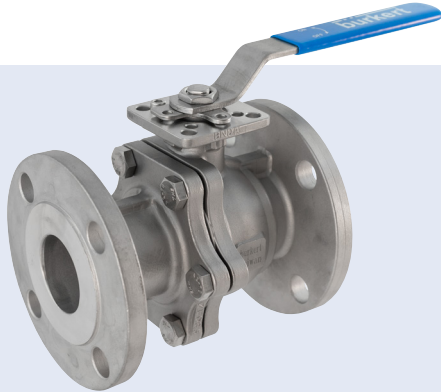


## Ball Valves in cast 316 SS 2-way, split body construction



- 275 PSI WOG
- 150lb RF ANSI flange
- Full port to Sch 40 pipe
- Bolted split body
- Range of seal options
- Blow-out proof stem with self adjust packing
- ISO 5211 direct actuator mount (6"+ indirect)

Technical data	
<b>Valve size</b>	1/2" to 12"
<b>Body materials<sup>1)</sup></b>	CF8M (cast 316 SS)
Ball material	316 SS
Stem material	316 SS
<b>Port diameter class</b>	Full port to Sch 40 pipe size
<b>Ball seal material</b>	PTFE (others to application)
<b>Media</b>	Compatible with materials of construction and pressure/temperature limits of seals
<b>Viscosity</b>	As torque effect allows
<b>Packing gland</b>	Self-adjusting RPTFE, PTFE (and FKM for 6"+) with 304SS guide/follower
<b>Media temperature</b>	-20°F to 375°F (PTFE), 450°F (TFM)
<b>End connections</b>	150lb raised face flange ANSI face to face dimensions
<b>Installation</b>	As required
<b>Flow direction</b>	Seals to rated pressure in both directions
<b>Control option</b>	Size to conditions or V port ball
<b>Pressure rating</b>	275 PSI – 1/2" to 12"

1) Other valve body materials available to meet your specifications, contact your local Burkert representative for more information.

### Options

- Manual handle
- Visual and electrical position feedback
- Burkert NAMUR 3/2-way pilot valve
- Communication: ASI, Ethernet, CAN open, DeviceNet, 4-20mA
- Spring close/air open pneumatic actuation
- Electric actuation
- 60° V-ball for position or PID (with process variable input by customer) control

**Valve with pneumatic spring closed actuator, and high temperature version**



**Valve with pneumatic spring closed actuator and limit switch with feedback**

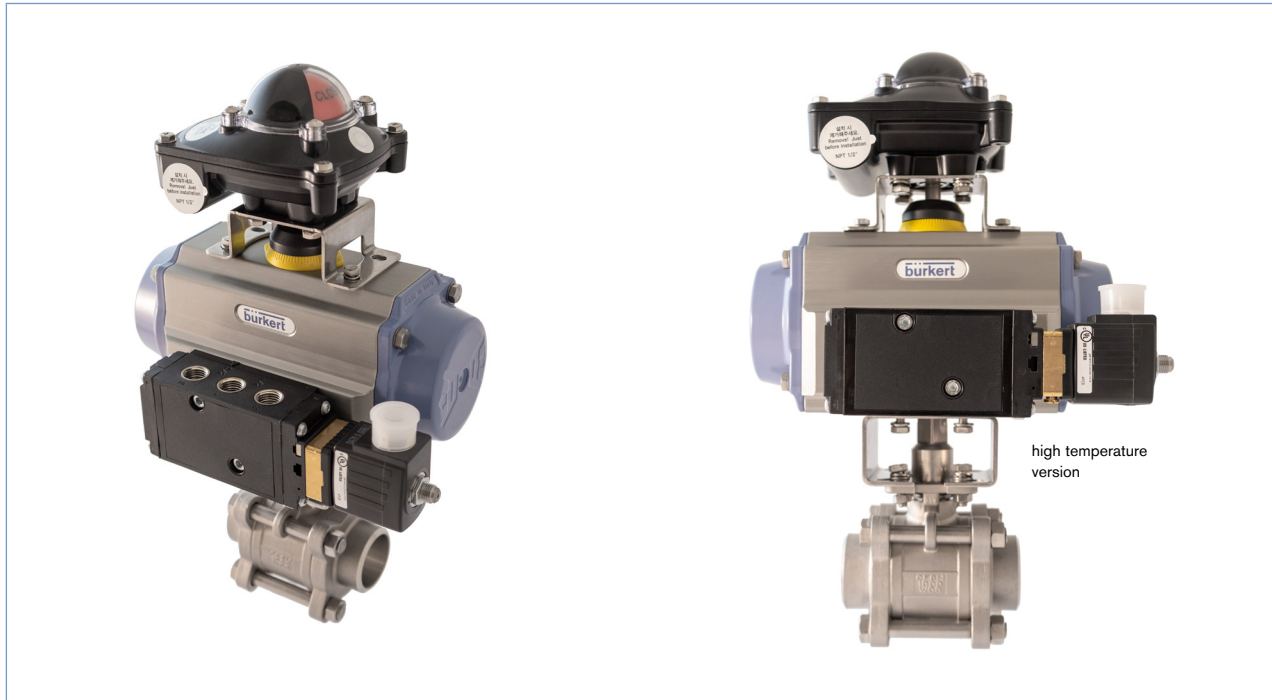


**Valve with pneumatic spring closed actuator and pilot valve**



**Quick delivery –  
flanged ball valves**

**Valve with pneumatic spring closed actuator pilot valve and limit switch with feedback,  
and high temperature version**



**Valve with pneumatic spring closed actuator pilot valve and limit switch with feedback,  
and high temperature version**

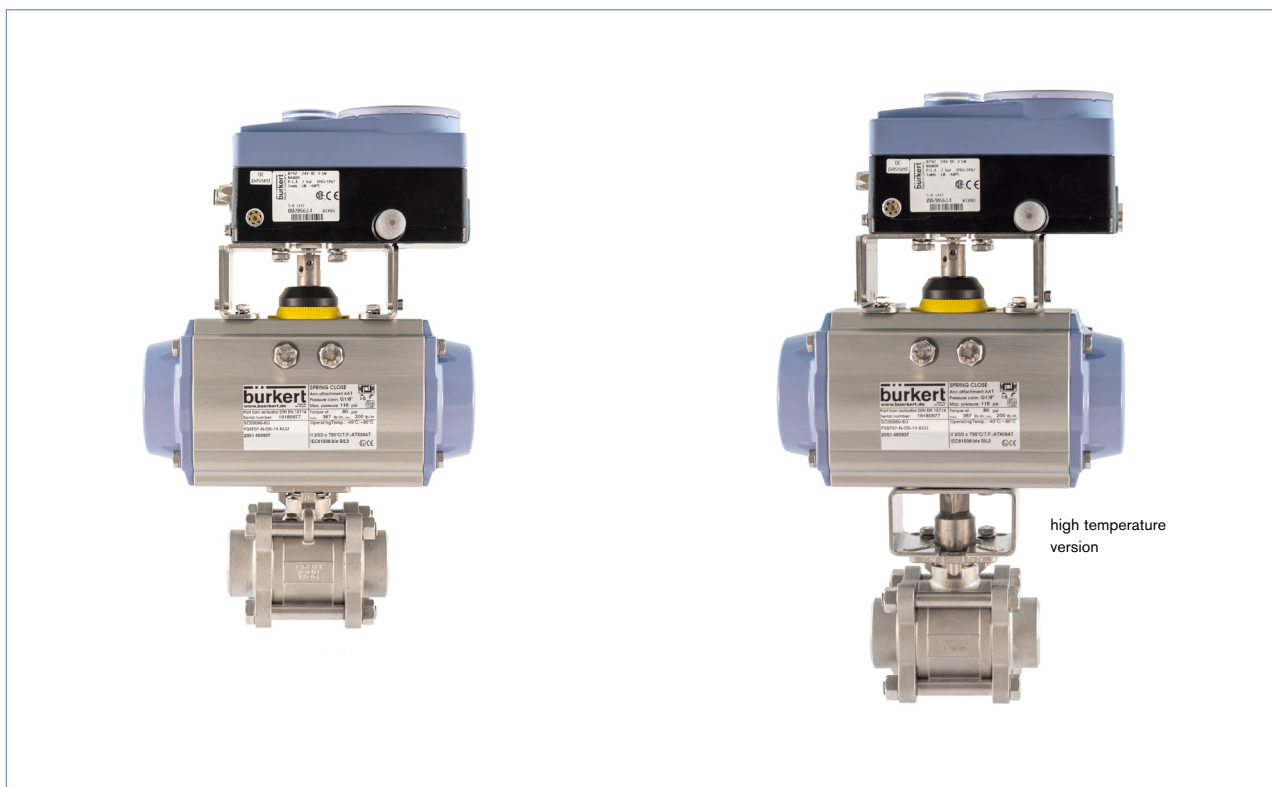


**Quick delivery –  
flanged ball valves**

**Valve with pneumatic spring closed actuator ASi pilot valve with feedback,  
and high temperature version**



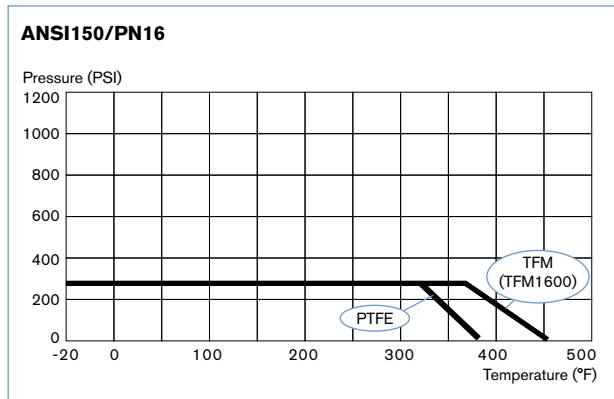
**Valve with pneumatic spring closed actuator Types 8791/8792/8793 position or PID control,  
and high temperature version**



The information contained in this brochure is to provide enough information to order any valve combination offered within. For complete technical details please see the data sheets here-

<b>Valves</b>	<a href="#">Type 2651 150lb ANSI flange</a>
<b>Pneumatic actuator</b>	<a href="#">Type 2051</a>
<b>Pilot valve for on/off control</b>	<a href="#">Types 6518/6519</a>
<b>Smaller electric actuator</b>	<a href="#">Type 3003</a>
<b>Larger electric actuator</b>	<a href="#">Type 3005</a>
<b>ASi on/off</b>	<a href="#">Type 1061</a>
<b>ASi for position control</b>	<a href="#">Type 8791 Positioner SideControl BASIC</a>
<b>Multiple communication protocol for position control</b>	<a href="#">Type 8792</a>
<b>Multiple communication protocol for PID control</b>	<a href="#">Type 8793</a>

