

Ball valve C 110

multi-part, safefloat ball, high k_v value



Advantage

- exchangeable ball seat and ball
- versatile connection possibilities

Application

- chemical plants
- industrial plants
- electroplating plants

Intended Use

- 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, 8063 and 16962. DIN EN 12266, leakage rate A tested.

Nominal Pressure (H_2O , 20°C)

- PN 6 - PN 10

Fluid Temperature

- see pressure-/temperature diagram

Operating Pressure

- see pressure-/temperature diagram

Size

- DN 65 - DN 150

Body

- PVC-U
- PP
- PVDF

Ball

- PVC-U
- PP
- PVDF

Ball Seat

- PTFE

Sealing

- FPM
- EPDM

Actuation

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

Connection

- PP/steel flange DIN EN 1092, PN 10/16, with DIN face-to-face dimension
- wafer type flange for short face-to-face dimension
- socket flange DIN ISO (PVC-U)
- socket flange DIN/ISO (PP)
- socket flange DIN/ISO (PVDF)

Mounting Position

- as required

Fastening

- body with integrated mounting plate

Accessories

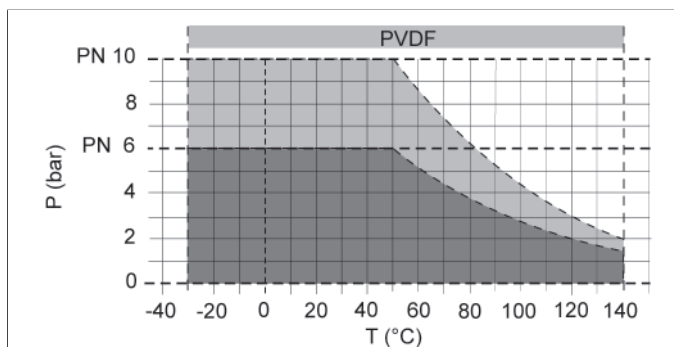
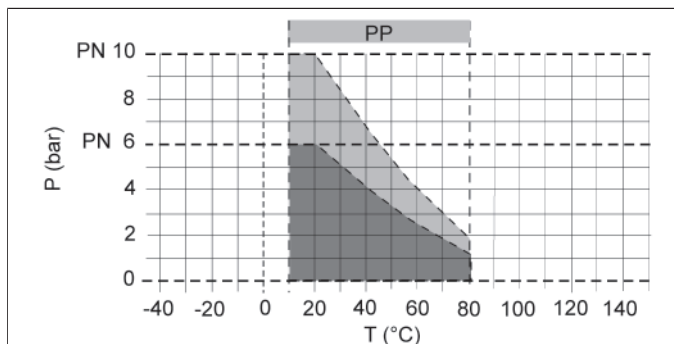
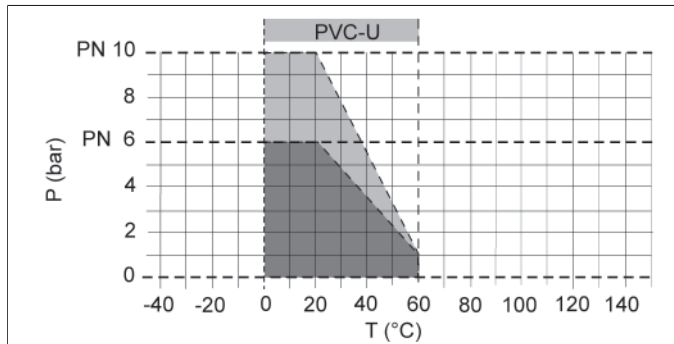
- limit switch unit

Colour

- body: PVC-U, grey, RAL 7011
- body: PP, grey, RAL 7032
- body: PVDF, opaque, yellowish-white
- hand lever: PVC-U, orange, RAL 2004
- PP/Steel Flanges: black, RAL 9011

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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.

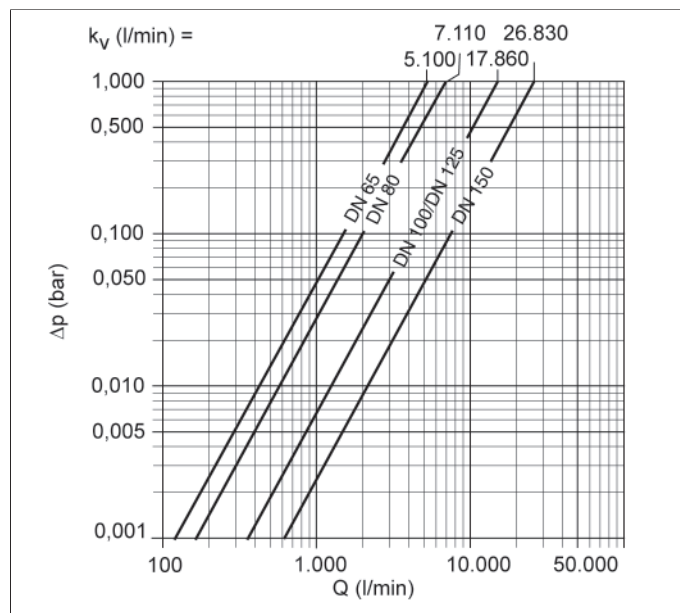
For other media please refer to the ASV resistance guide.

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

For temperatures below 0°C (PP < +10°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 .

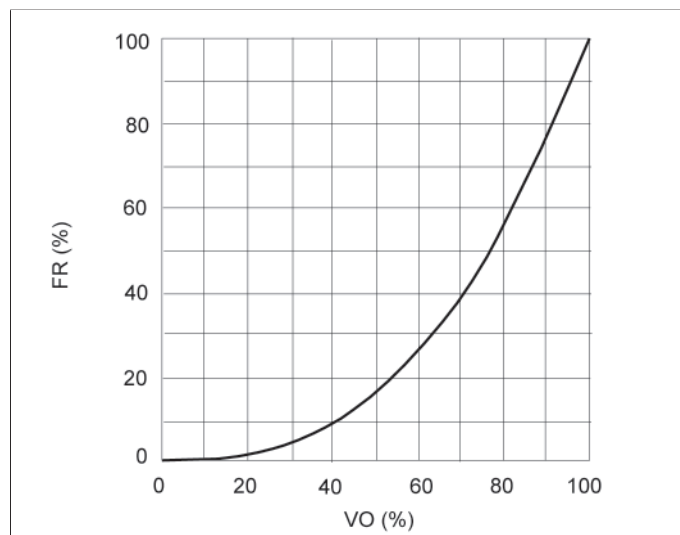
Conversion aid:

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

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)	75	90	110	140	160
PVC-U	25	40	50	50	80
PP	25	40	50	50	80
PVDF	25	40	50	50	80

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 110

Screw tightening torque (Nm)

for the wafer flange variant

d (mm)	75	90	110	140	150
Md (Nm)	20	20	20	20	20

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.

Non-observance of the specified instructions and safety regulations may cause damage to health and/or damage to assets.

