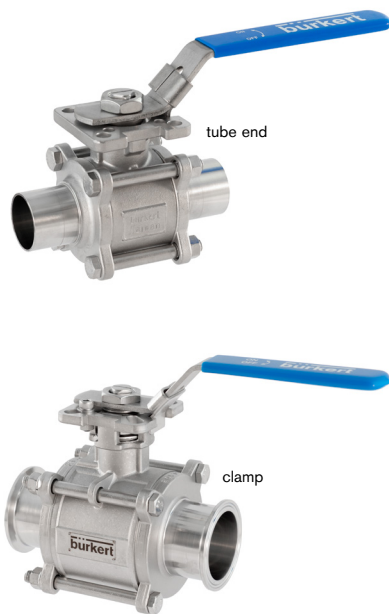


Quick delivery –
clamp and tube end
ball valves

Ball Valves in cast 316 SS 2-way, 3-piece construction



- 1000/800/600 PSI WOG
- US Clamp and US Tube Weld End
- Full port to US OD Tube
- Semi lugged body
- Blow-out proof stem with self adjust packing
- ISO 5211 direct actuator mount



Technical data	
Valve size	1/2" to 4"
Body materials¹⁾	CF8M (cast 316 SS)
Ball material	316 SS
Stem material	316 SS
Port diameter class	Full port to US OD Tube
Ball seal material	PTFE (others to application)
Media	Compatible with materials of construction and pressure/temperature limits of seals
Viscosity	As torque effect allows
Packing gland	Self-adjusting RPTFE, PTFE and FKM with 304SS guide/follower
Media temperature	-20 °F to 375 °F (PTFE), 450 °F (TFM)
End connections	US Sanitary Clamp US OD Tube Weld End
Installation	As required
Flow direction	Seals to rated pressure in both directions
Control option	Size to conditions
Pressure rating	1000 PSI – 1/2" to 1" 800 PSI – 1 1/2" to 2" 600 PSI – 2 1/2" to 4"

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



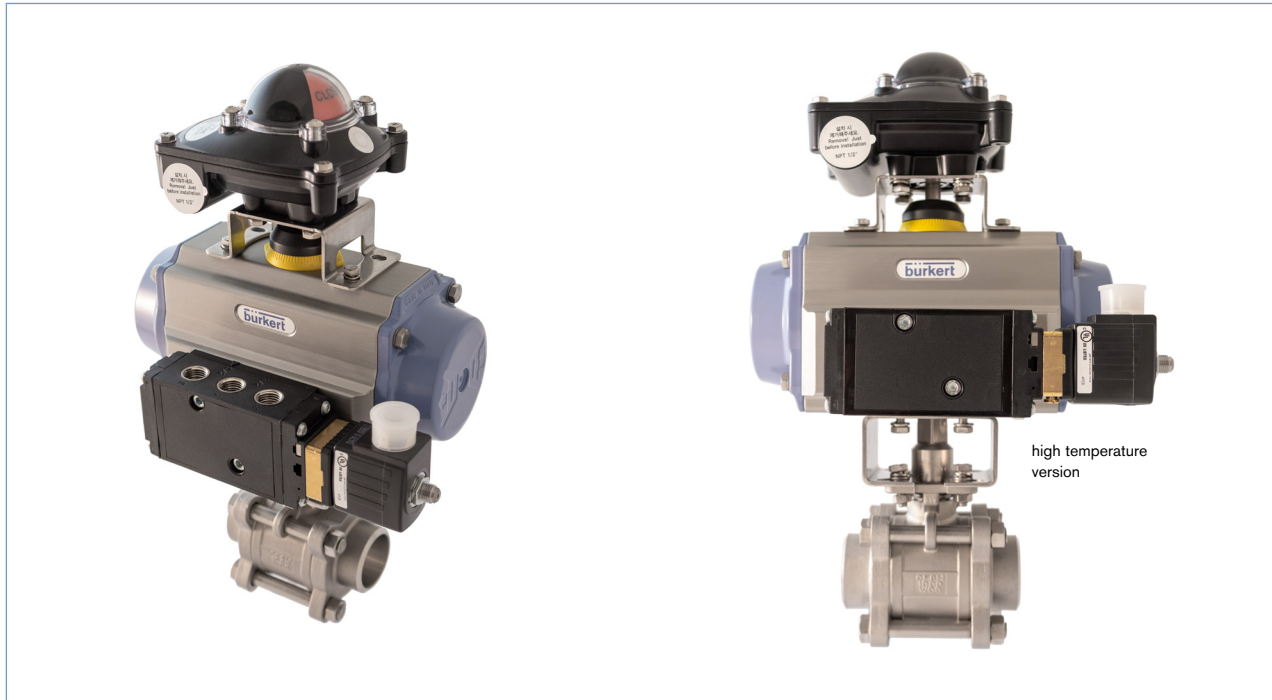
Valve with pneumatic spring closed actuator and limit switch with feedback



Valve with pneumatic spring closed actuator and pilot valve



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



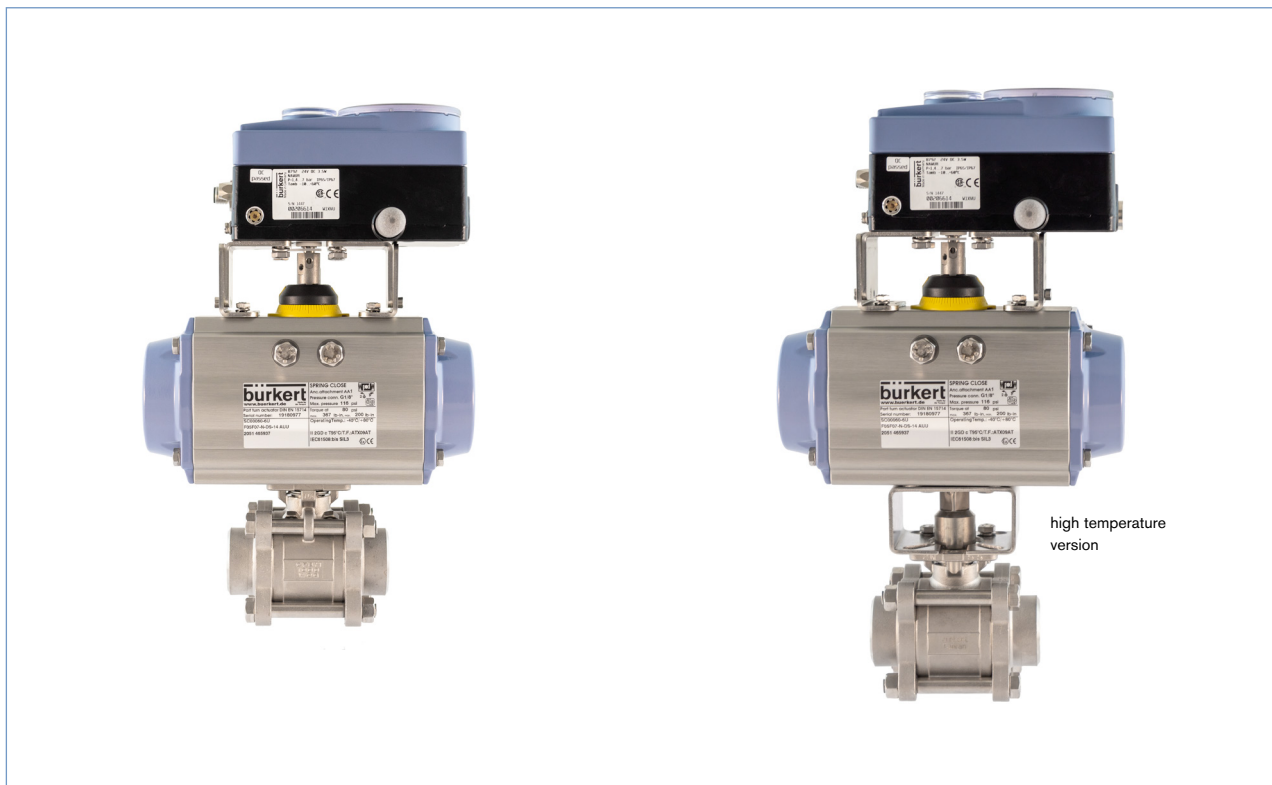
**Valve with pneumatic spring closed actuator pilot valve and limit switch with feedback,
and high temperature version**



