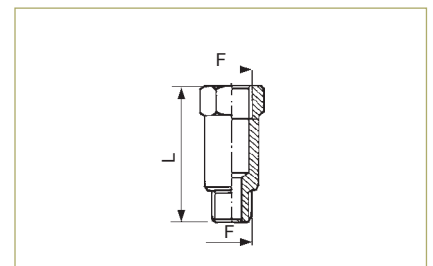
Extension nipple, conical UNI-ISO 228/1 - UNI-ISO 7/1					
Max. nominal pressure [bar]	F	F1	L [mm]	Packaging unit [piece]	Article no.
Brass, nickel plated					
60	R 1/8	G 1/8	20.0	10	782023
	R 1/8	G 1/4	22.5	10	782024
	R 1/4	G 1/4	25.0	10	782025
	R 1/4	G 3/8	28.5	10	782026
	R 3/8	G 3/8	28.5	10	782027
	R 3/8	G 1/2	32.0	10	782028
	R 1/2	G 1/2	34.0	10	782029



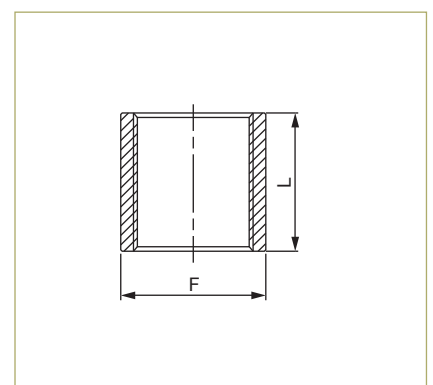
Extension nipple, cylindrical UNI-ISO 228/1 without O-ring					
Max. nominal pressure [bar]	F	F1	L [mm]	Packaging unit [piece]	Article no.
Brass, nickel plated					
60	M5	G 1/8	17.0	10	782030
	G 1/8	G 1/8	18.5	10	782031
	G 1/8	G 1/4	21.5	10	782032
	G 1/4	G 1/4	22.5	10	782033
	G 1/4	G 3/8	26.0	10	782034
	G 3/8	G 3/8	26.5	10	782035
	G 3/8	G 1/2	29.5	10	782036
	G 1/2	G 1/2	29.5	1	782037



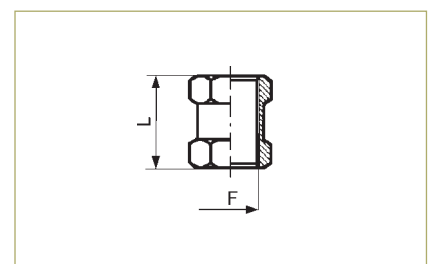
Extension UNI-ISO 228/1				
Max. nominal pressure [bar]	F	L [mm]	Packaging unit [piece]	Article no.
Brass, nickel plated				
60	G 1/8	22	10	782085
	G 1/8	42	10	782086
	G 1/8	51	10	782087
	G 1/4	35	10	782088
	G 1/4	51	10	782089



Sleeves UNI-ISO 7/1				
Max. nominal pressure [bar]	F	L [mm]	Packaging unit [piece]	Article no.
Stainless steel 1.4408				
40	Rp 1/8	18.0	1	787868
	Rp 1/4	26.0	1	787869
	Rp 3/8	26.0	1	787870
	Rp 1/2	30.0	1	787871
	Rp 3/4	35.0	1	787872
	Rp 1	40.0	1	787873
	Rp 1 1/4	48.0	1	787874
	Rp 1 1/2	48.0	1	787875
Rp 2	56.0	1	787876	

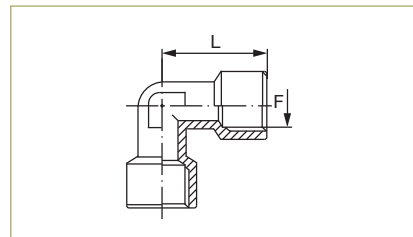


Sleeves UNI-ISO 228/1				
Max. nominal pressure [bar]	F	L [mm]	Packaging unit [piece]	Article no.
Brass, nickel plated				
60	M5	11.0	10	782004
	G 1/8	15.0	10	780132
	G 1/4	22.0	10	780133
	G 3/8	24.0	10	780134
	G 1/2	30.0	10	780135

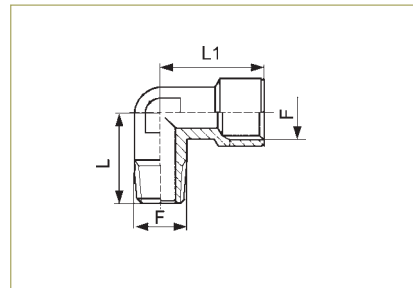


Ordering charts for standard fittings

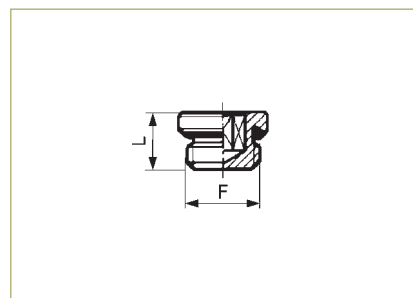
Elbow, female UNI-ISO 228/1				
Max. nominal pressure [bar]	F	L [mm]	Packaging unit [piece]	Article no.
Brass, nickel plated				
60	G 1/8	20.5	10	782047
	G 1/4	26.0	10	782048
	G 3/8	30.0	10	782049
	G 1/2	36.0	1	782050



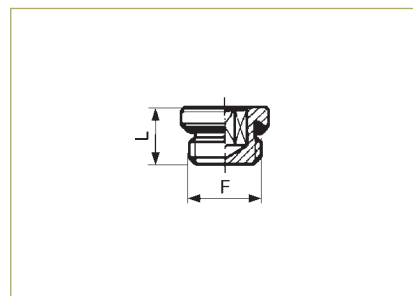
Elbow, male-female UNI-ISO 228/1					
Max. nominal pressure [bar]	F	F1	L [mm]	Packaging unit [piece]	Article no.
Brass, nickel plated					
60	M5	11.0	11.5	10	788365
	G 1/8	16.5	20.5	10	782051
	G 1/4	24.5	26.0	10	782052
	G 3/8	26.0	30.0	10	782053
	G 1/2	30.0	36.0	1	782054



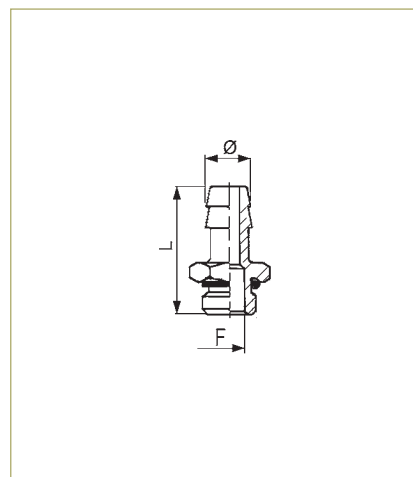
Plug without O-ring UNI-ISO 228/1				
Max. nominal pressure [bar]	F	L [mm]	Packaging unit [piece]	Article no.
Stainless steel, 1.4571				
40	G 1/2	15.0	1	787816
	G 3/4	11.0	1	787817
	G 1/8	11.0	1	787877
	G 1/4	13.0	1	787878
	G 3/8	14.0	1	787879
	G 1	22.0	1	787880



Plug with O-ring UNI-ISO 228/1				
Max. nominal pressure [bar]	F	L [mm]	Packaging unit [piece]	Article no.
Brass, nickel plated				
16	M5	6.5	10	782005
	M7	8.5	10	787054
	G 1/8	8.5	10	780141
	G 1/4	11.0	10	780142
	G 3/8	12.5	10	780143
	G 1/2	14.5	10	780144

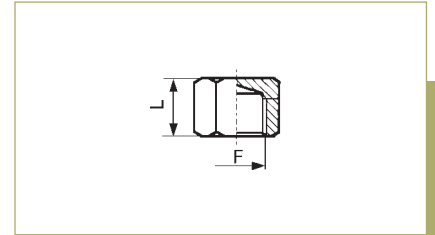


Hose connectors with O-ring UNI-ISO 228/1					
Max. nominal pressure [bar]	F	Diameter [mm]	L [mm]	Packaging unit [piece]	Article no.
Brass, nickel plated					
60	G 1/8	7	31.0	10	782070
	G 1/4	7	33.0	10	782071
	G 1/8	8	31.0	10	782072
	G 1/8	9	31.0	10	782073
	G 1/4	9	33.0	10	782074
	G 3/8	9	34.0	10	782075
	G 1/4	12	33.0	10	782076
	G 3/8	12	34.0	10	782077
	G 1/2	12	36.0	10	782078
	G 3/8	17	34.0	10	782079
	G 1/2	17	36.0	10	782080

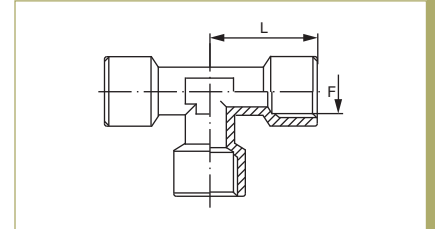


Ordering charts for standard fittings

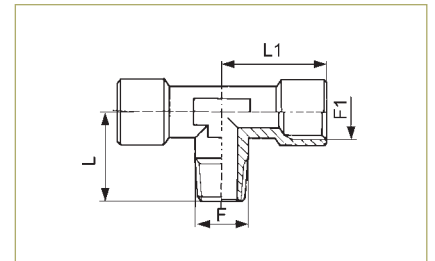
Blanking nuts UNI-ISO 228/1				
Max. nominal pressure [bar]	F	L [mm]	Packaging unit [piece]	Article no.
Brass, nickel plated				
60	G 1/8	13.0	10	782043
	G 1/4	15.0	10	782044
	G 3/8	17.5	10	782045
	G 1/2	20.0	10	782046



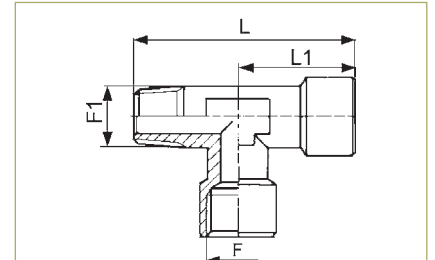
Tee, female UNI-ISO 228/1				
Max. nominal pressure [bar]	F	L [mm]	Packaging unit [piece]	Article no.
Brass, nickel plated				
60	G 1/8	20.5	10	782055
	G 1/4	26.0	10	782056
	G 3/8	30.0	1	782057
	G 1/2	36.0	1	782058



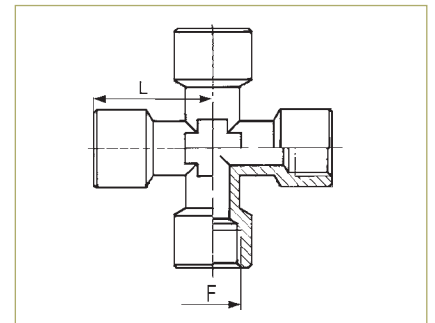
Tee, central male UNI-ISO 228/1					
Max. nominal pressure [bar]	F	L	L1 [mm]	Packaging unit [piece]	Article no.
Brass, nickel plated					
60	G 1/8	16.5	20.5	10	782059
	G 1/4	24.5	26.0	10	782060
	G 3/8	26.0	30.0	1	782061
	G 1/2	30.0	36.0	1	782062



Tee, lateral male UNI-ISO 228/1						
Max. nominal pressure [bar]	F	F1	L [mm]	L1 [mm]	Packaging unit [piece]	Article no.
Brass, nickel plated						
60	G 1/8	G 1/8	37.0	20.5	10	782063
	G 1/4	G 1/4	50.5	26.0	10	782064
	G 3/8	G 3/8	56.0	30.0	1	782065
	G 1/2	G 1/2	66.0	36.0	1	782066



Cross female UNI-ISO 228/1				
Max. nominal pressure [bar]	F	L [mm]	Packaging unit [piece]	Article no.
Brass, nickel plated				
60	G 1/8	20.5	10	782067
	G 1/4	26.0	1	782068
	G 3/8	28.0	1	782069

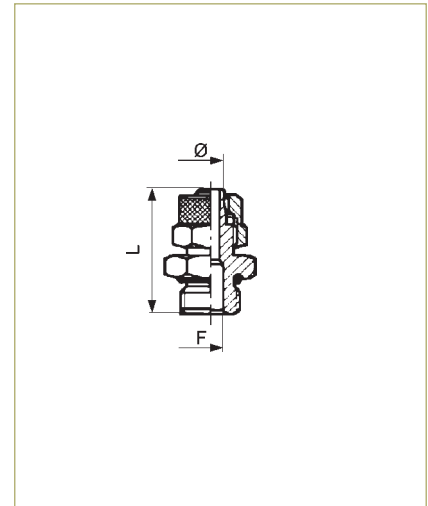


Ordering charts for quick screw fittings

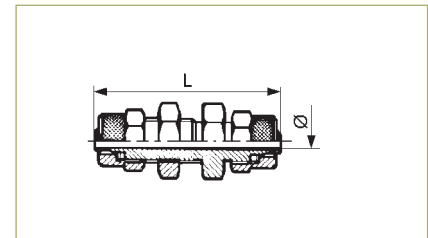
TVU001/TVG003

Straight screwed fittings			
Max. nominal pressure [bar]	F	Packaging unit [piece]	Article no.
Plastic, PPS			
10	G ¼-28-½"	1	787060
	G ¼-28-½"	1	787061
	G ¼-28-½"	1	787062
	G ¼-28-1/1	1	787063
	G ¼-28-1/1	1	787064
	G ¼-28-1/1	1	787065

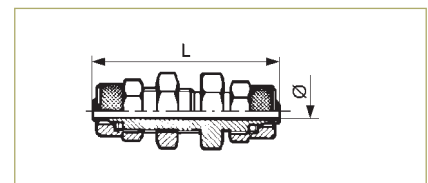
Straight screwed fittings with O-ring					
Max. nominal pressure [bar]	F	Diameter [mm]	L [mm]	Packaging unit [piece]	Article no.
Brass, nickel plated					
18	M5	4/2	23.0	10	780145
	M5	6/4	23.0	10	780146
	G ⅜	6/4	25.0	10	780147
	G ¼	6/4	27.0	10	780148
	G ⅜	8/6	25.0	10	780149
	G ¼	8/6	27.0	10	780150
	G ⅝	8/6	29.0	10	780151
	G ¼	10/8	29.0	10	780152
	G ⅝	10/8	31.0	10	780153
	G ½	10/8	33.0	10	780154
	G ⅝	12/10	33.0	10	780155
	G ½	12/10	35.0	1	780156



Bulkhead fittings				
Max. nominal pressure [bar]	Diameter [mm]	L (Ms) [mm]	Packaging unit [piece]	Article no.
Brass, nickel plated				
18	6/4	47.0	10	780165
	8/6	48.0	10	780165
	10/8	49.0	10	780167
	12/10	53.0	10	780168

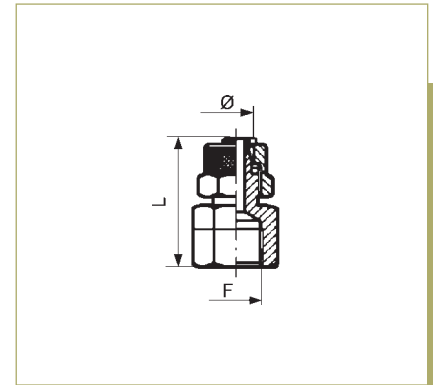


Bulkhead fittings				
Max. nominal pressure [bar]	Diameter [mm]	L (Ms) [mm]	Packaging unit [piece]	Article no.
Plastic				
10	6/4	50	10	782197
	8/6	51	10	782198

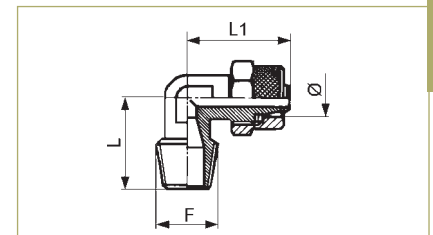


Ordering charts for quick screw fittings

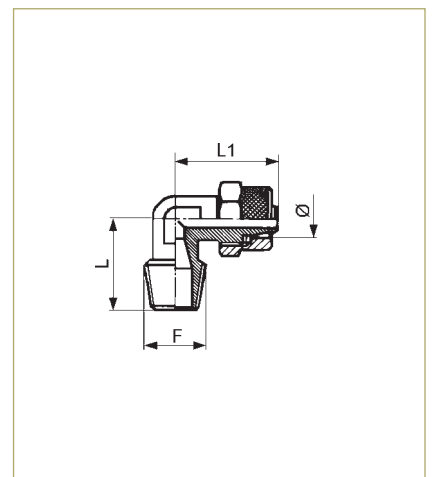
Pressure gauge fittings					
Max. nominal pressure [bar]	Diameter [mm]	F	L [mm]	Packaging unit [piece]	Article no.
Brass, nickel plated					
18	6/4	G 1/8	26.5	10	780157
	6/4	G 1/4	29.5	10	780158
	8/6	G 1/8	26.5	10	780159
	8/6	G 1/4	29.0	10	780160
	8/6	G 3/8	33.0	10	780161
	10/8	G 1/4	31.0	10	780162
	10/8	G 3/8	35.0	10	780163
10/8	G 1/2	38.0	10	780164	



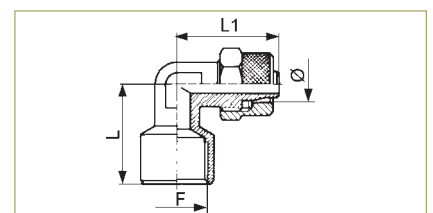
Elbow, male conical UNI-ISO 7/1						
Max. nominal pressure [bar]	Diameter [mm]	F	L [mm]	L1 [mm]	Packaging unit [piece]	Article no.
Plastic						
18	6/4	R 1/8	16.0	23.0	10	782209
	6/4	R 1/4	19.0	24.0	10	782211
	8/6	R 1/4	20.0	25.0	10	782212



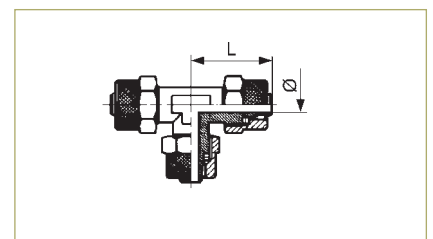
Elbow, male conical UNI-ISO 7/1						
Max. nominal pressure [bar]	Diameter [mm]	F	L (Ms) [mm]	L1 (Ms) [mm]	Packaging unit [piece]	Article no.
Brass, nickel plated						
18	5/3	R 1/8	17.0	21.5	10	782163
	6/4	R 1/8	17.0	22.0	10	782164
	8/6	R 1/8	17.0	22.0	10	782165
	6/4	R 1/4	20.0	22.0	10	782166
	8/6	R 1/4	20.0	22.0	10	782167
	10/8	R 1/4	21.0	25.0	10	782168
	8/6	R 3/8	22.0	23.0	10	782169
	10/8	R 3/8	22.0	25.0	10	782170
	12/10	R 3/8	24.0	31.0	10	782171
	10/8	R 1/2	26.0	28.5	10	782172
12/10	R 1/2	14.0	26.0	1	782173	



Elbow female						
Max. nominal pressure [bar]	Diameter [mm]	F	L [mm]	L1 [mm]	Packaging unit [piece]	Article no.
Brass, nickel plated						
18	6/4	G 1/8	21.0	22.0	10	782174
	8/6	G 1/4	24.0	23.0	10	782175

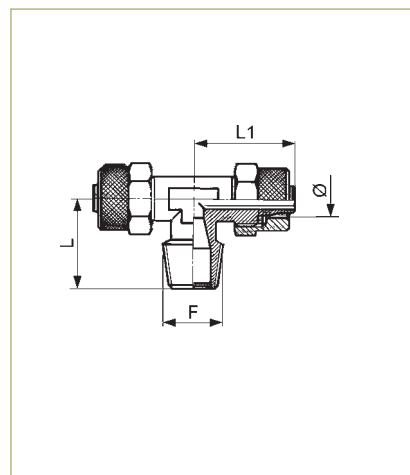


Tee connector				
Max. nominal pressure [bar]	Diameter [mm]	L [mm]	Packaging unit [piece]	Article no.
Brass, nickel plated				
18	6/4	22.0	10	780169
	8/6	22.0	10	780170
	10/8	25.0	10	780171
	12/10	31.0	1	780172

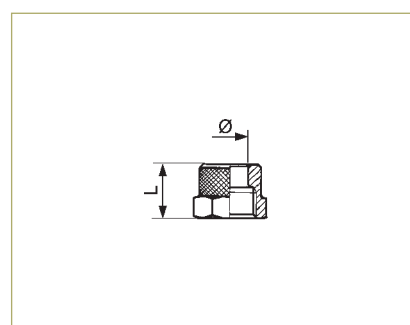


Ordering charts for standard fittings

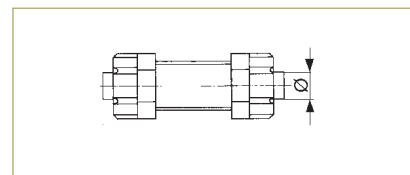
Tee, central male, conical UNI-ISO 7/1						
Max. nominal pressure [bar]	Diameter [mm]	F	L [mm]	L1 [mm]	Packaging unit [piece]	Article no.
Brass, nickel plated						
18	5/3	R 1/8	17.0	21.5	10	782176
	6/4	R 1/8	17.0	22.0	10	782177
	6/4	R 1/4	20.0	22.0	10	782179
	8/6	R 1/8	17.0	22.0	10	782178
	8/6	R 1/4	20.0	22.0	10	782180
	8/6	R 3/8	22.0	23.0	10	782182
	10/8	R 1/4	21.0	25.0	10	782181
	10/8	R 3/8	22.0	25.0	10	782183
	10/8	R 1/2	26.0	28.5	1	782185
	12/10	R 1/2	24.0	31.0	1	782186
	12/10	R 3/4	26.0	31.0	1	782184



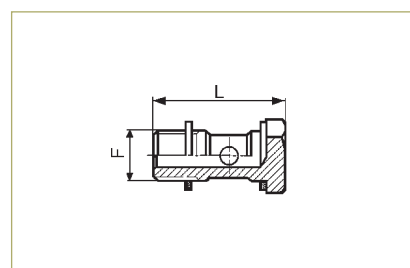
Union nut					
Max. nominal pressure [bar]	Diameter [mm]	F	L [mm]	Packaging unit [piece]	Article no.
Brass, nickel plated					
18	4/2	M7 × 0.5	9.0	10	780173
	6/4-M5	M8 × 0.5	9.0	10	780174
	6/4	M10 × 1	11.0	10	780175
	8/6	M12 × 1	11.0	10	780176
	10/8	M14 × 1	12.0	10	780177
	12/10	M16 × 1	12.0	10	780178



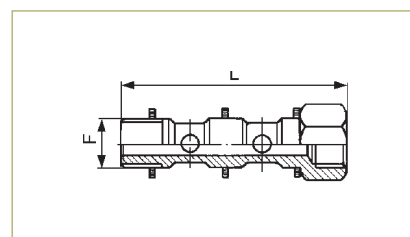
Hose connections with nut			
Max. nominal pressure [bar]	Diameter [mm]	Packaging unit [piece]	Article no.
Plastic, (POM)			
10	6/4	10	782221
	8/6	10	782222



Banjo bolt, single with 2 seals				
Medium	F	L [mm]	Packaging unit [piece]	Article no.
Brass, nickel plated				
Air	M5	18.0	10	780053
	G 1/8	28.0	10	780054
	G 1/4	33.0	10	780055
	G 3/8	37.0	10	780056
	G 1/2	42.0	1	780057

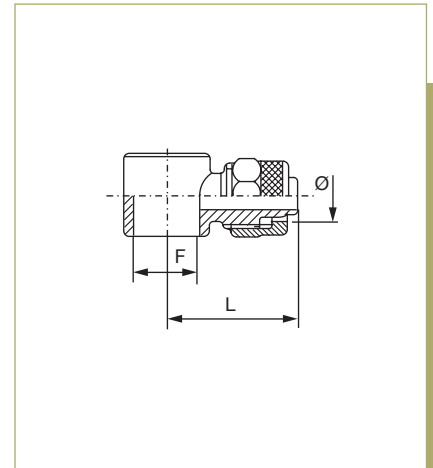


Banjo bolt, double with 3 seals				
Medium	F	L [mm]	Packaging unit [piece]	Article no.
Brass, nickel plated				
Air	G 1/8	44.5	10	780058
	G 1/4	51.5	10	780059
	G 3/8	58.5	10	780060
	G 1/2	67.5	1	780061

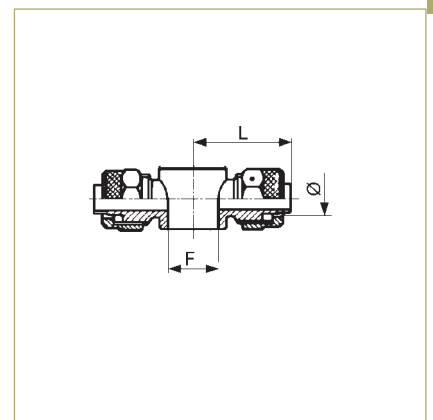


Ordering charts for standard fittings

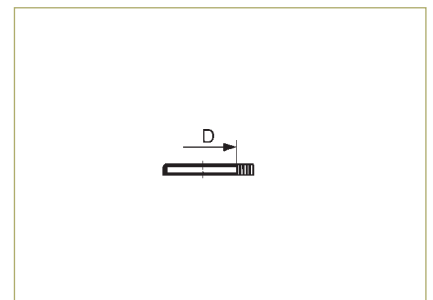
Single banjo body					
Max. nominal pressure [bar]	Diameter [mm]	F	L [mm]	Packaging unit [piece]	Article no.
Brass, nickel plated					
18	4/2	M5	20.5	10	780179
	6/4	M5	20.5	10	780180
	6/4	G 1/8	24.5	10	780181
	6/4	G 1/4	26.5	10	780182
	8/6	G 1/8	24.0	10	780183
	8/6	G 1/4	26.0	10	780184
	8/6	G 3/8	28.5	10	780185
	10/8	G 1/4	28.0	10	780186
	10/8	G 3/8	29.0	10	780187
	10/8	G 1/2	30.5	10	780188
	12/10	G 1/2	33.5	1	780189



Double banjo body					
Max. nominal pressure [bar]	Diameter [mm]	F	L [mm]	Packaging unit [piece]	Article no.
Brass, nickel plated					
18	6/4	G 1/8	24.5	10	780190
	6/4	G 1/4	26.5	10	780191
	8/6	G 1/8	25.0	10	780192
	8/6	G 1/4	26.0	10	780193
	8/6	G 3/8	28.5	10	780194
	10/8	G 1/4	27.5	10	780195
	10/8	G 3/8	29.0	10	780196
	10/8	G 1/2	30.5	10	780197
	12/10	G 1/2	33.5	10	780198

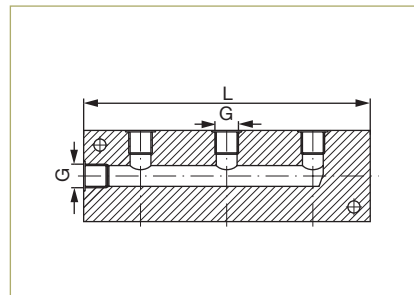


Seal rings				
Max. nominal pressure [bar]	Diameter [mm]	D [mm]	Packaging unit [piece]	Article no.
Aluminium				
18	1/8"	13.8	10	780200
	1/4"	17.8	10	780201
	3/8"	21.0	10	780202
	1/2"	26.0	10	780203
Plastic				
18	M5	9.0	10	780199

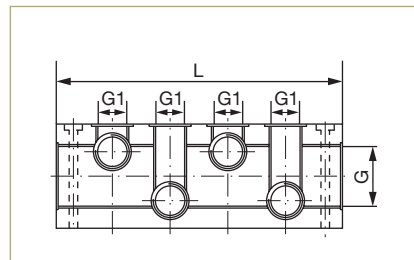


Ordering charts

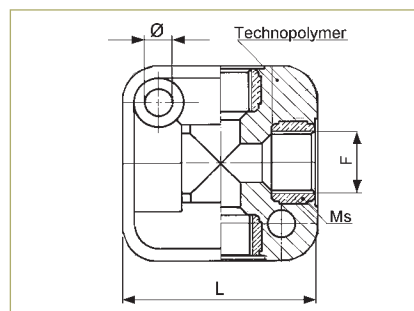
Distribution manifold, 3 valves				
Max. nominal pressure [bar]	G	L [mm]	Packaging unit [piece]	Article no.
Aluminium				
16	M5	40.0	1	787881
	G 1/8	56.0	1	787882
	G 1/4	89.0	1	787883
	G 3/8	85.0	1	787884
	G 1/2	105.0	1	787885



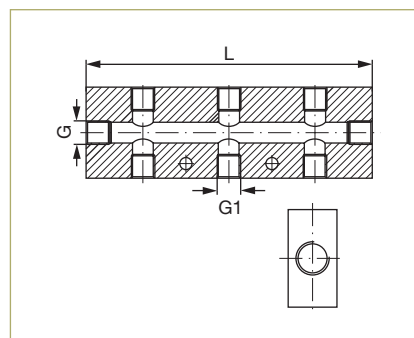
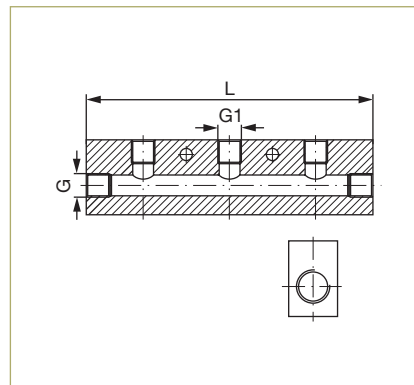
Distribution manifold, 8 valves					
Max. nominal pressure [bar]	G	G1	L [mm]	Packaging unit [piece]	Article no.
Aluminium					
16	G 1/4	M5	65.0	1	787886
	G 3/8	1/8"	114.0	1	787887
	G 1/2	1/4"	144.0	1	787888
	G 3/4	1/2"	170.0	1	787889



Four way distributor block					
Max. nominal pressure [bar]	F	Diameter [mm]	L [mm]	Packaging unit [piece]	Article no.
Body in plastic, threaded insert in brass					
13	G 1/8	4.5	31.0	1	782081
	G 1/4	5.5	40.0	1	782082
	G 3/8	5.5	50.0	1	782083
	G 1/2	5.5	50.0	1	780084



Flow manifold					
Max. nominal pressure [bar]	G	G1	L [mm]	Packaging unit [piece]	Article no.
Aluminium					
16	G 1/4	2 valves G 1/8	54.0	1	787890
	G 1/4	3 valves G 1/8	72.0	1	787891
	G 1/4	4 valves G 1/8	90.0	1	787892
	G 1/4	5 valves G 1/8	108.0	1	787893
	G 3/8	2 valves G 1/4	68.0	1	787894
	G 3/8	3 valves G 1/4	92.0	1	787895
	G 3/8	4 valves G 1/4	116.0	1	787896
	G 3/8	5 valves G 1/4	140.0	1	787897
Aluminium					
16	G 1/4	4 valves G 1/8	54.0	1	787717
	G 1/4	6 valves G 1/8	72.0	1	787718
	G 1/4	8 valves G 1/8	90.0	1	787719
	G 1/4	10 valves G 1/8	108.0	1	787720
	G 3/8	4 valves G 1/4	68.0	1	787721
	G 3/8	6 valves G 1/4	92.0	1	787722
	G 3/8	8 valves G 1/4	116.0	1	787723
	G 3/8	10 valves G 1/4	140.0	1	787724
	G 1/2	6 valves G 1/4	116.0	1	787725
	G 1/2	8 valves G 1/4	152.0	1	787726
G 1/2	10 valves G 1/4	188.0	1	787727	





Clean up your Cabinet!

