

K 210 BUTTERFLY VALVE

DATASHEET



Nominal size DN 50 - 200

Nominal size in inches 2 - 8

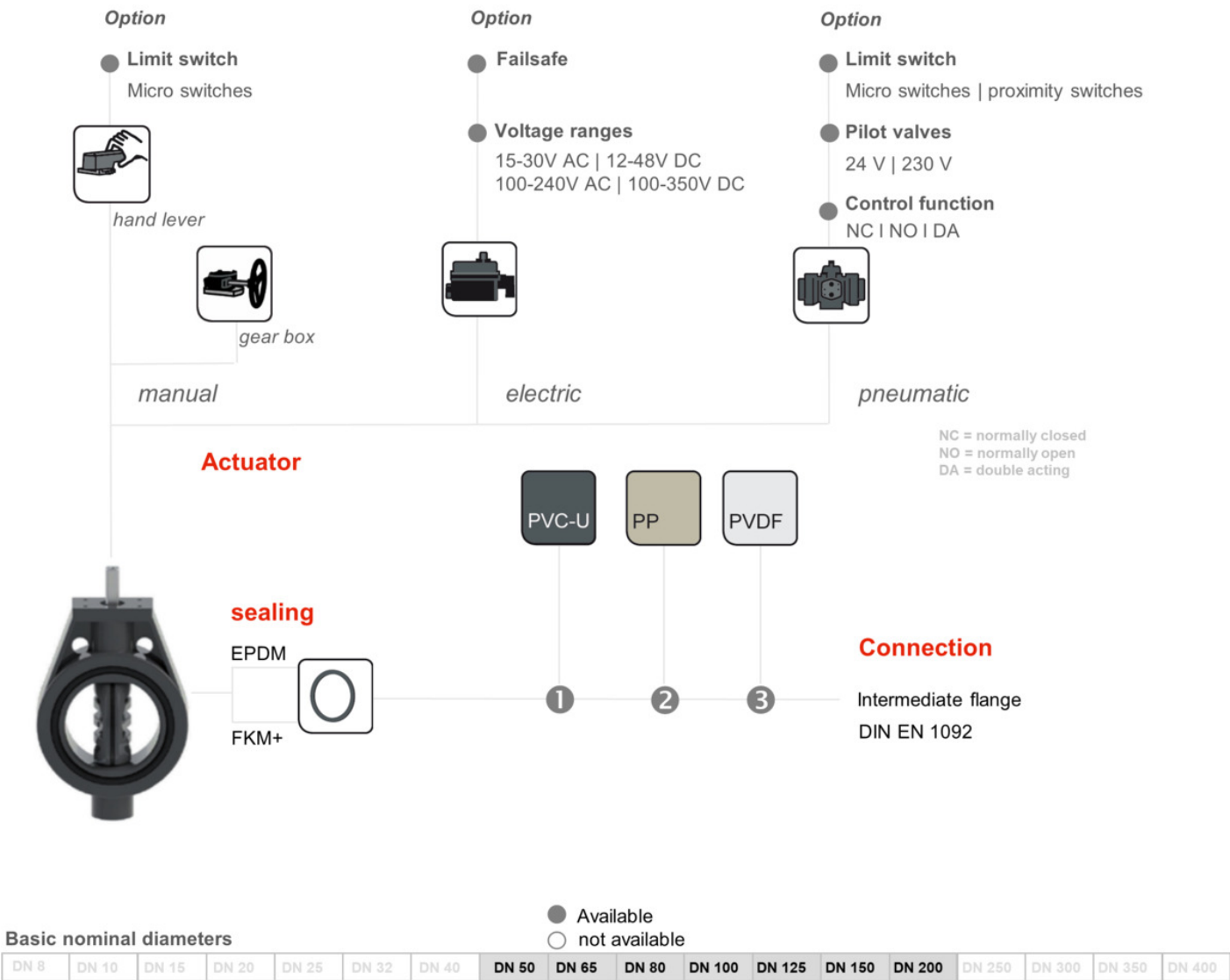
Nominal pressure PN in bar 6 - 10

Characteristics

- robust chemical valve with clip seal
- stainless steel spindle for reliable power transmission
- additional, double shaft seal
- hand lever with practical locking function
- O rings included in the scope of delivery for wafer type installation



Pictogram



Connection Material (process connection)

- ① PVC-U wafer type flange DIN EN 1092
- ② PP wafer type flange DIN EN 1092
- ③ PVDF wafer type flange DIN EN 1092