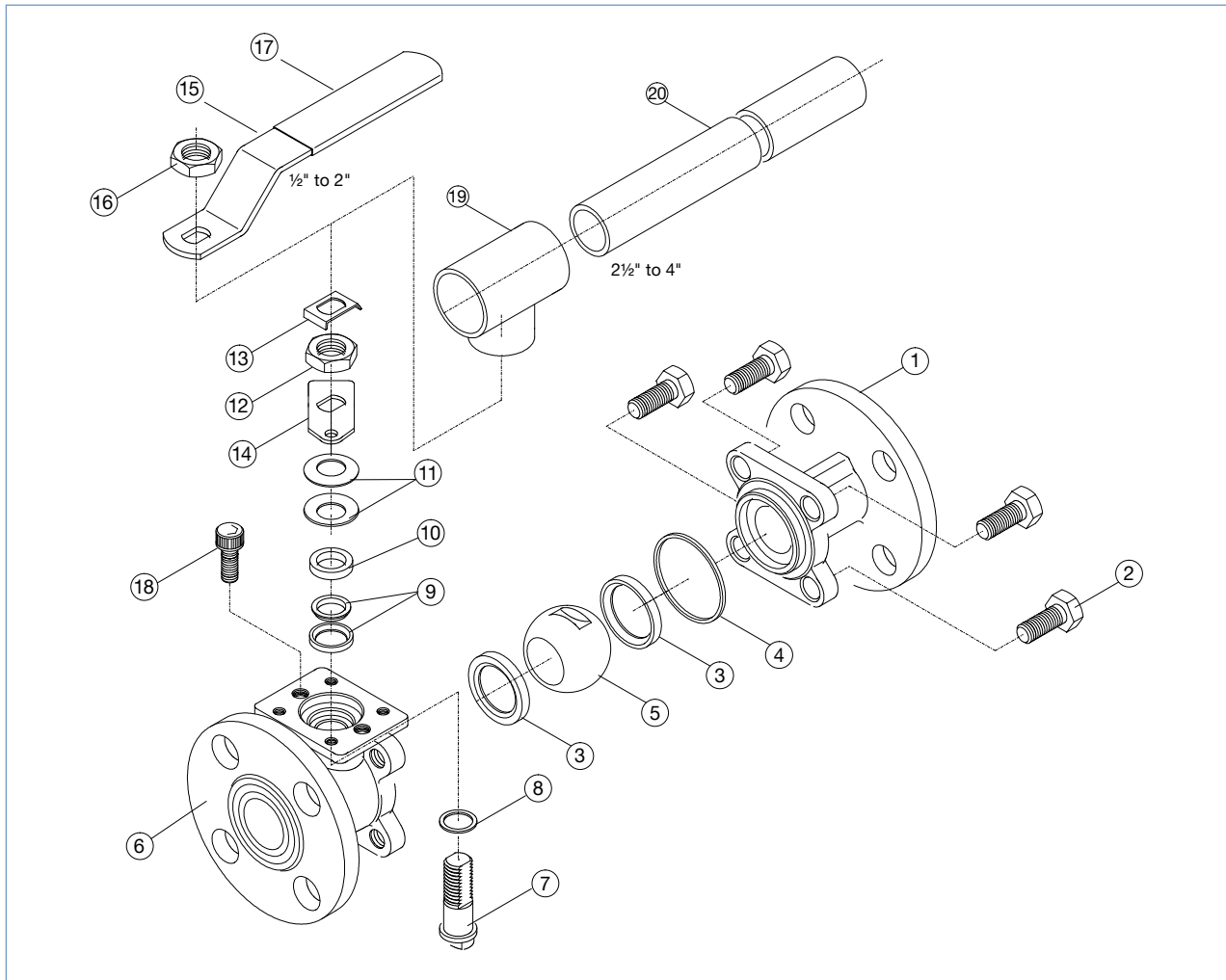
### Pressure-temperature limits



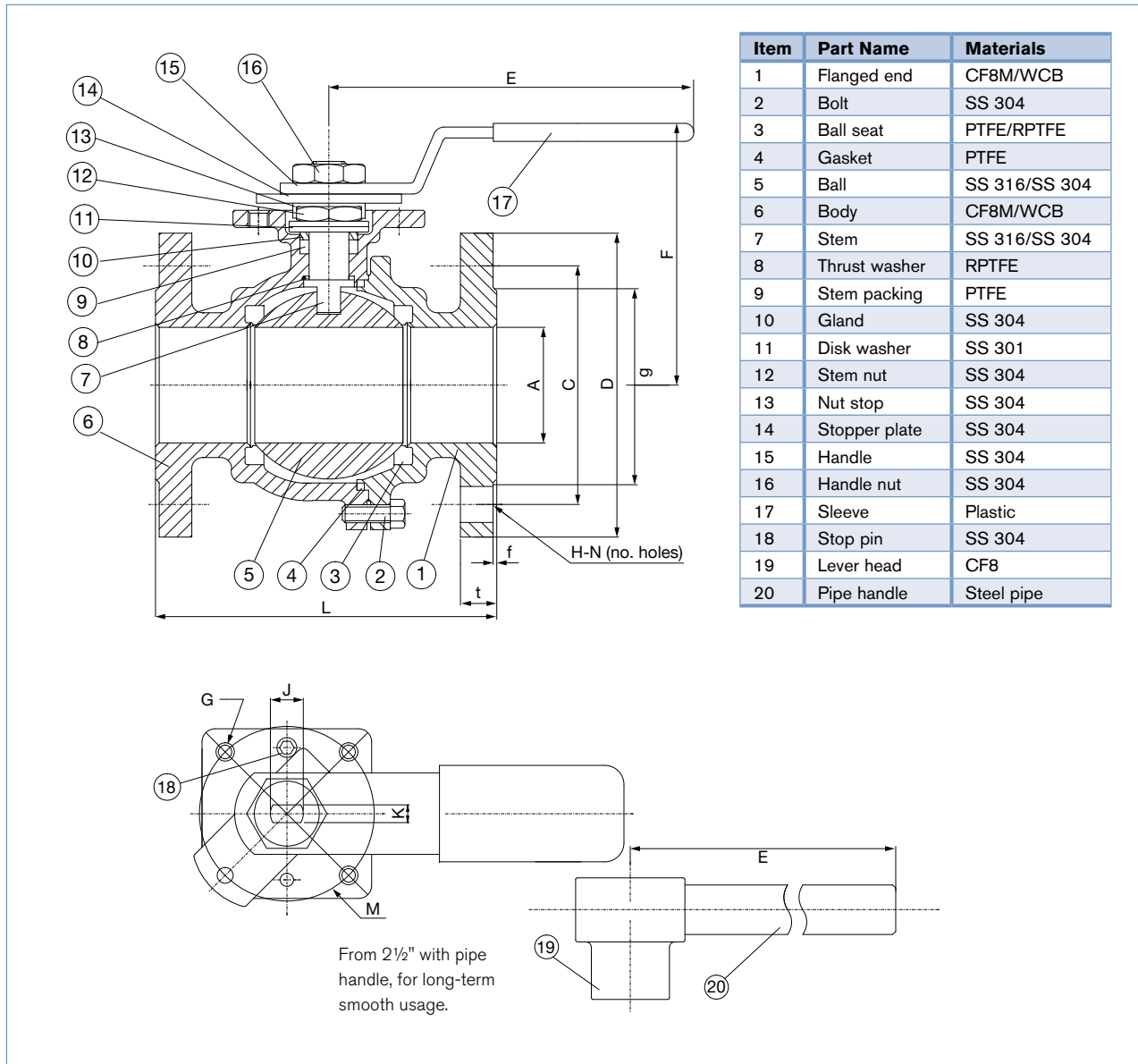
### C<sub>v</sub> for 60° v-ball control valves

Valve size	Target control range											
	0%	15%	20%	30%	40%	50%	60%	70%	80%	90%	100%	
1/2"	0	0.1	0.1	0.3	0.5	0.9	1.4	2	3.3	4.4	6	
3/4"	0	0.1	0.2	0.7	1	1.7	2.8	4	6.5	9	12	
1"	0	0.2	0.4	1.1	1.8	3.4	5.3	7.9	12.3	15.3	21	
1 1/2"	0	0.4	0.8	2.5	4	8	13	19	27	40	52	
2"	0	0.4	1.5	4.6	9	16.5	27	39	55	105	110	
2 1/2"	0	0.4	1.5	5	10	21	34	53	75	103	150	
3"	0	0.5	2.5	6	14	25	40	65	91	128	165	
4"	0	0.7	3	11	25	40	59	90	141	212	356	

Exploded view 1/2" - 4"



Dimensions 1/2" – 4" [mm]



Size	Class 150 flange dimensions																
	A	F	E	L	K	M	G	J	D	C	H	N	t	g	B	0	f
1/2"	15	76	145	108	6.5	42	M5	10	89	60.5	16	4	11.2	35	13.9	10.7	1.6
3/4"	20	80	145	117	6.5	42	M5	10	98	70	16	4	11.2	43	14.2	10.9	1.6
1"	25	88	195	127	9.7	50	M6	14	108	79.5	16	4	11.2	51	21.6	16.8	1.6
1 1/4"	32	92	195	140	9.7	50	M6	14	117	89	16	4	12.7	64	21.3	16.5	1.6
1 1/2"	38	114	250	165	9.7	70	M8	18	127	98.5	16	4	14.3	73	24.9	18.0	1.6
2"	50	123	250	178	9.7	70	M8	18	152	120.5	19	4	15.9	92	23.9	19.6	1.6
2 1/2"	65	142	310	190	12	102	M10	20	178	139.5	19	4	17.8	105	22.9	16.3	1.6
3"	80	152	310	203	12	102	M10	20	190	152.5	19	4	19.1	127	21.9	16.3	1.6
4"	100	182	310	229	15	102	M10	24	229	190.5	19	8	24.0	157	29.7	24.4	1.6

**Air to open spring to close air actuators, sized for 80 PSI supply**

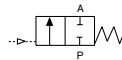


The 2051 pneumatic rotary drives are low maintenance single or double-acting pneumatic linear piston actuators where linear movement of the piston control system through a range of rugged feedback switches. The drives can also be used as modulating control actuators by the addition of Burkert's range of SideControl positioners.

Technical data	
<b>Materials</b>	
Actuator	aluminium alloy
Piston	aluminium
Seal	buna-N
<b>Control medium</b>	filtered compressed air with or without oil
<b>Control pressure</b>	43.5-116 PSI (3-8 bar) max allowable working pressure 145 PSI (10 bar) max operating pressure 116 PSI (8 bar)
<b>T<sub>umg</sub></b>	-40 °F up to 200 °F (-40 °C up to +93 °C)
<b>Rotation</b>	90°, adjustable ±5° of valve travel
<b>Adjustable angle</b>	every 20°
<b>Interface</b>	
Pilot air ports	NAMUR Flange interface VDE/VDI 3845 G 1/4"
Feedback signal	NAMUR VDE/VDI 3845
Fittings	ISO 5211

