

C 10 BALL VALVE

DATASHEET



Nominal size DN 15 - 50

Nominal size in inches 1/2 - 2

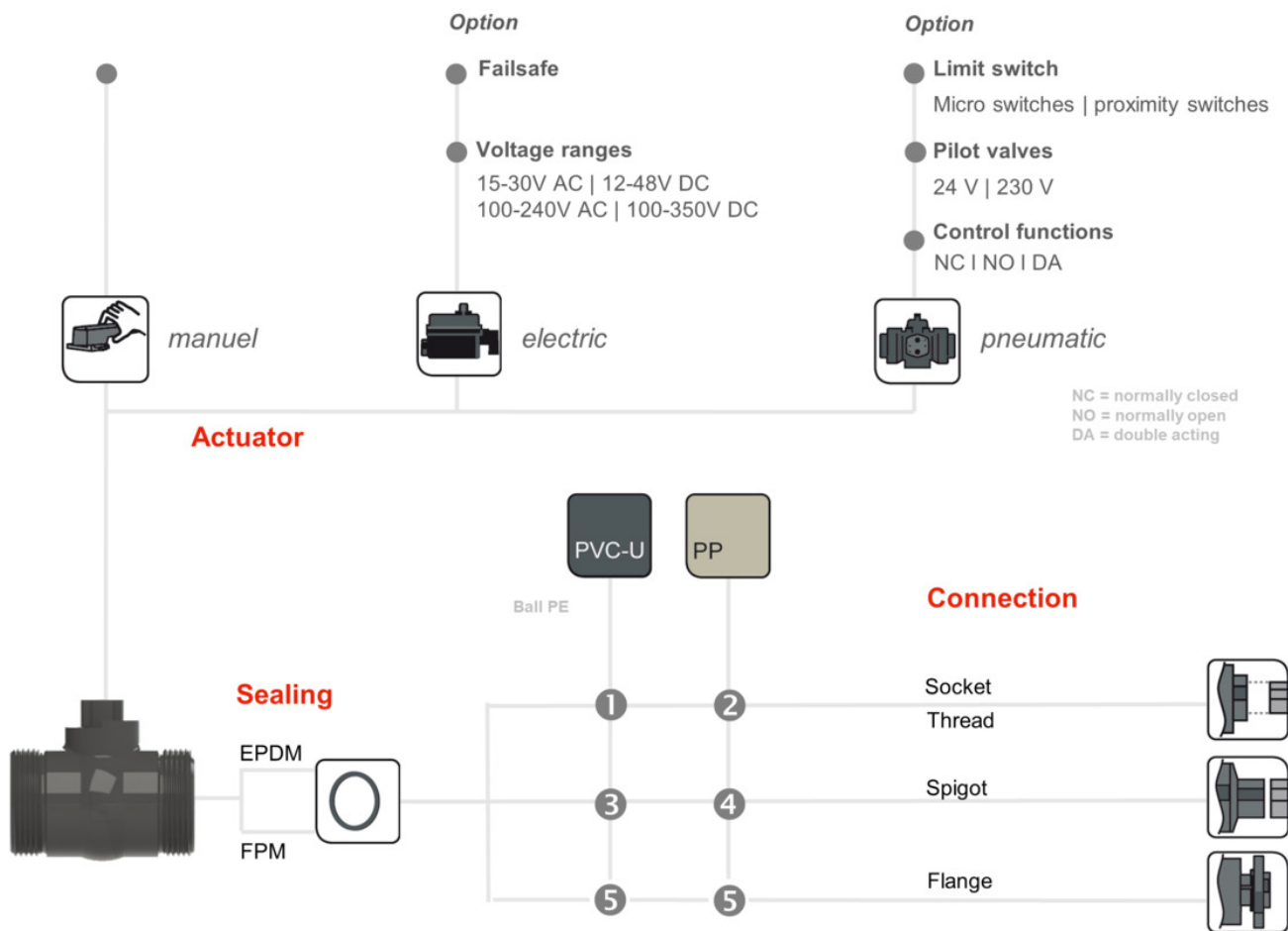
Nominal pressure PN in bar 10

Characteristics

- special ball valve completely moulded in place
- extremely low clearance volume
- high operating reliability - high torque transmission due to generously dimensioned stem
- excellent flow characteristics



Pictogram



● Available
○ not available

Basic nominal diameters

DN 8	DN 10	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100	DN 125	DN 150	DN 200	DN 250	DN 300	DN 350	DN 400
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Connection Material (process connection)

