DATA SHEET

Type 8804

bürkert
FLUID CONTROL SYSTEMS







2/2 or 3/2 way ball valve with electrical rotary actuator

- High flow rate value
- Actuator with adjustable limit switches
- Visual position indicator

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

Can be combined with

Type description

The electrical ball valve Type 8804 consists of an electrical rotary actuator and a 2/2 or 3/2 way ball valve made of stainless steel. 2-way variants are available with a 2-piece or 3-piece ball valve for various applications. The 3-way ball valves are available in L and T bore version. The rotary actuator is compactly built. Moreover it can be used as single device for the operation of other control elements (see datasheet type 3003). Heat resistors and torque limiters are standard. The body is made of low inflammable material, classified acc. to UL 94 V0.

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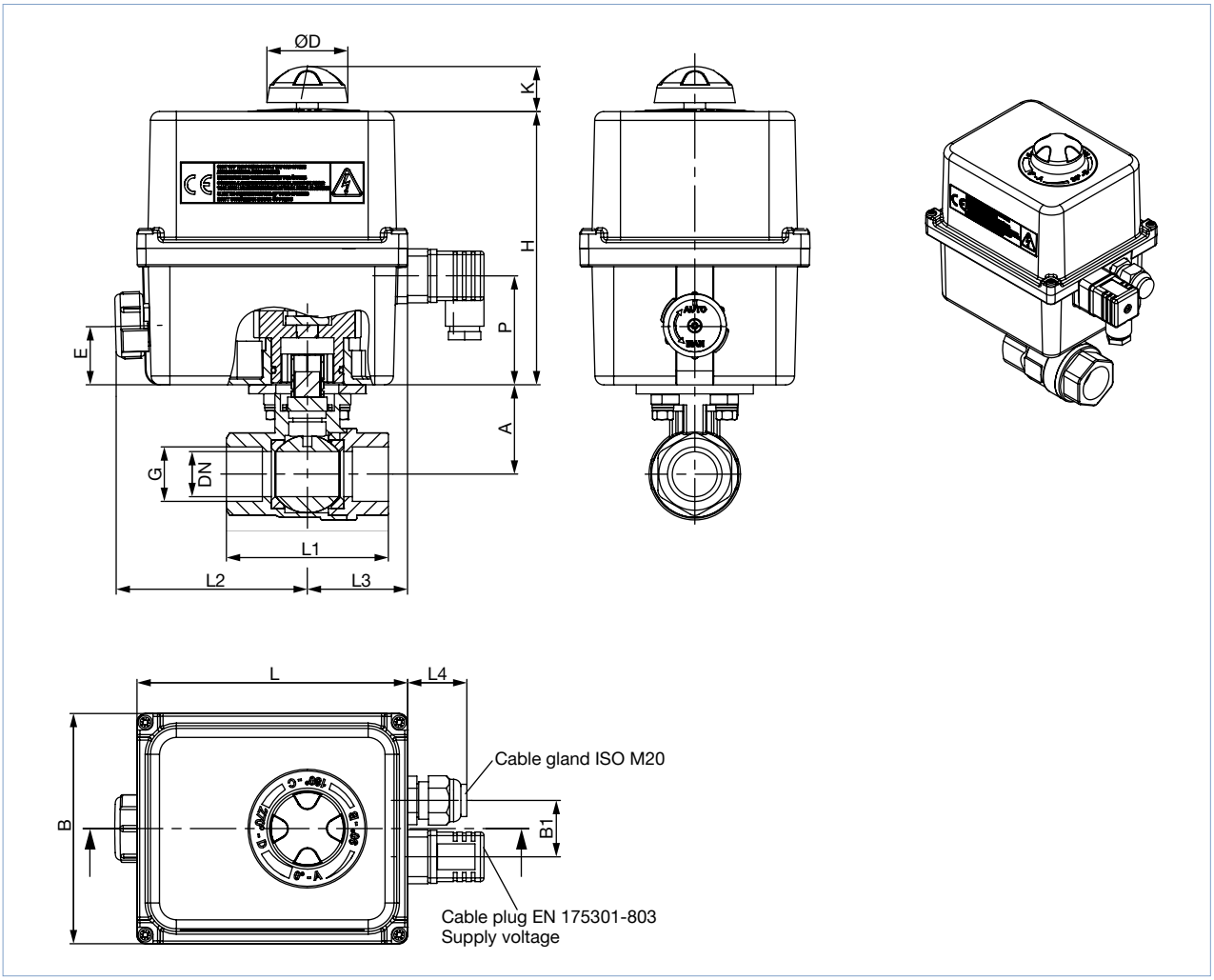
1. General technical data