K 210 Butterfly valve

Use	- Chemical plant manufacture - Industrial plants - electroplating plants
Application	- for shutting off pipeline systems
Device connection	- see pictogram
Process pressure	- see pressure-/temperature diagram
Flow medium	- Neutral and aggressive fluid or gaseous media, provided that the valve components coming into contact with the media are resistant at the operating temperature in accordance with the STÜBBE resistance guide. - Contaminated media may impair the sealing function.
STÜBBE resistance guide	- www.stuebbe.com/pdf_resistance/300051.pdf
Housing material (with medium contact)	- PVC-U - PP - PVDF
Material sealing element (in contact with medium)	- EPDM - FKM+
Shut-off disc	- PVC-U - PP - PVDF
Bearing bush material (with medium contact)	- PVDF
Spindle material (not in contact with the medium)	- stainless steel (1.4305)
Material screws (without medium contact)	- 1.4301
Nominal pressure PN in bar	- 6 - 10
Flow direction	- as required
Colours	- Casing: PVC-U, grey RAL 7011 - Casing: PP, grey RAL 7032 - Casing: PVDF, opaque, yellowish-white - Hand lever: PVC-U, orange, RAL 2004
Mounting position	- any - do not install the electric drive suspended downwards

K 210 Butterfly valve

Actuation

- manually operated with hand lever
- manually operated with gearbox
- with electric and pneumatic actuating drive
- Interfaces for drives according to DIN EN ISO 5211

gear box

- Mounting Set: stainless steel (1.4301)
- Coupling: stainless steel (1.4301)
- Gear reduction 1 : 44

Testing

- according to DIN 3441, 3442, 8063 and 16962
- leakage rate A tested according to DIN EN 12266

CE Conformity

- Pressure equipment directive 2014/68/EU

Accessories

- Limit switch unit

Additional options on demand

- silicon free

Torque (Nm)

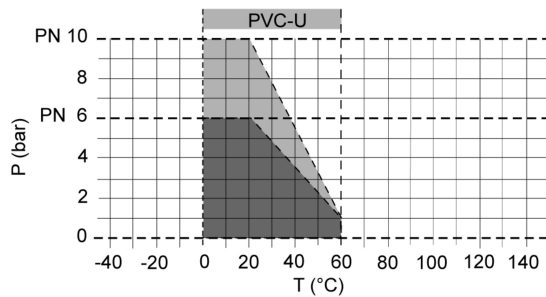
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DN	50	65	80	100	125	150	200
PVC-U	15	19	28	38	52	65	82
PP	15	19	28	38	52	65	82
PVDF	15	19	28	38	52	65	82

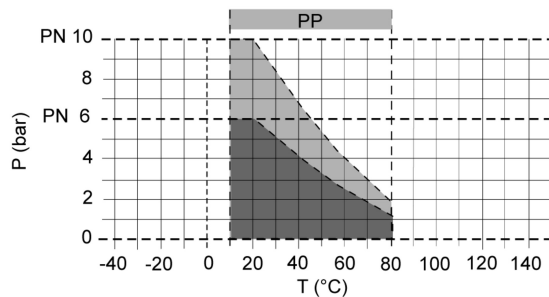
- The specified torques are standard values. They were determined at the specified nominal pressures with H₂O, 20°C. These values can be higher or lower, depending on the operating pressure and the medium.

K 210 Butterfly valve

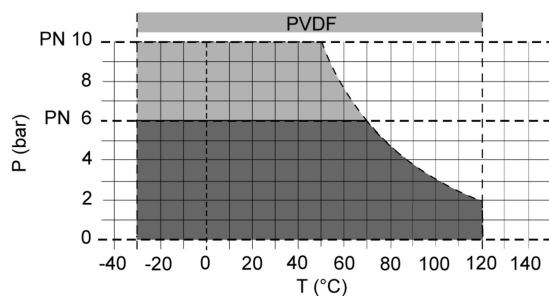
Pressure and temperature diagram PVC-U



Pressure and temperature diagram PP



Pressure and temperature diagram PVDF



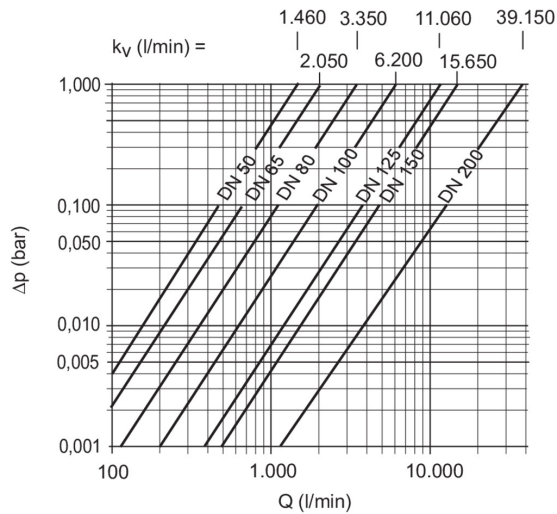
P = Operating pressure

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.