<p>① PVC-U socket DIN, ANSI, BS, JIS female thread Rp 1.4571 female thread Rp</p> <p>② PP socket DIN female thread Rp</p> <p>③ PE100 spigot DIN (95 mm)</p>	<p>④ PP spigot (IR) PE100 spigot DIN (95 mm)</p> <p>⑤ PP/St. flange DIN, ANSI GFK flange DIN</p>
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C 10 Ball Valve

Use	<ul style="list-style-type: none"> - Chemical plant manufacture - Water treatment - Industrial plants - electroplating plants
Application	<ul style="list-style-type: none"> - for shutting off pipeline systems
Connection	<ul style="list-style-type: none"> - union DIN 8063 - GFR flange DIN 2501, PN 10/16, with DIN face-to-face dimension - union socket end for solvent welding DIN ISO (PVC-U) - union socket end for fusion welding DIN ISO (PP) - union spigot end for fusion welding DIN ISO (PP)
Actuator	<ul style="list-style-type: none"> - electric - pneumatic - manual
Process pressure	<ul style="list-style-type: none"> - see pressure-/temperature diagram
Flow medium	<ul style="list-style-type: none"> - Neutral and aggressive fluid media with some solid particles, provided that the valve components coming into contact with the media are resistant at the operating temperature in accordance with the STÜBBE resistance guide.
STÜBBE resistance guide	<ul style="list-style-type: none"> - www.stuebbe.com/pdf_resistance/300051.pdf
Housing material (with medium contact)	<ul style="list-style-type: none"> - PVC-U - PP
Material sealing element (in contact with medium)	<ul style="list-style-type: none"> - FKM+ - EPDM
Material Ball sealing	<ul style="list-style-type: none"> - PTFE
Material Stem	<ul style="list-style-type: none"> - PE (housing PVC-U) - PP (housing PP)
Material Stem	<ul style="list-style-type: none"> - PP - PE
Nominal pressure PN in bar	<ul style="list-style-type: none"> - 10
Flow direction	<ul style="list-style-type: none"> - as required
Colours	<ul style="list-style-type: none"> - Casing: PVC-U, grey RAL 7011 - Casing: PP, grey RAL 7032 - Hand lever: PVC-U, orange, RAL 2004 - GFK flange: black RAL 9011

C 10 Ball Valve

- Mounting position**
 - any
 - do not install the electric drive suspended downwards

- Actuation**
 - hand-operated
 - with electric and pneumatic actuating drive

- Fastening**
 - optionally available with bracket

- Testing**
 - according to DIN 3441, 3442, 8063 and 16962, leakage rate A tested

- CE Conformity**
 - Pressure equipment directive 2014/68/EU

- Accessories**
 - Ball valve bracket

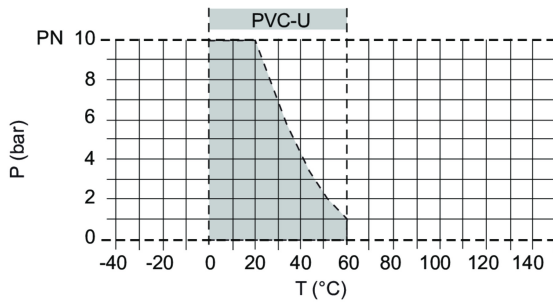
Torque (Nm)

d	20	25	32	40	50	63
DN	15	20	25	32	40	50
DN*	1/2	3/4	1	1,25	1,5	2
PVC-U	4	5	6	8	10	16
PP	4	5	6	8	10	16

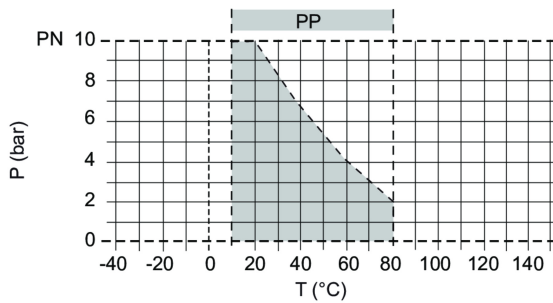
- The specified torques are standard values. They were determined at the specified nominal pressures with H₂O, 20°C. These values can be higher or lower, depending on the operating pressure and the medium.

