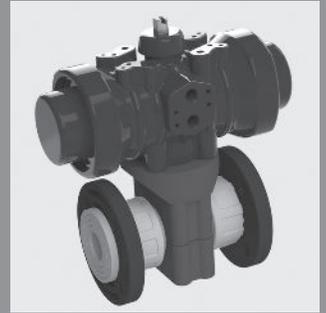
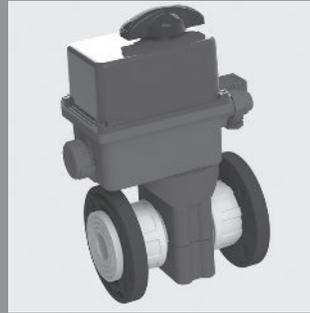


Ball valve C 10

valve ball completely moulded in place , extremely low clearance volume,
high k_v value



Advantage

- maximum safety due to valve ball completely moulded in place
- ball and ball seat cannot be flushed out
- high operating reliability - high torque transmission due to generously dimensioned stem
- extremely low clearance volume - the body encloses the ball due to the special die casting method
- optimised k_v value - for all sizes, the internal ball diameter is constructively adapted to the internal pipe diameter
- one-piece body

Application

- chemical plants
- industrial plants
- water treatment
- electroplating plants

Utilisation

- for shutting off pipeline systems

Flow Media

- Neutral and aggressive fluid or gaseous media free of solid particles, provided that the valve components coming into contact with the media are resistant at the operating temperature in accordance with the ASV resistance guide.

Testing

- Requirements and tests/inspections according to DIN 3441, 3442 and 8063. DIN EN 12266, leakage rate A tested.

Nominal Pressure (H_2O , 20°C)

- PN 10

Fluid Temperature

- see pressure/temperature diagram

Operating Pressure

- see pressure/temperature diagram

Size

- DN 15 - DN 50

Body

- PVC-U
- PP

Ball

- PE

Ball Seat

- PTFE

Sealing

- FPM
- EPDM

Actuation

- with T-handle, simultaneously serving as a position indicator
- with electric actuator, DIN EN ISO 5211
- with pneumatic actuator, DIN EN ISO 5211

Connection

- 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)

Mounting

- as required

Fastening

- optionally available with bracket

Accessories

- limit switch unit
- bracket

Colour

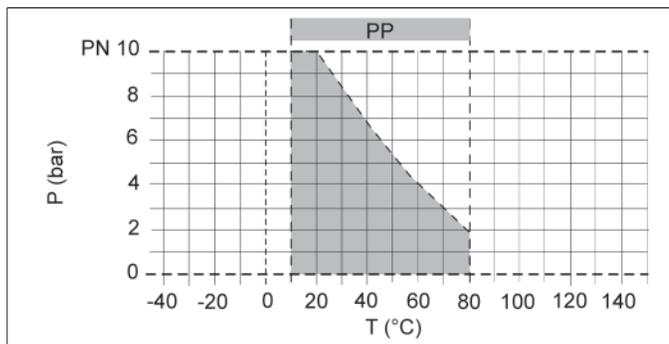
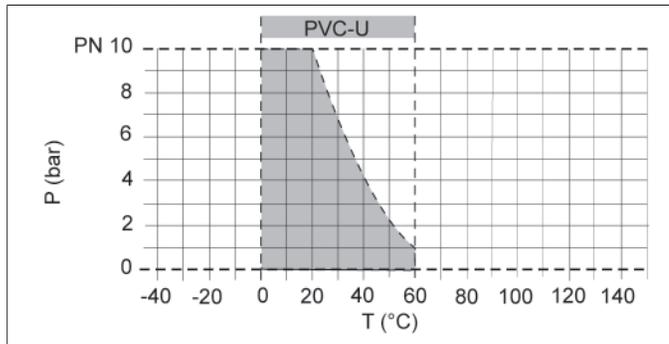
- body: PVC-U, grey, RAL 7011
- body: PP, grey, RAL 7032
- T-handle: PVC-U, orange, RAL 2004
- GFR Flanges: black, RAL 9011

Stem

- PVC-U
- PVC-C
- PE
- POM

Ball valve C 10

Pressure/temperature diagram



P = operating pressure

T = temperature

The pressure/temperature limits are applicable for the stated nominal pressures and a computed operating life factor of 25 years. These are standard values for harmless media (DIN 2403), to which the valve material is resistant.

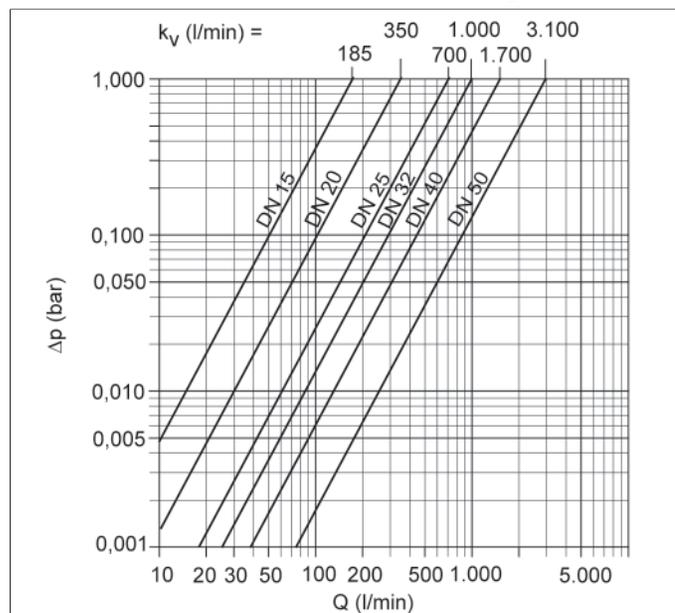
For other media please refer to the ASV resistance guide.

The durability of wear parts depends on the operating conditions of the application.