**Control function A**

Single-acting actuator return by spring, operating e.g. with pilot valve

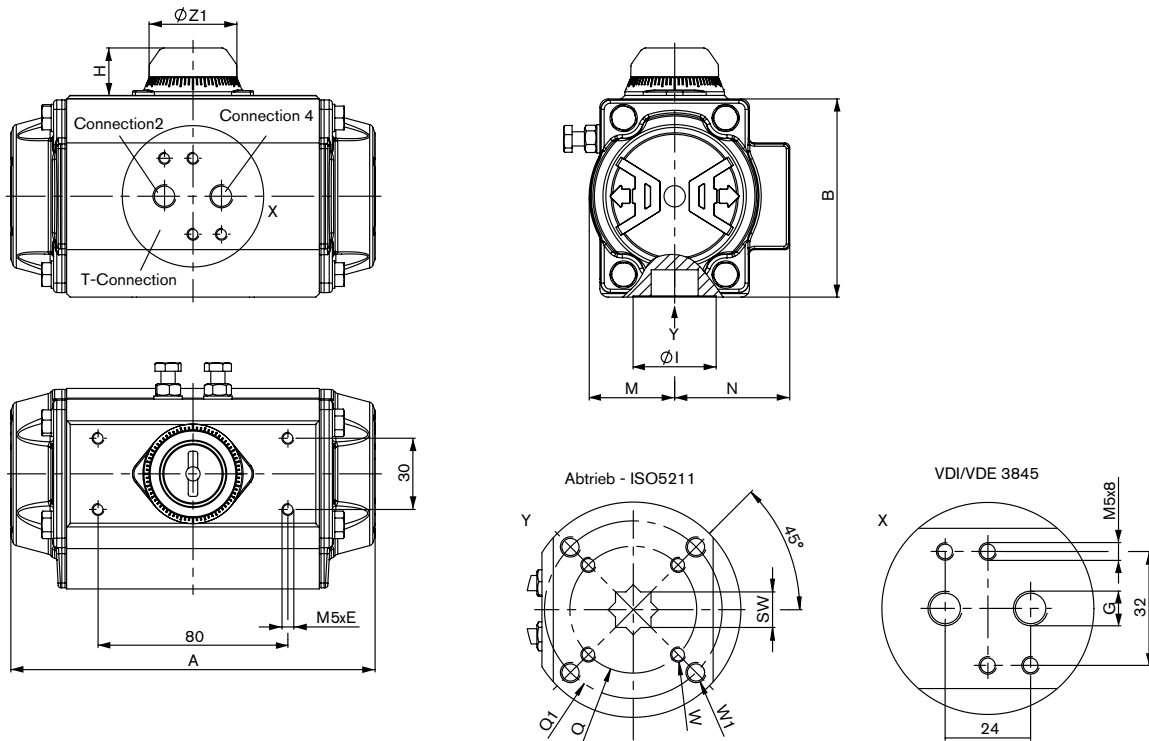


**Single-acting actuator (Control function A, 6 spring packages per side)**

Valve size	Actuator size	Torque (Nm) dependent on control pressure								Air volume(l)		Weight [kg]
		Control pressure (bar)								opening	closing	
		5.5		6		8		spring force				
0°	90°	0°	90°	0°	90°	90°	0°					
1/2"	15	10.2	6.6	11.9	8.2	18.5	14.9	11.7	8.1	0.09	0.15	1.1
3/4"	15	10.2	6.6	11.9	8.2	18.5	14.9	11.7	8.1	0.09	0.15	1.1
1"	30	18.9	12	21.9	14.9	33.6	26.7	20.2	13.3	0.16	0.26	1.7
1 1/2"	60	37.5	22.4	43.3	28.3	66.5	51.5	41.5	26.5	0.31	0.49	3.1
2"	60	37.5	22.4	43.3	28.3	66.5	51.5	41.5	26.5	0.31	0.49	3.1
2 1/2"	150	85.4	51.7	99	65	152	118	94.5	60.8	0.71	1.11	6.1
3"	150	85.4	51.7	99	65	152	118	94.5	60.8	0.71	1.11	6.1
4"	300	179	107	206	135	317	245	198	126	1.54	2.34	12



Dimensions – Type 2051 [mm]



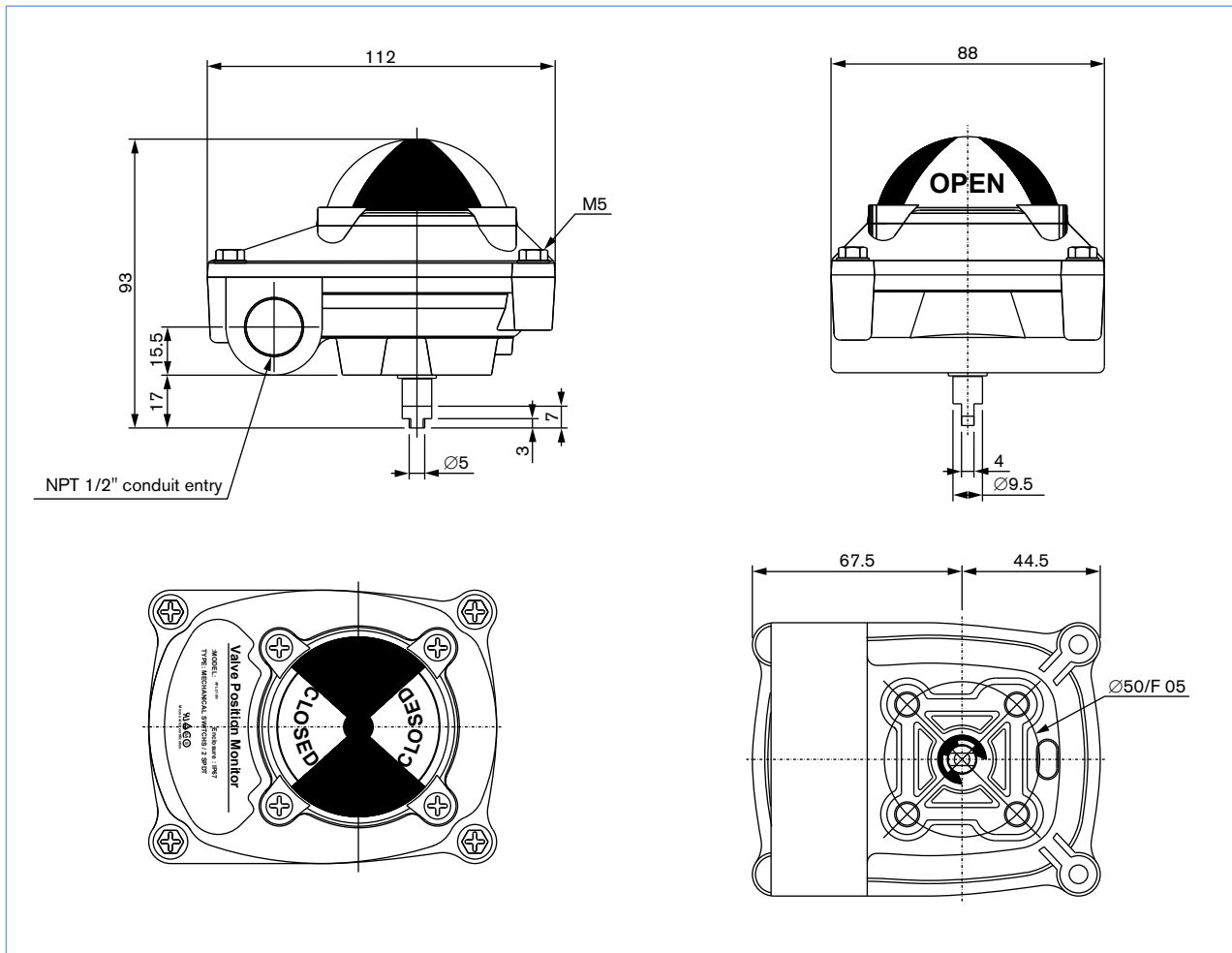
Size	A	B	E	H	ØI	M	N	Q	Q1	W	W1	ØZ1	G	SW	ISO 5211
15	136	69	4	20	30	29	43	36	50	M5	M6	37	1/8"	11	F03 - 05
30	153.5	85	8	20	35	36	48.5	50	70	M6	M8	37	1/8"	14	F05 - 07
60	203.5	102	8	20	35	42.5	50.5	50	70	M6	M8	37	1/8"	14	F05 - 07
150	259	127	8	20	55	55.5	63	70	102	M8	M10	37	1/4"	17	F07 - 10
300	333	157	8	30	70	69.5	77	70	102	M8	M10	51	1/4"	22	F07 - 10

Mechanical limit switch with visual indication



Technical data	
Enclosure	Weatherproof IP67
Cable entries	Two NPT 1/2"
Ambient temperature	-4 °F to 1,472 °F (-20 °C - 800 °C)
Terminal strips	8 points (0.08-2.5mm <sup>2</sup> )
Position indicator	0-90° (90° turn free join close: red & open: yellow)
Switches	Mechanical Switch x 2 Proximity Sensor x 2
Painting	Chromate Polyester Powder Coating
2SPDT switches	
Contact arrangement:	250V AC/16A 250V DC/0.3A 125V DC/0.6A 30V DC/10A

Dimensions – Type APL-210N [mm]



**Type 6519 3/2-way pilot valve**

(with tag connector acc.to DIN EN 175301-803 Form A, without cable plug)



Type 6519  
Standard

The Type 6519 is a servo-assisted 3/2 way. The Type 6519 works without a continuous air consumption and is used for the pneumatic control of double or single-acting actuators. It is possible to use these valves in the open air and under chemical atmospheres. The 24 VDC and 120 VAC versions are UL listed and have a NAMUR flange interface.

Technical data	
<b>Orifice</b>	DN8 and 9 mm
<b>Body material</b> Pilot valve Pneumatic block	Polyamide, reinforced Polyamide (5/2-way), aluminium (5/3-way)
<b>Threaded socket material</b>	Brass (stainless steel on request)
<b>Seal material</b>	NBR and PUR (5/2-way), NBR (5/3-way)
<b>Medium</b>	Neutral Medium, e.g. lubricated or non-lubricated compressed air
<b>Compressed air quality</b>	ISO 8573-1:2010, Class 7.4.4*
<b>Medium temperature</b>	14 °F to 122 °F (-10 °C to +50 °C)
<b>Ambient temperature</b>	-13 °F to 131 °F (-25 °C to +55 °C)
<b>Pneumatic connection</b> Supply port connection 1, 3, 5 Service port 2, 4	Thread G 1/4, multi-station manifold (on request NPT 1/4) Thread G 1/4 (on request NPT 1/4)
<b>Operating voltages</b>	24 V DC 24/ 110/ 230 V/ 50-60 Hz
<b>Voltage tolerance</b>	+10 %
<b>Duty cycle</b>	100% continuous operation
<b>Electrical connection</b>	Tag connector acc. to DIN EN 175301-803 (previously DIN 43650) Form A for cable plug Type 2508
<b>Type of protection</b>	IP65 with cable plug
<b>Installation</b>	As required, preferably with actuator upright

\* To prevent freezing of the expanded compressed air, the pressure dew point must be at least 10 K lower than the temperature of the medium.