Ball valve C 110, manual



body PVC-U		ball PVC-U					
<i>size</i>	d(mm)		75	90	110	140	160
	<i>pressure range</i>	DN(mm)	65	80	100	125	150
		DN(inch)	2 1/2	3	4	5	6
		PN(bar)	10	10	10	10	6
<i>Connection</i>	<i>ball seat</i>	<i>sealing</i>	<i>ident No.</i>				
PVC-U socket end DIN ISO	PTFE	EPDM	45560	45561	45562		45564
	PTFE	FPM	45565	45566	45567		45569
	<i>weight</i>		6.70 kg	7.70 kg	10.00 kg		18.00 kg
PVC-U wafer type flange DIN EN 1092	PTFE	EPDM	45590	45591	45592		45594
	PTFE	FPM	45595	45596	45597		45599
	<i>weight</i>		4.10 kg	4.90 kg	6.50 kg		13.50 kg
PP / steel flange DIN EN 1092	PTFE	EPDM	45808	45809	45810	45811	45812
	PTFE	FPM	45813	45814	45815	45816	45817
	<i>weight</i>		8.20 kg	9.50 kg	12.20 kg	13.90 kg	20.80 kg

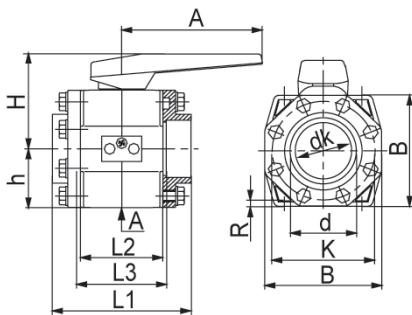
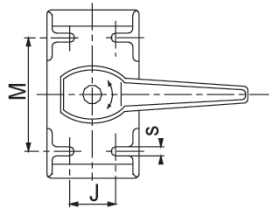
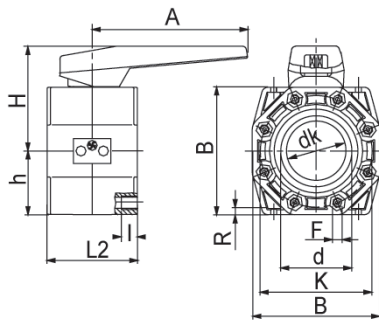
body PP		ball PP					
<i>size</i>	d(mm)		75	90	110	140	160
	<i>pressure range</i>	DN(mm)	65	80	100	125	150
		DN(inch)	2 1/2	3	4	5	6
		PN(bar)	10	10	10	10	6
<i>Connection</i>	<i>ball seat</i>	<i>sealing</i>	<i>ident No.</i>				
PP socket end DIN ISO	PTFE	EPDM	45570	45571	45572		
	PTFE	FPM	45575	45576	45577		
	<i>weight</i>		5.70 kg	6.50 kg	8.10 kg		
PP spigot end DIN ISO	PTFE	EPDM					45574
	PTFE	FPM					45579
	<i>weight</i>						14.60 kg
PP wafer type flange DIN EN 1092	PTFE	EPDM	45600	45601	45602		45604
	PTFE	FPM	45605	45606	45607		45609
	<i>weight</i>		3.70 kg	4.30 kg	5.70 kg		11.40 kg
PP / steel flange DIN EN 1092	PTFE	EPDM	45818	45819	45820	45821	45822
	PTFE	FPM	45823	45824	45825	45826	45827
	<i>weight</i>		7.60 kg	8.70 kg	10.80 kg	12.50 kg	16.50 kg

Ball valve C 110, manual

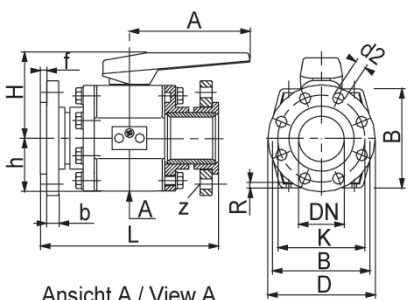
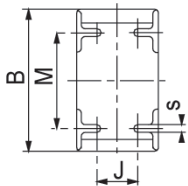


body PVDF		ball PVDF					
<i>size</i>	d(mm)		75	90	110	140	160
<i>pressure range</i>	DN(mm)		65	80	100	125	150
	DN(inch)		2 1/2	3	4	5	6
	PN(bar)		10	10	10	10	6
<i>Connection</i>	<i>ball seat</i>	<i>sealing</i>	<i>ident No.</i>				
PVDF socket end DIN ISO	PTFE <i>weight</i>	FPM	45585 8.40 kg	45586 9.70 kg	45587 11.20 kg		
PVDF spigot end DIN ISO	PTFE <i>weight</i>	FPM					45589 22.50 kg
PVDF wafer type flange DIN EN 1092	PTFE <i>weight</i>	FPM	45615 4.70 kg	45616 5.60 kg	45617 7.60 kg		45619 15.80 kg
PP / steel flange DIN EN 1092	PTFE <i>weight</i>	FPM	45833 10.20 kg	45834 11.80 kg	45835 14.70 kg	45836 16.40 kg	45837 24.50 kg

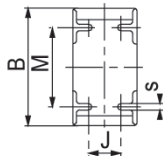
Ball valve C 110, manual



Ansicht A / View A



Ansicht A / View A



dimensions

d(mm)	75	90	110	140	160
DN(mm)	65	80	100	125	150
DN(inch)	2 1/2	3	4	5	6

dimensions(mm)

	A	210	210	260	260	310
	b	19	21	22	26	27
PP/PVC-U	B	169	186	206	206	273
PVDF	B	168	182	202	202	264
	d2	18	18	18	18	22
	dk	64	77	94	-	135
	D	186	201	221	251	286
	f	10	11	12	14	16
	F	M 16	M 16	M 16	-	M 20
PP/PVC-U	h	84.5	93	103	103	136.5
PVDF	h	84	91	101	101	132
PP/PVC-U	H	142	150	165	165	210
PVDF	H	140	148	163	163	206
PP/PVC-U	J	60	60	80	80	130
PVDF	J	57	57	76	76	124
	K	145	160	180	210	240
	l	20	20	20	-	30
	L	290	310	350	400	480
PP/PVDF	L1	180	206	238	-	364
PVC-U	L1	206	236	276	-	386
PP/PVC-U	L2	112	124	145	-	205
PVDF	L2	112	123	140	-	197
PP/PVC-U	L3	118	134	155	-	214
PVDF	L3	118	133	150	-	-
PP/PVC-U	M	111	124	137	137	179
PVDF	M	111	122	133	133	175
	S	8.5	8.5	8.5	-	8.5
	z	4	8	8	8	8

Ball valve C 110, electric



Voltage

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

Mounting Set

- PP

Coupling

- steel square, galvanised

Screws

- stainless steel (1.4301)

Actuator variant 230 V		body PVC-U		ball PVC-U				
<i>size</i> <i>pressure range</i>	d(mm)			75	90	110	140	160
	DN(mm)			65	80	100	125	150
	DN(inch)			2 1/2	3	4	5	6
	PN(bar)			10	10	10	10	6
<i>Connection</i>	<i>ball seat</i>	<i>sealing</i>	<i>ident No.</i>					
PVC-U socket end DIN ISO	PTFE	EPDM		455609230	455619230	455629230		455649230
	PTFE	FPM		455659230	455669230	455679230		455699230
	<i>weight</i>			12.80 kg	13.80 kg	16.10 kg		24.10 kg
PVC-U wafer type flange DIN EN 1092	PTFE	EPDM		455909230	455919230	455929230		455949230
	PTFE	FPM		455959230	455969230	455979230		455999230
	<i>weight</i>			10.20 kg	11.00 kg	12.60 kg		19.60 kg
PP / steel flange DIN EN 1092	PTFE	EPDM		458089230	458099230	458109230	458119230	458129230
	PTFE	FPM		458139230	458149230	458159230	458169230	458179230
	<i>weight</i>			14.30 kg	15.60 kg	18.30 kg	20.00 kg	26.90 kg

