DATA SHEET

Type 2052

Pneumatic rotary actuator

- Modular program for mounting to armatures such as ball valves and butterfly valves
- NAMUR and ISO 5211 interfaces
- Position feedbacks
- Mounting of SIDE control positioner
- ATEX

Product variants described in the data sheet may differ from the product presentation and description.

Can be combined with

Type 2654
2/2-way ball valve, 3-piece

Type 2651
2/2-way or 3/2-way ball valve, 2-piece

Type 2657
Ball valve, manually operated

Type 2671
Butterfly valve

Type 2674
Plastic butterfly valve

Type 1061
Position feedback unit for pneumatic rotary actuators

Type 6519
Servo-assisted 3/2, 5/2 or 5/3-way solenoid valve for pneumatics

Type 8792
Digital electropneumatic positioner SideControl

Type description

he actuator series 2052 includes single and double acting pneumatic linear piston actuators with a universal mechanical interface in accordance with ISO 5211. The actuator shaft is rotated through 90° by the pressure force of the pilot air or the force of the reset fields. The rotary movement can in turn be used to actuate corresponding proportional valves such as ball valves or butterfly valves. The rotary actuator can also be combined with the positioners from the 8791/8792/8793 series. The actuator can be equipped with the end position feedback boxes from the 1061 series for pure position monitoring.

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Visit product website

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1. General technical data

Type of actuator	Aluminium actuator	Polyamide actuator
Product properties		
Dimensions	Further information can be found in chapter "5. Dimensions" on page 5.	
Material		
Actuator	Aluminium (cataphoresis/polyamide coating)	Polyamide and glass fiber
Seal	NBR	NBR
Piston	Aluminium (cataphoresis coating), polyarylamide [1.)]	Polyarylamide
Performance data		
Rotation angle	90° (optionally 180°)	90°
Adjustable angle	- 2°...5° / 85°...92°	–
Pilot pressure	3...8 bar	3...8 bar
Medium data		
Control medium	Filtered oil-free or lubricated compressed dry air, water	
Process/Port connection & communication		
Pilot air ports	G ¼, flange interface according to NAMUR VDI/VDE 3845	
Feedback signal	According to NAMUR VDI/VDE 3845	
Armature-side interface	According to ISO 5211	
Approvals and conformities		
Explosion protection	Further information can be found in chapter "2.4. Explosion protection" on page 3. [2.)]	
Others	Further information can be found in chapter "2.5. Others" on page 4.	
Environment and installation		
Ambient temperature	- 32 °C...+ 90 °C	

1.) Only for actuator in size W (see chapter "5. Dimensions" on page 5)

2.) Exceptions for aluminium actuators are marked, see chapter "7.3. Ordering chart aluminium actuator" on page 8

2. Approvals and conformities

2.1. General notes

- The approvals and conformities listed below must be stated when making enquiries. This is the only way to ensure that the product complies with all required specifications.
- Not all available variants can be supplied with the below mentioned approvals or conformities.

2.2. Conformity

In accordance with the Declaration of Conformity, the product is compliant with the EU Directives.

2.3. Standards

The applied standards which are used to demonstrate compliance with the EU Directives are listed in the EU-Type Examination Certificate and/or the EU Declaration of Conformity.

2.4. Explosion protection

Approval	Description
	**Optional: Explosion protection** **ATEX:** EXII 2GD T6

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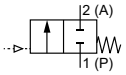
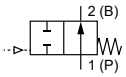
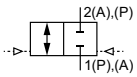
2.5. Others

Approval	Description
TYPE APPROVED PRODUCT DNV DNV.COM/AF	**DNV GL classification – Ships, offshore units, and high speed and light craft** The products are accepted for installation on all vessels classed by DNV GL.

3. Control functions

Symbol	Description
	**Control function A (CF A)** Pneumatically operated 2/2-way on/off valve Flow direction above seat Normally closed by spring force
	**Control function B (CF B)** Single-acting actuator for pneumatically operated 2/2-way on/off valve Normally ed by spring force
	**Control function I (CF I)** Pneumatically operated 2/2-way on/off valve on either side Bidirectional Switching position dependent on external control

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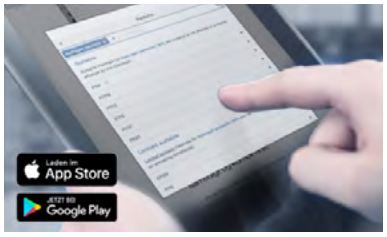
4. Bürkert resistApp

