

## Butterfly valve type 56 and type 75



Body material	PP	PP / PVDF <sup>1)</sup>
Sealing material (optionally)	• EPDM • CSM	• FKM • FKM-F
Working temperature <sup>3)</sup>	-20 °C up to 80 °C <sup>2)</sup>	-20 °C up to 120 °C <sup>2)</sup>
Nominal size	• Type 56: DN 400	• Type 75: DN 450 up to DN 600 (in PDCPD up to DN 1500)
Connection with pipe	Sandwich valve with connection dimensions acc. to DIN EN 1092-1 (replaces DIN 2501) - PN 10 <sup>4)</sup>	
Length	Company standard	
Actuator	Infinitely variable gear, optionally pneumatic or electric actuator	
Accessories	Limit switches, shaft extension	

1) Body (not medium contacted) PP, disc PVDF

3) Designed for 10 years of use with a neutral medium (water)

4) also acc. to ANSI or JIS available

2) Working temperatures for sealing materials:

EPDM: -20 up to 90 °C

CSM: -20 up to 80 °C

FKM / FKM-F: -5 up to 120 °C

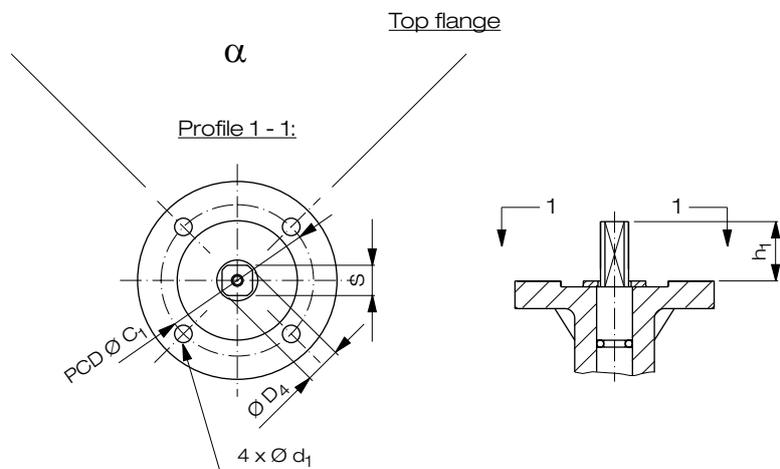
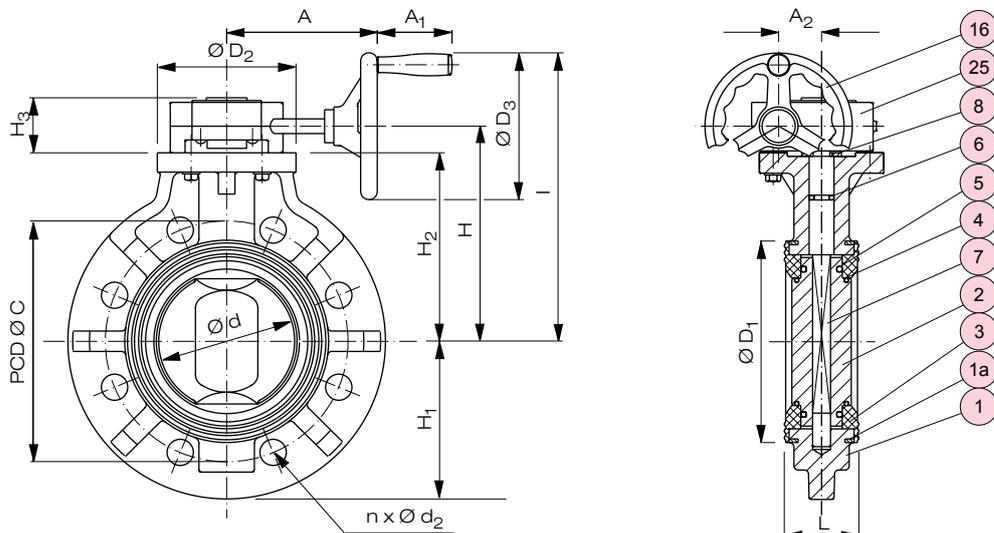
### Example for an invitation to tender text:

Butterfly valve type 56, DN 400, PN 10, PP / EPDM, sandwich valve with connection acc. to DIN EN 1092-1 - PN 10, gear with handwheel and optical position indicator

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# Butterfly valve type 56 and type 75

DN 400 up to DN 600



Top flange dimensions in [mm] for fixation and actuator mounting (DIN EN ISO 5211)

DN	Type	C <sub>1</sub>	h <sub>1</sub>	d <sub>1</sub>	D <sub>4</sub>	S	α
400	F14	140	45	18	34	27	90°
450 <sup>1)</sup>		295	70 + 20	18	50	-	60°
500 <sup>1)</sup>		295	70 + 20	18	50	-	60°
600 <sup>1)</sup>		295	70 + 20	18	50	-	60°

<sup>1)</sup> Stem with key (b = 14mm)

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No.	Description	Number	Material
1	Body	1	PP, PP (Disc-PVDF)
1a	Reinforcing ring	2	1.0040 (SS 400) <sup>1)</sup>
2	Disc <sup>*)</sup>	1	PP, PVDF
3	Seat <sup>*)</sup>	1	EPDM, CSM, FKM, FKM-F
4	O-ring (A) <sup>*,2)</sup>	2	EPDM, CSM, FKM, FKM-F
5	O-ring (B) <sup>*)</sup>	2	EPDM, CSM, FKM, FKM-F

<sup>\*)</sup> Wearing parts

<sup>2)</sup> DN 400

<sup>1)</sup> epoxy coated, with PP DN 400

<sup>3)</sup> other material on request

No.	Description	Number	Material
6	O-ring (C) <sup>*)</sup>	1	EPDM, CSM, FKM, FKM-F
7	Stem	1	1.4024 (SUS 403) <sup>3)</sup>
8	Stem holder	1	A2 - 1.4301 (SUS 304)
16	Handwheel	1	PP
25	Gear box	1	aluminium alloy EN-JL 1040 (FC 250), epoxy coated

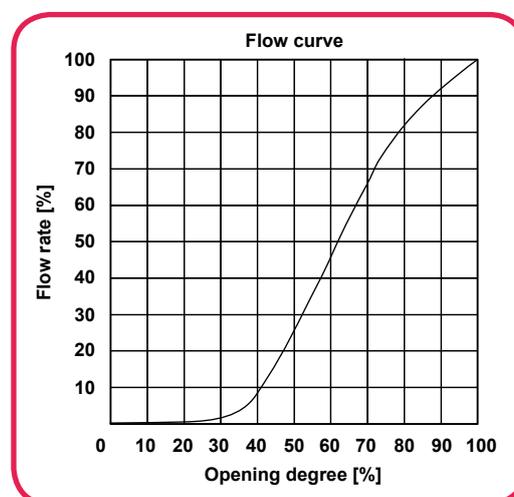
### Dimensions and weights

Dimensions in mm														Weight in kg / pc <sup>5)</sup>						
DN	d	C	D <sub>1</sub>	D <sub>2</sub>	L	H <sub>1</sub>	H <sub>2</sub>	n x d <sub>2</sub>	Hand lever			Gear with handwheel				PP	PVDF			
									A	H	H <sub>3</sub>	A	A <sub>1</sub>	A <sub>2</sub>	I			H	H <sub>3</sub>	D <sub>3</sub>
400	406	515	470	235	169	300	350	16 x 26	-	-	-	272	-	99	540	390	108	300	36,0	46,0
450	452	565	525	340	179	315	370	20 x 26	-	-	-	326	76	105	650	443	127	400	63,5	103,0
500	502	620	575	340	190	350	400	20 x 26	-	-	-	326	76	105	680	473	127	400	77,0	124,0
600	603	725	686	340	209	424	465	20 x 30	-	-	-	326	76	105	745	538	127	400	114,0	157,0

