



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 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 Limit switch box for pneumatic rotary actuators	▶
	Type 6519 Servo-assisted 5/2, 5/3 or 3/2 way Solenoid Valve for pneumatics	▶
	Type 8792 Digital electro-pneumatic positioner: Side-	▶

Type description

The Type 2052 pneumatic rotary actuator consists of a single or double-acting pneumatic linear piston actuator with an internal coupling to a rotary joint and a universal mechanical interface acc. to ISO 5211. The actuator shaft is rotated 90° via the coupling by the linear movement of the piston due to the compressive force of the pilot air or the force of the return springs. This rotation movement can be utilised for respective actuators such as ball valves, flaps, etc. The actuator has an optical display for the rotation position. The actuator is cataphoresis and Rilsan coated internally and externally which makes it very corrosion resistant and maintenance free.

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1. General technical data

Type overview	Aluminium actuator	Polyamide Actuator
Product properties		
Dimensions	Detailed information can be found in chapter "3. Dimensions" on page 4.	
Material		
Actuator	Aluminium (cataphoresis/polyamide coating)	Polyamide and glass fiber
Piston	Aluminium (cataphoresis coating), polyarylamid ^{1.)}	Polyarylamide
Seal	NBR	NBR
Rotation angle	90° (optional 180°)	90°
Adjustable angle	-2°...5° / 85°...92°	-
Performance data		
Pressure range	3...8 bar	3...8 bar
Medium data		
Operating medium	Filtered compressed air with or without oil, water	
Process/Port connection & communication		
Interface		
Pilot air ports	NAMUR flange interface VDI/VDE 3845, G ¼	
Feedback signal	NAMUR VDI/VDE 3845	
Fittings	ISO 5211	
Approvals and certificates		
Approvals	<ul style="list-style-type: none"> • ATEX 94/9/EG • Pressure Equipment Directive 97/23/EC (PED) • IEC 61508 SIL3^{2.)} • Det Norske Veritas (DNV) 	<ul style="list-style-type: none"> • ATEX 94/9/EG • Pressure Equipment Directive 97/23/EC (PED) • IEC 61508 SIL3 • Det Norske Veritas (DNV)
Environment and installation		
Ambient temperature	-32 °C...+90 °C	

1.) Only for actuator in size W (see chapter **"3. Dimensions"** on page 4)

2.) Exceptions are marked, see chapter **"5.3. Ordering chart aluminium actuator"** on page 7

