

Dosing Ball Valve ProfiDos 101

safefloat ball, radial mounting and removal
one-piece, compact design



Application

- chemical plants
- water treatment
- galvano technics

Utilisation

- for exact dosing of fluids

Dosing range

- 0° to 180°
- scale graduation 5°

Flow media

- Neutral and aggressive media free of solid particles, provided that the valve components getting in contact with the media are resistant at the operating temperature according to the ASV resistance guide.

Examinations

- Requirements and examinations according to DIN 3441, 3442, 8063. DIN EN 12266, leak rate A examined.

Nominal pressure (H₂O, 20°C)

- PVC-U: PN 16
- PP: PN 10

Media temperature

- see pressure/temperature diagram

Operating pressure

- see pressure/temperature diagram

Size

- DN 15 - DN 50

Body, ball, stem

- PVC-U or PP

Ball seat

- PTFE

Sealings

- EPDM or FPM

Actuation

- manual valve with T-handle, also as position indicator
- with electrical positioner

Connection

- DIN 8063 union socket ends for solvent welding DIN/ISO (PVC-U)
- DIN 8063 union socket ends for fusion welding and/or short spigot ends for fusion welding DIN/ISO (PP, PE)
- union ends acc. to BS, ANSI or JIS on request

Mounting

- variable

Flow direction

- direction of flow always in direction of arrow

Option

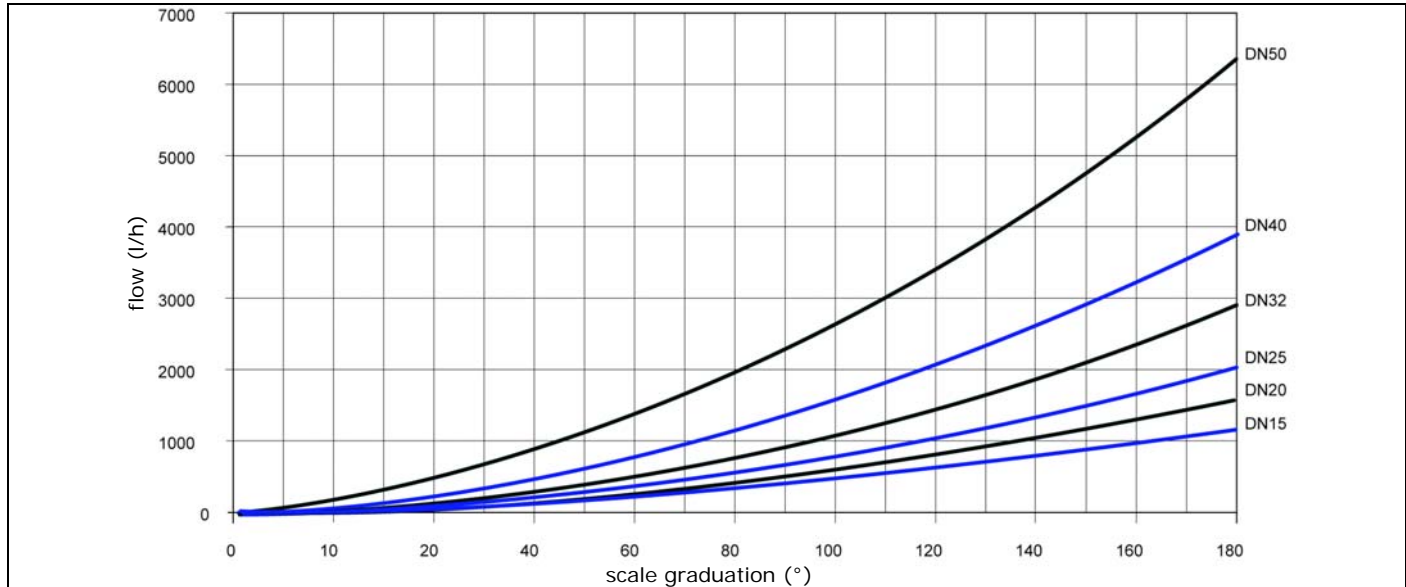
- bracket

Colour

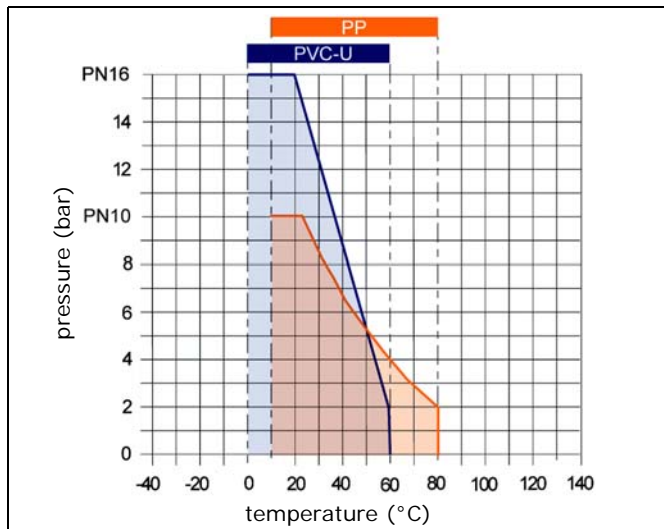
- body
 - PVC-U: grey, RAL 7011
 - PP: grey, RAL 7032
- T-handle
 - PVC-U: orange, RAL 2004

Ball Valve ProfiDos 101

Flow Q at Δp 1 bar



Pressure/temperature diagram