For temperatures below 0°C ($PP < +10^\circ C$) please specify the precise operating conditions of the application.

The rated pressure depends on the valve size and material. For the corresponding rated pressure value of the valve, please refer to the »Order table«.

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



ΔP = pressure loss

Q = flow

pressure loss and k_v value

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

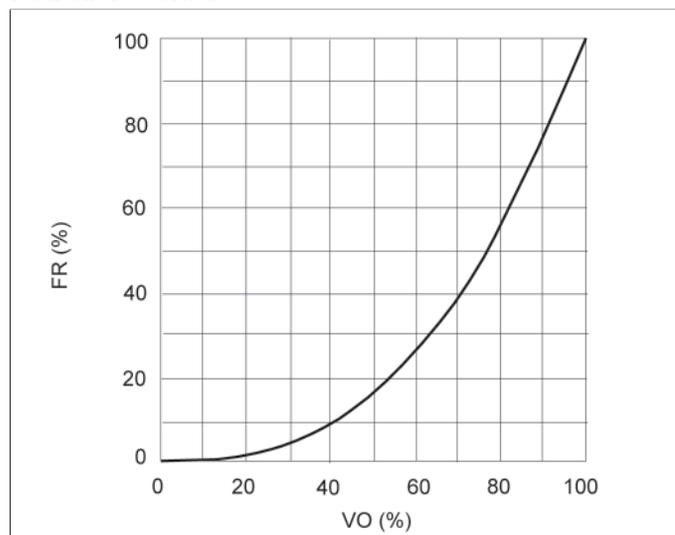
Conversion aid:

$$c_v = k_v \times 0.07; f_v = k_v \times 0.0585$$

Units:

k_v [l/min]; c_v [gal/min] US; f_v [gal/min] GB

Flow characteristic



VO = valve opening

$FR = K_v \text{ value}$

Torque (Nm)

d (mm)	16	20	25	32	40	50	63
PVC-U	-	4	5	6	8	10	16
PP	-	4	5	6	8	10	16

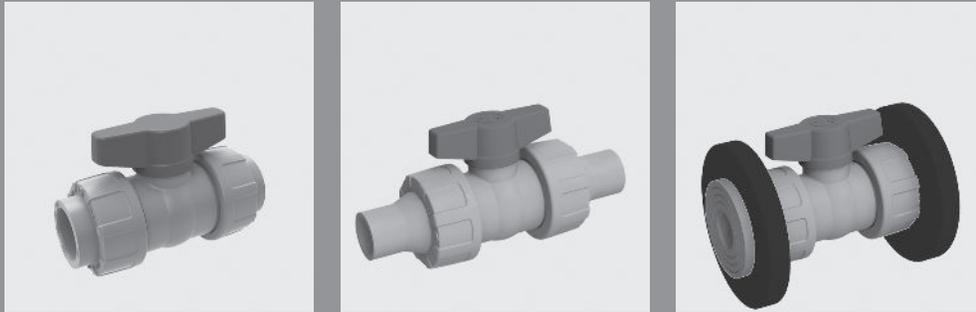
The specified torques are standard values. They were determined at the specified nominal pressures with H₂O, 20°C. These values can be higher or lower, depending on the operating pressure and the medium.

Ball valve C 10

Operating note

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, directives/technical regulations or codes of practice such as e.g. DIN, DIN EN, DIN ISO and DVS*. *DVS = German Welding Society
The intended use includes adhering to specified limit values for pressure and temperature, as well as checking the resistance. This requires all components coming into contact with the medium to be "resistant" in accordance with the ASV resistance guide.

Ball valve C 10, manual

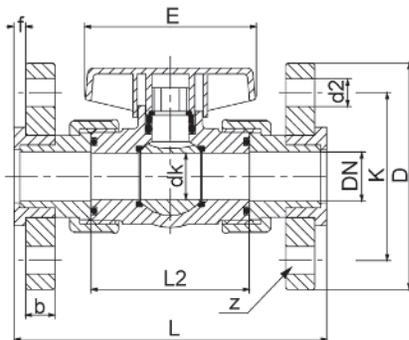
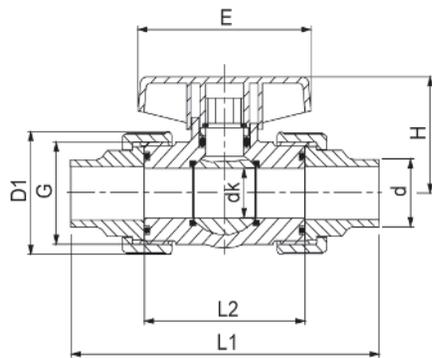
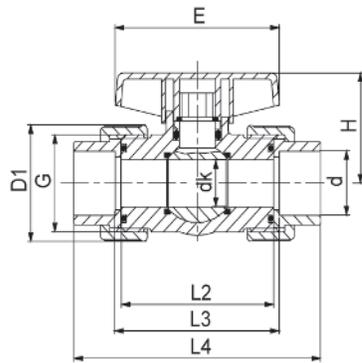


body PVC-U		ball PE							
size pressure range	d(mm)		20	25	32	40	50	63	
	DN(mm)		15	20	25	32	40	50	
	DN(inch)		1/2	3/4	1	1 1/4	1 1/2	2	
	PN(bar)		10	10	10	10	10	10	
Connection	ball seat	sealing	ident No.						
	PVC-U socket end DIN ISO	PTFE PTFE	EPDM FPM	60850 64680 0.13 kg	60851 64681 0.24 kg	60852 64682 0.29 kg	60853 64683 0.55 kg	60854 64684 1.05 kg	60855 64685 0.61 kg
GFR flange DIN EN 1092	PTFE PTFE	EPDM FPM	44015 44021 0.33 kg	44016 44022 0.53 kg	44017 44023 0.68 kg	44018 44024 1.20 kg	44019 44025 1.40 kg	44020 44026 2.04 kg	