K 210 Butterfly 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:

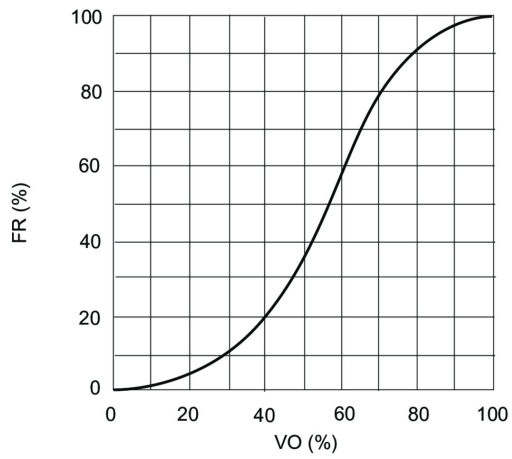
kv [l/min]

cv [gal/min] US

fv [gal/min] GB

K 210 Butterfly valve

Flow characteristic

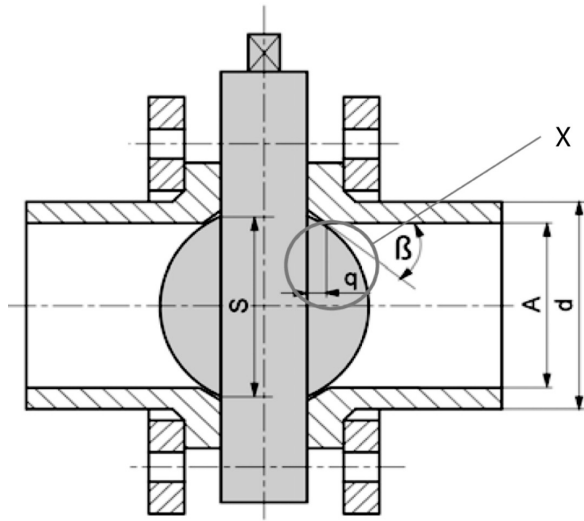


FR = k_v -value

VO = Valve opening

K 210 Butterfly valve

Installation note



X = chamfer

DN		50	65	80	100	125	150	200
A	SDR17,6	55,8	66,4	79,8	97,4	124	141,8	199,4
q x β°	-	-	-	3x45°	3x45°	3x45°	12x30°	18x30°

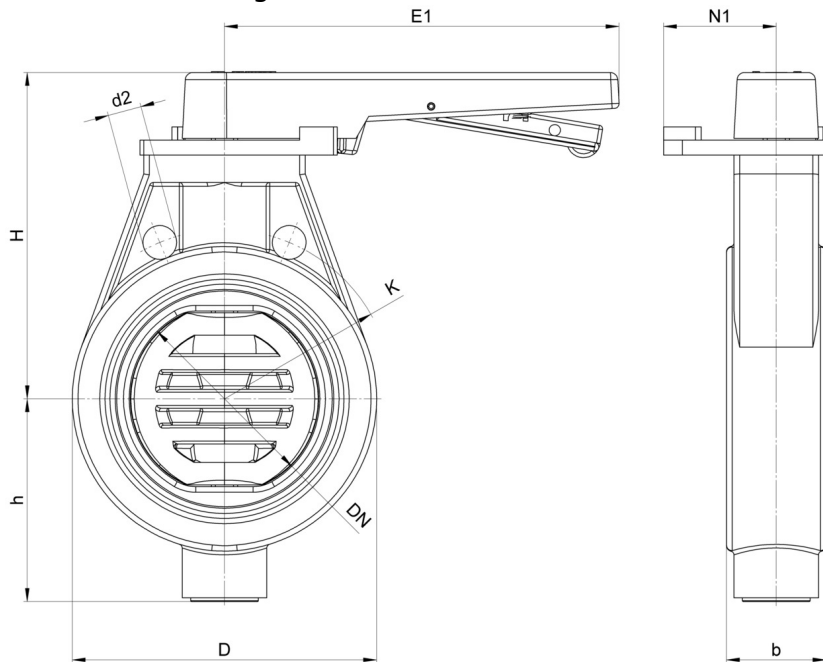
DN		50	65	80	100	125	150	200
A	SDR11	51,4	61,4	73,6	90	114,6	130,8	184
q x β°	-	-	3x45°	8x35°	9x35°	11x35°	20x35°	31x30°

all dimensions in mm

Machine a bevel to welding stubs according to the table prior to installing the butterfly valve in the pipe. If different connection fittings / pressure stages are used, ensure that the shut-off disk has a perfect opening (machine a bevel, if necessary). Otherwise damage to the shut-off disk could occur. Leaks would result.