The pressure/temperature limits are applicable for a computed operating life factor of 25 years at PN 10 (PP) and PN 16 (PVC-U).

The values are a guide for harmless media (DIN 2403) the material of the valve is resistant against.

For other media see the ASV resistance guide.

Durability of wear and tear parts is depending on the operating conditions of the application.

Values below 0°C (PP < +10°C) on request with exact data of operation.

Torque Nm (standard value)

d (mm)	20	25	32	40	50	63
PVC-U	2.5	3.6	4.5	6.2	8.5	11.0
PP	2.0	3.0	4.0	5.8	8.0	10.3

The stated torques are approximate values.

They have been determined as follows.

Operating pressure $p = 10.0$ bar (PP) and $p = 16$ bar (PVC-U) with H_2O , 20°C.

Depending on the fluid the respective value can be higher or lower.

Operating instructions

ATTENTION

Safe operation of the valve can only be ensured if it is properly installed, operated, serviced or repaired by qualified personnel according to its intended use while observing the accident prevention regulations, safety regulations, relevant standards and technical regulations or data sheets like DIN, DIN EN, DIN ISO and DVS* for example.

The intended use includes adhering to the specified limit values for pressure and temperature as well as the chemical resistance referring to the operating conditions.

For this purpose, ensure that all components getting in contact with the media are **"resistant"** in accordance with the ASV resistance guide.

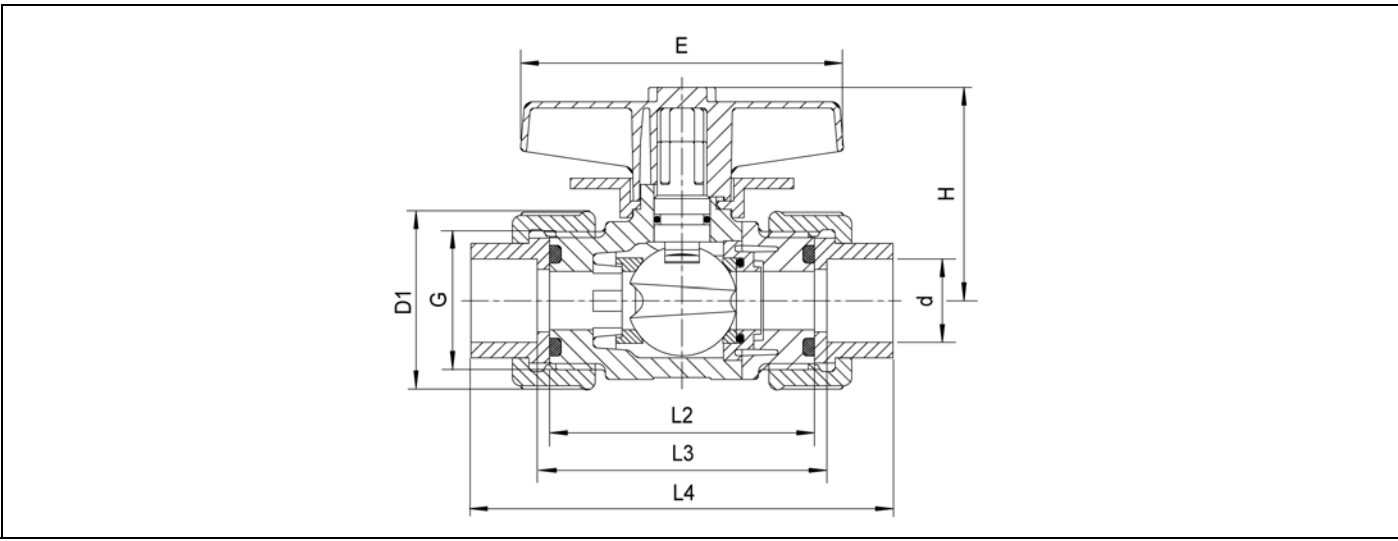
Non-observance of the specified information and safety instructions may lead to injuries and/or property damages. ✓