body PP		ball PE							
size pressure range	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	
	PN(bar)		10	10	10	10	10	10	
Connection	ball seat	sealing	ident No.						
	PP socket end DIN ISO	PTFE PTFE	EPDM FPM	65357 64686 0.11 kg	65358 64687 0.21 kg	65359 64688 0.27 kg	65360 64689 0.48 kg	65361 64690 0.53 kg	65362 64691 0.86 kg
PP spigot end DIN ISO	PTFE PTFE	EPDM FPM	122790 122797 0.12 kg	122791 122798 0.22 kg	122792 122799 0.28 kg	122793 122800 0.49 kg	122794 122801 0.54 kg	122795 122802 0.87 kg	
	GFR flange DIN EN 1092	PTFE PTFE	EPDM FPM	44027 44033 0.32 kg	44028 44034 0.53 kg	44029 44035 0.69 kg	44030 44036 1.19 kg	44031 44037 1.37 kg	44032 44038 1.90 kg

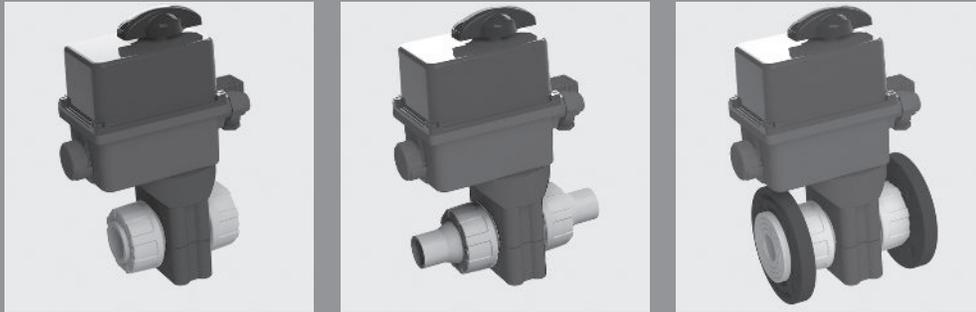
Ball valve C 10, manual

dimensions



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
dimensions(mm)						
b	12	14	15	17	17	18
d2	14	14	14	18	18	18
dk	135	185	235	305	385	485
D	95	105	115	140	150	165
PP D1	46	56	66	79	87	107
PVC-U D1	41	51	58	72	80	100
E	60	85	85	120	120	145
f	6	7	7	8	8	9
G	1	1 1/4	1 1/2	2	2 1/4	2 3/4
H	42	55	55	70	70	84
K	65	75	85	100	110	125
L	130	150	160	180	200	230
L1	174	186	191	202	205	225
L2	64	76	81	92	95	115
L3	70	82	87	98	101	121
PP L4	99	114	123	139	148	175
PVC-U L4	102	120	131	150	163	197
z	4	4	4	4	4	4

Ball valve C 10, electric



Voltage

- please refer to the technical data
- further drive variants and options on request

Mounting Set

- PVC-U

Coupling

- steel square, galvanised
- adaptor made of PA

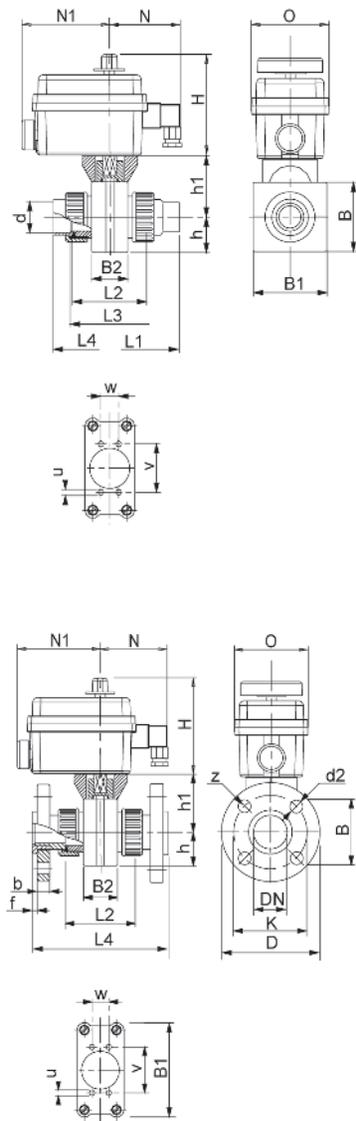
Screws

- stainless steel (1.4301)

Actuator variant 230 V		body PVC-U		ball PE					
size pressure range	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
	PN(bar)			10	10	10	10	10	10
Connection	ball seat	sealing	ident No.						
PVC-U flange DIN EN 1092	PTFE	EPDM		440159030	440169030	440179030	440189030	440199030	440209030
	PTFE	FPM		440219030	440229030	440239030	440249030	440259030	440269030
				2.03 kg	2.23 kg	2.38 kg	4.20 kg	4.40 kg	5.04 kg
PVC-U socket end DIN ISO	PTFE	EPDM		608509030	608519030	608529030	608539030	608549030	608559030
	PTFE	FPM		646809030	646819030	646829030	646839030	646849030	646859030
				1.83 kg	1.94 kg	1.99 kg	3.55 kg	3.61 kg	4.05 kg

Actuator variant 230 V		body PP		ball PE					
size pressure range	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
	PN(bar)			10	10	10	10	10	10
Connection	ball seat	sealing	ident No.						
PP flange DIN EN 1092	PTFE	EPDM		440279030	440289030	440299030	440309030	440319030	440329030
	PTFE	FPM		440339030	440349030	440359030	440369030	440379030	440389030
				2.02 kg	2.23 kg	2.39 kg	4.19 kg	4.37 kg	4.90 kg
PP socket end DIN ISO	PTFE	EPDM		653579030	653589030	653599030	653609030	653619030	653629030
	PTFE	FPM		646869030	646879030	646889030	646899030	646909030	646919030
				1.81 kg	1.91 kg	1.97 kg	3.48 kg	3.53 kg	3.86 kg
PP spigot end DIN ISO	PTFE	EPDM		1227909030	1227919030	1227929030	1227939030	1227949030	1227959030
	PTFE	FPM		1227979030	1227989030	1227999030	1228009030	1228019030	1228029030
				1.82 kg	1.92 kg	1.98 kg	3.49 kg	3.54 kg	3.87 kg