Smart solutions for flexible automation

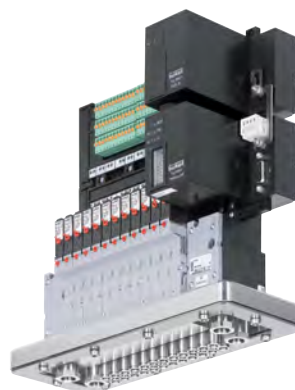
bürkert
FLUID CONTROL SYSTEMS

Pneumatic control of processes can be so easy! Whether low or high flow rate for controlling of pneumatically driven valves, our AirLINE valve islands match your flow rate specifications. Be it for direct wiring or interface modules like Multipol, Profibus, DevceNet, CANopen, Profinet, Ehternet or Modbus, any kind of communications are available.

Furthermore - with AirLINE Quick for example - our new adapter for valve islands and automation systems significantly reduces the need for components in the control cabinet like pneumatic hoses and cables - without any bulkhead connections! This cleans up your control cabinet and even allows for smaller ones. AirLINE Quick is available as a component or individually designed in a control cabinet - it's your choice!



*AirLINE Quick automation system
Type 8644 with interface module
and I/O modules from cooperation
partner Siemens ET 200S,
16 valve functions*



*AirLINE Quick valve island
Type 8640 with Profibus
DPV1, 24 valve functions
and 24 digital inputs*

Want to know more? Call us at +49 (0)79 40 10-0.

www.burkert.com

Silencer

TVG006

- Plastic version
- Sintered bronze with threaded or plug-in connection
- Different designs
- Flat design for restricted installation space
- Stainless steel silencer



Silencers are used to reduce the noise level of air flowing out of the pneumatic valves.

They consist of porous, permeable materials and are screwed directly to the outlet opening of a control valve.

- Silencers made of porous polyethylene
- Silencers made of sintered bronze with hexagon
- Silencers made of sintered bronze
- Silencers made of sintered bronze with slot
- Silencers made of sintered bronze with square
- Plug-in silencers
- Silencers made of stainless steel
- Flow restrictor silencer

Technical data

Housing material

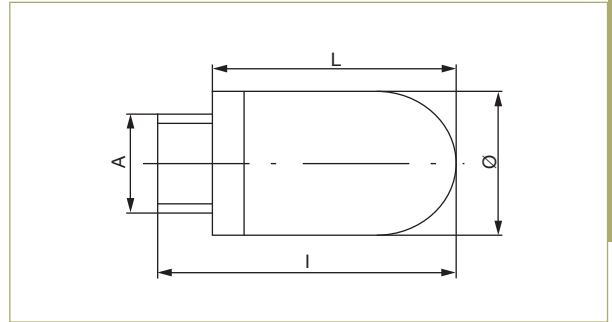
Porous polyethylene (see ordering chart)
Sintered bronze (see ordering chart)
Stainless steel (see ordering chart)

Further versions on request

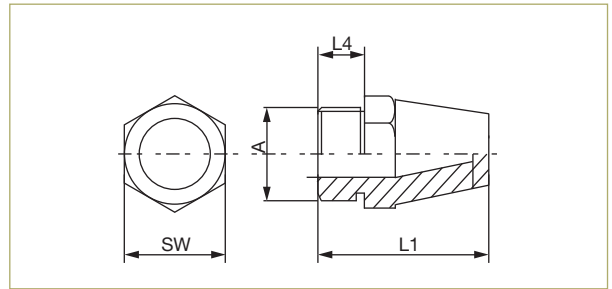
Ordering charts

- Silencer made of porous polyethylene
- Silencer made of sintered bronze with hexagonal, conical form
- Silencer made of sintered bronze
- Silencer made of sintered bronze with slot
- Silencer made of sintered bronze with sintered brass hexagonal
- Silencer made of sintered bronze with hexagonal, flat
- Silencer made of sintered bronze with sintered copper turned part
- Plug-silencer made of sintered bronze
- Silencer made of sintered bronze with thread in brass with slot
- Silencer made of sintered bronze with thread in brass
- Silencer made of stainless steel, flat
- Silencer made of stainless steel, cylindrical

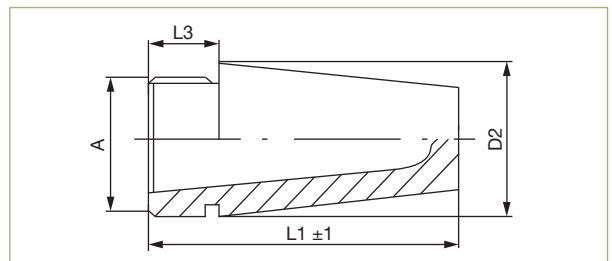
Oval made of porous polyethylene					
A	L [mm]	l [mm]	Ø [mm]	Packing unit [part]	Article no.
Medium: compressed air; middle pore size: 25 µm; max. pressure: 10 bar					
M5	17.5	21.5	6.8	10	780778
G 1/8	28	34	13	10	780779
G 1/4	36	43	16	10	780780
G 3/8	58	68	24	1	780781
G 1/2	69	79	24	1	780782
G 3/4	115	131	35	1	780783
G 1	140	160	46	1	780784



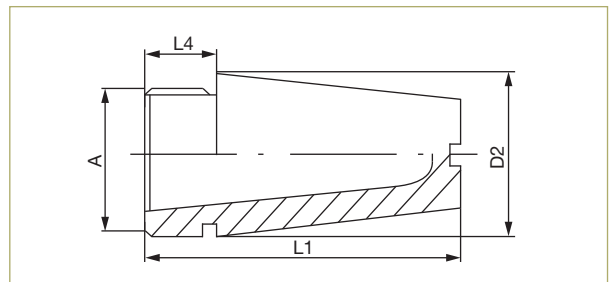
Made of sintered bronze with hexagonal, conical form					
A	L1 [mm]	L4 [mm]	SW [mm]	Packing unit [part]	Article no.
Medium: compressed air; middle pore size: 80 µm; max. pressure: 10 bar; temperature: max. 180 °C					
G 1/8	28	6	13	10	780785
G 1/4	34	8	17	10	780786
G 3/8	36	10	22	1	780788
G 1/2	44	12	27	1	780789
G 3/4	54	14	32	1	780790



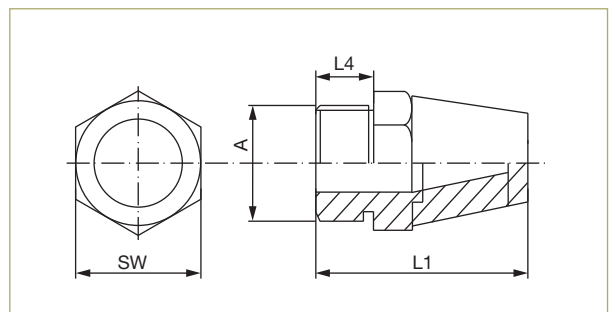
Made of sintered bronze, conical form					
A	D2 [mm]	L1 [mm]	L3 [mm]	Packing unit [part]	Article no.
Medium: compressed air; middle pore size: 80 µm; max. pressure: 10 bar; temperature: max. 180 °C					
G 1/8	11	21	5.5	10	780791
G 1/4	14	27	8.5	10	780792
G 3/8	18	36	11	10	780793
G 1/2	24	44	11	1	780794



Made of sintered bronze with slot, conical form					
A	D2 [mm]	L1 [mm]	L4 [mm]	Packing unit [part]	Article no.
Medium: compressed air; middle pore size: 80 µm; max. pressure: 10 bar; temperature: max. 180 °C					
G 1/8	11	21	5.5	10	780796
G 1/4	14	27	8.5	10	780797
G 3/8	18	36	11	10	780798
G 1/2	24	44	11	1	780799

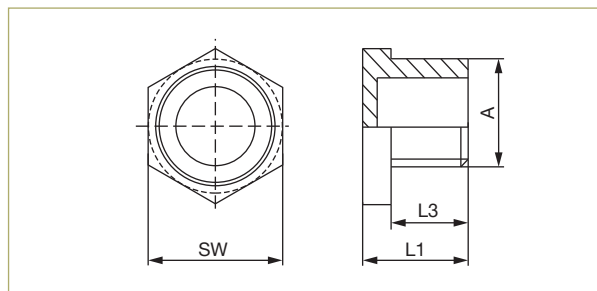


Made of sintered bronze with brass connection, conical form					
A	L1 [mm]	L4 [mm]	SW [mm]	Packing unit [part]	Article no.
Medium: compressed air; middle pore size: 80 µm; max. pressure: 10 bar; temperature: max. 180 °C					
G 1/8	28	6	13	10	780805
G 1/4	34	8	17	10	780806
G 3/8	36	10	22	1	780807
G 1/2	44	12	27	1	780808
G 3/4	54	14	32	1	780809

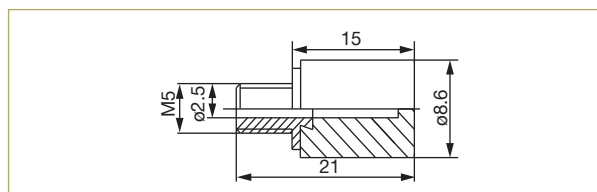


Ordering charts

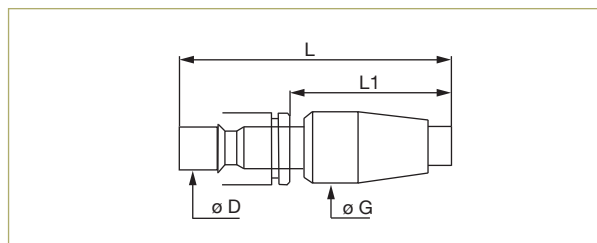
Made of sintered bronze with hexagonal, flat					
A	L1 [mm]	L3 [mm]	SW [mm]	Packing unit [part]	Article no.
Medium: compressed air; middle pore size: 80 µm; max. pressure: 10 bar; temperature: max. 180 °C					
G 1/8	12	8.5	11	10	780810
G 1/4	12	8.5	15	10	780811
G 3/8	15	11	19	1	780812
G 1/2	15	11	22	1	780813
G 3/4	17	13	29	1	780814



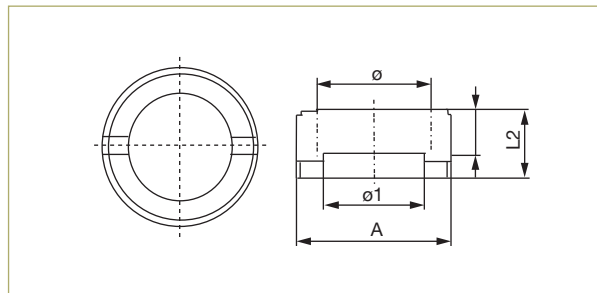
Made of sintered bronze with copper connection, cylindrical		
Connection	Packing unit [part]	Article no.
Medium pore size: 150 µm; max. pressure: 6 bar; temperature: max. 180 °C		
M5	10	780815



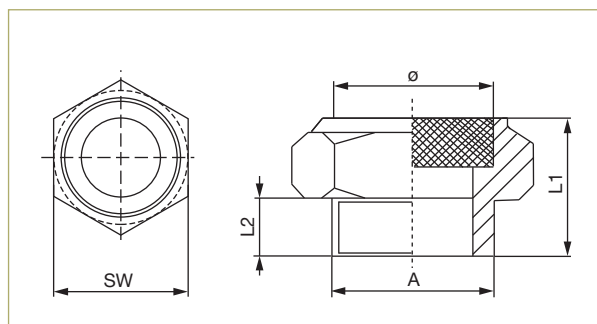
Plug-silencer made of sintered bronze; brass nickel plated housing				
Ø D [mm]	Ø G [mm]	L [mm]	L1 [mm]	Article no.
Medium: compressed air; max. pressure: 12 bar; temperature: max. 80 °C				
4	13	41.5	24.5	784307
6	15	48	29	784306
8	15	49.5	29.5	784304
10	19.5	68	43.5	784305



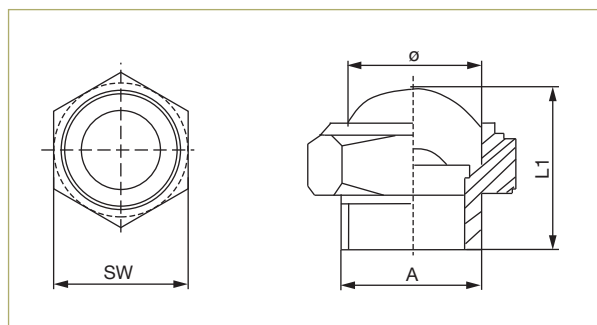
Made of sintered bronze; with thread in brass with slot, retractable					
A	Ø	Ø 1	L2	Packing unit [part]	Article no.
Medium: compressed air; max. pressure: 12 bar; temperature: max. 80 °C					
G 1/8	6.0	5.0	4.0	10	788921
G 1/4	8.0	6.0	4.0	10	781889
G 3/8	10.0	8.0	5.0	1	788922
G 1/2	15.0	12.0	8.0	1	788923
G 3/4	20.0	17.0	10.0	1	788924
G 1	26.0	23.0	10.0	1	788925










Made of sintered bronze; with thread in brass, flat						
A	Ø	L2	L1	SW	Packing unit [part]	Article no.
Medium: compressed air; max. pressure: 12 bar; temperature: max. 80 °C						
M5	6.5	3.5	8.0	8.0	10	788926
G 1/8	11.0	6.0	13.0	13.0	10	788927
G 1/4	14.0	8.0	16.0	16.0	10	788928
G 3/8	17.0	9.0	18.0	19.0	1	788929
G 1/2	22.0	11.0	20.0	24.0	1	788930
G 3/4	28.0	13.0	24.0	30.0	1	788931
G 1	34.0	15.0	27.0	36.0	1	788932

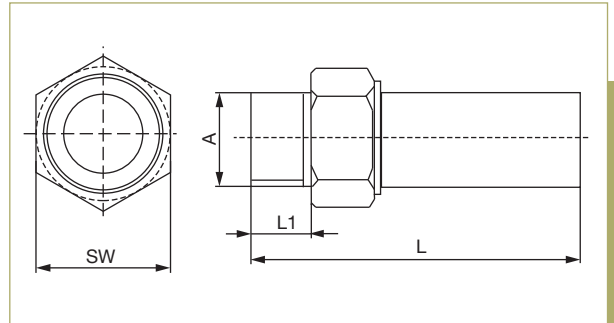


Made of stainless steel; flat					
A	Ø	L1	SW	Packing unit [part]	Article no.
Medium: compressed air; max. pressure: 12 bar; temperature: max. 80 °C					
M5	6.5	8.0	8.0	1	788933
G 1/8	11.0	16.0	13.0	1	788934
G 1/4	14.0	19.0	16.0	1	788935
G 3/8	17.0	21.0	19.0	1	788936
G 1/2	22.0	23.0	24.0	1	788937
G 3/4	28.0	27.0	30.0	1	788938
G 1	34.0	29.0	36.0	1	788939



Ordering charts

Made of stainless steel; cylindrical					
A	L1	L	SW	Packing unit [part]	Article no.
Medium: compressed air; max. pressure: 12 bar; temperature: max. 80 °C					
M5	3.5	16.0	8.0	1	788964 
G 1/8	6.0	25.0	13.0	1	788965 
G 1/4	8.0	33.0	16.0	1	788966 
G 3/8	9.0	40.0	19.0	1	788967 
G 1/2	10.0	47.0	24.0	1	788968 
G 3/4	10.0	56.0	30.0	1	788969 
G 1	15.0	64.0	36.0	1	788970 



Plastic hoses for pneumatic

TVG007

- Different versions
- PUR - thereby higher flexibility
- PA for higher pressure range
- PTFE for higher temperatures
- PE for standard applications



Synthetic hoses made from polyurethane (PUR), polyamide (PA soft) and polyethylene are durable at room temperature against water and oil. They are especially suitable for compressed air piping. They are available in 50 and 100 meter rolls.

The life span depends on the intensity of the ambient temperature and the operational pressure.

PTFE-hoses are suitable for high temperatures and against aggressive and respectively corrosive mediums; suitable for the food industry; only available in 50 meter rolls.

Technical data

Bench mark for load factor

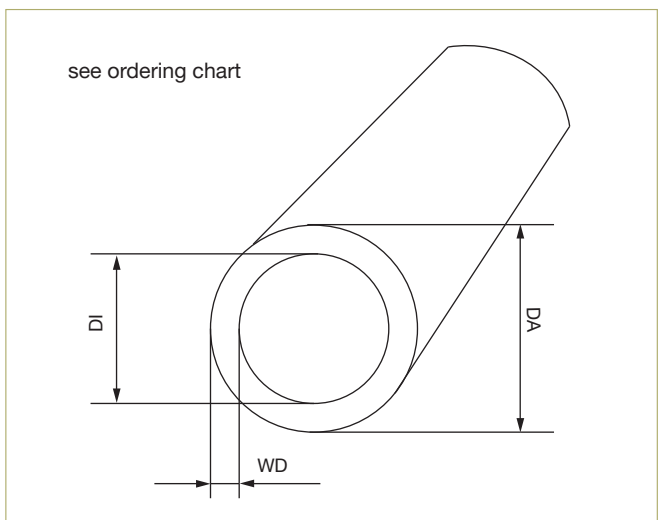
Temperature °C	Load factor of the permitted operational pressure (%) in relation to the Temperature (°C)		
	PUR	PA	PE
20	100	100	100
40	72	68	72
60	55	51	-
80	-	38	-
90	-	35	-
95	-	33	-

Bench mark for load factor

Temperature °C	Pressure factor %
	PTFE
20	100
50	50
100	35
150	30
200	10

Other versions on request

Dimensions [mm]



Ordering charts

Dimensions DA, DI, WD	Max. operation pressure at 23 °C [bar]	Min. curvature radius R _{min} [mm]	Weight [g/m]	Roll length 50 m		Roll length 100 m	
				Article no. Colour blue	Article no. Colour black	Article no. Colour blue	Article no. Colour black
PUR synthetic hose, (Shore 98+/-2), temperature range -40 °C to + 70 °C							
4 / 2.5 / 0.75	13	20	11.0	780630	780631	771860	771863
6 / 4 / 1	11	25	19.0	780632	780633	771287	771286
8 / 6 / 1	8	35	27.0	780634	780635	771288	771864
10 / 7.5 / 1.25	8	40	34.0	780636	780637	771861	771865
12 / 9 / 1.50	7	45	41.8	-	780639	771862	771866

Tolerance: +0.05 to -0.1 mm ±0.08 mm permissible curvature radius ≥ R_{min}

Dimensions DA, DI, WD	Max. operation pressure at 20 °C [bar]	Min. curvature radius R _{min} [mm]	Weight [g/m]	Roll length 50 m			Roll length 100 m		
				Article no. Colour blue	Article no. Colour natural	Article no. Colour black	Article no. Colour blue	Article no. Colour natural	Article no. Colour black
PA 12 flexible, temperature range -40 °C to + 90 °C									
4 / 2.7 / 0.65	30	20	10	780640	780642	780641	771867	771876	771872
6 / 4 / 1	27	25	16	780643	780645	780644	771868	771296	771295
8 / 6 / 1	15	30	23	780646	780648	780647	771869	771297	771873
10 / 8 / 1	15	60	30	780649	780651	780650	771870	771877	771874
12 / 9 / 1.50	19	85	36	780652	780654	780653	771871	771878	771875

Tolerance: +0.05 to -0.1 mm ±0.08 mm permissible curvature radius ≥ R_{min}

Dimensions DA, DI, WD	Max. Operation pressure at 20 °C [bar]	Min. Curvature radius R _{min} [mm]	Weight [g/m]	Roll length 50 m			Roll length 100 m		
				Article no. Colour blue	Article no. Colour natural	Article no. Colour black	Article no. Colour blue	Article no. Colour natural	Article no. Colour black
LDPE synthetic hose, temperature range -10 °C to + 40 °C									
4 / 2 / 1	17	20	9	780655	780657	780656	771879	771886	771881
6 / 4 / 1	10	30	14	780658	780660	780659	771289	771290	771882
8 / 6 / 1	7	40	20	780661	780663	780662	771291	771292	771883
10 / 8 / 1	5.6	60	26	780664	780666	780665	771293	771294	771884
12 / 10 / 1	4.5	85	31	780667	780669	780668	771880	771887	771885

Tolerance: D_A ±0.1 mm; ±0.1 mm permissible curvature radius ≥ R_{min}

Dimensions DA, DI, WD	Max. Operation pressure at 23 °C [bar]	Min. Curvature radius R _{min} [mm]	Weight [kg/m]	Roll length 50 m Article no. Colour natural
PTFE hose, temperature range -196 °C to + 250 °C				
4 / 2 / 1		25	2.05	788879
6 / 4 / 1		18	3.43	788880
8 / 6 / 1		14	4.80	788881
10 / 8 / 1		12	6.16	788882
12 / 10 / 1		10	7.55	788883

Tolerance: ±0.2 mm

Flow regulator, screwable and pluggable

- M5 to G ½ threaded connection
- 4 to 12 mm push-in connector
- Brass nickel plated, stainless steel, aluminium, plastic PBTP



- Restrictor valve
- One way flow restrictor
 - exhaust air
 - inlet air
- Check valve

Technical data

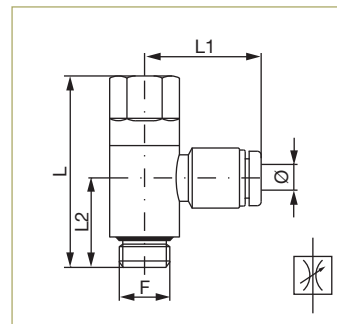
Material	Brass nickel plated
Medium	Air, neutral gases
Medium temperature	-10 up to +70 °C
Seal material O-Ring	NBR
Nominal pressure	Max. 10 bar ¹⁾
Material	Stainless steel AISI 316
Medium	Air, neutral gases
Medium temperature	-10 up to +120 °C
Seal material O-Ring	FKM
Nominal pressure	See ordering chart
Material	Plastic PBTP
Medium	Air, neutral gases, fluids
Medium temperature	0 to +60 °C
Seal material O-Ring	NBR
Nominal pressure	Max. 10 bar ¹⁾
Material	Aluminium
Medium	Air, neutral gases, fluids
Medium temperature	-10 up to +70 °C
Seal material O-Ring	NBR
Nominal pressure	Max. 10 bar ¹⁾

¹⁾ Pressure values [bar]: Overpressure with respect to atmospheric pressure

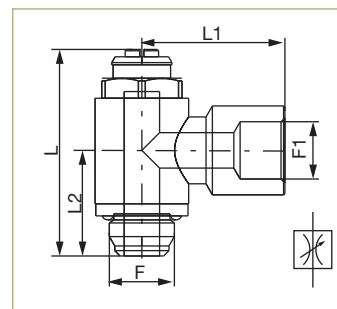
Other versions, connections, materials, sealing materials on request.

Ordering chart

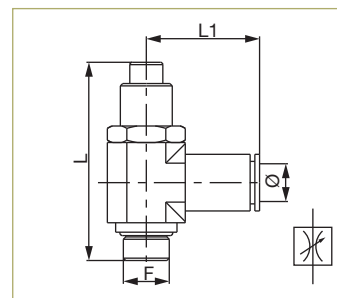
Restrictor valve							
Medium	F	Diameter [mm]	L [mm]	L1 [mm]	L2 [mm]	Packaging unit [piece]	Article no.
Brass, nickel plated							
Air	M5	4	28.0	24.0	10.5	1	780217
	G 1/8	4	37.0	25.0	18.5	1	780218
	G 1/8	6	37.0	26.0	18.5	1	780219
	G 1/4	6	50.0	28.0	24.0	1	780220
	G 1/8	8	37.0	31.0	18.5	1	780221
	G 1/4	8	50.0	31.0	24.0	1	780222
	G 1/4	10	50.0	36.0	24.0	1	780223



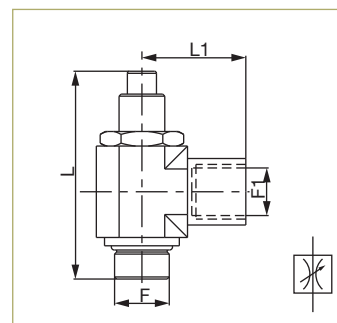
Medium	F	Threaded connection F1	L [mm]	L1 [mm]	L2 [mm]	Packaging unit [piece]	Article no.
Brass, nickel plated							
Air, neutral gases	G 1/8	G 1/8	30.9	21.4	15.8	1	780228
	G 1/4	G 1/4	37.0	25.5	19.1	1	780229



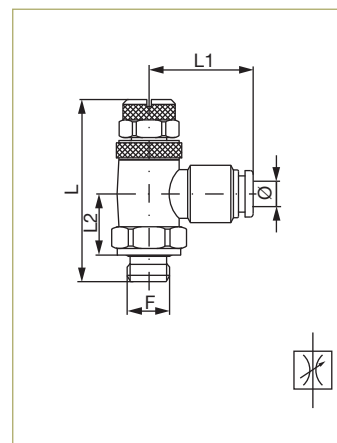
Medium	F	Diameter [mm]	L [mm]	L1 [mm]	Packaging unit [piece]	Article no.
Stainless steel AISI 316						
	1/8"	6	42.0	24.0	1	771636
	1/4"	6	50.0	27.0	1	771637
	1/8"	8	42.0	24.0	1	771638
	1/4"	8	50.0	27.0	1	771639
	3/8"	10	57.0	31.0	1	771640
	1/2"	12	70.0	34.0	1	771641



Medium	F	F1	L [mm]	L1 [mm]	Packaging unit [piece]	Article no.
Stainless steel AISI 316						
	1/8"	1/8"	42.0	20.0	1	771643
	1/4"	1/4"	50.0	25.0	1	770177
	3/8"	3/8"	57.0	28.0	1	771644
	1/2"	1/2"	70.0	31.0	1	771645

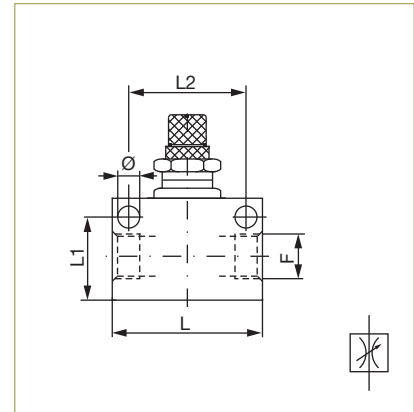


Medium	F	Diameter [mm]	L [mm]	L1 [mm]	L2 [mm]	Packaging unit [piece]	Article no.
Plastic PBTP							
Air, neutral gases	M5	4	27.7	19.1	13.5	1	783394
	1/8"	4	33.5	21.0	18.9	1	783395
	M5	6	27.7	20.8	13.5	1	783396
	1/8"	6	33.5	22.3	18.9	1	783398
	1/4"	6	38.8	24.3	23.0	1	783397
	1/8"	8	33.5	25.6	18.9	1	783400
	1/4"	8	38.8	27.2	23.0	1	783399
	1/4"	10	38.8	28.6	23.0	1	783401
	3/8"	10	47.2	30.3	26.9	1	783402
	1/4"	12	38.8	31.0	23.0	1	783403
	3/8"	12	47.2	32.4	26.9	1	783404
	1/2"	12	53.0	34.0	31.1	1	783405

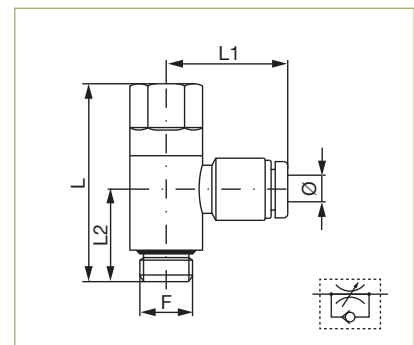


Ordering chart

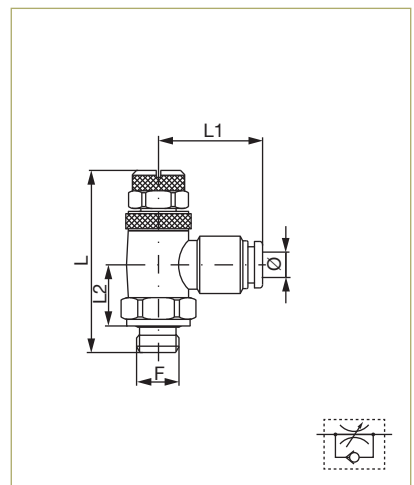
Restrictor valve, Block design							
Medium	F	Diameter [mm]	L [mm]	L1 [mm]	L2 [mm]	Packaging unit [piece]	Article no.
Aluminium							
Air	M5	4.2	21.0	12.5	15.0	1	783365
	G 1/8	4.2	31.0	18.2	25.0	1	783366
	G 1/4	6.5	45.0	24.5	35.0	1	783367
	G 3/8	6.5	50.0	25.5	35.0	1	783368
	G 1/2	6.5	59.0	35.0	44.0	1	783369
Stainless steel AISI 316							
Air, neutral gases	1/8"	4.2	32.0	17.0	22.0	1	771463
	1/4"	6.5	55.0	24.0	31.8	1	771464
	3/8"	6.5	55.0	24.0	31.8	1	771465
	1/2"	6.5	64.0	33.0	35.0	1	771466