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



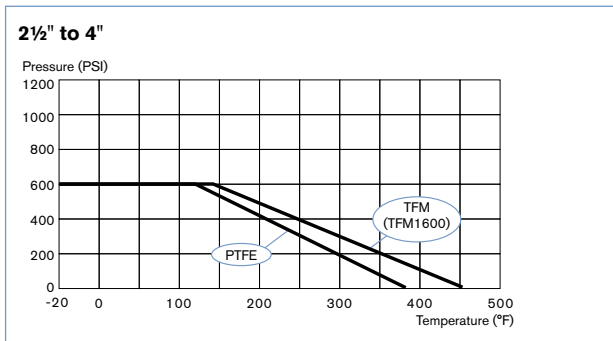
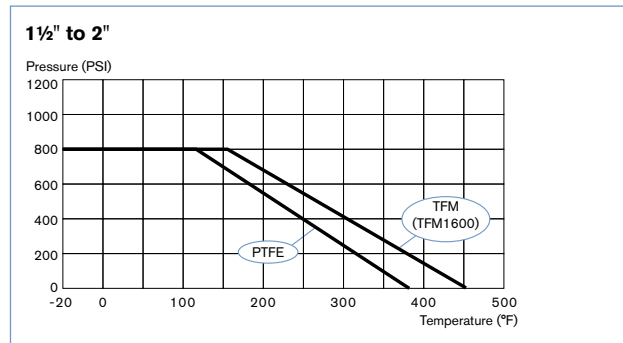
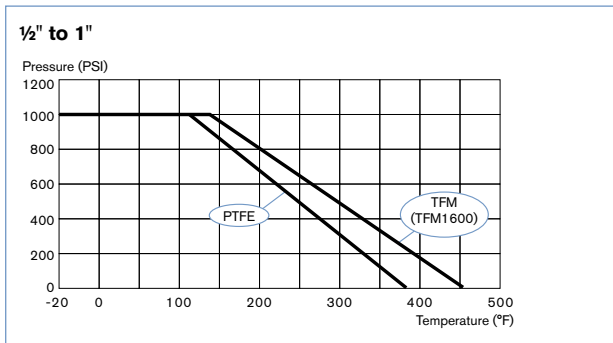
**Valve with pneumatic spring closed actuator Types 8791/8792/8793 position or PID control,
and high temperature version**



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-

Valves	Type 2654 tube/clamp
Pneumatic actuator	Type 2051
Pilot valve for on/off control	Types 6518/6519
Smaller electric actuator	Type 3003
Larger electric actuator	Type 3005
ASi on/off	Type 1061
ASi for position control	Type 8791 Positioner SideControl BASIC
Multiple communication protocol for position control	Type 8792
Multiple communication protocol for PID control	Type 8793

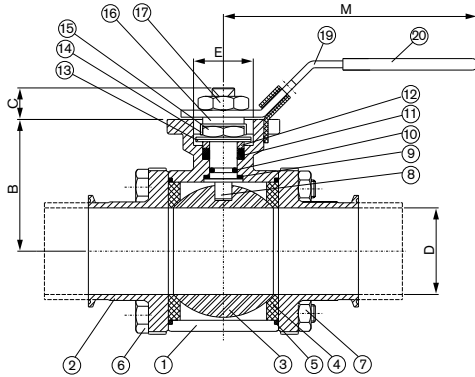
Pressure-temperature limits



C_v for 60° v-ball control valves

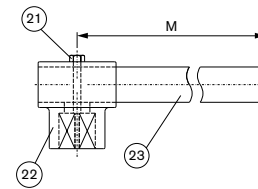
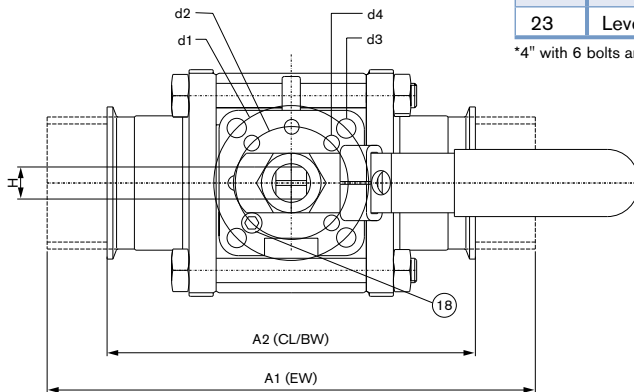
Valve size	Target control range										
	0%	15%	20%	30%	40%	50%	60%	70%	80%	90%	100%
1/2"	0	0.1	0.1	0.3	0.5	0.9	1.4	2	3.3	4.4	6
3/4"	0	0.1	0.2	0.7	1	1.7	2.8	4	6.5	9	12
1"	0	0.2	0.4	1.1	1.8	3.4	5.3	7.9	12.3	15.3	21
1 1/2"	0	0.4	0.8	2.5	4	8	13	19	27	40	52
2"	0	0.4	1.5	4.6	9	16.5	27	39	55	105	110
2 1/2"	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

Dimensions [mm]

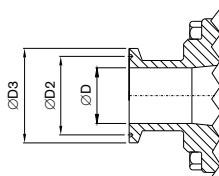


Item	Part name	Materials	Options	Qty
1	Body	A351 Gr. CF8M	A351 GR. CF3M	1
2	End cap	A351 Gr. CF8M	A351 GR. CF3M	2
3	Ball	SS 316	SS 316L	1
4	Ball seat	PTFE	TFM1600	2
5	Gasket	PTFE	PTFE	2
6	Body bolt	SS 304	SS 304	4*
7	Body nut	SS 304	SS 304	4*
8	Stem	SS 316	SS 316L	1
9	Thrust washer	RPTFE	RPTFE	1
10	O-ring	FKM	FKM	1
11	Stem packing	PTFE	TFM	1 set
12	Gland washer	SS 304	SS 304	1
13	Disc washer	SS 301	SS 301	2
14	Nut stopper	SS 304	SS 304	1
15	Stem nut	SS 304	SS 304	1
16	Space washer	SS 304	SS 304	1
17	Handle nut	SS 304	SS 304	1
18	Stop pin	SS 304	SS 304	1
19	Handle	SS 304	SS 304	1
20	Sleeve	Plastic	Plastic	1
21	Set bolt	SS 304	SS 304	1
22	Lever head	CF8	CF8	1
23	Lever	Steel pipe	Steel pipe	1

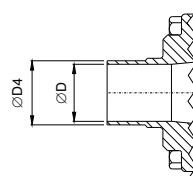
*4" with 6 bolts and nuts



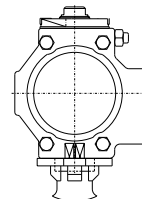
2 1/2"-4" with handle



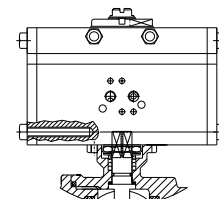
Clamp end



Tube weld end

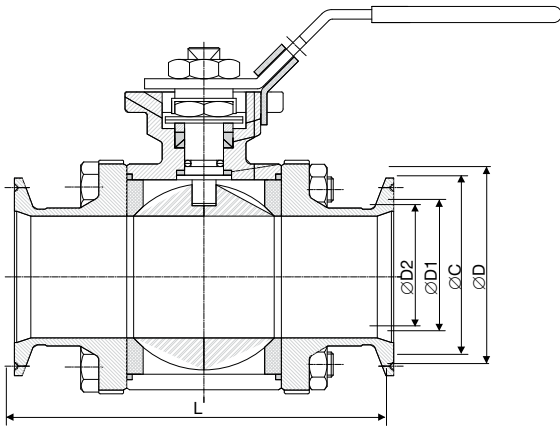


ISO direct mount for directly assembling actuator.

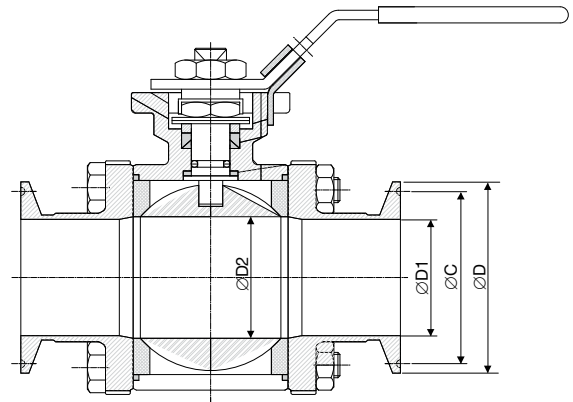


Size	A1	A2	B	C	D	D2	D3	D4	d1	d2	d3	d4	E	H	M	ISO 5211 pattern
1/2"	124.5	88.9	35	9.5	9.6	21.7	25	12.7	42	36	6.0	6.0	25	9	135	F03/F04
3/4"	142.2	101.6	39	9.5	15.8	21.7	25	19.05	42	36	6.0	6.0	25	9	135	F03/F04
1"	162.5	114.3	48	14	22.1	43.5	50.4	25.4	50	42	7.0	6.0	30	11	155	F04/F05
1 1/2"	182.8	139.7	61	18	34.8	43.5	50.4	38.1	70	50	9.2	7.0	35	14	205	F05/F07
2"	193.0	158.8	70	18	47.5	56.5	63.9	50.8	70	50	9.2	7.0	35	14	205	F05/F07
2 1/2"	254.0	171.5	90	22	60.2	70.5	77.4	63.5	102	70	11.3	9.0	55	17	290	F07/F10
3"	279.5	196.8	99	22	72.9	83.3	90.9	76.2	102	70	11.3	9.0	55	17	290	F07/F10
4"	304.8	241.3	131	26	97.3	110.3	118.9	101.6	125	102	13.5	11.3	70	22	335	F10/F12

T-clamp dimensions [mm]