Ball valve C 10, electric



dimensions

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
actuator type	ER Premier	ER Premier	ER Premier	EK35	EK35	EK60
	20	20	20			
dimensions(mm)						
b	12	14	15	17	17	18
B	65	81	81	109	109	129
B1	84	88	88	112	112	126
B2	33	42	42	56	56	69
d2	14	14	14	18	18	18
D	95	105	115	140	150	165
f	6	7	7	8	8	9
h	32.5	40.5	40.5	54.5	54.5	64.5
h1	63	71	71	90	90	100
H	118	118	118	176	176	176
K	65	75	85	100	110	125
L	130	150	160	180	200	230
L1	174	186	191	202	205	225
L2	64	76	81	92	95	115
L3	70	82	87	98	101	121
PP L4	99	114	123	139	148	175
PVC-U L4	102	120	131	150	163	197
N	84	84	84	92.5	92.5	92.5
N1	105	105	105	95.5	95.5	95.5
O	92	92	92	188	189	190
u	6.5	6.5	6.5	6.5	6.5	6.5
v	38	48	48	54	54	60
w	-	-	-	20	20	32
z	4	4	4	4	4	4

Ball valve C 10, electric

Technical data

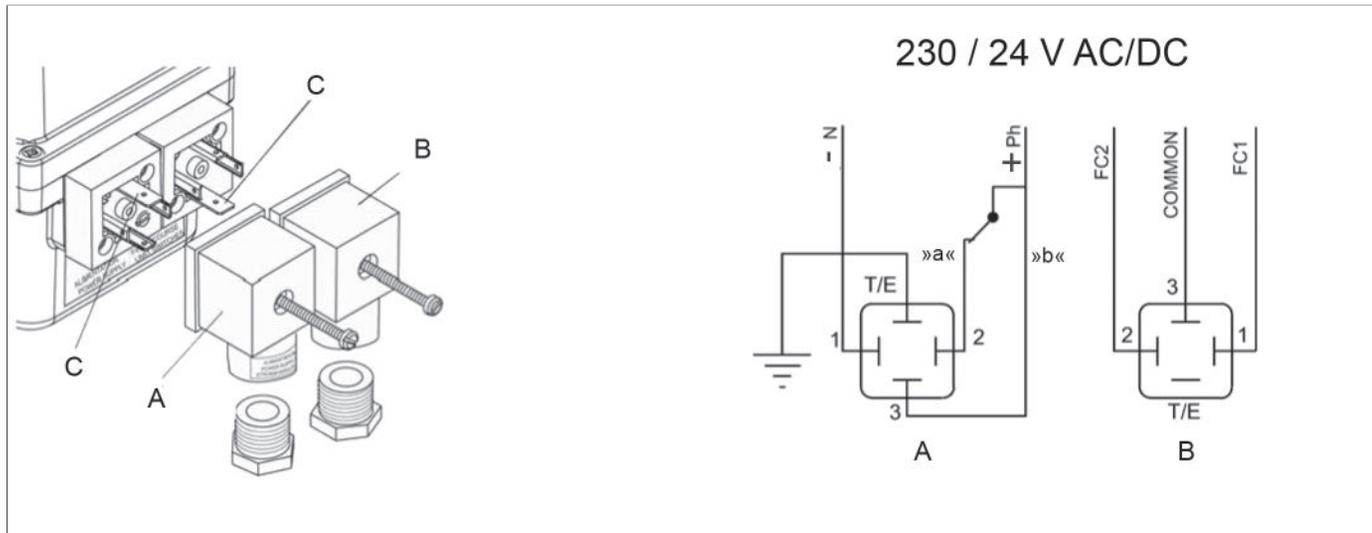
EK-Line

actuator type	EK35	EK60	EK35 (*)	EK60 (*)
Torque	35	60	35	60
Voltage	230 VAC	230 VAC	24 VAC/DC	24 VAC/DC
Manipulating time(s)	7	12	7	12
Power consumption(W)	26	26	26	26
Setting angle(°)	90	90	90	90
Weight(kg)	2.5	2.5	2.5	2.5
Duty cycle(%)	30	30	30	30
Type of protection	IP 65	IP 65	IP 65	IP 65
Temperature(°C)	-10 ... 55	-10 ... 55	-10 ... 55	-10 ... 55

(*) Drive variants: please order separately.

Recommended wiring

EK-Line



A = power supply

B = additional limit switches

C = earth

FC1 = additional limit switch 1

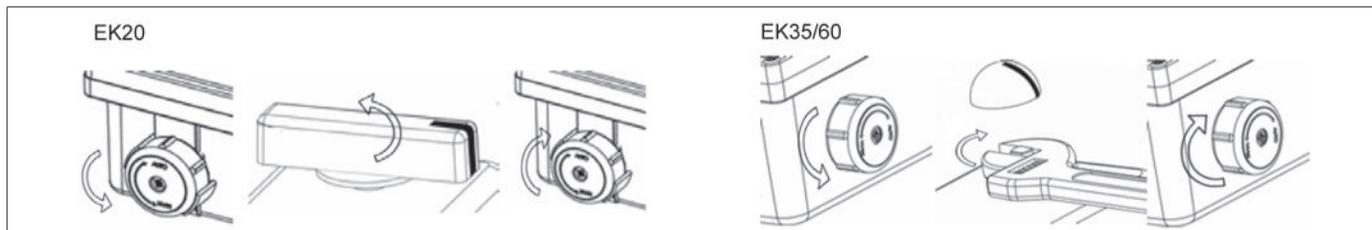
FC2 = additional limit switch 2

»a« = open

»b« = closed

manual emergency control

EK-Line



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 "MAN" and hold in the "MAN" position.. EK20 (Use the T-handle to turn the actuator shaft.); EK35-EK60 (Turn the actuator shaft with the aid of an adjustable spanner.) Release the coupling switch to re-engage the gearing.