*DVS = German Association for Welding Technology

ATTENTION

For operation in potentially explosive areas adhere to the data sheet 330550 »Ball valves for explosion endangered areas«. ✓

Ball Valve ProfiDos 101 »manual«



dimension	d (mm)	20	25	32	40	50	63
	DN (mm)	15	20	25	32	40	50
	DN (inch)	1/2	3/4	1	1 1/4	1 1/2	2
PVC-U	PN (bar)	16	16	16	16	16	16
PP	PN (bar)	10	10	10	10	10	10
	dk	13.5	18.0	23.5	30.5	38.5	49.0
PVC-U	D1	41.0	51.0	58.0	72.0	80.0	100.0
PP	D1	46.0	56.0	66.0	79.0	87.0	107.0
	E	68.0	78.0	88.0	98.0	108.0	118.0
	G (inch)	1	1 1/4	1 1/2	2	2 1/4	2 3/4
	H	51.0	61.0	70.0	81.0	90.0	110.0
PVC-U	L1	174.0	186.0	191.0	202.0	205.0	225.0
PP	L1	173.0	185.0	189.0	201.0	205.0	225.0
PVC-U	L2	64.0	76.0	81.0	92.0	95.0	115.0
PP	L2	63.0	75.0	79.0	91.0	95.0	115.0
PVC-U	L3	70.0	82.0	87.0	98.0	101.0	121.0
PP	L3	69.0	81.0	85.0	97.0	101.0	121.0
PVC-U	L4	102.0	120.0	131.0	150.0	163.0	197.0
PP	L4	98.0	113.0	121.0	138.0	148.0	176.0
weight (kg)							
PVC-U socket	PVC-U	0.16	0.27	0.38	0.68	0.98	1.68
PP socket	PP	0.13	0.20	0.29	0.47	0.74	1.17

Ident number

body PVC-U	d (mm)	20	25	32	40	50	63
connection							
sealing							
PVC-U socket	PTFE-EPDM	132661	132662	132663	132664	132665	132666
PVC-U socket	PTFE-FPM	132673	132674	132675	132676	132677	132678
<hr/>							
body PP	d (mm)	20	25	32	40	50	63
connection							
sealing							
PP socket	PTFE-EPDM	132667	132668	132669	132670	132671	132672
PP socket	PTFE-FPM	132679	132680	132681	132682	132683	132684

Ball Valve ProfiDos 101 »electric«

Voltage

- 230 V AC 50/60 Hz
- 24 V AC/DC

Running time 90° /180°

- ER20 20/40 sec.