Size: 1/2", 1", 1 1/2", 2", 2 1/2", 3", 4"
DN15, 25, 40, 50, 65, 80, 100



Size: 3/4" / DN20

Size	D1	D2	L	C	D	Original body size
1/2"	16	15.8	101.6	27.5	34	DN20
3/4"	20	22.1	101.6	27.5	34	DN25
1"	26	22.1	114.3	43.5	50.5	DN25
1 1/2"	38	34.8	139.8	43.5	50.5	DN40
2"	50	47.5	158.8	56.5	64	DN50
2 1/2"	66	60.2	171.5	83.5	91	DN65
3"	81	72.9	196.3	97	106	DN80
4"	100	97.3	241.3	110	119	DN100

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



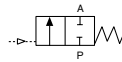
Type 2051

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

Control function A

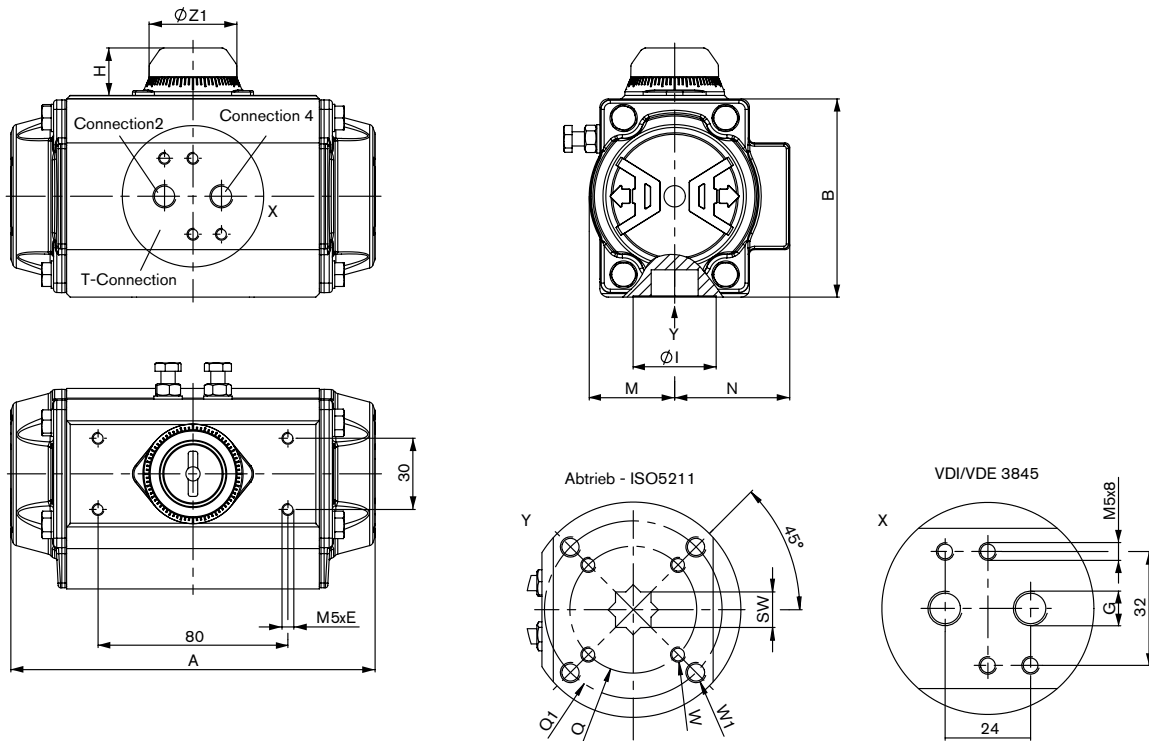
Single-acting actuator return by spring, operating e.g. with pilot valve



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

Valve size [inches]	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°	opening	closing			
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"	30	18.9	12	21.9	14.9	33.6	26.7	20.2	13.3	0.16	0.26	1.7
2"	100	56.7	31.4	65.8	40.5	102	77.1	69.3	44	0.51	0.78	4.3
2 1/2"	220	138	79	159	101	245	187	157	98.4	1.19	1.8	9.3
3"	220	138	79	159	101	245	187	157	98.4	1.19	1.8	9.3
4"	300	179	107	206	135	317	245	198	126	1.54	2.34	12

Dimensions - Type 2051 [mm]



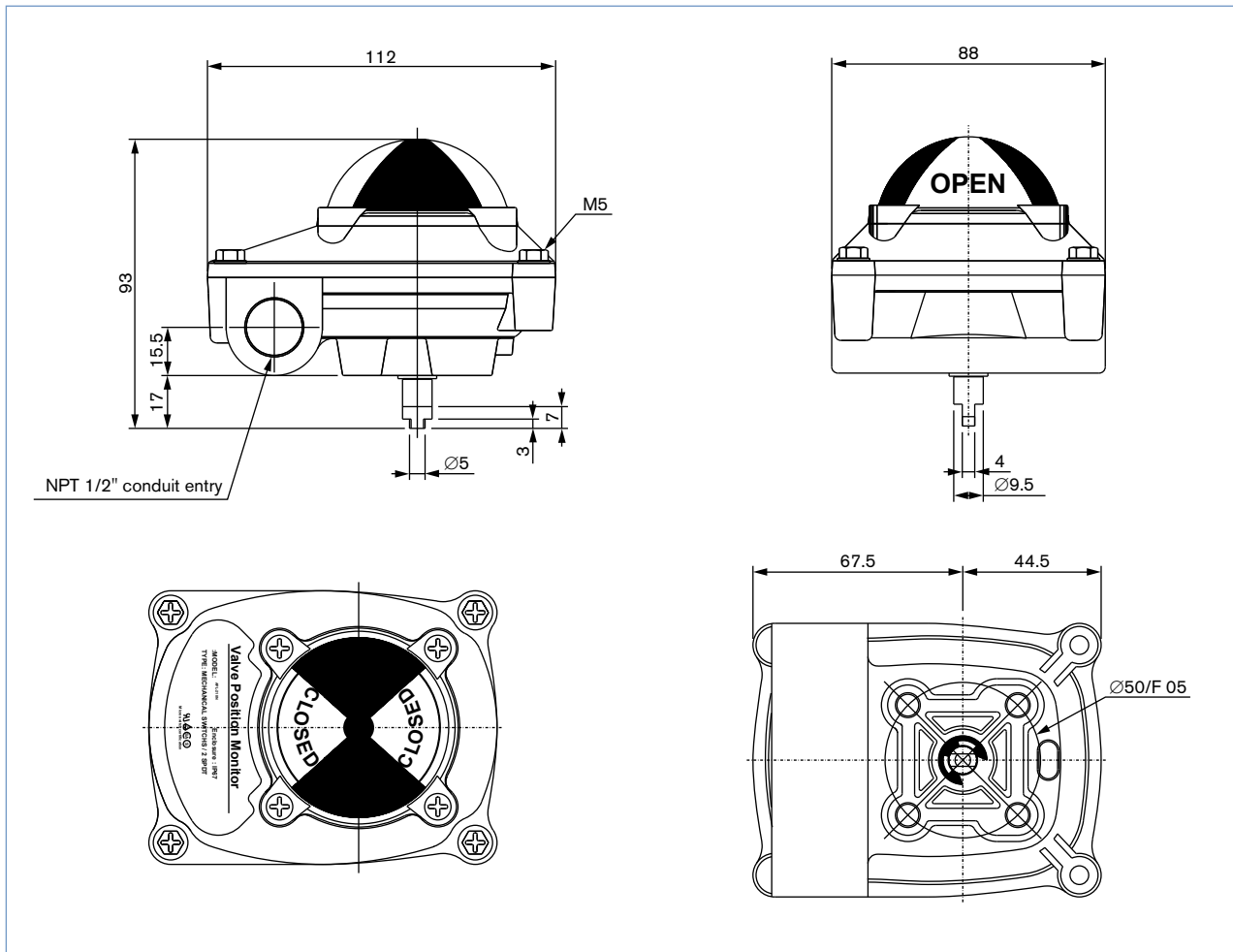
Size	A	B	E	H	ØI	M	N	Q	Q1	W	W1	ØZ1	G	SW	ISO 5211
15	136	69	4	20	30	29	43	36	50	M5	M6	37	1/8"	11	F03-05
30	153.5	85	8	20	35	36	48.5	50	70	M6	M8	37	1/8"	14	F05-07
100	241	115	8	20	55	49.5	56.5	50	70	M6	M8	37	1/8"	17	F05-07
220	304	145	8	30	70	64	72	70	102	M8	M10	51	1/4"	22	F07-10
300	333	157	8	30	70	69.5	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 ²)
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)