2. Circuit functions

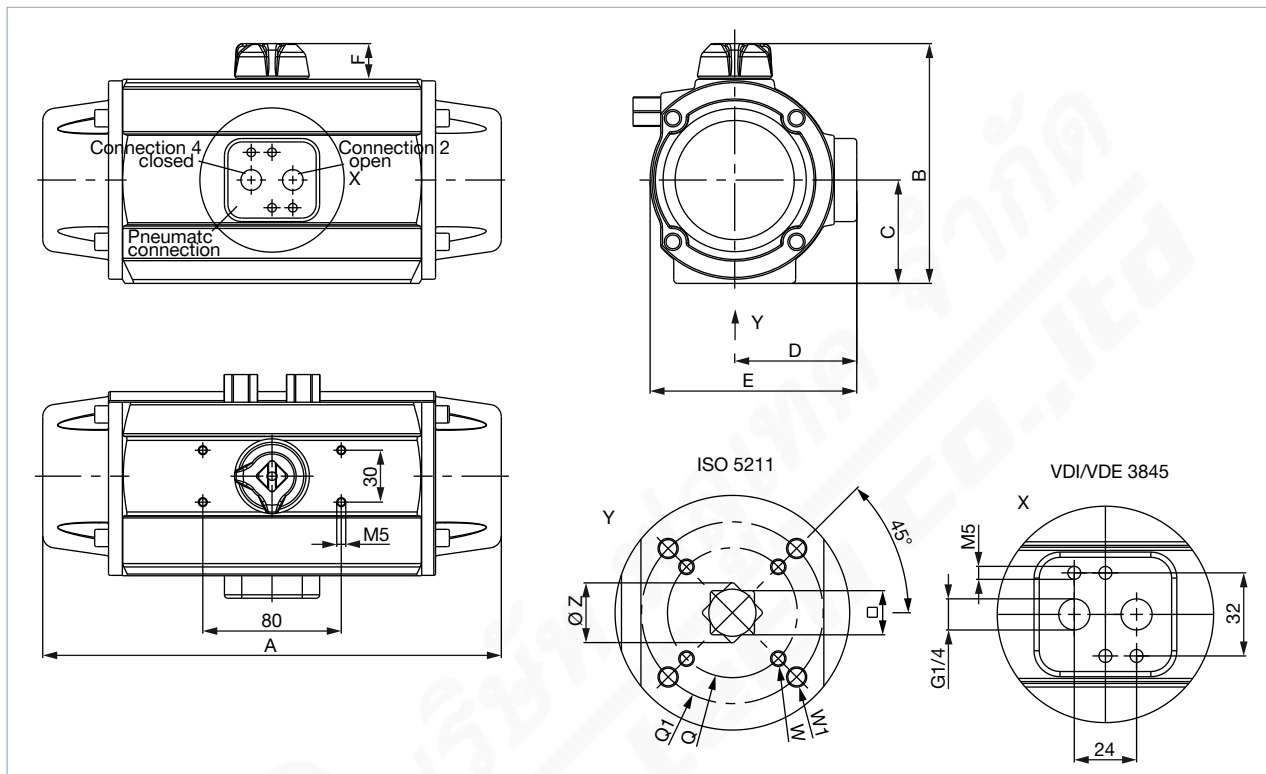
Control functions	Description
	CF: A, pneumatically operated on/off valve 2/2 way Flow direction above seat Normally closed by spring force
	CF: B, single-acting actuator for pneumatically operated on/off valve 2/2 way Normally opened by spring force
	CF: I, pneumatically operated on/off valve on either side 2/2 way Bidirectional Normally closed (without spring)

3. Dimensions

3.1. Aluminium actuator

Note:

Dimensions in mm



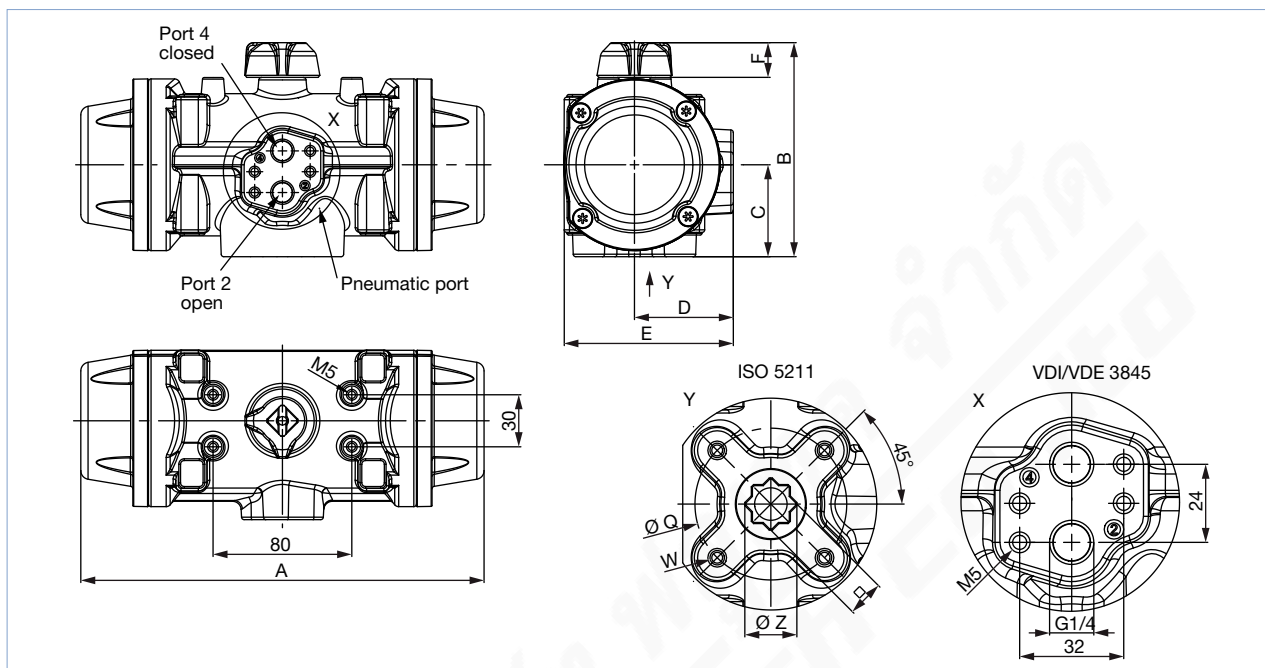
Size	A	B	C	D	E	F	Q	Q1	W	W1	Ø Z1	SW	ISO5211
W	140.2	89.3	37.2	48.2	76.1	20	36	42	M5	M5	14.3	11	F03-05
J / 00	152.3	102.1	43.2	52.2	84.1	20	42	50	M5	M6	19	14	F04-05
5 / 05	201.2	119	49.2	61.7	101.6	20	50	70	M6	M8	23	17	F05-07
K / 10	225.1	123.1	52.2	62.7	103.6	20	50	70	M6	M8	23	17	F05-07
L / 15	264.2	138.6	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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3.2. Polyamide actuator