Control range

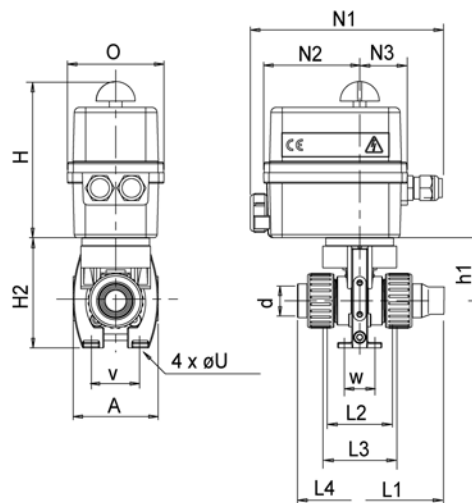
0 - 180°

Actuator mounting set/coupling/bracket

- PA, glass fibre reinforced

Screws

- V2A



dimension	d (mm)	20	25	32	40	50	63
	DN (mm)	15	20	25	32	40	50
	DN (inch)	1/2	3/4	1	1 1/4	1 1/2	2
PVC-U	PN (bar)	16	16	16	16	16	16
PP	PN (bar)	10	10	10	10	10	10
actuator type		ER20	ER20	ER20	ER20	ER20	ER20
running time 180°	s	40	40	40	40	40	40
	A	78.0	82.0	104.0	102.0	130	134.0
	dk	13.5	18.0	23.5	30.5	38.5	49.0
PVC-U	D1	41.0	51.0	58.0	72.0	80.0	100.0
PP	D1	46.0	56.0	66.0	79.0	87.0	107.0
	H	147.0	147.0	147.0	147.0	147.0	147.0
	h1	50.0	60.0	66.0	74.0	95.5	104.0
	H2	97.0	105.0	128.0	128.0	189.0	193.0
PVC-U	L1	174.0	186.0	191.0	202.0	205.0	225.0
PP	L1	173.0	185.0	189.0	201.0	205.0	225.0
PVC-U	L2	64.0	76.0	81.0	92.0	95.0	115.0
PP	L2	63.0	75.0	79.0	91.0	95.0	115.0
PVC-U	L3	70.0	82.0	87.0	98.0	101.0	121.0
PP	L3	69.0	81.0	85.0	97.0	101.0	121.0
PVC-U	L4	102.0	120.0	131.0	150.0	163.0	197.0
PP	L4	98.0	113.0	121.0	138.0	148.0	176.0
