

Centre Intermediate valve Series 17z - type WZ

Application:

Tight sealing shut-off valve for hard, fluid, and gaseous media:

- Nominal diameter DN 50 to DN 500
- Differential pressure up to 16 bar
- Temperatures -40°C up to 200°C

The series, 17z - type WZ is a intermediate tight-sealing valve. The body in one piece, the sleeve is galvanised in the valve ist. The shut-off valve is suitable for hard, fluid and also gaseous media.

The control valve consists mainly of a shut-off valve and a pneumatic actuator.

The valve is designed according to the modular assembly system and can be combined with various options, which have the following features:

- Maintenance free.
- Body with a high self load capacity.
- A centre bearing valve disc designed for a very good flow through, with a special shaft connection ensuring absolute tight sealing in both flow directions.
- Replaceable sealing.
- With an overhang sealing on the side, and an additional sealing strip to ensure a complete sealing between flanges without additional flange sealings.
- Shaft ends and valve head designed for mounting different form of actuators, interface according to DIN ISO 5211

Versions:

Shut-off valve, series 17z - type WZ obtainable in the following versions:

- Shut-off valve with free shaft ends.
- Shut-off valve with pneumatic actuator, series 31a.
- Butterfly valve, preferable with pneumatic diaphragm actuator series 30a.