### Flow rate characteristic value<sup>4)</sup> $k_{VS}$ in m<sup>3</sup>/h

DN	Opening degree			
	25 %	50 %	75 %	100 %
400	143	1960	5346	7128
450	186	2560	6981	9308
500	240	3305	9013	12017
600	316	4348	11859	15812

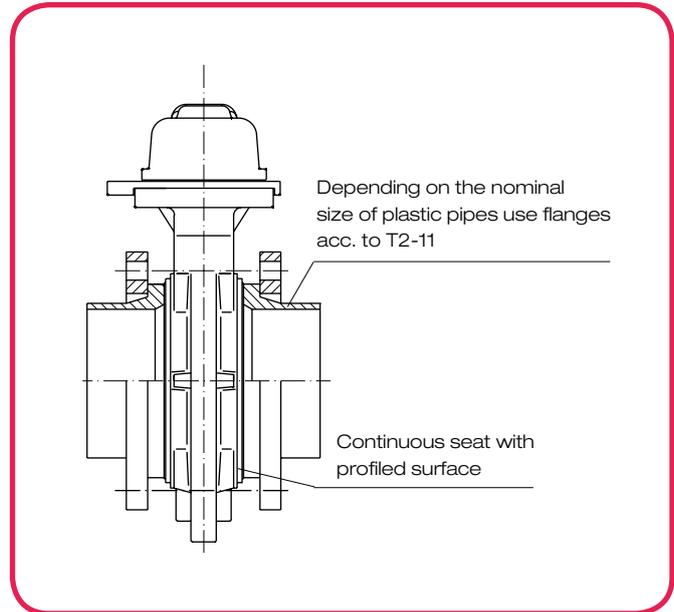
<sup>4)</sup> Definition  $k_{VS}$ -value see chapter T2 / technical information



## Butterfly valve type 56 and type 75

Tightening torque in Nm for flange bolts

DN	Torque
400, 450	80
500, 600	100



Working pressure<sup>1)</sup>  $p_B$  in bar

Body-material	Temp. in °C	DN		
		400	450	500, 600
PP	-20 up to 60	6	5	3,5
	80	3	3	2
PVDF	-20 up to 60	6	5	3,5
	80	2	2	1,5
	100 up to 120	1	1	1