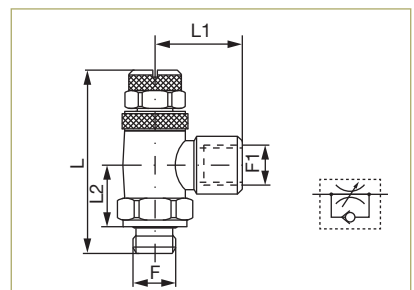
One way flow restrictor (inlet air)							
Medium	F	Diameter [mm]	L [mm]	L1 [mm]	L2 [mm]	Packaging unit [piece]	Article no.
Brass, nickel plated							
Air, neutral gases	G 1/8	4	37.0	25.0	18.5	1	780211
	G 1/8	6	37.0	26.0	18.5	1	780212
	G 1/4	6	50.0	28.0	24.0	1	780213
	G 1/8	8	37.0	31.0	18.5	1	780214
	G 1/4	8	50.0	31.0	24.0	1	780215
	G 1/4	10	50.0	36.0	24.0	1	780216



Medium	F	Diameter [mm]	L [mm]	L1 [mm]	L2 [mm]	Packaging unit [piece]	Article no.
Plastic PBTP							
Air, neutral gases	M5	4	29.5	18.2	17.6	10	771764
	1/8"	4	35.4	19.4	16.1	10	771765
	1/4"	4	42.6	24.0	18.6	10	771766
	M5	6	29.5	18.2	17.8	10	771767
	1/8"	6	35.4	19.4	17.0	10	771768
	1/4"	6	42.6	24.0	19.6	10	771769
	1/8"	8	35.4	19.4	17.7	10	771770
	1/4"	8	42.6	24.0	20.2	10	771771
	3/8"	8	48.0	26.3	21.7	5	771772
	1/4"	10	42.6	25.5	22.8	10	771773
	3/8"	10	48.0	26.3	23.7	5	771774
	3/8"	12	48.0	27.3	25.5	5	771775
	1/2"	12	53.5	29.1	28.6	5	771776



Medium	F	F1	L [mm]	L1 [mm]	L2 [mm]	Packaging unit [piece]	Article no.
Brass, nickel plated							
Air, neutral gases	1/8"	1/8"	42.0	21.4	19.7	1	783409
	1/4"	1/4"	48.0	25.5	24.0	1	783410
	3/8"	3/8"	53.0	31.5	28.0	1	783411



Ordering chart

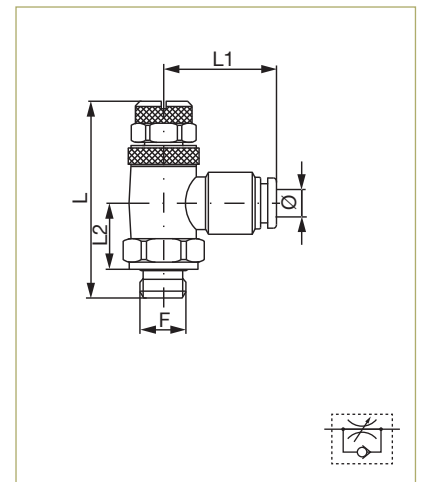
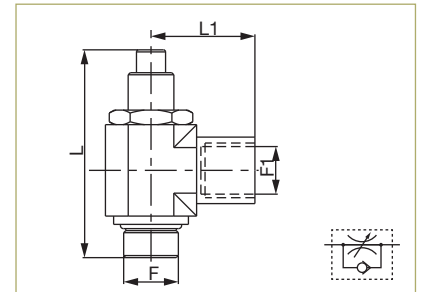
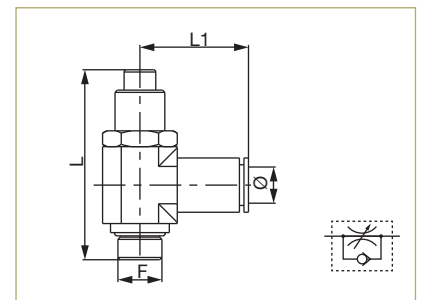
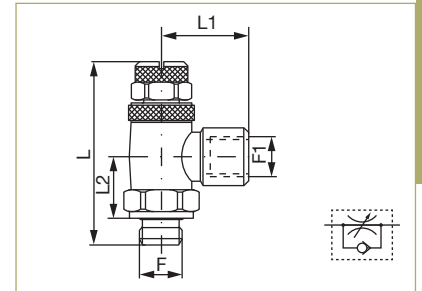
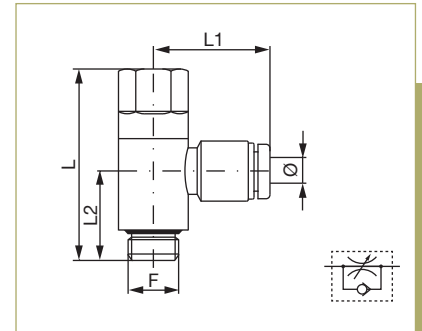
One way flow restrictor (exhaust air)							
Medium	F	Diameter [mm]	L [mm]	L1 [mm]	L2 [mm]	Packaging unit [piece]	Article no.
Brass, nickel plated							
Air	M5	4	28.0	24.0	10.5	1	780204
	G 1/8	4	37.0	25.0	18.5	1	780205
	G 1/8	6	37.0	26.0	18.5	1	780206
	G 1/4	6	50.0	28.0	24.0	1	780207
	G 1/8	8	37.0	31.0	18.5	1	780208
	G 1/4	8	50.0	31.0	24.0	1	780209
	G 1/4	10	50.0	36.0	24.0	1	780210

Medium	F	F1	L [mm]	L1 [mm]	L2 [mm]	Packaging unit [piece]	Article no.
Brass, nickel plated							
Air, neutral gases	1/8"	1/8"	42.0	21.4	19.7	1	783406
	1/4"	1/4"	48.0	25.5	24.0	1	783407
	3/8"	3/8"	53.0	31.5	28.0	1	783408

Medium	F	Diameter [mm]	L [mm]	L1 [mm]	Packaging unit [piece]	Article no.
Stainless steel AISI 316						
Air, neutral gases	1/8"	6	42.0	24.0	1	771753
	1/4"	6	50.0	27.0	1	771754
	1/8"	8	42.0	24.0	1	771755
	1/4"	8	50.0	27.0	1	771756
	3/8"	10	57.0	31.0	1	771757
	1/2"	12	70.0	34.0	1	771758

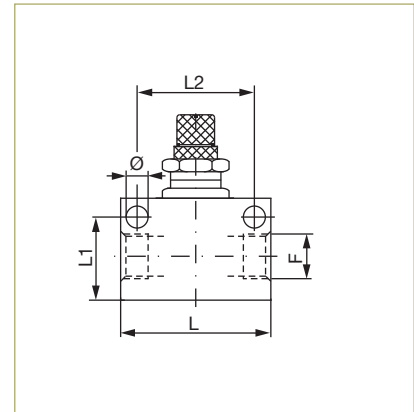
Medium	F	F1	L [mm]	L1 [mm]	Packaging unit [piece]	Article no.
Stainless steel AISI 316						
Air, neutral gases	1/8"	1/8"	42.0	20.0	1	771760
	1/4"	1/4"	50.0	25.0	1	771761
	3/8"	3/8"	57.0	28.0	1	771762
	1/2"	1/2"	60.0	31.0	1	771763

Medium	F	Diameter [mm]	L [mm]	L1 [mm]	L2 [mm]	Packaging unit [piece]	Article no.
Plastic PBTP							
Air, neutral gases	M5	4	29.5	18.2	17.6	10	771807
	1/8"	4	35.4	19.4	16.1	10	771808
	1/4"	4	42.6	24.0	18.6	10	771809
	M5	6	29.5	18.2	17.8	10	771810
	1/8"	6	35.4	19.4	17.0	10	771811
	1/4"	6	42.6	24.0	19.6	10	771812
	1/8"	8	35.4	19.4	17.7	10	771813
	1/4"	8	42.6	24.0	20.2	10	771814
	3/8"	8	48.0	26.3	21.7	5	771815
	1/4"	10	42.6	25.5	22.8	10	771816
	3/8"	10	48.0	26.3	23.7	5	771817
	3/8"	12	48.0	27.3	25.5	5	771818
	1/2"	12	53.5	29.1	28.6	5	771819

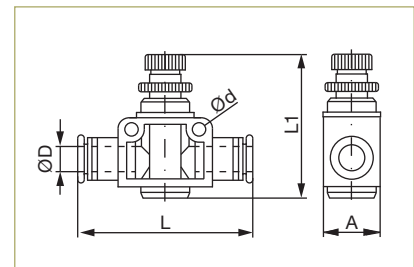


Ordering chart

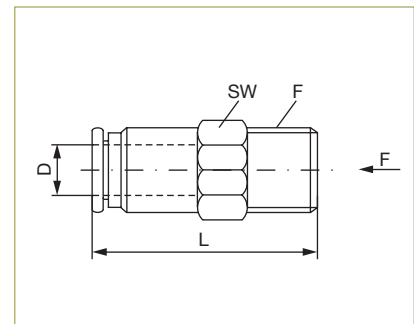
One way flow restrictor, Block design							
Medium	F	Diameter [mm]	L [mm]	L1 [mm]	L2 [mm]	Packaging unit [piece]	Article no.
Aluminium							
Air	M5	4.2	21.0	12.5	15.0	1	783360
	G 1/8	4.2	31.0	18.2	25.0	1	783361
	G 1/4	6.5	45.0	24.5	35.0	1	783362
	G 3/8	6.5	50.0	25.5	35.0	1	783363
	G 1/2	6.5	59.0	35.0	44.0	1	783364
Stainless steel AISI 316							
Air, neutral gases	1/8"	4.2	32.0	17.0	22.0	1	771459
	1/4"	6.5	55.0	24.0	31.8	1	771460
	3/8"	6.5	55.0	24.0	31.8	1	771461
	1/2"	6.5	64.0	33.0	35.0	1	771462



One way flow restrictor, Block design							
Medium	Diameter D [mm]	Diameter d [mm]	L [mm]	L1 [mm]	A [mm]	Packaging unit [piece]	Article no.
Plastic							
Air	4	3.2	40.0	29.0	11.0	1	783415
	6	4.3	47.0	44.0	15.0	1	783416
	8	4.3	52.0	47.8	18.0	1	783417
	10	4.3	62.8	53.2	21.0	1	783418
	12	4.3	74.0	57.0	28.0	1	783419

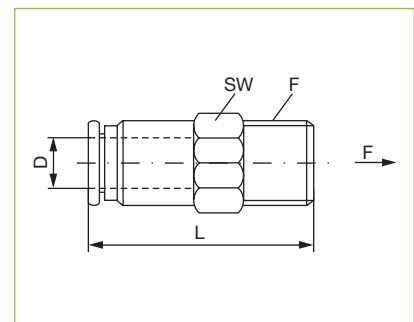


Check valve with external thread and plug connection, Flow rate from F to D								
Medium	Pressure P _{max} [bar] ¹⁾	Medium temperature [°C]	F	Diameter D [mm]	L [mm]	SW [mm]	Packaging unit [piece]	Article no.
Brass, nickel plated								
Air	0.9 – 10	0 to +60	M5	4	30.0	10	1	783425
			G 1/8	4	24.7	10	1	783426
			G 1/8	6	28.6	12	1	783427
			G 1/8	8	30.5	14	1	783428
			G 1/4	6	28.6	14	1	783429
			G 1/4	8	35.1	14	1	783430



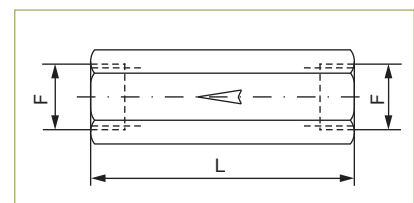
¹⁾ Pressure values [bar]: Overpressure with respect to atmospheric pressure

Check valve with external thread and plug connection, Flow rate from D to F								
Medium	Pressure P _{max} [bar] ¹⁾	Medium temperature [°C]	F	Diameter D [mm]	L [mm]	SW [mm]	Packaging unit [piece]	Article no.
Brass, nickel plated								
Air	0.9 – 10	0 to +60	M5	4	30.0	10	1	783434
			G 1/8	4	24.7	10	1	783435
			G 1/8	6	28.6	12	1	783436
			G 1/8	8	30.5	14	1	783437
			G 1/4	6	28.6	14	1	783438
			G 1/4	8	35.1	14	1	783439



¹⁾ Pressure values [bar]: Overpressure with respect to atmospheric pressure

Check valve with internal thread							
Medium	Pressure P _{max} [bar] ¹⁾	Medium temperature [°C]	Opening pressure	F	L [mm]	Packaging unit [piece]	Article no.
Brass, nickel plated							
Air	10	Max. +70	0.05	G 1/8	34.0	1	783455
				G 1/4	39.0	1	783456

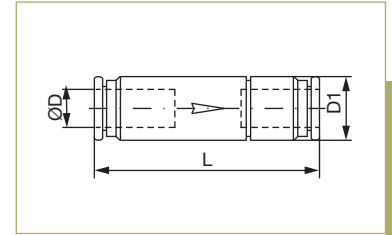


¹⁾ Pressure values [bar]: Overpressure with respect to atmospheric pressure

Ordering chart

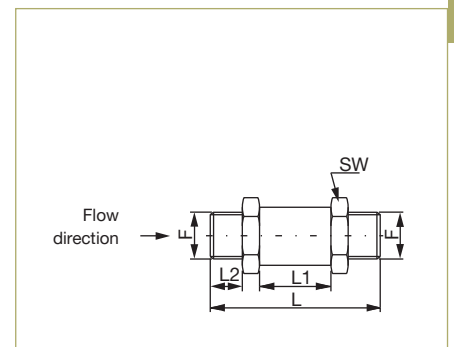
Check valve with plug connection							
Medium	Pressure P_{max} [bar] ¹⁾	Medium temperature [°C]	Diameter D [mm]	Diameter D1 [mm]	L [mm]	Packaging unit [piece]	Article no.
Plastic							
Air	0.9 to 10	+50	4	10.0	41.1	1	783420
			6	12.4	47.2	1	783421
			8	14.4	51.6	1	783422

¹⁾ Pressure values [bar]: Overpressure with respect to atmospheric pressure

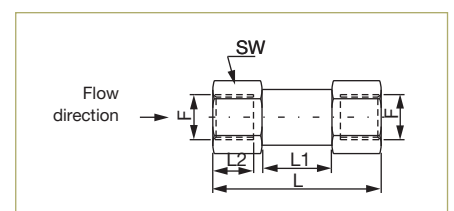


Check valves					
Material	Medium	Pressure	Opening pressure [bar] ¹⁾	Medium temperature [°C]	Packaging unit [piece]
Brass, untreated	Air	PN10	0.1	Max. 70	1

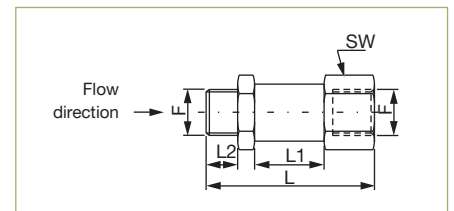
Check valves								
Opening pressure [bar] ¹⁾	Medium temperature [°C]	Packaging unit [piece]	F	L [mm]	L1 [mm]	L2 [mm]	SW [mm]	Article no.
Brass, untreated, air, PN10,								
0.1	Max. 70	1	G ¼	48.5	15.5	9.0	17	783443
			G ⅜	54.0	15.0	11.5	19	783444
			G ½	on request	on request	on request	24	783445



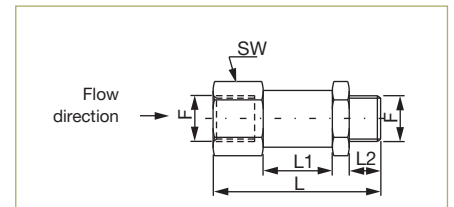
0.1	Max. 70	1	G ¼	48.5	20.5	8.0	17	783446
			G ⅜	54.0	23.0	10.0	19	783447
			G ½	64.0	30.0	12.0	24	783448



0.1	Max. 70	1	G ¼	48.5	20.5	9.0	17	783449
			G ⅜	54.0	23.0	11.0	19	783450
			G ½	on request	on request	on request	on request	783451



0.1	Max. 70	1	G ¼	48.5	20.5	9.0	17	783452
			G ⅜	on request	on request	on request	19	783453
			G ½	65.5	30.0	14.0	24	783454



¹⁾ Pressure values [bar]: Overpressure with respect to atmospheric pressure

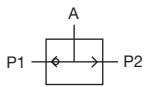
Shuttle valve

- Aluminium casing



The shuttle valve makes it possible to drive a consumer from two different supply locations. The valve casing is made from aluminium.

Circuit function



The pressurised port P1 or P2 is connected to A, while the other inlet is blocked. If both ports are subject to pressure, the higher pressure is guided to the outlet.

Technical data

Body material	Aluminium
Medium	Lubricated or non-lubricated, filtered air
Medium temperature	-10 to +80 °C
Nominal pressure	2 to 10 bar ¹⁾
Fluid connection	G 1/8, G 1/4

¹⁾ Pressure data [bar]: Overpressure with respect to atmospheric pressure

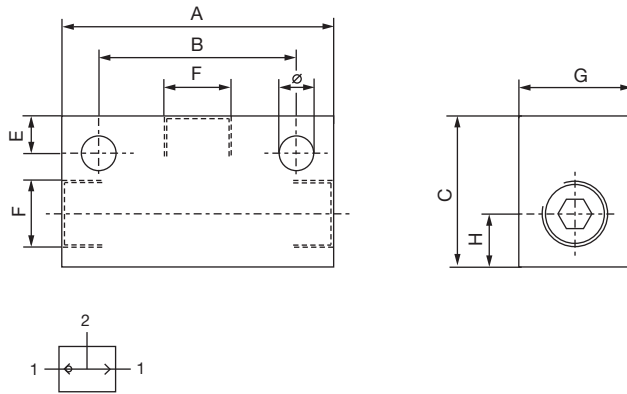
Other versions on request

Flow rate Q_{Nn} value air

Fluid connection	Q_{Nn} value air [l/min]	Pressure range [bar] ¹⁾
G 1/8	200	2 to 10
G 1/4	200	2 to 10

Measured at +20 °C, 6 bar¹⁾ pressure at the valve inlet and 1 bar pressure differential

Dimensions [mm]



Measurements [mm]							
Ø	F	A	C	G	H	E	B
4.5	G 1/8	36	20	15	7.5	4	25
4.5	G 1/4	43	25	20	8.5	6.5	25

Ordering chart

Fluid connection	Article no.
G 1/8	783708
G 1/4	787732

Quick exhaust valve

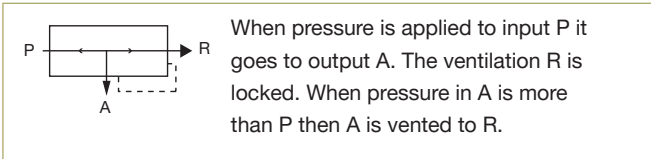
TRG001
Quick exhaust valve

- For direct mounting at consumer
- Short way to exhaust
- Fast cylinder movement



Quick exhaust valve that shortens the exhaust time for pneumatic linear and rotary actuators.

Circuit function:



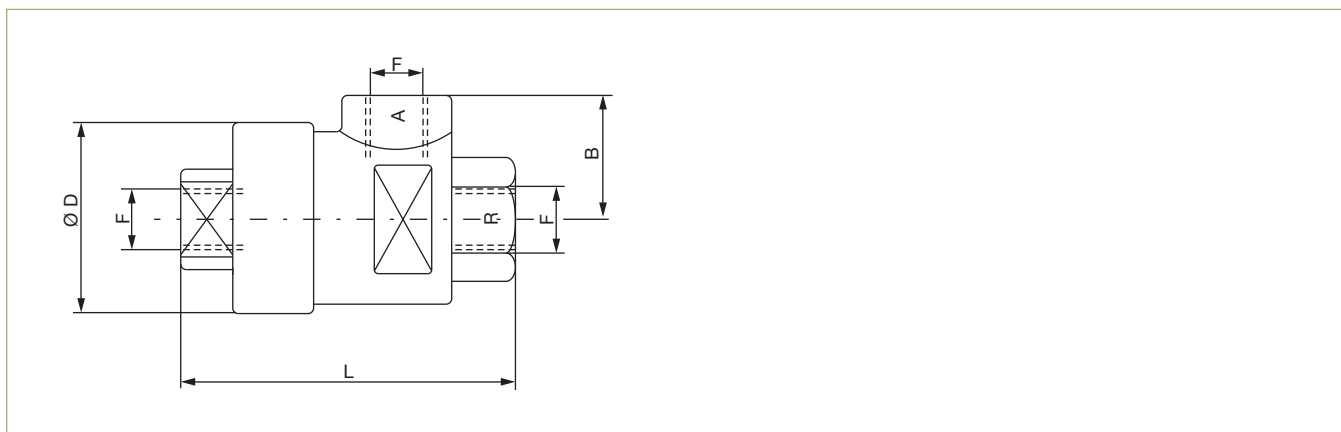
Technical data

Body material	Brass nickel plated
Medium	Air, neutral gases
Medium temperature	0 to +80 °C
Seal material	NBR
Nominal pressure	0.5 to 12 bar ¹⁾
Body material	Stainless steel AISI 316
Medium	Air, neutral gases
Medium temperature	-10 to +120 °C
Seal material	FKM
Nominal pressure	0.5 to 10 bar ¹⁾

¹⁾ Pressure values [bar]: Overpressure with respect to atmospheric pressure

Other versions, ports, materials, seal materials on request.

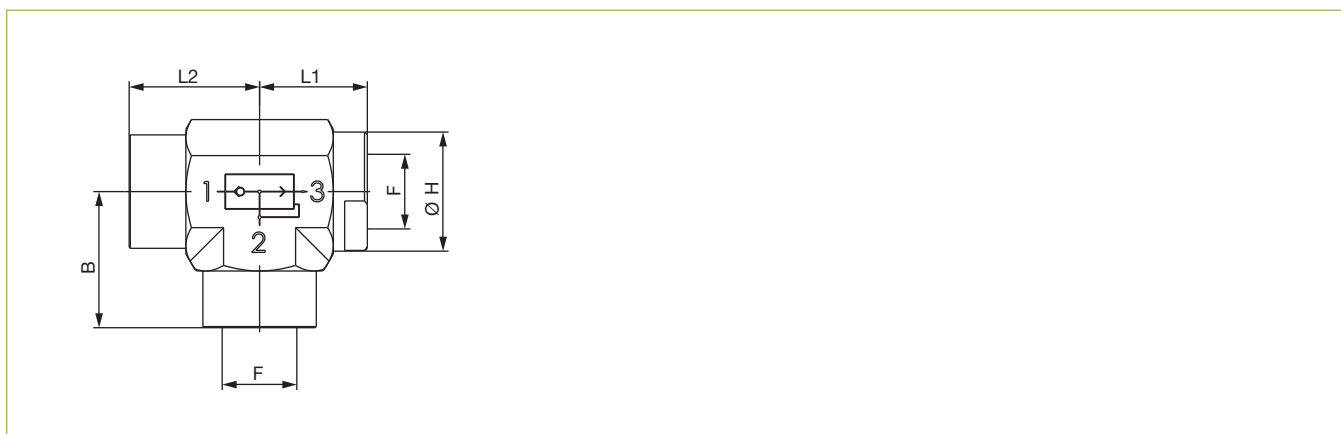
Dimensions [mm]



Ordering chart

Port connection	Pressure range [bar]	F	B	Ø D	L	Article no.
Brass, nickel plated						
G 1/8	0.5-12	G 1/8	19.5	28.0	42.0	783709
G 1/4	0.5-12	G 1/4	25.0	34.5	54.0	783710
G 3/8	0.5-12	G 3/8	26.5	38.0	60.5	772886
G 1/2	0.5-12	G 1/2	32.0	43.0	72.0	783711
G 3/4	0.5-12	G 3/4	37.0	48.5	88.0	771047
G 1	0.5-12	G 1	48.0	75.5	109.0	771048
M5	0.5-12	M5	10.0	20.0	25.0	772885

Dimensions [mm]



Ordering chart

Port connection	Q _{Nn} value Air [l/min] P → A	Q _{Nn} value Air [l/min] A → R	Pressure range [bar]	F	B	Ø H	L1	L2	Article no.
Stainless steel									
G 1/8	650	1100	0.5-40	G 1/8	23.0	17.0	16.5	21.0	771467
G 1/4	1290	2780	0.5-40	G 1/4	23.0	17.0	16.5	21.0	771468
G 3/8	1810	3810	0.5-40	G 3/8	26.0	22.0	19.0	25.5	771469
G 1/2	3810	5490	0.5-40	G 1/2	32.5	27.0	23.0	31.0	771470

Restrictor and restrictor silencer

- For direct mounting on consumer
- With integrated silencer
- Compact construction



Restrictor silencer is used to reduce the noise level and throttling/restriction of the exhaust compressed air on pneumatic valves.