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

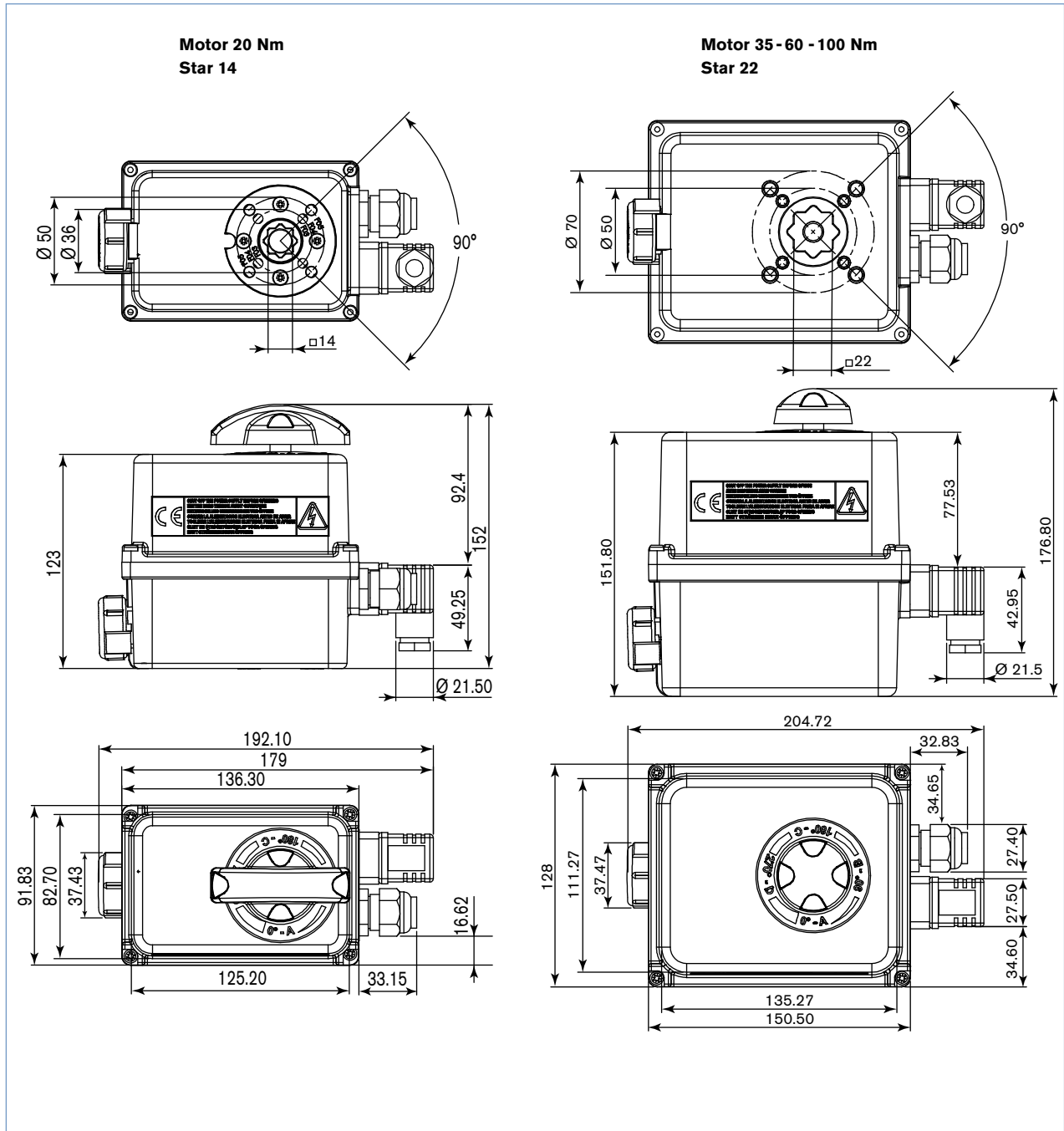
Type 3003



Type 3003

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

* 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

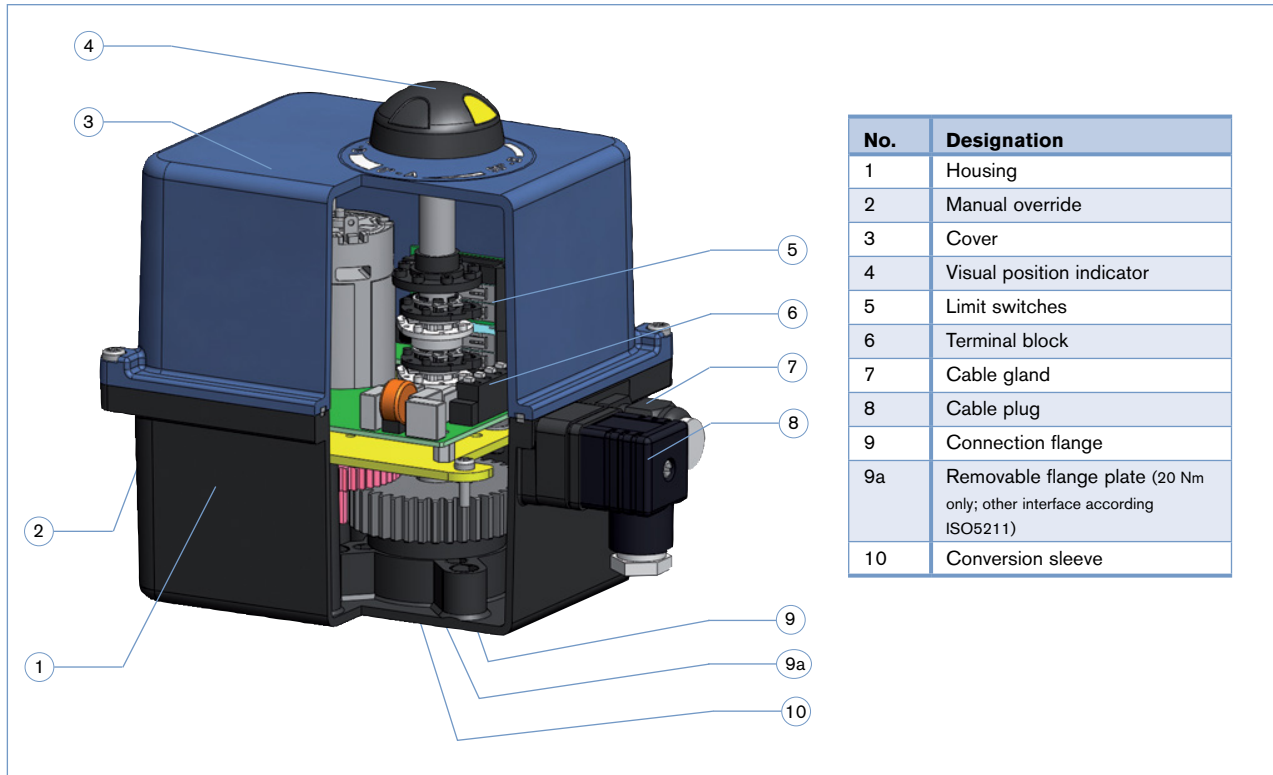
Remark : For the actuator choice, we recommend a safety torque equal to 2 times of the valve maximal torque.

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
3/4"	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-F07	35 Nm	40 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
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	100 Nm	119 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



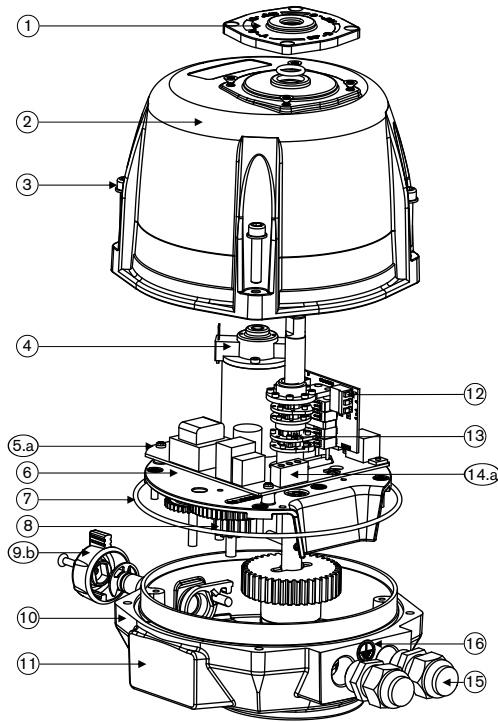
Type 3005



Technical data	
Torque	25 and 300 Nm (see ordering chart) (600 and 1000 Nm on request)
Angle of rotation	90° (± 5°)
90° rotation time	7 up to 60 sec.(see ordering chart)
Duty rating	At max. torque: 50% of the time Control actuator: 50% of max. torque
Power supply	15 - 30 V AC 50/60 Hz / 12 - 48 V DC 100 - 240 V AC 50/60 Hz / 100 - 350 V DC Tolerance ± 10%
Power consumption	45 W
Motor protection	Electronic torque limitation
Electrical connection	2 cable glands ISO 20 (Cable plug acc. EN 175301 - 803 on request)
Mounting	acc. ISO 5211 F05/F07 F07/F10v
Drive	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
Installation	Do not mount the actuator upside down!
Limit switches	4 adjustable (2 for motor and 2 additional for feedback) max. 250 V AC/5 A
Analogue signals control version (programmable)	
Input	- 0 - 10 V - 4 - 20 mA - 0 - 20 mA
Output	- 0 - 10 V - 4 - 20 mA - 0 - 20 mA
Manual override	By hand wheel (from 100 Nm)
Mechanical limit stops	Standard
Optical position indicator	Standard
Material	
Cover, Housing	Nylon / Epoxy coated aluminium
Axis, screw	Stainless steel
Gear	Zinc-plated Steel
Type of class	IP68
Ambient temperature	-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)
Weight	5.6 kg
Heating resistor	10 W
Options	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