K 210 Butterfly valve

Dimensioned drawing

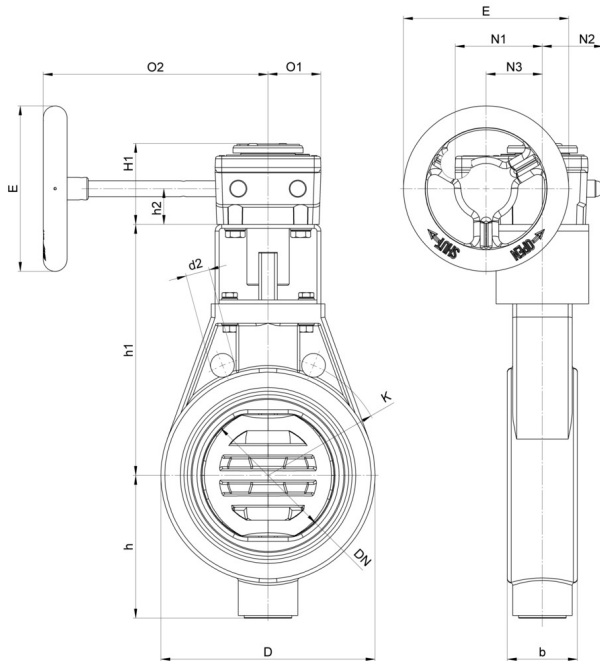


d		63	75	90	110	140	160	225
DN		50	65	80	100	125	150	200
DN*		2	2 1/2	3	4	5	6	8
PN		10	10	10	10	10	6	6
b	PP/PVC-U/PVDF	43	46	46	53	64	65	71
D	PP/PVC-U/PVDF	107	127	142	162	192	217	272
d2	PP/PVC-U/PVDF	18	18	18	18	18	22	23
E1		170	210	210	210	300	300	400
h	PP/PVC-U/PVDF	84	90	98	108	135	148	180
H	PP/PVC-U/PVDF	140	154	163	173	208	219	263
K	PP/PVC-U/PVDF	125	145	160	180	210	240	295
N1		43	60	60	60	70	70	80

all dimensions in mm / * in inch

K 210 Butterfly valve

Dimensioned drawing

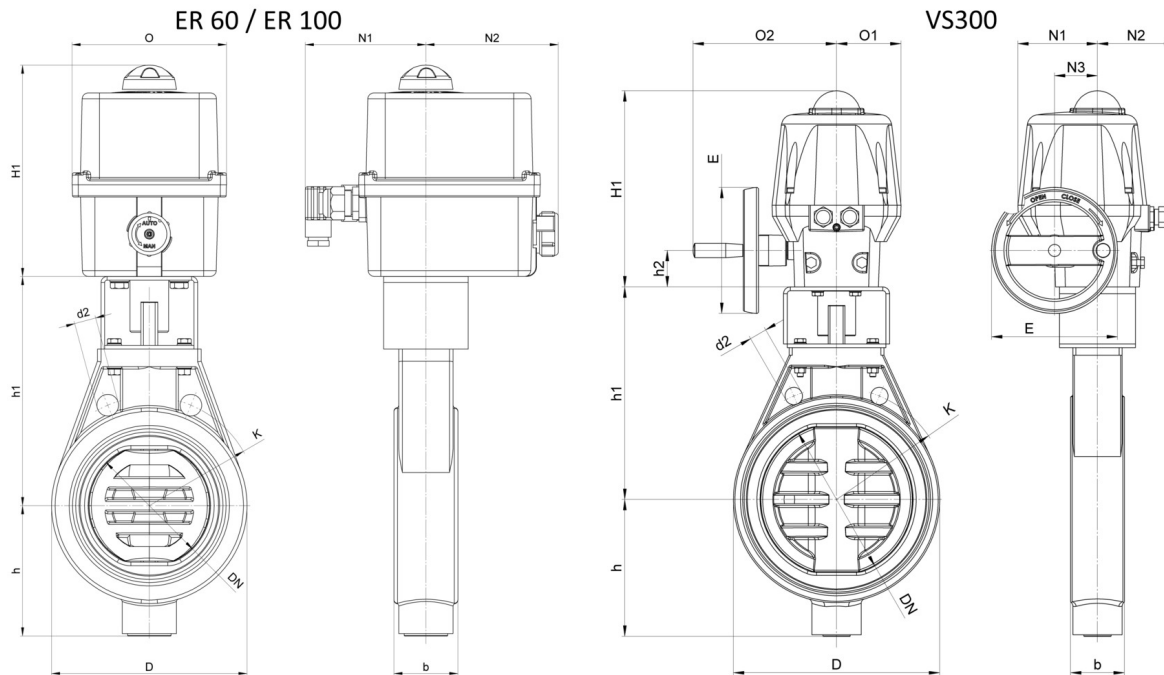


d		63	75	90	110	140	160	225
DN		50	65	80	100	125	150	200
DN*		2	2 1/2	3	4	5	6	8
PN		10	10	10	10	10	6	6
b	PP/PVC-U/PVDF	43	46	46	53	64	65	71
D	PP/PVC-U/PVDF	107	127	142	162	192	217	272
d2	PP/PVC-U/PVDF	18	18	18	18	18	22	23
E		125	125	125	125	125	125	125
h	PP/PVC-U/PVDF	84	90	98	108	135	148	180
h1	PP/PVC-U/PVDF	162	172	180	190	216	226	280
H1		61	61	61	61	61	61	61
h2		27	27	27	27	27	27	27
K	PP/PVC-U/PVDF	125	145	160	180	210	240	295
N1		47	47	47	47	47	47	47
N2		65	65	65	65	65	65	65
N3		42,6	42,6	42,6	42,6	42,6	42,6	42,6
O1		40	40	40	40	40	40	40
O2		170	170	170	170	170	170	170