Product characteristics	
Dimensions	Detailed information can be found in chapter "2. Dimensions" on page 4.
Material	
Body	Stainless steel 1.4408
Seal	PTFE
Material electrical actuator	
Cover/Body	Nylon/PA 6.6
Axis/Screws	Stainless steel
Gear	Stainless steel and PC
Connection between actuator and ball valve	Flange according to ISO 5211
Duty cycle	According to IEC34 S4 = 50 %
Actuating time	Detailed information can be found in chapter "5.3. Ordering chart" on page 9
Limit switches	4 adjustable (2 for the motor and 2 additional ones for feedback) Max. 250 V AC/1.5 A
Electrical data	
Operating voltage	15…30 V AC 50/60 Hz / 12…48 V DC 100…240 V AC 50/60 Hz / 100…350 V DC
Voltage tolerance	±10 % At 12…48 V DC the operating voltage must not drop below 11.5 V
Media data	
Media	Gaseous and liquid media which do not attack the body and seal materials
Media temperature	Depending on the used valve and medium pressure, see "4.1. Pressure temperature diagram for stainless steel ball valves" on page 8. The temperature limit values of the actuators are usually lower than those of the valves. Therefore it has to be ensured, that the temperature limits of other system components (like actuators) do not exeed due to a possible heat radiation from the medium.
Process/Port connection & communication	
Port connection	Rp ¼" - Rp 2½" Whitworth Thread acc. to DIN EN 10226-1 (old DIN 2999) Weld end (on request)
Electrical connection	Cable plug according to EN175301-803 (supply voltage) Cable gland ISO M20
Environment and installation	
Ambient temperature	
For Actuator 3003 Standard	-10 °C…+55 °C
For Actuator 3003 with electronic emergency reset	-10 °C…+40 °C
Rotation angle	90° (±5°)
Installation position	Do not install actuator with the cover face down (upside down)!
Degree of protection	IP66 mounted with cable plug