4.1. Bürkert resistApp



Bürkert resistApp – Chemical resistance chart

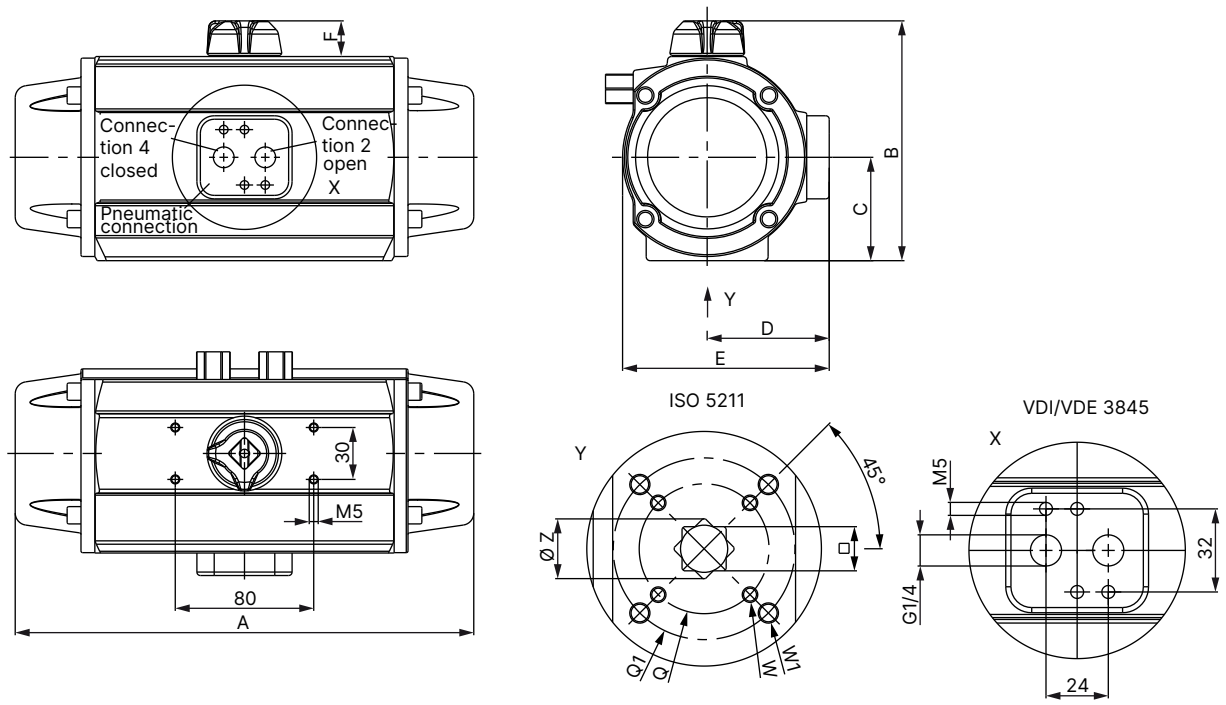
You want to ensure the reliability and durability of the materials in your individual application case? Verify your combination of media and materials on our website or in our resistApp.

Start chemical resistance check

5. Dimensions

5.1. Aluminium actuator

Note:
Dimensions in mm



Size	A	B	C	D	E	F	Q	Q1	W	W1	Ø Z1	SW	Interface acc. to ISO 5211
W	140.2	89.3	37.2	48.2	76.1	20	36	42	M5	M5	14.3	11	F03/05
J / 00	152.3	102.1	43.2	52.2	84.1	20	42	50	M5	M6	19	14	F04/05
5 / 05	201.2	119	49.2	61.7	101.6	20	50	70	M6	M8	23	17	F05/07
K / 10	225.1	123.1	52.2	62.7	103.6	20	50	70	M6	M8	23	17	F05/07
L / 15	264.2	138.6	59.7	70.5	119.4	20	50	70	M6	M8	23	17	F05/07
Q / 20	311	147.3	63.7	75.1	127.5	20	50	70	M6	M8	29	22	F05/07
Y / 25	356.2	174.6	77.2	89.2	153.5	20	70	102	M8	M10	36.5	27	F07/10
M / 30	427.5	191	86.3	97.2	169	20	70	102	M8	M10	36.5	27	F07/10
40	598.4	272	116	120	226	50	102	125	M10	M12	49	36	F10/12
50	694	313	133	135	257.5	50	140	–	M16	–	49	36	F14
60	672.5	368	162.2	172	330.5	50	165	–	M20	–	61	46	F16
70	742.5	428	191	217	403	50	165	–	M20	–	61	46	F16