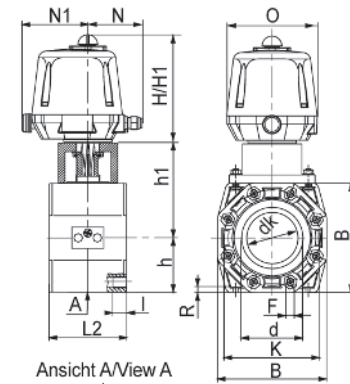
Ball valve C 110, electric



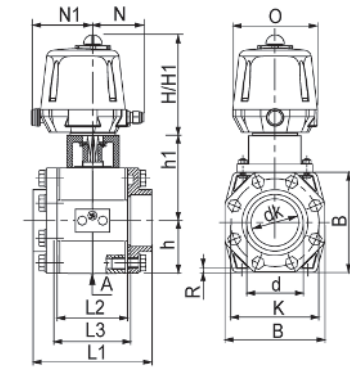
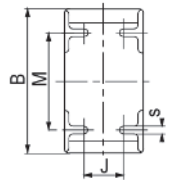
Actuator variant 230 V		body PP		ball PP				
size pressure range	d(mm)			75	90	110	140	160
	DN(mm)			65	80	100	125	150
	DN(inch)			2 1/2	3	4	5	6
	PN(bar)			10	10	10	10	6
Connection	ball seat	sealing	ident No.					
PP socket end DIN ISO	PTFE	EPDM		455709230	455719230	455729230		
	PTFE	FPM		455759230	455769230	455779230		
	weight			11.80 kg	12.60 kg	14.20 kg		
PP spigot end DIN ISO	PTFE	EPDM						455749230
	PTFE	FPM						455799230
	weight							20.70 kg
PP wafer type flange DIN EN 1092	PTFE	EPDM		456009230	456019230	456029230		456049230
	PTFE	FPM		456059230	456069230	456079230		456099230
	weight			9.80 kg	10.40 kg	11.80 kg		17.50 kg
PP / steel flange DIN EN 1092	PTFE	EPDM		458189230	458199230	458209230	458219230	458229230
	PTFE	FPM		458239230	458249230	458259230	458269230	458279230
	weight			13.70 kg	14.80 kg	16.90 kg	18.60 kg	22.60 kg

Actuator variant 230 V		body PVDF		ball PVDF				
size pressure range	d(mm)			75	90	110	140	160
	DN(mm)			65	80	100	125	150
	DN(inch)			2 1/2	3	4	5	6
	PN(bar)			10	10	10	10	6
Connection	ball seat	sealing	ident No.					
PVDF socket end DIN ISO	PTFE	FPM		455859230	455869230	455879230		
	weight			14.50 kg	15.80 kg	17.30 kg		
PVDF spigot end DIN ISO	PTFE	FPM						455899230
	weight							28.60 kg
PVDF wafer type flange DIN EN 1092	PTFE	FPM		456159230	456169230	456179230		456199230
	weight			10.80 kg	11.70 kg	13.70 kg		21.90 kg
PP / steel flange DIN EN 1092	PTFE	FPM		458339230	458349230	458359230	458369230	458379230
	weight			16.30 kg	17.90 kg	20.80 kg	22.50 kg	30.60 kg

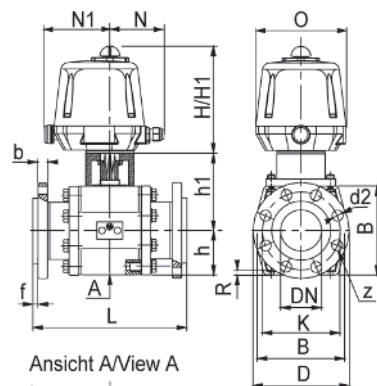
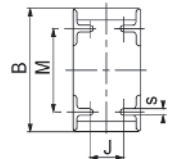
Ball valve C 110, electric



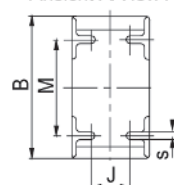
Ansicht A/View A



Ansicht A / View A



Ansicht A/View A



dimensions

d(mm)	75	90	110	140	160
DN(mm)	65	80	100	125	150
DN(inch)	2 1/2	3	4	5	6
actuator type	VR75	VR75	VR75	VR75	VS100

dimensions(mm)

	b	19	21	22	26	27
PP/PVC-U	B	169	186	206	206	273
PVDF	B	168	182	202	202	264
	d2	18	18	18	18	22
	D	186	201	221	251	286
	f	10	11	12	14	16
PP/PVC-U	h	84.5	93	103	103	136.5
PVDF	h	84	91	101	101	132
PP/PVC-U	h1	194.5	203	213	213	246.5
PVDF	h1	194	201	211	211	242
	H	198	198	198	259	259
PP/PVC-U	J	60	60	80	80	130
PVDF	J	57	57	76	76	124
	K	145	160	180	210	240
	L	290	310	350	400	480
PP/PVDF	L1	180	206	238	-	364
PVC-U	L1	206	236	276	-	386
PP/PVC-U	L2	112	124	145	-	205
PVDF	L2	112	123	140	-	197
PP/PVC-U	L3	118	134	155	-	214
PVDF	L3	118	133	150	-	-
PP/PVC-U	M	111	124	137	137	179
PVDF	M	111	122	133	133	175
	N	120	120	120	110	110
	N1	103	103	103	190	190
	O	170	170	170	170	170
	S	8.5	8.5	8.5	8.5	8.5
	z	4	8	8	8	8

Ball valve C 110, electric

Technical data

VR-Line

Option (to be ordered additionally if required)

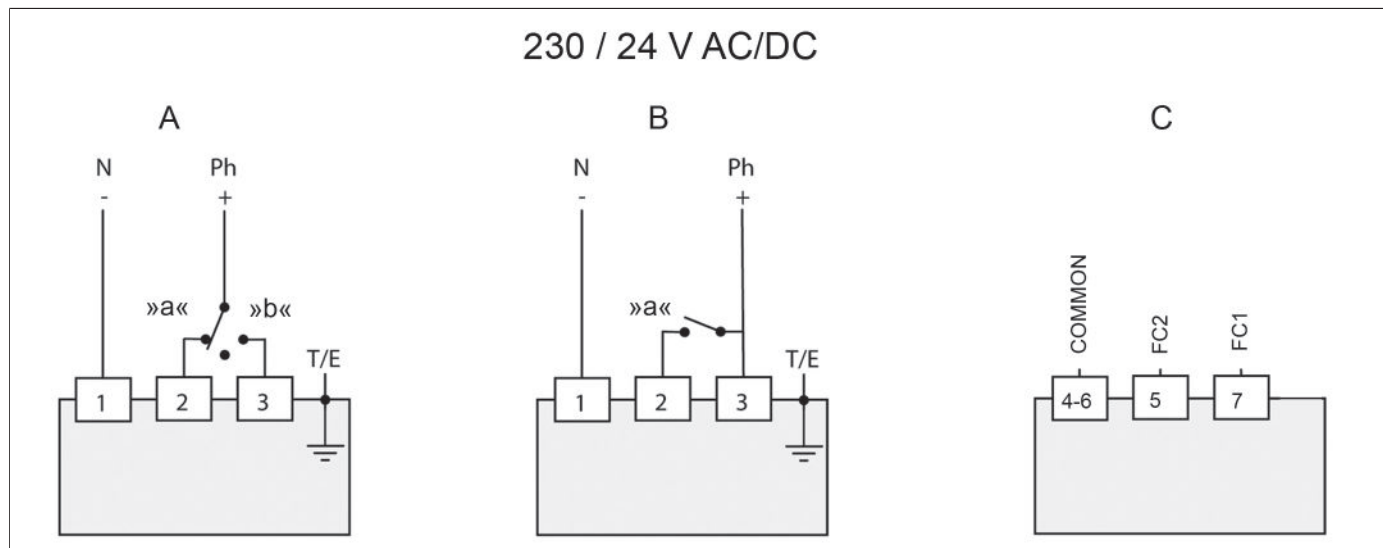
2 additional limit switches; long hand lever; fail-safe rechargeable battery pack (internal/external); positioner; Feedback: potentiometer; feedback: 4 ... 20mA; positioner: 4 ... 20mA / 0 ... 10V; AS Interface connection; ATEX version; Duty cycle: 80%

