

Butterfly Valve

K4

PVC-C

DATASHEET

Overview

General

Material	Body material Seal material Disc	PP-GF EPDM / FPM PVC-C
Dimensions	DN65 – DN100 d75 – d110 2 ½" – 4"	
Connector types	Flange	DIN 2501 PN10 ANSI B 16,5 Class 150 JIS 10 K <small>[only DN65-DN150]</small> BS Table D&E
Operating pressure	DN65 – DN100	PN10
Insert material		INOX A4
Pin material		INOX A2

Range summary



Hand operated



without actuation



Position Feedback












Pneumatic



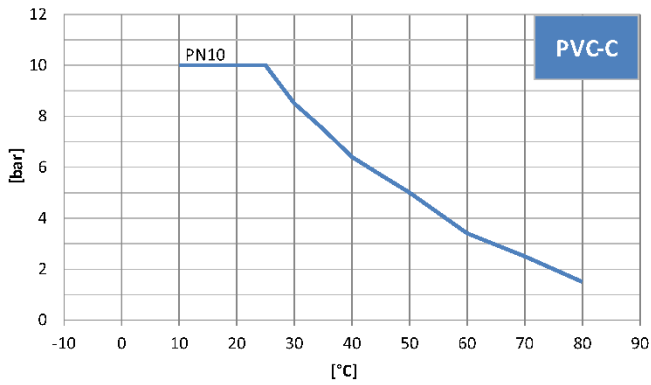
Electric

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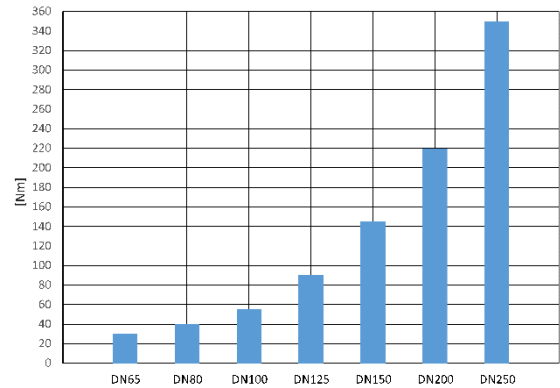
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Technical data

Pressure – temperature – diagram

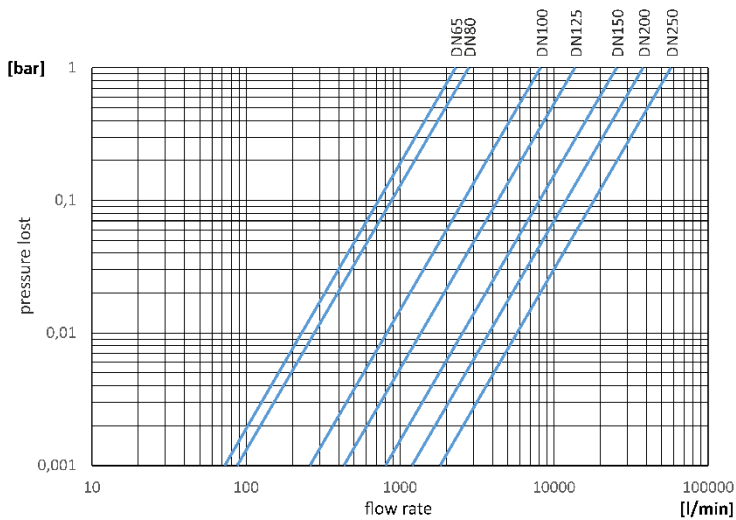


Torque at the shaft

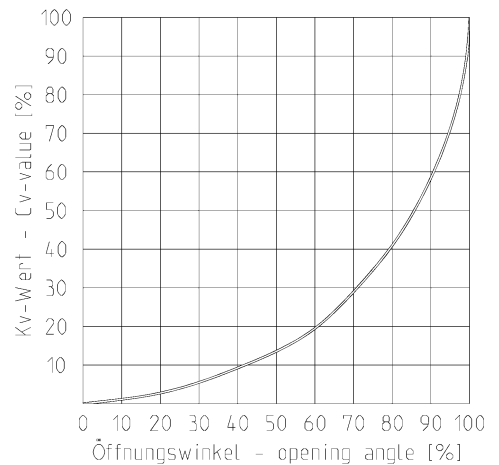


The values of the pressure-temperature-diagram are based on a service life of 25 years at static pressure load and apply to water or water-like media.

Flow rate – pressure loss



Flow characteristics



Kv-value-table

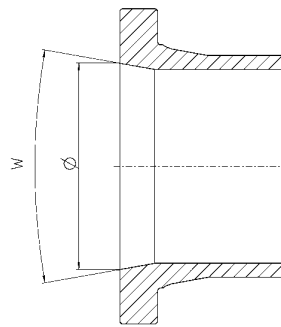
pressure loss	DN65	DN80	DN100
0,001 bar	73	88	260
1,0 bar	2300	2800	8200

specification in l/min (PN16 pipe)

Technical data

Installation in pipeline:

For a correct and complete opening of the damper it is necessary that the connection pieces have at least an inner diameter according to the table.



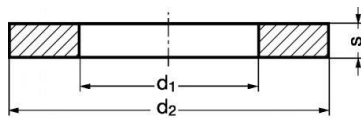
DN	DN65	DN80	DN100
d	d 75	d 90	D 110
ø (mm)	60	77	96,5
w (°)	40	40	40

* Only DIN DN50 d63 couplings or welding collars can be used.

General installation instructions:

Lug Type

- It is recommended to use the appropriate shims according to DIN125A:



DN	DN65	DN80	DN100
Thread	M16	M16	M16
d1	17	17	17
d2	30	30	30
s	3	3	3

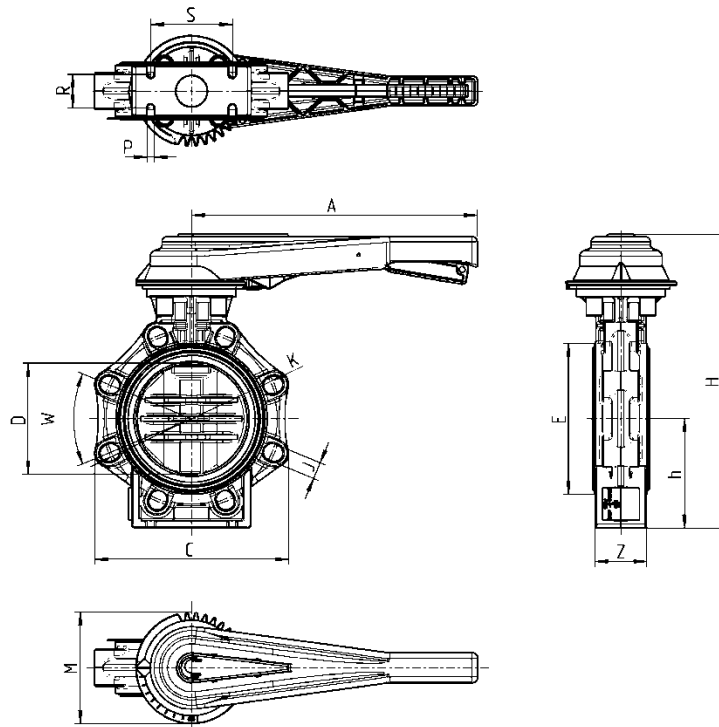
Dimensions in mm

- Adjust the bolt length to the flange or welding neck.
- In case of one-sided disassembly, check the torque of the bolts on the opposite side (see information on tightening torque of bolts for flange connections).

Dimensions hand lever

Connector types

Flange (dimensions in mm)



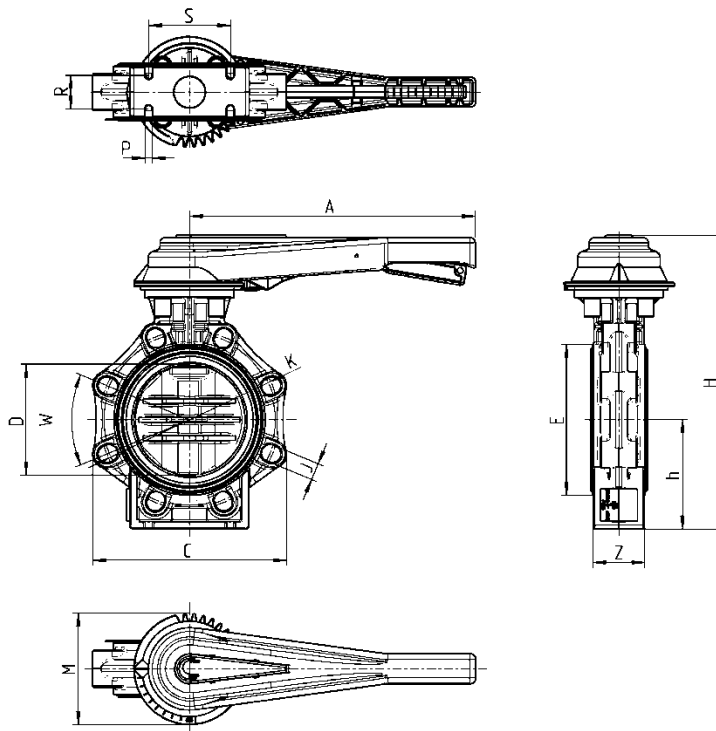
DN	65	80	100
d	75	90	110
Zoll	2 ½"	3"	4"
A	230	230	300
D	65	80	100
C	133	176	206
W	90°	45°	45°
J	19	19	19
K	127 – 145	146 – 160	175 – 190,5
H	285	292	322
h	100	100	115
E	98	116	146
M	114	114	114
Z	46	49	56
S	55	70	85
R	25	30	35
P	7	9	9
PN	10	10	10