C 10 Ball Valve

Pressure and temperature diagram PVC-U



Pressure and temperature diagram PP



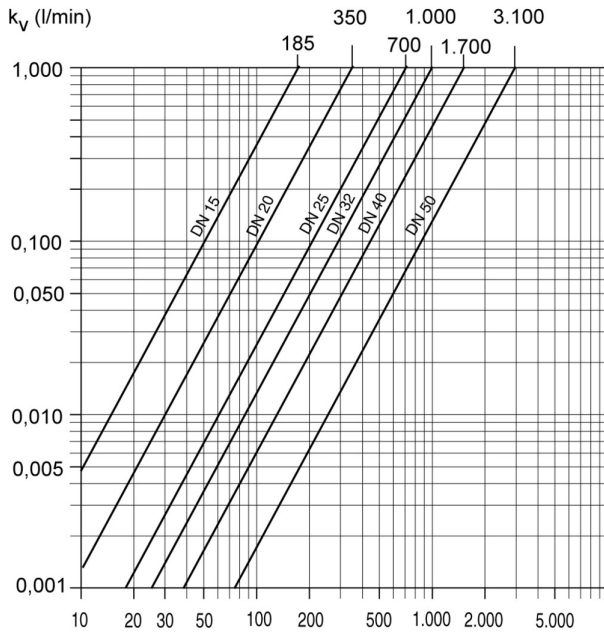
P = Operating pressure

T = Temperature

The pressure/temperature limits of the materials are valid for the stated nominal pressures and a service life of 25 years. These values are guide values for flow medium types which do not negatively impact the physical and chemical characteristics of the valve material. It may be necessary to take diminution factors into consideration.

C 10 Ball Valve

Pressure loss curve (standard values for H₂O, 20°C)



Δp = Pressure loss

Q = Flow

pressure loss and kv value:

The diagram shows the pressure loss ΔP in relation to the flow Q.

Conversion formulas

$$cv = kv \times 0.07$$

$$fv = kv \times 0.0585$$

Units:

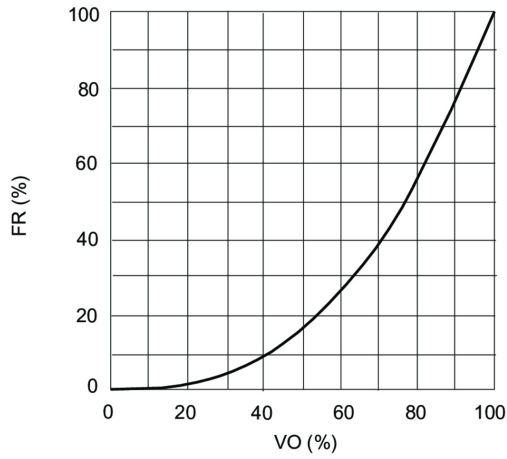
kv [l/min]