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2. Dimensions

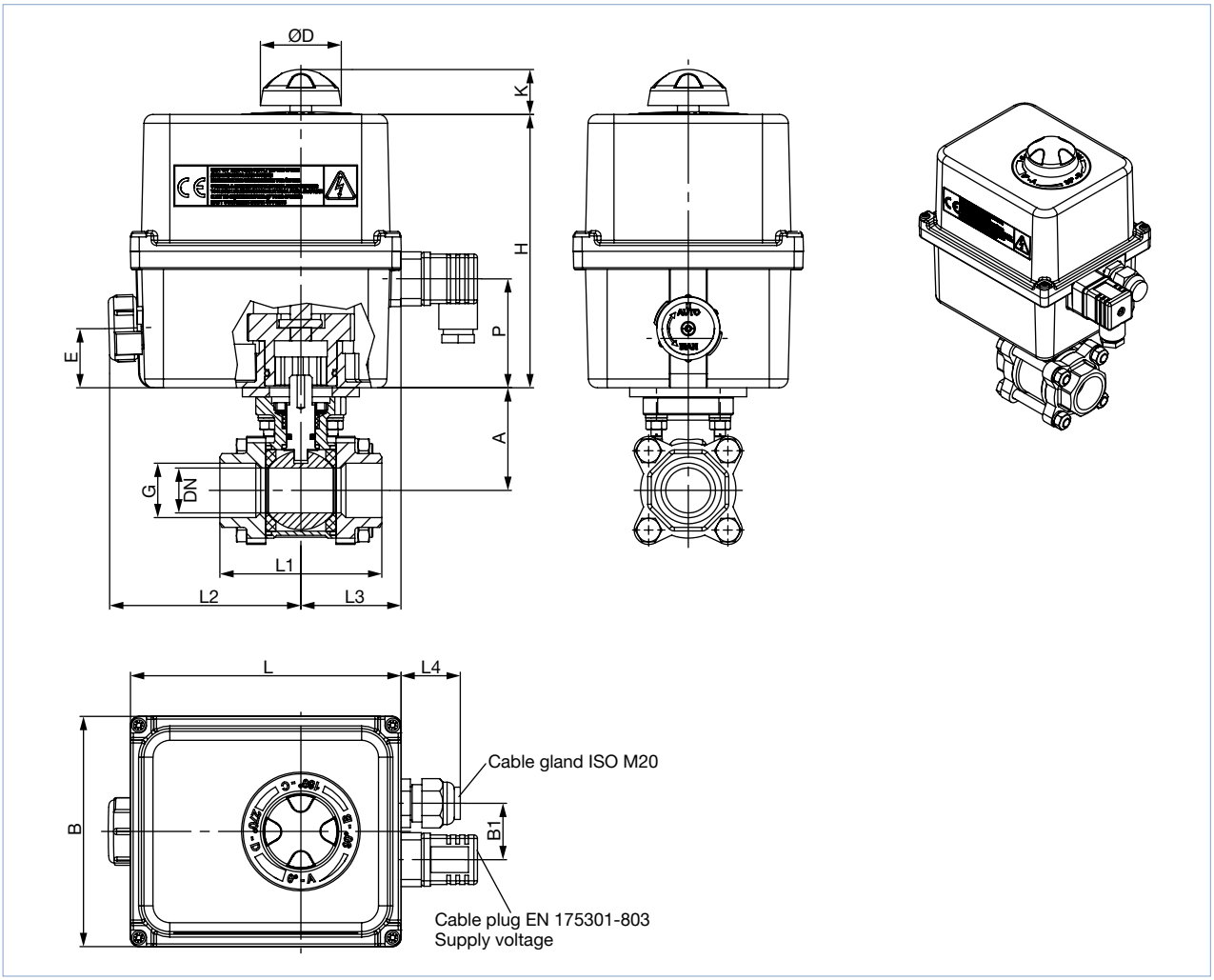
2.1. 2-piece ball valve



Actuator	DN	Port connection	A	B	B1	ØD	E	H	K	L	L1	L2	L3	L4	P
20 Nm	10	¼"	33.2	91.7	30.0	37.1	23.5	123.7	24.5	136.5	50.0	103.6	45.4	29.7	47.0
	13	⅜"	33.2								60.0				
	15	½"	35								75.0				
	20	¾"	41								80.0				
35…100 Nm	10	¼"	44.2	127.7	31.3	37.1	32.5	150.8	25.5	150.3	50.0	106.3	55.7	29.7	60.5
	13	⅜"	44.2								60.0				
	15	½"	46.0								75.0				
	20	¾"	41.0								80.0				
	25	1"	44.5								90.0				
	32	1¼"	49.5								110.0				
	40	1½"	55.0								120.0				
	50	2"	66.5								140.0				
	65	2½"	101.0								185.0				

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2.2. 3-piece ball valve



Actuator	DN	Port connection	A	B	B1	ØD	E	H	K	L	L1	L2	L3	L4	P
20 Nm	10	¼"	40	91.7	30.0	37.1	23.5	123.7	24.5	136.5	65	103.6	45.4	29.7	47.0
	12	⅜"													
	15	½"									75				
	20	¾"	44								80				
35…100 Nm	10	¼"	40	127.7	31.3	37.1	32.5	150.8	25.5	150.3	65	106.3	55.7	29.7	60.5
	12	⅜"													
	15	½"									75				
	20	¾"	44								80				
	25	1"	52								90				
	32	1¼"	58								110				
	40	1½"	68								120				
	50	2"	77								140				
	65	2½"	98								185				

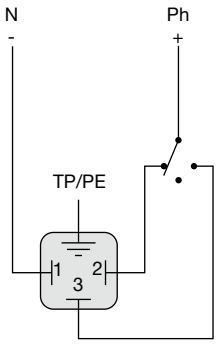
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3. Device / Process connections

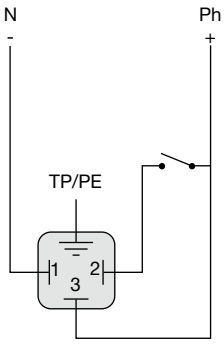
3.1. Connection details

On/Off version

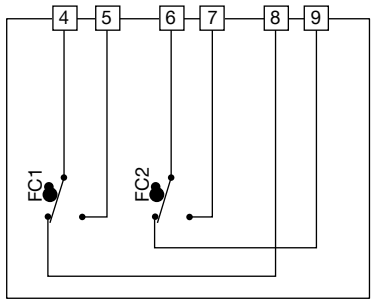
3-point mode



On/Off mode



Feedback



Symbol	Description
FCO	Limit switch OPEN
FCF	Limit switch CLOSED
FC1	Additional limit switch 1
FC2	Additional limit switch 2