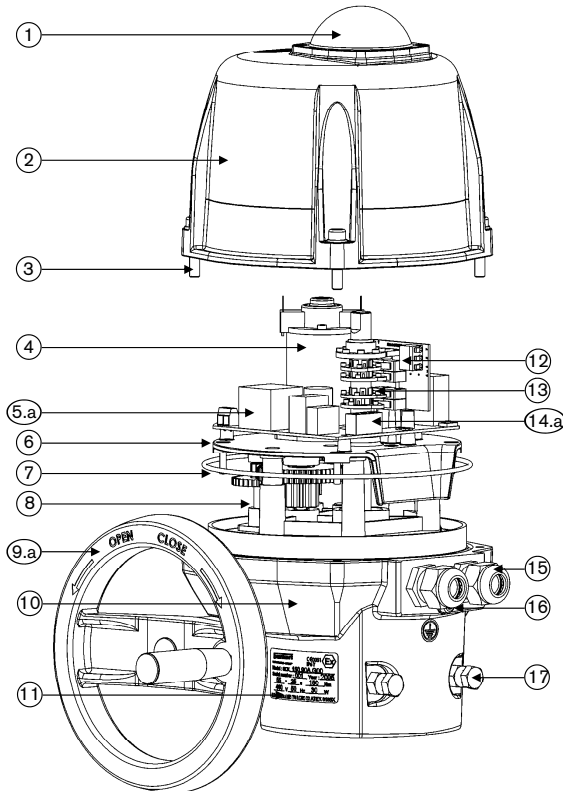
Motor 25 -45 - 75 Nm



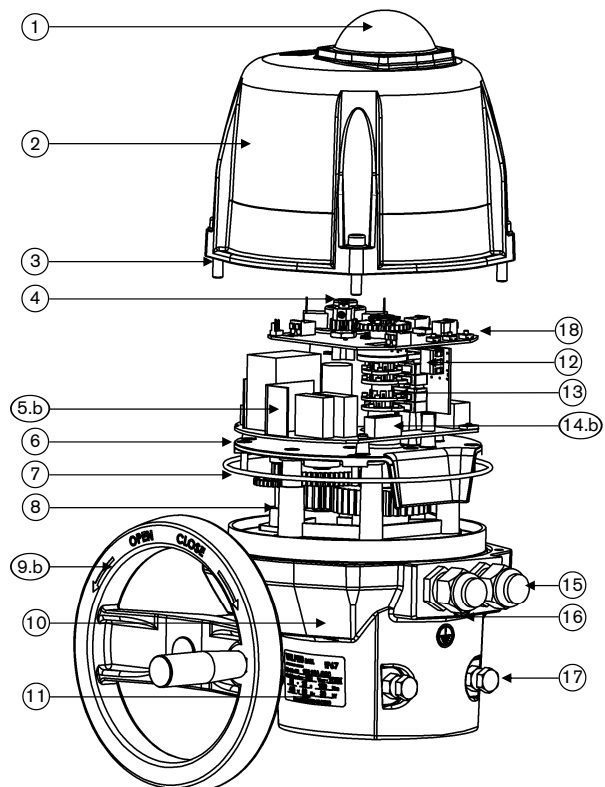
No.	Designation
1	Optical position indicator
2	Cover
3	Stainless steel screws
4	Motor
5.a*	Pilot and power supply card
5.b*	power supply card
6	Gear box
7	O-ring
8	Gear
9.a	Hand wheel
9.b	Clutch knob
10	Housing
11	Identification label
12	Auxiliary limit switch terminal
13	Cams
14.a*	Pilot and power supply 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

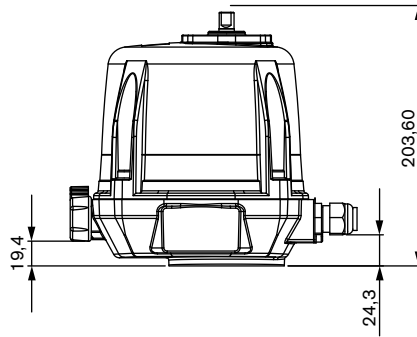
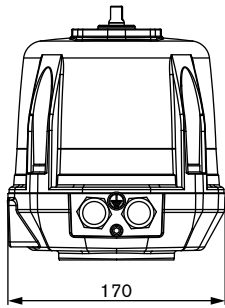
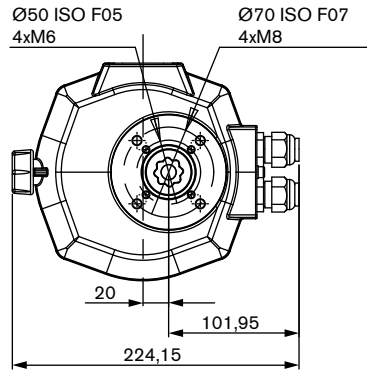
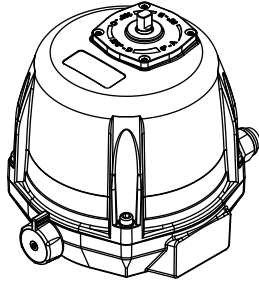


Motor 100 - 150 - 300 Nm with positioning card

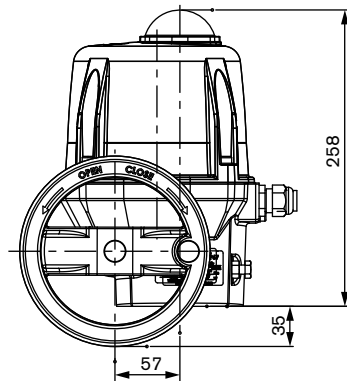
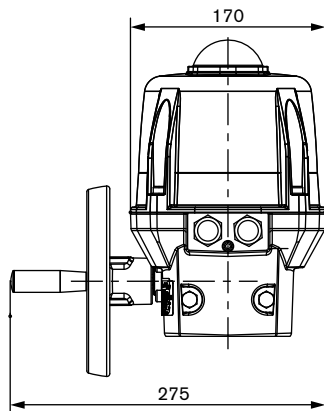
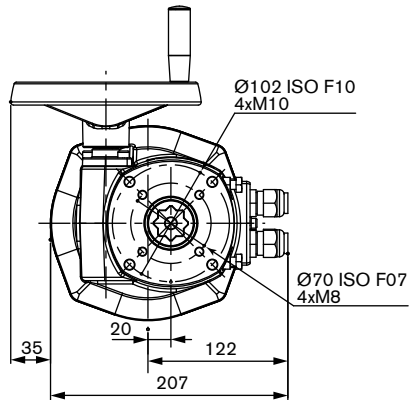
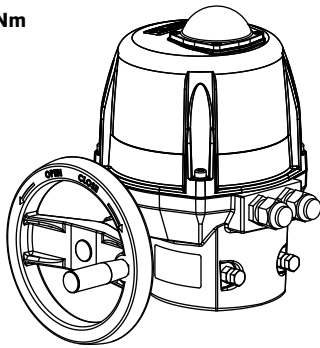


Dimensions – Type 3005 [mm]

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]
2½"	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"	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	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**
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

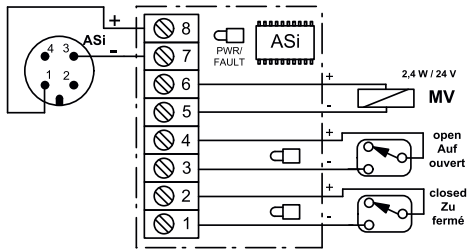
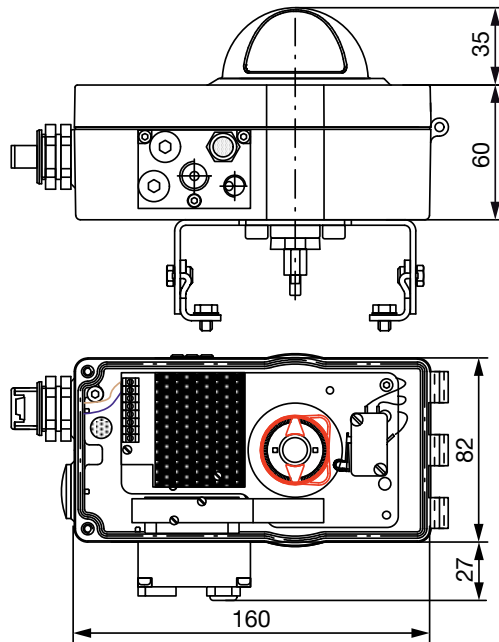
ASi actuation and feedback for pneumatic actuation