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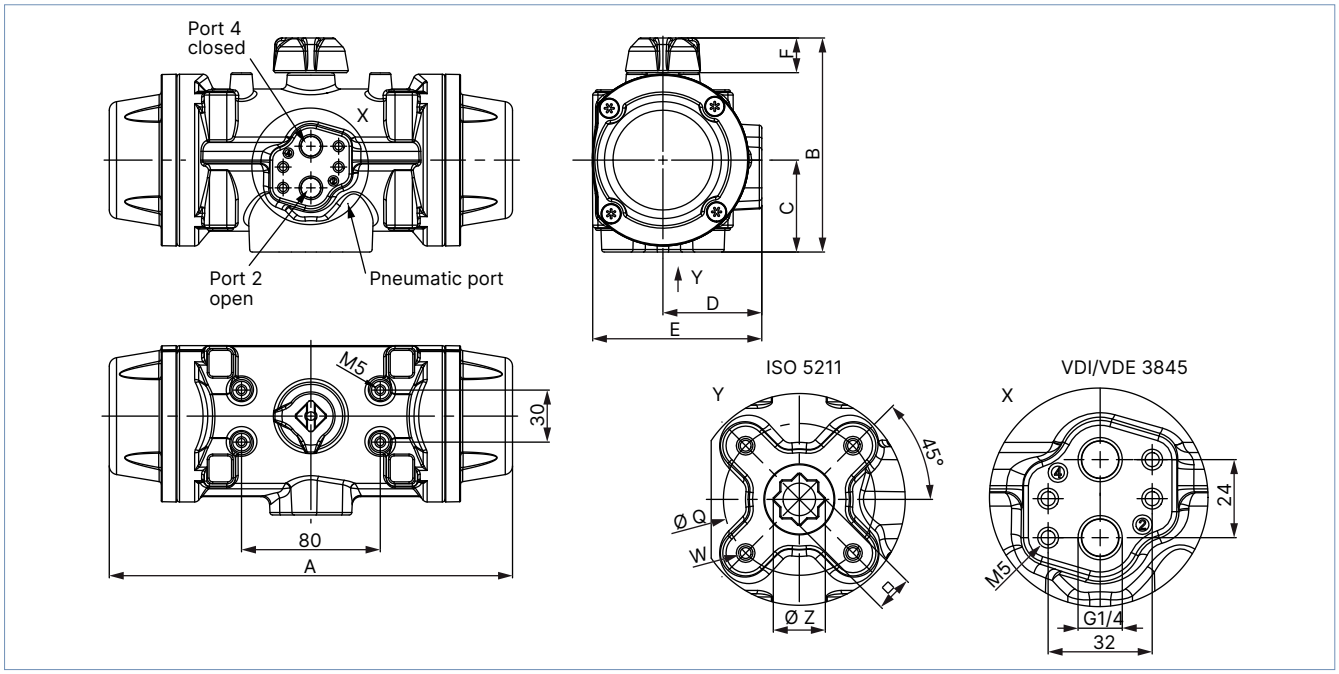
5.2. Polyamide actuator

Note:
Dimensions in mm



Size	A	B	C	D	E	F	Q	W	Ø Z1	SW	Interface acc. to ISO 5211
W	144	89	35.5	42.5	70.4	20	42 (optionally 36)	M5	14.1	11	F04 (optionally F03)
J / 00	158	101.4	43	47.5	77.6	20	50	M6	19	14	F05
K / 10	230	123	52.7	56.5	97.1	20	70	M8	23	17	F07
Q / 20	313	146.4	63.8	67.5	120.6	20	70	M8	29	22	F07