Note:

Dimensions in mm



Size	A	B	C	D	E	F	Q	W	Ø Z1	SW	ISO5211
W	144	89	35.5	42.5	70.4	20	42 (36 optional)	M5	14.1	11	F04 (F03 optional)
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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4. Product operation

4.1. Functional overview

Note:

Top view

Control function A	Description
	<p>Air supplied to port "2" forces the pistons towards the actuator end caps, compressing the springs. A counter-clockwise rotation is achieved. Exhaust air exits from port 4.</p>
	<p>The loss of air pressure (air or electric failure) at port "2" allows the springs to force the pistons inwards. A clockwise rotation is achieved. Exhaust air exits from port 2.</p>
<p>Control function B</p> <p>–</p>	<p>Description</p> <p>For control function B, the rotating direction is the reverse of control function A.</p>
<p>Control function I</p>	<p>Description</p> <p>Air supplied to port 2 forces the pistons towards the actuator end caps. A counterclockwise rotation is achieved. Exhaust air exits from port 4.</p>
	<p>Air supplied to port 4 forces the pistons inwards. A clockwise rotation is achieved. Exhaust air exits from port 2.</p>

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5. Ordering information

5.1. Bürkert eShop – Easy ordering and quick delivery

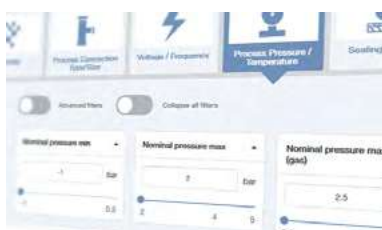


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5.2. Bürkert product filter



Bürkert product filter – Get quickly to the right product

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5.3. Ordering chart aluminium actuator

Double-acting actuator (Control function I)