actuator type	VR75	VR75 (*)	VR75 (*)
Torque	75	75	75
Voltage	100 - 240 VAC	24 VAC/DC	400 VAC
Manipulating time(s)	20	20	15
Power consumption(W)	45	45	52
Setting angle(°)	90	90	90
Weight(kg)	3.1	3.1	3.1
Duty cycle(%)	50	50	50
Type of protection	IP 67	IP 67	IP 67
Temperature(°C)	-20 ... 70	-20 ... 70	-20 ... 70

(*) Drive variants: please order separately.

Recommended wiring

VR-Line



A = 3 switch positions

B = open/closed switch position

C = feedback

FC1 = limit switch 1

FC2 = limit switch 2

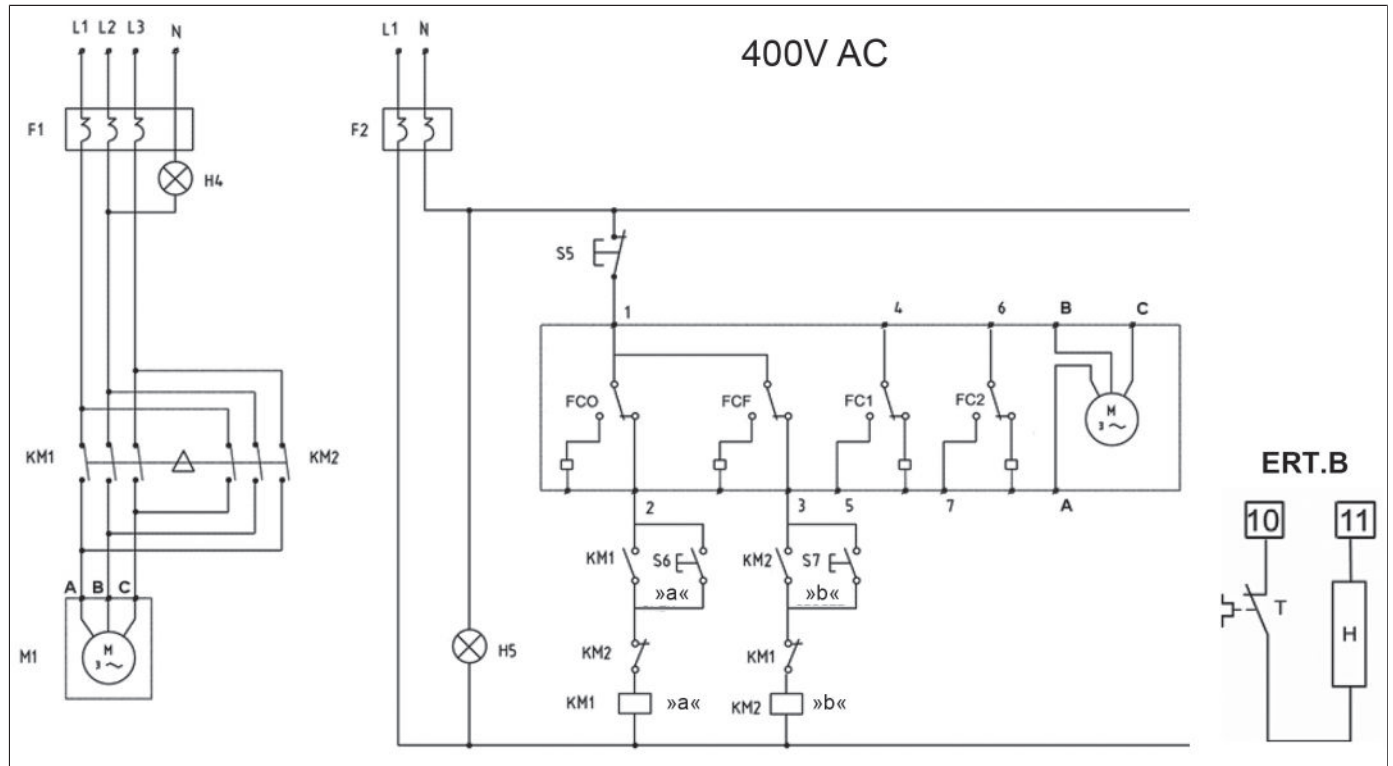
»a« = open

»b« = closed

Ball valve C 110, electric

Recommended wiring

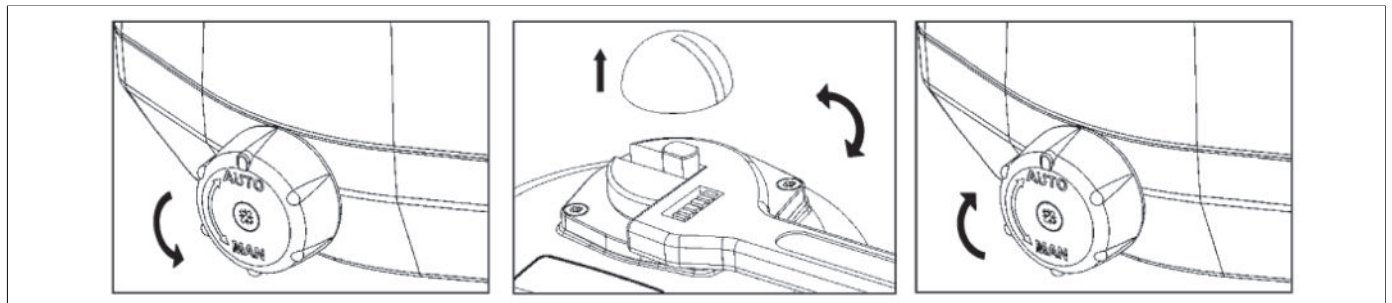
VR-Line



- KM1 = opening switch*
- KM2 = closing switch*
- FCO = limit switch open*
- FCF = limit switch closed*
- FC1 = additional limit switch 1*
- FC2 = additional limit switch 2*
- S5 = stop switch*
- S6 = open switch*
- S7 = closed switch*
- M = motor*
- H4 = motor supply indication*
- H5 = control supply indication*
- F1 = thermal switch 1*
- F2 = thermal switch 2*
- H = heating resistor*
- T = thermal switch*

manual emergency control

VR-Line



Emergency manual control VR series 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 110, electric

Technical data

VS-Line

Option (to be ordered additionally if required)