*DN 250 only with handwheel

Dimensions hand lever

Connector types

Flansch Lug Type (Dimensionen in mm)

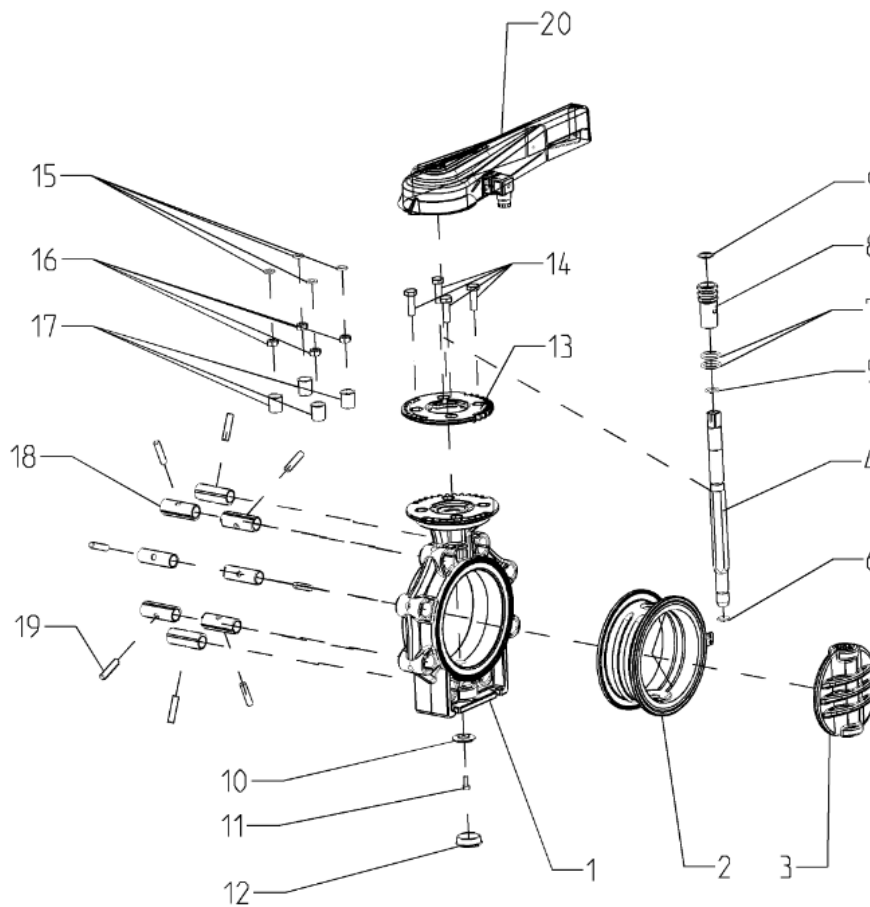


DN	65	80	100
d	75	90	110
Zoll	2 1/2"	3"	4"
A	230	230	300
D	65	80	100
C	133	176	206
W	90°	45°	45°
J	19	19	19
K	127 – 145	146 – 160	175 – 190,5
K-DIN	145	160	180
K-ANSI	139,7	152,4	190,5
H	285	292	322
h	100	100	115
E	98	116	146
M	114	114	114
Z	46	49	56
S	55	70	85
R	25	30	35
P	7	9	9
PN	10	10	10

*DN 250 only with handwheel

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Exploded drawing hand lever

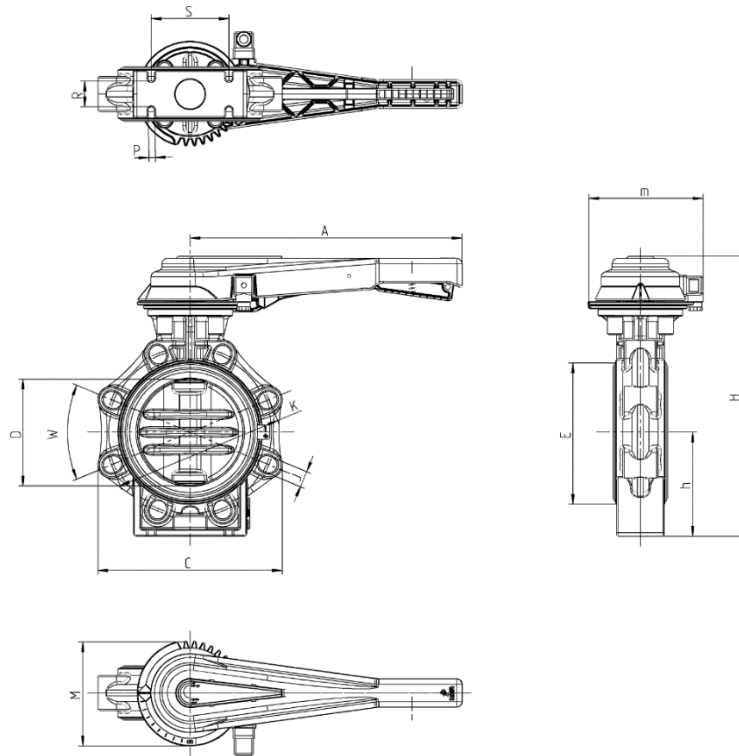


Nr.	Description	Material
01.	Body	PP-GF
02.	Sleeve	EPDM/FKM
03.	Disc	PVC-C
04.	Shaft	A4
05.	Seal shaft above	FPM
06.	Seal shaft below	FPM
07.	Seal pilot bushing	FPM
08.	Pilot bushing	PVDF
09.	Retaining ring	A2
10.	Holding disc	1.4305
11.	Screw	A4
12.	Cap	PVC
13.	toothed washer	PP-GFK
14.	Screw	A4
15.	washers	A4
16.	Nuts	A4
17.	cover cap	PE
18.	inserts	INOX A4
19.	Pin	INOX A2
20.	Handle	PP-GFK

Dimensions hand lever with position feedback

Connector types

Flange (dimensions in mm)

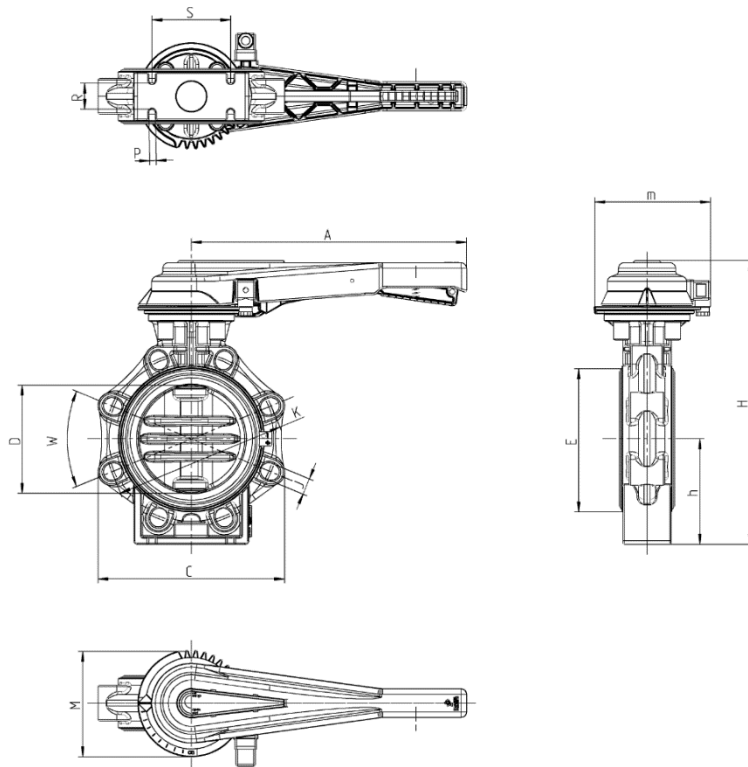


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d	75	90	110
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W	90°	45°	45°
J	19	19	19
K	127 – 145	146 – 160	175 – 190,5
H	285	292	322
h	100	100	115
E	98	116	146
M	114	114	114
m	125	125	131
Z	46	49	56
S	55	70	85
R	25	30	35
P	7	9	9
PN	10	10	10