Technical data

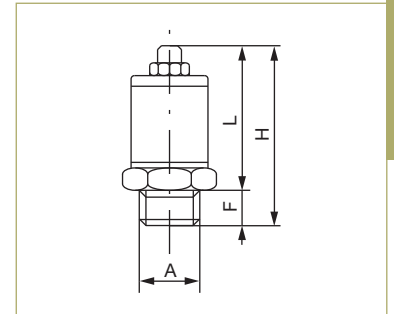
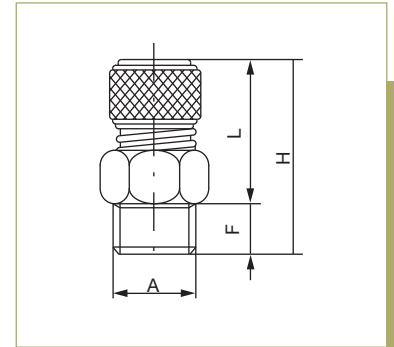
Pressure¹⁾	$P_{max} = 12 \text{ bar}$
Temperature	-10 °C to +80 °C
Material	Brass
Medium	Air, neutral gases

¹⁾ Pressure values [bar]: Overpressure with respect to atmospheric pressure

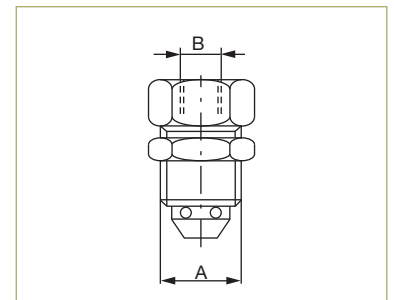
Other versions on request

Ordering chart

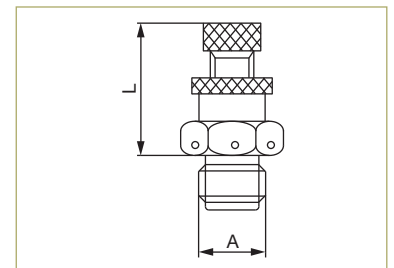
Restrictor silence					
A	F [mm]	L [mm]	H [mm]	Packing unit [piece]	Article no.
Brass					
G 1/8"	6	20-22	26-28	1	783316
G 1/4"	8	22-24	30-32	1	783317
G 3/8"	10	25-28	35-38	1	783318
G 1/2"	11	26-29	36-39	1	783319
G 3/4"	12	32-37	45-50	1	783320
G 1"	12	32-37	45-50	1	783321
Brass, cylindrical					
M5	3.5	13-18	16-21	1	783322
G 1/8"	8	30-36	38-44	1	783323
G 1/4"	9	30-36	39-45	1	783324
G 3/8"	10	33-50	43-60	1	783325
G 1/2"	11	33-50	48-61	1	783326
G 3/4"	11	56-80	68-92	1	783327
G 1"	11	56-80	68-92	1	783328



Restrictor			
A	B	Packing unit [piece]	Article no.
Brass, nickel plated with exhaust air connection			
G 1/8"	G 1/8"	10	783329
G 1/4"	G 1/8"	10	783330
G 3/8"	G 1/4"	1	783331
G 1/2"	G 1/4"	1	783332



Restrictor			
A	L [mm]	Packing unit [piece]	Article no.
Brass, nickel plated, free bleed-off			
G 1/8"	22	10	783333
G 1/4"	18	10	783334



Air preparation units

TPM001

- Modular configuration
- Compact design
- Simple mounting
- Relieving



The service equipment for compressed air is configured as required for each of the following individual devices:

- Filter drain
- Diaphragm pressure regulator
- Micro lubricator
- Pressure gauge
- Shut off valve
- Soft Start valve
- Stop valve
- Fine filter
- Activated carbon filter

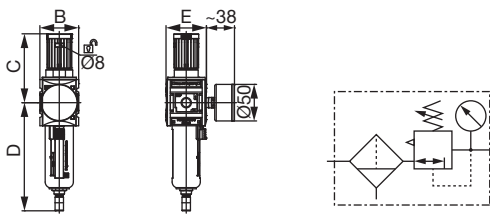
Technical data

Body material	Plastic: Grivory GV-6H with 60 % glass fibre
Process connection	Size 0-1/8", 1,2,4 Zinc die-cast Size 0-1/4" Plastic: Grivory GV-6H with 60 % glass fibre
Medium	Compressed air, neutral gases
Media temperature	0 to +50 °C at 10 barg
Ambient temperature	0 to +50 °C
Max. supply pressure	Size 0 12 barg Size 1,2,4 16 barg
Control range	0.5-10 barg
Size 0	Connection 1/8" and 1/4"
Size 1	Connection 1/4" and 3/8"
Size 2	Connection 3/8" and 1/2"
Size 4	Connection 3/4" and 1"
ATEX	
Zone 2, Category 3G,	EX-Group IIA, IIB and IIC
Zone 22, Category 3D	
Zone 1, Category 2G,	All equipment with size 1.2 and 4 except electrically operated valves
	EX-Group IIA, IIB and IIC
Zone 21, Category 2D	EX-Group IIIA and IIIB
Zone 22, Category 3D	EX-Gruppen IIIA and IIIB
Standard filter sizes	
Filter regulator	5 µm
Filter	5 µm
Fine filter	0.01 µm, remaining oil content <0.01 mg/m ³
Activated carbon filter	Remaining oil content <0.005 mg/m ³

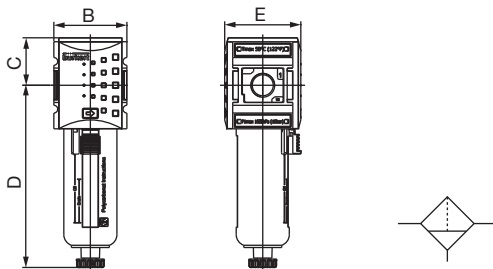
Other versions on request

Ordering charts

Filter regulator							Article no.			
Built size	Port size	B [mm]	C [mm]	D [mm]	E [mm]	Q_{max} at P=6.3 bar and $\Delta p=1$ bar, l/min.	G-threaded connection with half auto. condensate drain	G-threaded connection with auto. condensate drain	NPT-threaded connection with half auto. condensate drain	NPT-threaded connection with auto. condensate drain
Without pressure gauge and mounting parts										
0	1/8"	43.0	63.0	105.0	48.0	1000	771919	772193	n/a	n/a
0	1/4"	43.0	63.0	105.0	48.0	1000	771920	772194	n/a	n/a
1	1/4"	52.0	95.5	129.5	54.0	2200	771921	772195	772723	772729
1	3/8"	52.0	95.5	129.5	54.0	2600	771922	772196	n/a	n/a
2	3/8"	63.0	110.0	147.0	67.0	4300	771923	772197	n/a	n/a
2	1/2"	63.0	110.0	147.0	67.0	5200	771924	772110	772726	772732
4	3/4"	85.0	137.0	192.0	93.0	14000	771925	772198	772727	772733
4	1"	85.0	137.0	192.0	93.0	14000	771926	772199	772728	772734

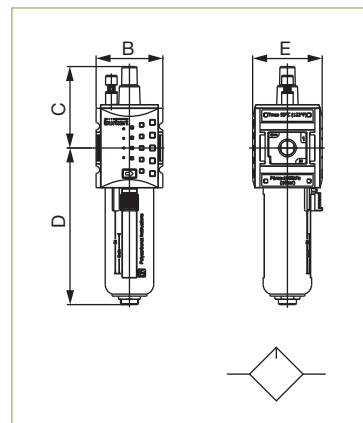


Filter 5 μ m							Article no.	
Built size	Port size	B [mm]	C [mm]	D [mm]	E [mm]	Q_{max} at P=6 bar and $\Delta p=1$ bar, l/min.	G-threaded connection with half auto. condensate drain	G-threaded connection with autom. condensate drain
0	1/8"	43.0	27.0	105.0	48.0	950	771935	772200
0	1/4"	43.0	27.0	105.0	48.0	950	771936	772201
1	1/4"	52.0	34.0	130.0	54.0	2200	771937	772202
1	3/8"	52.0	34.0	130.0	54.0	2400	771938	772203
2	3/8"	63.0	42.5	147.0	67.0	3500	771939	772204
2	1/2"	63.0	42.5	147.0	67.0	3500	771940	772205
4	3/4"	85.0	58.0	192.0	93.0	8000	771941	772206
4	1"	85.0	58.0	192.0	93.0	8200	771942	772207

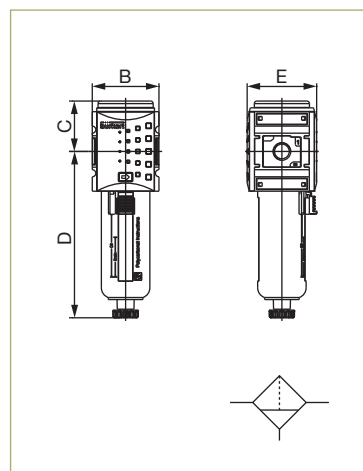


Ordering charts

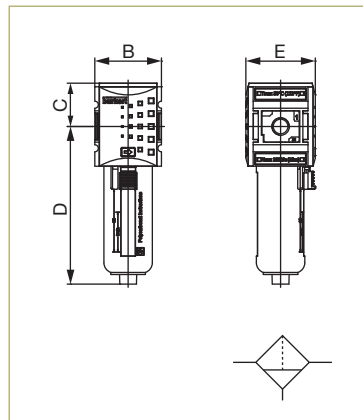
Micro lubricator								
Built size	Port size	B [mm]	C [mm]	D [mm]	E [mm]	Q_{max} at P=6 bar and $\Delta p=1$ bar, l/min.	Tank capacity lubricator cm ³	Article no.
Oil type CL 32, acc. to DIN 51517 - ISO VG 32								
0	1/8"	43.0	58.0	98.0	48.0	1400	35	771927
0	1/4"	43.0	58.0	98.0	48.0	1400	35	771928
1	1/4"	52.0	62.5	123.0	54.0	2800	40	771929
1	3/8"	52.0	62.5	123.0	54.0	2800	40	771930
2	3/8"	63.0	69.7	137.5	67.0	8000	80	771931
2	1/2"	63.0	69.7	137.5	67.0	8000	80	771932
4	3/4"	85.0	87.9	182.8	93.0	13000	181	771933
4	1"	85.0	87.9	182.8	93.0	13000	181	771934



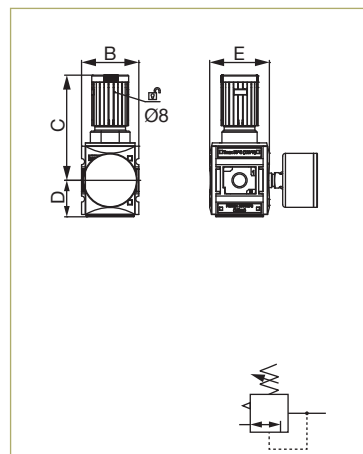
Fine filter 0.01 µm								
Built size	Port size	B [mm]	C [mm]	D [mm]	E [mm]	Q_{max} at P=6 bar and $\Delta p=1$ bar, l/min.	Article no.	
With semi-automatic condensate drain								
0	1/8"	43.0	27.0	105.0	48.0	350	771943	
0	1/4"	43.0	27.0	105.0	48.0	350	771944	
1	1/4"	52.0	38.0	130.5	54.0	350	771945	
1	3/8"	52.0	38.0	130.5	54.0	350	771946	
2	3/8"	63.0	48.0	147.0	67.0	500	771947	
2	1/2"	63.0	48.0	147.0	67.0	500	771948	
4	3/4"	85.0	63.0	192.0	93.0	1500	771949	
4	1"	85.0	63.0	192.0	93.0	1500	771950	



Activated carbon filter								
Built size	Port size	B [mm]	C [mm]	D [mm]	E [mm]	Q_{max} at P=6 bar and $\Delta p=1$ bar, l/min.	Article no.	
Remaining oil content <0.005 mg/m ³								
0	1/8"	43.0	27.0	98.0	48.0	600	771951	
0	1/4"	43.0	27.0	98.0	48.0	600	771952	
1	1/4"	52.0	34.0	124.0	54.0	650	771953	
1	3/8"	52.0	34.0	124.0	54.0	650	771954	
2	3/8"	63.0	43.0	141.0	67.0	1300	771955	
2	1/2"	63.0	43.0	141.0	67.0	1300	771956	
4	3/4"	85.0	58.0	184.0	93.0	2000	771957	
4	1"	85.0	58.0	184.0	93.0	2000	771958	

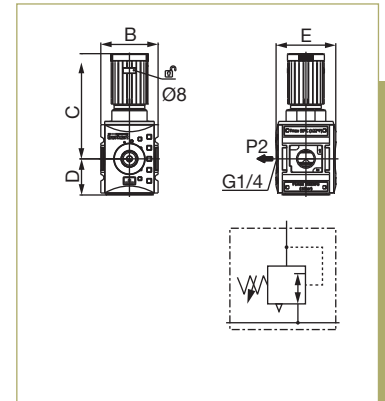


Diaphragm pressure regulator								
Built size	Port size	B [mm]	C [mm]	D [mm]	E [mm]	Q_{max} at P=6.3 bar and $\Delta p=1$ bar, l/min.	Article no.	
Without pressure gauge and mounting parts, Size 0.1.2 without air consumption								
0	1/8"	43.0	63.0	25.0	48.0	1000	771959	
0	1/4"	43.0	63.0	25.0	48.0	1000	771960	
1	1/4"	52.0	95.5	33.0	54.0	2200	771961	
1	3/8"	52.0	95.5	33.0	54.0	2600	771962	
2	3/8"	63.0	110.0	39.5	67.0	4300	771963	
2	1/2"	63.0	110.0	39.5	67.0	5100	771964	
Size 4 with air consumption max. 1.5 l/min								
4	3/4"	85.0	137.0	54.0	93.0	14000	771965	
4	1"	85.0	137.0	54.0	93.0	14000	771966	

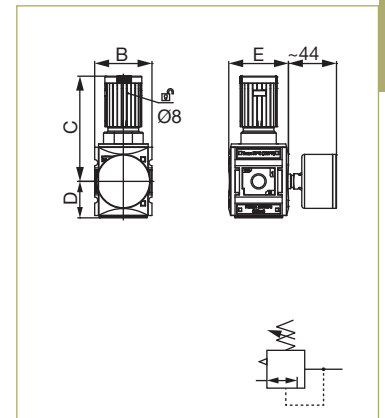


Ordering charts

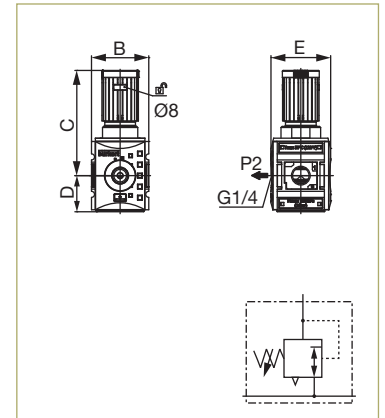
Diaphragm pressure regulator with continuous pressure supply							
Built size	Port size	B [mm]	C [mm]	D [mm]	E [mm]	Q_{max} at P=6.3 bar and $\Delta p=1$ bar, l/min.	Article no. G-threaded connection
Without pressure gauge and mounting parts							
0	¼"	43.0	68.0	25.0	48.0	1000	771967
1	¼"	52.0	95.5	32.5	54.0	2200	771968
1	⅜"	52.0	95.5	32.5	54.0	2600	771969
2	⅜"	63.0	110.0	39.5	67.0	4300	771970
2	½"	63.0	110.0	39.5	67.0	5000	771971



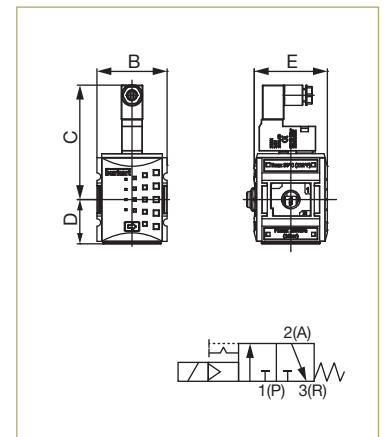
Diaphragm precision pressure regulator							
Built size	Port size	B [mm]	C [mm]	D [mm]	E [mm]	Q_{max} at P=6.3 bar and $\Delta p=1$ bar, l/min.	Article no. G-threaded connection
Without pressure gauge and mounting parts with air consumption 2.6 l/min at P2 = 6 bar							
1	¼"	52.0	95.5	33.0	54.0	2200	771972
1	⅜"	52.0	95.5	33.0	54.0	2700	771973
2	⅜"	63.0	110.0	39.5	67.0	4300	771974
2	½"	63.0	110.0	39.5	67.0	5000	771975



Diaphragm precision pressure regulator with continuous pressure supply							
Built size	Port size	B [mm]	C [mm]	D [mm]	E [mm]	Q_{max} at P=6.3 bar and $\Delta p=1$ bar, l/min.	Article no. G-threaded connection
Without pressure gauge and mounting parts with air consumption 2.6 l/min at P2 = 6 bar							
1	¼"	52.0	95.5	32.5	54.0	2200	771976
1	⅜"	52.0	95.5	32.5	54.0	2700	771977
2	⅜"	63.0	110.0	39.5	67.0	4300	771978
2	½"	63.0	110.0	39.5	67.0	5000	771979

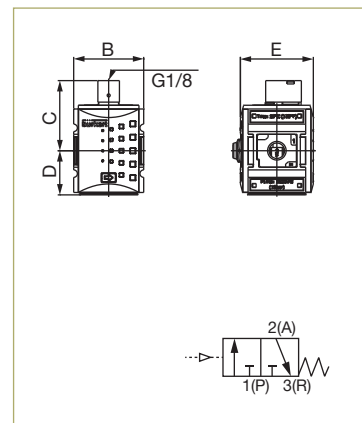


3/2 way control valve								
Built size	Port size	B [mm]	C [mm]	D [mm]	E [mm]	Q_{max} at P=6 bar and $\Delta p=1$ bar, l/min.	Article no.	
							24 V DC	230 V AC
Electric operated (not ATEX)								
0	⅛"	43.0	93.0	36.6	48.0	2000	771980	771988
0	¼"	43.0	93.0	36.6	48.0	2000	771981	771989
1	¼"	52.0	84.5	32.8	54.0	2000	771982	771990
1	⅜"	52.0	84.5	32.8	54.0	2000	771983	771991
2	⅜"	63.0	93.5	56.5	67.0	4300	771984	771992
2	½"	63.0	93.5	56.5	67.0	4300	771985	771993
4	¾"	85.0	110.9	102.3	93.0	12500	771986	771994
4	1"	85.0	110.9	102.3	93.0	12500	771987	771995

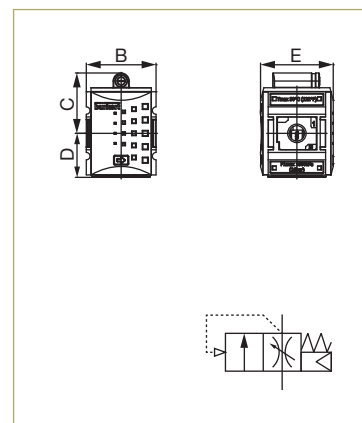


Ordering charts

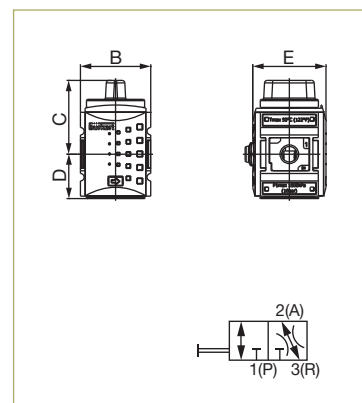
3/2 way control valve							
Built size	Port size	B [mm]	C [mm]	D [mm]	E [mm]	Q _{max} at P=6 bar and Δp=1 bar, l/min.	Article no.
Pneumatic operated							
0	1/8"	43.0	60.1	36.6	48.0	2000	772000
0	1/4"	43.0	60.1	36.6	48.0	2000	772001
1	1/4"	52.0	52.0	33.0	54.0	2000	772002
1	3/8"	52.0	52.0	33.0	54.0	2000	772003
2	3/8"	63.0	60.8	56.5	67.0	4300	772004
2	1/2"	63.0	60.8	56.5	67.0	4300	772005
4	3/4"	85.0	78.2	67.0	93.0	12500	772006
4	1"	85.0	78.2	67.0	93.0	12500	772007



Soft start valve							
Built size	Port size	B [mm]	C [mm]	D [mm]	E [mm]	Q _{max} at P=6 bar and Δp=1 bar, l/min.	Article no.
Filling time adjustable							
0	1/8"	48.0	53.0	28.0	48.0	1800	772008
0	1/4"	48.0	53.0	28.0	48.0	1800	772009
1	1/4"	52.0	45.0	33.0	54.0	1900	772010
1	3/8"	52.0	45.0	33.0	54.0	1900	772011
2	3/8"	63.0	53.5	58.0	67.0	4400	772012
2	1/2"	63.0	53.5	58.0	67.0	4400	772103
4	3/4"	85.0	58.2	54.0	93.0	10000	772014
4	1"	85.0	58.2	54.0	93.0	10000	772015



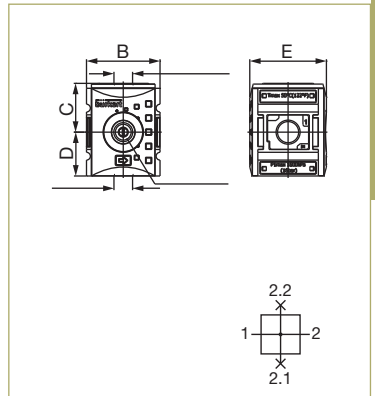
Shut-off ball valve							
Built size	Port size	B [mm]	C [mm]	D [mm]	E [mm]	Q _{max} at P=6 bar and Δp=1 bar, l/min.	Article no.
Lockable with padlock							
0	1/8"	43.0	51.0	25.0	48.0	1800	772016
0	1/4"	43.0	51.0	25.0	48.0	1800	772017
1	1/4"	52.0	54.3	33.0	54.0	1900	772018
1	3/8"	52.0	54.3	33.0	54.0	1900	772019
2	3/8"	63.0	70.5	56.5	67.0	5000	772020
2	1/2"	63.0	70.5	56.5	67.0	5000	772021
4	3/4"	85.0	93.7	51.0	93.0	14000	772022
4	1"	85.0	93.7	51.0	93.0	14000	772023



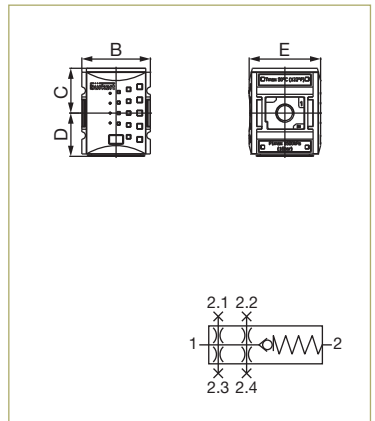
Ordering charts

Distributor				
Size	Connection size	Top outlet	Front outlet	Bottom outlet
0	1/4"	1/4"	-	1/4"
0	1/4"	1/4"	-	1/4"
1	1/4"	1/4"	1/4"	1/4"
1	3/8"	1/4"	1/4"	1/4"
2	3/8"	1/4"	3/8"	1/2"
2	1/2"	1/4"	3/8"	1/2"
4	3/4"	3/4"	-	3/4"
4	1"	3/4"	-	3/4"

Distributor							
Built size	Port size	B [mm]	C [mm]	D [mm]	E [mm]	Q _{max} at P=6 bar (1→2) and Δp=1 bar, l/min.	Article no. G-threaded connection
0	1/8"	43.0	28.5	25.0	48.0	2700	772024
0	1/4"	43.0	28.5	25.0	48.0	2700	772025
1	1/4"	52.0	34.5	31.0	54.0	2700	772026
1	3/8"	52.0	54.3	31.0	54.0	3600	772027
2	3/8"	63.0	70.5	37.5	67.0	7250	772028
2	1/2"	63.0	70.5	37.5	67.0	7250	772029
4	3/4"	85.0	93.7	51.0	93.0	18000	772030
4	1"	85.0	93.7	51.0	93.0	18000	772031



Non return valve							
Built size	Port size	B [mm]	C [mm]	D [mm]	E [mm]	Q _{max} at P=6 bar (1→2) and Δp=1 bar, l/min.	Article no.
0	1/8"	43.0	27.0	39.0	48.0	800	772032
0	1/4"	43.0	27.0	39.0	48.0	800	772033
1	1/4"	52.0	34.0	33.0	54.0	1250	772034
1	3/8"	52.0	34.0	33.0	54.0	1250	772035
2	3/8"	63.0	43.0	37.5	67.0	4500	772036
2	1/2"	63.0	43.0	37.5	67.0	4500	772037



Bowl (Polycarbonate)				
Built size	Port size	Article no. Oil bowl	Article no. with automatic drain	Article no. with semi-automatic drain
0	1/8"	772046	771778	772042
0	1/4"	772046	771778	772042
1	1/4"	772047	771779	772043
1	3/8"	772047	771779	772043
2	3/8"	772048	772040	772044
2	1/2"	772048	772040	772044
4	3/4"	772049	772041	772045
4	1"	772049	772041	772045

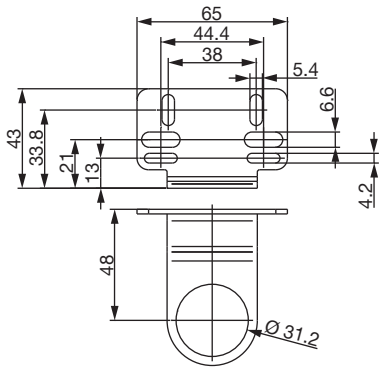
Ordering charts

Metal bowl				
Built size	Port size	Article no. Oil bowl	Article no. with automatic drain	Article no. with semi-automatic drain
0	1/8"	772058	772050	772054
0	1/4"	772058	772050	772054
1	1/4"	772059	772051	772055
1	3/8"	772059	772051	772055
2	3/8"	772060	772052	772056
2	1/2"	772060	772052	772056
4	3/4"	772061	772053	772057
4	1"	772061	772053	772057

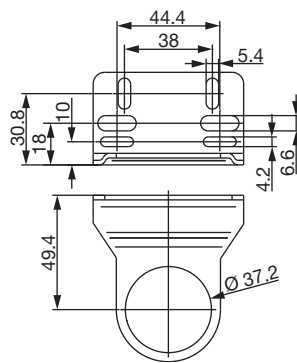
Mounting bracket for control panel mounting, steel galvanized

Built size	Article no.
0	772062
1	772063
2	772064

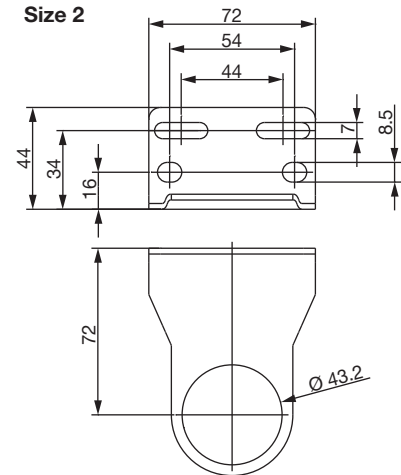
Size 0



Size 1



Size 2







Control panel nut

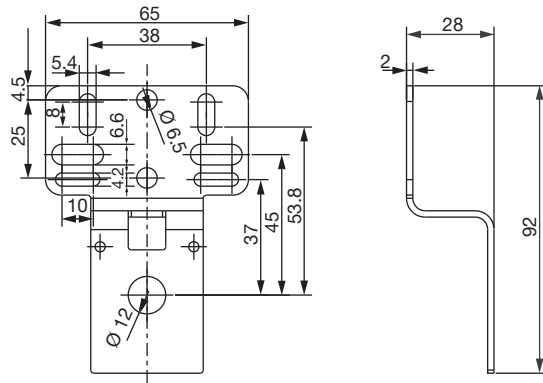
Built size	Threaded	Material	Article no.
0	M30 × 1.5	POM	772065
1	M36 × 1.5	POM+GF	772066
2	M42 × 1.5	POM+GF	772067

Ordering charts

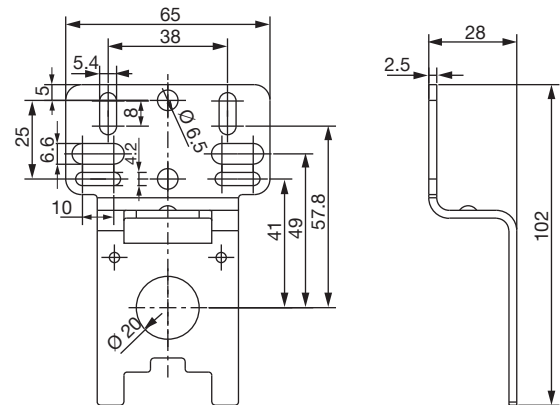
Mounting bracket for wall-mounting with 2x screw 3 x 10 with Torx10IP, steel galvanized

Built size	Article no.
0	772068 
1	772069 
2	772070 
4	772071 

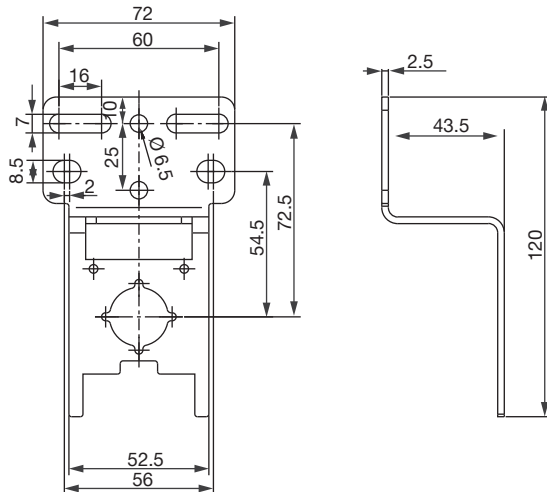
Size 0



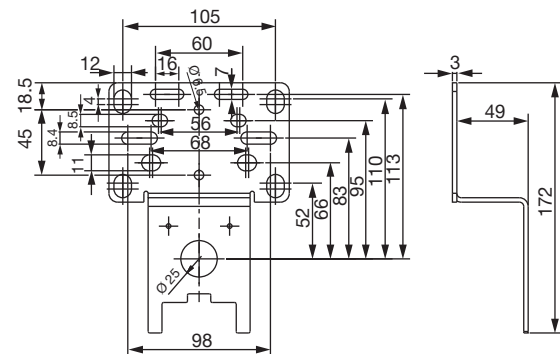
Size 1



Size 2



Size 4



Ordering charts

Coupling kit	
Built size	Article no.
For connecting of components	
0	772072
1	772073
2	772074
4	772075



Coupling kit for wall mounting	
Built size	Article no.
For connecting of components, including mounting option for wall mounting	
0	772076
1	772077
2	772078
4	772079



Ordering chart, fastening set with process connection			
Built size	Port size	Article no. G Thread	Article no. NPT Thread
1	¼"	774069	774072
2	½"	774070	774073
4	1"	774071	774074



Replacement filters			
Built size	Article no. Filter 5 µm	Article no. Filter 0.01 µm	Article no. Activated carbon filter
0	772080	772085	772089
1	772080	772084	772088
2	772082	772086	772090
4	772083	772087	772091

Ordering charts accessories

Bourdon tube pressure gauge, 0-12 bar, 160 psi, TAU001		
Version	Built size	Article no.
Ø 40 mm, G ¼"	0	772137
Ø 50 mm, G ¼"	1.2	772138
Ø 50 mm, NPT ¼"	1.2	772805
Ø 63 mm, G ¼"	4	772139



Cooperation for safe and simple automation.

We call that teamwork: The collaboration between Siemens and Bürkert resulted in the Type 8647 AirLINE SP valve island, which is compatible with the Siemens I/O system SIMATIC ET 200SP. It is designed not only for fast installation, but also features numerous safety functions for drinking and process water processes, such as the new LCD with real-time status display of diagnosis data - accessible either via the integrated LC display or via the control system. Together with the pneumatic safety functions, this results in a solution for maximum process reliability.

AirLINE SP Type 8647:

So safe. So simple.

We make ideas flow.

www.burkert.com



Pressure switch for neutral gases and liquids

TCDD001

- For neutral gases and liquids
- Models normally open contact, normally closed contact or changeover contact
- Switching point can be adjusted with grub screw



The pressure switch is used to convert adjustable pneumatic signals into electrical signals.