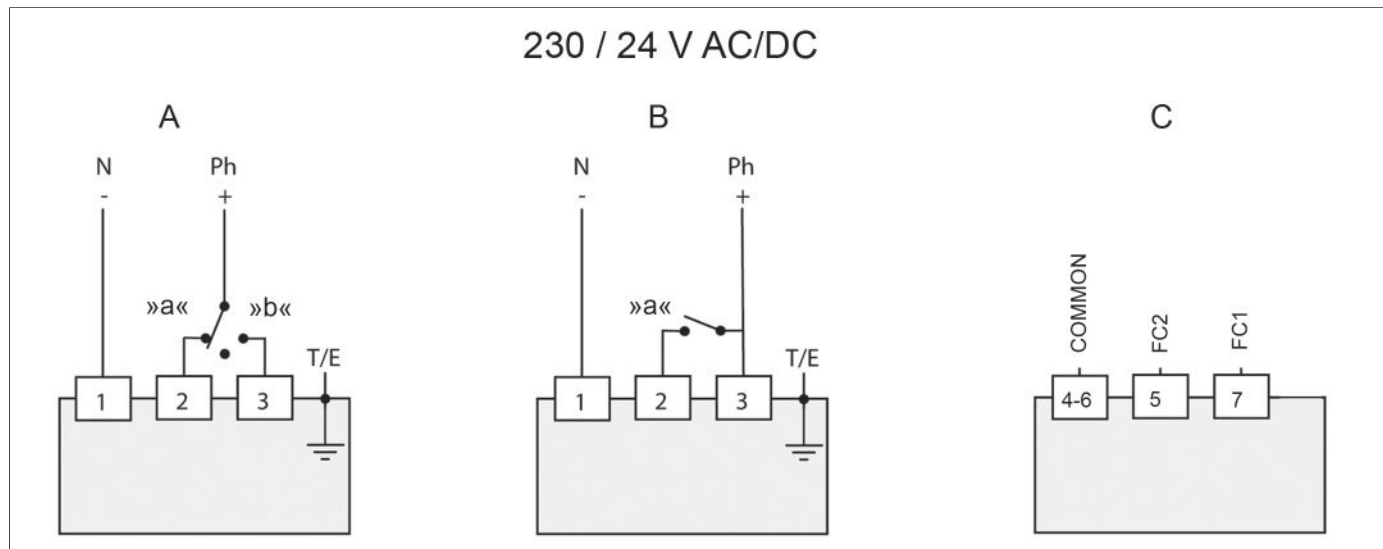
2 additional limit switches; long hand lever; fail-safe rechargeable battery pack (internal/external); positioner; Feedback: potentiometer; feedback: 4 ... 20mA; positioner: 4 ... 20mA / 0 ... 10V; AS Interface connection; ATEX version; Duty cycle: 80%

actuator type	VS100	VS100 (*)	VS100 (*)
Torque	100	100	100
Voltage	100 - 240 VAC	24 VAC/DC	400 VAC
Manipulating time(s)	15	15	10
Power consumption(W)	45	45	135
Setting angle(°)	90	90	90
Weight(kg)	5.6	5.6	5.6
Duty cycle(%)	50	50	50
Type of protection	IP 67	IP 67	IP 67
Temperature(°C)	-20 ... 70	-20 ... 70	-20 ... 70

(*) Drive variants: please order separately.

Recommended wiring

VS-Line



A = 3 switch positions

B = open/closed switch position

C = feedback

FC1 = limit switch 1

FC2 = limit switch 2

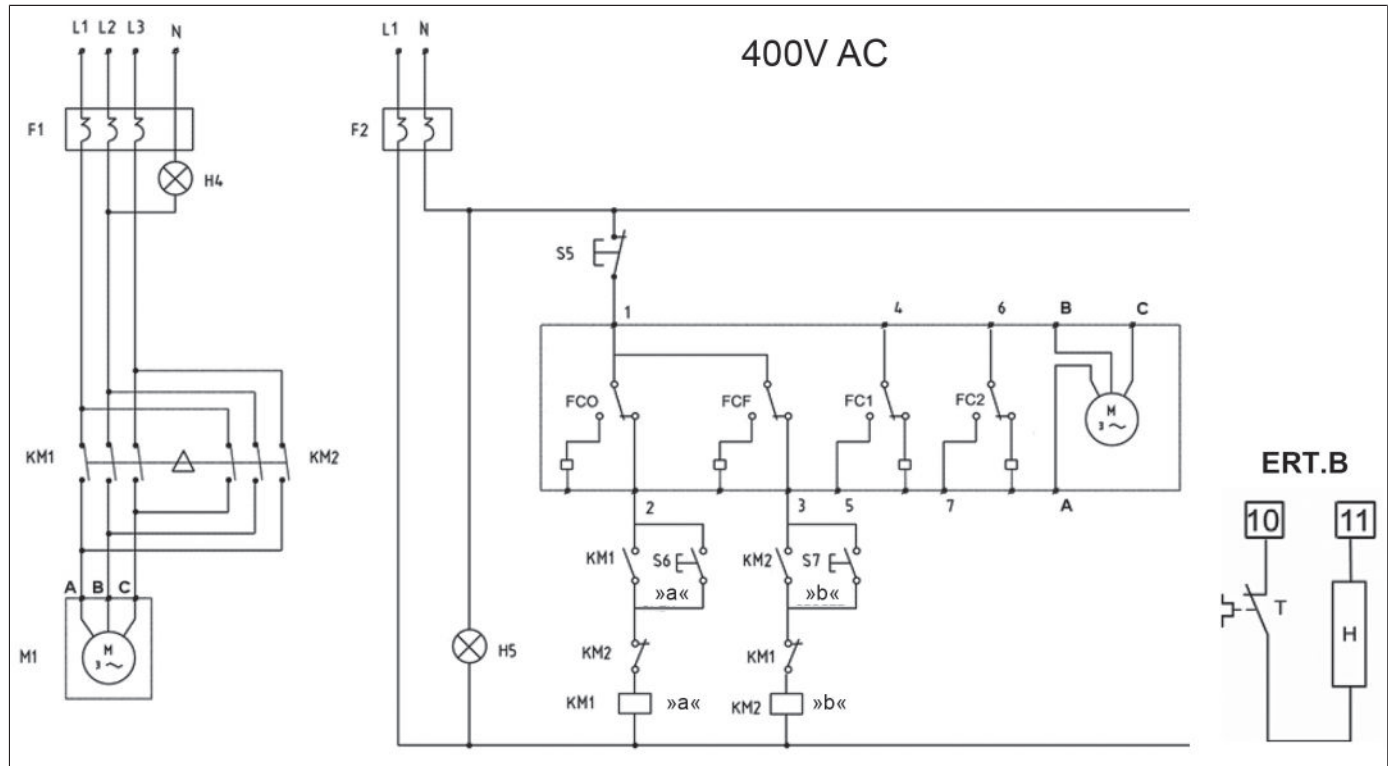
»a« = open

»b« = closed

Ball valve C 110, electric

Recommended wiring

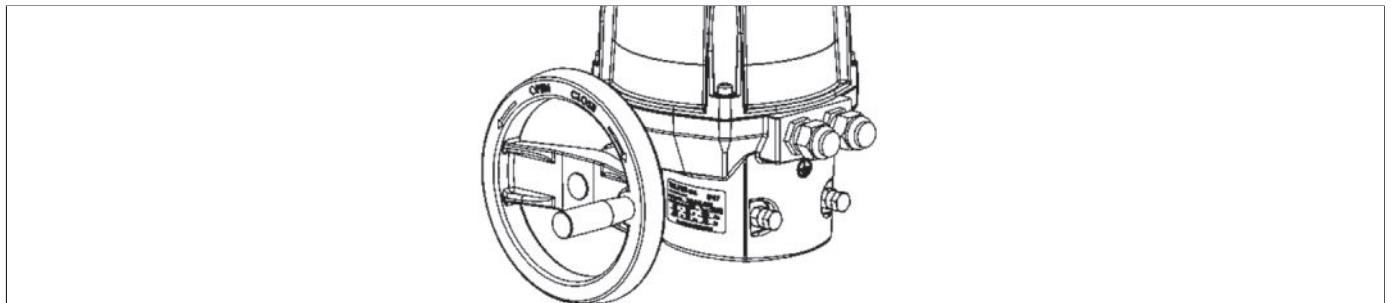
VS-Line



- KM1 = opening switch*
- KM2 = closing switch*
- FCO = limit switch open*
- FCF = limit switch closed*
- FC1 = additional limit switch 1*
- FC2 = additional limit switch 2*
- S5 = stop switch*
- S6 = open switch*
- S7 = closed switch*
- M = motor*
- H4 = motor supply indication*
- H5 = control supply indication*
- F1 = thermal switch 1*
- F2 = thermal switch 2*
- H = heating resistor*
- T = thermal switch*