Technical data	
Materials	
Housing	Aluminium
Base (powder-coated)	RAL9005
Cover (powder-coated)	RAL7016
Seal	PUR
Dome	Polycarbonate
Switching precision	< 1.5°
Bracket	
	Adjustable
	Hole gauge: 80/130 mm x 30 mm
	Height: 20/30 mm
Ambient temperature	
	-13 °F...14 °F up to 131 °F...185 °F (-25 °C...-10 °C up to 55 °C...85 °C)
Electrical data	
Limit Switches	
Micro Switches	Crouzet 83.161.301 Crouzet 83.161.8
Inductive Sensors	Pepperl+Fuchs NBB2-V3-E2 Pepperl+Fuchs NJ2-V3-N
Switching capacity	4 A, 230 V AC
Protection class	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	
Material	
Body	Aluminium plastic-coated
Seal	EPDM, NBR, FKM
Operating voltages	24 V DC +/- 10%
Residual ripple	max. 10%
Setpoint setting	4-20 mA (0-20 mA adjustable using configurations software)
Input resistance	0/4 to 20 mA: 180 Ω
Analogue feedback	(0-20 mA adjustable using configurations software) (max. Burden 560 Ω)
Binary input	0-5 V = log "0", 10-30 V = log "1"
Control medium	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 ³)
Pressure condensation point	Class 3 (<-4 °F (-20 °C))
Oil concentration	Class X (<25 mg/m ³)
Ambient temperature	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)
Pilot air ports	Threaded ports G 1/4
Supply pressure	1.4 to 7 bar ^{1) 2)}
Air supply filter	Exchangeable (mesh aperture~0.1 mm)
Actuator system	Single and double-acting up to 150 l _N /min.
Air capacity	50 l _N /min (with 1.4 bar ²⁾) for aeration and ventilation 150 l _N /min (with 6 bar ²⁾) for aeration and ventilation (Q _{Nn} = 100 l _N /min (acc. to the definition with decrease in pressure from 7 to bar absolute)
Integrated transducer (NAMUR)	Conductive plastic rotary potentiometer
Measuring range	Angle of rotation 30° to 150°
Stroke range for attachment to linear actuators	3 to 130mm, depending on the lever of the mounting kit
Installation	As required, LEDs above or sideways
Type of protection	IP65/IP67 acc. to EN 60529, Type 4X acc. to NEMA 250 standard
Power consumption	< 3.5 W

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

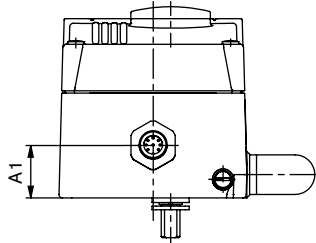
²⁾ Pressure values [bar]: Overpressure with respect to atmospheric pressure

Technical data - AS-interface (Option)	
Profile	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
Programmed data	see instruction manual
Operating voltage over Bus connection	29.5 to 31.6 V DC acc. to AS-Interface specification
Max. current consumption	150 mA
Electrical connection	M12x1, 4-pin stainless steel connection assembled with 80 cm cable and flat cable clamp

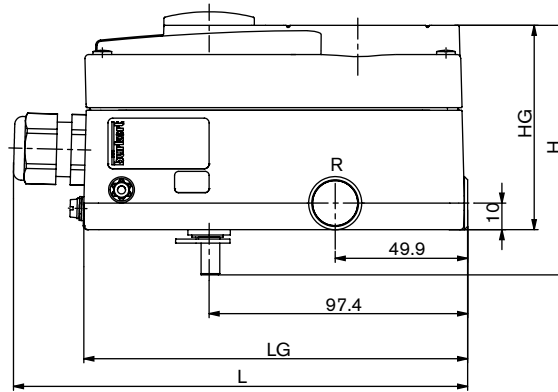
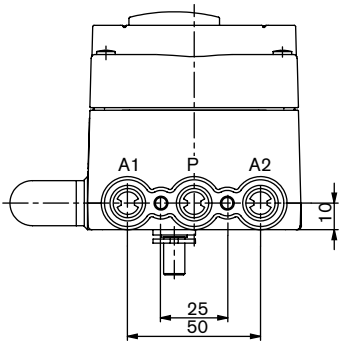
Technical data - Linear Remote Position Sensor (ELEMENT)	
Electrical connection	
Cable gland	1x M16x1.5 (cable Ø 5-10 mm) on terminal screws (0.14-1.5 mm ²)
Connection cable length	10 m
Operating voltage	24 V DC ± 10 %, UL: NEC Class 2
Power consumption	< 0.3 W
Sensor measurement range	3 to 45 mm (Stroke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

Dimensions – Type 8791 [mm]

NAMUR version
with Multipole

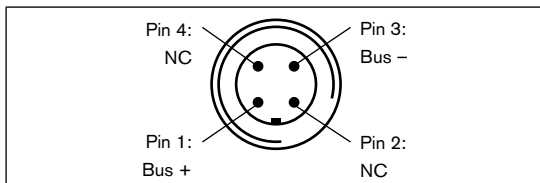


Description	LG	L	BG	B	HG	H	A	A1	A1
Multipole	144.6	171.1	81.8	109.8	77	94.1	-	22.5	-

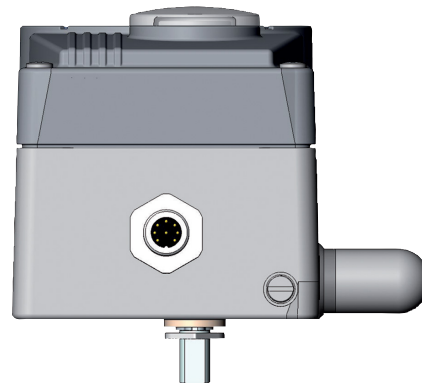


Connection options

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	
Material	
Body	Aluminium plastic-coated
Seal	EPDM, NBR, FKM
Operating voltages	24 V DC \pm 10 %
Residual ripple	Max. 10 %
Setpoint setting	0/4-20 mA and 0-5/10 V
Input resistance	0/4-20 mA: 180 Ω 0-5/10 V: 19 k Ω
Analogue feedback	4-20 mA, 0-20 mA 0-10 V, 0-5 V
Binary input	Galvanically isolated, 0-5 V = log "0", 10-30 V = log "1"
Binary output	2 Outputs (optional), galvanically separated
Current limit	100 mA, Output will be synchronised when overloaded
Control medium	neutral gases, air, quality classes acc. to ISO 8573-1
Dust concentration	Class 7 (<40 μ m particle size)
Particle density	Class 5 (<10 mg/m ³)
Pressure condensation point	Class 3 (<-4 °F (-20 °C))
Oil concentration	Class X (<25 mg/m ³)
Ambient temperature	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)
Pilot air ports	Threaded ports G 1/4
Supply pressure	1.4 to 7 bar ^{1) 2)}
Air supply filter	Exchangeable (aperture size -0.1 mm)
Actuator system	Single and double-acting to 150 l _N /min.
Air capacity	50 l _N /min (with 1.4 bar ²⁾) for aeration and ventilation 150 l _N /min (with 6 bar ²⁾) for aeration and ventilation (Q _{Nn} = 100 l _N /min (acc. to the definition with decrease in pressure from 7 to 6 bar absolute)
Integrated transducer (NAMUR)	Conductive plastic rotary potentiometer
Measuring range	
EtherNet/IP, PROFINET, Modbus TCP and b \ddot{u} S other versions	Angle of rotation 30° to 180° Angle of rotation 30° to 150°
Stroke range for attachment to linear actuators	3 to 130mm, depending on the lever of the mounting kit
Installation	As required, display above or sideways
Type of protection	IP65/IP67 acc. to EN 60529, Type 4X acc. to NEMA 250 standard
Power consumption	<5 W
Electrical connection	
Multipole connection	M12, 8 pin/4 pin; M8, 4 pin
Cable gland	2x M20 x 1.5 (cable \varnothing 6 to 12 mm) on screw terminals (0.14 to 1.5 mm ²)
Remote version	1x M12 x 1.5 (cable \varnothing 3 to 6.5 mm)
Bus communication	PROFIBUS DP-V1, DeviceNet, EtherNet/IP, PROFINET, Modbus TCP or b \ddot{u} S (based on CANopen)
Protection class	III acc. to DIN EN 61140
Conformity	EMC directive 2014/30/EU
CSA approval information	
Product category code	Class 3221 82-VALVES - Actuators - Certified to US standards Class 3221 02-VALVES - Actuators
Considered standards	CAN/CSA-C22 2 No. 139 UL 429

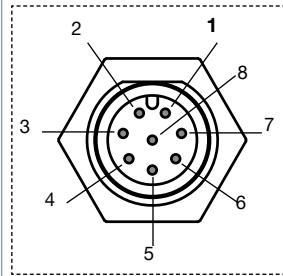
¹⁾ The supply pressure has to be 0.5 to 1 bar above the minimum required pilot pressure for the valve actuator

²⁾ Pressure specifications: Overpressure with respect to atmospheric pressure

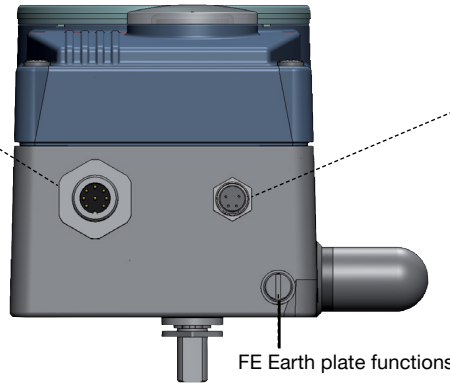
Connection options

Multi-pin connection

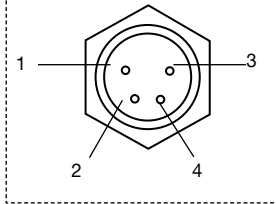
Operating voltages and diverse signals



Circular connector M12, 8 pin



Binary output
optional



Socket M8, 4 pin

Circular connector M12, 8 pin (Setpoint)