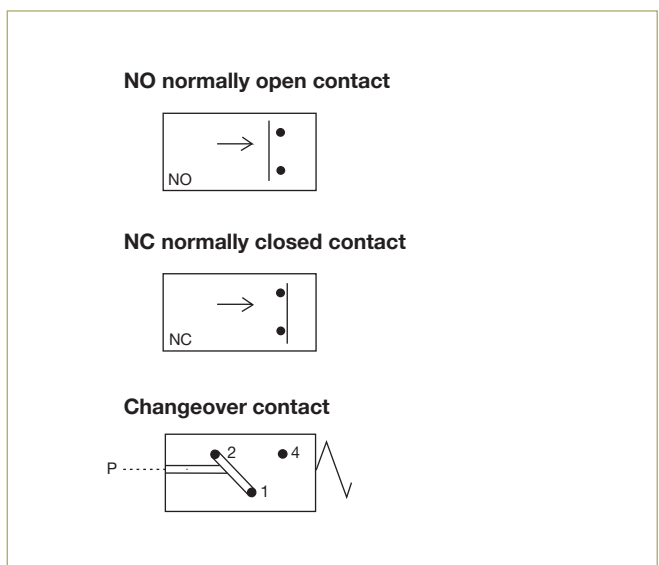
Technical data

NO normally open contact, AF19	
Material	Brass
Switching function	Normally open contact
Setting range	1-10 bar
Bursting pressure	20 bar
Medium	Air
Medium temperature	-25 to +85 °C
Diaphragm	NBR, other on request
Switch-back difference	10 to 15 %
Switching frequency	Max. 200/min.
Mechanical life	10 ⁶
Reference voltage	Max. 42 V
Maximum load	Max. 2 A
Protection class	IP00 (IP20 with protection cap)

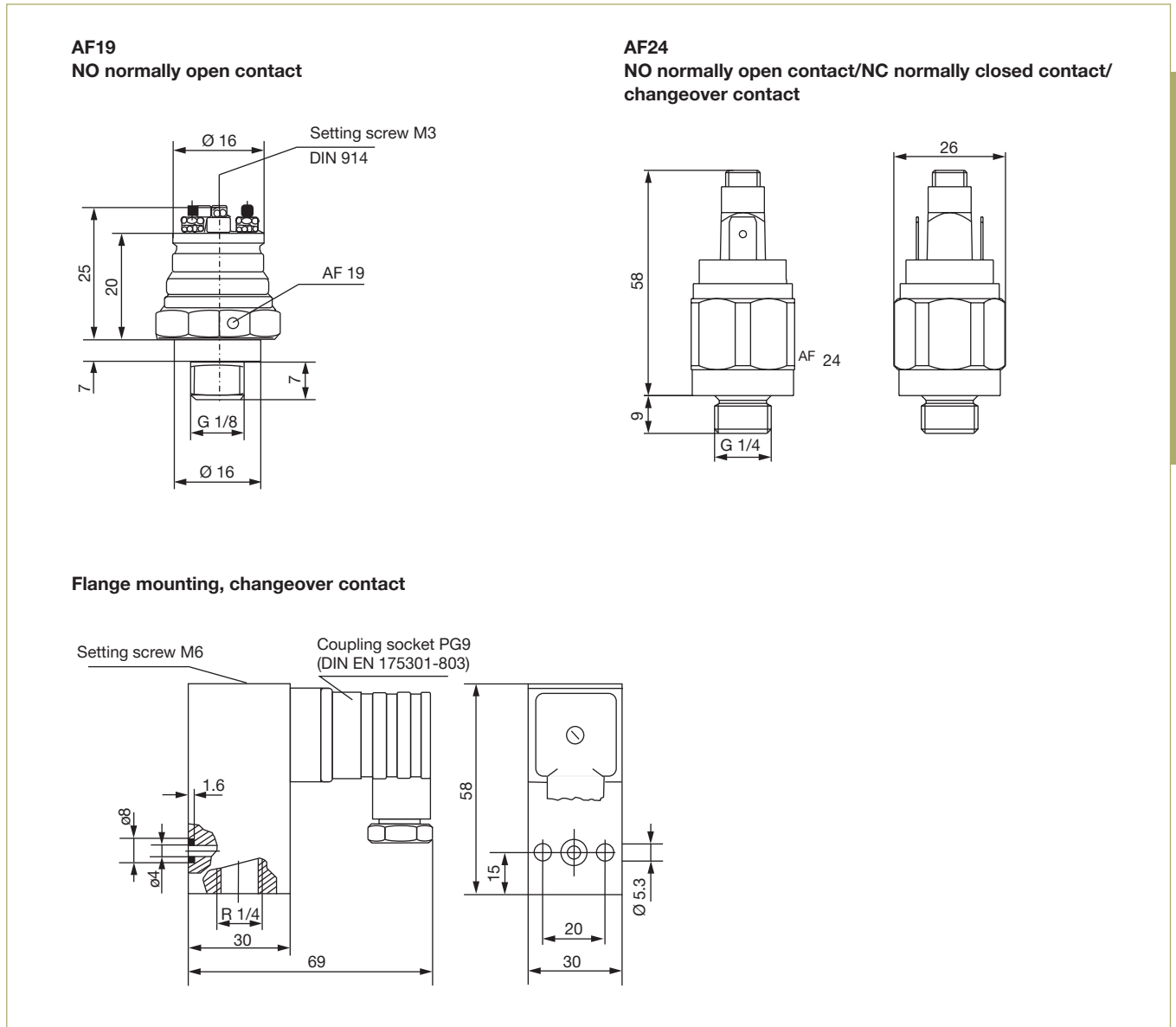
NO normally open contact/NC normally closed contact/changeover contact, AF24	
Material	Galvanised steel, stainless steel, brass
Switching function	Normally open contact, normally closed contact or changeover contact
Setting range	0.5-2 bar 1-10 bar 10-70 bar 50-200 bar
Bursting pressure	10 bar 20 bar 120 bar 300 bar
Design	Spring-loaded diaphragm Spring-loaded piston
Diaphragm ¹⁾ or seal ²⁾	NBR ¹⁾ UR ²⁾
Medium	Air, hydraulic oil, oil emulsion, water
Medium temperature	-25 to +85 °C
Switch-back difference	15 to 25 %
Switching frequency	Max. 200/min.
Mechanical life	10 ⁶
Reference voltage	Max. 42 V
Maximum load	Max. 2 A
Protection class	IP00 (IP20 with protection cap)

Changeover contact, flange mounting	
Material	Galvanised steel, stainless steel, brass
Switching function	Changeover contact
Setting range	0.3-2 bar 1-10 bar 1-70 bar 50-200 bar
Bursting pressure	20 bar 20 bar 250 bar 300 bar
Design	Spring-loaded diaphragm Spring-loaded piston
Diaphragm ¹⁾ or seal ²⁾	NBR ¹⁾ UR ²⁾
Medium	Air, hydraulic oil, oil emulsion, water
Medium temperature	-25 to +85 °C
Switch-back difference	15 to 25 %
Switching frequency	Max. 200/min.
Mechanical life	10 ⁶
Reference voltage	Max. 250 V
Protection class	IP65 with cable plug Type 2508

Function



Dimensions [mm]



TCDO001

Ordering chart

Size	Version	Setting range	Article no.
Pressure switch			
AF19	NO - normally open contact	1-10 bar	780494
AF24	NO - normally open contact	0.5-2 bar	772503
		1-10 bar	780496
		10-70 bar	787283
	NC - normally closed contact	50-200 bar	787284
		0.5-2 bar	772500
		1-10 bar	780495
	Changeover contact	10-70 bar	787286
		50-200 bar	787287
		0.5-2 bar	772506
Flange mounting	Changeover contact	1-10 bar	772515
		10-70 bar	772524
		50-200 bar	772536
		0.3-2 bar	784230
		1-10 bar	780499
		10-70 bar	787289
		50-200 bar	787290

Others versions on request

Ordering chart -

Accessories for pressure switch

Version	Article no.
Protection cap for AF19 switch	780498
Protection cap for AF24 switch	780497
Cable plug Type 2508 for flange mounting switch	008526

Pneumatic cylinder

TZU002

- According to 15552
- Metal version
- Cylinder tube aluminium profile
- Flat design
- Screwed inside
- Adjustable end of stroke cushioning
- Incorporated magnetic piston



The double-acting cylinder is equipped with magnetic piston and adjustable end of stroke cushioning. The adjusting screws for the end of stroke cushioning are located on the port side and can be adjusted with an hexagon socket screw key. The adjusting screws are secured against unscrewing.

Technical data

Piston diameter	32 to 125 mm
Materials	
Piston rod	Stainless steel
Cylinder head	Die-cast aluminium painted,
Cylinder tube	Anodised aluminium profile
Seal material	PU/NBR
Control medium	Filtered compressed air
Temperature range	-20 to +80 °C
Pressure range¹⁾	1-10 bar
Strokes	10 to 2800 mm

¹⁾ Pressure values [bar]: Overpressure with respect to atmospheric pressure

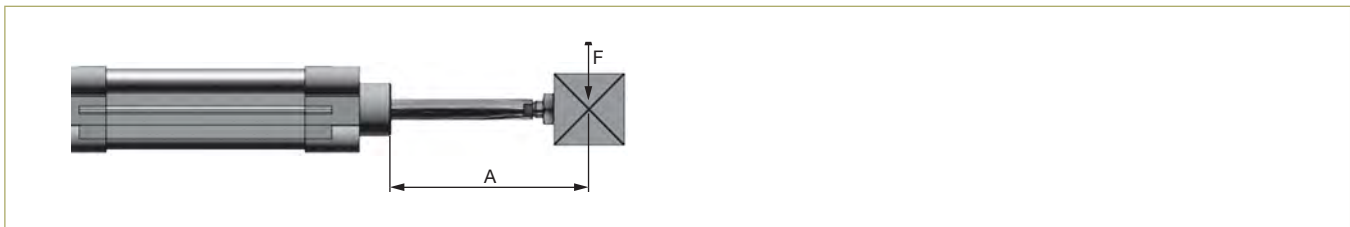
Other versions on request

Force chart

Piston diameter [mm]	Double-acting cylinder	
	Extension force [N]	Retraction force [N]
32	434	373
40	678	570
50	1060	890
63	1682	1513
80	2713	2448
100	4239	3974
125	6623	6189

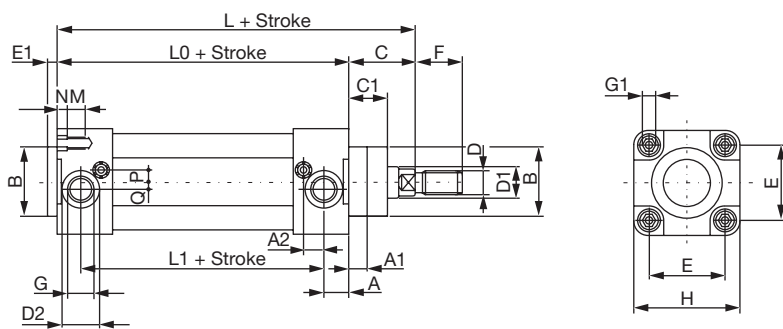
Operating pressure 6 bar
The internal friction is considered.

Permissible side load (in N) for cylinder TZU002



Piston diameter [mm]	Distance A (in mm)											
	25	40	50	80	100	125	160	200	250	320	400	500
32	75	55	50	40	34	28	23	20	16	12	9	7
40	175	150	130	105	91	78	62	55	45	35	28	21
50 and 63	220	180	170	130	120	105	90	80	65	52	43	33
80 and 100	500	450	400	350	310	270	230	205	180	150	125	100
125	810	710	680	590	520	470	420	390	330	270	230	200

Dimensions [mm]



	Piston diameter						
	32 [mm]	40 [mm]	50 [mm]	63 [mm]	80 [mm]	100 [mm]	125 [mm]
A	10	12	14	16	18	20	25
A1	6.5	8	13	14	12	14	20
A2	10	10	10	10	12	12	10
B	30	35	40	45	45	55	60
C	26	30	37	37	46	51	65
C1	16	20	25	25	33	38	45
D	M10×1.25	M12×1.25	M16×1.5	M16×1.5	M20×1.5	M20×1.5	M27×2
D1	12	16	20	20	25	25	32
D2	15	19	19	23	23	27	27
E	32.5	38	46.5	56.5	72	89	110
E1	4	4	4	4	4	4	6
F	22	24	32	32	40	40	54
G	G 1/8	G 1/4	G 1/4	G 3/8	G 3/8	G 1/2	G 1/2
G 1	M6	M6	M8	M8	M10	M10	M12
H	46	54	64.5	75.5	94	111	135
L	120	135	143	158	174	189	225
L0	94	105	106	121	128	138	160
L1	74	81	78	89	92	98	145
M	14.5	14.5	17.5	17.5	21.5	21.5	25.5
N	4.5	4.5	5.5	5.5	5.5	5.5	6.5
P	6	6	6	6	10	10	12
Q	4	4	6	6	7	7	8

Ordering chart for cylinder

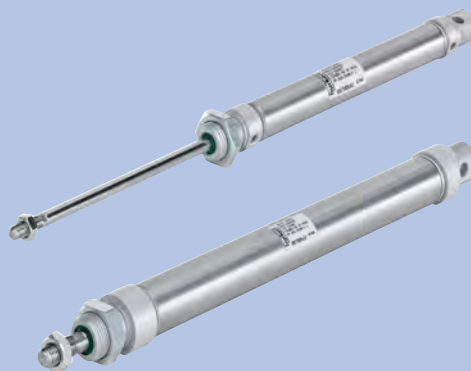
Circuit function	Piston diameter [mm]	Stroke [mm]	Article no. double-acting
	32	50	780242
		100	780244
		160	780246
	40	50	780251
		100	780253
		160	780255
	50	50	780260
		100	780262
		160	780264
		200	780265
	63	50	780269
		100	780271
		160	780273
		200	780274
	80	100	780280
		160	780282
		200	780283
	100	100	780289
		160	780291
		200	780292
	125	100	780298
		160	780300

- The piston rod nut is included in delivery with the cylinder
- Other versions on request

Pneumatic cylinder

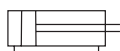
TZG001

- According to DIN 6432
- With magnetic piston
- Ø 8 to 25 mm



The pneumatic cylinders are equipped with magnetic piston and are available in the following versions

- Double-acting with fixed end of stroke cushioning
- Double-acting with adjustable end of stroke cushioning



Note

Single-acting on request

Technical data

Material	
Piston rod	Stainless steel AISI 303
Cylinder head	Aluminium, anodised
Cylinder tube	Stainless steel AISI 304
Seal material	PU
Control medium	Lubricated or non-lubricated, filtered compressed air
Temperature range	-10 to +80 °C
Pressure range¹⁾	1-10 bar
Installation	User defined

¹⁾ Pressure values [bar]: Overpressure with respect to atmospheric pressure

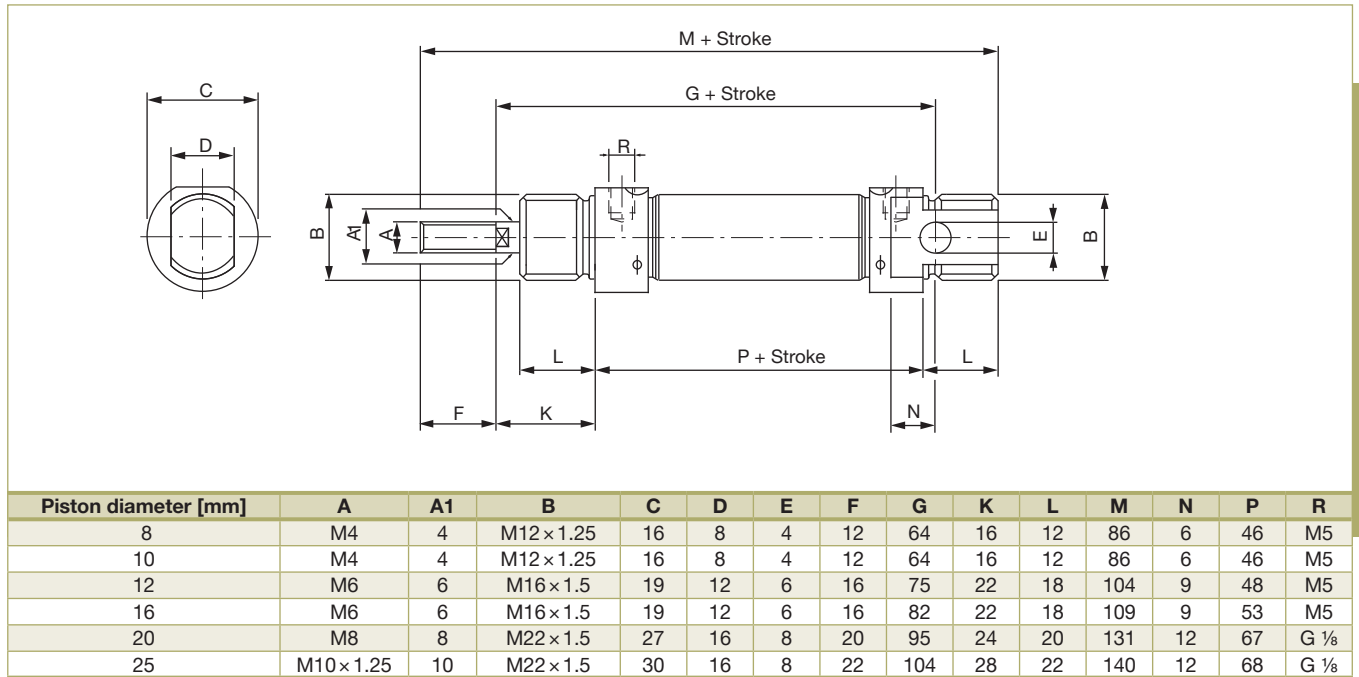
Force table

Piston diameter [mm]	Double-acting cylinder	
	Compressive force [N]	Tensile force [N]
8	27	20
10	42	36
12	61	46
16	109	93
20	170	142
25	265	223

Operating pressure 6 bar

The friction in the cylinder has been taken into account

Dimensions [mm]



Ordering chart for cylinder

Piston diameter [mm]	Stroke [mm]	Article no. double-acting
With magnetic piston with fixed end of stroke cushioning¹⁾		
008	10	780573 ☒
	25	780574 ☒
	50	780575 ☒
	80	780576 ☒
010	10	780581 ☒
	25	780582 ☒
	50	780583 ☒
	80	780584 ☒
	100	780585 ☒
012	10	780589 ☒
	25	780590 ☒
	50	780591 ☒
	80	780592 ☒
	100	780593 ☒
	125	780594 ☒
016	10	780597 ☒
	25	780598 ☒
	50	780599 ☒
	80	780600 ☒
	100	780601 ☒
020	10	780606 ☒
	25	780607 ☒
	50	780608 ☒
	80	780609 ☒
	125	780610 ☒
	160	780611 ☒
025	10	780615 ☒
	25	780616 ☒
	50	780617 ☒
	80	780618 ☒
	100	780619 ☒
	125	780620 ☒

Piston diameter [mm]	Stroke [mm]	Article no. double-acting
With magnetic piston with adjustable end of stroke cushioning¹⁾		
16	25	782989 ☒
	50	782990 ☒
	80	782991 ☒
	100	782992 ☒
	125	782993 ☒
	160	782994 ☒
20	25	782995 ☒
	50	782997 ☒
	80	782998 ☒
	100	782999 ☒
	125	783000 ☒
25	160	783001 ☒
	200	783002 ☒
	25	783003 ☒
	50	783006 ☒
	80	783007 ☒
	100	783008 ☒
25	125	783009 ☒
	160	783010 ☒
	200	783011 ☒
	200	783012 ☒

¹⁾ other versions on request

The delivery includes mounting and piston rod nut!

Ordering instructions

For fasteners, please request data sheet Type TBU001. This includes:

- Head and floor flange fastening
- Foot fastener, bearing support with rigid bearing
- Joint head, as well as fork head
- Hexagon nut according to DIN 439

Inductive limit switch, please see datasheet Type TEU005.

Spare parts kits, please refer to the spare parts catalogue.

Pneumatic plastic cylinder according to ISO

0044/0045

- Corrosion resistant
- Also suitable for aggressive environment
- Light weight
- Food approved option
- Completely metal-free design option



Cylinder,
DN12...DN25
acc. to ISO 6432

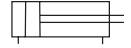


Cylinder,
DN32...DN50
acc. to ISO 15552

Single-acting (Type 0045) and double-acting (Type 0044) pneumatic cylinder according to ISO 6432 (Ø 12...25 mm) without end position cushioning and according to ISO 15552 (Ø 32...50 mm) with end position cushioning with piston rod nut.



Single-acting



Double-acting

Technical data

Materials	
Cylinder tube	PA6, PA12 both fibreglass reinforced (optional PP Ø 32...50 mm)
Piston rod	Stainless steel 1.4401
Magnetic piston	On request
Seal material	NBR with PA6 (optional FKM); P5600 with PA12
Control medium	Lubricated or non-lubricated, filtered compressed air
Temperature range	-20 to +70 °C
Pressure range	1...10 bar
Installation	User-defined
Approvals	FDA, EU-Directive 2002/72/EG for PA12

Force chart [bar]

Piston diameter [mm]	Extension force [N] at operating pressure [bar]					min. retraction force ¹⁾ [N]	
	2	4	6	8	10	Stroke 25 mm	Stroke 50 mm
Type 0045 single-acting without end position cushioning (ISO 6432)							
12	7	24.5	46.5	69.5	92.5	8.5	6.5
16	13	53	93	133	173	10	7
20	24	87	150	213	276	13.5	10
25	43	141	239	337	435	18	15

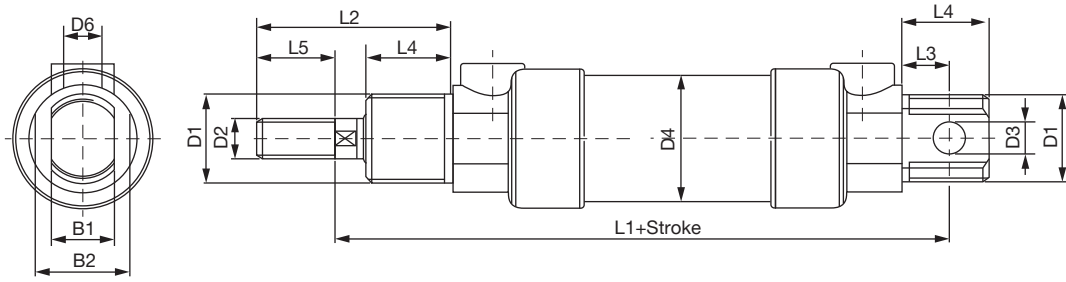
¹⁾ Tensile force at retracted piston rod

Piston diameter [mm]	Extension force [N] at operating pressure [bar]					min. retraction force [N]
	2	4	6	8	10	in % of extension force
Type 0044 double-acting without end position cushioning (ISO 6432)						
12	16	39	61	84	107	75
16	30	70	110	150	190	85
20	46	109	172	235	298	84
25	73	171	269	367	465	84

Piston diameter [mm]	Extension force [N] at operating pressure [bar]					min. retraction force [N]
	2	4	6	8	10	in % of extension force
Type 0044 double-acting with end position cushioning (ISO 15552)						
32	145	290	430	580	729	86
40	230	450	680	900	1130	84
50	350	710	1060	1410	1770	84

Dimensions [mm]

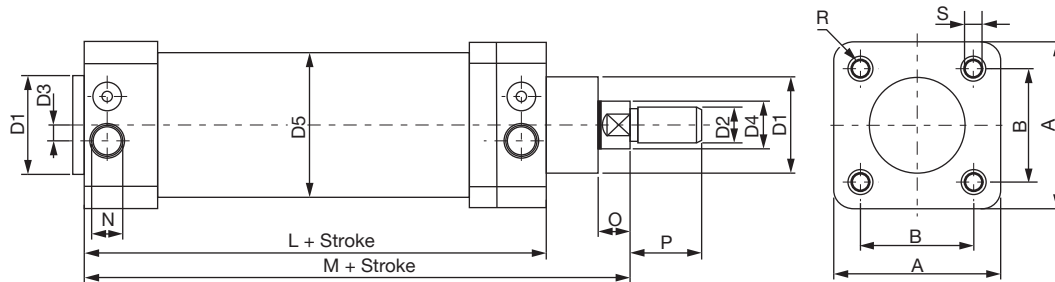
DN12 - DN25



Cylinder with piston diameter 12 to 25 according to ISO 6432 (CETOP) Rp 52 P

Piston diameter [mm]	D1	D2	D3	D4	D6	L1	L2	L3	L4	L5	B1	B2
12	M16×1.5	M6	6	18	M5	75	38	9	17	15	12	17
16	M16×1.5	M6	6	22	M5	82	38	9	17	15	12	17
20	M22×1.5	M8	8	26	G 1/8	95	44	12	20	18	16	22
25	M22×1.5	M10×1.25	8	31	G 1/8	104	50	12	22	20	16	24

DN32 - DN50



Cylinder with piston diameter 12 to 25 according to ISO 6432 (CETOP) Rp 52 P































































Piston diameter [mm]	D1	D2	D3	D4	D5	L	M	N	O	P	A	B	R	S
32	30	M10×1.25	4.5	12	40	94	120	G 1/8	9	22	47	32.5	5.5	M5
40	34	M12×1.25	6	16	48	105	135	G 1/4	11	24	57	38	6.5	M6
50	40	M16×1.5	6	20	58	106	143	G 1/4	13	32	68	46.5	9	M8

Ordering charts for cylinders

Piston diameter [mm]	Stroke [mm]	Article no. Version PA6	Article no. Version PA12 FDA
Type 0045 single-acting without end position cushioning (ISO 6432)			
12	25	074440	773171
	50	074805	773172
16	25	074868	773173
	50	074642	773174
20	25	074265	773175
	50	074181	773176
25	25	074580	773177
	50	074287	773178

Ordering charts for cylinders

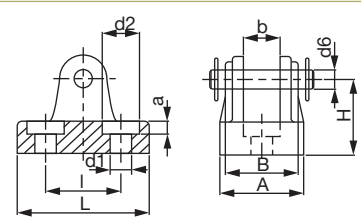
0044/0045

Piston diameter [mm]	Stroke [mm]	Article no. Version PA6	Article no. Version PA12 FDA
Type 0044 double-acting without end position cushioning (ISO 6432)			
12	25	073049 	773179 
	50	073211 	773180 
	80	072820 	773181 
	100	074130 	773182 
16	25	073204 	773183 
	50	072876 	773184 
	80	072835 	773185 
	100	073084 	773186 
20	25	072833 	773187 
	50	072787 	773188 
	80	072905 	773189 
	100	072808 	773190 
25	25	072832 	773191 
	50	072829 	773192 
	80	072803 	773193 
	100	072854 	773194 
Type 0044 double-acting with end position cushioning (ISO 15552)			
32	50	075748 	773195 
	100	075219 	773196 
	150	075756 	773197 
	200	075220 	773198 
	300	075221 	773199 
40	50	075758 	773200 
	100	075222 	773201 
	150	075976 	773202 
	200	075759 	773203 
	300	076228 	773204 
50	50	075438 	773205 
	100	075225 	773206 
	150	075382 	773207 
	200	075226 	773208 
	300	773210 	773209 

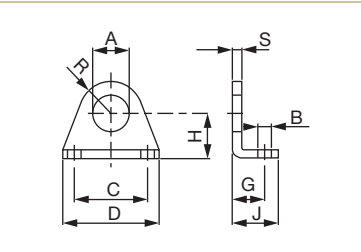
Further versions on request

Accessories

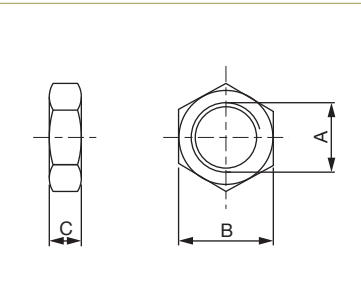
Bearing support											Article no. Plastic
Piston Ø	L	A	H	B	b	l	a	d1	d2	d6	
For cylinder DN12–DN25, ISO 6432											
42705	32	24	24	22	12	20	4	5.4	10	6	192373
20/25	42	32	28	30.5	16	24	5	6.4	11	8	192374



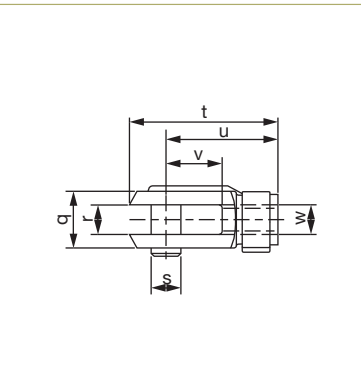
Foot fastener											Article no. Steel	Article no. Stainless steel
Piston Ø	A	B	C	D	G	H	J	R	S			
Consists of an angle bracket and 2 fastening screws												
42705	16	5.5	32	40	14	20	20	13.4	4	780754	192380	
20/25	22	6.6	40	54	17	25	25	18	5	780755	192381	



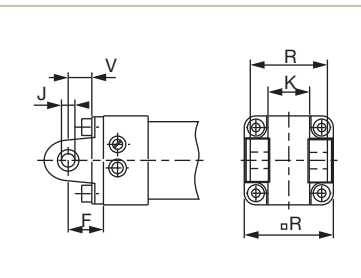
Mounting and piston rod nut set								Article no. Steel	Article no. Stainless steel
Piston Ø	Fastening nut			Piston rod nut					
	A	B	C	A	B	C			
Each consists of a fastening nut and a piston rod nut									
42705	M16 x 1.5	22	5	M6	10	3	780766	192385	
20	M22 x 1.5	27	8	M8 x 1.25	13	4	780768	192386	
25	M22 x 1.5	27	8	M10 x 1.25	17	6	780769	192387	



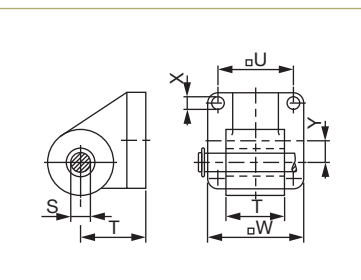
Fork head according to DIN 71 752								Article no. Steel	Article no. Stainless steel
Piston Ø	q	r	s	t	u	v	w		
42705	12	6	6	31	24	12	M6	192360	192361
20	16	8	8	42	32	16	M8	192360	192363
25/32	20	10	10	52	40	20	M10 x 1.25	192364	192365
40	24	12	12	62	48	24	M12 x 1.25	192366	192367
50	32	16	16	83	64	32	M16 x 1.5	192368	192369



Fork fastener							Article no. Cast aluminium
Piston Ø	F	J	K	R	V	W	
32	22	10	26	45	15	46	192370
40	25	12	28	52	17	56	192371
50	27	12	32	60	17	66	192372



End support for fork fastener								Article no. Cast aluminium
Piston Ø	S H1	T±0.2	U±0.15	V±0.1	W	XH13	Y	
32	10	30	32.5	25.8	45	5.5	11	192375
40	12	36	38	27.8	56	6.6	14	192376
50	12	45	46.5	31.8	66	9	18	192377



Fasteners for cylinder

TBU001

- Numerous installation parts
- Simple installation



Fastener elements for cylinder ISO 15552, Ø 32 to 125 mm

- Head and floor flange fastener
- Female hinge
- Male hinge
- Counter hinge, Cetop
- Foot fastener
- Counter hinge, ISO
- Flexible coupling
- Bearing support
- Rod eye
- Fork head
- DIN 439 1014 hex nut
- Gasket replacement set

Fastener elements for cylinder ISO 6432, Ø 8 to 25 mm

- Foot fastener
- Flange fastener
- Counter hinge
- Fastening and piston arm nuts
- Fork head
- Fork head with spherical bearing
- Rod eye