Manual emergency control

VS-Line



Prior to manual commissioning ensure that the electricity supply is interrupted. It is not necessary to disengage the coupling; it is sufficient to turn the handwheel.

Ball valve C 110, pneumatic



Control Pressure

- 6 bar

Control Function

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

Mounting Set

- PP

Coupling

- steel square, galvanised

Screws

- stainless steel (1.4301)

Standard

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

Actuator variant NC		body PVC-U		ball PVC-U				
<i>size</i> <i>pressure range</i>	d(mm)			75	90	110	140	160
	DN(mm)			65	80	100	125	150
	DN(inch)			2 1/2	3	4	5	6
	PN(bar)			10	10	10	10	6
<i>Connection</i>	<i>ball seat</i>	<i>sealing</i>	<i>ident No.</i>					
PVC-U socket end DIN ISO	PTFE	EPDM		455609560	455619560	455629560		455649660
	PTFE	FPM		455659560	455669560	455679560		455699660
	<i>weight</i>			12.15 kg	13.15 kg	15.45 kg		27.70 kg
PVC-U wafer type flange DIN EN 1092	PTFE	EPDM		455909560	455919560	455929560		455949660
	PTFE	FPM		455959560	455969560	455979560		455999660
	<i>weight</i>			9.55 kg	10.35 kg	11.95 kg		23.20 kg
PP / steel flange DIN EN 1092	PTFE	EPDM		458089560	458099560	458109560	458119560	458129660
	PTFE	FPM		458139560	458149560	458159560	458169560	458179660
	<i>weight</i>			13.65 kg	14.95 kg	17.65 kg	19.35 kg	30.50 kg

Ball valve C 110, pneumatic



Actuator variant NO		body PVC-U		ball PVC-U				
<i>size</i>	d(mm)			75	90	110	140	160
	<i>pressure range</i>			65	80	100	125	150
				2 1/2	3	4	5	6
				10	10	10	10	6
<i>Connection</i>	<i>ball seat</i>	<i>sealing</i>	<i>ident No.</i>					
PVC-U socket end DIN ISO	PTFE	EPDM		455609570	455619570	455629570		455649670
	PTFE	FPM		455659570	455669570	455679570		455699670
	<i>weight</i>			12.15 kg	13.15 kg	15.45 kg		27.70 kg
PVC-U wafer type flange DIN EN 1092	PTFE	EPDM		455909570	455919570	455929570		455949670
	PTFE	FPM		455959570	455969570	455979570		455999670
	<i>weight</i>			9.55 kg	10.35 kg	11.95 kg		23.20 kg
PP / steel flange DIN EN 1092	PTFE	EPDM		458089570	458099570	458109570	458119570	458129670
	PTFE	FPM		458139570	458149570	458159570	458169570	458179670
	<i>weight</i>			13.65 kg	14.95 kg	17.65 kg	19.35 kg	30.50 kg

Actuator variant DA		body PVC-U		ball PVC-U				
<i>size</i>	d(mm)			75	90	110	140	160
	<i>pressure range</i>			65	80	100	125	150
				2 1/2	3	4	5	6
				10	10	10	10	6
<i>Connection</i>	<i>ball seat</i>	<i>sealing</i>	<i>ident No.</i>					
PVC-U socket end DIN ISO	PTFE	EPDM		455609580	455619580	455629580		455649580
	PTFE	FPM		455659580	455669580	455679580		455699580
	<i>weight</i>			8.61 kg	9.61 kg	11.91 kg		21.44 kg
PVC-U wafer type flange DIN EN 1092	PTFE	EPDM		455909580	455919580	455929580		455949580
	PTFE	FPM		455959580	455969580	455979580		455999580
	<i>weight</i>			6.01 kg	6.81 kg	8.41 kg		16.94 kg
PP / steel flange DIN EN 1092	PTFE	EPDM		458089580	458099580	458109580	458119580	458129580
	PTFE	FPM		458139580	458149580	458159580	458169580	458179580
	<i>weight</i>			10.11 kg	11.41 kg	14.11 kg	15.81 kg	24.24 kg

Ball valve C 110, pneumatic



Actuator variant NC		body PP		ball PP				
<i>size</i> <i>pressure range</i>	d(mm)			75	90	110	140	160
	DN(mm)			65	80	100	125	150
	DN(inch)			2 1/2	3	4	5	6
	PN(bar)			10	10	10	10	6
<i>Connection</i>	<i>ball seat</i>	<i>sealing</i>	<i>ident No.</i>					
PP socket end DIN ISO	PTFE	EPDM		455709560	455719560	455729560		
	PTFE	FPM		455759560	455769560	455779560		
	<i>weight</i>			11.15 kg	11.95 kg	13.55 kg		
PP spigot end DIN ISO	PTFE	EPDM						455749660
	PTFE	FPM						455799660
	<i>weight</i>							24.30 kg
PP wafer type flange DIN EN 1092	PTFE	EPDM		456009560	456019560	456029560		456049660
	PTFE	FPM		456059560	456069560	456079560		456099660
	<i>weight</i>			9.15 kg	9.75 kg	11.15 kg		21.10 kg
PP / steel flange DIN EN 1092	PTFE	EPDM		458189560	458199560	458209560	458219560	458229660
	PTFE	FPM		458239560	458249560	458259560	458269560	458279660
	<i>weight</i>			13.05 kg	14.15 kg	16.25 kg	17.95 kg	26.20 kg

Actuator variant NO		body PP		ball PP				
<i>size</i> <i>pressure range</i>	d(mm)			75	90	110	140	160
	DN(mm)			65	80	100	125	150
	DN(inch)			2 1/2	3	4	5	6
	PN(bar)			10	10	10	10	6
<i>Connection</i>	<i>ball seat</i>	<i>sealing</i>	<i>ident No.</i>					
PP socket end DIN ISO	PTFE	EPDM		455709570	455719570	455729570		
	PTFE	FPM		455759570	455769570	455779570		
	<i>weight</i>			11.15 kg	11.95 kg	13.55 kg		
PP spigot end DIN ISO	PTFE	EPDM						455749670
	PTFE	FPM						455799670
	<i>weight</i>							24.30 kg
PP wafer type flange DIN EN 1092	PTFE	EPDM		456009570	456019570	456029570		456049670
	PTFE	FPM		456059570	456069570	456079570		456099670
	<i>weight</i>			9.15 kg	9.75 kg	11.15 kg		21.60 kg
PP / steel flange DIN EN 1092	PTFE	EPDM		458189570	458199570	458209570	458219570	458229670
	PTFE	FPM		458239570	458249570	458259570	458269570	458279670
	<i>weight</i>			13.05 kg	14.15 kg	16.25 kg	17.95 kg	26.20 kg