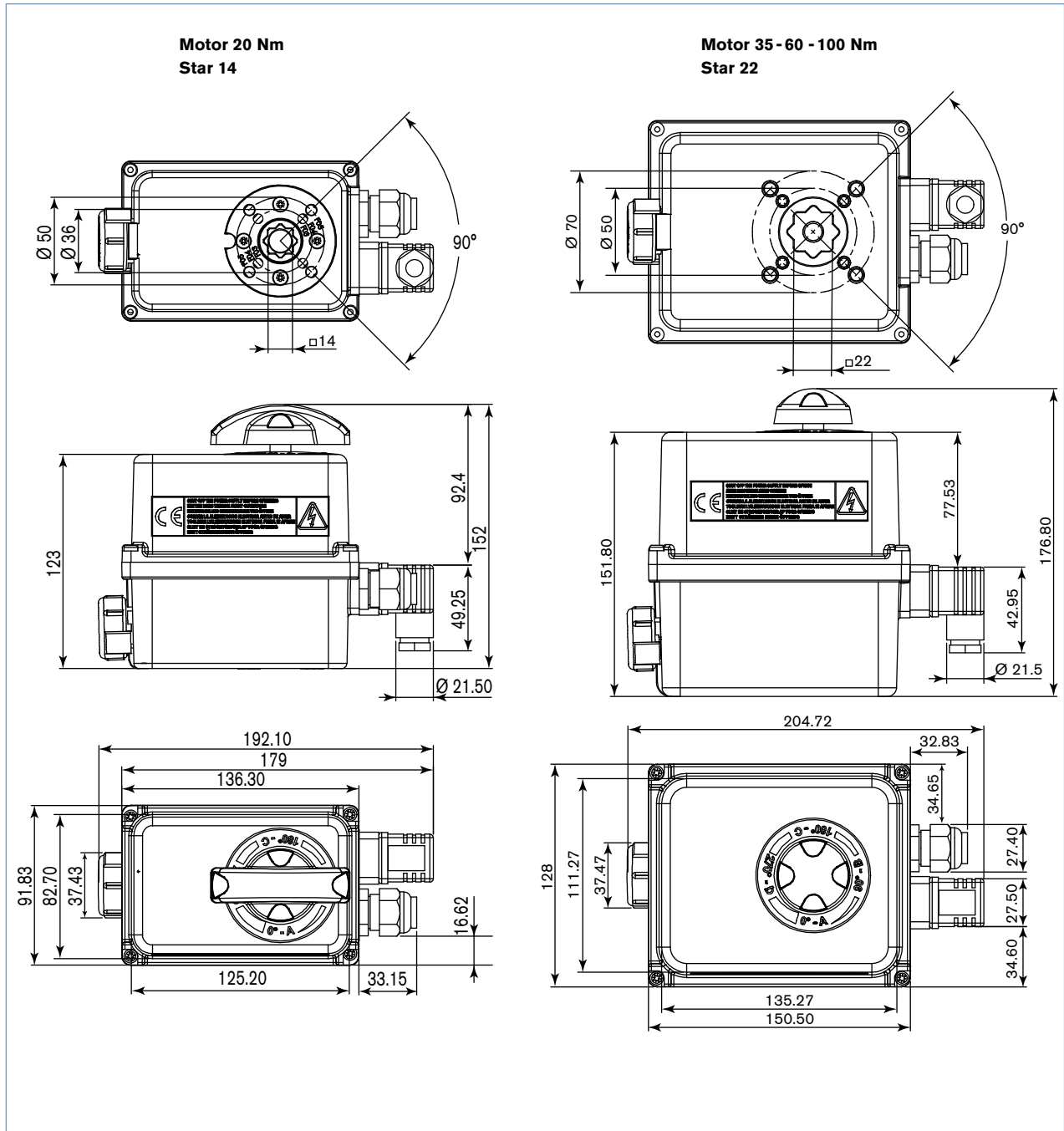
Type 3003



Type 3003

Technical data	
<b>Torque</b>	20, 35, 60 and 100 Nm (see ordering chart)
<b>Angle of rotation</b>	90° (± 5°) (extra angle on request)
<b>90° rotation time</b>	See ordering chart
<b>Duty rating</b>	According to IEC34 S4 = 50%
<b>Power supply</b>	15 - 30 V AC 50/60 Hz / 12 - 48 V DC 100 - 240 V AC 50/60 Hz / 100 - 350 V DC
<b>Power consumption</b>	15 W to 45 W (see ordering chart)
<b>Motor protection</b>	Torque limiter
<b>Electrical connection</b>	Cable plug acc. to EN175301-803 (supply voltage) Cable glands ISO M20
<b>Mounting</b>	acc. ISO 5211 F05 (removable fixation plate F03/F04/F05) F05/F07
<b>Drive</b>	Motor 20 Nm Motor 35, 60 Nm Motor 100 Nm
	Female star 14 mm; conversion sleeve 14/11 mm and 14/9 mm enclosed Female star 22 mm; conversion sleeve star 22/14 mm enclosed Female star 22 mm; conversion sleeve star 22/17 mm enclosed
<b>Installation</b>	Do not mount the actuator upside down!
<b>Installation site</b>	up to 2000 m high
<b>Limit switches</b>	4 adjustable (2 for motor and 2 additional for feedback) max. 250 V AC / 5 A
<b>Standard signal (programmable)</b>	
Input	-0-10 V -4-20 mA -0-20 mA
Output	-0-10 V -4-20 mA -0-20 mA
<b>Manual override</b>	Standard (at 20 Nm with the included hand lever)
<b>Mechanical limit stops</b>	Standard
<b>Optical position indicator</b>	Standard
<b>Material</b>	
Cover / Body	Nylon / PA 6.6
Axis, screw	Stainless steel
Gear unit	Stainless steel and PC
<b>Type of protection</b>	IP66 with cable plug installed
<b>Ambient temperature range</b>	14 °F to 131 °F (-10 °C to +55 °C) (emergency power version 14 °F up to 104 °F (-10 up to 40 °C))
<b>Weight</b>	1 Kg (20Nm), 2.1 Kg (35-100 Nm)
<b>Options</b>	Varied rotation time Third position (for 180°) Feedback on/off actuators: - Potentiometer 1K, 5K or 10K - Analogue signal 4-20 mA Emergency power version
<b>Heating resistor</b>	Standard

Dimensions – Type 3003 [mm]



**Multi-voltage version without analogue signal input**

**Remark :** For the actuator choice, we recommend a safety torque equal to 1.5 times of the valve maximal torque (standard).

Valve size [inches]	Drive stars [mm]	Conversion sleeve star [mm]	Connection flange	Torque	90° rotation time* ± 1 sec. (Information on load)	Power consumption	Voltage / frequency
1/2"	14	14/11 and 14/9	F05 (F03-F04)	20 Nm	12 sec.	15 W	15-30 V AC, 50/60 Hz / 12-48 V DC**
							100-240 V AC, / 50/60 Hz / 100-350 V DC
1"	14	14/11 and 14/9	F05 (F03-F04)	20 Nm	12 sec.	15 W	15-30 V AC, 50/60 Hz / 12-48 V DC**
							100-240 V AC, / 50/60 Hz / 100-350 V DC
1 1/2"	22	22/14	F05-F07	35 Nm	7 sec.	45 W	15-30 V AC, 50/60 Hz / 12-48 V DC**
							100-240 V AC, / 50/60 Hz / 100-350 V DC
2"	22	22/14	F05-F07	60 Nm	12 sec.	45 W	15-30 V AC, 50/60 Hz / 12-48 V DC**
							100-240 V AC, / 50/60 Hz / 100-350 V DC
2 1/2"	22	22/17	F05-F07	100 Nm	23 sec.	45 W	15-30 V AC, 50/60 Hz / 12-48 V DC**
							100-240 V AC, / 50/60 Hz / 100-350 V DC

\* other rotation time and rotation angle on request

\*\* The operating voltage must not fall below 11.5 V

**Multi-voltage version with analogue signal input**

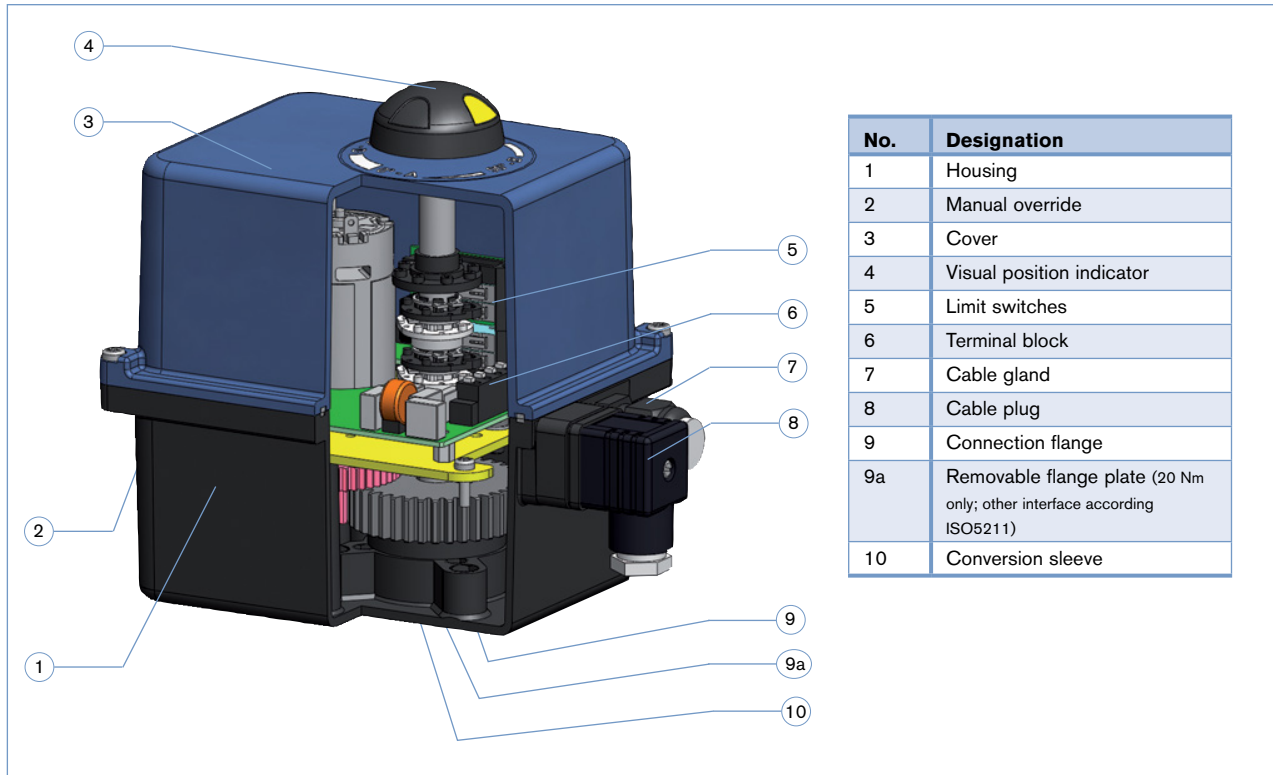
**Remark :** For the actuator choice, we recommend a safety torque equal to 2 times of the valve maximal torque.

Valve size [inches]	Connection flange	Torque	90° rotation time* ± 1 sec. (Information on load)	Power consumption	Voltage / frequency
1/2"	F05 (F03-F04)	20 Nm	25 sec.	15 W	15-30 V AC, 50/60 Hz / 12-48 V DC**
					100-240 V AC, / 50/60 Hz / 100-350 V DC
1"	F05 (F03-F04)	20 Nm	25 sec.	15 W	15-30 V AC, 50/60 Hz / 12-48 V DC**
					100-240 V AC, / 50/60 Hz / 100-350 V DC
1 1/2"	F05-F07	60 Nm	79 sec.	45 W	15-30 V AC, 50/60 Hz / 12-48 V DC**
					100-240 V AC, / 50/60 Hz / 100-350 V DC
2"	F05-F07	60 Nm	79 sec.	45 W	15-30 V AC, 50/60 Hz / 12-48 V DC**
					100-240 V AC, / 50/60 Hz / 100-350 V DC