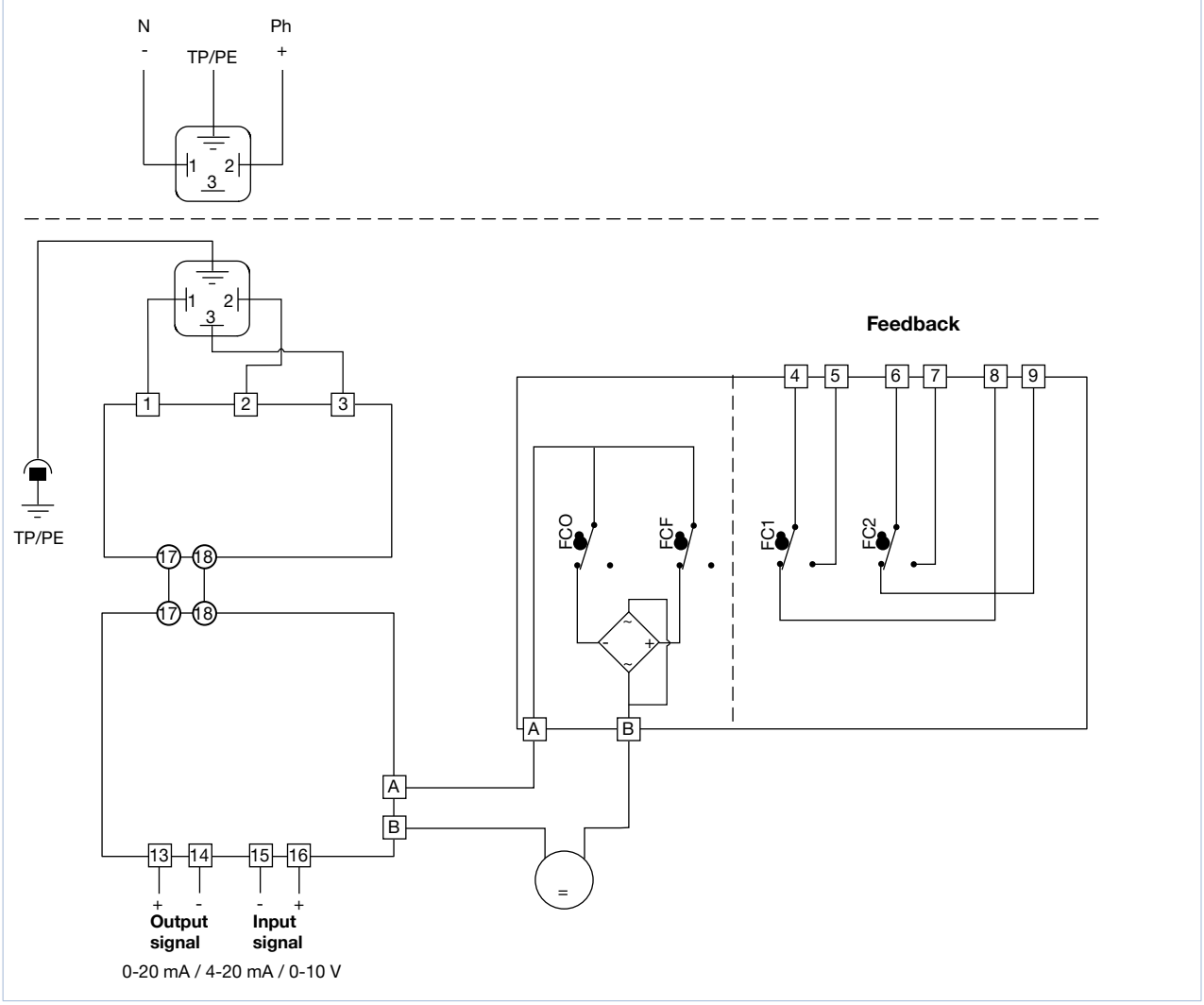
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Version with analogue signal input

Note:

- The resolution of the closed-loop control mode is 1°.
- The input resistance for control 0…10 V is 10 kΩ.
- The input resistance for control 0…20 mA/4…20 mA is 100 Ω.