cv [gal/min] US

fv [gal/min] GB

C 10 Ball Valve

Flow characteristic

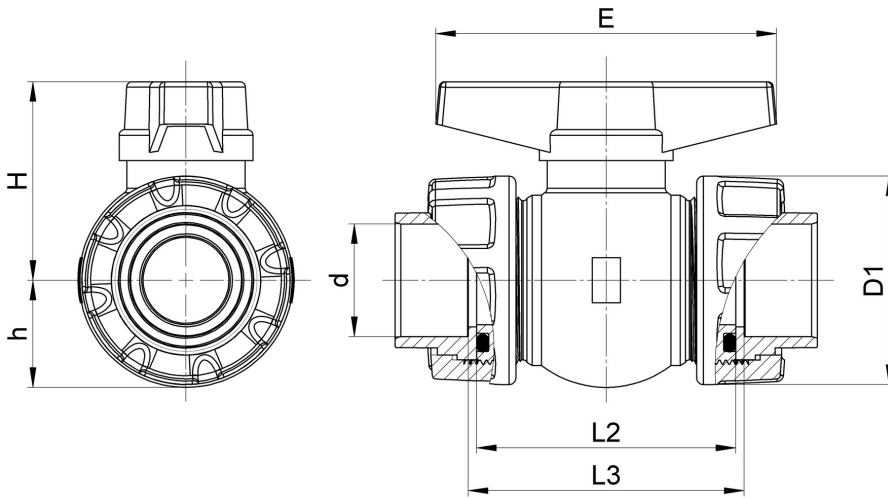


FR = k_v -value

VO = Valve opening

C 10 Ball Valve

C10 manual socket

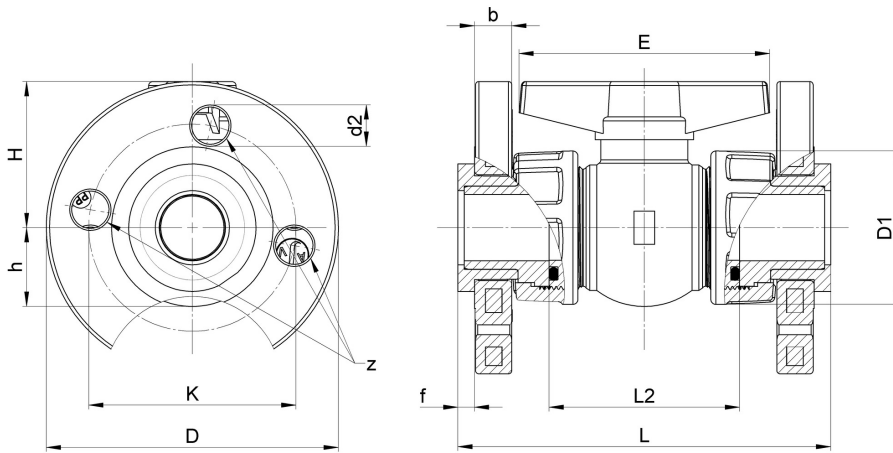


d		20	25	32	40	50	63
DN		15	20	25	32	40	50
DN*		1/2	3/4	1	1 1/4	1 1/2	2
D1	PP	46	56	66	79	87	107
	PVC-U	41	51	58	72	80	100
E		60	85	85	120	120	145
h		18,5	25	26	38	38	46
H		42	55	55	70	70	84
L2		64	76	81	92	95	115
L3	PVC-U / ANSI	70	82	87	98	101	121
	PVC-U / BS	70	82	87	98	101	121
	PVC-U / DIN	70	82	87	98	101	121
	PVC-U / JIS	72	86	90	98	101	123
	PP / DIN	70	82	87	98	101	121

all dimensions in mm / * in inch

C 10 Ball Valve

C10 manual flange

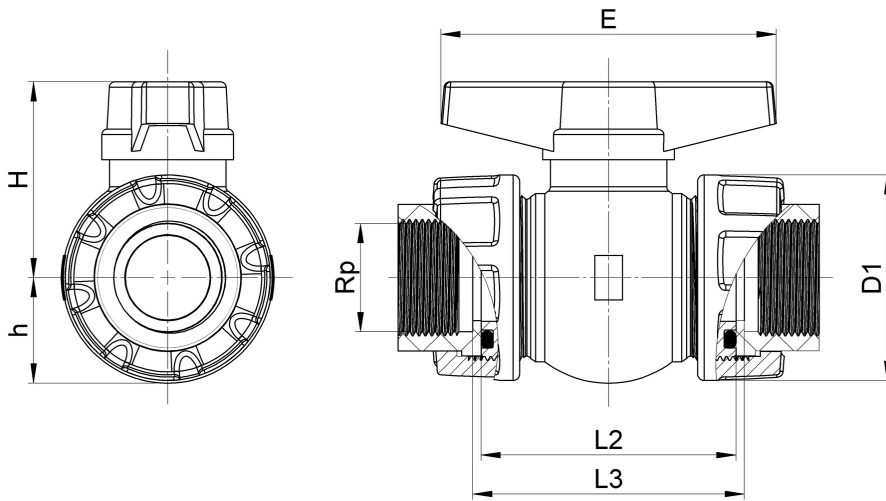


d		20	25	32	40	50	63
DN		15	20	25	32	40	50
DN*		1/2	3/4	1	1 1/4	1 1/2	2
b	DIN	13	14,5	15,5	17,5	17,5	18
	ANSI	12	12	16	16	18	18
d2		14	14	14	18	18	18
D		95	105	115	140	150	165
D1	PP	46	56	66	79	87	107
	PVC-U	41	51	58	72	80	100
E		60	85	85	120	120	145
f	DIN PVC-U / GFK	6	6,5	7	8	10	8
	DIN PP / GFK	6	7	7	8	8	9
	DIN PVC-U / PP-ST	6	6,5	7	8	10	8
	DIN PP / PP-ST	6	7	7	8	8	9
	ANSI PVC-U / PP-ST	5	6,5	7	8	10	8
	ANSI PP / PP-ST	6	7	7	8	8	9
h		18,5	25	26	38	38	46
H		42	55	55	70	70	84
K		65	75	85	100	110	125
L		130	150	160	180	200	230
L2		64	76	81	92	95	115
z		4	4	4	4	4	4