Actuator size	Torque [Nm] depending on control pressure							Air volume [l]		Weight [kg]	Article no.
	Control pressure [bar]							Opening	Closing		
	3	4	5	5.5	6	7	8				
W	7.90	11.30	14.10	15.50	17.00	19.80	22.90	0.075	0.11	0.92	20037173
J / 00	11.60	16.10	20.50	22.70	25.00	29.50	33.90	0.15	0.18	1.40	254852
5 / 05	23.50	32.30	41.00	45.30	49.70	58.40	67.10	0.28	0.37	2.57	254853
K / 10	32.90	45.60	58.30	65.00	71.00	83.70	96.40	0.35	0.45	3.08	254854
L / 15	55.20	75.60	96.00	106.20	116.50	136.90	157.40	0.65	0.82	4.20	254855
Q / 20	77.70	107.00	136.30	151.00	165.50	194.80	224.00	0.80	1.15	5.61	254856
Y / 25	140.10	190.10	240.00	264.90	290.00	339.90	393.90	1.50	2.02	9.30	254857
M / 30	226.50	307.40	388.30	428.70	469.20	550.10	631.00	2.05	3.00	11.60	254858
40	582.50	751.60	980.80	1080.00	1180.00	1379.00	1578.00	5.30	5.30	17.60	293856
50	998.00	1354.00	1711.00	1889.00	2067.00	2424.00	2780.00	10.50	7.00	30.70	293857
60	1638.00	2245.00	2851.00	3155.00	3458.00	4065.00	4672.00	19.50	20.70	48.30	293858
70	2389.00	3273.00	4158.00	4600.00	5043.00	5927.00	6812.00	31.00	30.00	77.90	293859

1.) Approval IEC 61508 SIL2

Single-acting actuator (6 spring packages per side)

Actuator size	Torque [Nm] depending on control pressure								Air volume [l]		Weight [kg]	Article no. Control function A	Article no. Control function B
	Control pressure [bar]								Opening	Closing			
	5		6		8								
	0°	90°	0°	90°	0°	90°	90°	0°					
W	7.40	4.10	10.30	7.00	16.20	12.90	10.00	6.70	0.075	0.11	1.00	20037188	20042649
J / 00	9.40	4.00	13.90	8.50	22.80	17.40	16.50	11.10	0.15	0.18	1.63	254860	292647
5 / 05	20.10	9.60	28.80	18.30	46.20	35.70	31.40	20.90	0.28	0.37	2.94	254861	292648
K / 10	27.50	12.70	40.20	25.40	65.60	50.80	45.60	30.80	0.35	0.45	3.48	254862	292649
L / 15	47.00	24.50	67.50	45.00	108.40	85.90	71.50	49.00	0.65	0.82	5.04	254863	292650
Q / 20	70.50	31.60	99.70	60.80	158.20	119.30	104.70	65.80	0.80	1.15	6.63	254864	292651
Y / 25	120.60	58.20	170.60	108.20	274.50	212.10	181.80	119.40	1.50	2.02	11.30	254865	292652
M / 30	192.60	98.00	273.50	178.90	435.30	340.70	290.30	195.70	2.05	3.00	15.30	254866	292653
40	489.10	213.80	688.30	413.00	1087.00	811.30	766.90	491.60	5.30	5.30	36.40	293860	293866
50	987.40	505.00	1344.00	861.40	2057.00	1574.00	1206.00	723.60	10.50	7.00	58.40	293861	293867
60	1468.00	776.00	2075.00	1383.00	3289.00	2597.00	2075.00	1383.00	19.50	20.70	83.20	293863	293868
70	2389.00	619.00	3273.00	1504.00	5043.00	2273.00	3539.00	1769.00	31.00	30.00	118.20	293864	283869

1.) Approval IEC 61508 SIL2

2.) Approval IEC 61508 SIL1

5.4. Ordering chart polyamide actuator

Double-acting actuator (Control function I)

Actuator size	Torque [Nm] depending on control pressure							Air volume [l]		Weight [kg]	Article no.
	Control pressure [bar]							Opening	Closing		
	3	4	5	5.5	6	7	8				
W	7.90	11.30	14.10	15.50	17.00	19.80	22.90	0.075	0.05	0.47	276763 (F04) 284433 (F03)
J / 00	13.30	18.30	23.40	26.00	28.50	33.60	38.70	0.15	0.18	0.83	276764
K / 10	32.90	45.60	58.30	65.00	71.00	83.70	96.40	0.35	0.45	1.65	276765
Q / 20	77.70	107.00	136.30	150.90	165.40	194.80	224.00	0.80	1.15	3.22	276766