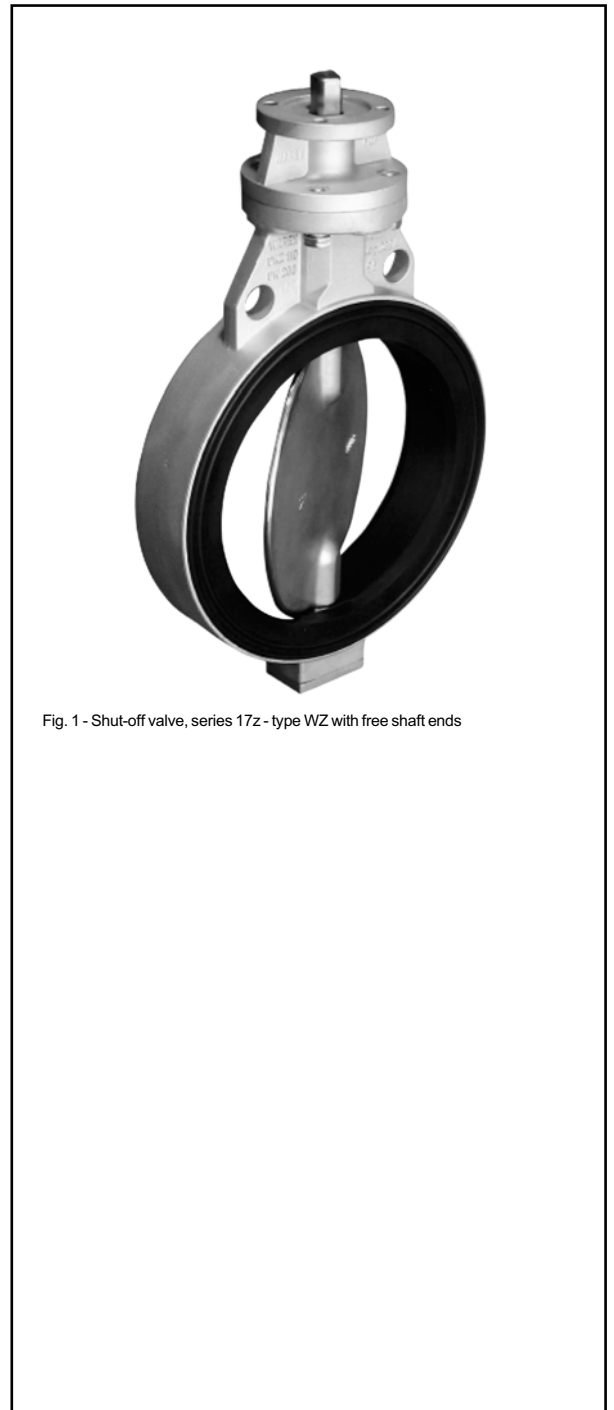


Fig. 1 - Shut-off valve, series 17z - type WZ with free shaft ends

Shut-off valve Series 17z - type WZ

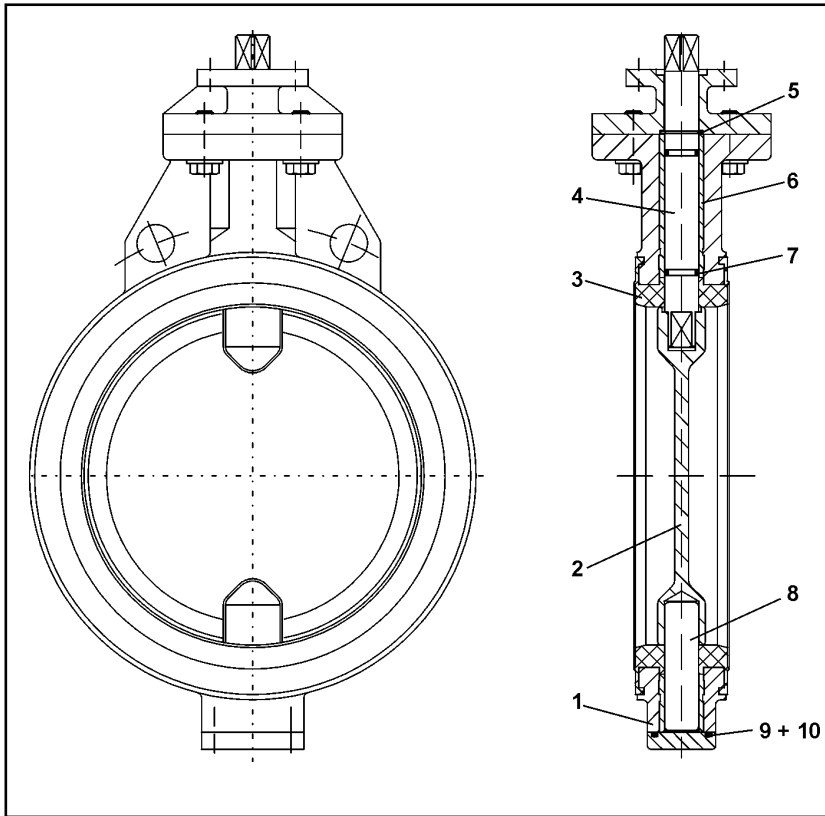


Fig 2 - Section drawing of a shut-off valve

Pos.	Description	Pos.	Description
1	Valve body	6	Guiding sleeve
2	Valve disc	7	O-ring
3	Sleeve	8	Bearing
4	Shaft	9	O-ring
5	Safety ring	10	End plate

Table 1 - Parts list

Additional accessories and attachment parts

The following accessories for the control valve are obtainable either single or in combination:

- Pneumatic or electric actuators
- Positioner
- Limit switch
- Solenoid valves
- Air supply station
- Pressure gauge mounting blocks

Further mounting parts are possible on request according to specification.

Function-and operation:

Flow through in the valve is possible in both directions.

The position of the valve disc (2) determines the flow through between valve disc (2) and valve body (1) area.



Safety position:

Depending on the pneumatic actuator, the control valve has two safety positions, which become effective when pressure is relieved, or when the air supply fails:

• Shut-off valve with actuator "Spring closes":

If the air supply fails, the control valve closes. The valve opens when the air pressure increases acting against the force of the springs.

• Shut-off valve with actuator "Spring opens":

If the air supply fails, the shut-off valve opens. The control valve closes when the air pressure increases against the force of the springs.



Note: The shut-off valve is suitable for use in hazardous areas according to ATEX 94/9/EG: See EC-Examination certificate. BVS 03 ATEX H 024 X

General technical data:

Nominal diameter and pressure range	DN 50 - DN 100	= 16 bar
	DN 125 - DN 300	= 10 bar
	DN 350 - DN 400	= 4 bar
	DN 500	= 2 bar
Connection	connection between flanges DIN 2501	
Temperature range	-40°C up to 200°C	
Leakage rate	Leakage rate A acc. DIN EN 12266-1, test P12 (Leakage rate 1 BO acc. DIN 3230 Part 3)	

Table 2 - technical data

Material:

Valve body	Silumin; GG 25; GGG 40; Stainless steel
Valve disc	Stainless steel; GGG; PVDF; coated; ground and polished
Sleeve	Perbunan; NBR; Hypalon; EPDM; Viton; Silikon et. al.
Shaft	Stainless steel
Bearing bush	Brass; PTFE
O-rings	Perbunan; Viton

Table 3 - Materials

Function drawing und control angle:

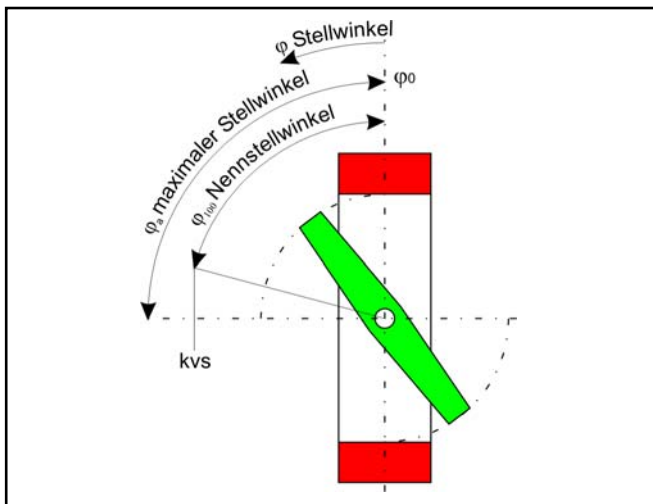


Fig 3 - Function drawing- and illustration of the control angle

kv - Values:

DN	Control angle								
	10°	20°	30°	40°	50°	60°	70°	80°	90°
50	1.9	5.8	14.7	27	44	73	101	144	190
65	4.5	14	21	42	74	120	170	198	235
80	5.1	18	33	56	99	150	256	375	430
100	8	25	56	99	168	240	410	563	695
125	9	36	85	164	231	378	609	944	1090
150	15	56	131	224	339	541	983	1300	1620
200	22	75	190	350	660	1140	1720	2093	2760
250	34	144	210	368	860	1480	2360	3860	4610
300	73	240	510	884	1530	2310	3470	4740	5990
350	93	361	653	1268	2040	2990	4840	6650	8150
400	124	467	975	1410	2400	3940	6290	9100	11100
450	162	624	1180	1890	3050	4910	8180	11900	15700
500	200	756	1580	2470	4000	6230	10200	14900	18650

Table 4 - kv-values

Torque and breakaway torque:

Differential pressure Δp in bar	0	2	4	6	8	10	12	14	16
	Tightening torque in Nm								
DN									
50	3	4	5	6	8	10	12	13	14
65	5	7	8	10	11	13	15	18	21
80	7	9	11	12	14	16	18	20	22
100	8	10	15	20	25	30	40	45	50
125	13	15	25	30	40	50	60	70	75
150	17	25	40	50	70	80	95	105	120
200	38	60	90	110	150	190	235	260	275
250	75	125	200	240	320	375	450	510	570
300	115	180	280	350	480	590			
350	190	250	450	550	720	900			
400	245	350	600	740	1000	1200			
450	350	480	750	1000					
500	480	700	1100	1350					

Table 5 Torque and breakaway torque

The torques specified here are values, which were measured and determined with lubricating media. These values however can be higher when using bulky materials (dry, hard wearing). The oversize dimension of the valve disc to the rubber sealing is decisive in determining the tightening torque. Only by selecting the necessary oversize for the required sealing pressure, is it possible to achieve the maximum free movement.

Selection and sizing of the control valve:

1. Calculation of the appropriate kv-value in accordance to DIN E 60535.
2. Selection of DN and kvs-value according to table 5.
3. Selection of appropriate actuator.

Order text:

Stainless steel valve disc type: Series 17z - type WZ,
 DN / PN ,
 eventual special design
 Actuator, manufacturer:
 Pressure: bar,
 Safety position:
 Limit switch, manufacturer:
 Solenoid valve, manufacturer:
 Positioner:
 Others:



Note: All relevant details regarding the version ordered, which deviate from the specified version in this technical description data, can be taken if required, from the corresponding order confirm.

Dimensions:

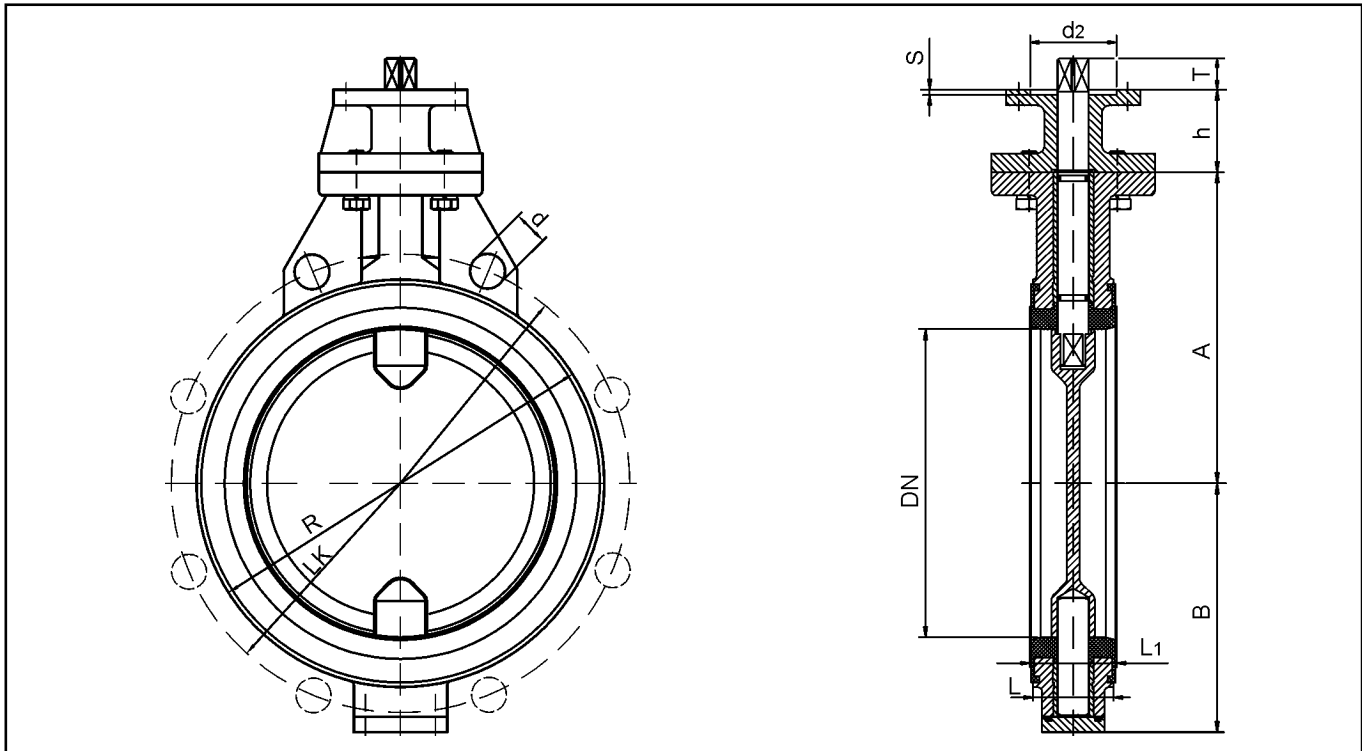


Fig 4 - Dimensional drawing

DN	50	65	80	100	125	150	200	250	300	350	400	450	500	
A	110	118	125	135	163	175	200	249	274	304	330	400	433	
B	70	78	85	95	124	136	161	206	229	266	301	337	360	
h	38	38	38	38	53	53	53	15	15	15	15	15	15	
∅R	98	118	134	154	183	209	263	315	372	423	473	537	578	
T	13	13	13	13	19	19	19	24	24	28	28	28	28	
L	39	39	39	39	44	44	54	68	78	67	67	102	77	
L1	41	41	41	41	46	46	56	70	80	69	69	104	78	
∅d2xS	35x3	35x3	35x3	35x3	55x3	55x3	55x3	70x3	70x3	85x3	85x3	85x3	85x3	
SW	11	11	11	11	17	17	17	22	22	27	27	27	27	
∅LK	PN 6	110	130	150	170	200	225	280	335	395	445	495	550	600
	PN 10	125	145	160	180	210	240	295	350	400	460	515	565	620
	PN 16	125	145	160	180	210	240	295	355	410	470	525	585	650
	150 lbs	120.6	139.7	152.4	190.5	215.9	241.3	298.4	361.9	431.8	476.2	539.7	577.8	635
nx∅d	PN 6	4x14	4x14	4x18	4x18	8x18	8x18	8x18	12x18	12x22	12x22	16x22	16x22	20x22
	PN 10	4x18	4x18	8x18	8x18	8x18	8x22	8x22	12x22	12x22	16x22	16x26	20x26	20x26
	PN 16	4x18	4x18	8x18	8x18	8x18	8x22	12x22	12x26	12x26	16x26	16x30	20x30	20x33
	150 lbs	4x19	4x19	4x19	8x19	8x22.2	8x22.2	8x22.2	12x25.4	12x25.4	12x28.6	16x28.6	16x31.7	20x31.7
DIN ISO Connection	F05	F05	F05	F05	F07	F07	F07	F10	F10	F12	F12	F12	F12	

Table 6 - Dimensions in mm and weight in kg

For your special requirements, please contact our technical sales team.

Pfeiffer Chemie-Armaturenbau GmbH

Hooghe Weg 41 • 47906 Kempen

Telefon: 02152 / 2005-0 • Telefax: 02152 / 1580

E-Mail: vertrieb@pfeiffer-armaturen.com • Internet: www.pfeiffer-armaturen.com

Specifications and design are subject to change without notice