all dimensions in mm / * in inch

C 10 Ball Valve

C10 manual female thread

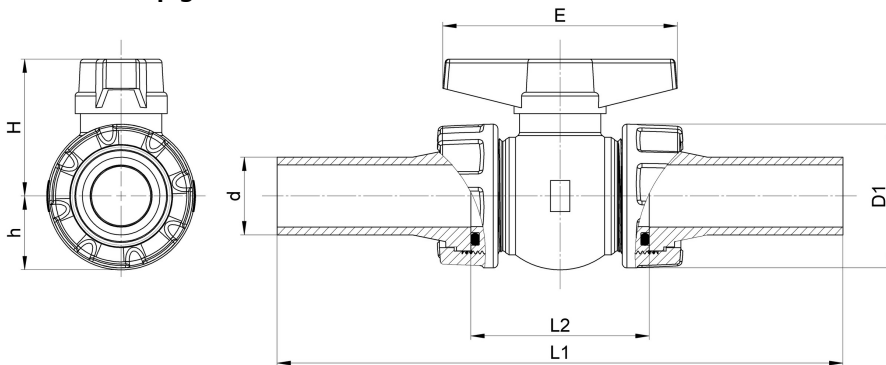


d		20	25	32	40	50	63
DN		15	20	25	32	40	50
DN*		1/2	3/4	1	1 1/4	1 1/2	2
D1	PP	46	56	66	79	87	107
	PVC-U	41	51	58	72	80	100
E		60	85	85	120	120	145
h		18,5	25	26	38	38	46
H		42	55	55	70	70	84
L2		64	76	81	92	95	115
L3	PVC-U / 1.4571 (A4) Rp	74	87	95	108	113	133
	PVC-U / Rp	71,6	84	93,6	108	121	145,6
	PP / RP	70	82	87,6	99	101	125
Rp*		1/2	3/4	1	1 1/4	1 1/2	2

all dimensions in mm / * in inch

C 10 Ball Valve

C10 manual spigot

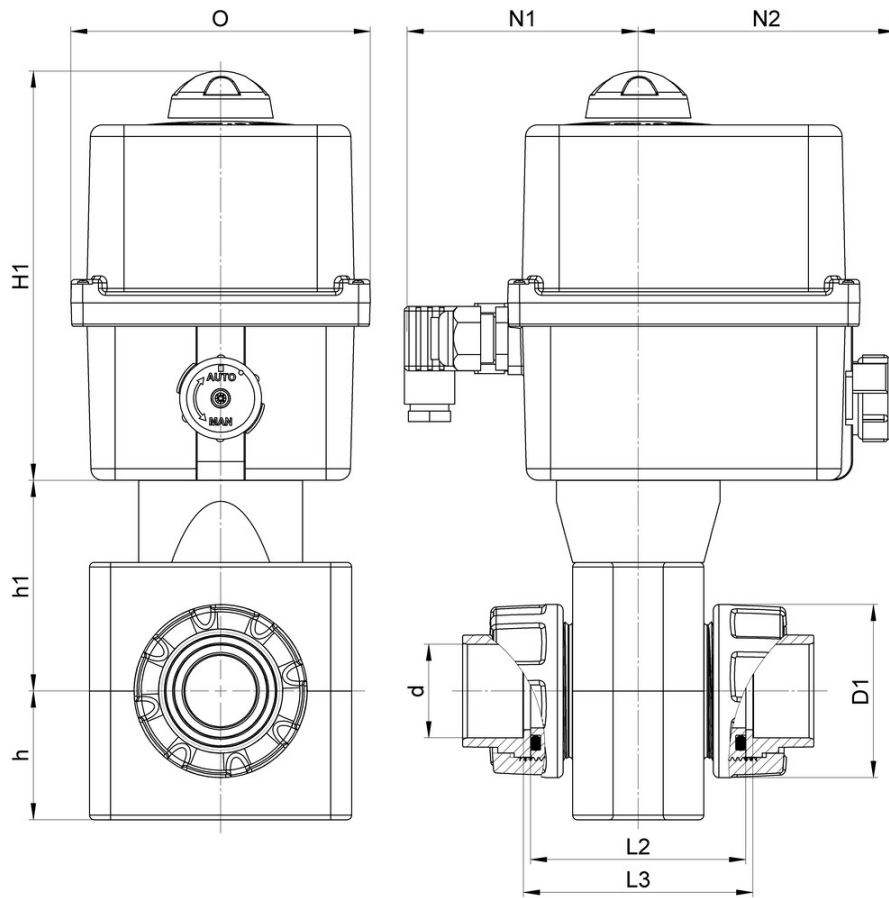


d		20	25	32	40	50	63
DN		15	20	25	32	40	50
DN*		1/2	3/4	1	1 1/4	1 1/2	2
D1	PP	46	56	66	79	87	107
	PVC-U	41	51	58	72	80	100
E		60	85	85	120	120	145
h		18,5	25	26	38	38	46
H		42	55	55	70	70	84
L1	PVC-U / PE100 DIN	254	266	271	292	323	363
	PP / IR	172	190	201	218	228	253
L2		64	76	81	92	95	115