Ball valve C 10, electric

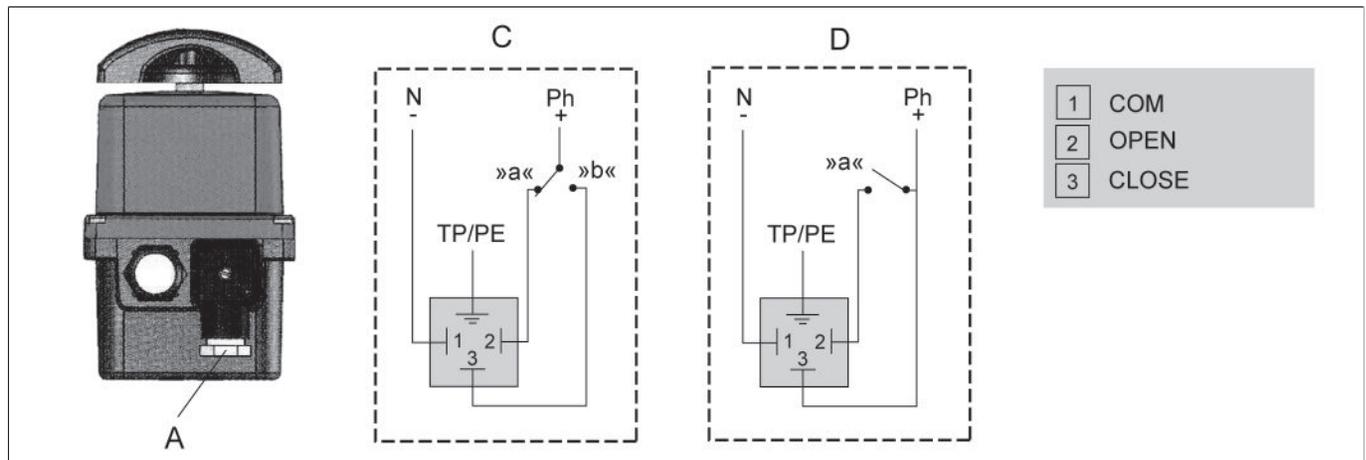
Technical data

actuator type	ER Premier 20	ER Premier 20 (*)
Torque	20	20
Voltage	90-240 VAC - 90-350 VDC	24 VAC/DC
Manipulating time(s)	13	12
Power consumption(W)	11	11
Setting angle(°)	90	90
Weight(kg)	1	1
Duty cycle(%)	30	30
Type of protection	IP 65	IP 65
Temperature(°C)	-10 ... 55	-10 ... 55

(*) Drive variants: please order separately.