\* other rotation time and rotation angle on request

\*\* The operating voltage must not fall below 11.5 V

Sectional view –Type 3003



**Type 3005**

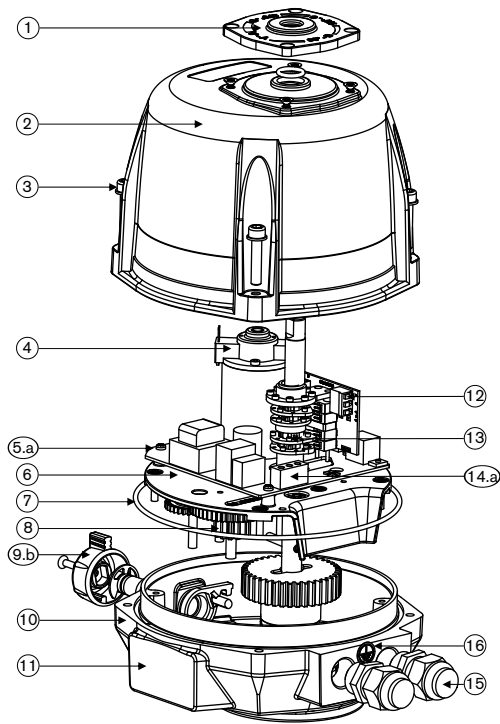


Technical data	
<b>Torque</b>	25 and 300 Nm (see ordering chart) (600 and 1000 Nm on request)
<b>Angle of rotation</b>	90° (± 5°)
<b>90° rotation time</b>	7 up to 60 sec.(see ordering chart)
<b>Duty rating</b>	At max. torque: 50% of the time Control actuator: 50% of max. torque
<b>Power supply</b>	15 - 30 V AC 50/60 Hz / 12 - 48 V DC 100 - 240 V AC 50/60 Hz / 100 - 350 V DC ± 10 %
Tolerance	
<b>Power consumption</b>	45 W
<b>Motor protection</b>	Electronic torque limitation
<b>Electrical connection</b>	2 cable glands ISO 20 (Cable plug acc. EN 175301 - 803 on request)
<b>Mounting</b>	acc. ISO 5211 F05/F07 F07/F10v
<b>Drive</b>	Motor 25 Nm Female star 17 mm; conversion sleeve star 17/11 mm enclosed  Motor 45, 75 Nm Female star 17 mm; conversion sleeve star 17/14 mm enclosed  Motor 100, 150, 300 Nm Female star 22 mm; conversion sleeve star 22/17 mm enclosed
<b>Installation</b>	Do not mount the actuator upside down!
<b>Limit switches</b>	4 adjustable (2 for motor and 2 additional for feedback) max. 250 V AC/5 A
<b>Analogue signals control version (programmable)</b>	
Input	- 0 - 10 V - 4 - 20 mA - 0 - 20 mA
Output	- 0 - 10 V - 4 - 20 mA - 0 - 20 mA
<b>Manual override</b>	By hand wheel (from 100 Nm)
<b>Mechanical limit stops</b>	Standard
<b>Optical position indicator</b>	Standard
<b>Material</b>	
Cover, Housing	Nylon / Epoxy coated aluminium
Axis, screw	Stainless steel
Gear	Zinc-plated Steel
<b>Type of class</b>	IP68
<b>Ambient temperature</b>	-4 °F up to 158 °F (-20 °C up to +70 °C) -4 °F up to 104 °F (-20 °C up to +40 °C) (emergency reset)
<b>Weight</b>	5.6 kg
<b>Heating resistor</b>	10 W
<b>Options</b>	Three position actuator (180°) Rotation 180° or 270° Feedback On/Off actuators: - Potentiometer 0.1K, 1K, 5K or 10K - Analogue signal 4 - 20 mA Fail safe option 2 extra limit switches



Exploded view – Type 3005

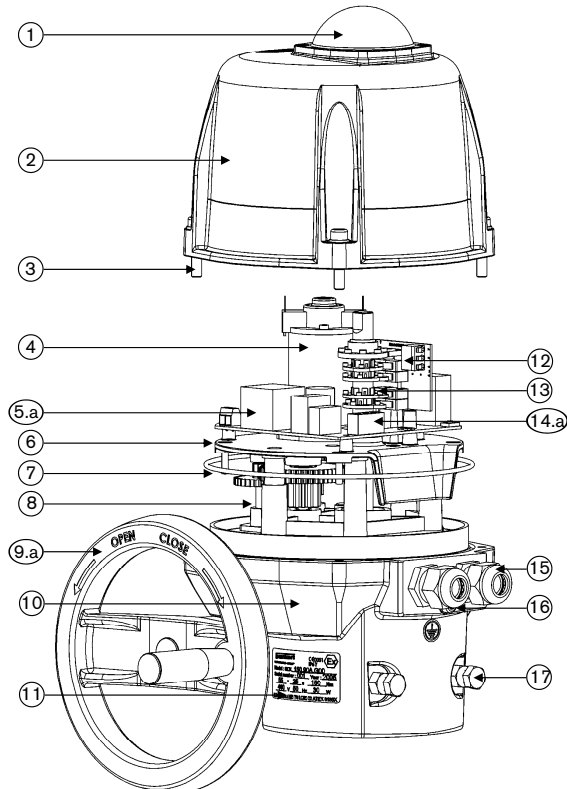
Motor 25 - 45 - 75 Nm



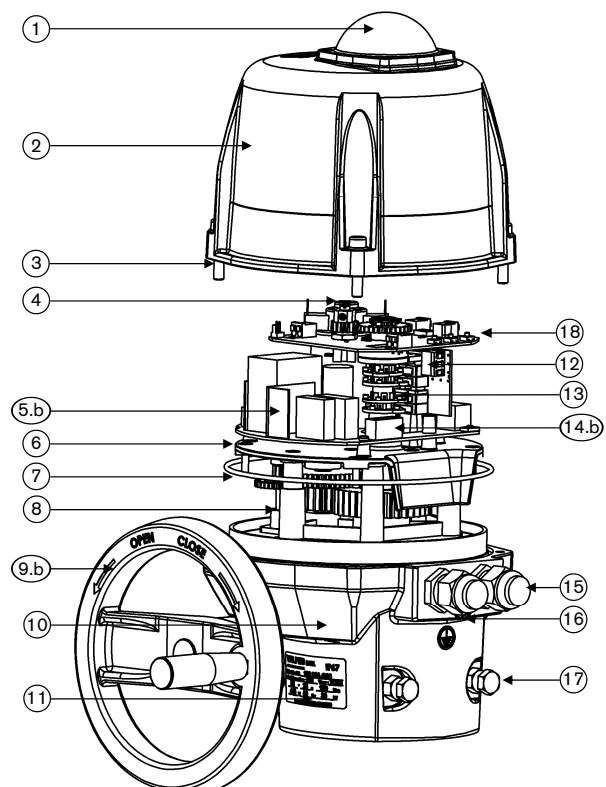
No.	Designation
1	Optical position indicator
2	Cover
3	Stainless steel screws
4	Motor
5.a*	Pilot and power supply card
5.b*	power supply card
6	Gear box
7	O-ring
8	Gear
9.a	Hand wheel
9.b	Clutch knob
10	Housing
11	Identification label
12	Auxiliary limit switch terminal
13	Cams
14.a*	Pilot and power supply card
14.b*	Power supply terminal
15	Cable gland ISO M20
16	Earth screw
17	Mechanical limit stops
18	Positioning card (only for actuator with position control)

\* Only for multi-voltage version

Motor 100 - 150 - 300 Nm

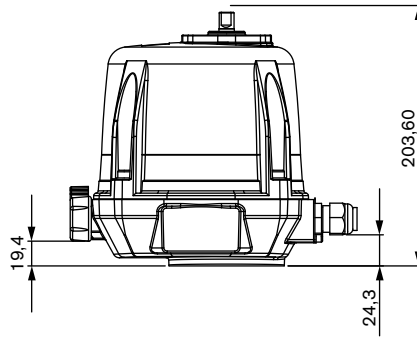
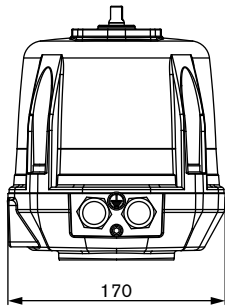
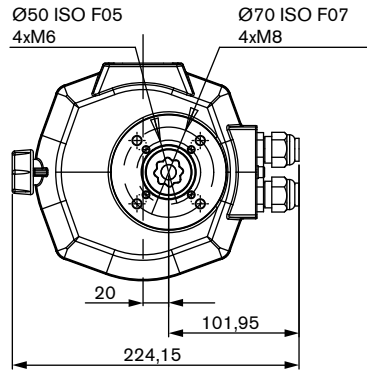
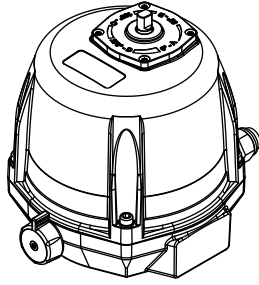


Motor 100 - 150 - 300 Nm with positioning card

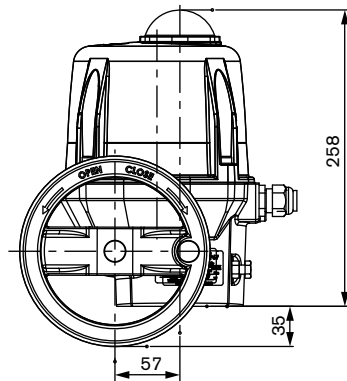
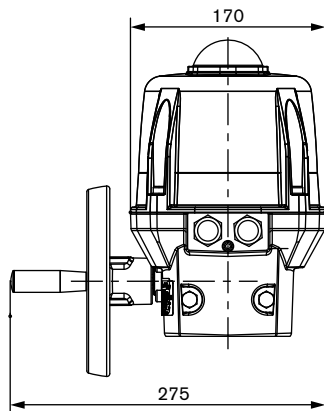
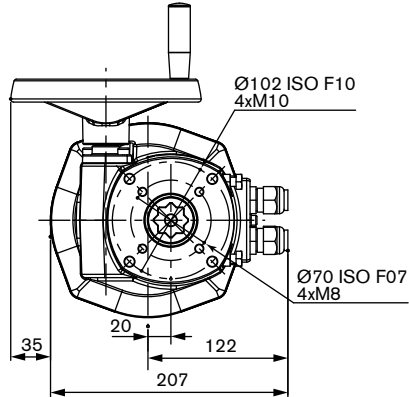
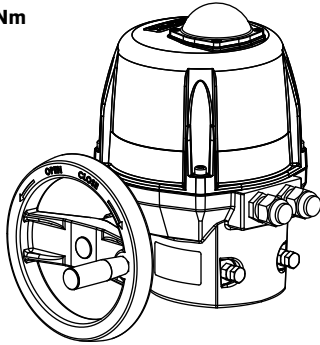


Dimensions – Type 3005 [mm]

Motor 25-45 - 75 Nm



Motor 100 - 150 - 300 Nm



**Standard version without analogue signal input**

**Remark :** For the actuator choice, we recommend a safety torque equal to 1.5 times of the valve maximal torque (2 times for the control version).

Valve size [inches]	Connection flange	Torque [Nm]	90° travel [s]	Power consumption [W]	Voltage / Frequency [V / Hz]
3"	F07/F10	150	30	45	100-240 V AC, / 50/60 Hz / 100-350 V DC
					15-30 V AC, 50/60 Hz / 12-48 V DC**
4"	F07/F10	300	60	45	100-240 V AC, / 50/60 Hz / 100-350 V DC
					15-30 V AC, 50/60 Hz / 12-48 V DC**

\*Other regulating times and delay angles on request

\*\*The operating voltage must not fall below 11.5 V

**Control version with 4 - 20 mA, 0 - 20 mA or 0 - 10 V, analogue signal input or output**

**Remark :** For the actuator choice, we recommend a safety torque equal to 1.5 times of the valve maximal torque (2 times for the control version).