all dimensions in mm / * in inch

C 10 Ball Valve

C10 electric socket



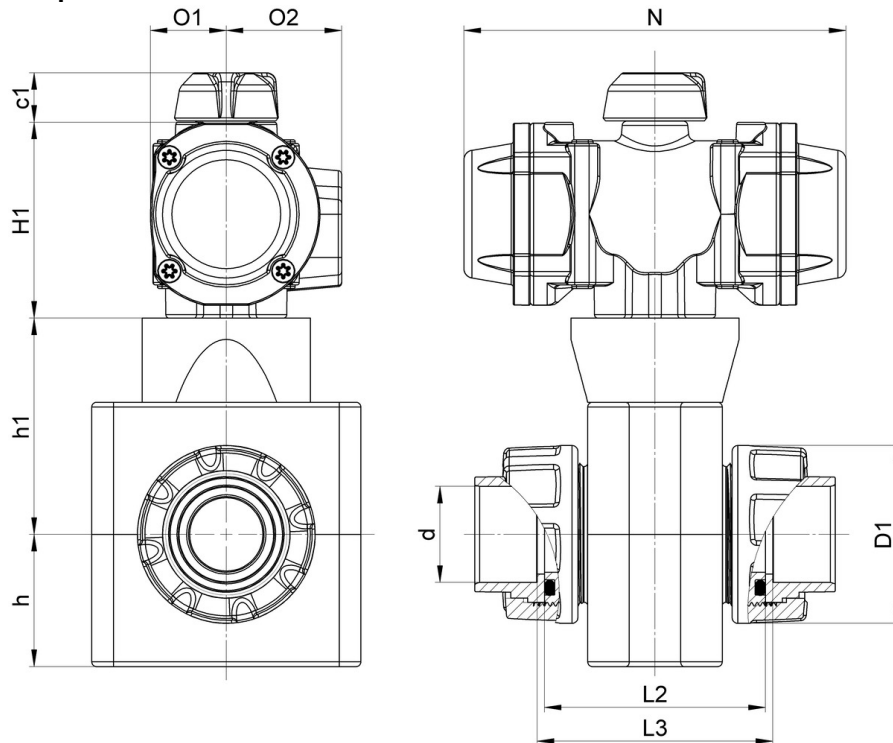
d		20	25	32	40	50	63
DN		15	20	25	32	40	50
DN*		1/2	3/4	1	1 1/4	1 1/2	2
D1	PP	46	56	66	79	87	107
	PVC-U	41	51	58	72	80	100
h		32,5	40,5	40,5	54,5	54,5	64,5
h1		63	71	71	90	90	100
H1		118	118	118	176	176	176
L2		64	76	81	92	95	115
L3	PVC-U / ANSI	70	82	87	98	101	121
	PVC-U / BS	70	82	87	98	101	121
	PVC-U / DIN	70	82	87	98	101	121
	PVC-U / JIS	72	86	90	98	101	123
	PP / DIN	70	82	87	98	101	121
N1		84	84	84	92,5	92,5	92,5
N2		105	105	105	95,5	95,5	95,5
O		92	92	92	188	189	190

all dimensions in mm / * in inch

For the ball valves with electric actuators, only the intermediate flange version is shown as an example. The dimensions for socket/spigot and flange version correspond to the manual variants.

C 10 Ball Valve

C10 pneumatic socket



d		20	25	32	40	50	63
DN		15	20	25	32	40	50
DN*		1/2	3/4	1	1 1/4	1 1/2	2
c1		20	20	20	20	20	20
D1	PP	46	56	66	79	87	107
	PVC-U	41	51	58	72	80	100
h		32,5	40,5	40,5	54,5	54,5	64,5
h1		63	71	71	90	90	100
H1	NC/NO	110	128	128	128	128	162
	DA	110	110	110	110	110	128
L2		64	76	81	92	95	115
L3	PVC-U / ANSI	70	82	87	98	101	121
	PVC-U / BS	70	82	87	98	101	121
	PVC-U / DIN	70	82	87	98	101	121
	PVC-U / JIS	72	86	90	98	101	123
	PP / DIN	70	82	87	98	101	121
N	NC/NO	155	230	230	230	230	304
	DA	125	125	125	125	125	182
O1	NC/NO	49	49	49	49	49	60
	DA	36	36	36	36	36	49
O2	NC/NO	44	53	53	53	53	65
	DA	44	44	44	44	44	53

all dimensions in mm / * in inch

For the ball valves with pneumatic actuators, only the intermediate flange version is shown as an example. The dimensions for socket/spigot and flange version correspond to the manual variants.