all dimensions in mm / * in inch

K 210 Butterfly valve

Dimensioned drawing

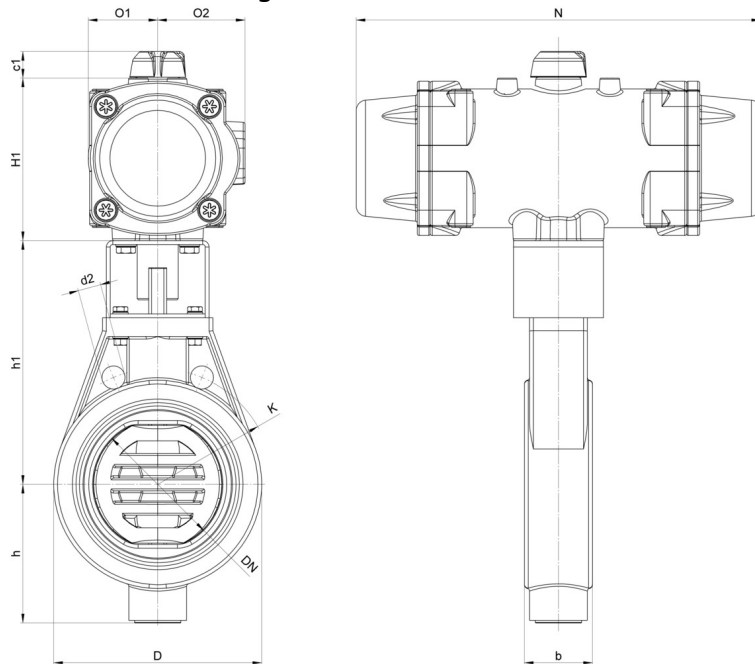


d		63	75	90	110	140	160	225
DN		50	65	80	100	125	150	200
DN*		2	2 1/2	3	4	5	6	8
PN		10	10	10	10	10	6	6
-	-	ER60	ER60	ER60	ER60	ER100	ER100	VS300
b	PP/PVC-U/PVDF	43	46	46	53	64	65	71
D	PP/PVC-U/PVDF	107	127	142	162	192	217	272
d2	PP/PVC-U/PVDF	18	18	18	18	18	22	23
E	-	-	-	-	-	-	-	166
h	PP/PVC-U/PVDF	84	90	98	108	135	148	180
h1	PP/PVC-U/PVDF	162	172	180	190	216	226	280
H1		176	176	176	176	176	176	258
h2		48	48	48	48	48	48	48
K	PP/PVC-U/PVDF	125	145	160	180	210	240	295
N1		97	97	97	97	97	97	105
N2		107	107	107	107	107	107	102
N3		-	-	-	-	-	-	56,6
O		128	128	128	128	128	128	-
O1		-	-	-	-	-	-	85
O2		-	-	-	-	-	-	190

all dimensions in mm / * in inch

K 210 Butterfly valve

Dimensioned drawing



d		63	75	90	110	140	160	225
DN		50	65	80	100	125	150	200
DN*		2	2 1/2	3	4	5	6	8
PN		10	10	10	10	10	6	6
-	DA	PP10	PP10	PP10	PP10	PP20	PP20	PA25
-	NC/NO	PP20S	PP20S	PP20S	PP20S	PA25S	PA25S	PA30S
b	PP/PVC-U/PVDF	43	46	46	53	64	65	71
c1		20	20	20	20	20	20	20
D	PP/PVC-U/PVDF	107	127	142	162	192	217	272
d2	PP/PVC-U/PVDF	18	18	18	18	18	22	23
h	PP/PVC-U/PVDF	84	90	98	108	135	148	180
h1	PP/PVC-U/PVDF	162	172	180	190	216	226	280
H1	NC/NO	127	127	127	127	155	155	171
	DA	103	103	103	103	127	127	155
K	PP/PVC-U/PVDF	125	145	160	180	210	240	295
N	NC/NO	313	313	313	313	358	358	429
	DA	230	230	230	230	313	313	385
O1	NC/NO	54	54	54	54	64	64	71,5
	DA	41	41	41	41	54	54	64
O2	NC/NO	68	68	68	68	89	89	97
	DA	56	56	56	56	68	68	89

all dimensions in mm / * in inch

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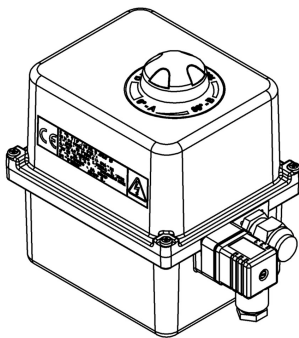
K 210 Butterfly valve