Dimensions hand lever with position feedback

Connector types

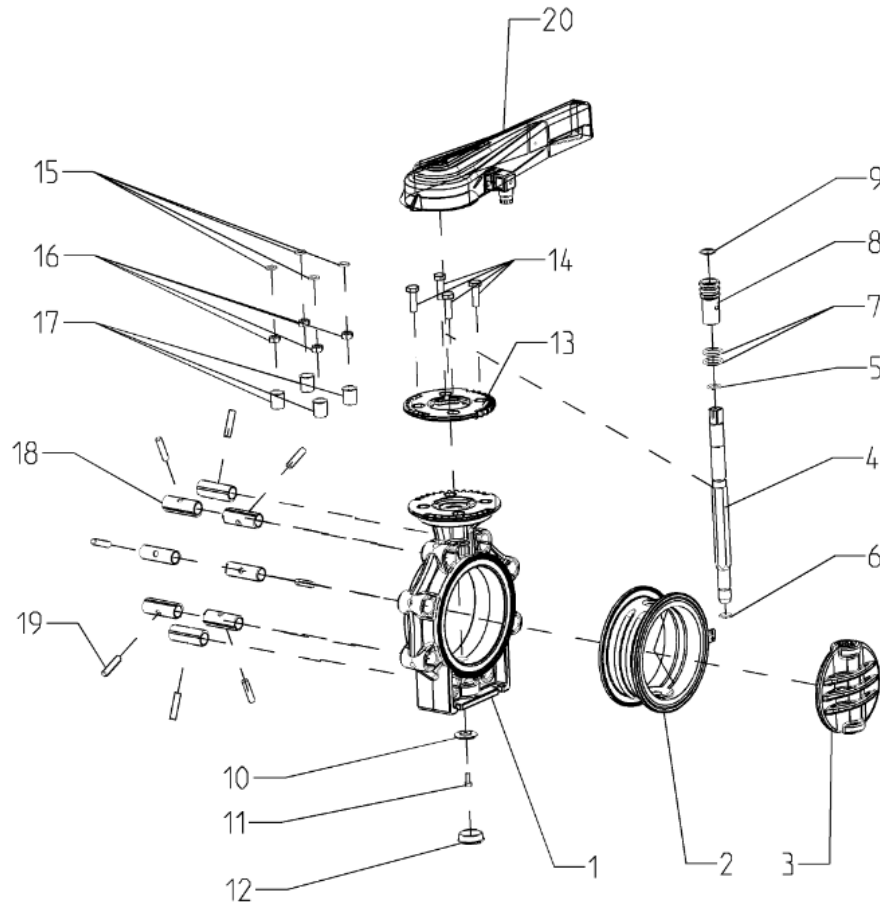
Flansch Lug Type (dimensions in mm)



DN	65	80	100
d	75	90	110
Zoll	2 1/2"	3"	4"
A	230	230	300
D	65	80	100
C	133	176	206
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M	114	114	114
m	125	125	131
Z	46	49	56
S	55	70	85
R	25	30	35
P	7	9	9
PN	10	10	10

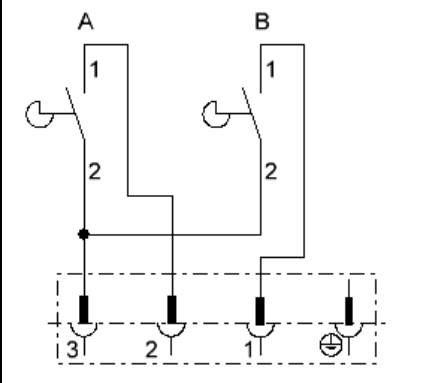
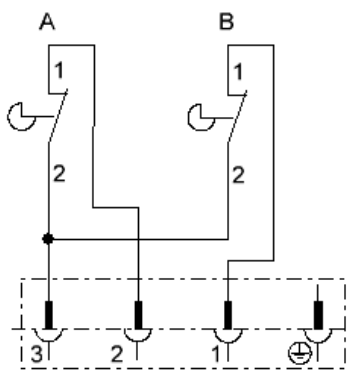
*DN 250 only with handwheel

Exploded drawing hand lever with position feedback

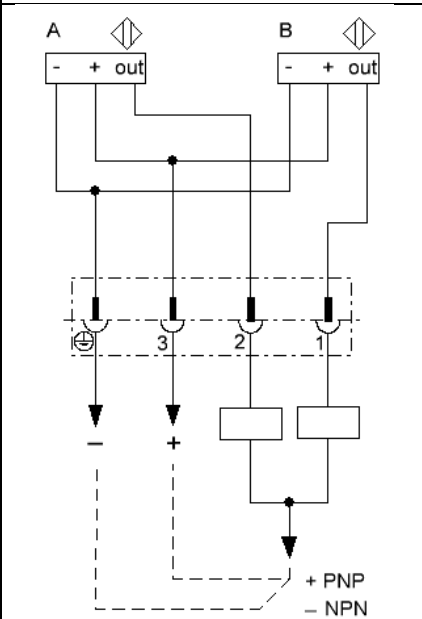
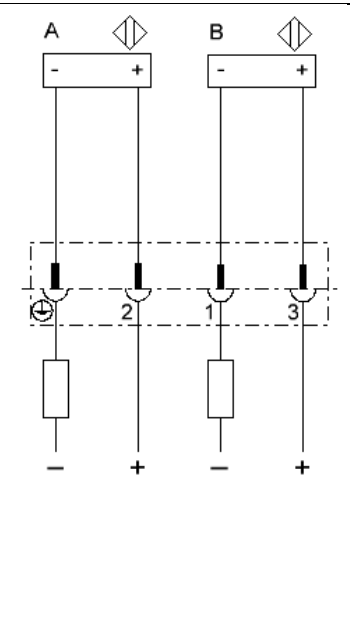


Nr.	Description	Material
01.	Body	PP-GF
02.	Sleeve	EPDM/FKM
03.	Disc	PVC-C
04.	Shaft	A4
05.	Seal shaft above	FPM
06.	Seal shaft below	FPM
07.	Seal pilot bushing	FPM
08.	Pilot bushing	PVDF
09.	Retaining ring	A2
10.	Holding disc	1.4305
11.	Screw	A4
12.	Cap	PVC
13.	toothed washer	PP-GFK
14.	Screws	A4
15.	washers	A4
16.	Nuts	A4
17.	cover cap	PE
18.	inserts	INOX A4
19.	pins	INOX A2
20.	Hand lever with position feedback	PP-GFK

Technical data position feedback

Limit switch mechanical		
Type	(Ag-Ni) NO/NC*	(Au) NO*/NC*
Voltage max.	15-250V AC (15-30V DC)	5-250V AC (5-30V DC)
Current max.	100mA-5A	1mA-3A
Protection limit switch	IP67	
Protection DIN-plug	IP65	
Ambient temperature	-10°C bis +50°C	
Electric wiring	NO	NC
A pressed ... open		
B pressed... closed		

* on request

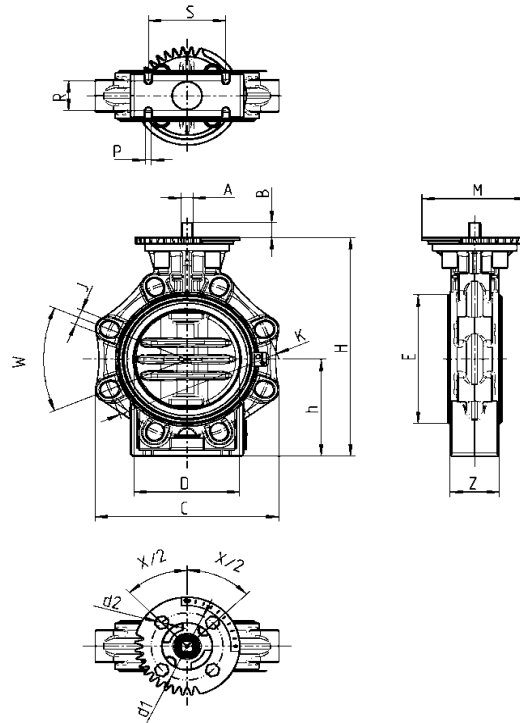
Limit switch inductive		
Type	NPN*/PNP	NAMUR EMV acc. IEC / EN 60947-5-2:2004; NE 21 DIN EN 60947-5-6
Voltage max.	10-30V DC	8V DC
Current max.	0-100mA	NAMUR intrinsically safe
Protection limit switch	IP67	
Protection DIN-plug	IP65	
Ambient temperature	-10°C bis +50°C	
Electric wiring		

* on request

Dimensions without actuation

Connector types

Flange (dimensions in mm)