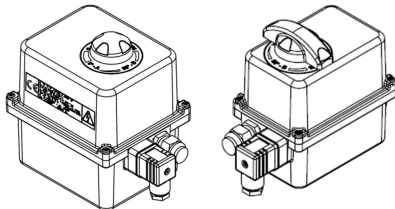
C 10 Ball Valve

Product assignment electric actuator

d	20	25	32	40	50	63
DN	15	20	25	32	40	50
DN*	1/2	3/4	1	1 1/4	1 1/2	2
Low voltage	ER 20 Plus	ER 20 Plus	ER 35 Plus	ER 35 Plus	ER 35 Plus	ER 60 Plus
	AC 15-30V	AC 15-30V	AC 15-30V	AC 15-30V	AC 15-30V	AC 15-30V
	DC12-48V	DC12-48V	DC12-48V	DC12-48V	DC12-48V	DC12-48V
Mains voltage	ER 20 Plus	ER 20 Plus	ER 35 Plus	ER 35 Plus	ER 35 Plus	ER 60 Plus
	AC 100-240V	AC 100-240V	AC 100-240V	AC 100-240V	AC 100-240V	AC 100-240V
	DC 100-350V	DC 100-350V	DC 100-350V	DC 100-350V	DC 100-350V	DC 100-350V

all dimensions in mm / * in inch

Electric actuator ER 60 Plus



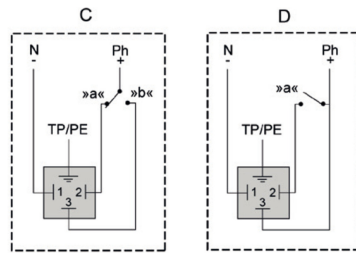
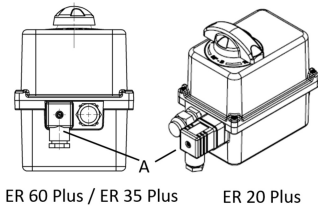
ER 60 Plus / ER 35 Plus

ER 20 Plus

Technical data	ER 20 Plus	ER 20 Plus	ER 35 Plus	ER 35 Plus	ER 60 Plus	ER 60 Plus
	AC 15-30V	AC 100-240V	AC 15-30V	AC 100-240V	AC 15-30V	AC 100-240V
	DC12-48V	DC 100-350V	DC12-48V	DC 100-350V	DC12-48V	DC 100-350V
Variants	Low voltage	Mains voltage	Low voltage	Mains voltage	Low voltage	Mains voltage
Torque (Nm)	20	20	35	35	60	60
Voltage AC (V)	15-30	100-240	15-30	100-240	15-30	100-240
Voltage DC (V)	12-48	100-350	12-48	100-350	12-48	100-350
Manipulating time (s)	12	12	24	26	12	12
Setting angle (°)	90	90	90	90	90	90
Power consumption (W)	15	15	15	15	45	45
Weight (kg)	1	1	2,1	2,1	2,1	2,1
Duty cycle (%)	50	50	50	50	50	50
Protection type (IP)	66	66	66	66	66	66
Temperature (°C)	-10-55	-10-55	-10-55	-10-55	-10-55	-10-55
Heating	Included	Included	Included	Included	Included	Included
Options	Fail-Safe (closing) / rechargeable battery pack	Fail-Safe (closing) / rechargeable battery pack	Fail-Safe (closing) / rechargeable battery pack	Fail-Safe (closing) / rechargeable battery pack	Fail-Safe (closing) / rechargeable battery pack	Fail-Safe (closing) / rechargeable battery pack

C 10 Ball Valve

Voltage supply

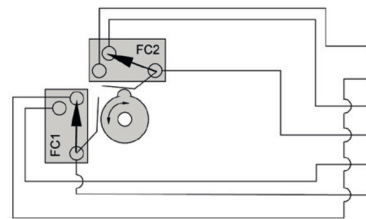
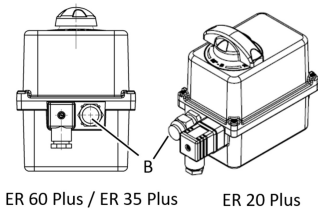


1	COM
2	OPEN
3	CLOSE

Description

A	Voltage supply
C	3-point mode
D	OPEN-CLOSED mode
a	Valve »OPEN«
b	Valve »CLOSED«
1	COM
2	Valve »OPEN«
3	Valve »CLOSED«