	N1	189.0	189.0	189.0	189.0	189.0	189.0
	N2	91.0	91.0	91.0	91.0	91.0	91.0
	N3	45.0	45.0	45.0	45.0	45.0	45.0
	O	92.0	92.0	92.0	92.0	92.0	92.0
	U	5.5	5.5	5.5	5.5	5.5	5.5
	v ±5mm	44.0	47.0	58.0	51.0	90.0	88.0
	w	30.0	30.0	30.0	30.0	30.0	30.0
weight (kg)							
PVC-U/socket		1.86	1.97	2.08	2.38	2.68	3.38
PP/socket		1.83	1.90	1.99	2.17	2.44	2.87



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Ball Valve ProfiDos 101 »electric«

Possible actuator variants

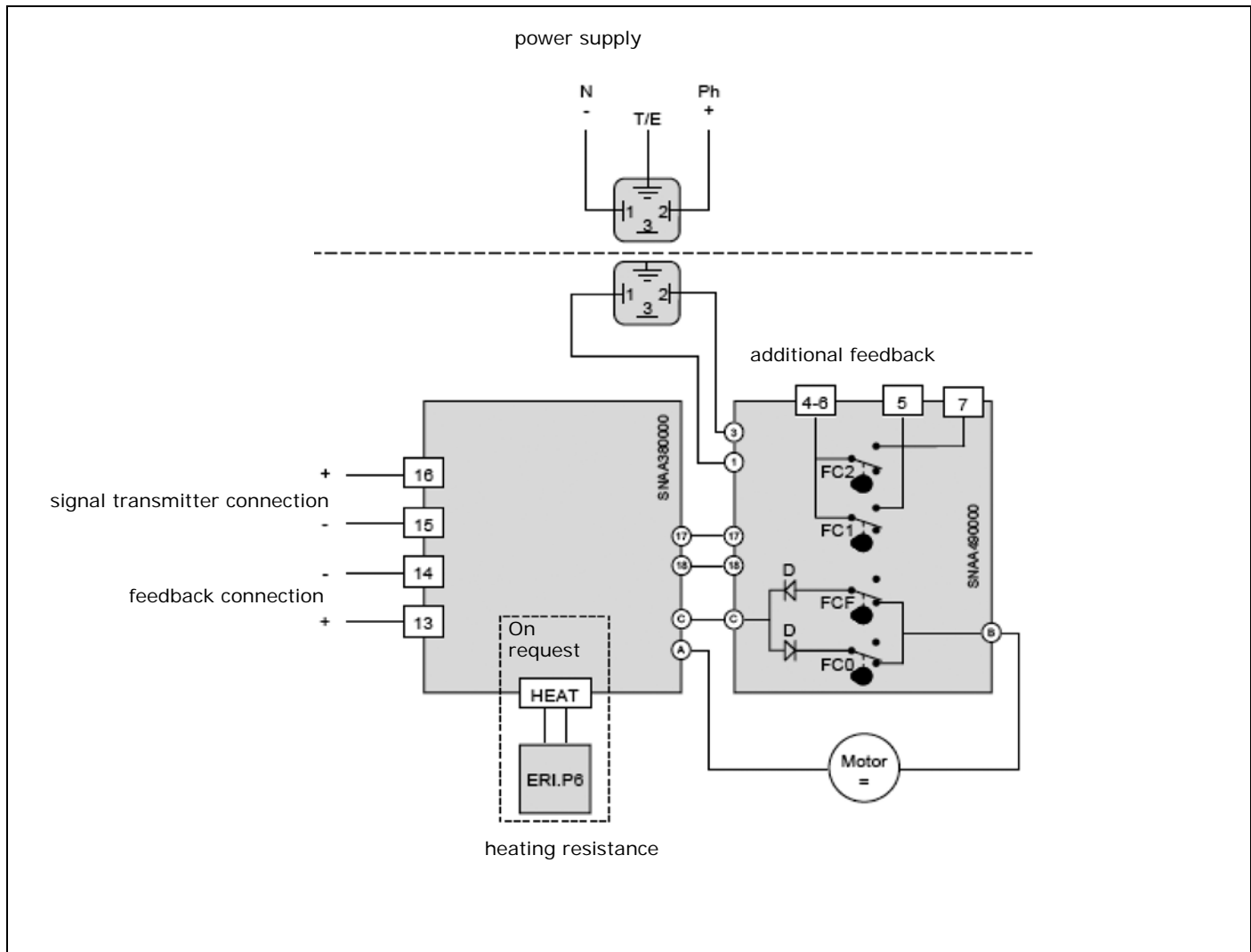
positioner version
type »ER-line«
connection with PG union and DIN 43650 connection plug
4 adjustable limit switches, 2 of which are freely assignable
manual emergency control
internal torque limiter
visual position indicator
duty cycle: 50%
protection type: IP 65
temperature: -10°C to +55°C
input/output: 0...20 mA / 4...20 mA / 0...10 V (programmable)
voltage: please refer to »Technical data«
running time: please refer to »Technical data«