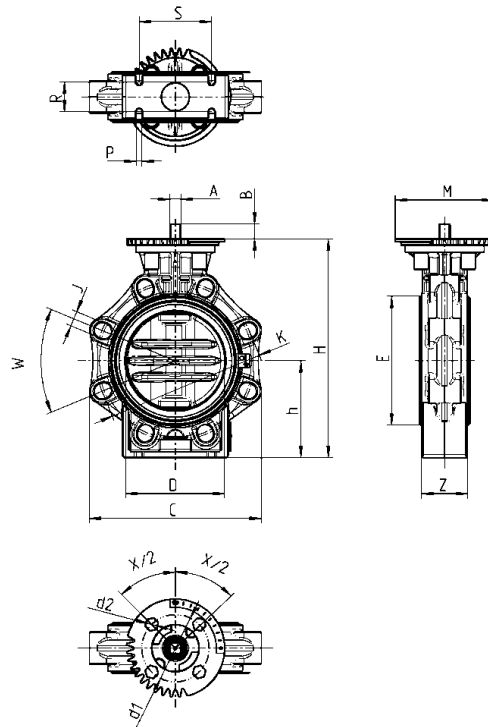


DN	65	80	100
d	75	90	110
Zoll	2 1/2"	3"	4"
A	11	11	14
B	17,5	17,5	19,5
C	133	176	206
D	65	80	100
E	98	116	146
H	232	239	269
h	100	100	115
J	19	19	19
K	127-145	146-160	175-190,5
M	114	114	114
P	7	9	9
R	25	30	35
S	55	70	85
W	90°	45°	45°
Z	46	49	56
PN	10	10	10

Dimensions without actuation

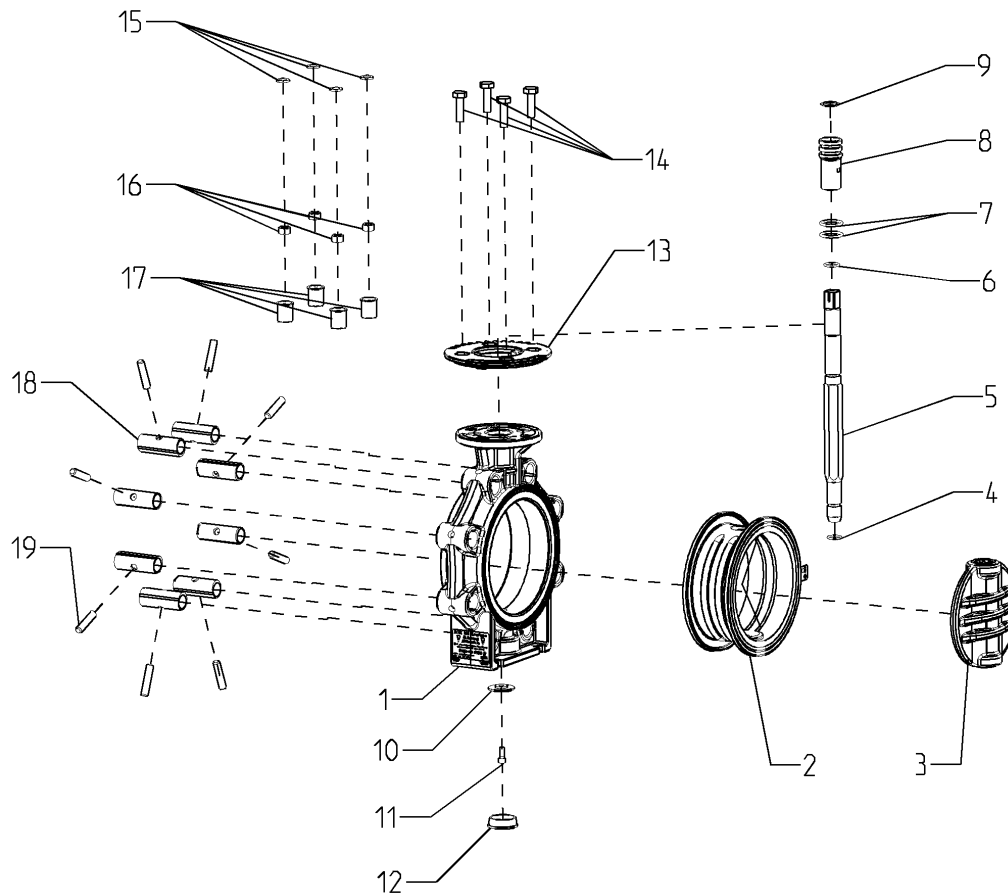
Connector types

Flansch Lug Type (Dimensionen in mm)



DN	65	80	100
d	75	90	110
Zoll	2 1/2"	3"	4"
A	11	11	14
B	17,5	17,5	19,5
C	133	176	206
D	65	80	100
E	98	116	146
H	232	239	269
h	100	100	115
J	19	19	19
K	127-145	146-160	175-190,5
K-DIN	145	160	180
K-ANSI	139,7	152,4	190,5
M	114	114	114
P	7	9	9
R	25	30	35
S	55	70	85
W	90°	45°	45°
Z	46	49	56
PN	10	10	10

Exploded drawing without actuation



Nr.	Description	Material
01.	Body	PP-GF
02.	Sleeve	EPDM/FKM
03.	Disc	PVC-C
04.	Seal shaft below	FPM
05.	Shaft	A4
06.	Seal shaft above	FPM
07.	Seal pilot bushing	FPM
08.	Pilot bushing	PVDF
09.	Retaining ring	A2
10.	Holding disc	1.4305
11.	Screw	A4
12.	Cap	PVC
13.	toothed washer	PP-GFK
14.	Screw	A4
15.	washer	A4
16.	Nuts	A4
17.	Caps	PE
18.	Inserts	INOX A4
19.	Pin	INOX A2

Technical data without actuation

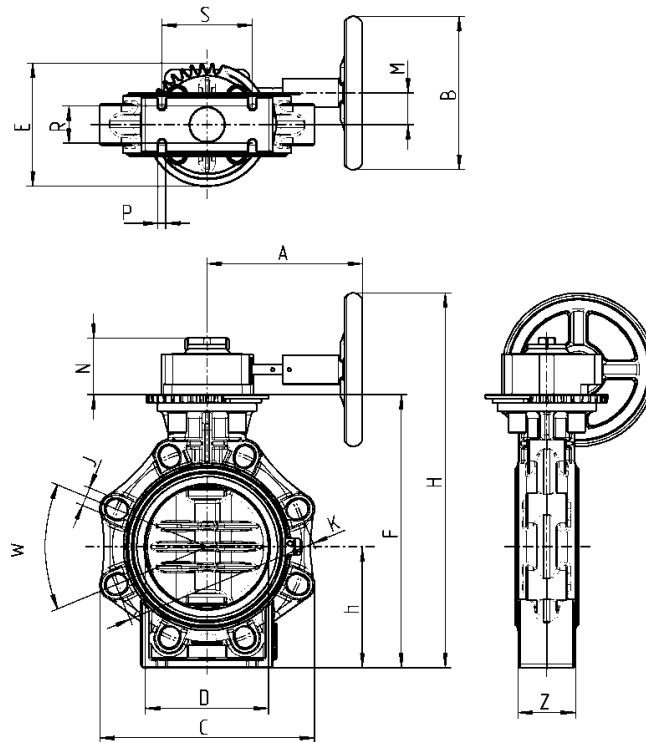
Butterfly valve connections- Flange dimensions

DN	Flange type ISO 5211	d1	d2	X/2	A
65	F07	70	M8	45°	11
80	F07	70	M8	45°	11
100	F07	70	M8	45°	14

Dimensions handwheel

Connector types

Flange (dimensions in mm)

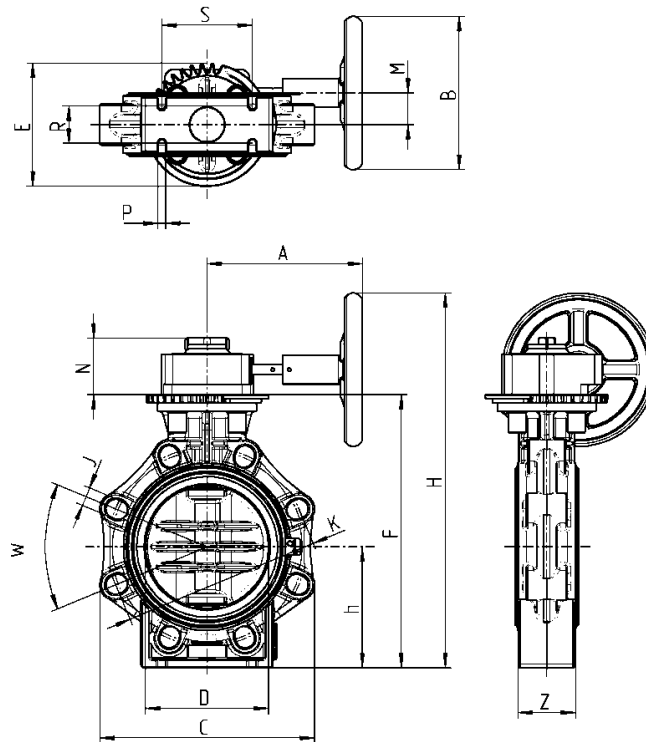


DN	65	80	100
d	75	90	110
Zoll	2 1/2"	3"	4"
A	121	121	120
D	65	80	100
C	133	176	206
W	90°	45°	45°
J	19	19	19
K	127 – 145	146 – 160	175 – 190,5
H	308,5	315,5	358
h	100	100	115
E	122	122	122
M	42,5	42,5	42,5
Z	46	49	56
S	55	70	85
R	25	30	35
P	7	9	9
F	231,5	238,5	268,5
N	53	53	53
B	100	100	125
PN	10	10	10