Technical data

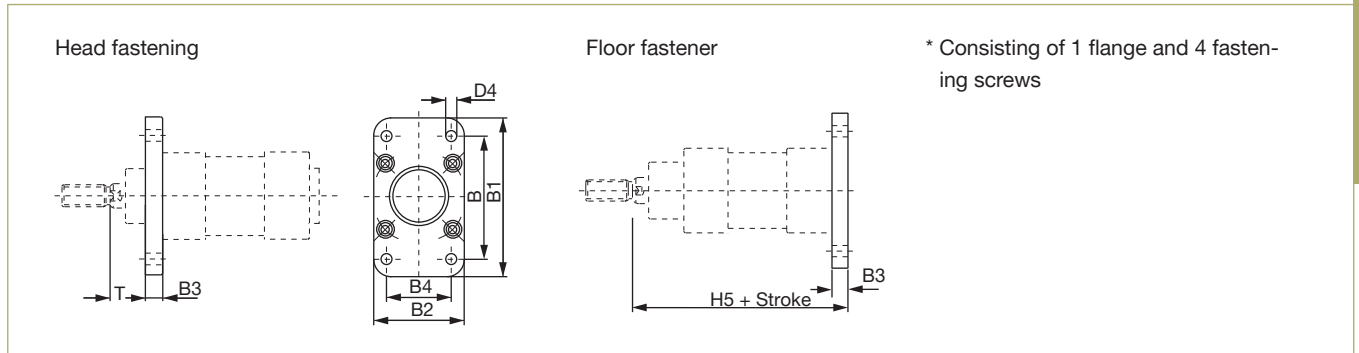
Material	Aluminium, aluminium die casting, steel, plated
-----------------	--

Other versions on request

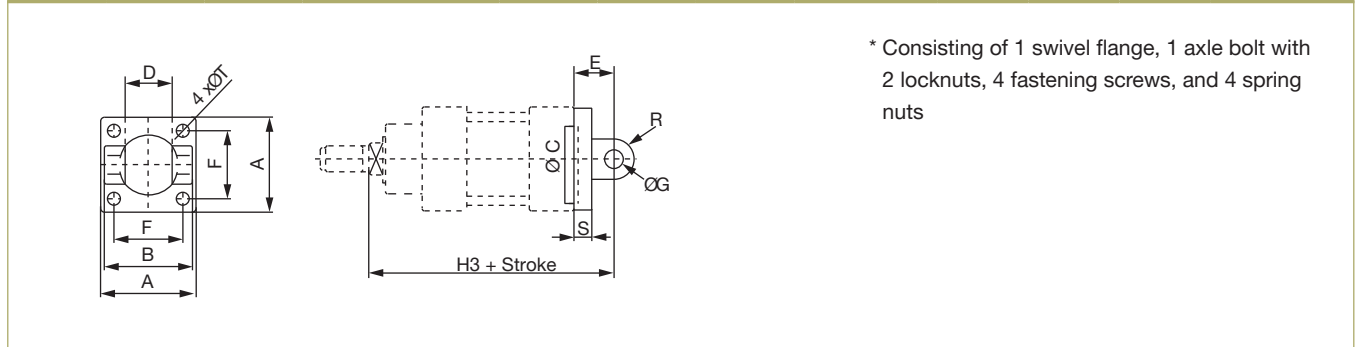
Ordering chart for fastening elements for cylinder Ø 32 to 125 mm for TZU002

Ø [mm]	B [mm]	B1 [mm]	B2 [mm]	B3 [mm]	B4 [mm]	Ø D4 [mm]	H5 + Stroke [mm]	T [mm]	Article no.
Head and floor flange fastener, aluminium for TZU002*									
32	64	80	50	10	32	7	130	16	780303
40	72	90	55	10	36	9	145	20	780304
50	90	110	65	12	45	9	155	25	780305
63	100	120	75	12	50	9	170	25	780306
80	126	153	95	16	63	12	190	30	780307
100	150	1478	115	16	75	14	205	35	780308
125	180	220	140	20	90	16	245	45	780309

TBU001



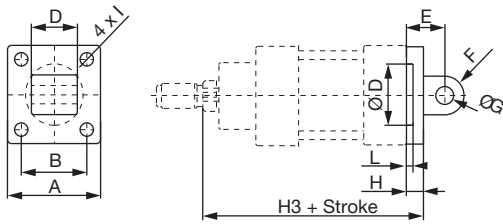
Ø [mm]	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	H3 + Stroke [mm]	R [mm]	S [mm]	T [mm]	Article no.
Female hinge, aluminium for TZU002*												
32	45	45	30	26	22	32.5	10	142	11	10	7	780310
40	52	52	35	28	25	38	12	160	13	10	7	780311
50	65	60	40	32	27	46.5	12	170	13	12	9	780312
63	75	70	45	40	32	56.5	16	190	17	12	9	780313
80	95	90	45	50	36	72	16	210	17	16	11	780314
100	115	110	55	60	41	89	20	230	21	16	11	780315
125	140	130	60	70	50	110	25	275	26	20	14	780316



Ordering chart fastening elements for cylinder Ø 32 to 125 mm for TZU002

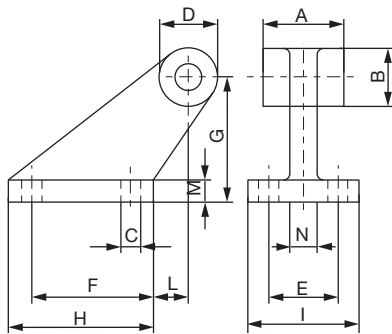
TZU001

Ø [mm]	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	H [mm]	I [mm]	L [mm]	H3 + Stroke [mm]	Article no.
Male hinge, aluminium for TZU002*												
32	45	32.5	30	26	22	11	10	10	7	7	142	780317
40	52	38.0	35	28	25	13	12	10	7	7	160	780318
50	65	46.5	40	32	27	13	12	12	9	7	170	780319
63	75	56.5	45	40	32	17	16	12	9	7	190	780320
80	95	72.0	45	50	36	17	16	16	11	9	210	780321
100	115	89.0	55	60	41	21	20	16	11	9	230	780322
125	140	110	60	70	50	26	25	20	14	9	275	780323



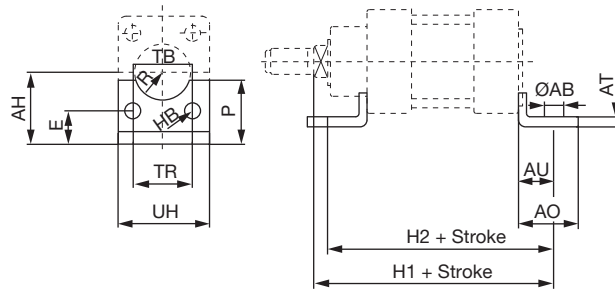
* Consisting of 1 swivel flange and 4 fastening screws

Ø [mm]	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	H [mm]	I [mm]	L [mm]	M [mm]	N [mm]	Article no.
Counter hinge, Cetop - including rigid bearing, aluminium pressure cast for TZU002													
32	26	19	7	10	25	20	32	37	41	18	8	10	780324
40	28	26	9	12	32	32	45	54	52	25	10	12	780325
50	32	26	9	12	32	32	45	54	52	25	10	12	780326
63	40	33	11	16	40	50	63	75	63	32	12	15	780327
80	50	33	11	16	40	50	63	75	63	32	12	15	780328
100	60	44	14	20	50	70	90	103	80	40	16	22	780329
125	70	44	14	25	50	70	90	103	80	40	16	22	780330



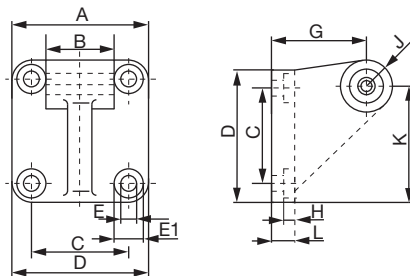
Ordering chart fastening elements for cylinder Ø 32 to 125 mm for TZU002

Ø [mm]	AB (H13) [mm]	AH [mm]	AO [mm]	AT [mm]	AU (JS14) [mm]	E (JS14) [mm]	HB [mm]	P [mm]	R [mm]	TB ±0.2 [mm]	TR (JS14) [mm]	UH [mm]	H1 [mm]	H2 [mm]	Article no.
Foot fastener, steel plated for TZU002*															
32	7	32	35	4	24	15.75	7	26	15.5	32.5	32	45	144	142	780331
40	9	36	43	4	28	17	7	27	18	38	36	52	163	161	780332
50	9	45	47	4	32	21.75	9	35	20.5	46.5	45	65	175	170	780333
63	9	50	47	6	32	21.75	9	35	23	56.5	50	75	190	185	780334
80	12	63	61	6	41	27	11	46	23	72	63	95	215	210	780335
100	14	71	66	6	41	26.5	11	48	28	89	75	115	230	220	780336
125	16	90	70	7	45	35	13	80	30.5	110	90	140	270	250	780337



* Consisting of 1 angle and 2 fastening screws. Two needed for each cylinder.

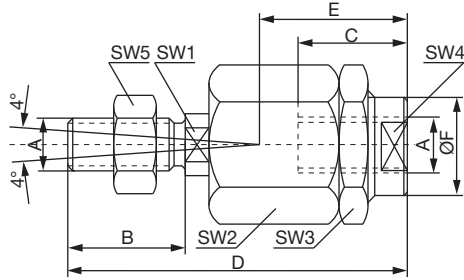
Ø [mm]	A [mm]	B (h11) [mm]	C [mm]	D [mm]	Ø E [mm]	Ø E1 [mm]	OF (H8h11) [mm]	G [mm]	H [mm]	J [mm]	K [mm]	L [mm]	Article no.
Counter hinge, ISO, aluminium for TZU002*													
32	46	26	32.5	46	7	12	10	32	5	10	39	10	780338
40	53	28	38	52	7	12	12	36	5	12	43.5	10	780339
50	61	32	46.5	64	9	14	12	45	5	12	56.5	11	780340
63	71	40	56.5	74	9	14	16	50	5	16	64	11	780341
80	91	50	72	94	11	17	16	63	6.5	16	86	14	780342
100	111	60	89	113	11	17	20	73	6.5	20	102.5	16	780343



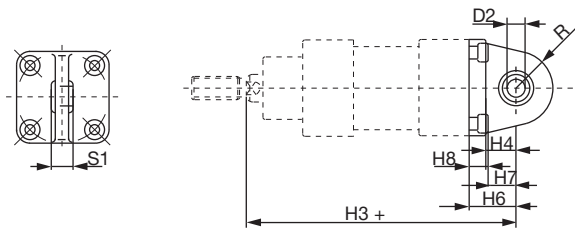
* Consisting of 1 swivel flange and 4 fastening screws

Ordering chart fastening elements for cylinder Ø 32 to 125 mm for TZU002

For cylinder Ø [mm]	A [mm]	B [mm]	C [mm]	D [mm]	Ø E [mm]	Ø F [mm]	SW1	SW2	SW3	SW4	SW5	Article no.
Flexible coupling, steel plated for TZU002												
32	M10×1.25	20	23	70	31	21.5	12	30	30	19	17	780345
40	M12×1.25	23	23	67	31	21.5	12	30	30	19	19	780346
50	M16×1.5	40	34	112	45	33.5	19	41	41	30	30	780347
63	M16×1.5	40	34	112	45	33.5	19	41	41	30	30	780347
80	M20×1.5	39	42	122	56	33.5	19	41	41	30	30	780348
100	M20×1.5	39	42	122	56	33.5	19	41	41	30	30	780348

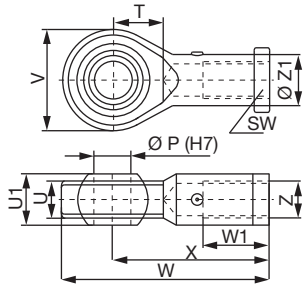


Ø [mm]	Ø D2 [mm]	H3 + Stroke [mm]	H4 [mm]	H6 [mm]	H7 [mm]	H8 [mm]	R [mm]	S1 [mm]	Article no.
Bearing support, aluminium for TZU002									
32	10	142	12	22	11	10	18	14	780359
40	12	160	15	25	14	10	21	16	780360
50	12	170	16	27	15	11	23	16	780361
63	16	190	21	32	20	11	27	21	780362
80	16	210	22	36	21	14	29	21	780363
100	20	230	25	41	24	16	34	25	780364

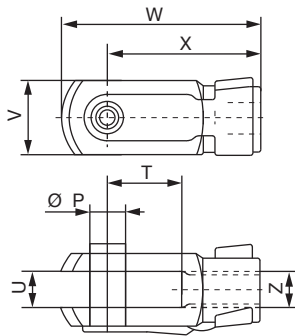


Ordering chart fastening elements for cylinder Ø 32 to 125 mm for TZU002

Ø [mm]	ØP (H7) [mm]	T [mm]	U [mm]	U1 [mm]	V [mm]	W [mm]	W1 [mm]	X [mm]	Z [mm]	ØZ1 [mm]	SW [mm]	Article no.
Rod eye, steel plated for TZU002												
32	10	15	10.5	14	28	57	20	43	M10×1.25	15	17	780366
40	12	17	12	16	32	66	22	50	M12×1.25	17.5	19	780367
50	16	22	15	21	42	85	28	64	M16×1.5	22	22	780368
63	16	22	15	21	42	85	28	64	M16×1.5	22	22	780368
80	20	26	18	25	50	102	33	77	M20×1.5	27.5	32	780369
100	20	26	18	25	50	102	33	77	M20×1.5	27.5	32	780369
125	30	36	25	37	70	145	51	110	M27×2	40	41	780370

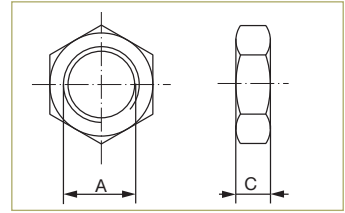


Piston Ø [mm]	ØP [mm]	T [mm]	U [mm]	V [mm]	W [mm]	X [mm]	Z [mm]	Article no.
Fork head, steel plated for TZU002								
32	10	20	10	20	52	40	M10×1.25	780371
40	12	24	12	24	62	48	M12×1.25	780372
50, 63	16	32	16	32	83	64	M16×1.5	780373
80, 100	20	40	20	40	105	80	M20×1.5	780374
125	30	54	30	55	148	100	M27×2	780375

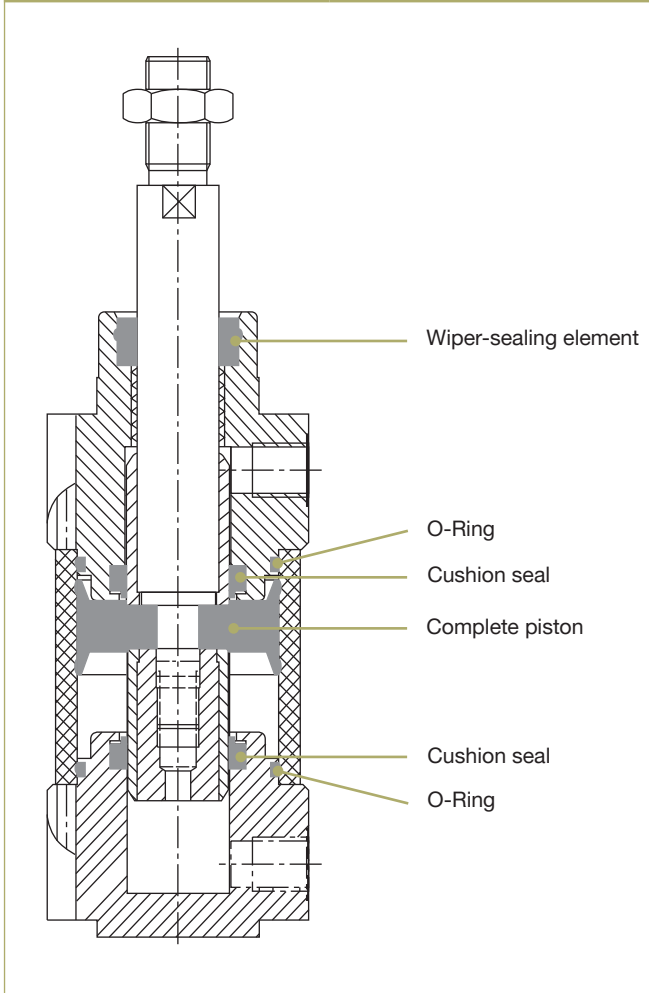


Ordering chart fastening elements for cylinder Ø 32 to 125 mm for TZU002

Piston Ø [mm]	A [mm]	C [mm]	Article no.
DIN 439 1014 hex nuts, steel plated for TZU002			
32	M10×1.25	6	780376
40	M12×1.25	7	780377
50, 63	M16×1.5	8	780378
80, 100	M20×1.5	9	780379
125	M27×2	10	780380



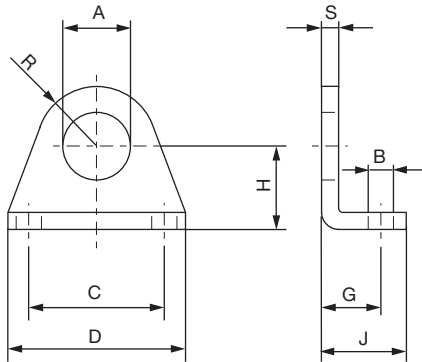
Piston Ø [mm]	Article no.
Gasket replacement set for TZU002	
32	773212
40	773213
50	773214
63	773215
80	773216
100	773217
125	773218



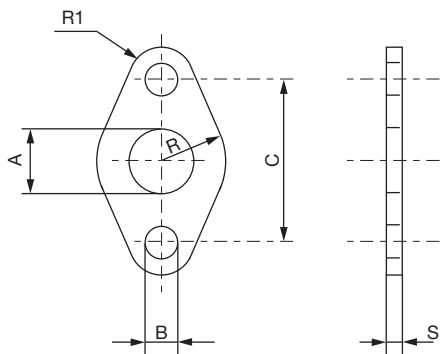
Ordering chart fastening elements for cylinder Ø 8 to 25 mm for TZG001

- Foot fastener
- Flange fastener
- Counter hinge
- Fastening and piston arm nuts
- Fork head
- Rod eye with spherical bearing

Piston Ø [mm]	A [mm]	B [mm]	C [mm]	D [mm]	G [mm]	H [mm]	J [mm]	R [mm]	S [mm]	Article no.
Foot fastener for TZG001										
8-10	12	4.5	25	35	11	16	16	10	3	780753
12-16	16	5.5	32	40	14	20	20	13.4	4	780754
20-25	22	6.6	40	54	17	25	25	18	5	780755

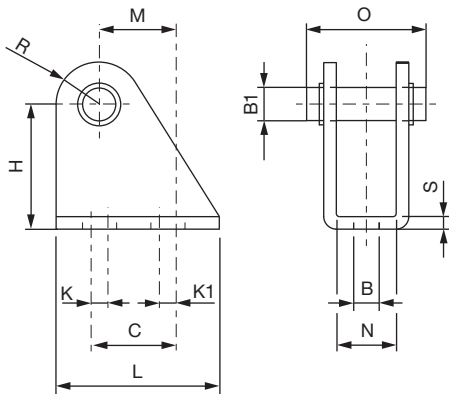


Piston Ø [mm]	A [mm]	B [mm]	C [mm]	R [mm]	R1 [mm]	S [mm]	Article no.
Flange fastener for TZG001							
8-10	12	4.5	30	15	5	3	780756
12-16	16	5.5	40	15	6	4	780757
20-25	22	6.6	50	20	8	5	780758

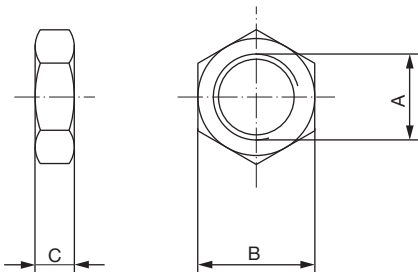


Ordering chart fastening elements for cylinder Ø 8 to 25 mm for TZG001

Ø [mm]	B [mm]	B1 [mm]	C [mm]	K [mm]	K1 [mm]	H [mm]	L [mm]	M [mm]	N [mm]	O [mm]	R [mm]	S [mm]	Article no.
Counter hinge block for TZG001													
8-10	4.5	4	12.5	-	-	24	22	12.5	8.1	18	5	2.5	780759
12-16	5.5	6	20	-	5	25	35	20	12.1	25	7.5	3	780760
20-25	6.6	8	25	5	-	29	40	23	16.1	32	10	4	780761



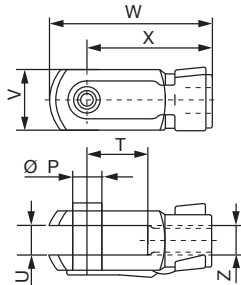
Type	Ø [mm]	A [mm]	B [mm]	C [mm]	Type	Ø [mm]	A [mm]	B [mm]	Article no. set
Fastening and piston arm nuts for TZG001									
Fastening nuts	8-10	M12×1.25	19	6	Piston arm nuts	8-10	M4	7	780765
	12-16	M16×1.5	22	5		12-16	M6	10	780766
	20	M22×1.5	27	8		20	M8×1.25	13	780768
	25	M22×1.5	27	8		25	M10×1.25	17	780769



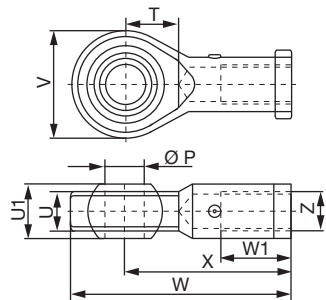
- 1 set consists of 1 fastening nut and one piston arm nut

Ordering chart fastening elements for cylinder Ø 8 to 25 mm for TZG001

Piston Ø [mm]	P [mm]	T [mm]	U [mm]	V [mm]	W [mm]	X [mm]	Z	Article no.
Fork head for TZG001								
8-10	4	8	4	8	21	16	M4	780770
12-16	6	12	6	12	31	24	M6	780771
20	8	16	8	16	42	32	M8	780772
25	10	10	10	20	52	40	M10×1.25	780773



Piston Ø [mm]	P [mm]	T [mm]	U [mm]	U1 [mm]	W [mm]	W1 [mm]	X [mm]	Z	Article no.
Rod eye with spherical bearing for TZG001									
8-10	5	10	6.00	8	36	10	27	M4	780774
12-16	6	11	6.75	9	40	12	30	M6	780775
20	8	13	9.00	12	48	16	36	M8	780776
25	10	15	10.5	14	57	20	43	M10	780777



Magnetic field-sensitive sensors for cylinders

TEU005

- Reed sensor for direct mounting
- LED switching status indication
- Male connector M8 straight or angled
- Cable connection 3 m long
- Easy to handle



Magnetic field-sensitive sensors are used for contact-free position reporting from the magnetic piston of a pneumatic or hydraulic cylinder.

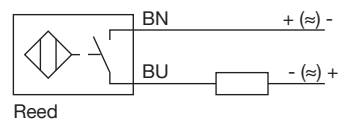
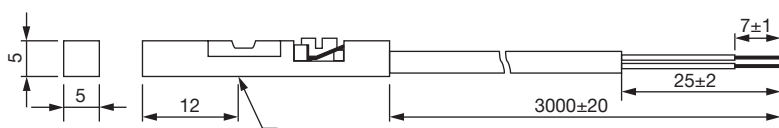
The position of the piston can be displayed optically by LED indication and analysed electrically.

Technical Data

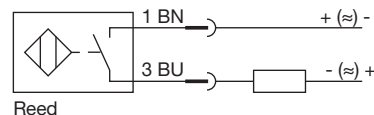
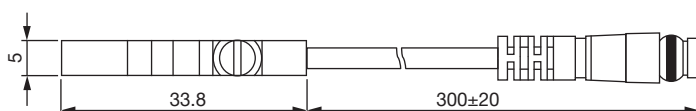
Version	For cylinder slot
Design	Reed contact, 2 pin, reverse polarity protection
Connection cable	Ø 2.8 mm, PUR
Ambient temperature	-10 to +70 °C
Protection class	IP68
Switching status indication	LED red
Operating voltage	5-240 V AC/DC with 3 m cable 5-60 V AC/DC with M8 connector with 0.3 m cable
Rated operational current	AC <100 mA DC <100 mA
Breaking capacity	<10 W
Max. voltage drop	<2.5 V

Dimension [mm] and switching diagram

Reed contact with LED, 3 m cable



Reed contact with LED, M8 connector with 0.3 m cable



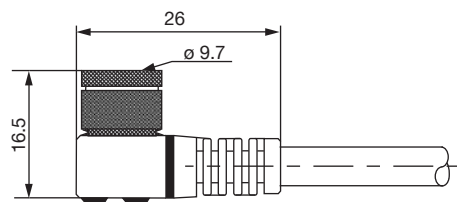
Ordering chart

Version	Article no.
Reed contact with LED, M8 connector with 0.3 m cable	773219
Reed contact with LED, 3 m cable	772322

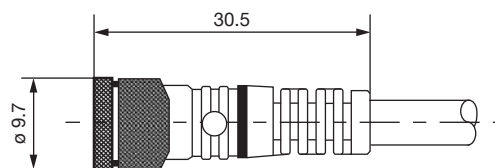
Dimensions [mm] - accessories for sensor

Plug connector without LED with cable, 3 m long IP67

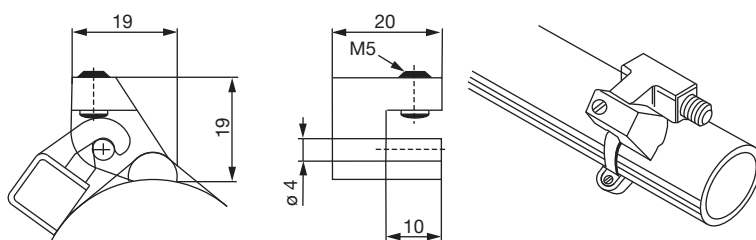
Angled plug connector, M8



Plug connector, straight, M8



Tension band fastening with retention bracket for pneumatic cylinder Type 0044



For pneumatic cylinders without tension anchor Piston diameter 8-80 mm

Required for fastening:
 -1 x retention bracket (for all sizes),
 Article no. 780 114
 -1 x tension band

Ordering chart for accessories

Version	Article no.
Angled plug connector, M8, 3 meter	780112
Plug connector, straight, M8, 3 meter	780113
Retention bracket for tension band fastening (all sizes)	780114
Tension band for pistons Ø 8/10/12/16 mm	780115
Tension band for pistons Ø 20/25 mm	780116
Tension band for pistons Ø 32 mm	780117
Tension band for pistons Ø 40 mm	780118
Tension band for pistons Ø 50 mm	780119
Tension band for pistons Ø 63 mm	780120
Tension band for pistons Ø 80 mm	780121

Bourdon tube pressure gauge, back or lower mount connection

TAU001

- For gases and non-crystallizing liquids
- Back or radial mount lower connection
- Different sizes and measurement ranges



Manometer for the pressure measurement of neutral and aggressive gases and non-crystallizing liquids with small viscosity, that will not attack copper alloy manometer interior parts. A circular bourdon tube in alloyed copper is used as sensor.

Warning!

Not suitable for town gas, oxygen and acetylene.