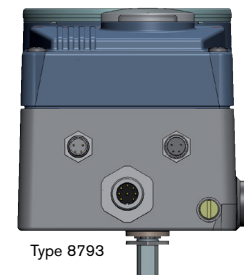
Pin	Configuration	External Circuitry / signal level
1	Setpoint + (0/4-20 mA or 0-5/10 V)	1 + (4-20 mA or 0-10 V) Complete galvanically separated
2	Setpoint GND	2 GND
3	GND	3 24 V DC \pm 10 % Max. Residual ripple 10 %
4	+24 V	4 +24 V
5	Binary input +	5 + 0-5 V (log. 0) 10-30 V (log. 1)
6	Binary input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



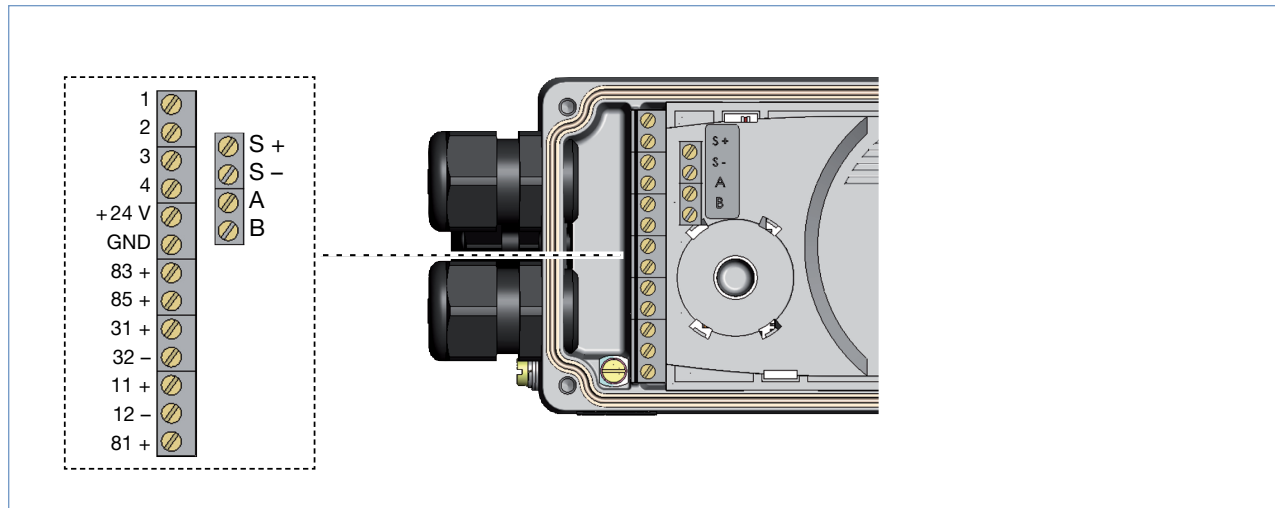
Type 8793

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		1	Transmitter		
	2	white	output form transmitter				2	
	3	blue	GND (identical with GND operating voltage)				3	
	4	black	bridge acc. to GND (Pin 3)				4	
4-20 mA - external supply	1	brown	not allocated		2	4-20 mA		
	2	white	process value +				4	
	3	blue	not allocated					GND 4-20 mA
	4	black	process value -					
Frequency - internal supply	1	brown	+24 V supply to sensor		1	+24 V		
	2	white	measured input +				2	
	3	blue	measured input - (GND)				3	
	4	black	not allocated				measured - GND (identical with GND operating voltage)	

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 + + 05 V (log. 0) 10 V (log. 1) Obtained at GND operating voltages (GND clamps)
+24 V	Operating voltages +	+24 V 24 V DC \pm 10 % max. Residual ripple 10 %
GND	Operating voltages GND	GND GND

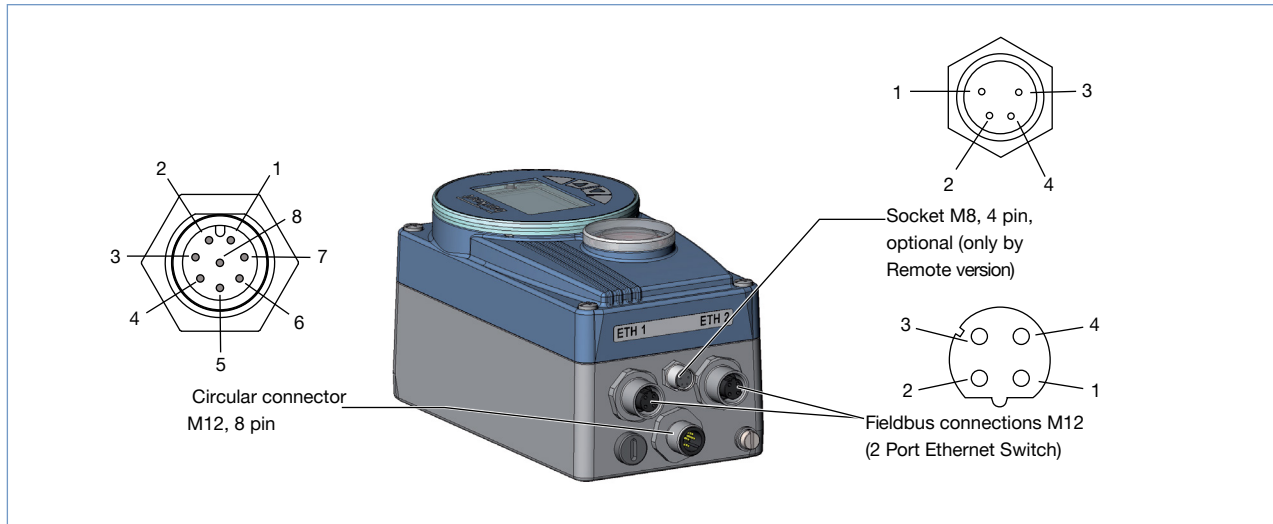
Terminals 1, 2, 3, 4: not connected

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

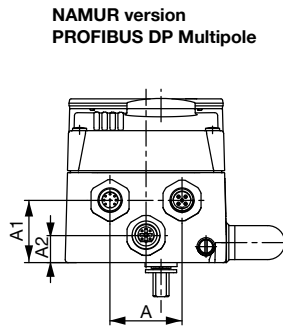
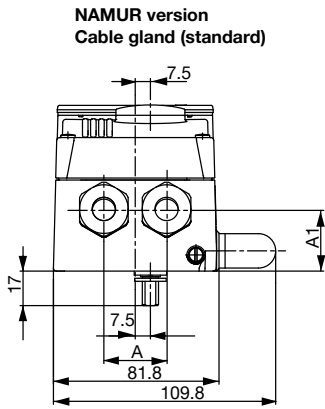
Connections for EtherNet/IP takes place over circular connector M12, 4 pin D-coded

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

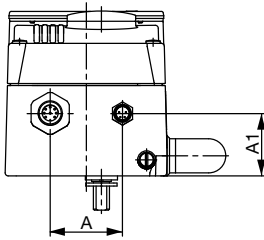
Operating system - circular connector M12, 8 pin

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

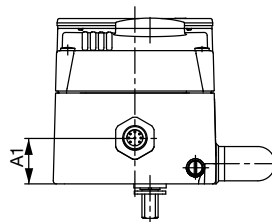
Dimensions – Type 8792 [mm]



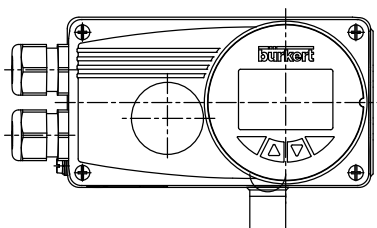
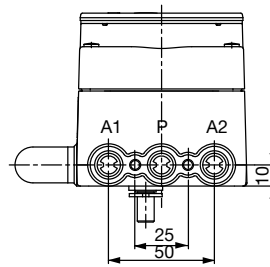
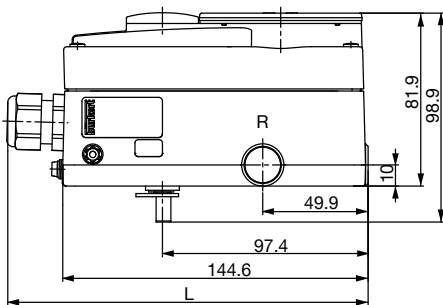
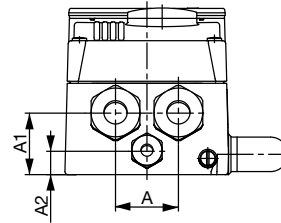
**NAMUR version
Multipole with Binary outputs**