Dimensions handwheel

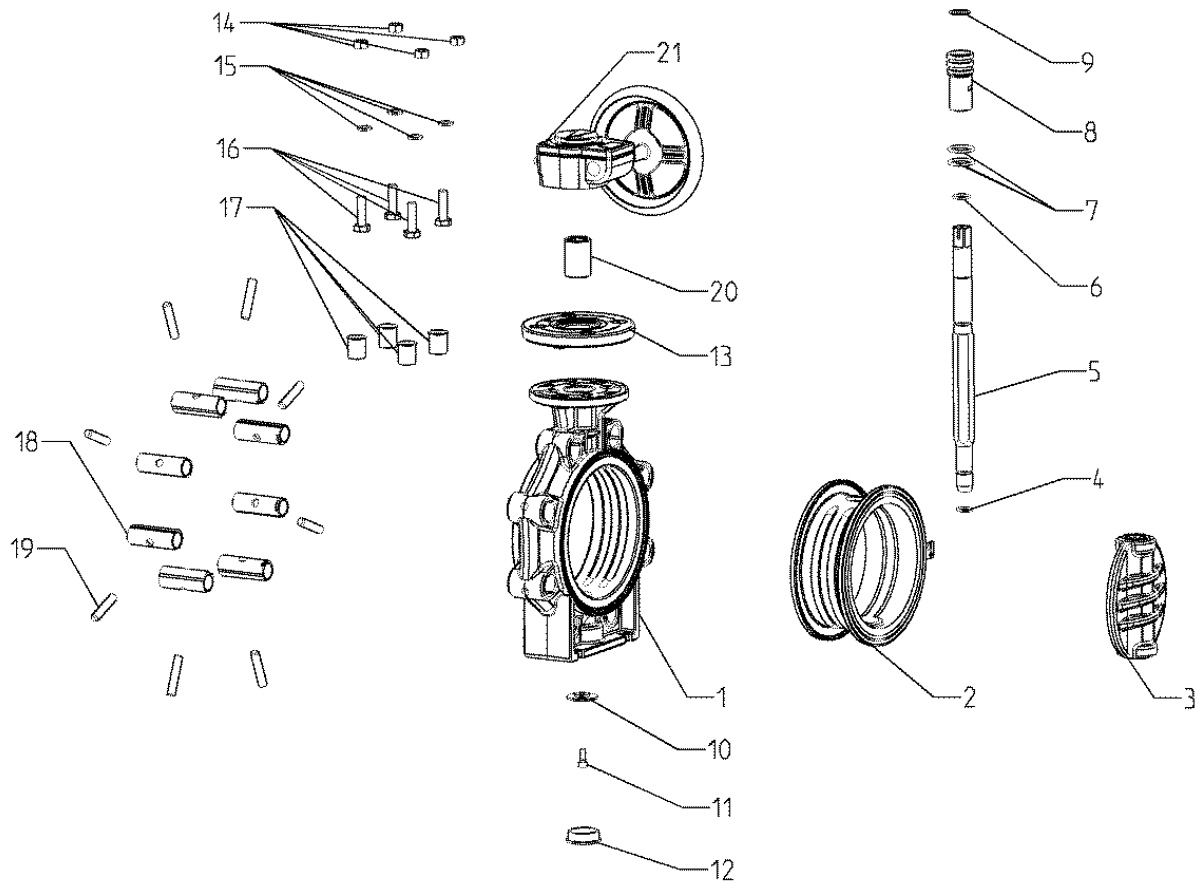
Connector types

Flansch Lug Type (Dimensionen in mm)



DN	65	80	100
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Z	46	49	56
S	55	70	85
R	25	30	35
P	7	9	9
h	100	100	115
F	232	239	269
N	52	52	52
H	308	315	357,5
A	120	120	121
B	100	100	125
M	42,5	42,5	42,5
E	114	114	114
PN	10	10	10

Exploded drawing handwheel



Nr. Description

- 01. Body
- 02. Sleeve
- 03. Disc
- 04. Seal shaft below
- 05. Shaft
- 06. Seal shaft above
- 07. Seal pilot bushing
- 08. Pilot bushing
- 09. Retaining ring
- 10. Holding disc
- 11. Screw
- 12. Cap
- 13. Cover plate
- 14. Nuts
- 15. washer
- 16. Screw
- 17. Caps
- 18. Inserts
- 19. Pin
- 20. Coupling
- 21. manual gearbox

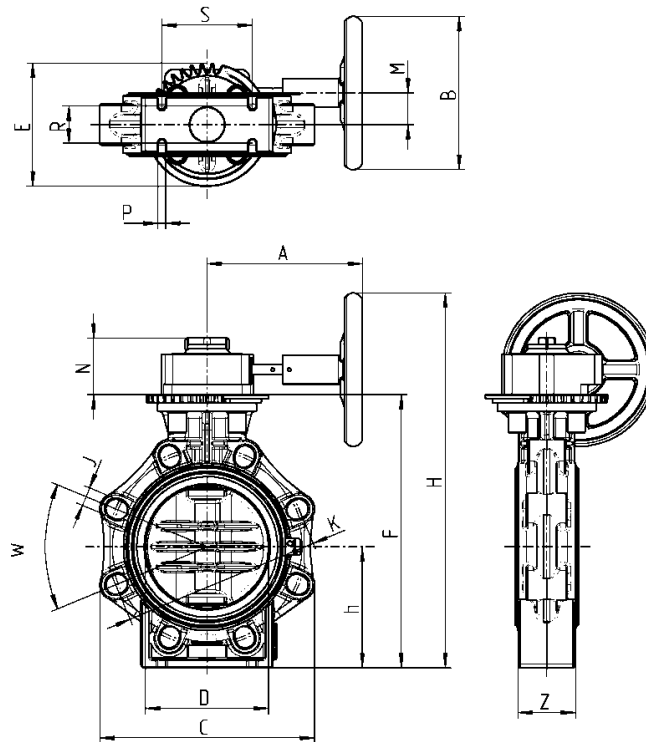
Material

- PP-GF
- EPDM/FKM
- PVC-C
- FPM
- A4
- FPM
- FPM
- PVDF
- A2
- 1.4305
- A4
- PVC
- PE
- A4
- A4
- A4
- PE
- INOX A4
- INOX A2

Dimensions handwheel with position feedback

Connector types

Flange (dimensions in mm)

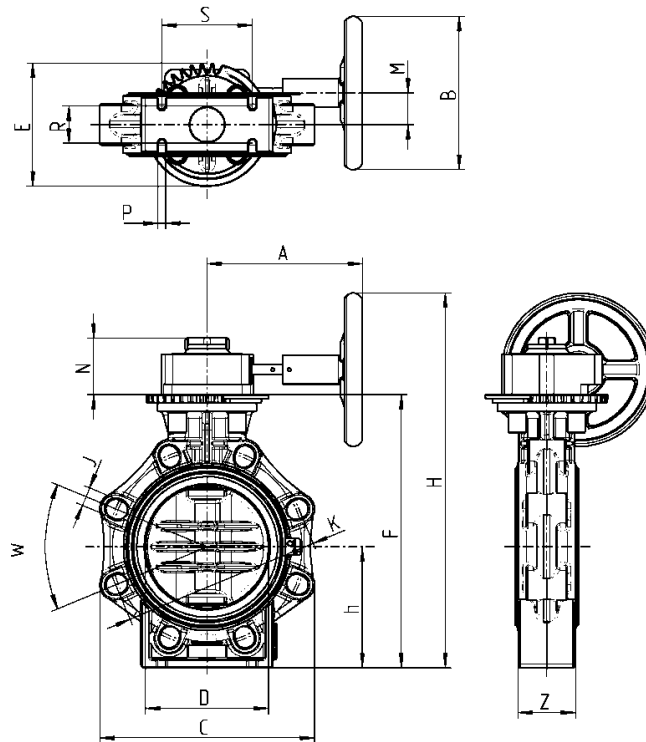


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E	122	122	122
M	52,5	52,5	52,5
Z	46	49	56
S	55	70	85
R	25	30	35
P	7	9	9
F	231,5	238,5	268,5
N	59	59	59
B	100	100	125
PN	10	10	10