Power supply

ER Premier



A = power supply

C = 3-switch-point-modus

D = open/closed-switch-point-modus

»a« = valve open

»b« = valve closed

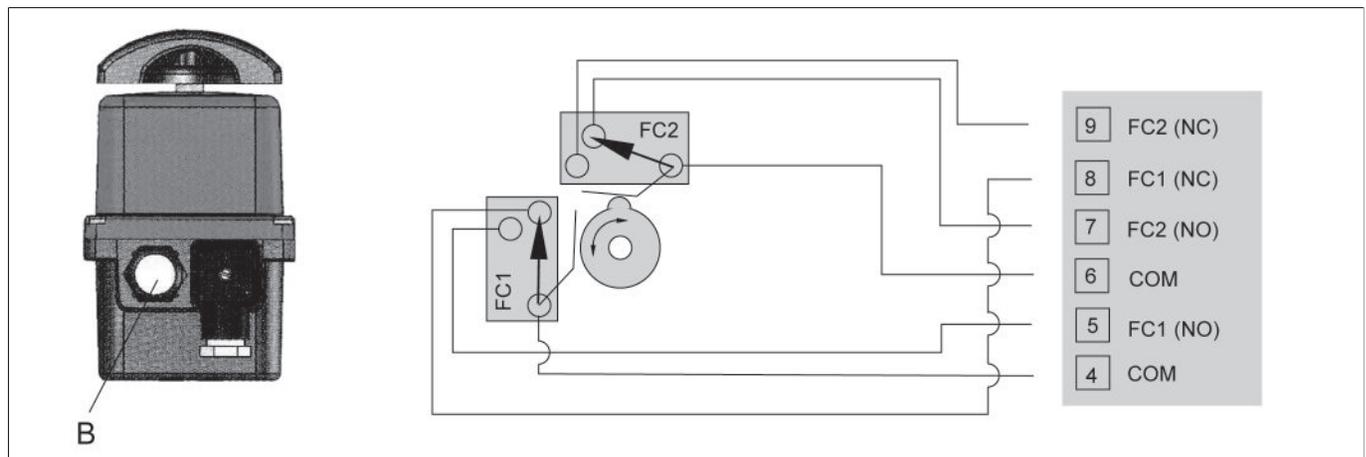
1 = COM

2 = valve »OPEN«

3 = valve »CLOSED«

Feedback

ER Premier



B = Feedback

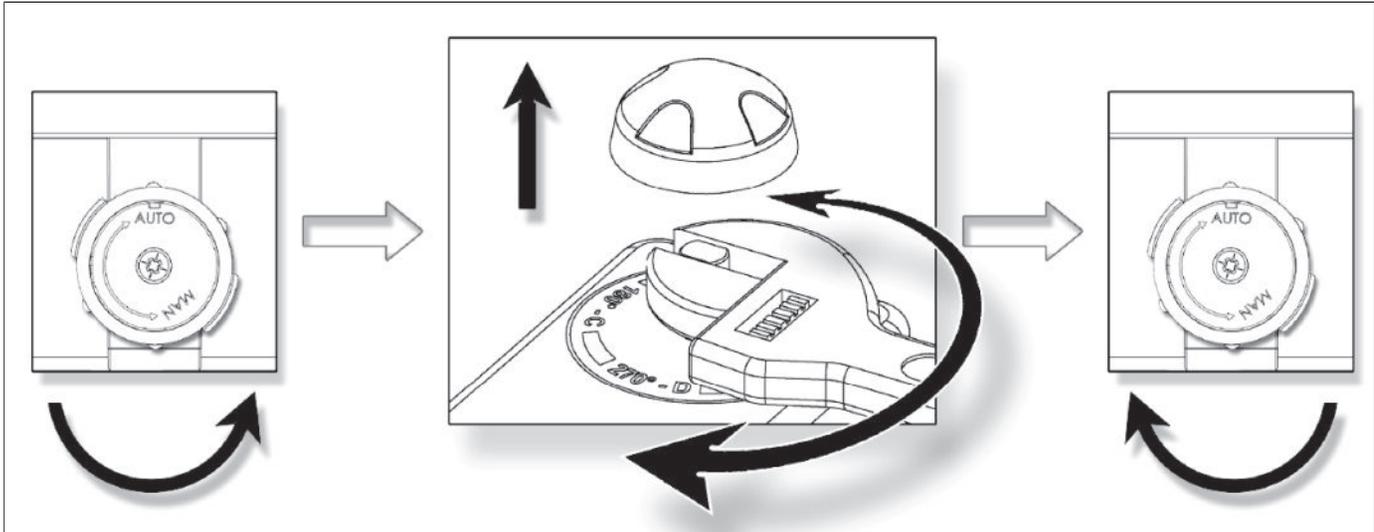
FC1 = limit switches valve »OPEN«

FC2 = limit switche valve »CLOSED«

Ball valve C 10, electric

Manual emergency control

ER Premier



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 "MAN" and hold in the "MAN" position. Turn the actuator shaft with the aid of an adjustable spanner. Release the coupling switch to re-engage the gearing.

Ball valve C 10, pneumatic



Control Pressure

- 6 bar

Standard

- visual position indicator
- further options such as limit switch unit, positioner or pilot valves on request

Control Function

- NC (normally closed)
- NO (normally open)
- DA (double acting)

Mounting Set

- PVC-U

Coupling

- steel square, galvanised
- adaptor made of PA

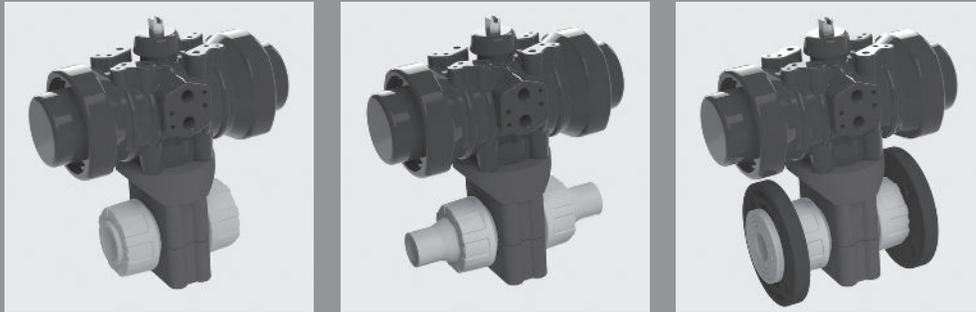
Screws

- stainless steel (1.4301)

Actuator variant NC		body PVC-U			ball PE				
size pressure range	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
	PN(bar)			10	10	10	10	10	10
Connection	ball seat	sealing	ident No.						
	PVC-U flange DIN EN 1092	PTFE PTFE	EPDM FPM	440159560 440219560 1.86 kg	440169560 440229560 3.18 kg	440179560 440239560 3.33 kg	440189560 440249560 3.85 kg	440199560 440259560 4.05 kg	440209560 440269560 7.49 kg
PVC-U socket end DIN ISO	PTFE PTFE	EPDM FPM	608509560 646809560 1.66 kg	608519560 646819560 2.89 kg	608529560 646829560 2.94 kg	608539560 646839560 3.20 kg	608549560 646849560 3.26 kg	608559560 646859560 6.50 kg	

Actuator variant NO		body PVC-U			ball PE				
size pressure range	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
	PN(bar)			10	10	10	10	10	10
Connection	ball seat	sealing	ident No.						
	PVC-U flange DIN EN 1092	PTFE PTFE	EPDM FPM	440159570 440219570 1.86 kg	440169570 440229570 3.18 kg	440179570 440239570 3.33 kg	440189570 440249570 3.85 kg	440199570 440259570 4.05 kg	440209570 440269570 7.49 kg
PVC-U socket end DIN ISO	PTFE PTFE	EPDM FPM	608509570 646809570 1.66 kg	608519570 646819570 2.89 kg	608529570 646829570 2.94 kg	608539570 646839570 3.20 kg	608549570 646849570 3.26 kg	608559570 646859570 6.50 kg	