Product assignment electric actuator

d	63	75	90	110	140	160	225
DN	50	65	80	100	125	150	200
DN*	2	2 1/2	3	4	5	6	8
Low voltage	ER 60 Plus	ER 60 Plus	ER 60 Plus	ER 60 Plus	ER 100 Plus	ER 100 Plus	VS 300
	AC 15-30V	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	DC12-48V
Mains voltage	ER 60 Plus	ER 60 Plus	ER 60 Plus	ER 60 Plus	ER 100 Plus	ER 100 Plus	VS 300
	AC 100-240V	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	DC 100-350V

all dimensions in mm / * in inch

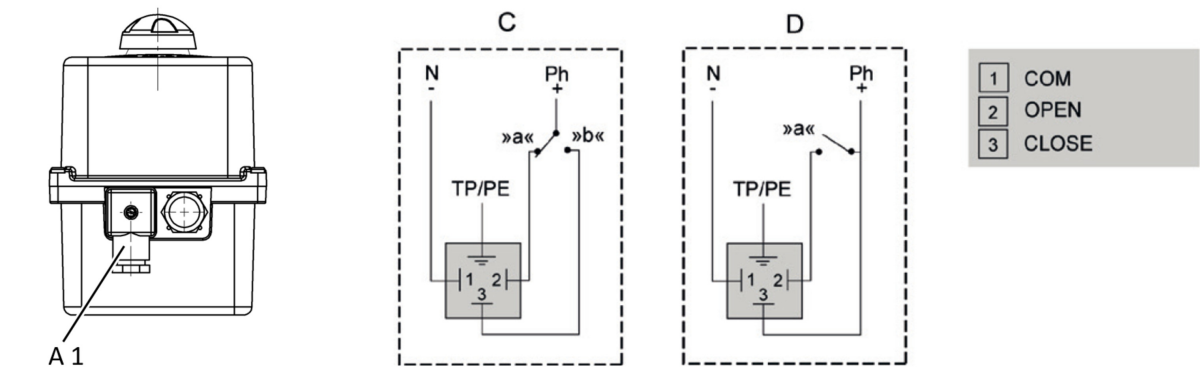
Electric actuator ER 60 Plus / ER 100 Plus



Technical data	ER 60 Plus AC 15-30V DC12-48V	ER 60 Plus AC 100-240V DC 100-350V	ER 100 Plus AC 15-30 DC12-48V	ER 100 Plus AC 100-240V DC 100-350V
Variants	Low voltage	Mains voltage	Low voltage	Mains voltage
Torque (Nm)	60	60	100	100
Voltage AC (V)	15-30	100-240	15-30	100-240
Voltage DC (V)	12-48	100-350	12-48	100-350
Manipulating time (s)	12	12	22	23
Setting angle (°)	90	90	90	90
Power consumption (W)	45	45	45	45
Weight (kg)	2,1	2,1	2,1	2,1
Duty cycle (%)	50	50	50	50
Protection type (IP)	66	66	66	66
Temperature (°C)	-10-55	-10-55	-10-55	-10-55
Heating	Inklusive	Inklusive	Inklusive	Inklusive
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

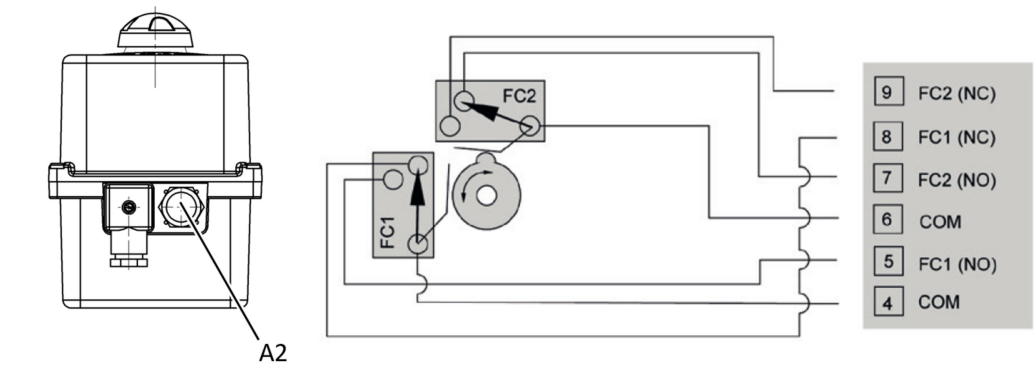
K 210 Butterfly valve

Voltage supply ER 35 Plus / ER 60 Plus / ER 100 Plus



Description	
A1	Voltage supply
C	3-point mode
D	OPEN-CLOSED mode
a	Valve »OPEN«
b	Valve »CLOSED«
1	COM
2	Valve »OPEN«
3	Valve »CLOSED«

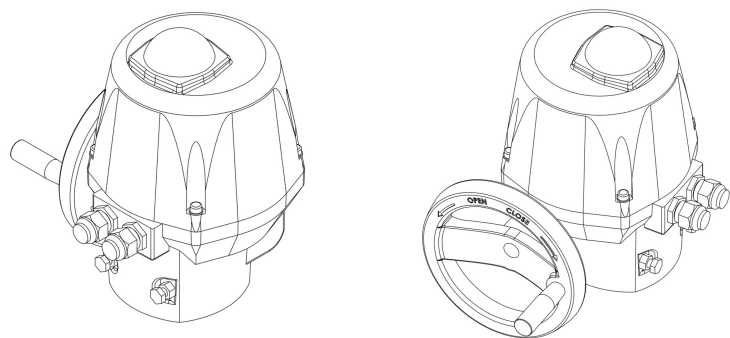
Feedback ER 35 Plus / ER 60 Plus / ER 100 Plus