Dimensions handwheel with position feedback

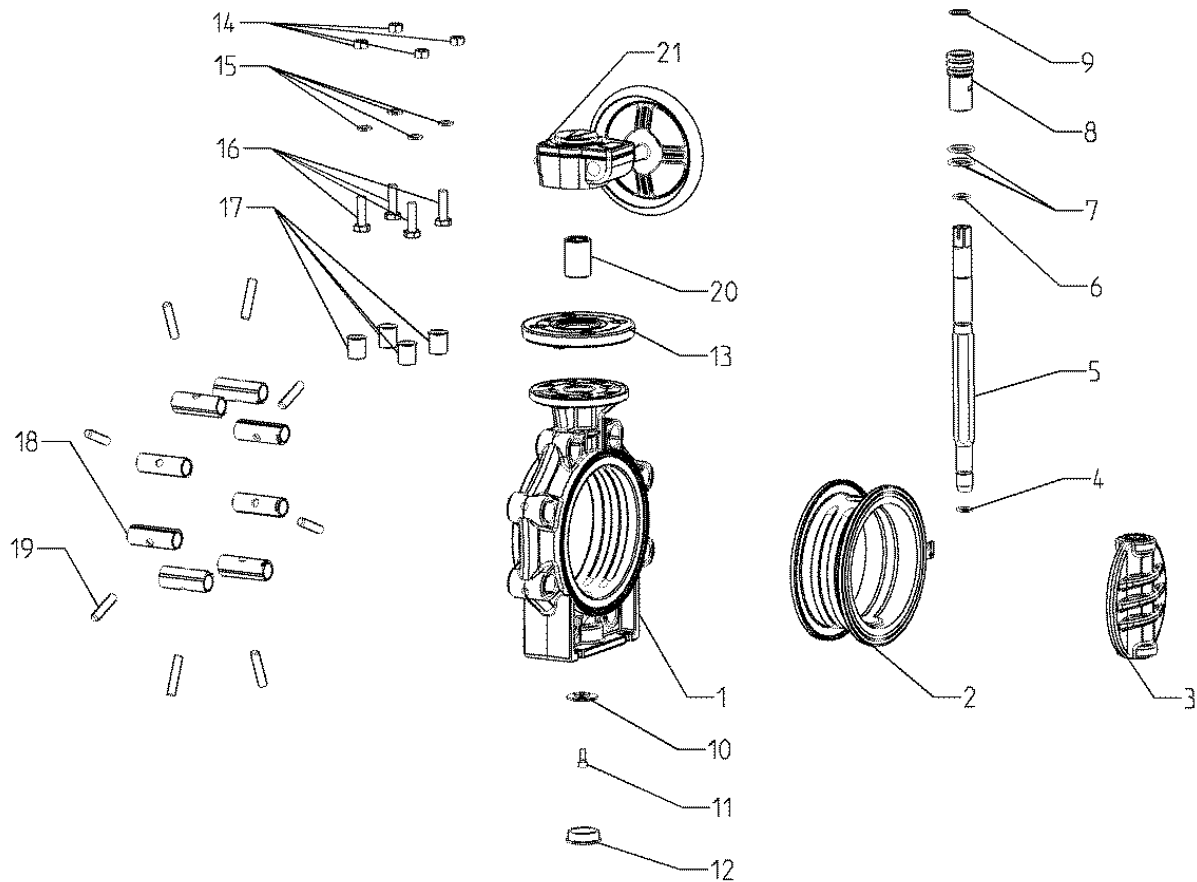
Connector types

Flansch Lug Type (Dimensionen in mm)



DN	65	80	100
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Zoll	2 1/2"	3"	4"
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J	19	19	19
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S	55	70	85
R	25	30	35
P	7	9	9
h	100	100	115
F	232	239	269
N	52	52	52
H	308	315	357,5
A	120	120	121
B	100	100	125
M	42,5	42,5	42,5
E	114	114	114
PN	10	10	10

Exploded drawing handwheel with position



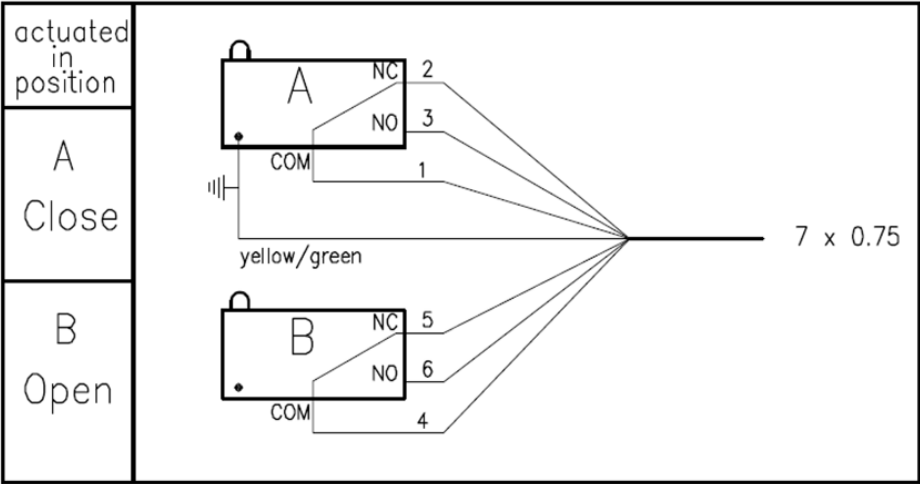
Nr. Description

- 01. Body
- 02. Sleeve
- 03. Disc
- 04. Seal shaft below
- 05. Shaft
- 06. Seal shaft above
- 07. Seal pilot bushing
- 08. Pilot bushing
- 09. Retaining ring
- 10. Holding disc
- 11. Screw
- 12. Cap
- 13. Cover plate
- 14. Nuts
- 15. disk
- 16. Screw
- 17. Caps
- 18. inserts
- 19. Pin
- 20. coupling
- 21. manual gearbox with position feedback

Material

- PP-GF
- EPDM/FKM
- PVC-C
- FPM
- A4
- FPM
- FPM
- PVDF
- A2
- 1.4305
- A4
- PVC
- PE
- A4
- A4
- A4
- PE
- INOX A4
- INOX A2

Wiring diagram handwheel with position feedback

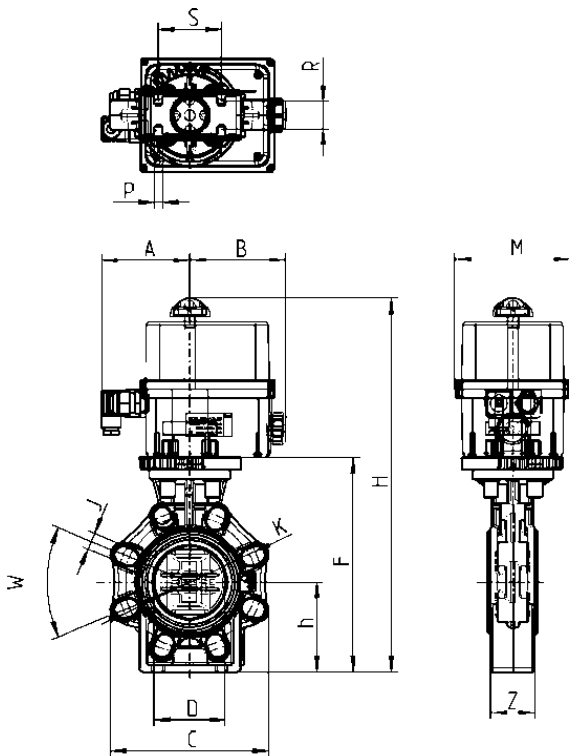


Dimensions electric actuator

Connector types

Flange (dimensions in mm)

Actuator ER35 / ER60



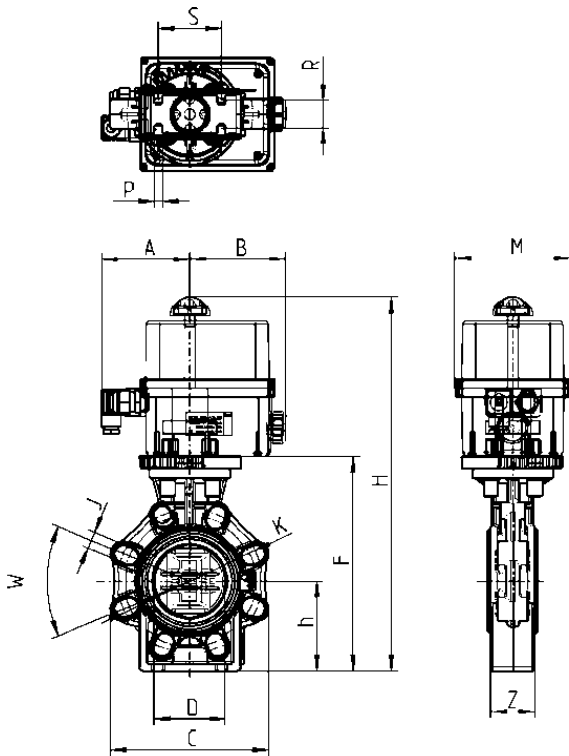
DN	65	80	100
d	75	90	110
Zoll	2 ½"	3"	4"
actuator	ER35	ER60	ER60
D	65	80	100
C	133	176	206
W	90°	45°	45°
J	19	19	19
K	127-145	146-160	175-190,5
H	409	416	446
h	100	100	115
A	98	98	98
B	107	107	107
M	128	128	128
N	-	-	-
Z	46	49	56
S	55	70	85
R	25	30	35
P	7	9	9
F	232	239	269
E	-	-	-
PN	10	10	10