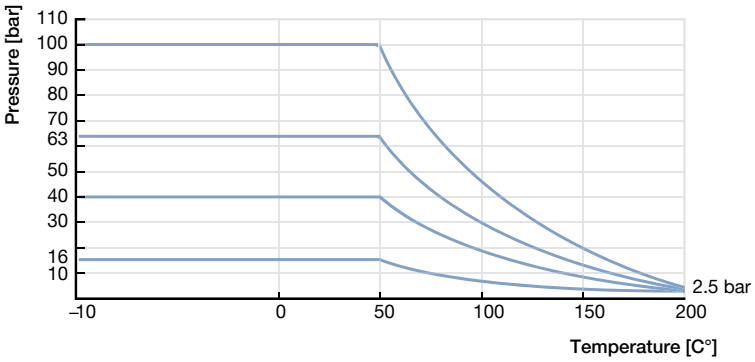
Symbol	Description
FCO	Limit switch OPEN
FCF	Limit switch CLOSED
FC1	Additional limit switch 1
FC2	Additional limit switch 2

4. Performance specifications

4.1. Pressure temperature diagram for stainless steel ball valves

Note:
The temperature limits of the actuators are usually lower. Therefore the lowest temperature limit values of the included system components (ball valve and actuator) must be observed.

For general industrial use



5. Ordering information

5.1. Bürkert eShop – Easy ordering and quick delivery



Bürkert eShop – Easy ordering and fast delivery

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

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5.2. Bürkert product filter



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5.3. Ordering chart

Nominal diameter	Port connection	Flow coefficient water	Pressure range	Actuating time for 90°	Actuator	Voltage[1.]	Article no. 2-piece
[mm]		[m³/h]	[bar]	[s]	[Nm]		
10.0	¼"	7	0…100	012	020	100…240 V AC 50/60 Hz 100…350 V DC	226466
12.7	⅜"	9	0…100	012	020		226468
15.0	½"	19	0…100	012	020		226469
20.0	¾"	46	0…100	007	035		226470
25.0	1"	72	0…100	007	035		226471
32.0	1¼"	105	0…100	012	060		226472
40.0	1½"	170	0…100	023	100		226473
10.0	¼"	7	0…100	012	020	15…30 V AC 50/60 Hz 12…48 V DC	226475
12.7	⅜"	9	0…100	012	020		226476
15.0	½"	19	0…100	012	020		226477
20.0	¾"	46	0…100	007	035		226478
25.0	1"	72	0…100	007	035		226479
32.0	1¼"	105	0…100	012	060		226480
40.0	1½"	170	0…100	023	100		226481

1.) For 12…48 V DC the operating voltage should not go below 11.5 V.

Nominal diameter	Port connection	Flow coefficient water	Pressure range	Actuating time for 90°	Actuator	Voltage[1.]	Article no. 3-piece
[mm]		[m³/h]	[bar]	[s]	[Nm]		
10.0	¼"	7	0…63	012	020	100…240 V AC 50/60 Hz 100…350 V DC	226483
12.7	⅜"	9	0…63	012	020		226484
15.0	½"	19	0…63	012	020		226485
20.0	¾"	46	0…63	012	020		226486
25.0	1"	72	0…63	007	035		226487
32.0	1¼"	105	0…63	007	035		226488
40.0	1½"	170	0…63	012	060		241107
50.0	2"	275	0…63	012	060		226490
10.0	¼"	7	0…63	012	020	15…30 V AC 50/60 Hz 12…48 V DC	226496
12.7	⅜"	9	0…63	012	020		226497
15.0	½"	19	0…63	012	020		226498
20.0	¾"	46	0…63	012	020		226499
25.0	1"	72	0…63	007	035		226500
32.0	1¼"	105	0…63	007	035		225945
40.0	1½"	170	0…63	012	060		241109
50.0	2"	275	0…63	012	060		226502

1.) For 12…48 V DC the operating voltage should not go below 11.5 V.

Further versions on request

Additional

- Position controller with standard signal input 4…20 mA or 0…10 V
- Feedback via potentiometer or 4…20 mA analogue signal
- Slowly rotating version
- 3-position actuator (90° or 180°)
- 3/2 way
- Emergency reset

Port connection

3-piece ball valves also available in versions with NPT thread or weld connection

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5.4. Ordering chart accessories

Conversion sleeves

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

Replacement battery for actuators with electronic emergency reset function

Note:

- The battery has to be replaced every 2 years at the latest or after 500 charging cycles.
- Additional Info for Type 3004: The person who changes the battery must be trained and qualified to do modifications on ATEX products.
- Actuators which do not have an electronic emergency reset when delivered cannot be retrofitted with this.

Description	Article no.
Replacement battery for actuators of Type 3003 with electronic emergency reset function	770051
Replacement battery for actuators of Type 3005 and 3004 (25Nm…300Nm) with electronic emergency reset function	772991

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