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

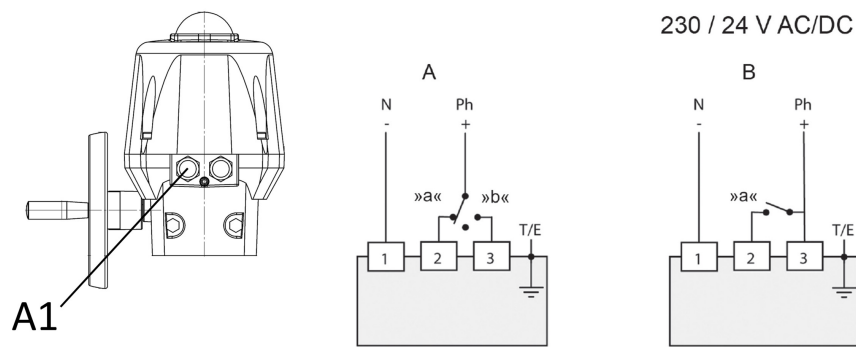
K 210 Butterfly valve

Electric actuator VS 300



Technical data	VS 300	VS 300
	AC 15-30V DC12-48V	AC 100-240V DC 100-350V
Variants	Low voltage	Mains voltage
Torque (Nm)	300	300
Voltage AC (V)	15-30	100-240
Voltage DC (V)	12-48	100-350
Manipulating time (s)	60	60
Setting angle (°)	90	90
Power consumption (W)	45	45
Weight (kg)	5,6	5,6
Duty cycle (%)	50	50
Protection type (IP)	68	68
Temperature (°C)	-20-70	-20-70
Heating	Inklusive	Inklusive
Options	Fail-Safe (closing) / rechargeable battery pack	Fail-Safe (closing) / rechargeable battery pack

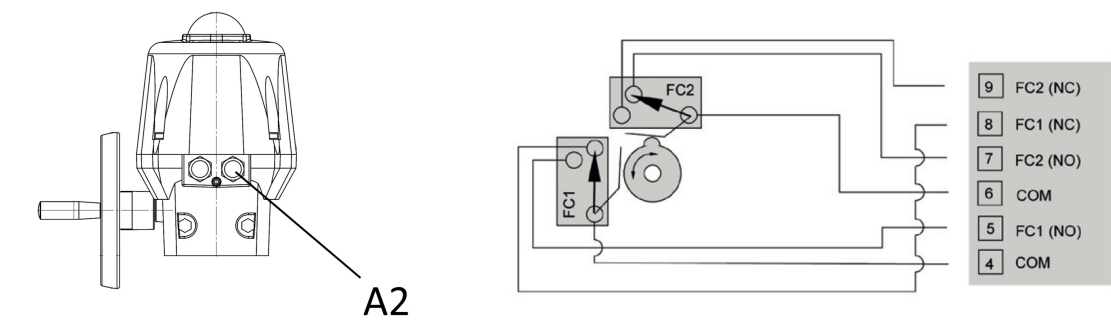
Voltage supply VS 300



	Description
A1	Voltage supply
A	3-point mode
B	OPEN-CLOSED mode
a	Valve »OPEN«
b	Valve »CLOSED«
1	COM
2	Valve »OPEN«
3	Valve »CLOSED«

K 210 Butterfly valve

Feedback VS 300



Description	
A2	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

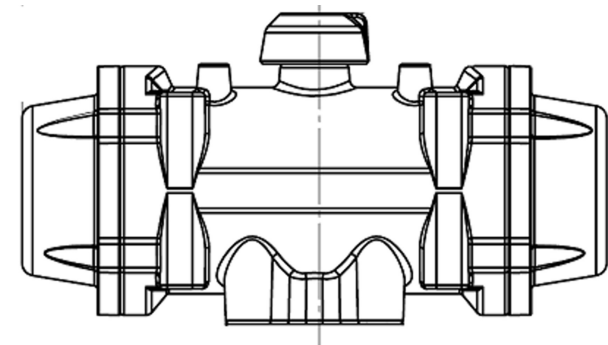
K 210 Butterfly valve

Product assignment pneumatic actuator

d	63	75	90	110	140	160	225
DN	50	65	80	100	125	150	200
DN*	2	2 1/2	3	4	5	6	8
DA	PP10	PP10	PP10	PP10	PP20	PP20	PA25
NC/NO	PP20S	PP20S	PP20S	PP20S	PA25S	PA25S	PA30S

all dimensions in mm / * in inch

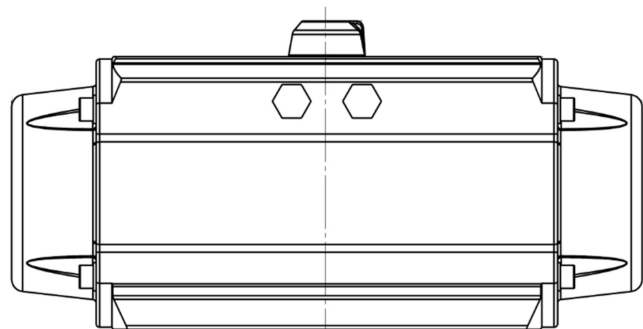
Pneumatic actuator: Prisma PP-Line (Plastic)