Dimensions electric actuator

Connector types

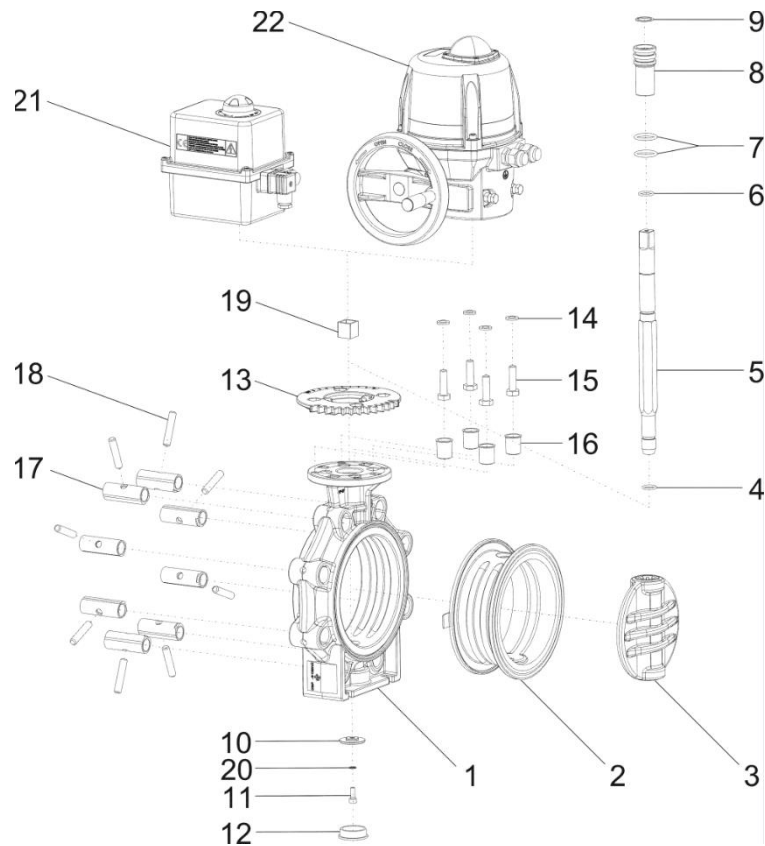
Flansch Lug Type (Dimensionen in mm)

Actuator ER35 / ER60



DN	65	80	100
d	75	90	110
Zoll	2 ½"	3"	4"
actuator	ER35	ER60	ER60
D	65	80	100
C	133	176	206
W	90°	45°	45°
J	19	19	19
K	127-145	146-160	175-190,5
K-DIN	145	160	180
K-ANSI	139,7	152,4	190,5
H	409	416	446
h	100	100	115
A	98	98	98
B	107	107	107
M	128	128	128
N	-	-	-
Z	46	49	56
S	55	70	85
R	25	30	35
P	7	9	9
F	232	239	269
E	-	-	-
PN	10	10	10

Exploded drawing electric actuator



Nr.	Description	Material
01.	Body	PP-GF
02.	Sleeve	EPDM/FKM
03.	Disc	PVC-C
04.	Seal shaft below	FPM
05.	Shaft	A4
06.	Seal shaft above	FPM
07.	Seal pilot bushing	FPM
08.	Pilot bushing	PVDF
09.	Retaining ring	A2
10.	Holding disc	1.4305
11.	Screw	A4
12.	CapPVC	
13.	Cover plate	PE
14.	Screw	A4
15.	Nuts	A4
16.	Caps	PE
17.	inserts	INOX A4
18.	Pin	INOX A2
19.	coupling	
20.	Toothed washer	A4
21.	ER-actuator	
22.	VS-actuator / VT-actuator	

Technical data Electric actuator

Electric drive ER

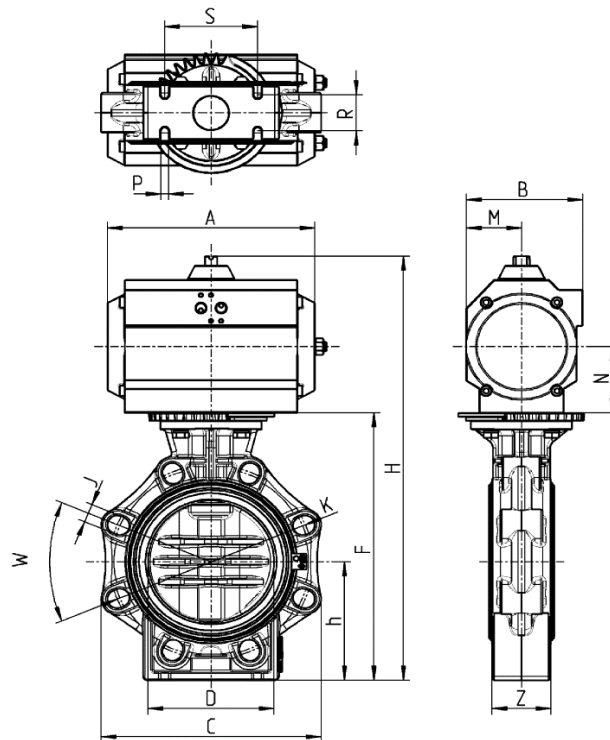
2 limit switches preset
2 Feedback unit
Mechanical stop at 90°
180° or 270° without mechanical stop
Duty cycle 30%
Protection class IP65
Ambient temperature -10°C to 50°C
ISO connector F05-F07
Octagon 22 mm
Weight 2,1 kg

Type	ER35	ER60
Torque	35Nm	60Nm
Tensions	24V AC/DC, 90-240V AC	
Operating time	10s	15s
Power	15W	45W

Dimensions pneumatic actuator

Connector types

Flange (dimensions in mm)



DN	65	80	100
d	75	90	110
Zoll	2 ½"	3"	4"
W	90°	45°	45°
J	19	19	19
K	127 - 145	146 - 160	175 - 190,5
D	65	80	100
C	133	176	206
Z	46	49	56
S	55	70	85
R	25	30	35
P	7	9	9
h	100	100	115
F	232	239	269
PN	10	10	10
drive	MT-25 SR	MT-30 SR	MT-35 SR
H	339	368	401
A	248	241	261
B	96	114	131
N	-	-	-
M	42	52	65
drive	MT-17 DA	MT-20 DA	MT-25 DA
H	344	368	325
A	207	186	248
B	81	96	96
N	-	-	-
M	34	42	42

*DA ... double acting (PO-DA)

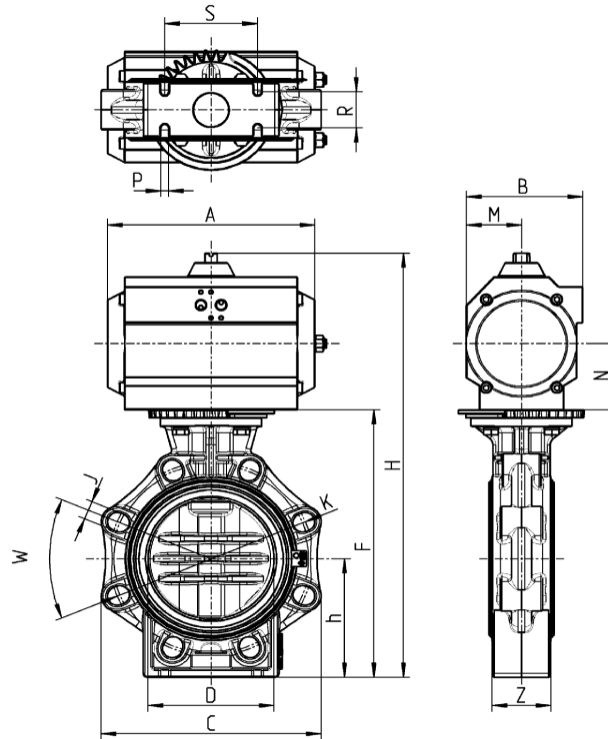
**SR ... spring return (PO-NC / PO-NO)

We recommend using a damper and supporting the actuator accordingly when installing the valve in a vertical position. For additional information and dimensions for solenoid valve and position feedback see accessories and spare parts

Dimensions pneumatic actuator

Connector types

Flansch (Dimensionen in mm)