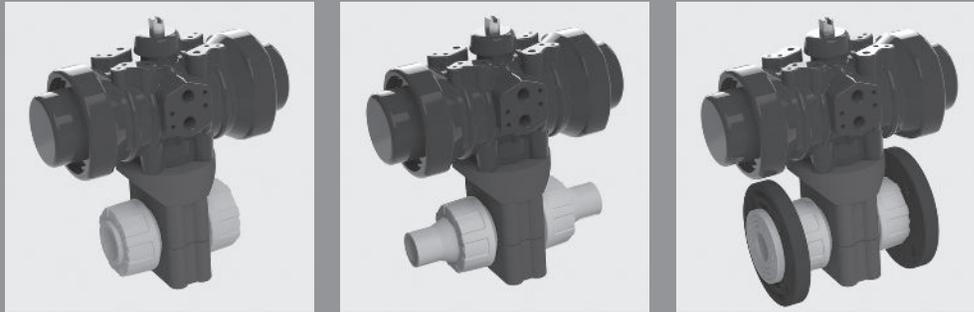
Ball valve C 10, pneumatic



Actuator variant DA		body PVC-U		ball PE					
size pressure range	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
	PN(bar)			10	10	10	10	10	10
Connection	ball seat	sealing	ident No.						
PVC-U flange DIN EN 1092	PTFE	EPDM		440159580	440169580	440179580	440189580	440199580	440209580
	PTFE	FPM		440219580	440229580	440239580	440249580	440259580	440269580
				1.59 kg	1.79 kg	1.94 kg	2.46 kg	2.66 kg	4.41 kg
PVC-U socket end DIN ISO	PTFE	EPDM		608509580	608519580	608529580	608539580	608549580	608559580
	PTFE	FPM		646809580	646819580	646829580	646839580	646849580	646859580
				1.39 kg	1.50 kg	1.55 kg	1.81 kg	1.87 kg	3.42 kg

Actuator variant NC		body PP		ball PE					
size pressure range	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
	PN(bar)			10	10	10	10	10	10
Connection	ball seat	sealing	ident No.						
PP flange DIN EN 1092	PTFE	EPDM		440279560	440289560	440299560	440309560	440319560	440329560
	PTFE	FPM		440339560	440349560	440359560	440369560	440379560	440389560
				1.85 kg	3.18 kg	3.34 kg	3.84 kg	4.02 kg	7.35 kg
PP socket end DIN ISO	PTFE	EPDM		653579560	653589560	653599560	653609560	653619560	653629560
	PTFE	FPM		646869560	646879560	646889560	646899560	646909560	646919560
				1.64 kg	2.86 kg	2.92 kg	3.13 kg	3.18 kg	6.31 kg
PP spigot end DIN ISO	PTFE	EPDM		1227909560	1227919560	1227929560	1227939560	1227949560	1227959560
	PTFE	FPM		1227979560	1227989560	1227999560	1228009560	1228019560	1228029560
				1.65 kg	2.87 kg	2.93 kg	3.14 kg	3.19 kg	6.32 kg

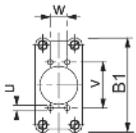
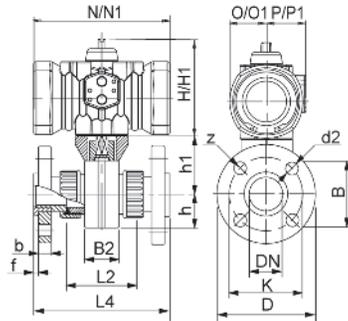
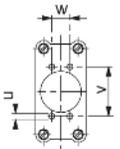
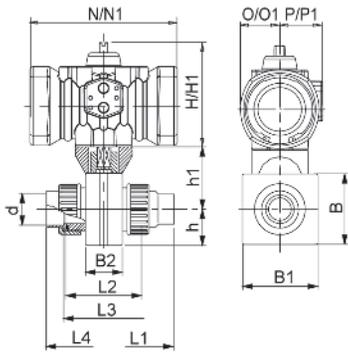
Ball valve C 10, pneumatic



Actuator variant NO		body PP		ball PE					
<i>size</i>	d(mm)			20	25	32	40	50	63
	<i>pressure range</i>	DN(mm)		15	20	25	32	40	50
		DN(inch)		1/2	3/4	1	1 1/4	1 1/2	2
		PN(bar)		10	10	10	10	10	10
<i>Connection</i>	<i>ball seat</i>	<i>sealing</i>	<i>ident No.</i>						
PP flange DIN EN 1092	PTFE	EPDM		440279570	440289570	440299570	440309570	440319570	440329570
	PTFE	FPM		440339570	440349570	440359570	440369570	440379570	440389570
				1.85 kg	3.18 kg	3.34 kg	3.84 kg	4.02 kg	7.35 kg
PP socket end DIN ISO	PTFE	EPDM		653579570	653589570	653599570	653609570	653619570	653629570
	PTFE	FPM		646869570	646879570	646889570	646899570	646909570	646919570
				1.64 kg	2.86 kg	2.92 kg	3.13 kg	3.18 kg	6.31 kg
PP spigot end DIN ISO	PTFE	EPDM		1227909570	1227919570	1227929570	1227939570	1227949570	1227959570
	PTFE	FPM		1227979570	1227989570	1227999570	1228009570	1228019570	1228029570
				1.65 kg	2.87 kg	2.93 kg	3.14 kg	3.19 kg	6.32 kg

Actuator variant DA		body PP		ball PE					
<i>size</i>	d(mm)			20	25	32	40	50	63
	<i>pressure range</i>	DN(mm)		15	20	25	32	40	50
		DN(inch)		1/2	3/4	1	1 1/4	1 1/2	2
		PN(bar)		10	10	10	10	10	10
<i>Connection</i>	<i>ball seat</i>	<i>sealing</i>	<i>ident No.</i>						
PP flange DIN EN 1092	PTFE	EPDM		440279580	440289580	440299580	440309580	440319580	440329580
	PTFE	FPM		440339580	440349580	440359580	440369580	440379580	440389580
				1.58 kg	1.79 kg	1.95 kg	2.45 kg	2.63 kg	4.27 kg
PP socket end DIN ISO	PTFE	EPDM		653579580	653589580	653599580	653609580	653619580	653629580
	PTFE	FPM		646869580	646879580	646889580	646899580	646909580	646919580
				1.37 kg	1.47 kg	1.53 kg	1.74 kg	1.79 kg	3.23 kg
PP spigot end DIN ISO	PTFE	EPDM		1227909580	1227919580	1227929580	1227939580	1227949580	1227959580
	PTFE	FPM		1227979580	1227989580	1227999580	1228009580	1228019580	1228029580
				1.38 kg	1.48 kg	1.54 kg	1.75 kg	1.80 kg	3.24 kg