**NAMUR version
Multipole**

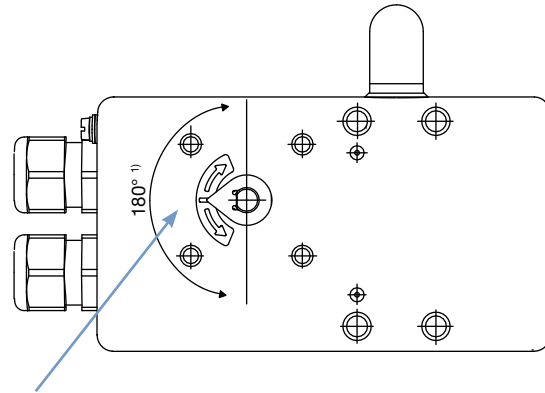


**Remote version
cable gland**



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

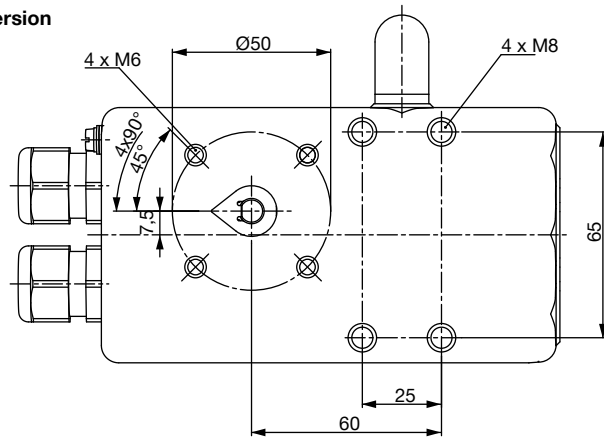
Dimensions – Type 8792 [mm], continued



The rotation angle of the sensor must be within a range of 180° ¹⁾

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

Standard Version



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

Ordering chart – ASME clamp 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"	98136648	98136664	98136680	98136696	98136712	98136728
3/4"	98136649	98136665	98136681	98136697	98136713	98136729
1"	98136650	98136666	98136682	98136698	98136714	98136730
1 1/2"	98136651	98136667	98136683	98136699	98136715	98136731
2"	98136652	98136668	98136684	98136700	98136716	98136732
2 1/2"	98136653	98136669	98136685	98136701	98136717	98136733
3"	98136654	98136670	98136686	98136702	98136718	98136734
4"	98136655	98136671	98136687	98136703	98136719	98136735

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"	98136744	98136760	98136776	98136792	98136808	98136824
3/4"	98136745	98136761	98136777	98136793	98136809	98136825
1"	98136746	98136762	98136778	98136794	98136810	98136826
1 1/2"	98136747	98136763	98136779	98136795	98136811	98136827
2"	98136748	98136764	98136780	98136796	98136812	98136828
2 1/2"	98136749	98136765	98136781	98136797	98136813	98136829
3"	98136750	98136766	98136782	98136798	98136814	98136830
4"	98136751	98136767	98136783	98136799	98136815	98136831

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"	98136840	98136856	98136872	98136888	98136904	98136920
3/4"	98136841	98136857	98136873	98136889	98136905	98136921
1"	98136842	98136858	98136874	98136890	98136906	98136922
1 1/2"	98136843	98136859	98136875	98136891	98136907	98136923
2"	98136844	98136860	98136876	98136892	98136908	98136924
2 1/2"	98136845	98136861	98136877	98136893	98136909	98136925
3"	98136846	98136862	98136878	98136894	98136910	98136926
4"	98136847	98136863	98136879	98136895	98136911	98136927

Size	With pneumatic actuator PID control 60° V-ball Burkert CAN OPEN
1/2"	98111727
3/4"	98111728
1"	98111729
1 1/2"	98111730
2"	98111731
2 1/2"	98111732
3"	98111733
4"	98111734

Ordering chart – ASME clamp 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"	98136656	98136672	98136688	98136704	98136720	98136736
3/4"	98136657	98136673	98136689	98136705	98136721	98136737
1"	98136658	98136674	98136690	98136706	98136722	98136738
1 1/2"	98136659	98136675	98136691	98136707	98136723	98136739
2"	98136660	98136676	98136692	98136708	98136724	98136740
2 1/2"	98136661	98136677	98136693	98136709	98136725	98136741
3"	98136662	98136678	98136694	98136710	98136726	98136742
4"	98136663	98136679	98136695	98136711	98136727	98136743

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"	98136752	98136768	98136784	98136800	98136816	98136832
3/4"	98136753	98136769	98136785	98136801	98136817	98136833
1"	98136754	98136770	98136786	98136802	98136818	98136834
1 1/2"	98136755	98136771	98136787	98136803	98136819	98136835
2"	98136756	98136772	98136788	98136804	98136820	98136836
2 1/2"	98136757	98136773	98136789	98136805	98136821	98136837
3"	98136758	98136774	98136790	98136806	98136822	98136838
4"	98136759	98136775	98136791	98136807	98136823	98136839

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"	98136848	98136864	98136880	98136896	98136912	98136928
3/4"	98136849	98136865	98136881	98136897	98136913	98136929
1"	98136850	98136866	98136882	98136898	98136914	98136930
1 1/2"	98136851	98136867	98136883	98136899	98136915	98136931
2"	98136852	98136868	98136884	98136900	98136916	98136932
2 1/2"	98136853	98136869	98136885	98136901	98136917	98111724
3"	98136854	98136870	98136886	98136902	98136918	98111725
4"	98136855	98136871	98136887	98136903	98136919	98111726

Size	With pneumatic actuator PID control 60° V-ball Burkert CAN OPEN
1/2"	98111735
3/4"	98111736
1"	98111737
1 1/2"	98111738
2"	98111739
2 1/2"	98111740
3"	98111741
4"	98111742

Ordering chart – ASME tube 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"	98136344	98136360	98136376	98136392	98136408	98136424
3/4"	98136345	98136361	98136377	98136393	98136409	98136425
1"	98136346	98136362	98136378	98136394	98136410	98136426
1 1/2"	98136347	98136363	98136379	98136395	98136411	98136427
2"	98136348	98136364	98136380	98136396	98136412	98136428
2 1/2"	98136349	98136365	98136381	98136397	98136413	98136429
3"	98136350	98136366	98136382	98136398	98136414	98136430
4"	98136351	98136367	98136383	98136399	98136415	98136431

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"	98136440	98136456	98136472	98136488	98136504	98136520
3/4"	98136441	98136457	98136473	98136489	98136505	98136521
1"	98136442	98136458	98136474	98136490	98136506	98136522
1 1/2"	98136443	98136459	98136475	98136491	98136507	98136523
2"	98136444	98136460	98136476	98136492	98136508	98136524
2 1/2"	98136445	98136461	98136477	98136493	98136509	98136525
3"	98136446	98136462	98136478	98136494	98136510	98136526
4"	98136447	98136463	98136479	98136495	98136511	98136527

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"	98136536	98136552	98136568	98136584	98136600	98136616
3/4"	98136537	98136553	98136569	98136585	98136601	98136617
1"	98136538	98136554	98136570	98136586	98136602	98136618
1 1/2"	98136539	98136555	98136571	98136587	98136603	98136619
2"	98136540	98136556	98136572	98136588	98136604	98136620
2 1/2"	98136541	98136557	98136573	98136589	98136605	98136621
3"	98136542	98136558	98136574	98136590	98136606	98136622
4"	98136543	98136559	98136575	98136591	98136607	98136623

Size	With pneumatic actuator PID control 60° V-ball Burkert CAN OPEN
1/2"	98136632
3/4"	98136633
1"	98136634
1 1/2"	98136635
2"	98136636
2 1/2"	98136637
3"	98136638
4"	98136639

Ordering chart – ASME tube 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"	98136352	98136368	98136384	98136400	98136416	98136432
3/4"	98136353	98136369	98136385	98136401	98136417	98136433
1"	98136354	98136370	98136386	98136402	98136418	98136434
1 1/2"	98136355	98136371	98136387	98136403	98136419	98136435
2"	98136356	98136372	98136388	98136404	98136420	98136436
2 1/2"	98136357	98136373	98136389	98136405	98136421	98136437
3"	98136358	98136374	98136390	98136406	98136422	98136438
4"	98136359	98136375	98136391	98136407	98136423	98136439

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"	98136448	98136464	98136480	98136496	98136512	98136528
3/4"	98136449	98136465	98136481	98136497	98136513	98136529
1"	98136450	98136466	98136482	98136498	98136514	98136530
1 1/2"	98136451	98136467	98136483	98136499	98136515	98136531
2"	98136452	98136468	98136484	98136500	98136516	98136532
2 1/2"	98136453	98136469	98136485	98136501	98136517	98136533
3"	98136454	98136470	98136486	98136502	98136518	98136534
4"	98136455	98136471	98136487	98136503	98136519	98136535

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"	98136544	98136560	98136576	98136592	98136608	98136624
3/4"	98136545	98136561	98136577	98136593	98136609	98136625
1"	98136546	98136562	98136578	98136594	98136610	98136626
1 1/2"	98136547	98136563	98136579	98136595	98136611	98136627
2"	98136548	98136564	98136580	98136596	98136612	98136628
2 1/2"	98136549	98136565	98136581	98136597	98136613	98136629
3"	98136550	98136566	98136582	98136598	98136614	98136630
4"	98136551	98136567	98136583	98136599	98136615	98136631

Size	With pneumatic actuator PID control 60° V-ball Burkert CAN OPEN
1/2"	98136640
3/4"	98136641
1"	98136642
1 1/2"	98136643
2"	98136644
2 1/2"	98136645
3"	98136646
4"	98136647

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