Ball valve C 110, pneumatic



Actuator variant DA		body PP		ball PP				
size pressure range	d(mm)			75	90	110	140	160
	DN(mm)			65	80	100	125	150
	DN(inch)			2 1/2	3	4	5	6
	PN(bar)			10	10	10	10	6
Connection	ball seat	sealing	ident No.					
PP socket end DIN ISO	PTFE	EPDM		455709580	455719580	455729580		
	PTFE	FPM		455759580	455769580	455779580		
	weight			7.61 kg	8.41 kg	10.01 kg		
PP spigot end DIN ISO	PTFE	EPDM						455749580
	PTFE	FPM						455799580
	weight							18.04 kg
PP wafer type flange DIN EN 1092	PTFE	EPDM		456009580	456019580	456029580		456049580
	PTFE	FPM		456059580	456069580	456079580		456099580
	weight			5.61 kg	6.21 kg	7.61 kg		14.84 kg
PP / steel flange DIN EN 1092	PTFE	EPDM		458189580	458199580	458209580	458219580	458229580
	PTFE	FPM		458239580	458249580	458259580	458269580	458279580
	weight			9.51 kg	10.61 kg	12.71 kg	14.41 kg	19.94 kg

Actuator variant NC		body PVDF		ball PVDF				
size pressure range	d(mm)			75	90	110	140	160
	DN(mm)			65	80	100	125	150
	DN(inch)			2 1/2	3	4	5	6
	PN(bar)			10	10	10	10	6
Connection	ball seat	sealing	ident No.					
PVDF socket end DIN ISO	PTFE	FPM		455859560	455869560	455879560		
	weight			13.85 kg	15.15 kg	16.65 kg		
PVDF spigot end DIN ISO	PTFE	FPM						455899660
	weight							32.20 kg
PVDF wafer type flange DIN EN 1092	PTFE	FPM		456159560	456169560	456179560		456199660
	weight			15.25 kg	16.15 kg	18.15 kg		30.60 kg
PP / steel flange DIN EN 1092	PTFE	FPM		458339560	458349560	458359560	458369560	458379660
	weight			15.65 kg	17.25 kg	20.15 kg	21.85 kg	34.20 kg

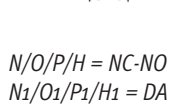
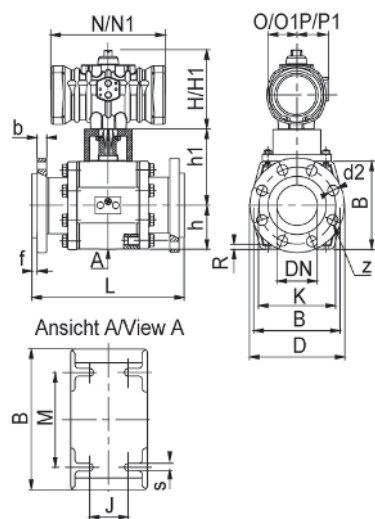
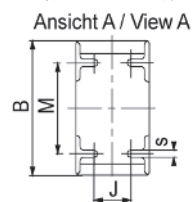
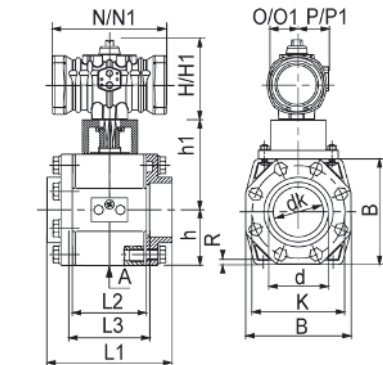
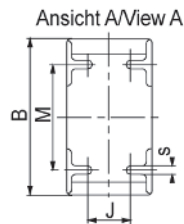
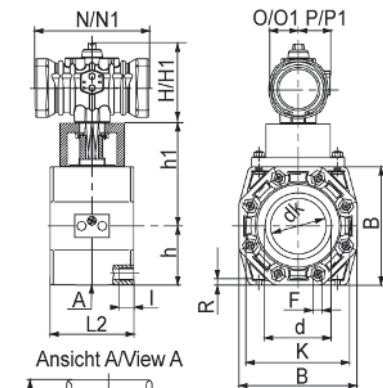
Ball valve C 110, pneumatic



Actuator variant NO		body PVDF		ball PVDF				
size pressure range	d(mm)			75	90	110	140	160
	DN(mm)			65	80	100	125	150
	DN(inch)			2 1/2	3	4	5	6
	PN(bar)			10	10	10	10	6
Connection	ball seat	sealing	ident No.					
PVDF socket end DIN ISO	PTFE	FPM		455859570	455869570	455879570		
	weight			13.85 kg	15.15 kg	16.65 kg		
PVDF spigot end DIN ISO	PTFE	FPM						455899670
	weight							32.20 kg
PVDF wafer type flange DIN EN 1092	PTFE	FPM		456159570	456169570	456179570		456199670
	weight			15.25 kg	16.15 kg	18.15 kg		30.60 kg
PP / steel flange DIN EN 1092	PTFE	FPM		458339570	458349570	458359570	458369570	458379670
	weight			15.65 kg	17.25 kg	20.15 kg	21.80 kg	34.20 kg

Actuator variant DA		body PVDF		ball PVDF				
size pressure range	d(mm)			75	90	110	140	160
	DN(mm)			65	80	100	125	150
	DN(inch)			2 1/2	3	4	5	6
	PN(bar)			10	10	10	10	6
Connection	ball seat	sealing	ident No.					
PVDF socket end DIN ISO	PTFE	FPM		455859580	455869580	455879580		
	weight			10.31 kg	11.61 kg	13.11 kg		
PVDF spigot end DIN ISO	PTFE	FPM						455899580
	weight							25.94 kg
PVDF wafer type flange DIN EN 1092	PTFE	FPM		456159580	456169580	456179580		456199580
	weight			11.06 kg	11.96 kg	13.96 kg		27.94 kg
PP / steel flange DIN EN 1092	PTFE	FPM		458339580	458349580	458359580	458369580	458379580
	weight			12.11 kg	13.71 kg	16.61 kg	13.31 kg	27.94 kg

Ball valve C 110, pneumatic



dimensions

d(mm)	75	90	110	140	160
DN(mm)	65	80	100	125	150
DN(inch)	2 1/2	3	4	5	6
actuator type	PP10 DA PP20S NC/NO	PP10 DA PP20S NC/NO	PP10 DA PP20S NC/NO	PP10 DA PP20S NC/NO	PP20 DA PA25S NC/NO

dimensions(mm)

b	19	21	22	26	27	
PP/PVC-U	B	169	186	206	206	273
PVDF	B	168	182	202	202	264
d2	18	18	18	18	18	22
D	186	201	221	251	286	
f	10	11	12	14	16	
F	M 16	M 16	M 16	-	M 20	
PP/PVC-U	h	84.5	93	103	103	136.5
PVDF	h	84	91	101	101	132
PP/PVC-U	h1	194.5	203	213	213	246.5
PVDF	h1	194	201	211	211	242
H	162	162	162	162	162	184.3
H1	128	128	128	128	128	162
PP/PVC-U	J	60	60	80	80	130
PVDF	J	57	57	76	76	124
K	145	160	180	210	240	
l	20	20	20	-	30	
L	290	310	350	400	480	
PP/PVDF	L1	180	206	238	-	364
PVC-U	L1	206	236	276	-	386
PP/PVC-U	L2	112	124	145	-	205
PVDF	L2	112	123	140	-	197
PP/PVC-U	L3	118	134	155	-	214
PVDF	L3	118	133	150	-	-
PP/PVC-U	M	111	124	137	137	179
PVDF	M	111	122	133	133	175
N	304	304	304	304	356.2	
N1	182	182	182	182	233	
O	60	60	60	60	64.3	
O1	49	49	49	49	60	
P	65	65	65	65	89.2	
P1	53	53	53	53	65	
S	8.5	8.5	8.5	8.5	8.5	
z	4	8	8	8	8	