Valve size [inches]	Drive stars [mm]	Conversion sleeve star [mm]	Connection flange	Torque [Nm]	90° travel [s]	Power consumption [W]	Voltage / Frequency [V / Hz]
2½"	22	22/17	F07/F10	150	30	45	100-240 V AC, / 50/60 Hz / 100-350 V DC
							15-30 V AC, 50/60 Hz / 12-48 V DC**
3"	22	22/17	F07/F10	150	30	45	100-240 V AC, / 50/60 Hz / 100-350 V DC
							15-30 V AC, 50/60 Hz / 12-48 V DC**
4"	22	22/17	F07/F10	300	60	45	100-240 V AC, / 50/60 Hz / 100-350 V DC
							15-30 V AC, 50/60 Hz / 12-48 V DC**

\*Other regulating times and delay angles on request

\*\*The operating voltage must not fall below 11.5 V

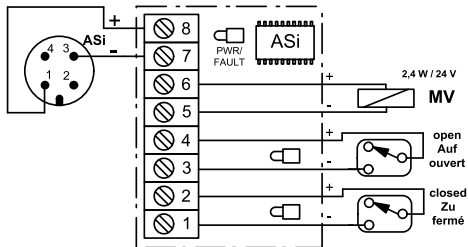
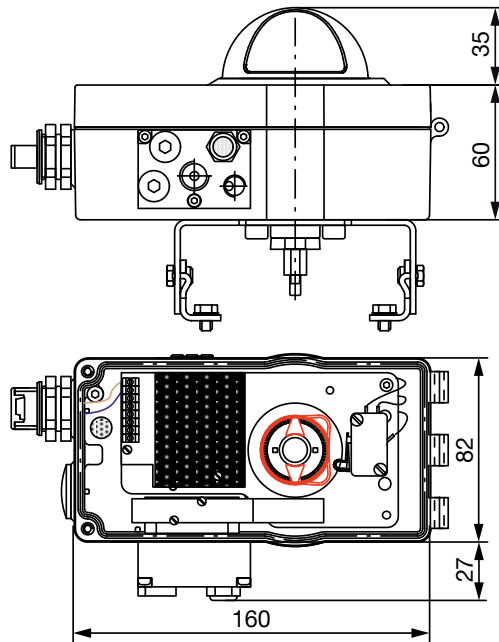
ASi actuation and feedback for pneumatic actuation



Technical data	
<b>Materials</b>	
Housing	Aluminium
Base (powder-coated)	RAL9005
Cover (powder-coated)	RAL7016
Seal	PUR
Dome	Polycarbonate
<b>Switching precision</b>	< 1.5°
<b>Bracket</b>	
	Adjustable
	Hole gauge: 80/130 mm x 30 mm
	Height: 20/30 mm
<b>Ambient temperature</b>	
	-13 °F...14 °F up to 131 °F...185 °F (-25 °C...-10 °C up to 55 °C...85 °C)
<b>Electrical data</b>	
<b>Limit Switches</b>	
Micro Switches	Crouzet 83.161.301 Crouzet 83.161.8
Inductive Sensors	Pepperl+Fuchs NBB2-V3-E2 Pepperl+Fuchs NJ2-V3-N
<b>Switching capacity</b>	4 A, 230 V AC
<b>Protection class</b>	IP65

Dimensions – Type 1061 [mm]

+3/2-way solenoid valve



**Programming informations**

Profile: S-D.A.E

IO-Code: D

ID-Code: A

ID1-Code: 7

ID2-Code: E

**62 slaves**

**Burkert positioners & PID controllers for pneumatic actuation**  
4-20mA, ASi, Ethernet, Burkert CAN Open, DeviceNet



Technical data	
<b>Material</b>	
Body	Aluminium plastic-coated
Seal	EPDM, NBR, FKM
<b>Operating voltages</b>	24 V DC +/- 10%
<b>Residual ripple</b>	max. 10%
<b>Setpoint setting</b>	4-20 mA (0-20 mA adjustable using configurations software)
<b>Input resistance</b>	0/4 to 20 mA: 180 Ω
<b>Analogue feedback</b>	(0-20 mA adjustable using configurations software) (max. Burden 560 Ω)
<b>Binary input</b>	0-5 V = log "0", 10-30 V = log "1"
<b>Control medium</b>	neutral gases, air, quality classes acc. to ISO 8573-1
Dust concentration	Class 7 (<40 µm particle size)
Particle density	Class 5 (<10 mg/m <sup>3</sup> )
Pressure condensation point	Class 3 (<-4 °F (-20 °C))
Oil concentration	Class X (<25 mg/m <sup>3</sup> )
<b>Ambient temperature</b>	14 °F to 140 °F (-10 to +60 °C) (without Ex-Approval) 32 °F to 140 °F (0 °C to +60 °C) (with ATEX / IECEx-Approval)
<b>Pilot air ports</b>	Threaded ports G 1/4
<b>Supply pressure</b>	1.4 to 7 bar <sup>1) 2)</sup>
<b>Air supply filter</b>	Exchangeable (mesh aperture~0.1 mm)
<b>Actuator system</b>	Single and double-acting up to 150 l <sub>N</sub> /min.
Air capacity	50 l <sub>N</sub> /min (with 1.4 bar <sup>2)</sup> ) for aeration and ventilation 150 l <sub>N</sub> /min (with 6 bar <sup>2)</sup> ) for aeration and ventilation (Q <sub>Nn</sub> = 100 l <sub>N</sub> /min (acc. to the definition with decrease in pressure from 7 to bar absolute)
<b>Integrated transducer (NAMUR)</b>	Conductive plastic rotary potentiometer
<b>Measuring range</b>	Angle of rotation 30° to 150°
<b>Stroke range for attachment to linear actuators</b>	3 to 130mm, depending on the lever of the mounting kit
<b>Installation</b>	As required, LEDs above or sideways
<b>Type of protection</b>	IP65/IP67 acc. to EN 60529, Type 4X acc. to NEMA 250 standard
<b>Power consumption</b>	< 3.5 W

<sup>1)</sup> The supply pressure has to be 0.5-1 bar above the minimum required pilot pressure for the valve actuator

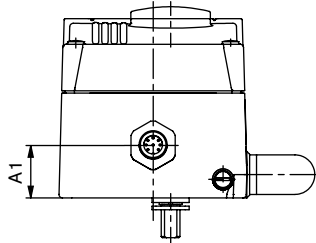
<sup>2)</sup> Pressure values [bar]: Overpressure with respect to atmospheric pressure

Technical data - AS-interface (Option)	
<b>Profile</b>	S-7.3.4 Output: 16 Bit Set point/Certificate No. 87301 acc. to Version 3.0 S-7.A.5 Output: 16 Bit set point; Input: 16 Bit feedback/certificate No. 95401 acc. to Version 3.0
<b>Programmed data</b>	see instruction manual
<b>Operating voltage over Bus connection</b>	29.5 to 31.6 V DC acc. to AS-Interface specification
<b>Max. current consumption</b>	150 mA
<b>Electrical connection</b>	M12x1, 4-pin stainless steel connection assembled with 80 cm cable and flat cable clamp

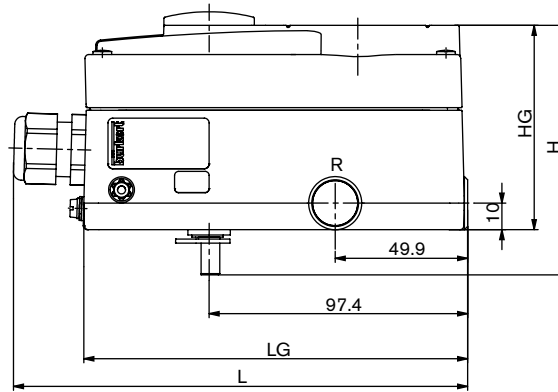
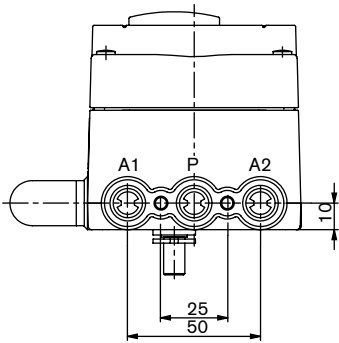
Technical data - Linear Remote Position Sensor (ELEMENT)	
<b>Electrical connection</b>	
Cable gland	1x M16x1.5 (cable Ø 5-10 mm) on terminal screws (0.14-1.5 mm <sup>2</sup> )
Connection cable length	10 m
<b>Operating voltage</b>	24 V DC ± 10 %, UL: NEC Class 2
<b>Power consumption</b>	< 0.3 W
<b>Sensor measurement range</b>	3 to 45 mm (Stroke range valve spindle)
<b>Actual position signal</b>	digital (RS485)
<b>Ambient temperature</b>	-13 °F to 176 °F (-25 °C to +80 °C)
<b>Protection class</b>	III acc. to DIN EN 61140
<b>Type of protection</b>	IP65 and IP67 acc. to EN 60529, Type 4X acc. to NEMA 250 standard
<b>Type of Ignition protection</b>	II 3D Ex tc IIIC T135 °C Dc II 3G Ex nA IIC T4 Gc
<b>Conformity</b>	EMC directive 2014/30/EU
<b>Approvals</b>	cULus Certificate no. 238179

Dimensions – Type 8791 [mm]

NAMUR version  
with Multipole

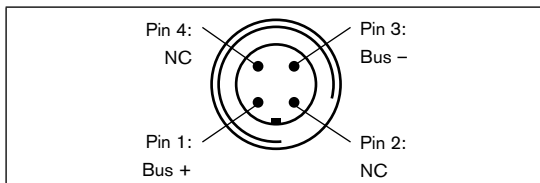


Description	LG	L	BG	B	HG	H	A	A1	A1
Multipole	144.6	171.1	81.8	109.8	77	94.1	-	22.5	-