<sup>1)</sup> Definition see chapter T2 / technical information

Operating torque<sup>2)</sup> in Nm

DN			
400	450	500	600
910	<sup>3)</sup>	<sup>3)</sup>	<sup>3)</sup>

<sup>2)</sup> Referring to maximum working pressure

<sup>3)</sup> on request

Hydrostatic bursting pressure<sup>4)</sup> in bar

DN			
400	450	500	600
44	29	25	25

<sup>4)</sup> Referring to maximum working temperature  
Values for PP

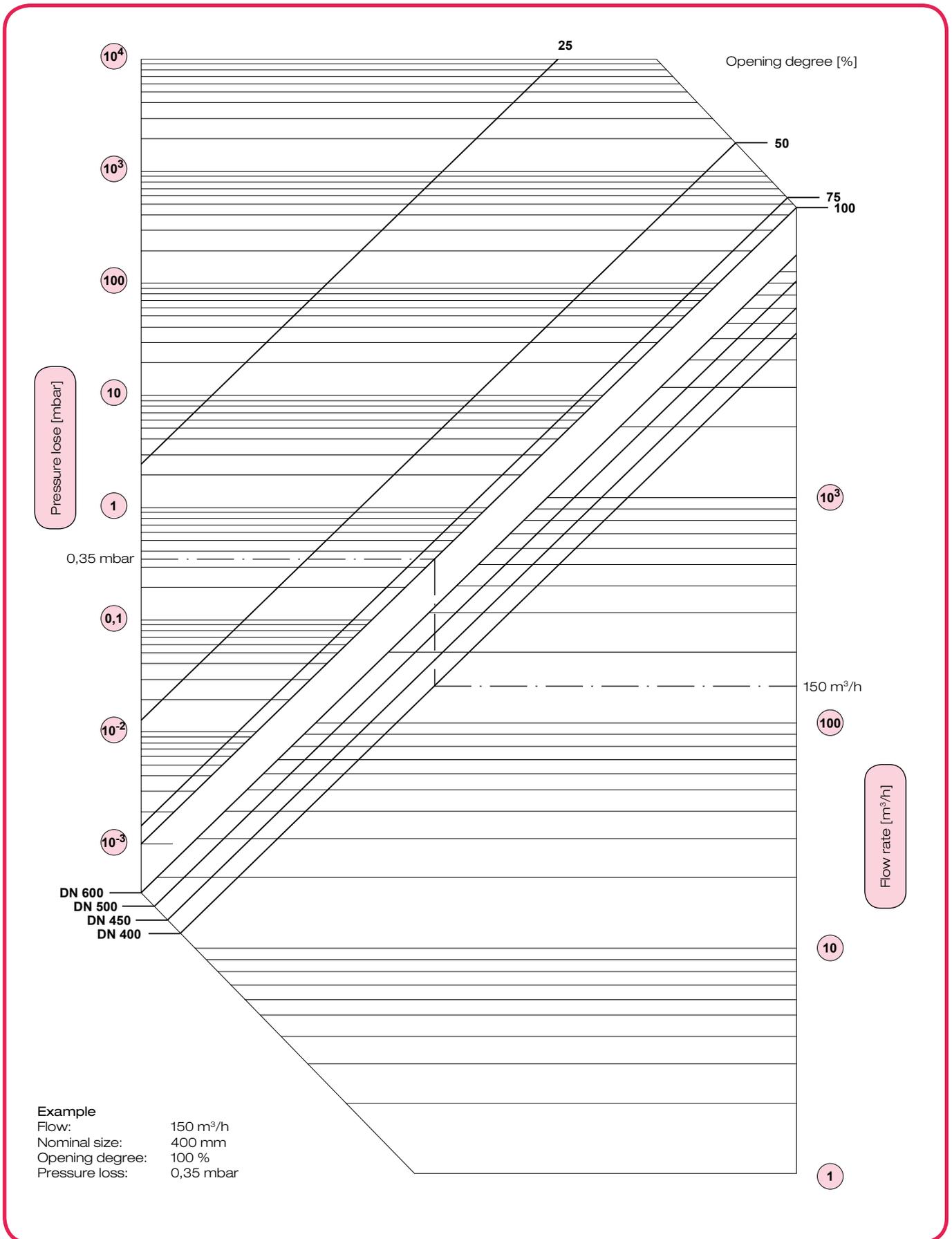
Vacuum resistance<sup>5)</sup> in bar

DN			
400	450	500	600
0,85	0,78	0,78	0,78

<sup>5)</sup> Referring to maximum working temperature  
Values for PP

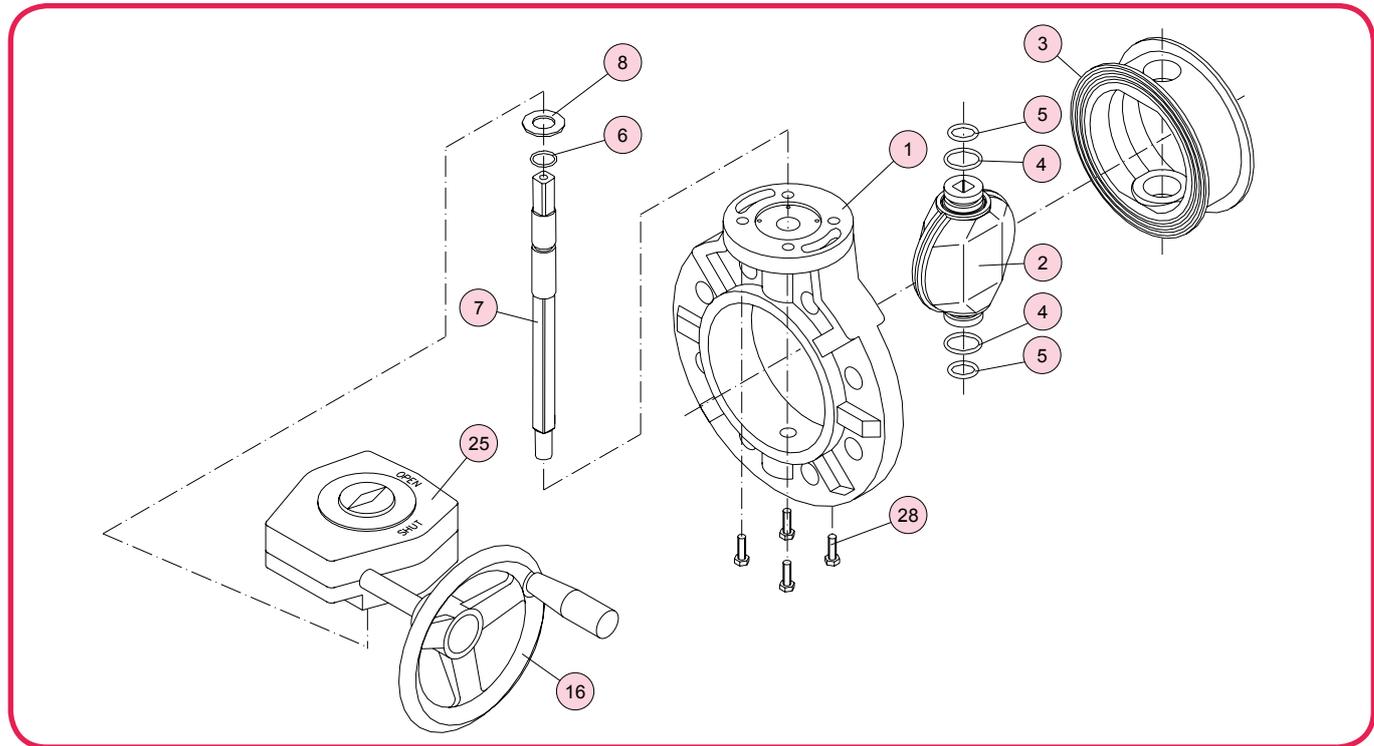
# Butterfly valve type 56 and type 75

Pressure loss diagram



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### Maintenance and installation



#### Gear version

##### Disassembly of the valve

**Caution:** Never dismantle the valve when the pipe is under pressure.

- Leave the valve slightly opened.
- Remove bolts 28 and remove gear box 25.
- Pull the stem 7 out of the body.
- Push disc 2 together with seat 3 out of the body 1. Therefore use a lever to pull the seat and the disc through the body.
- Turn the disc in full opened position. Press the seat slightly and remove disc 2 from seat 3.
- Remove o-rings 4 and 5 with a suitable tool.

##### Assembly of the valve

- The valve assembly is to be performed in reverse order to the disassembly.
- Before the assembly all parts have to be checked for damages.
- All parts have to be clean.

- If necessary, a silicone free lubricant can be applied to the o-rings.
- Set the o-rings in the disc's notches and set the disc in the seat.
- Setting the seat together with the disc in the body, the disc must be in half opened position.
- The stem is to be mounted in a way that its top mark complies with the disc position.
- After assembly carry out a pressure test acc. to DIN EN 12266-1.

##### Notes for correct installation

- Because of the full cover seat additional flange gaskets are not necessary.
- Install the valve without invoking material stress, therefore be aware of flange face parallelism, axial misalignment and valve length.
- For use with media containing solids or sediments the valve should be installed with the stem in horizontal position and the disc opening in flow direction.
- Depending on the size chamfered stub flanges according to T2-11 have to be used.