Technical data	PP10	PP20	PP20S
Function	DA	DA	NC/NO
Torque start at 6 bar (Nm)	71	165,5	99,7
Torque end at 6 bar (Nm)	-	-	60,8
Control volume, opening (litres)	0,35	0,8	0,8
Control volume closing (litres)	0,45	1,15	-
Manipulating time, opening (s)	0,25	0,4	0,5
Manipulating time, closing (s)	0,25	0,4	0,5
Control pressure connection (inch)	1/4	1/4	1/4
Weight (kg)	1,65	3,22	4,22
Options	Limit switches	Limit switches	Limit switches
Options	Pilot valve VS 6519	Pilot valve VS 6519	Pilot valve VS 6014

K 210 Butterfly valve

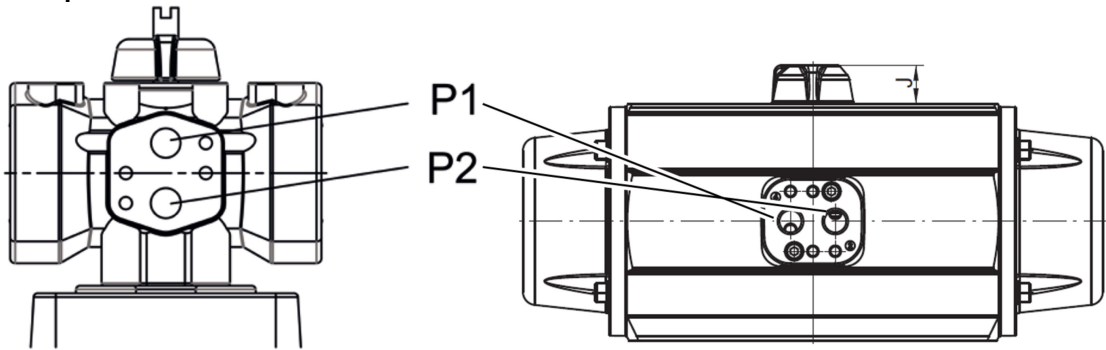
Pneumatic actuator: Prisma PA-Line (Aluminium)



Technical data	PA25	PA25S	PA30S
Function	DA	NC/NO	NC/NO
Torque start at 6 bar (Nm)	290	170,6	273,5
Torque end at 6 bar (Nm)	-	108,2	178,9
Control volume, opening (litres)	1,5	1,5	2,05
Control volume closing (litres)	2,02	-	-
Manipulating time, opening (s)	0,5	0,8	1,2
Manipulating time, closing (s)	0,5	0,8	1,2
Control pressure connection (inch)	1/4	1/4	1/4
Weight (kg)	9,3	11,3	15,3
Options	Limit switches	Limit switches	Limit switches
Options	Pilot valve VS 6519	Pilot valve VS 6014	Pilot valve VS 6014

K 210 Butterfly 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

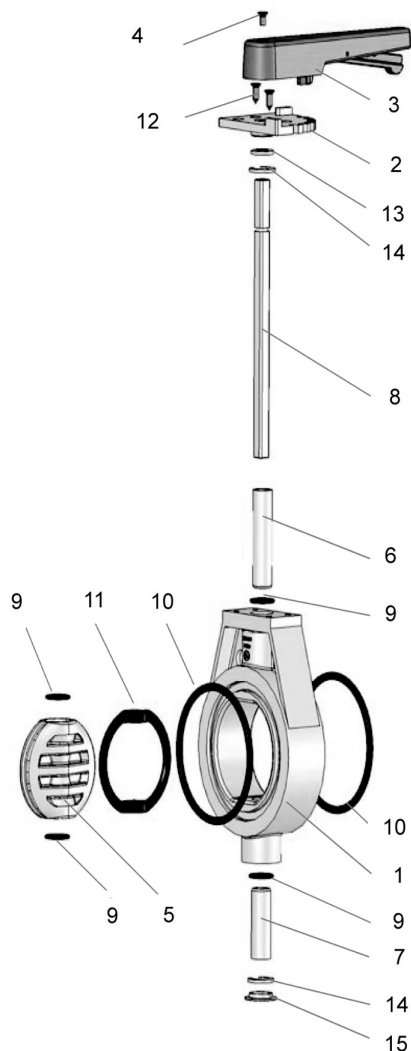
The actuators require a control pressure of 6 bar for optimum function. Malfunctions may occur, if the control pressure deviates. In this case, a new actuator configuration is necessary. Ensure that the control medium is free of dust and oil.

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).

K 210 Butterfly valve

Basic valve with hand lever



position	quantity	designation
1	1	housing/body
2	1	engagement disc
3	1	hand lever
4	1	screw
5	1	shut-off disc
6	1	bearing bush
7	1	bearing bush
8	1	spindle
9	4	O-ring
10	2	O-ring
11	1	sealing
12	2	screw
13	1	disc
14	2	circlip
15	1	plug