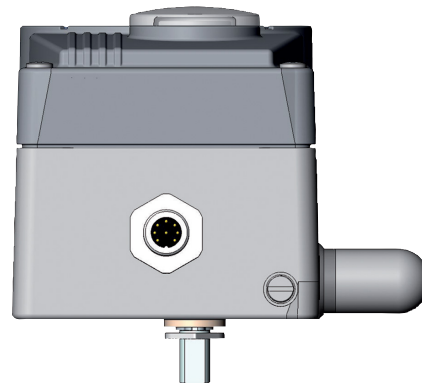


Connection options

Electrical connection ASI M12 4-pin



Bus connection without external supply voltage



Bus connection without external / with external supply voltage

Pin	Designation	Configuration
1	Bus +	AS Interface bus line +

8792 position 4-20mA, Ethernet, Burkert CAN Open, DeviceNet

8793 PID 4-20mA, Ethernet, Burkert CAN Open, DeviceNet



Technical data	
<b>Material</b>	
Body	Aluminium plastic-coated
Seal	EPDM, NBR, FKM
<b>Operating voltages</b>	24 V DC ± 10 %
<b>Residual ripple</b>	Max. 10 %
<b>Setpoint setting</b>	0/4-20 mA and 0-5/10 V
<b>Input resistance</b>	0/4-20 mA: 180 Ω 0-5/10 V: 19 kΩ
<b>Analogue feedback</b>	4-20 mA, 0-20 mA 0-10 V, 0-5 V
<b>Binary input</b>	Galvanically isolated, 0-5 V = log "0", 10-30 V = log "1"
<b>Binary output</b>	2 Outputs (optional), galvanically separated
Current limit	100 mA, Output will be synchronised when overloaded
<b>Control medium</b>	neutral gases, air, quality classes acc. to ISO 8573-1
Dust concentration	Class 7 (<40 µm particle size)
Particle density	Class 5 (<10 mg/m <sup>3</sup> )
Pressure condensation point	Class 3 (<-4 °F (-20 °C))
Oil concentration	Class X (<25 mg/m <sup>3</sup> )
<b>Ambient temperature</b>	14 °F to 140 °F (-10 to +60 °C) (without Ex-Approval) 32 °F to 140 °F (0 to +60 °C) (with ATEX / IECEx-Approval)
<b>Pilot air ports</b>	Threaded ports G ¼
<b>Supply pressure</b>	1.4 to 7 bar <sup>1) 2)</sup>
<b>Air supply filter</b>	Exchangeable (aperture size -0.1 mm)
<b>Actuator system</b>	Single and double-acting to 150 l <sub>N</sub> /min.
Air capacity	50 l <sub>N</sub> /min (with 1.4 bar <sup>2)</sup> ) for aeration and ventilation 150 l <sub>N</sub> /min (with 6 bar <sup>2)</sup> ) for aeration and ventilation (Q <sub>Nn</sub> = 100 l <sub>N</sub> /min (acc. to the definition with decrease in pressure from 7 to 6 bar absolute)
<b>Integrated transducer (NAMUR)</b>	Conductive plastic rotary potentiometer
<b>Measuring range</b>	
EtherNet/IP, PROFINET, Modbus TCP and bÜS other versions	Angle of rotation 30° to 180°
	Angle of rotation 30° to 150°
<b>Stroke range for attachment to linear actuators</b>	3 to 130mm, depending on the lever of the mounting kit
<b>Installation</b>	As required, display above or sideways
<b>Type of protection</b>	IP65/IP67 acc. to EN 60529, Type 4X acc. to NEMA 250 standard
<b>Power consumption</b>	<5 W
<b>Electrical connection</b>	
Multipole connection	M12, 8 pin/4 pin; M8, 4 pin
Cable gland	2x M20 x 1.5 (cable Ø 6 to 12 mm) on screw terminals (0.14 to 1.5 mm <sup>2</sup> )
Remote version	1x M12 x 1.5 (cable Ø 3 to 6.5 mm)
<b>Bus communication</b>	PROFIBUS DP-V1, DeviceNet, EtherNet/IP, PROFINET, Modbus TCP or bÜS (based on CANopen)
<b>Protection class</b>	III acc. to DIN EN 61140
<b>Conformity</b>	EMC directive 2014/30/EU
<b>CSA approval information</b>	
Product category code	Class 3221 82-VALVES - Actuators - Certified to US standards Class 3221 02-VALVES - Actuators
<b>Considered standards</b>	CAN/CSA-C22 2 No. 139 UL 429

<sup>1)</sup> The supply pressure has to be 0.5 to 1 bar above the minimum required pilot pressure for the valve actuator

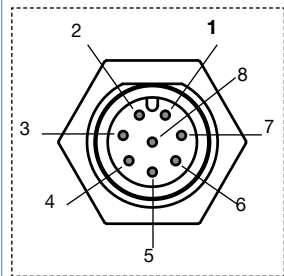
<sup>2)</sup> Pressure specifications: Overpressure with respect to atmospheric pressure



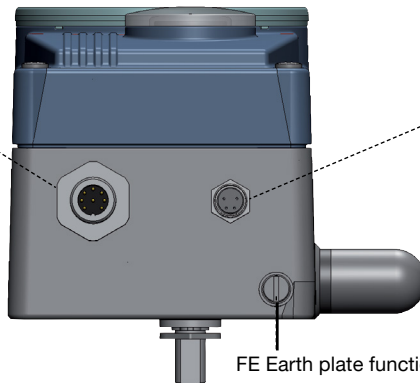
**Connection options**

**Multi-pin connection**

Operating voltages and diverse signals

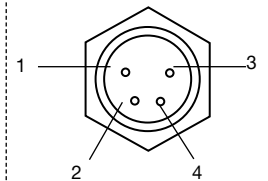


Circular connector M12, 8 pin



FE Earth plate functions

Binary output  
optional



Socket M8, 4 pin

**Circular connector M12, 8 pin (Setpoint)**

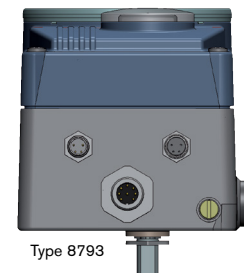
Pin	Configuration	External Circuitry / signal level
1	Setpoint + (0/4-20 mA or 0-5/10 V)	1  + (4-20 mA or 0-10 V) Complete galvanically separated
2	Setpoint GND	2  GND
3	GND	3  24 V DC ± 10 % Max. Residual ripple 10 %
4	+24 V	4  +24 V
5	Binary input +	5  + 0-5 V (log. 0) 10-30 V (log. 1)
6	Binary input GND	6  GND

Optional analogue feedback

8	Analogue feedback +	8  + (0/4-20 mA or 0-5/10 V, ) Complete galvanically separated
7	Analogue feedback GND	7  GND

**Socket M8, 4 pin (only with Binary Output Option)**

Pin	Configuration	External Circuitry / signal level
1	Binary Output 1	1  24 V / 0 V, NC / NO relative to operating voltage GND (terminal GND)
2	Binary Output 2	2  24 V / 0 V, NC / NO relative to operating voltage GND (terminal GND)
3	Binary Output GND	3  GND



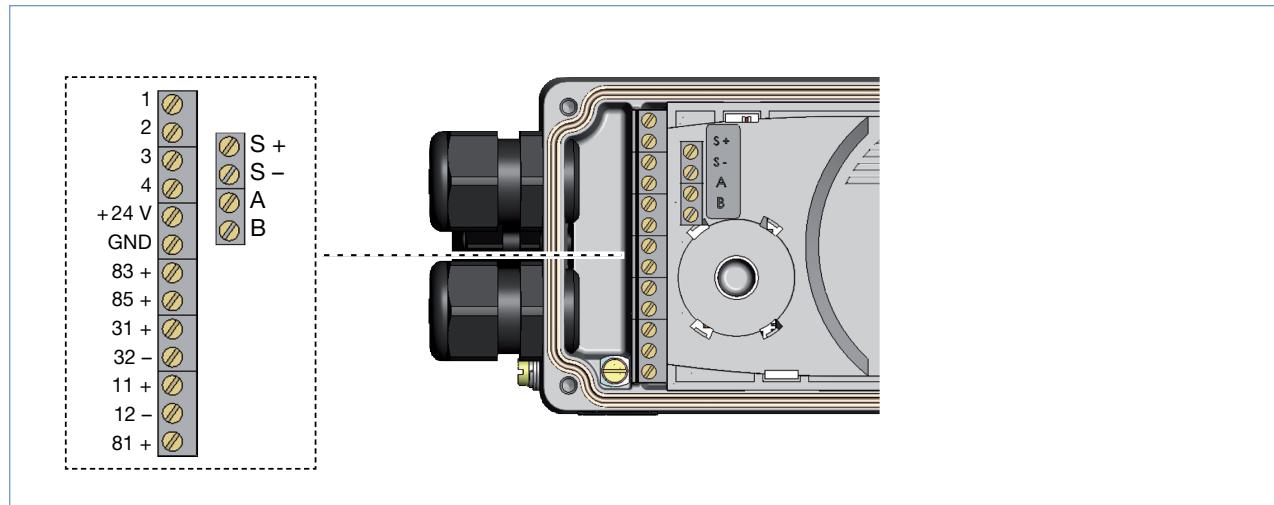
Type 8793

**Circular plug M8, 4 pin - process actual value (for Type 8793)**

Input type	Pin	Wire color	Configuration	DIP-Switch	Device side	External Circuitry
4-20 mA - internal supply	1	brown	+24 V supply transmitter		switch left	
	2	white	output form transmitter			
	3	blue	GND (identical with GND operating voltage)			
	4	black	bridge acc. to GND (Pin 3)			
4-20 mA - external supply	1	brown	not allocated		switch right	
	2	white	process value +			
	3	blue	not allocated			
	4	black	process value -			
Frequency - internal supply	1	brown	+24 V supply to sensor		switch left	
	2	white	measured input +			
	3	blue	measured input - (GND)			
	4	black	not allocated			

## Connection options, continued

### Cable gland connection



Terminal	Configuration	External Circuitry / signal level
11 +	Setpoint +	11 +  + (4-20 mA or 0-10 V) Complete galvanically separated
12 -	Setpoint GND	12 -  GND
81 +	Binary input +	81 +  + Obtained at GND operating voltages (GND clamps)
+24 V	Operating voltages +	+24 V  24 V DC ± 10 % max. Residual ripple 10 %
GND	Operating voltages GND	GND

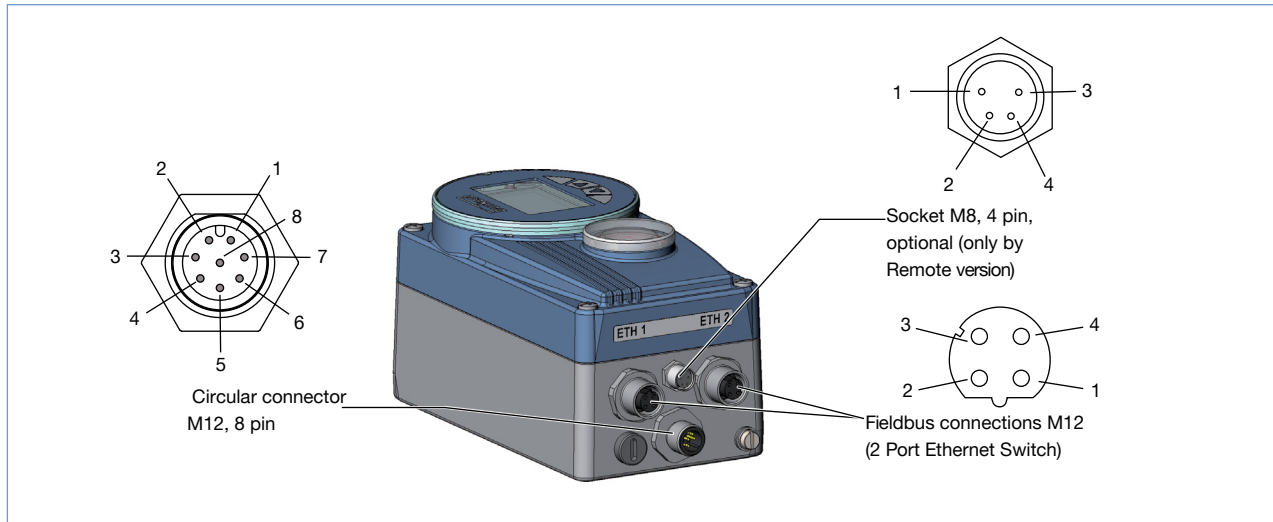
Terminals 1, 2, 3, 4: not connected

### Optional Analogue feedback / Binary Output

Terminal	Configuration	External Circuitry / signal level
83 +	Binary Output 1	83 +  24 V / 0 V, NC / NO Obtained at GND operating voltages ( GND clamps)
85 +	Binary Output 2	85 +  24 V / 0 V, NC / NO Obtained at GND operating voltages ( GND clamps)
31 +	Analogue feedback +	31 +  + (0/4-20 mA or 0-5/10 V) Complete galvanically separated
32 -	Analogue feedback GND	32 -  GND