Technical data

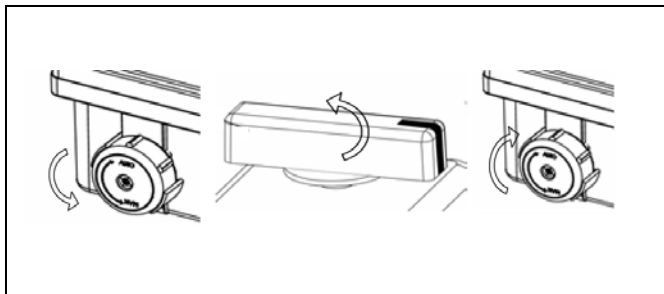
actuator	type		
rated load torque	Nm	20	20
voltage	V	100 - 240 V AC	24 V AC/DC
running time 90°/180°	sec	20/40	20/40

Ball Valve ProfiDos 101 »electric«

Electrical connection, type ER20



Type ER20



Manual emergency control

The valve can be manually operated in the event of an interruption of the power supply.

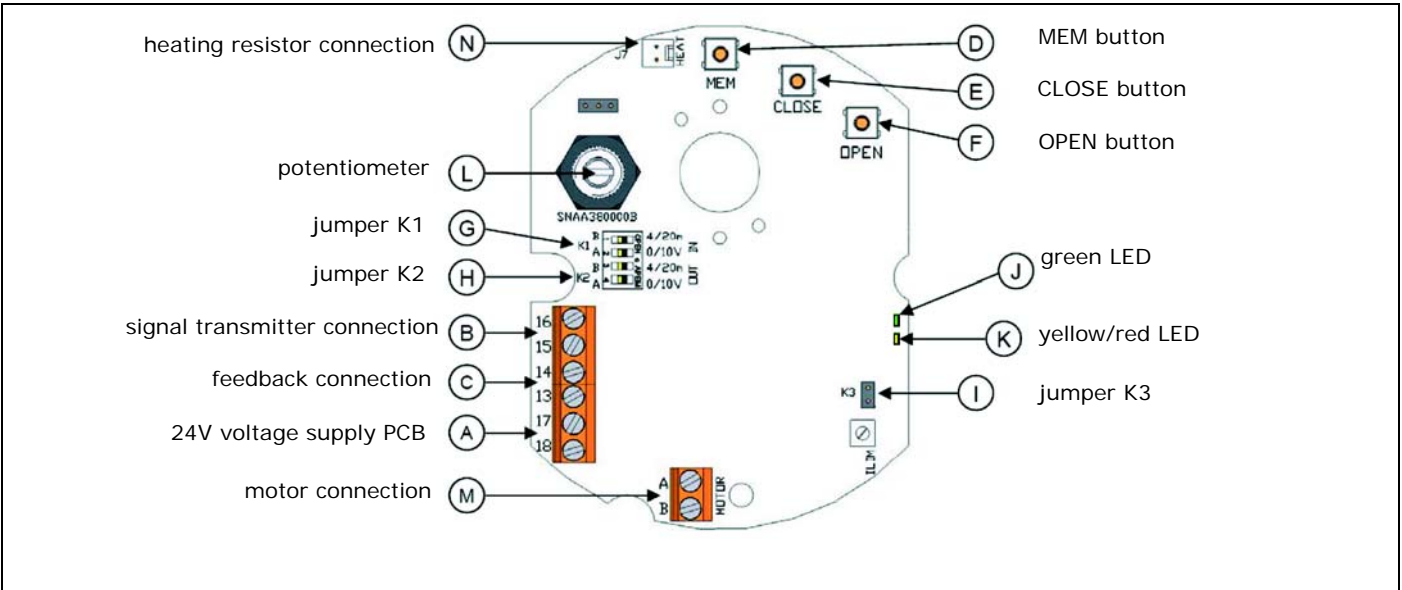
To allow manual emergency control, turn the coupling switch from »AUTO« to »MANU« and hold in the »MANU« position.

Use the lever to turn the actuator shaft.

Release the coupling switch to re-engage the gearing.

Ball Valve ProfiDos 101 »electric«

Parametrization steps



ATTENTION

Prior to performing any adjustments, always disconnect the voltage supply plug from the actuator! ✓



1. Defining the direction of rotation

1.1 Normal direction of rotation (preset)

- Press the »OPEN« button, connect the voltage supply plug to the actuator while keeping the button pressed,
- the green LED lights up. Release the »OPEN« button,
- disconnect the plug from the actuator for 5 seconds, then reconnect.

1.2 Reverse direction of rotation

- Press the »CLOSE« button, connect the voltage supply plug to the actuator while keeping the button pressed,
- the red LED lights up. Release the »CLOSE« button,
- disconnect the plug from the actuator for 5 seconds, then reconnect.



2. Defining the feedback

2.1 Feedback at voltage 0...10 V

- Press the »MEM« button, connect the voltage supply plug to the actuator while keeping the button pressed,
- the red LED flashes three times. Release the button,
- disconnect the plug from the actuator for 5 seconds, then reconnect.



2.2 Feedback at current 0...20 mA

- Press the »MEM« and »OPEN« buttons, connect the voltage supply plug to the actuator while keeping the button pressed,
- the red LED flashes three times. Release the buttons,
- disconnect the plug from the actuator for 5 seconds, then reconnect.



2.3 Feedback at current 4...20 mA (preset)

- Press the »MEM« and »CLOSE« buttons, connect the voltage supply plug to the actuator while keeping the button pressed,
- the red LED flashes three times. Release the buttons,
- disconnect the plug from the actuator for 5 seconds, then reconnect.





3. Learning mode (setting »OPEN/CLOSE« limits)

- Press the »OPEN« and »CLOSE« buttons, connect the voltage supply plug to the actuator while keeping the button pressed,
- the two LEDs light up. Release the button, the two LEDs extinguish.
- The learning mode is selected.

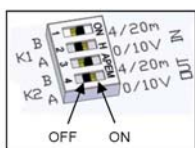
- Press the »CLOSE« button to close the valve.
- The red LED lights up.
- Save the closed position by pressing the »MEM« and »CLOSE« buttons, the red LED flashes three times as an acknowledgement.

- Press the »OPEN« button to open the valve.
- The green LED lights up.
- Save the opened position by pressing the »MEM« and »OPEN« buttons, the green LED flashes three times as an acknowledgement.
- The positions are saved, disconnect the plug from the actuator for 5 seconds, then reconnect.