Ball valve C 10, pneumatic



dimensions

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
actuator type	PP00 DA PP00S NC/NO	PP00 DA PP10S NC/NO	PP00 DA PP10S NC/NO	PP00 DA PP10S NC/NO	PP00 DA PP10S NC/NO	PP10 DA PP20S NC/NO

dimensions(mm)

b	12	14	15	17	17	18	
B	65	81	81	109	109	129	
B1	84	88	88	112	112	126	
B2	33	42	42	56	56	69	
d2	14	14	14	18	18	18	
D	95	105	115	140	150	165	
f	6	7	7	8	8	9	
h	32.5	40.5	40.5	54.5	54.5	64.5	
h1	63	71	71	90	90	100	
H	110	128	128	128	128	162	
H1	110	110	110	110	110	128	
K	65	75	85	100	110	125	
L	130	150	160	180	200	230	
L1	174	186	191	202	205	225	
L2	64	76	81	92	95	115	
L3	70	82	87	98	101	121	
PP	L4	99	114	123	139	148	175
PVC-U	L4	102	120	131	150	163	197
N	155	230	230	230	230	304	
N1	125	125	125	125	125	182	
O	49	49	49	49	49	60	
O1	36	36	36	36	36	49	
P	44	53	53	53	53	65	
P1	44	44	44	44	44	53	
u	6.5	6.5	6.5	6.5	6.5	6.5	
v	38	48	48	54	54	60	
w	-	-	-	20	20	32	
z	4	4	4	4	4	4	

N/O/P/H = NC-NO
 N1/O1/P1/H1 = DA

Ball valve C 10, pneumatic

Technical data

PP-Line

Option (to be ordered additionally if required)

limit switch unit; positioner; handwheel; pilot solenoid valve; AS Interface connection

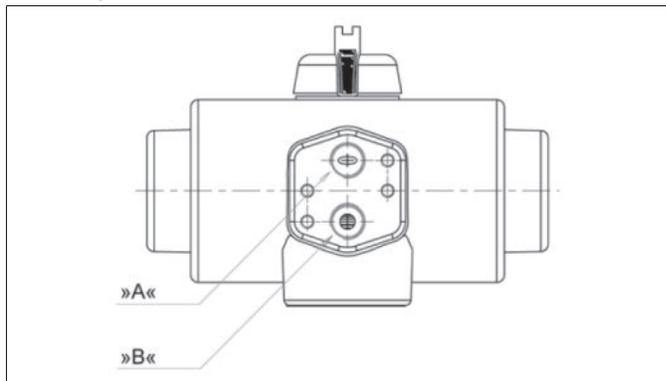
actuator type	PP00S	PP10S	PP20S
Function	NC/NO	NC/NO	NC/NO
Torque (start) at 6 bar(Nm)	15.9	46.6	103.3
Torque (end) at 6 bar(Nm)	11.3	32.3	64.2
Control volume (Opening)(Liter)	0.15	0.35	0.8
Manipulating time (Opening)(s)	0.2	0.3	0.5
Manipulating time (Closing)(s)	0.2	0.3	0.5
Control pressure connection(inch)	1/4	1/4	1/4
Weight(kg)	1.03	2.15	4.95

(*) Drive variants: please order separately.

actuator type	PP00	PP10 (*)
Function	DA	DA
Torque (start) at 6 bar(Nm)	25	71
Control volume (Opening)(Liter)	0.15	0.35
Control volume (Closing)(Liter)	0.1	0.32
Manipulating time (Opening)(s)	0.15	0.25
Manipulating time (Closing)(s)	0.15	0.25
Control pressure connection(inch)	1/4	1/4
Weight(kg)	0.76	1.41

(*) Drive variants: please order separately.

Control pressure connection



Normally closed NC: control pressure to connection »B«, valve opens

Normally open NO: control pressure to connection »B«, valve closes

Double acting DA: control pressure to connection »A«, valve closes control pressure to connection »B«, valve opens

Control:

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

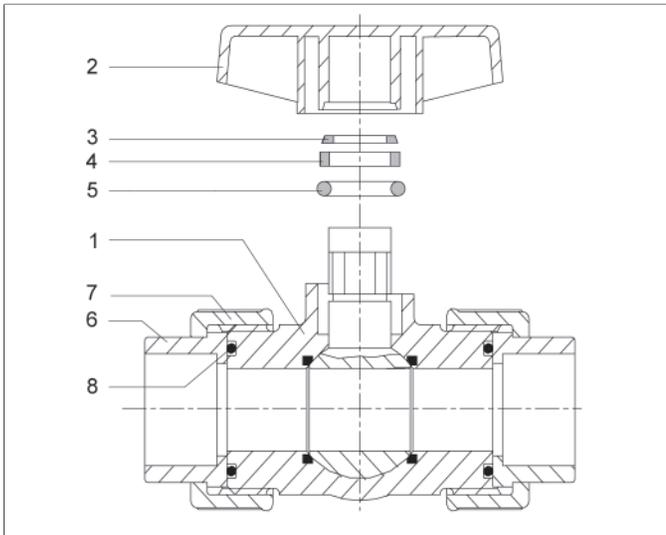
5/2-way solenoid valves for DA actuators

Note:

The drives require a control pressure of 6 bar for optimum function. Malfunctions may occur, if the control pressure deviates. In this case, a new drive configuration is necessary.

Ball valve C 10

parts lists



position	quantity	designation
1	1	body with ball
2	1	T-handle
3	1	circlip
4	1	pressure piece
5	1	O-ring
6	2	union end
7	2	union nut
8	2	O-ring