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

Actuator size	Torque [Nm] depending on control pressure								Air volume [l]		Weight [kg]	Article no. Control function A	Article no. Control function B
	Control pressure [bar]								Opening	Closing			
	5		6		8								
	0°	90°	0°	90°	0°	90°	90°	0°					
W	7.40	4.10	10.30	7.00	16.20	12.90	10.00	6.70	0.075	0.05	0.55	276767 (F04) 284434 (F03)	292654 (F04) 292655 (F03)
J / 00	10.70	4.60	15.80	9.70	26.00	19.90	18.80	12.70	0.15	0.18	1.00	276768	292656
K / 10	27.50	12.70	40.20	25.40	65.60	50.80	45.60	30.80	0.35	0.45	2.03	260114	292657
Q / 20	70.50	31.60	99.70	60.80	158.20	119.30	104.70	65.80	0.80	1.15	4.22	276769	292658

5.5. Ordering chart accessories

Position feedback Type 1061

Note:

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

Description	Article no.
Position feedback (electromechanical)	773151
Position feedback (electromechanical) with integrated 3/2 way solenoid valve	773139
Position feedback (electromechanical) with integrated 5/2 way solenoid valve	773140
Position feedback (inductive)	773152
Position feedback (inductive) with integrated 3/2 way solenoid valve	773141
Position feedback (inductive) with integrated 5/2 way solenoid valve	773142
Position feedback (inductive) – ATEX version	773153
Position feedback (inductive) with integrated 3/2 way solenoid valve – ATEX version	773143
Position feedback (inductive) with integrated 5/2 way solenoid valve – ATEX version	773144

Positioner Type 8792

Note:

Further versions see data sheet **Type 8792** ▶.

Description	Article no.
Positioner SideControl without analogue feedback	317985
Positioner SideControl with analogue feedback	317986

Positioner mounting kit Type 8792/3

Note:

Further versions see data sheet **Type 8792** ▶ or **Type 8793** ▶.

Description	Article no.
Universal adapter for shaft	787338
Universal mounting bracket	770294

Solenoid valve Type 6519

Note:


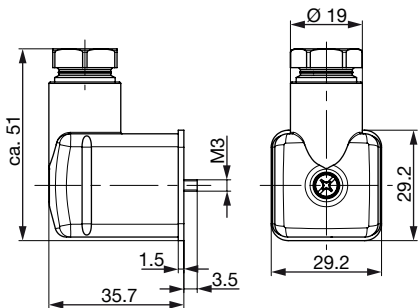

Further versions see data sheet **Type 6519** ▶.

Description	Article no.
3/2 and 5/2 way pneumatic valve 32 mm 24 V DC NAMUR	131421
3/2 and 5/2 way pneumatic valve 32 mm 110 V AC NAMUR	131423
3/2 and 5/2 way pneumatic valve 32 mm 230 V AC NAMUR	131424














Cable plug Type 2518, Form A according to DIN EN 175301 -803

Note:

Further versions see data sheet [Type 2518](#) ▶.

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

Conversion sleeves

Description	Article no.
Conversion Sleeve star/square 14/9 mm	665288 
Conversion Sleeve star/square 14/11 mm	665289 
Conversion Sleeve square/square 17/14 mm	665290 
Conversion Sleeve star/square 17/14 mm	773348 
Conversion Sleeve star/square 17/11 mm	773343 
Conversion Sleeve square/square 22/19 mm	773836 
Conversion Sleeve star/square 22/17 mm	684858 
Conversion Sleeve star/star 22/14 mm	666684 
Conversion Sleeve star/square 22/11 mm	773344 
Conversion Sleeve star/square 27/22 mm	774594 
Conversion Sleeve square/square 27/19 mm	774279 
Conversion Sleeve square/square 27/17 mm	774193 
Universal adapter for shaft to mount a positioner	787338 
Universal assembly bridge to mount a positioner	770294 