4. Position of jumpers K1, K2 and K3

Jumper positioning:

Prior to performing any changes, disconnect the voltage supply plug from the actuator!



input	output	jumper 1		jumper 2		jumper 3
		A	B	A	B	
0...10 V	0...10 V	ON	OFF	ON	OFF	OFF
0...10 V	0...20 mA	ON	OFF	OFF	ON	OFF
0...10 V	4...20 mA	ON	OFF	OFF	ON	ON
0...20 mA	0...10 V	OFF	ON	ON	OFF	OFF
0...20 mA	0...20 mA	OFF	ON	OFF	ON	OFF
0...20 mA	4...20 mA	OFF	ON	OFF	ON	ON
4...20 mA	0...10 V	OFF	ON	ON	OFF	OFF
4...20 mA	0...20 mA	OFF	ON	OFF	ON	OFF
4...20 mA	4...20 mA	OFF	ON	OFF	ON	ON

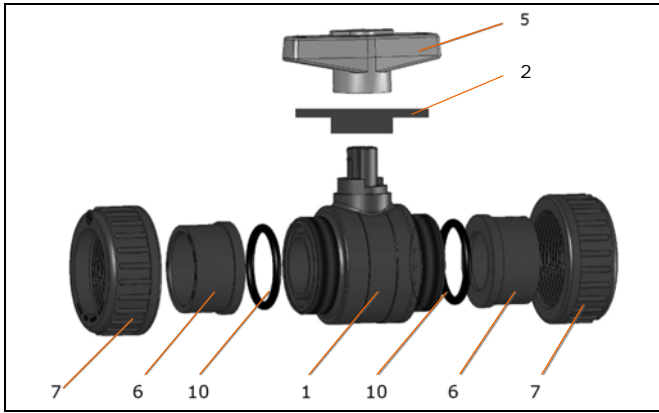
Standard operation

- Connect the voltage supply plug to the actuator. The green LED flashes three times to show that the starting process has been correctly performed.
- In standard operation the green LED lights up when the actuator opens the valve, and the red LED when the actuator closes the valve.
- If neither of the two LEDs lights up, the actuator has not been selected.
- Both LEDs light up and the actuator stops in the event of excessive torque. To restart the actuator it is necessary to change the direction of rotation.