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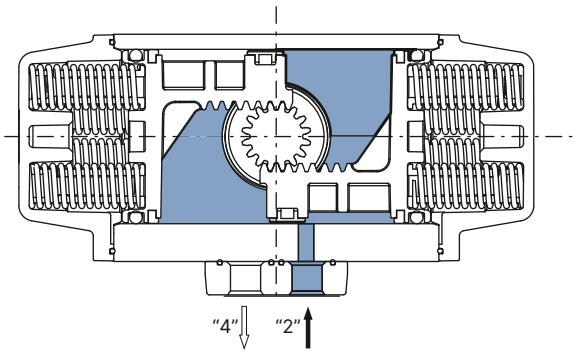
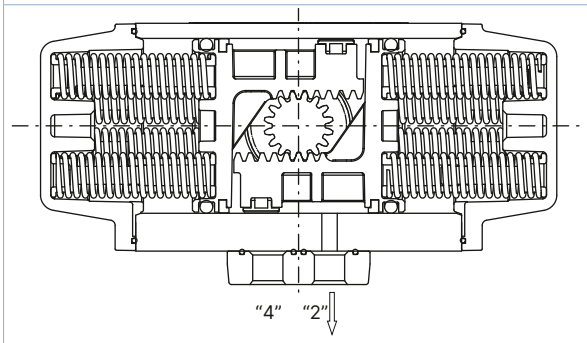
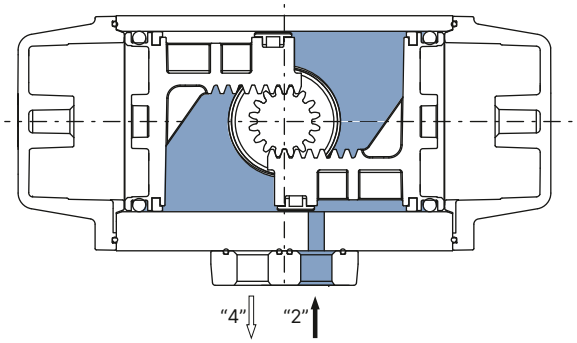
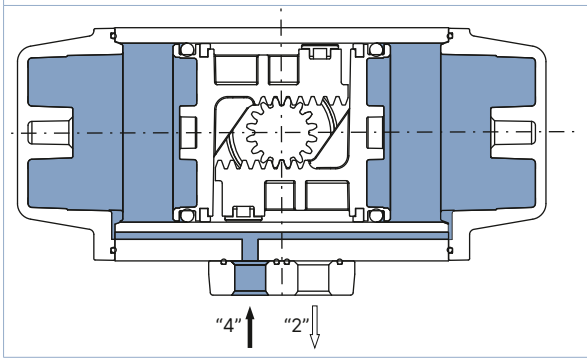
6. Product operation

6.1. Functional overview

Note:
Top view

Control function A	Description
	The air supplied to Port 2 forces the pistons towards the actuator end caps, compressing the springs. This triggers a counter-clockwise rotation.The exhaust air exits from Port 4.
	The loss of air pressure (ventilation or electric failure) at Port 2 allows the springs to force the pistons inward. This triggers a clockwise rotation. The exhaust air exits from Port 2.
Control function B	**Description**
With control function B, the direction of rotation is opposite to control function A.	
Control function I	**Description**
	The air supplied to port 2 forces the pistons towards the actuator end caps. This triggers a counter-clockwise rotation. The exhaust air exits from Port 4.
	The air supplied to Port 4 forces the pistons inward. This triggers a clockwise rotation. The exhaust air exits from Port 2.

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7. Ordering information

7.1. Bürkert eShop

Bürkert eShop – Easy ordering and quick delivery

You want to find your desired Bürkert product or spare part quickly and order directly? Our online shop is available for you 24/7. Sign up and enjoy all the benefits.

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7.2. Bürkert product filter

Bürkert product filter – Get quickly to the right product

You want to select products comfortably based on your technical requirements?
Use the Bürkert product filter and find suitable articles for your application quickly and easily.

Try out our product filter

7.3. Ordering chart aluminium actuator

Double-acting actuator (control function I)