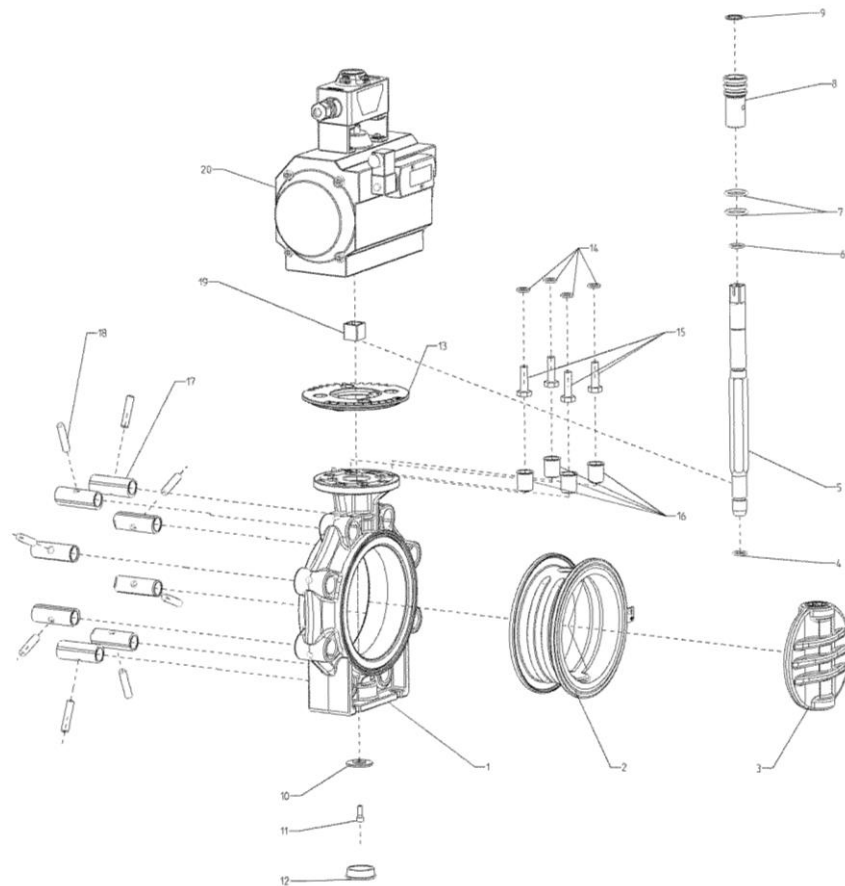
DN	65	80	100
d	75	90	110
Zoll	2 ½"	3"	4"
W	90°	45°	45°
J	19	19	19
K	127 - 145	146 - 160	175 - 190,5
K-DIN	145	160	180
K-ANSI	139,7	152,4	190,5
D	65	80	100
C	133	176	206
Z	46	49	56
S	55	70	85
R	25	30	35
P	7	9	9
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*DA ... double acting (PO-DA)

**SR ... spring return (PO-NC / PO-NO)

We recommend using a damper and supporting the actuator accordingly when installing the valve in a vertical position. For additional information and dimensions for solenoid valve and position feedback see accessories and spare parts www.praher-plastics.com

Exploded drawing pneumatic actuator



Nr.	Description	Material
01.	Body	PP-GF
02.	Sleeve	EPDM/FKM
03.	Disc	PVC-C
04.	Seal shaft below	FPM
05.	Shaft	A4
06.	Seal shaft above	FPM
07.	Seal pilot bushing	FPM
08.	Pilot bushing	PVDF
09.	Retaining ring	A2
10.	Holding disc	1.4305
11.	Screw	A4
12.	Cap	PVC
13.	Cover plate	PE
14.	Nuts	A4
15.	Screw	A4
16.	Caps	PE
17.	inserts	INOX A4
18.	Pins	INOX A2
19.	Reduction	
20.	pneumatic cylinder	

Technical data pneumatic

Technical features of pneumatic actuator

Description actuator:

Piston actuation with two opposed pistons, power transmission with tooth rack, seal elastic

Material actuator:

- o Body: Aluminium anodized
- o End caps: Aluminium epoxy powder
- o Screws / nuts: Stainless steel

Ambient temperature: -20°C to +80°C

Control fluid:

Filtered air according to PNEUROP/ISO class 4 – Thread ¼"

Mounting: in every possible direction

Control function / control pressure:

DA: double acting / max. 10 bar

SR: spring return / max. 8 bar

Rotation angle:

90°; adjustment in both directions from -10° to +10° (MT15 and bigger)

Installation:

- o actuator – valve: ISO 5211
- o actuator – solenoid valve: NAMUR (VDI/VDE 3845)
- o actuator – limit switch box: NAMUR (VDI/VDE 3845)

AIR CONSUMPTION (FULL CYCLE)

DA DOUBLE ACTING

Antrieb	MT-17 DA	MT-20 DA	MT-25 DA	MT-30 DA	MT-35 DA	MT-40 DA
N. Lt.	0,55	0,17	1,10	1,40	2,45	3,05

AIR CONSUMPTION (FULL CYCLE)

SR SPRING RETURN

Antrieb	MT-25 SR	MT-30 SR	MT-35 SR	MT-40 SR	MT-45 SR	MT-50 SR
N. Lt.	0,48	0,65	1,2	1,6	1,85	2,90

Accessories / Spare parts

Hand lever

consisting of:

- Hand lever incl. safety handle
- Assembly screw
- Assembly instruction



Hand lever with position feedback

consisting of:

- Hand lever incl. limit switch mechanical, inductive or NAMUR
- Unit plug
- Mounting screw
- Assembly instructions



Handwheel

consisting of:

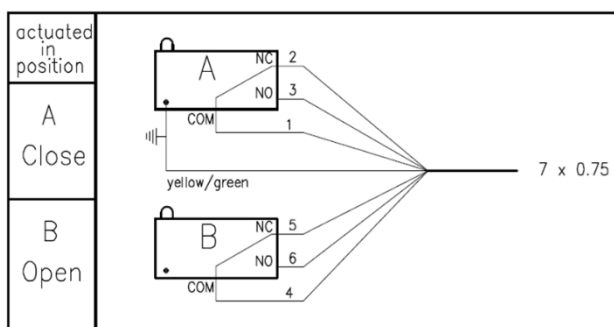
- Hand gear incl. handwheel and insert
- Mounting screws
- Assembly instructions



Handwheel with position feedback

consisting of:

- Handwheel incl. mechanical limit switch
- unit plug
- Mounting screws
- Assembly instructions



Accessories / Spare parts

PLS – Praher Labeling System

Features

- Unique permanent marking
- Reliable, indelible marking by paint pen or laser
- Standard version in the colours yellow, blue, green and red
- Labelling plates are easily exchangeable
- Corrosion resistant
- No effect on the function of the hand lever



Limit switch box for pneumatic rotary actuator

General

- Limit switch box with two mechanical limit switches
- Protection class IP65
- Cable gland M20*1.5

Material

- Housing: polycarbonate black
- Cover: polycarbonate clear
- Mounting bridge and screws: stainless steel
- Seals: EPDM

Voltage

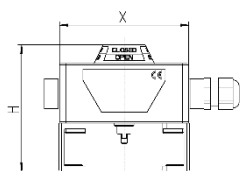
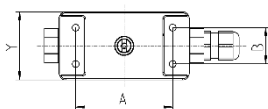
- 1 – 250V

Current

- 16 A (250V AC)
- 2,5 A (24 DC)

Dimensions in mm

A	B	H	X	Y
80	30	110	107	56



Accessories / Spare parts

Magnetic valve

General

- Solenoid valve Namur with combined 5/2- and 3/2-way function and standard coil
- easy switching from 5/2- to 3/2- way function due to innovative reversible seal
- with emergency actuation as standard
- Protection class IP65

Material

- Housing: Aluminium
- Piston: Aluminium
- Seals: NBR
- Screws and springs: Stainless steel

Voltage

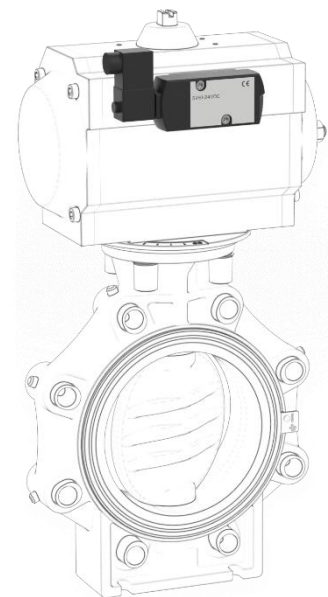
- 24V DC
- 110V AC
- 230V AC

Accessories

- Throttle silencer
- Silencer

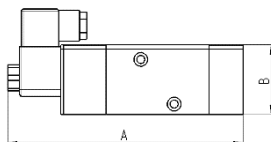
Versions

- Atex protected



Dimensions in mm

A	B	C
168,3	49,8	31,8



Accessories / Spare parts

Adapterset

consisting of:

- Adapter plate
- hexagon head screws
- lock washers



Cover plate

Is required when retrofitting a hand lever with position feedback

consisting of:

- Cover plate



Flange set

consisting of:

- loose flange
- flange bushing
- bolts
- nuts
- washers



Sealing set

consisting of:

- Flap
- O-ring
- collar
- gasket
- supplementary sheet

Versions:

- PVC-U → EPDM or FPM
- PVC-C → EPDM or FPM
- PP → EPDM or FPM
- PVDF → FPM





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