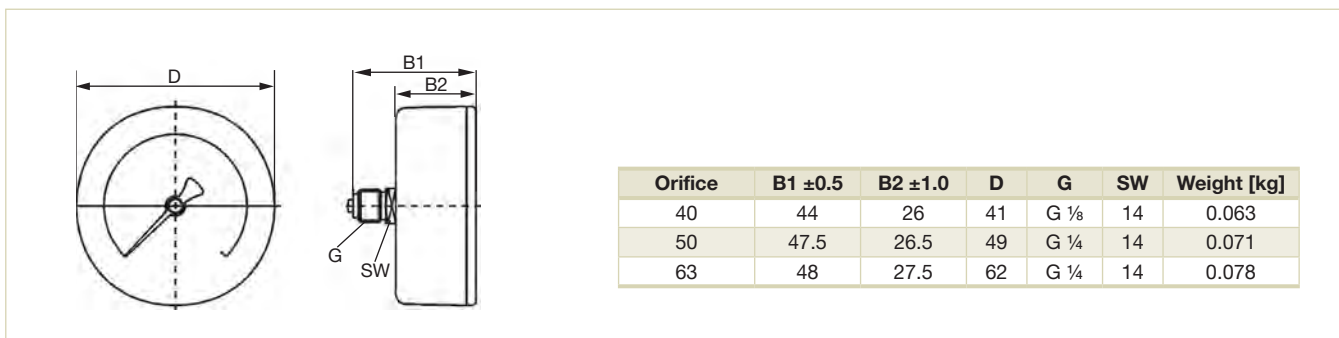
Technical data

Measuring principle	Bourdon tube
Measurement range	Vacuum up to 25 bar
Accuracy class	2.5 according to EN 837-1
Display range	According to EN 837-1
Working pressure	
Steady	75 % of full scale value
Fluctuating	67 % of full scale value
Short time	100 % of full scale value
Medium	Neutral/aggressive gases/liquids with small viscosity, that do not crystallize and do not attack the materials of the bourdon tube
Ambient temperature	-20 to +60 °C
Medium temperature	Max. +60 °C
Temperature behaviour	±0.4 % per 10 K related to +20 °C
Pressure measuring element	Circular
Measuring element material	Alloyed copper
Motion work material	Alloyed copper
Pressure connection material	Alloyed copper
Case material	Plastic, black
Pointer material	Plastic, black
Dial	Plastic, white; with black lettering and pointer stop pin
Window	Plastic, crystal-clear; snap-fit

Other versions on request

Dimensions [mm]

Gauge with centre back mount connection



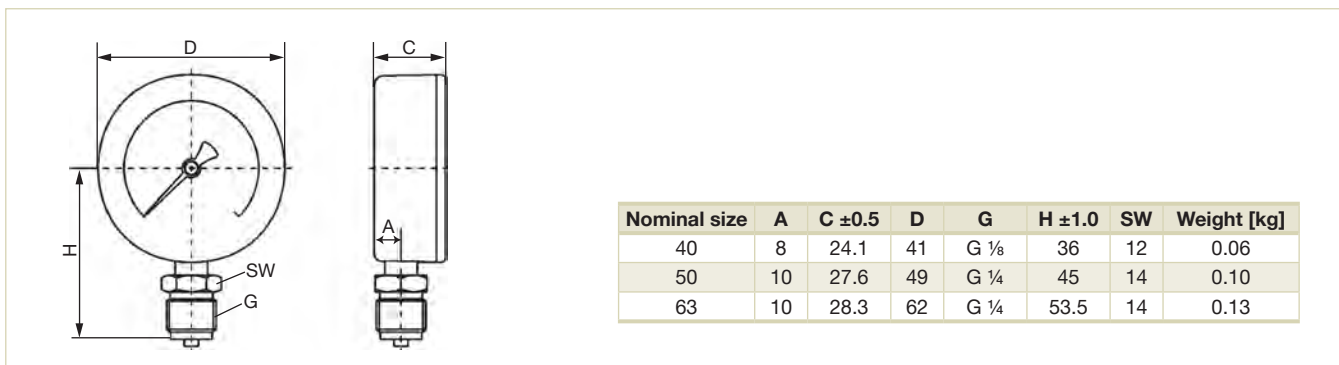
Ordering chart for pressure gauge (further versions on request)

Gauge with centre back mount connection

Display range [bar]	Nominal size [mm]	Process connection	Article no.
0 to 4	40	G 1/8	787028
	50	G 1/4	787029
	63	G 1/4	787030
0 to 6	40	G 1/8	787031
	50	G 1/4	787032
	63	G 1/4	787033
0 to 10	40	G 1/8	787034
	50	G 1/4	787035
	63	G 1/4	787036
0 to 16	40	G 1/8	787037
	50	G 1/4	787038
	63	G 1/4	787039

Dimensions [mm]

Gauge with radial lower mount connection



Ordering chart for pressure gauge (further versions on request)

Gauge with radial lower mount connection

Display range [bar]	Nominal size [mm]	Process connection	Article no.
0 to 4	40	G 1/8	787002
	50	G 1/4	787003
	63	G 1/4	787004
0 to 6	40	G 1/8	787005
	50	G 1/4	787006
	63	G 1/4	787007
0 to 10	40	G 1/8	787008
	50	G 1/4	787009
	63	G 1/4	787010
0 to 16	40	G 1/8	787011
	50	G 1/4	787012
	63	G 1/4	787013

Resistance thermometer Pt100

TST001

- With transmitter
- Wide range of applications for neutral mediums and aggressive fluids

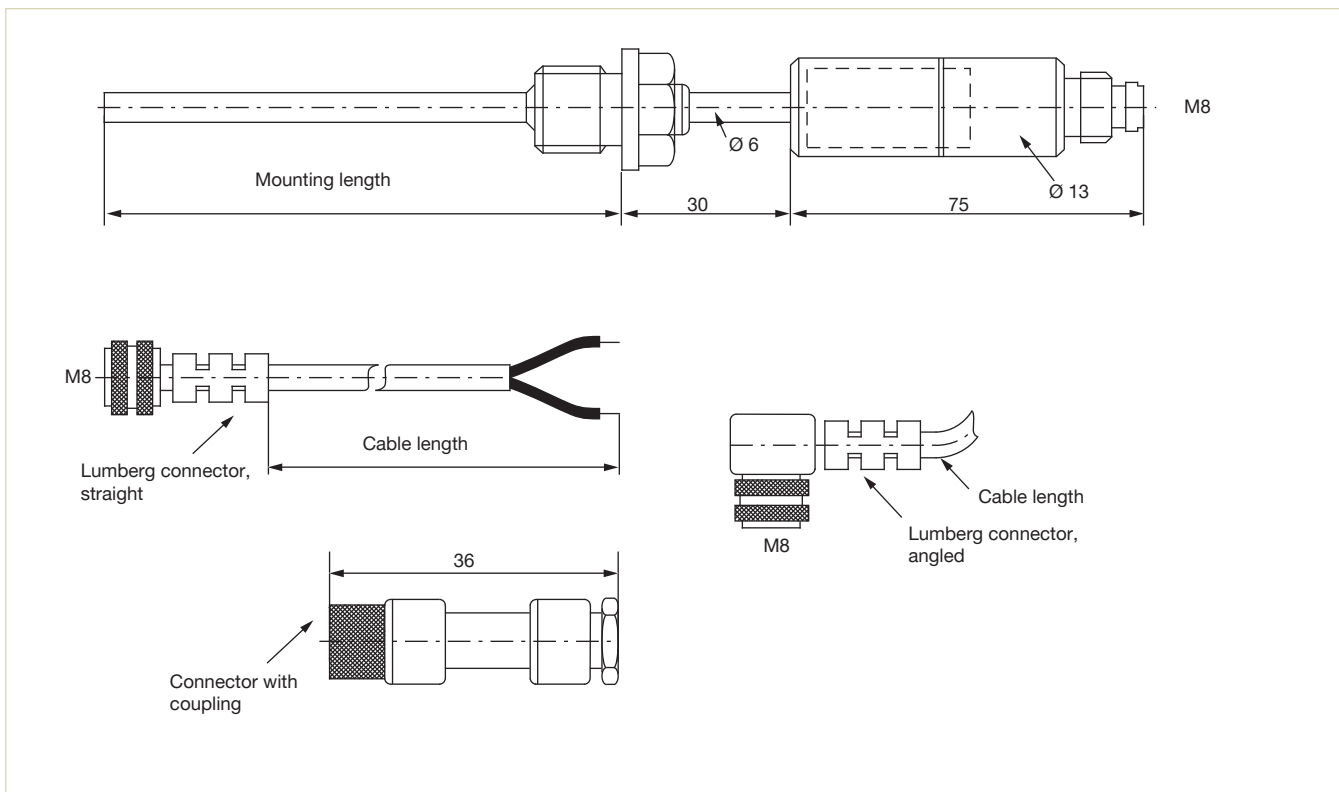


Temperature measuring with 1xPt100-temperature probe integrated in stainless steel tube; measuring unit according DIN IEC 751 welded-in and not exchangeable.

Technical data

Measuring range	0 up to +150 °C
Accuracy	Class B $\Delta T [\text{grad}] = \pm 0.3 \pm 0.005 T [^{\circ}\text{C}]$
Ambient temperature	Max. +85 °C
Output signal	4 up to 20 mA (correspond from 0 up to +150 °C)
Measuring current	Approx. 1 mA (film measuring resistor)
Circuit type	2-wire circuit
Electrical connections	Lumberg connector with/without cable
Protection class	IP67 with connector
Protection tube material	Stainless steel 1.4571
Connection	External thread G 1/2 A

Dimensions [mm]



Ordering chart

Mounting length [mm]	Thread	Article no.
40	G ½	784334
50	G ½	784335

Ordering chart for accessories

Round connector, 4-pins, Lumberg	Cable length	Article no.
Straight	2 m	784337
Straight	5 m	784338
Angled	2 m	784339
Angled	5 m	784340
Connector with coupling	-	784336

Resistance thermometer Pt100

- Compact version
- Tube material stainless steel 1.4571
- Wide range of applications for neutral mediums and aggressive fluids
- With cable plug or cable

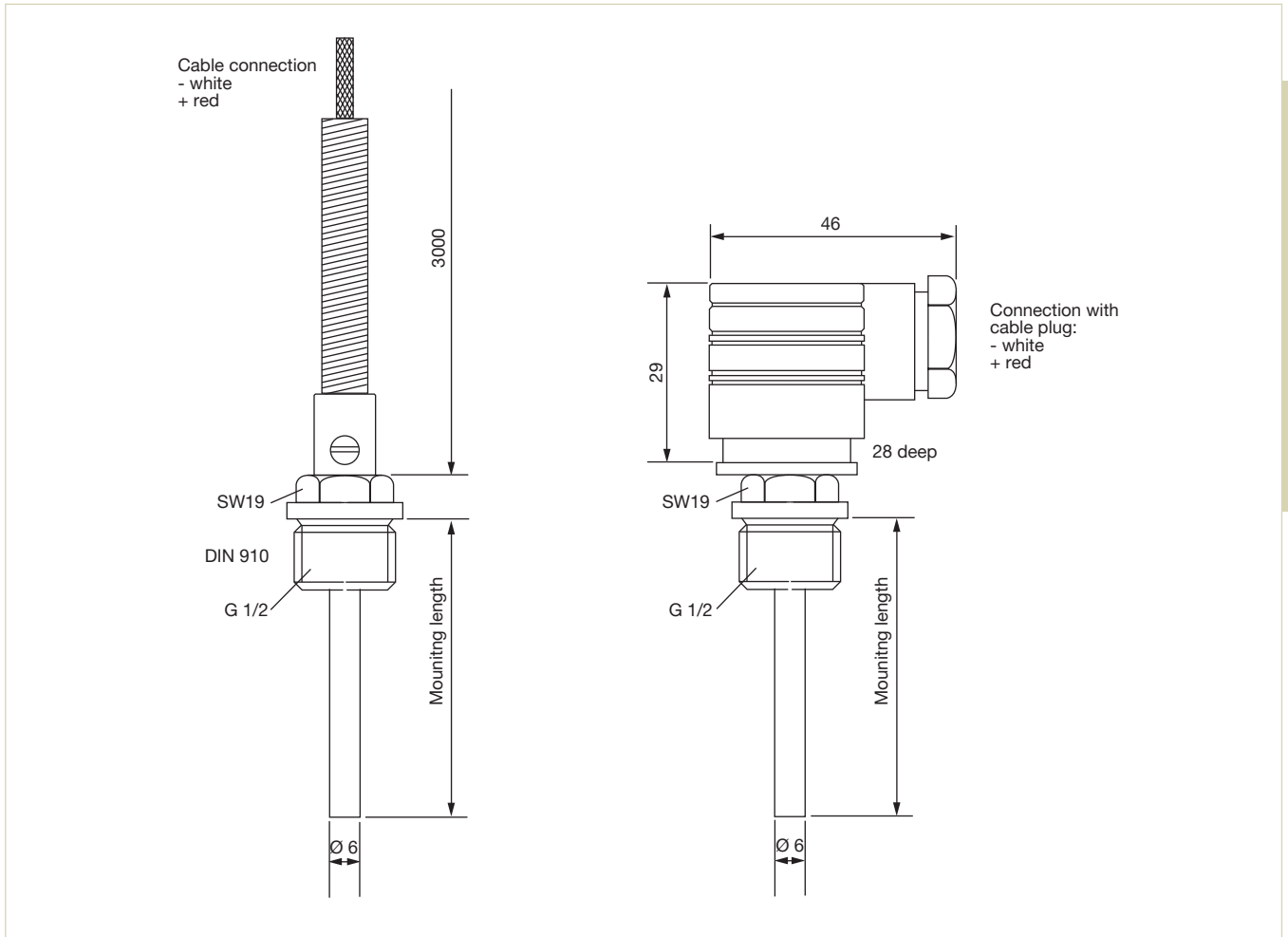


Temperature measuring with Pt100 temperature probe integrated in stainless steel tube. Measuring unit according to DIN 910 screwed and welded-in (not exchangeable). Wide range of applications for neutral and aggressive media.
Accuracy class B (ΔT [grad]= $\pm 0.3 \pm 0.005 T$ [°C]).

Technical data

Measuring surface	Flat
Measuring range	Up to +125 °C with cable plug Up to +200 °C with cable
Ambient temperature	Max. +80 °C
Protection tube material	Stainless steel 1.4571
Connection cable	3 m, PTFE silicone isolation, screened
Connection	External thread G ½
Cable plug	Type 2508 according to DIN 43650 Form A
Protection class	IP65

Dimensions [mm]



Ordering chart

Electrical connection	Mounting length [mm]	Article no.
3 m cable	50	783 713
3 m cable	100	783 714
Cable plug	50	783 715
Cable plug	100	783 716

Simple float switch

TCL001

- Switch for neutral and aggressive liquids
- NO/NC, alternating
- Reed contact
- Vertical or horizontal mounting
- Moulded lying leads (Type 8181) or cable (Type TCL001)



Float switch with hermetically sealed reed contacts in a fixed switch part, switching triggered by magnets in floating switch part, reed contact implemented as alternator or normally open/closed; for neutral and aggressive liquids; not sensitive to dirt particles in the medium; cylindrical threading for simple installation in side of container.

Different versions are available depending on material (PP or stainless steel), mounting position (horizontal or vertical) and equipment (relay).

Technical data

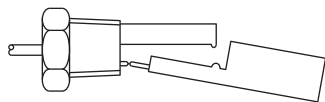
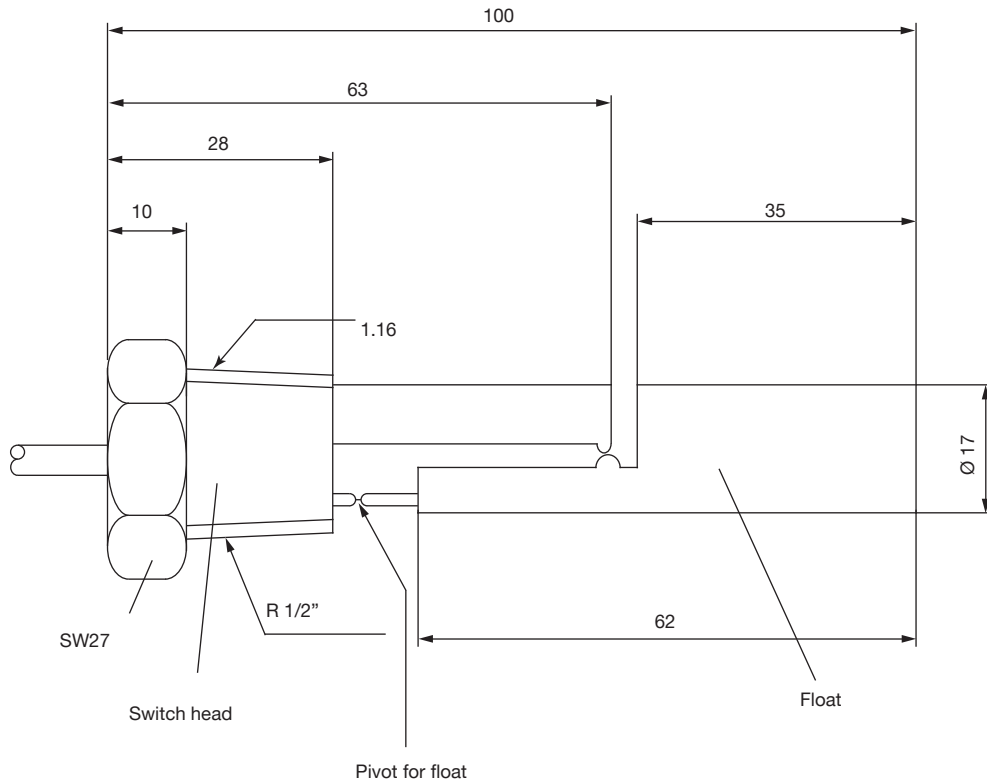
TCL001	
Switching point	At tilt of $7^\circ \pm 3^\circ$ (8,5 mm \pm 3 mm)
Switching function	Normally closed/open or alternating
Normally closed/open	
Switching voltage	Max. 250 V
Switching current	Max. 1 A
Contact rating	Max. 50 W/VA
Alternating	
Switching voltage	Max. 150 V
Switching current	Max. 0.25 A
Contact rating	Max. 3 W/VA
Electrical connections	PVC cable, 3 m long (other cable lengths on request)
Protection class	IP67
Operating temperature	-25 up to +105 °C
Probe material	PP (PVDF on request)
Mounting position	Horizontal
Thread	R $\frac{1}{2}$

Technical data continued

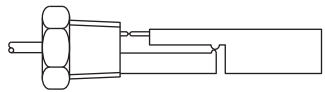
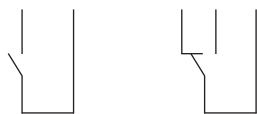
General data	Type 8181 standard	Type 8181 with relay module
Switching point	At tilt of 7° ±3° (8.5 mm ±3 mm)	At tilt of 7° ±3° (8.5 mm ±3 mm)
Mounting position	Horizontal or vertical	Horizontal or vertical
Thread	G ¼ (only for PP-horizontal version) or G ⅜ for leads version and G ¾ for cable version	G ¾
Materials		
Housing, cover/contact	-	PC/AgNi 90/10
Stem, float	PP or stainless steel 304 (316L on request)	PP or stainless steel 304 (316L on request)
Circlip (only vertical version)	PP or stainless steel 304	PP or Stainless steel 304
Cable plug, cable gland	PA (if one)	PA
Float density	Approx. 0.7	Approx. 0.7
Acceptable pressure		
PP version	1 bar (vertical or horizontal mounting position)	1 bar (vertical or horizontal mounting position)
Stainless steel version	10 bar (vertical mounting position) 5 bar (horizontal mounting position)	10 bar (vertical mounting position) 5 bar (horizontal mounting position)
Medium temperature		
PP version	-10 to +80 °C	-10 to +80 °C
Stainless steel version	-40 to +120 °C	-40 to +120 °C
Electrical connection	Leads 300 mm or cable 5 m	Positionable M12 and EN175301-803 cable plug
Electrical cable	0.25 mm ² min. cross section leads or PVC covering cable, 0.25 mm ² min. cross section, 2 wires + shielding	-
Electrical data	Type 8181 standard	Type 8181 with relay module
Output type	Reed contact	1 single change-over contact
Switching function	Normally closed/open	Normally closed/open
Voltage	Switching: Max. 48 V AC/DC	Max. 250 V AC/30 V DC
Current	Switching: Max. 0.25 A	Max. 3 A
Breaking power	66 VA AC/DC (only for PP-vertical version) 50 VA AC/DC	-
Contact resistance	Max. 150 mΩ Max. 200 mΩ (only for stainless steel horizontal version)	-
Breakdown voltage	Min. 310 V AC (only for PP-vertical version) 600 V DC	-
Insulating resistance	Min. 10 MΩ	-
Number of cycles	-	100 000 acc. to standard VDE 0435
Current consumption	-	< 3 mA
Environment	Type 8181 standard	Type 8181 with relay module
Ambient temperature	-10 to +80 °C (operation and storage)	-10 to +80 °C (operation and storage)
Standards, directives and approvals	Type 8181 standard	Type 8181 with relay module
Protection class	IP65	IP65
Vibrations and shocks	20G (for stainless steel version)	-

Dimensions [mm]

TCL001



wh br gr wh br



wh br gr wh br

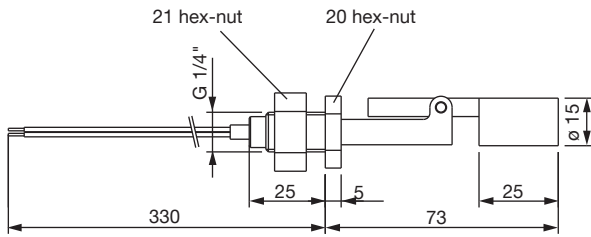


gr = green
wh = white
br = brown

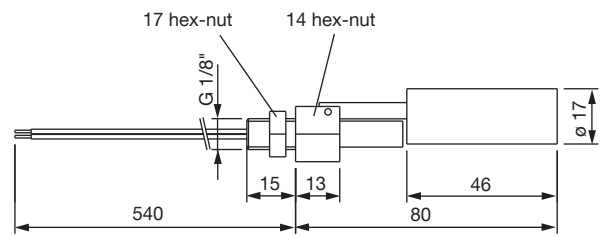
Dimensions [mm]

Switch with leads

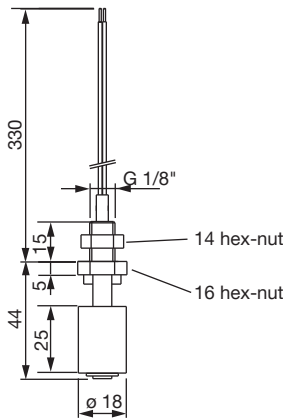
Horizontal, PP version



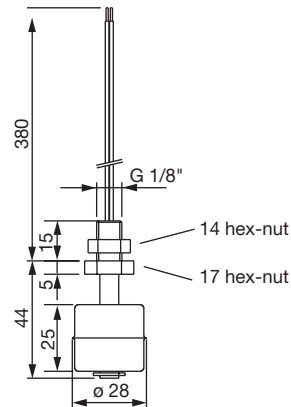
Horizontal, stainless steel version



Vertical, PP version

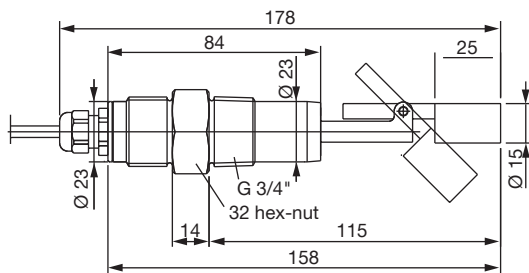


Vertical, stainless steel version

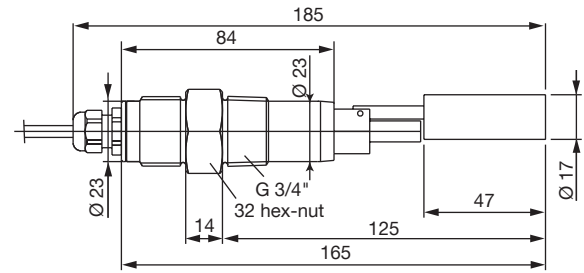


Switch with 5 m cable

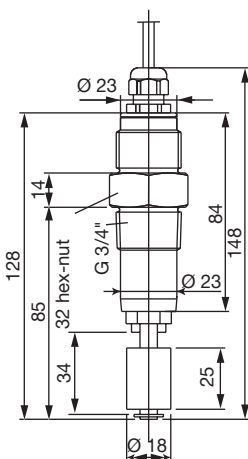
Horizontal, PP version



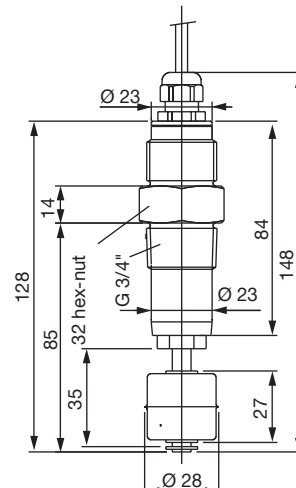
Horizontal, stainless steel version



Vertical, PP version



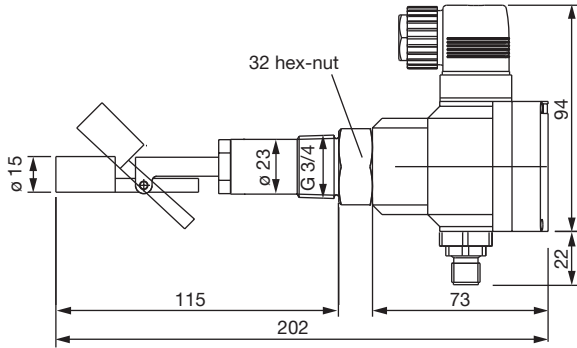
Vertical, stainless steel version



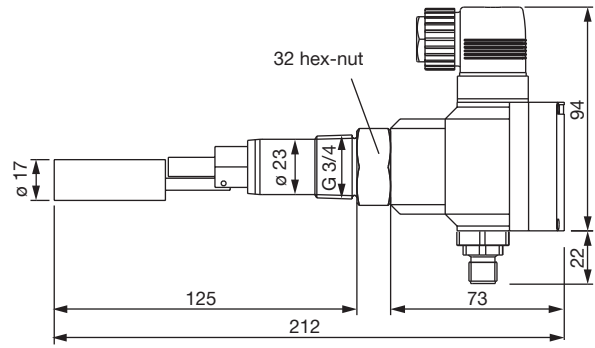
Dimensions [mm]

Switch with relay module

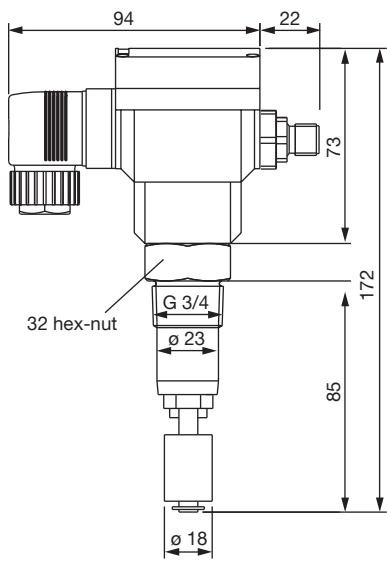
Horizontal, PP version



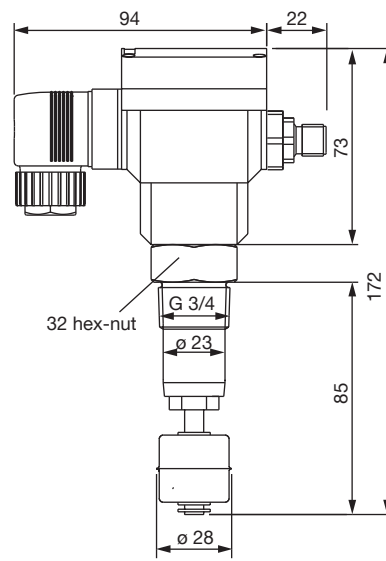
Horizontal, stainless steel version



Vertical, PP version



Vertical, stainless steel version



Ordering chart

Type	Connection	Material	Version	Switching current	Switching voltage	Switching function	Electrical connection	Article no.
TCL001	R ½	PP	Horizontal	Max. 1 A	Max. 250 V	Normally closed/ open ¹⁾	3 m cable	783793
					Max. 150 V	Alternating	3 m cable	783794
8181	G ¼	PP	Horizontal	0.5 A	Max. 48 V AC/DC	Normally closed/ open ¹⁾	300 mm leads	438141
			Vertical	0.5 A	Max. 48 V AC/DC	Normally closed/ open ¹⁾	300 mm Leads	438132
	Stainless steel	Horizontal	0.5 A	Max. 48 V AC/DC	Normally closed/ open ¹⁾	300 mm Leads	438150	
		Vertical	0.5 A	Max. 48 V AC/DC	Normally closed/ open ¹⁾	300 mm Leads	438159	
	G ¾	PP	Horizontal	0.5 A	Max. 48 V AC/DC	Normally closed/ open ¹⁾	5 m cable	438496
			Vertical	0.5 A	Max. 48 V AC/DC	Normally closed/ open ¹⁾	5 m cable	438502
		Stainless steel	Horizontal	0.5 A	Max. 48 V AC/DC	Normally closed/ open ¹⁾	5 m cable	438499
			Vertical	0.5 A	Max. 48 V AC/DC	Normally closed/ open ¹⁾	5 m cable	438505
8181 with relay module supplied with 24 V DC	G ¾	PP	Horizontal	3 A	Max. 250 V AC/ 30 V DC	Normally closed/ open ¹⁾	Positionable M12 and EN175301-803 cable plug	438497
			Vertical	3 A	Max. 250 V AC/ 30 V DC	Normally closed/ open ¹⁾	Positionable M12 and EN175301-803 cable plug	438503
		Stainless steel	Horizontal	3 A	Max. 250 V AC/ 30 V DC	Normally closed/ open ¹⁾	Positionable M12 and EN175301-803 cable plug	438500
			Vertical	3 A	Max. 250 V AC/ 30 V DC	Normally closed/ open ¹⁾	Positionable M12 and EN175301-803 cable plug	438506

¹⁾ Depending on mounting orientation

Flowmeter for Gases

8007

- Depth scale for accurate installation in existing pipes
- Usable in pipes from ½" up to 12" (DN300)
- Easy installation under pressure
- Integrated display
- Standard and heavy duty version available

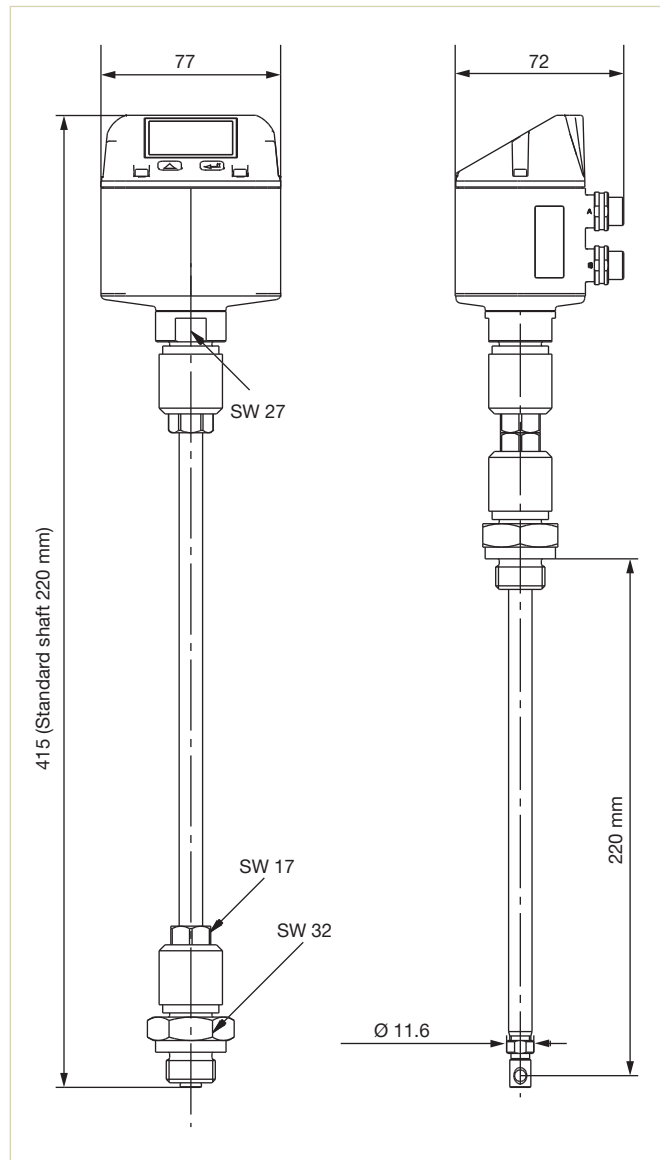


This flowmeter series is made for the measurement of especially large flow rates and uses the calorimetric measuring principle. A heated sensor element is cooled down by the gas flow. This cooling effect which depends on the flow velocity and the gas characteristics serves as a flow indication, the kind of cooling directly depends on the flow velocity and the kind of gas. This kind of mass flow measurement is independent of pressure and temperature. The flowmeter can be used for monitoring air supplies, but also qualifies for the measurement of other gases, see technical data.