Feedback VS 300



9	FC2 (NC)
8	FC1 (NC)
7	FC2 (NO)
6	COM
5	FC1 (NO)
4	COM

Description

B	Feedback
FC1	Limit switch, valve »OPEN«
FC2	Limit switch, valve »CLOSED«
9	FC2 (NC)
8	FC1 (NC)
7	FC2 (NO)
6	COM
5	FC1 (NO)
4	COM

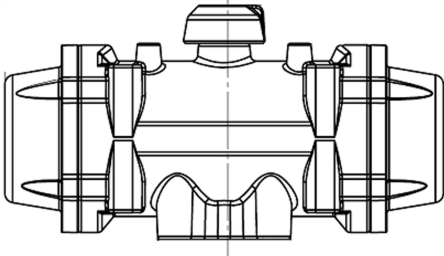
C 10 Ball Valve

Product assignment pneumatic actuator

d	20	25	32	40	50	63
DN	15	20	25	32	40	50
DN*	1/2	3/4	1	1,25	1,5	2
DA	PP00	PP00	PP00	PP00	PP00	PP10
NC/NO	PP00S	PP10S	PP10S	PP10S	PP10S	PP20S

all dimensions in mm / * in inch

Pneumatic actuator

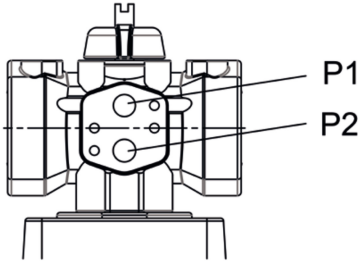


Technical data	PP00	PP10	PP00S	PP10S	PP20S
Function	DA	DA	NC/NO	NC/NO	NC/NO
Torque start at 6 bar (Nm)	28,5	71	15,9	40,2	99,7
Torque end at 6 bar (Nm)	-	-	9,7	25,4	60,8
Control volume, opening (litres)	0,15	0,35	0,15	0,35	0,8
Manipulating time, opening (s)	0,15	0,25	0,2	0,3	0,5
Manipulating time, closing (s)	0,15	0,25	0,2	0,3	0,5
Control pressure connection (inch)	1/4	1/4	1/4	1/4	1/4
Weight (kg)	0,83	1,65	1	2,03	4,22
Options	Limit switches	Limit switches	Limit switches	Limit switches	Limit switches
Options	Pilot valve VS 6519	Pilot valve VS 6519	Pilot valve VS 6014	Pilot valve VS 6014	Pilot valve VS 6014

Connection details	PP00	PP10	PP00S	PP10S	PP20S
Control pressure connection (inch)	1/4	1/4	1/4	1/4	1/4

C 10 Ball Valve

Control pressure connection



Function	Control pressure open Connection P1	Control pressure open
Normally closed (NC)		»OPEN«
Normally open (NO)		»CLOSED«
Double-acting (DA)	»CLOSED«	»OPEN«

Control

3/2-way solenoid valves for NC/NO actuators VS6014

5/2-way solenoid valves for DA actuators VS 6519

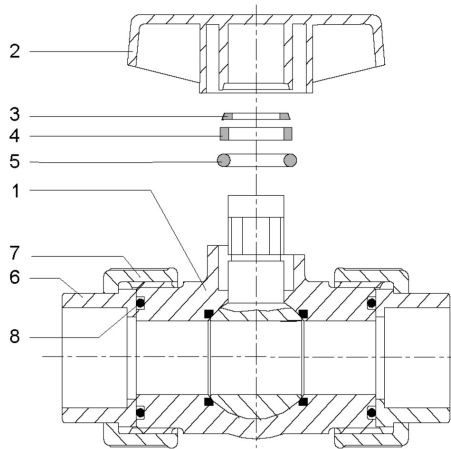
The actuators require a control pressure of 6 bar for optimum function. Malfunctions may occur, if the control pressure deviates. In this case, a new actuator configuration is necessary. Ensure that the control medium is free of dust and oil.

Ensure that the maximum particle size does not exceed 30 µm (ISO 8573 Part 1, Class 5).

To prevent water condensation and/or formation of ice (at work temperatures under 0°C), ensure that the medium has a dew point of -20°C or at least 10°C below the ambient temperature (ISO 8573 Part 1, Class 3).

C 10 Ball Valve

Basic valve with hand lever



position	quantity	designation
1	1	housing/ball / O-ring
2	1	hand lever
3	1	Circlip
4	1	thrust piece
5	1	O-ring
6	2	union end
7	2	union nut
8	2	O-ring