Actuator size	Torque (depending on pilot pressure)							Air volume		Weight	Article no.
	3 bar	4 bar	5 bar	5.5 bar	6 bar	7 bar	8 bar	Open	Closed		
	[Nm]	[Nm]	[Nm]	[Nm]	[Nm]	[Nm]	[Nm]	[l]	[l]	[kg]	
W	7.9	11.3	14.1	15.5	17	19.8	22.9	0.075	0.11	0.92	20037173
J / 00	11.6	16.1	20.5	22.7	25	29.5	33.9	0.15	0.18	1.4	254852
5 / 05	23.5	32.3	41	45.3	49.7	58.4	67.1	0.28	0.37	2.57	254853
K / 10	32.9	45.6	58.3	65	71	83.7	96.4	0.35	0.45	3.08	254854
L / 15	55.2	75.6	96	106.2	116.5	136.9	157.4	0.65	0.82	4.2	254855
Q / 20	77.7	107	136.3	151	165.5	194.8	224	0.8	1.15	5.61	254856
Y / 25	140.1	190.1	240	264.9	290	339.9	393.9	1.5	2.02	9.3	254857
M / 30	226.5	307.40	388.3	428.7	469.2	550.1	631	2.05	3	11.6	254858 [1.]
40	582.5	751.6	980.8	1080	1180	1379	1578	5.3	5.3	17.6	293856
50	998	1354	1711	1889	2067	2424	2780	10.5	7	30.7	293857 [1.]
60	1638	2245	2851	3155	3458	4065	4672	19.5	20.7	48.3	293858 [1.]
70	2389	3273	4158	4600	5043	5927	6812	31	30	77.9	293859 [1.]

1.) Approval IEC 61508 SIL2

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Single-acting actuator (control function A, 6 spring packages per side)

Actuator size	Torque depending on pilot pressure								Air volume		Weight	Article no. (control function A)	Article no. (control function B)
	Pilot pressure						Spring force		Open	Closed			
	5 bar		6 bar		8 bar								
	0°	90°	0°	90°	0°	90°	90°	0°					
	[Nm]	[Nm]	[Nm]	[Nm]	[Nm]	[Nm]	[Nm]	[Nm]	[l]	[l]	[kg]		
W	7.4	4.1	10.3	7	16.2	12.9	10	6.7	0.075	0.11	1	20037188	20042649
J / 00	9.4	4	13.9	8.5	22.8	17.4	16.5	11.1	0.15	0.18	1.63	254860	292647
5 / 05	20.1	9.6	28.8	18.3	46.2	35.7	31.4	20.9	0.28	0.37	2.94	254861	292648
K / 10	27.5	12.7	40.2	25.4	65.6	50.8	45.6	30.8	0.35	0.45	3.48	254862	292649
L / 15	47	24.5	67.5	45	108.4	85.9	71.5	49	0.65	0.82	5.04	254863	292650
Q / 20	70.5	31.6	99.7	60.8	158.2	119.3	104.7	65.8	0.8	1.15	6.63	254864	292651
Y / 25	120.6	58.2	170.6	108.2	274.5	212.1	181.8	119.4	1.5	2.02	11.3	254865	292652
M / 30	192.6	98	273.5	178.9	435.3	340.7	290.3	195.7	2.05	3	15.3	254866	292653
40	489.1	213.80	688.3	413	1087	811.3	766.9	491.6	5.3	5.3	36.4	293860	293866
50	987.4	505	1344	861.4	2057	1574	1206	723.6	10.5	7	58.4	293861 1.)	293867 1.)
60	1468	776	2075	1383	3289	2597	2075	1383	19.5	20.7	83.2	293863 2.)	293868 2.)
70	2389	619	3273	1504	5043	2273	3539	1769	31	30	118.2	293864 1.)	283869 1.)

1.) Approval IEC 61508 SIL2
2.) Approval IEC 61508 SIL1

7.4. Ordering chart polyamide actuator

Double-acting actuator (control function I)

Actuator size	Torque depending on pilot pressure							Air volume		Weight	Article no.
	Pilot pressure							Open	Closed		
	3 bar	4 bar	5 bar	5.5 bar	6 bar	7 bar	8 bar				
	[Nm]	[Nm]	[Nm]	[Nm]	[Nm]	[Nm]	[Nm]	[l]	[l]	[kg]	
W	7.9	11.3	14.1	15.50	17	19.8	22.9	0.075	0.05	0.47	276763 (F04)
											284433 (F03)
J / 00	13.3	18.3	23.4	26	28.5	33.6	38.7	0.15	0.18	0.83	276764
K / 10	32.9	45.6	58.3	65	71	83.7	96.4	0.35	0.45	1.65	276765
Q / 20	77.7	107	136.3	150.9	165.4	194.8	224	0.8	1.15	3.22	276766

Single-acting actuator (control function A, 6 spring packages per side)