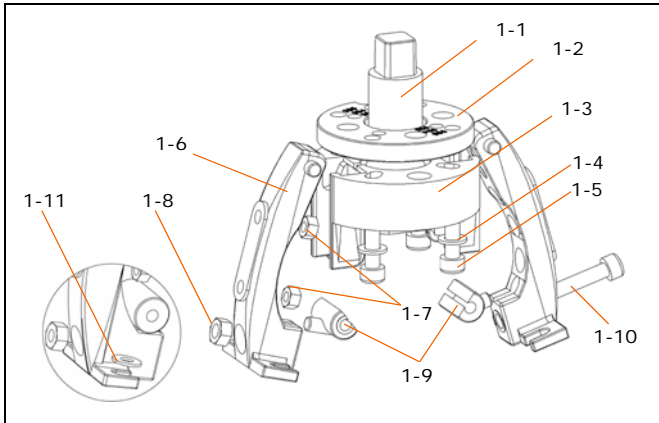


Ball Valve ProfiDos 101 »electric«

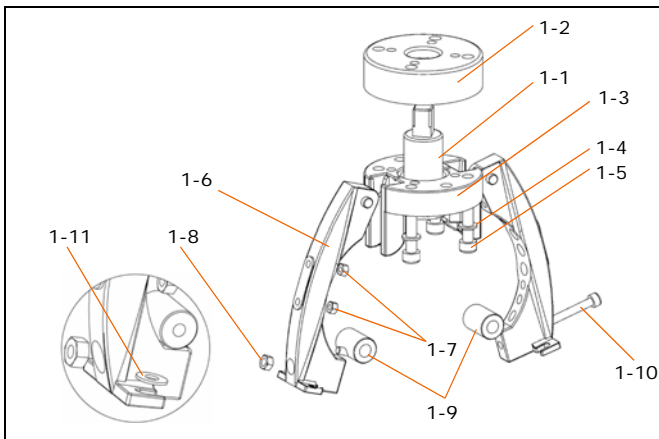
Parts lists and designations



Actuator mounting set DN 10 to DN 32

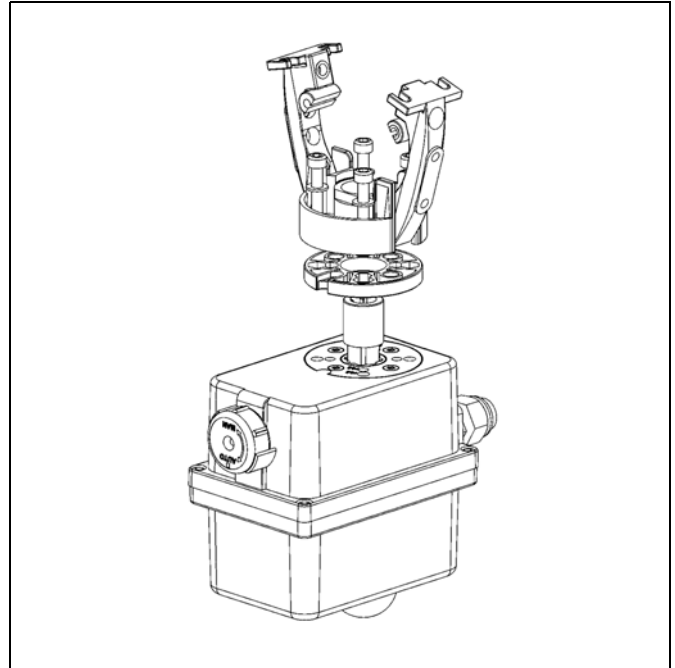


Actuator mounting set DN 40 and DN 50

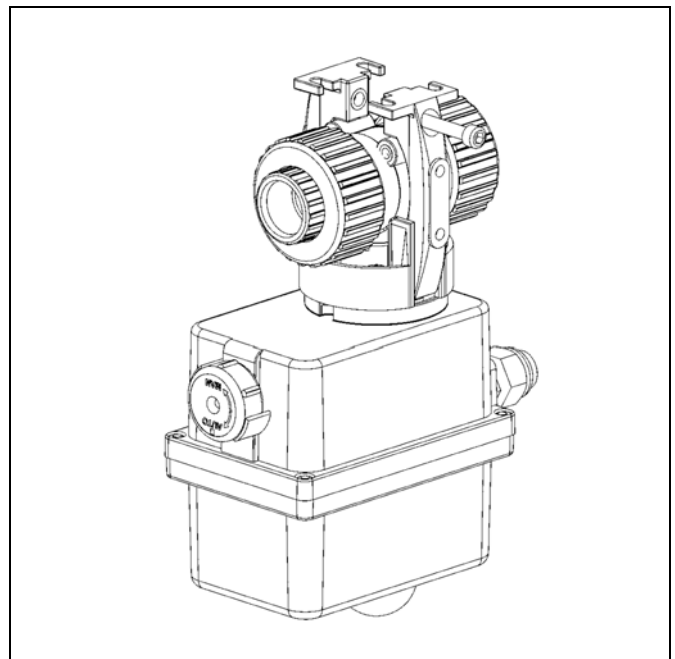


item	qty.	designation
1	1	body
2	1	scale
5	1	T-handle
6	2	union end
7	2	union nut
10	2	O-ring

Assembly: Mounting kit with the actuator



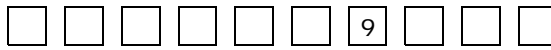
Assembly: Mounting kit with the valve



item	qty.	designation
1-1	1	coupling
1-2	1	spacer plate (DN 20 - DN 32)
1-3	1	plate
1-4	4	washer
1-5	4	hexagonal socket screw M6
1-6	2	flange
1-7	2	hexagonal nut M5
1-8	1	hexagonal nut M6
1-9	2	wedges
1-10	1	hexagonal socket screw M6
1-11	4	washer ø5



Ident number for automated valves



Ident No. manual valve

actuated valve

line

- 0
- ER-line (electric) 1
- V-line (electric) 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9

version

- 0
- 24 V AC/DC 1
- 2
- 3
- 4
- 100-240 V AC/120-350 V DC 5
- 6
- 7
- 8

option (electric)

- 0
- 1
- 2
- 3
- 4
- positioner 5
- 6
- 7
- 8
- 9

Example:

Type: ProfiDos 101, DN 32

Body/housing: PVC-U

Sealing: PTFE-EPDM



Connection: PVC-U socket

Actuator: ER-line, 24 V DC/AC, variable speed actuator 0...180° regulation range

Subject to technical modifications