Technical data

Full scale ranges (Q_{nom})¹⁾	Up to 44030 Nm ³ /h (air), see table for Flow Ranges for air
Operating gases	Air, nitrogen, oxygen, natural gas, methane, argon
Max. operating pressure	Up to 16 bar; optional up to PN40 (Standard) Up to 50 bar (Heavy Duty)
Calibration gas	Air, zero point adjustment with operating gas
Gas temperature	-30 up to +110 °C (higher temp. on request)
Ambient temperature (Electronics)	-30 up to +80 °C (higher temp. on request)
Accuracy	±1.5 % o.R. ²⁾ ±0.3 % F.S. ³⁾ (based on air and in consideration of the inlet and outlet sections; only when properly installed)
Span	1:50
Body material	Stainless steel 1.4301 (standard) Stainless steel 1.4571 (heavy duty)
Electronics housing material	Polycarbonate (standard) Aluminium die casting (heavy duty)
Sealing material	NBR, FKM (for oxygen)
Assembling screw	G ½ (others on request)
Electrical connection	M12
Power supply	18...36 V DC, 5 W
Voltage tolerance	±15 %
Power consumption	Max. 80 mA at 24 V DC
Output signal (actual value output)	4...20 mA
Max. load (current output)	<500 Ω
Digital output	RS 485 interface, Modbus-RTU
Protection class	IP65
Dimensions [mm]	See drawing on the right
Pulse output	1 pulse per m ³ (24 V DC for 30 ms)
Options	<ul style="list-style-type: none"> • Other probe lengths • Oxygen conformity declaration • Cleaned, free of oil and fat

Dimensions [mm]



¹⁾ At ref. conditions acc. to DIN 1343 (0 °C and 1013 mbar (a))

²⁾ o.R.: of reading

³⁾ F.S.: full scale (full scale values see page 2: "Flow range" table)

Flow ranges (for Air)¹⁾

Acc. to DIN 1343: 0 °C and 1013 mbara²⁾

Pipe [inches]	Inner diameter of pipe [mm]	DIN 1343 (0 °C, 1013 mbar(a))					
		Basic		Extended		Maximum	
		Velocity	Up to Nm ³ /h	Velocity	Up to Nm ³ /h	Velocity	Up to Nm ³ /h
½"	16.1	92.7 m/s	41	185 m/s	80	224 m/s	100
¾"	21.7		81		160		195
1"	27.3		136		270		325
1¼"	36.0		244		485		590
1½"	41.9		335		665		810
2"	53.1		550		1100		1330
2½"	71.1		1005		2010		2435
3"	84.9		1440		2880		3485
4"	110.0		2430		4850		5875
5"	133.7		3595		7180		8690
6"	159.3		5110		10200		12355
8"	200.0		8075		16120		19520
10"	250.0	12635	25220	30540			
12"	300.0	18220	36360	44030			

Note: For other internal pipe diameters [mm] see instruction manual

¹⁾ Flow ranges depend on the version of Type 8007 (Basic, Extended, Maximum) and the internal pipe diameter.

Type 8007 is adjustable to different internal diameters through the mechanical depth scale.

²⁾ Standard DIN 1945 (ISO 1217), at 20 °C and 1000mbar = Standard DIN 1343, at 0 °C and 1013 mbar, multiplied by coefficient 1.087.

The sensor can be installed in every given pipe size. The default sensor setting is for a 2" pipe (53.1 mm inner pipe diameter).

Every version is calibrated for a velocity range:

- Basic version up to 92.7 m/s
- Extended version up to 185 m/s
- Maximum version up to 224 m/s

The 20 mA output is equivalent to this highest velocity, which is assigned to a maximum flow depending on pipe diameter.

1. Type 8007 without display:

The 4...20 mA output is scaled in the signal receiver, for example the PLC, according to the flow ranges table above.

2. Type 8007 with display:

For scaling of the 4...20 mA output it is possible to adjust the specific pipe size (internal diameter) via the display and the keys.

Furthermore, the desired flow unit can be selected.

Ordering chart for air with operating pressure of 6 barg - standard version

Item	Article no.
Type 8007 with integrated display, Basic [92.7 m/s], probe length 220 mm	773498
Type 8007 with integrated display, Extended [185 m/s], probe length 220 mm	773499
Type 8007 with integrated display, Maximum [224 m/s], probe length 220 mm	773500

Calibration for other gases on request; probe lengths 120 mm, 160 mm, 300 mm, 400 mm on request.

Ordering chart for air with operating pressure of 6 bar(g) - heavy duty version

Item	Article no.
Type 8007 with integrated display, Basic [92.7 m/s], probe length 220 mm	773508
Type 8007 with integrated display, Extended [185 m/s], probe length 220 mm	773509
Type 8007 with integrated display, Maximum [224 m/s], probe length 220 mm	773510

Versions Extended and Maximum on request; probe lengths 120 mm, 160 mm, 300 mm, 400 mm on request.

Ordering chart for accessories

Item	Article no.
5 m cable, with 5 pin M12 plug at one end	770217
10 m cable, with 5 pin M12 plug at one end	770795
Power supply Type 1573 for rail mounting, 100-240 V AC/ 24 V DC, 1.25A, NEC Class 2 (UL 1310)	772438
Power supply Type 1573 for rail mounting, 100-240 V AC/ 24 V DC, 1A, NEC Class 2 (UL 1310)	772361
Power supply Type 1573 for rail mounting, 100-240 V AC/ 24 V DC, 2A, NEC Class 2 (UL 1310)	772362
Power supply Type 1573 for rail mounting, 100-240 V AC/24 DC, 3,8A NEC Class2 (UL60950-1)	772898

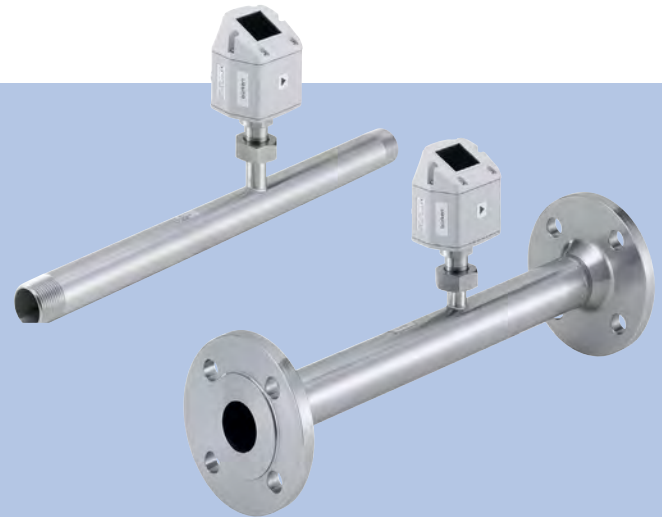
Without ordering cables, the flowmeter comes with M12-connector for port A.

Note: Please read instructions for installation (data sheet, manual) in order to get best measuring results.

Flowmeter for gases

8008

- Thermal mass flow measurement
- Integrated inlet and outlet pipes for flow conditioning
- Pipe sizes up to 2"
- Integrated display
- Standard and heavy duty version available



This flowmeter series is made for measuring of especially large flow rates and uses the calorimetric measuring principle. A heated sensor element is cooled down by the gas flow. This cooling effect which depends on the flow velocity and the gas characteristics is the measure for the mass flow rate. This kind of mass flow measurement is independent of pressure and temperature. The flowmeter can be used for monitoring air supplies, but also qualifies for measuring other gases like nitrogen, oxygen, carbon dioxide, natural gas, methane, argon and hydrogen.

The display can be rotated 180°. Furthermore there is a totaliser integrated which counts the gas volume flowing through the pipe. It can be reset via the console. The flowmeter's pressure drop is negligibly low, the measurement works without any moving parts. In combination with a solenoid control valve or an air operated process control valve decentralized flow control loops up to DN50 are possible.

Technical data

Full scale ranges (Q_{nom})¹⁾	Up to 825 Nm ³ /h (air)
Operating gases	Air, nitrogen, oxygen, natural gas, methane, argon, nitrous oxide, carbon dioxide, helium (hydrogen on request)
Max. operating pressure	Up to 16 bar, optional up to PN40 (Standard) Up to 50 bar (Heavy Duty)
Calibration gas	Air, zero point adjustment with operating gas; with hydrogen and helium: calibration with operating gas
Gas temperature	-30 up to +80 °C (higher temperatures on request)
Ambient temperature	-30 up to +80 °C (higher temperatures on request)
Accuracy	± 1.5 % o. R. ²⁾ ± 0.3 % F.S. ³⁾ (based on air and in consideration of the inlet and outlet sections)
Span	1:50
Body material	Stainless steel 1.4301 (standard) Stainless steel 1.4571 (heavy duty)
Electronics housing material	Polycarbonate (standard) Aluminium die casting (heavy duty)
Sealing material	NBR, FKM (for oxygen)
Pipe connection	R ½, R ¾, R 1, R 1¼, R 1½, R 2 (all connections as external thread) acc. to DIN EN 10226 (ISO 7-1) or flange connections acc. to DIN EN 1092-1 (stainless steel 1.4404), other connections on request
Power supply	18 to 36 V DC, 5 W
Output signal (actual value output) Max. load (current output)	4...20 mA < 500 Ω
Digital output	RS 485 interface, Modbus-RTU
Protection class	IP65
Dimensions [mm]	See drawing on next page
Pulse output	1 pulse per m ³ (24 V DC for 30 ms)
Options	<ul style="list-style-type: none"> • Oxygen conformity declaration • Cleaned, free of oil and fat

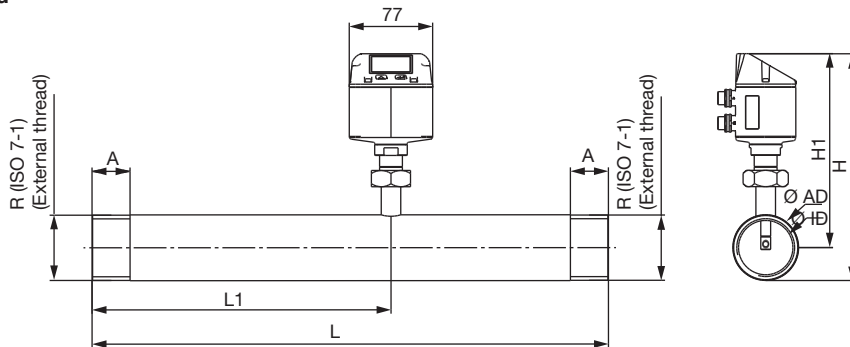
¹⁾ for 1.013 bar(g) and 0 °C (acc. to DIN 1343)

²⁾ o.R. : of reading

³⁾ F.S. : full scale (full scale values see page 2: "Flow range" table)

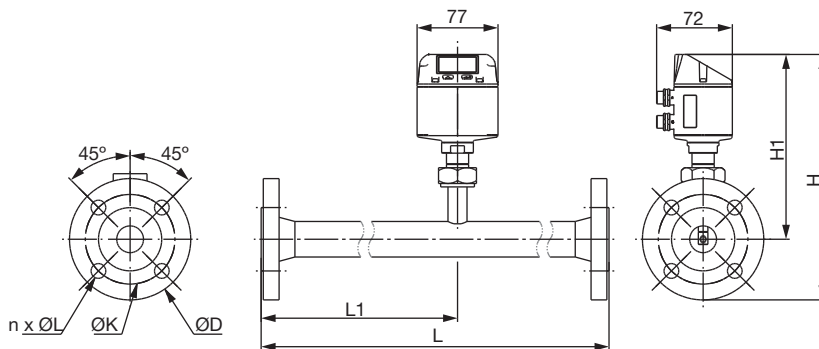
Dimensions [mm]

Threaded



Measuring distance		ØAD Pipe	ØID Pipe	L	L1	H	H1	A
Inch	DN	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
¼"	-	13.7	8.9	194	137	174.7	165.7	15
½"	15	21.3	16.1	300	210	176.4	165.7	20
¾"	20	26.9	21.7	475	275	179.2	165.7	20
1"	25	33.7	27.3	475	275	182.6	165.7	25
1¼"	32	42.4	36	475	275	186.9	165.7	25
1½"	40	48.3	41.9	475	275	186.9	165.7	25
2"	50	60.3	53.1	475	275	186.9	165.7	30

Flange



Measuring distance		ØAD Pipe	ØID Pipe	L	L1	H	H1	ØD	ØK	n x ØL
Inch	DN	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
½"	15	21.3	16.1	300	210	213.2	165.7	95	65	4 x 14
¾"	20	26.9	21.7	475	275	218.2	165.7	105	75	4 x 14
1"	25	33.7	27.3	475	275	223.2	165.7	115	85	4 x 14
1¼"	32	42.4	36	475	275	235.7	165.7	140	100	4 x 18
1½"	40	48.3	41.9	475	275	240.7	165.7	150	110	4 x 18
2"	50	60.3	53.1	475	275	248.2	165.7	165	125	4 x 18
2½"	65	76.1	68.9	475	275	268.2	175.7	185	145	8 x 18
3"	80	88.9	81.9	475	275	275.7	175.7	200	160	8 x 18

Flow ranges

		½"	¾"	1"	1¼"	1½"	2"
		[m³/h]	[m³/h]	[m³/h]	[m³/h]	[m³/h]	[m³/h]
Ref. acc. to DIN 1945/ISO 1217: 20 °C and 1000 mbar:							
Air		90	170	290	530	730	1195
Ref. acc. to DIN 1343: 0 °C and 1013 mbar:							
Air		80	160	270	490	670	1100
Argon	Ar	140	275	460	830	1140	1870
Carbon dioxide	CO ₂	90	175	290	525	720	1185
Nitrogen	N ₂	80	160	270	485	670	1100
Oxygen	O ₂	85	165	280	505	695	1140
Natural gas, methane	NG	50	105	170	310	430	705

Article no. for a flowmeter calibrated on other gases like air and other flow ranges on request

Ordering chart for air with operating pressure of 6 bar(ü) - standard version

Pipe connection	Inner diameter of pipe	Flow range	Overall length	Article no.
R ½"	16.1 mm	up to 80 Nm³/h ¹⁾	300 mm	773501
R ¾"	21.7 mm	up to 160 Nm³/h ¹⁾	475 mm	773502
R 1"	27.3 mm	up to 270 Nm³/h ¹⁾	475 mm	773503
R 1¼"	36.0 mm	up to 485 Nm³/h ¹⁾	475 mm	773504
R 1½"	41.8 mm	up to 670 Nm³/h ¹⁾	475 mm	773505
R 2"	53.1 mm	up to 1100 Nm³/h ¹⁾	475 mm	773506

¹⁾ Index N: Standard condition, flow rate referred to 0 °C and 1.013 bar(a)
Calibration for another flow range, other gases and/or operating pressure on request.

Note:

The total length of the device is not enough to condition the flow. Please refer to the design notes.

Ordering chart for air with operating pressure of 6 bar(g) – heavy duty version

Pipe connection	Inner diameter of pipe	Flow range	Overall length	Article no.
R ½"	16.1 mm	up to 80 Nm³/h ¹⁾	300 mm	773511
R ¾"	21.7 mm	up to 160 Nm³/h ¹⁾	475 mm	773512
R 1"	27.3 mm	up to 270 Nm³/h ¹⁾	475 mm	773513
R 1¼"	36.0 mm	up to 485 Nm³/h ¹⁾	475 mm	773514
R 1½"	41.8 mm	up to 670 Nm³/h ¹⁾	475 mm	773515
R 2"	53.1 mm	up to 1100 Nm³/h ¹⁾	475 mm	773516

¹⁾ Index N: Standard condition, flow rate referred to 0 °C and 1.013 bar(a)
Calibration for another flow range, other gases and/or operating pressure on request

Note:

The total length of the device is not enough to condition the flow. Please refer to the design notes in the manual.

Ordering chart for accessories – standard version

Item	Article no.
5 m cable, with 5 pin M12 plug at one end	770217
10 m cable, with 5 pin M12 plug at one end	770795
Power supply Type 1573 for rail mounting, 100–240 V AC/ 24 V DC, 1.25A, NEC Class 2 (UL 1310)	772438
Power supply Type 1573 for rail mounting, 100–240 V AC/ 24 V DC, 1A, NEC Class 2 (UL 1310)	772361
Power supply Type 1573 for rail mounting, 100–240 V AC/ 24 V DC, 2A, NEC Class 2 (UL 1310)	772362
Power supply Type 1573 for rail mounting, 100-240 V AC/24 DC, 3.8A NEC Class 2 (UL60950-1)	772898

Without ordering cables, the flowmeter comes with M12-connector for port A.

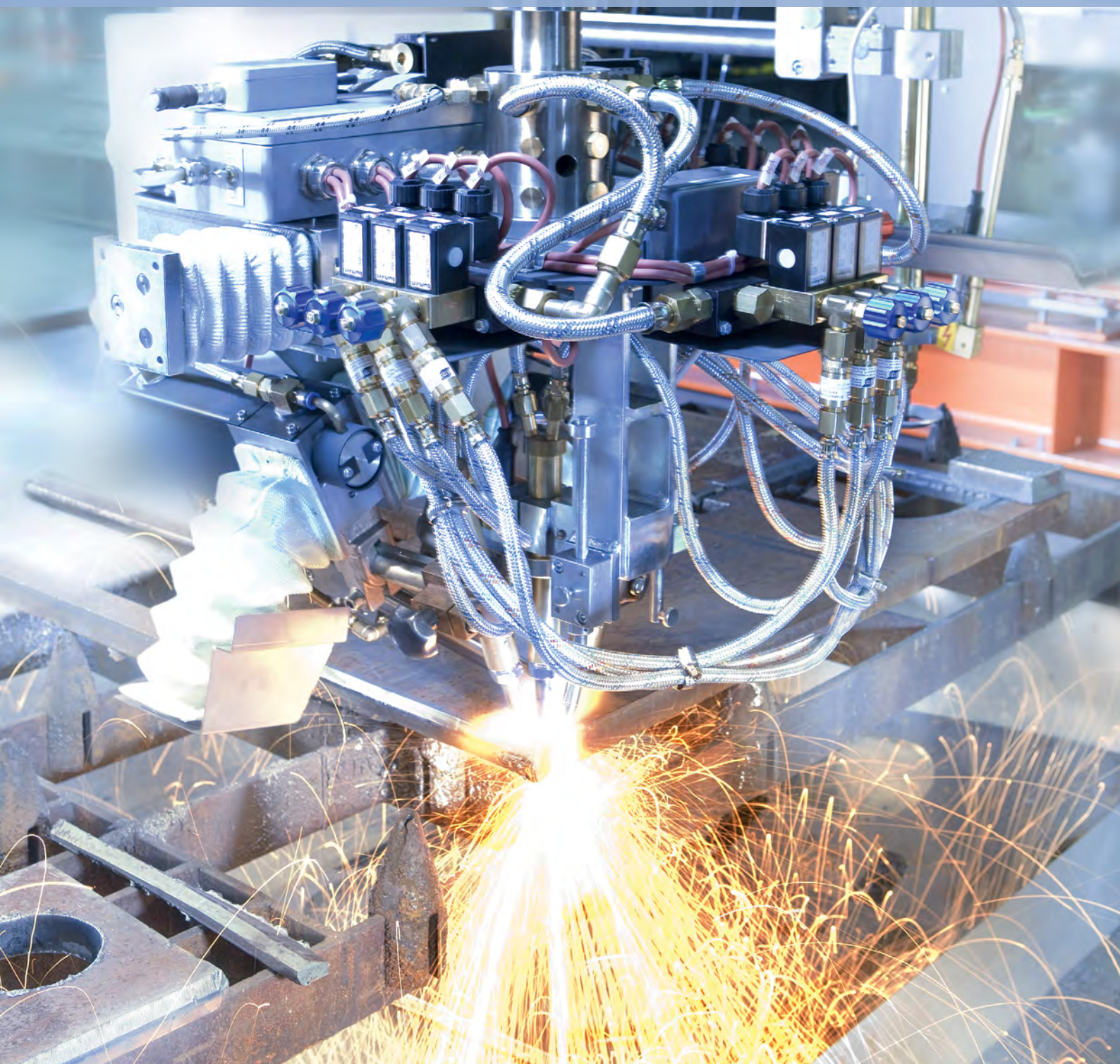
Note:

For pin assignment see manual or datasheet

Cutting Edge Solutions.

Bürkert provides groundbreaking solutions for optimized flame and plasma, simplifying the tasks of melting, cutting, forming, welding and brazing.

Complex multi-channel processes in the field of gas require versatile and precise control of media—whether for shaping tiny medical glass tubes or cutting nine-inch steel for shipbuilding. This is where Bürkert comes in, offering you solutions tailored to your needs. Let us help you enhance your efficiency and boost your returns.



Single phase, primary switched mode power supply

1573

- Stabilised and adjustable output voltage
- Parallel operation
- Push-In terminals
- Panel installation on mounting rails
- DC OK Signalling

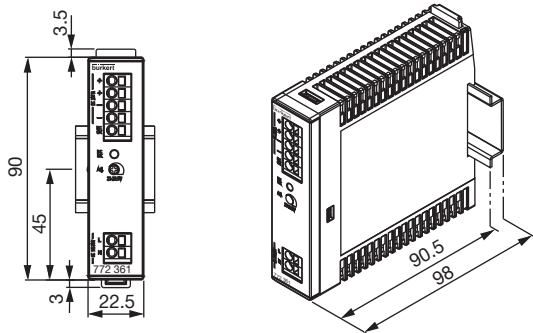


Efficient, primary switched mode power supply in slim plastic housing. A powerful and flexible option that's still light and compact. These power supply units are suitable for a highly diverse range of applications in solar, measurement and control technology as well as industrial and building automation. The output voltage can be easily set using the rotary potentiometer on the front of the housing. The DIN rail fastening method and push-in connection terminals enable fast and secure mounting.

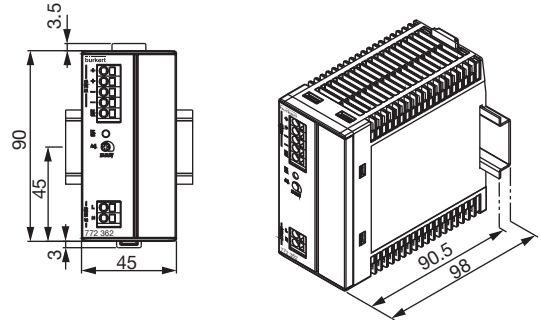
Technical data

Input data	
Nominal input voltage	AC 100 – 240 V
Input voltage range	85...264 V AC (120...372 V DC)
Frequency range	47 Hz...63 Hz/0 Hz
Inrush current limitation	<30 A, NTC
Transient surge voltage protection (varistor)	✓
Terminals input	Push-In, max. 2.5 mm ²
Output data	
Nominal output voltage	24 V DC ±1 %
Parallel operation	✓
Serial operation	✓
Resistance to reverse feed max. (nominal load)	Max. 35 V DC
Terminals output	Push-In, max. 2.5 mm ²
Signaling	
Signaling 'DC OK' (LED lit permanently green)	$U_{out} > 21.5 \text{ V}$
Terminals signaling	Push-In, max. 2.5 mm ²
Environment	
Storage temperature	-25 °C to +85 °C
Required minimum spacing (over/under)	50 mm
Convection cooling	✓
General data	
Degree of protection acc. to IEC 60529	IP20
Safety standards	
Safety	EN 61558-2-16, EN 60950-1
EMC	EN 61204-3, EN 60335-1
Safety extra-low voltage (SELV/PELV)	IEC 60364-4-41 (DIN VDE 0100-410)
CE acc. to 2004/108/EC and 2006/95/EC	✓
Mounting on standard rail DIN EN 60715-TH35-15/7.5	✓

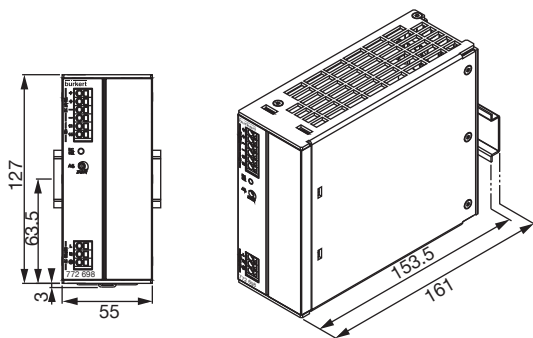
Article no. 772 361



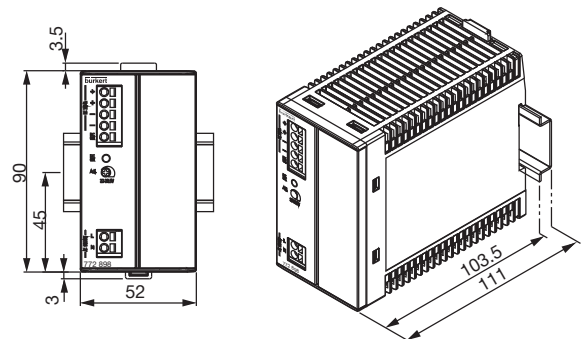
Article no. 772 362



Article no. 772 698



Article no. 772 898



Note:

Installation, connection and mounting see datasheet.

Ordering chart

Nominal Current Output	Article no.
1 A	772361
2 A	772362
3.8 A	772898
10 A	772698

Further technical data

Technical Data	772 361	772 362	772 898	772 698
Input data				
Input voltage derating	-2.5 %/V AC <95 V AC			-2.5 %/V AC <100 V AC
Nominal input current (nominal load)	0.49 A(100 V AC)/ 0.28 A (240 V AC)	0.82 A (100 V AC)/ 0.48 A (240 V AC)	1.73 A (100 V AC) / 0.95 A (240 V AC)	2.74 A (100 V AC)/ 1.25 A (230 V AC)
Turn-on time after applying the main voltage	2.3 sec.(100 V AC)/ 0.74 sec.(230 V AC)	0.5 sec.(100 V AC)/ 0.27 sec.(230 V AC)	0.5 sec.(100 V AC)/ 0.2 sec.(230 V AC)	1.3 (100 V AC) / 0.25 sec.(230 V AC)
Mains buffering (nominal load)	20/120 ms (100/230 V AC)	20/120 ms (100/230 V AC)	15/80 ms (100/230 V AC)	15/17 ms (100/230 V AC)
Recommended power circuit breaker (characteristic)	6 A, 10 A, 16 A (B,C)			10 A, 16 A (B,C)
Output data				
Output voltage range	23...28.5 V DC		23...28.5 V DC (>24 V DC constant power)	23...28.5 V DC
Nominal output current	1 A	2 A	3.8 A	10 A
Output current limitation constant current	Typ. 1.25...1.4 A	Typ. 2.25...2.4 A	Typ. 3.8...3.2 A	Typ. 11...13 A
Power losses (Stand-by/nominal load)	<1 W/4 W (230 V AC)	<1 W/6 W (230 V AC)	<2.8 W/14 W (230 V AC)	6.6 W/24.4 W (230 V AC)
Maximum power losses	5 W (100 V AC/24 V/1 A)	7 W (100 V AC/24 V/2 A)	20 W (100 V AC/91 W)	31.3 W (100 V AC/24 V/10 A)
Efficiency	Typ. 86 %	Typ. 89 %	Typ. 87 %	Typ. 91 %
Ripple/noise	Typ. 20 mV _{ss}			Typ. 50 mV _{ss}
Protection against internal surge voltage (OVP)	Max. 39 V DC	Max. 37 V DC	Max. 40 V DC	
Signaling				
Signal contact DC OK (active high)	U _{out} >21.5 V max. 20 mA @24 V DC			Signal output DC OK relay, contact closed U _{out} >21.5 max. 30 V/1 A
Environment				
Ambient temperature	-25 °C to +70 °C Device start at -40 °C type-tested			
Derating	-3 % K >+50 °C			-5 %/K>+60 °C (196...264 V AC) -2.5 %/K>+50 °C (85...195 V AC)
Current rating at any mounting position	Max. 0.7 A	Max. 1.3 A	Max. 2.4 A	-
Humidity (no condensation)	5...96 %			
General data				
Protection class acc. to EN 61140	II			I
Approvals				
UL	UL 508 listed			UL/CSA 60950 recognized (E213214), UL 508 listed (E219022)
UL 60950 -1	UL 60950 -1 recognized			-
Class 2 output (UL Limited Power Source, LPS)	EN 60950-1	EN 60950-1	EN 60950-1, UL 1310	-
GL (in preparation)	GL (Germanischer Lloyd) classified, Environment category:C, EMC 2			
Mechanical data				
Weight	128 g	210 g	390 g	930 g
Dimensions (W x H x D)	22.5×90×97.5 mm	45×90×97.5 mm	52×90×111 mm	55×127×161 mm

Bürkert - Close to You

For up-to-date addresses
please visit us at
www.burkert.com.



Index Type Numbers

Type	Page
0044/0045 Pneumatic cylinders according to ISO in plastic ...	84
1573 Power supply	118
8007 Flowmeter for Gases	112
8008 Flowmeter for Gases	114
TAU001 Gauges	100
TAU003 Float-type flow meter	22
TBU001 Fasteners for cylinders	88
TCD001 Pressure switch	78
TCL001 Simple float switch	106
TEU005 Magnetic field-sensitive sensors for cylinders	98
TFU001 Strainer	6
TFU002 Check valve for water and air	8
TFU005 Swing check valve for water	10
TFU006 Pressure regulator for water	2
TKU001 Compact flange ball valve	18
TKU004 Manually operated ball valve	12
TPM001 Air preparation units units	68
TRG001 Flow regulator	56
TRG001 Quick exhaust valve	64
TRG001 Restrictor and restrictor silencer	66
TRG001 Shuttle valve	62
TST001 Resistance thermometer PT100, standard	102
TST001 Resistance thermometer PT100, compact	104
TVG002/TVU002 Push-in connectors	26
TVG006 Silencer	50
TVG007 Plastic hoses for pneumatic	54
TVU001/TVG003 Fitting connectors	38
TZG001 Pneumatic cylinder DIN 6432	82
TZU002 Pneumatic cylinder ISO 15552	80

Bürkert Fluid Control Systems
Christian-Bürkert-Straße 13-17
74653 Ingelfingen
Germany

Tel. +49 7940 100
Fax +49 7940 1091204

info@burkert.com
www.burkert.com