Terminal 1, 2, 3, 4 : NC

**EtherNet/IP, PROFINET, Modbus TCP connection**



**Fieldbus connections M12 D-coded**

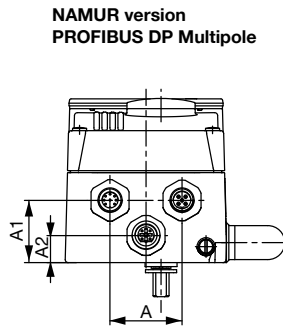
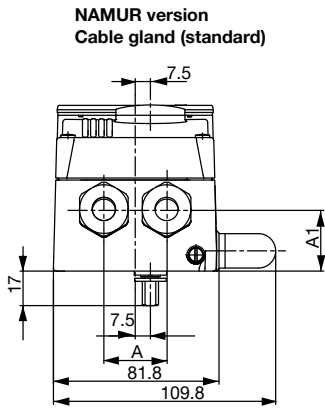
Connections for EtherNet/IP takes place over circular connector M12, 4 pin D-coded

	Pin 1	Transmit +
	Pin 2	Receive +
	Pin 3	Transmit -
	Pin 4	Receive -

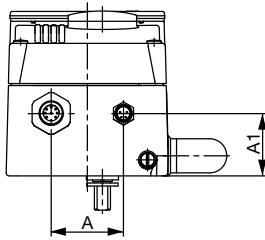
**Operating system - circular connector M12, 8 pin**

Pin	Configuration	Device side	External circuitry / signal level
1	not allocated		
2	not allocated		
<b>Operating voltage</b>			
3	GND		24 V DC ± 10 % max. residual ripple 10%
4	+ 24 V		
<b>Input signals ( e.g. SPS)</b>			
5	Binary input +		0-5 V (log.0) 10-30 V (log.1)
6	Binary input -		
<b>Output signal ( e.g. SPS) - (Only used for binary output option)</b>			
7	Binary output 1 (correlated to pin 3)		0-24 V
8	Binary output 2 (correlated to pin 3)		0-24 V

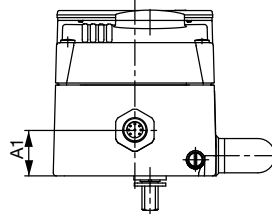
Dimensions – Type 8792 [mm]



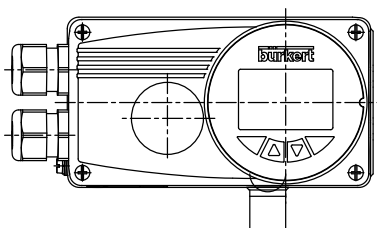
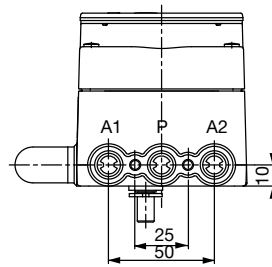
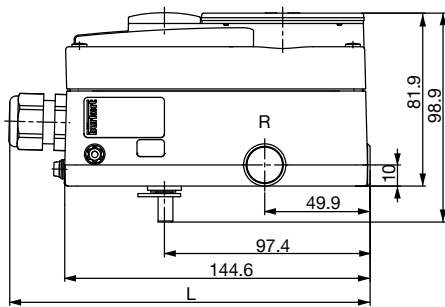
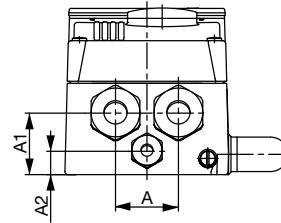
NAMUR version  
Multipole with Binary outputs



NAMUR version  
Multipole

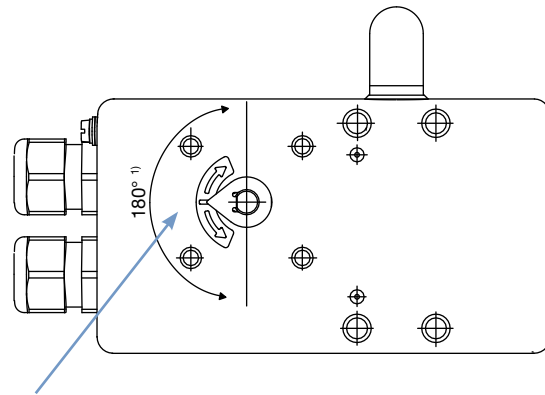


Remote version  
cable gland



Description	L	A	A1	A2
Standard	171.1	31	30	–
PROFIBUS DP	157.8	36	31	13.5
Multipole Bin. OUT	157.6	36	31	–
Multipole	157.4	–	22.5	–
Remote	171.1	31	30	11.5

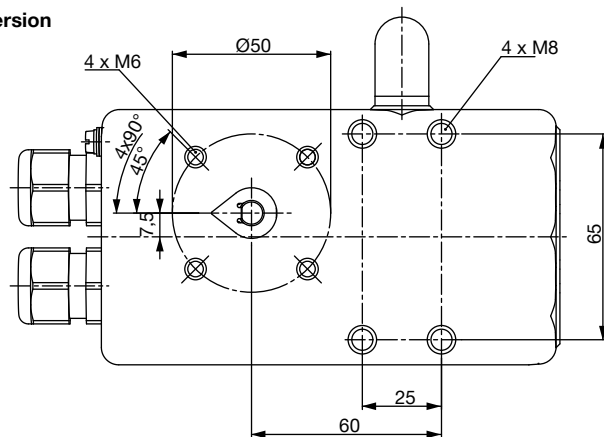
Dimensions – Type 8792 [mm], continued



The rotation angle of the sensor must be within a range of 180° <sup>1)</sup>

With the valve open approx. 50%, the sensor indicator should be in this position.

Standard Version



<sup>1)</sup> For the EtherNet/IP, PROFINET, Modbus TCP and bÜS versions a max. of 180° is possible, for the other versions max. 150°.

Ordering chart – flanged ball valves, 375 °F max

Size	With handle	With pneumatic actuator	With pneumatic actuator and limit switch & feedback	With electric actuator 3003 or 3005 24 AC/DC	With electric actuator 3003 or 3005 120 AC/DC	With positioning electric actuator 3003/3005 60° V 24 AC/DC
1/2"	98111743	98111759	98111775	98111791	98111807	98111823
3/4"	98111744	98111760	98111776	98111792	98111808	98111824
1"	98111745	98111761	98111777	98111793	98111809	98111825
1 1/2"	98111746	98111762	98111778	98111794	98111810	98111826
2"	98111747	98111763	98111779	98111795	98111811	98111827
2 1/2"	98111748	98111764	98111780	98111796	98111812	98111828
3"	98111749	98111765	98111781	98111797	98111813	98111829
4"	98111750	98111766	98111782	98111798	98111814	98111830

Size	With positioning electric actuator 3003/3005 60° V 120 AC/DC	With pneumatic actuator and 6519 pilot valve 24VDC	With pneumatic actuator and 6519 pilot valve 120 VAC	With pneumatic actuator limit switch and 6519 pilot valve 24VDC	With pneumatic actuator limit switch and 6519 pilot valve 120 VAC	With pneumatic actuator & 1061 ASI pilot and feedback
1/2"	98111839	98111855	98111871	98111887	98111903	98111919
3/4"	98111840	98111856	98111872	98111888	98111904	98111920
1"	98111841	98111857	98111873	98111889	98111905	98111921
1 1/2"	98111842	98111858	98111874	98111890	98111906	98111922
2"	98111843	98111859	98111875	98111891	98111907	98111923
2 1/2"	98111844	98111860	98111876	98111892	98111908	98111924
3"	98111845	98111861	98111877	98111893	98111909	98111925
4"	98111846	98111862	98111878	98111894	98111910	98111926

Size	With pneumatic actuator position control 60° V-ball ASI	With pneumatic actuator position control 60° V-ball 4-20mA	With pneumatic actuator position control 60° V-ball Burkert CAN OPEN	With pneumatic actuator position control 60° V-ball Ethernet	With pneumatic actuator position control 60° V-ball DeviceNet	With pneumatic actuator PID control 60° V-ball 4-20mA
1/2"	98111935	98111951	98111967	98111983	98111999	98112015
3/4"	98111936	98111952	98111968	98111984	98112000	98112016
1"	98111937	98111953	98111969	98111985	98112001	98112017
1 1/2"	98111938	98111954	98111970	98111986	98112002	98112018
2"	98111939	98111955	98111971	98111987	98112003	98112019
2 1/2"	98111940	98111956	98111972	98111988	98112004	98112020
3"	98111941	98111957	98111973	98111989	98112005	98112021
4"	98111942	98111958	98111974	98111990	98112006	98112022

Size	With pneumatic actuator PID control 60° V-ball Burkert CAN OPEN
1/2"	98112031
3/4"	98112032
1"	98112033
1 1/2"	98112034
2"	98112035
2 1/2"	98112036
3"	98112037
4"	98112038

Ordering chart – flanged ball valves, 450 °F max

Size	With handle	With pneumatic actuator	With pneumatic actuator and limit switch & feedback	With electric actuator 3003 or 3005 24 AC/DC	With electric actuator 3003 or 3005 120 AC/DC	With positioning electric actuator 3003/3005 60° V 24 AC/DC
1/2"	98111751	98111767	98111783	98111799	98111815	98111831
3/4"	98111752	98111768	98111784	98111800	98111816	98111832
1"	98111753	98111769	98111785	98111801	98111817	98111833
1 1/2"	98111754	98111770	98111786	98111802	98111818	98111834
2"	98111755	98111771	98111787	98111803	98111819	98111835
2 1/2"	98111756	98111772	98111788	98111804	98111820	98111836
3"	98111757	98111773	98111789	98111805	98111821	98111837
4"	98111758	98111774	98111790	98111806	98111822	98111838

Size	With positioning electric actuator 3003/3005 60° V 120 AC/DC	With pneumatic actuator and 6519 pilot valve 24VDC	With pneumatic actuator and 6519 pilot valve 120 VAC	With pneumatic actuator limit switch and 6519 pilot valve 24VDC	With pneumatic actuator limit switch and 6519 pilot valve 120 VAC	With pneumatic actuator & 1061 ASI pilot and feedback
1/2"	98111847	98111863	98111879	98111895	98111911	98111927
3/4"	98111848	98111864	98111880	98111896	98111912	98111928
1"	98111849	98111865	98111881	98111897	98111913	98111929
1 1/2"	98111850	98111866	98111882	98111898	98111914	98111930
2"	98111851	98111867	98111883	98111899	98111915	98111931
2 1/2"	98111852	98111868	98111884	98111900	98111916	98111932
3"	98111853	98111869	98111885	98111901	98111917	98111933
4"	98111854	98111870	98111886	98111902	98111918	98111934

Size	With pneumatic actuator position control 60° V-ball ASI	With pneumatic actuator position control 60° V-ball 4-20mA	With pneumatic actuator position control 60° V-ball Burkert CAN OPEN	With pneumatic actuator position control 60° V-ball Ethernet	With pneumatic actuator position control 60° V-ball DeviceNet	With pneumatic actuator PID control 60° V-ball 4-20mA
1/2"	98111943	98111959	98111975	98111991	98112007	98112023
3/4"	98111944	98111960	98111976	98111992	98112008	98112024
1"	98111945	98111961	98111977	98111993	98112009	98112025
1 1/2"	98111946	98111962	98111978	98111994	98112010	98112026
2"	98111947	98111963	98111979	98111995	98112011	98112027
2 1/2"	98111948	98111964	98111980	98111996	98112012	98112028
3"	98111949	98111965	98111981	98111997	98112013	98112029
4"	98111950	98111966	98111982	98111998	98112014	98112030

Size	With pneumatic actuator PID control 60° V-ball Burkert CAN OPEN
1/2"	98112039
3/4"	98112040
1"	98112041
1 1/2"	98112042
2"	98112043
2 1/2"	98112044
3"	98112045
4"	98112046

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