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

Ball valve C 110, pneumatic

Technical data

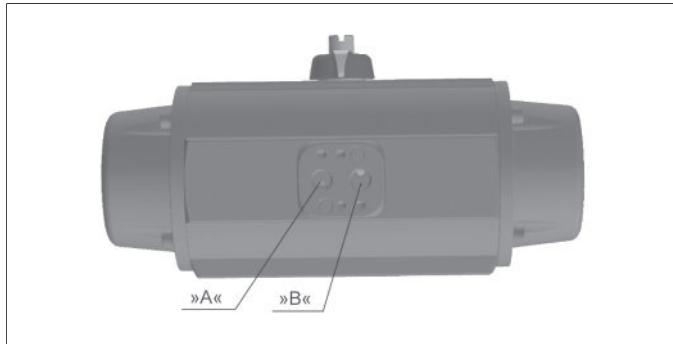
PA-Line

Option (to be ordered additionally if required)

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

actuator type	PA25S
Function	NC/NO
Torque (start) at 6 bar(Nm)	170.6
Torque (end) at 6 bar(Nm)	108.2
Control volume (Opening)(Liter)	1.5
Manipulating time (Opening)(s)	0.8
Manipulating time (Closing)(s)	0.8
Control pressure connection(inch)	1/4
Weight(kg)	11.3

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.

Technical data

PP-Line

Option (to be ordered additionally if required)

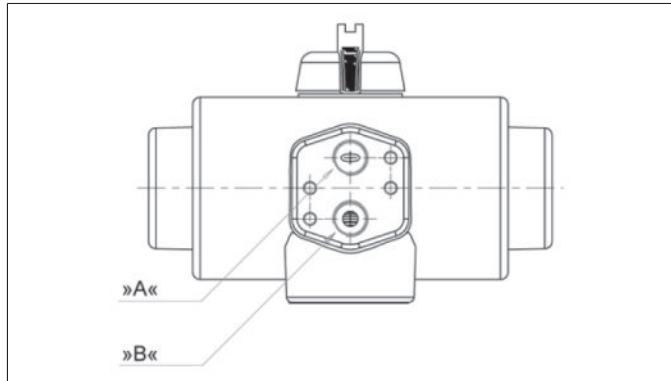
limit switch unit; positioner; handwheel; pilot solenoid valve; AS Interface connection

actuator type	PP20S
Function	NC/NO
Torque (start) at 6 bar(Nm)	103.3
Torque (end) at 6 bar(Nm)	64.2
Control volume (Opening)(Liter)	0.8
Manipulating time (Opening)(s)	0.5
Manipulating time (Closing)(s)	0.5
Control pressure connection(inch)	1/4
Weight(kg)	4.95

actuator type	PP10	PP20
Function	DA	DA
Torque (start) at 6 bar(Nm)	71	165.5
Control volume (Opening)(Liter)	0.35	0.8
Control volume (Closing)(Liter)	0.32	0.7
Manipulating time (Opening)(s)	0.25	0.4
Manipulating time (Closing)(s)	0.25	0.4
Control pressure connection(inch)	1/4	1/4
Weight(kg)	1.41	2.94

Ball valve C 110, pneumatic

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

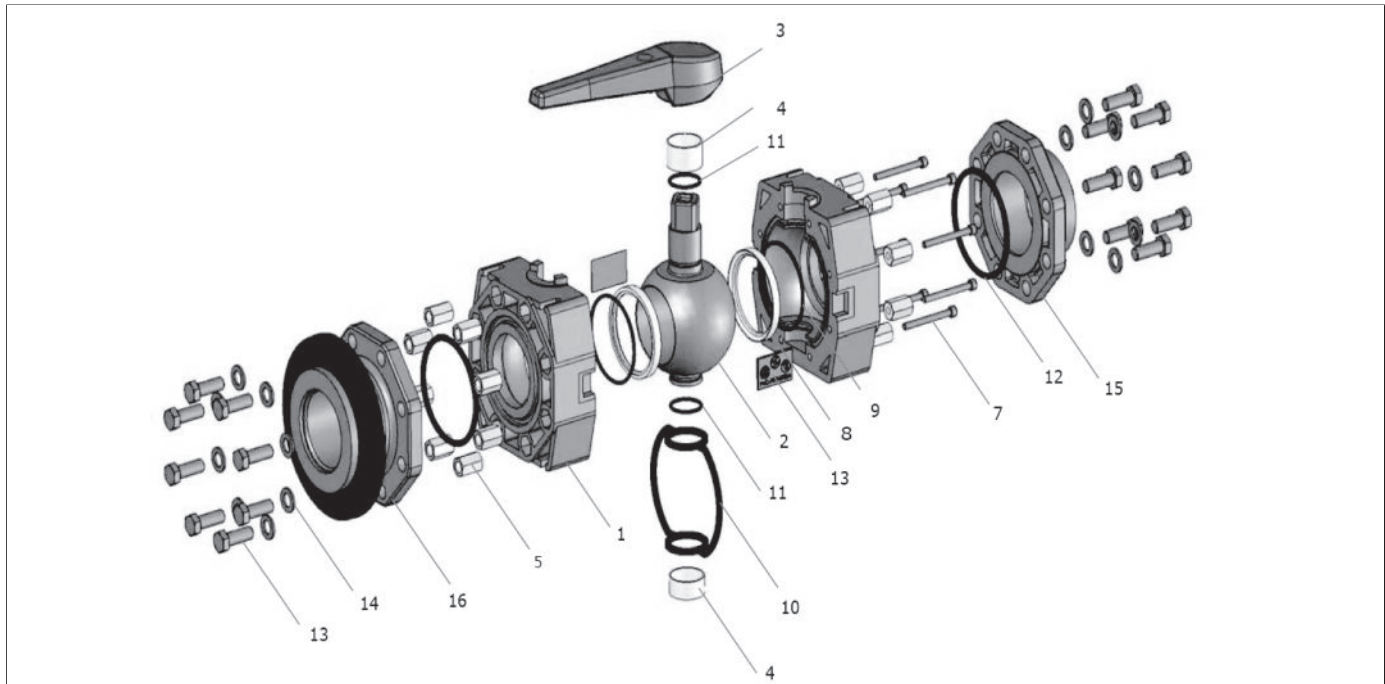
5/2-way solenoid valves for DA actuators

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 110

Item Overview



position	quantity	designation
1	2	housing/body
2	1	ball
3	1	hand lever
4	2	bearing bush
5	16	Application
7	8	hexagon socket screw
8	2	ball seat
9	2	O-ring
10	1	sealing
11	2	O-ring
12	2	O-ring
13	16	hexagon bolt
14	16	washer
15	2	socket
16	2	Flange