Actuator size	Torque depending on pilot pressure								Air volume		Weight	Article no. (control function A)	Article no. (control function B)
	Pilot pressure						Spring force		Open	Closed			
	5 bar		6 bar		8 bar								
	0°	90°	0°	90°	0°	90°	90°	0°					
	[Nm]	[Nm]	[Nm]	[Nm]	[Nm	[Nm]	[Nm]	[Nm]	[l]	[l]	[kg]		
W	7.4	4.1	10.3	7	16.2	12.9	10	6.70	0.075	0.05	0.55	276767 (F04)	292654 (F04)
												284434 (F03)	292655 (F03)
J / 00	10.7	4.6	15.8	9.7	26	19.9	18.8	12.7	0.15	0.18	1	276768	292656
K / 10	27.5	12.7	40.2	25.4	65.6	50.8	45.6	30.8	0.35	0.45	2.03	260114	292657
Q / 20	70.5	31.6	99.7	60.8	158.2	119.3	104.7	65.8	0.8	1.15	4.22	276769	292658

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7.5. Ordering chart accessories

Position feedback Type 1061

Note:

- Adjustable mounting bracket included
- Further variants see data sheet **Type 1061** ▶.

Description	Article no.
Position feedback indicator (electromechanical) (Type 1061)	773151
Position feedback indicator (electromechanical) with integrated 3/2-way solenoid valve (Type 1061)	773139
Position feedback indicator (electromechanical) with integrated 5/2-way solenoid valve (Type 1061)	773140
Position feedback indicator (inductive) (Type 1061)	773152
Position feedback indicator (inductive) with integrated 3/2-way solenoid valve (Type 1061)	773141
Position feedback indicator (inductive) with integrated 5/2-way solenoid valve (Type 1061)	773142
Position feedback indicator (inductive) (Type 1061), ATEX variant	773153
Position feedback indicator (inductive) with integrated 3/2-way solenoid valve (Type 1061), ATEX variant	773143
Position feedback indicator (inductive) with integrated 5/2-way solenoid valve (Type 1061), ATEX variant	773144

Positioner Type 8792

Note:
Further variants see data sheet **Type 8792** ▶.

Description	Article no.
NAMUR SideControl positioner without analogue feedback (Type 8792)	317985
NAMUR SideControl positioner with analogue feedback (Type 8792)	317986

Positioner mounting kit Type 8792/8793

Note:
Further variants see data sheet **Type 8792** ▶ or **Type 8793** ▶.

Description	Article no.
Attachment kit for stainless steel rotary actuators according to VDI/VDE 3845 (IEC 60534 - 6 - 2)	787338
Stainless steel universal assembly bridge according to VDI/VDE 3845 (IEC60534 - 6 - 2)	770294

Solenoid valve Type 6519

Note:
Further variants see data sheet **Type 6519** ▶.

Description	Article no.
3/2 and 5/2-way pneumatic valve, 32 mm, 24 V AC, NAMUR (Type 6519)	131421
3/2 and 5/2-way pneumatic valve, 32 mm, 110 V AC, NAMUR (Type 6519)	131423
3/2 and 5/2-way pneumatic valve, 32 mm, 230 V AC, NAMUR (Type 6519)	131424

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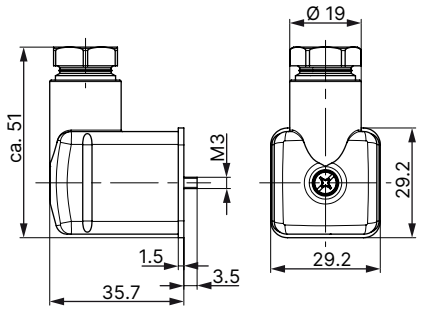
Cable plug Type 2518. form A according to DIN EN 175301 - 803

Note:
Further variants see data sheet **Type 2518** ▶.

Cable plug	Dimensions	Variant	Voltage	Article no.
		Without circuitry (AC/DC)	0...250 V AC/DC	314802

Reducing sleeves

Description	Article no.
Reducing sleeve double square/square14/9 mm	665288
Reducing sleeve double square/square 14/11 mm	665289
Reducing sleeve square/square 17/14 mm	665290
Reducing sleeve double square/square 17/14 mm	773348
Reducing sleeve double square/square 17/11 mm	773343
Reducing sleeve square/square 22/19 mm	773836
Reducing sleeve double square/square 22/17 mm	684858
Reducing sleeve double square/double square 22/14 mm	666684
Reducing sleeve double square/square 22/11 mm	773344
Reducing sleeve double square/square 27/22 mm	774594
Reducing sleeve square/square 27/19 mm	774279
Reducing sleeve square/square 27/17 mm	774193

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