

# ÖZKAN Tilting Disc Check Valve

Technical Guide W4.83

ÖZKAN Tilting Disc Check Valves are light and versatile swing check valves for water applications.



03.26 | W4.83 HAWLE ÖZKAN TILTING DISK CHECK VALVE

## Applications

For horizontal and vertical pipelines (adjustable at site)

Raw water, River water, Grey water

Screened effluent

## Product Attributes

Short body, small volume and light weight

Swinging disc with or without hydraulic damper

## Approvals/Standards

EN 558-1 Series 13 and 14 face to face dimensions

Flanges to AS 4087 Fig. B5

Complies with AS 4794:2001

## Quality

ISO 9001:2008 Quality Management Systems

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# Özkan Tilting Disc Check Valve

## Design Specifications

- Özkan Tilting Disc Check Valve has a short body design with low weight and small volume.
- High quality coating and materials provide excellent corrosion resistance.
- The spindles which extend on both sides of the check valve enable the installation of lever and counter weight on either side of the check valve for both horizontal and vertical pipe installation.
- This is a free acting check valve that responds to flow velocity with ease and the position of counter weight can be adjusted according to working conditions. These valves are designed as maintenance free and can be supplied metal to metal or with resilient sealing.
- Valves tested to meet the requirements of EN1074 and EN12266

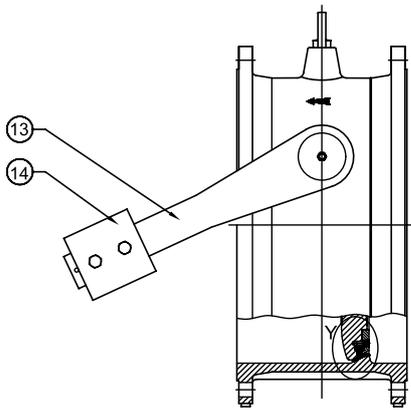
Diameter	Pressure
DN100-1400	PN 10-25

## Design Features

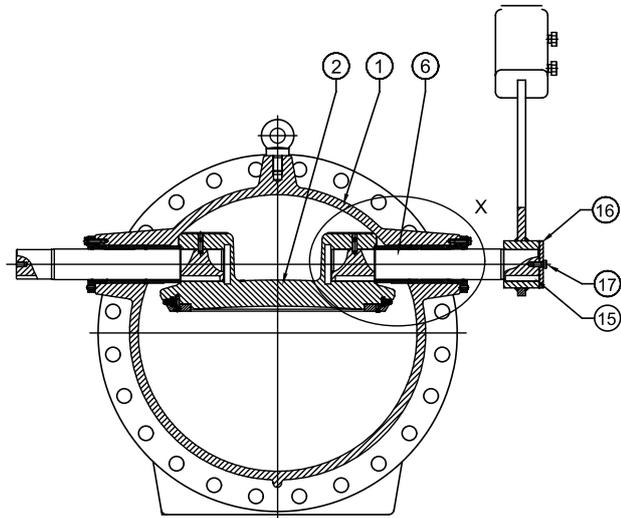
**TABLE 1 Design Features**

Part No.	Description	Material
1	Body	Ductile iron EN-GSJ-400-15
2	Disc	Ductile iron EN-GSJ-400-15
3	Retaining ring	Steel S235JR
4	Sealing ring	EPDM
5	Hex. socket head cap screw	Stainless steel A2
6	Shaft	Stainless steel X20Cr13
7	Key	Steel Ck45
8	Hex. socket set screw	Stainless steel A2
9	Bearing bush	Bronze
10	'O'-ring	EPDM
11	Cover	Ductile cast iron EN-GJS-400-15
12	Hex. bolt	Stainless steel A2
13	Lever	Steel S235JR
14	Weight	Steel S235JR
15	Key	Steel Ck45
16	Cover	Steel S235JR
17	Bolt	Stainless steel A2

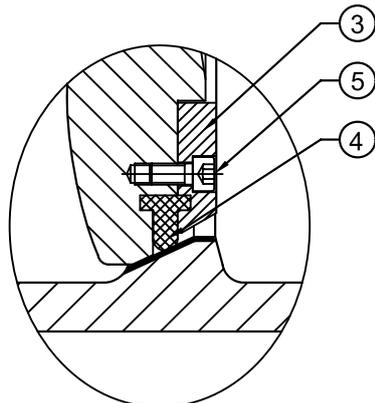
\* Other material grades are available upon request.



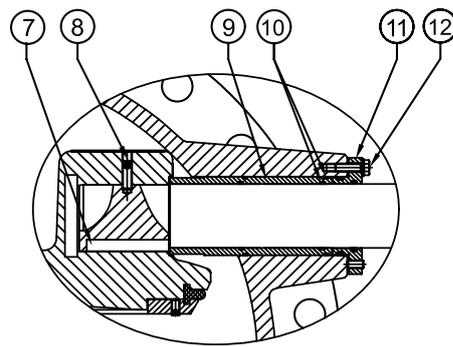
**FIG. 1** Closed Position



**FIG. 2** Opened Position



**FIG. 3** Detail Y



**FIG. 4** Detail X

## Technical Specifications

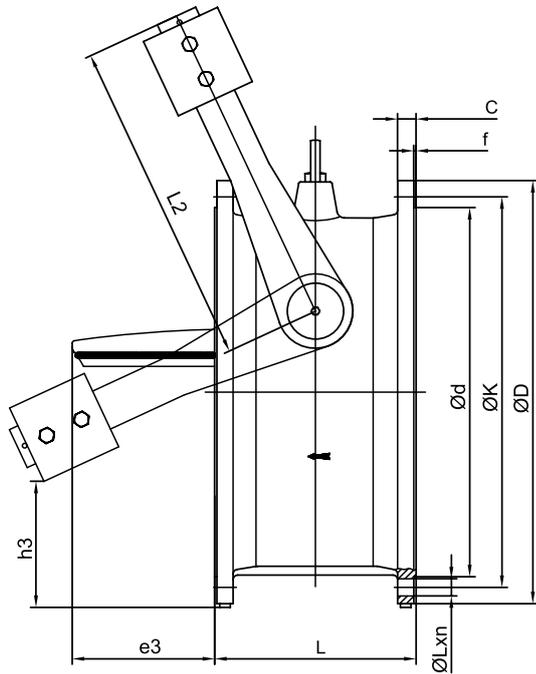


FIG. 5 Tilting Disc Check Valve Side View

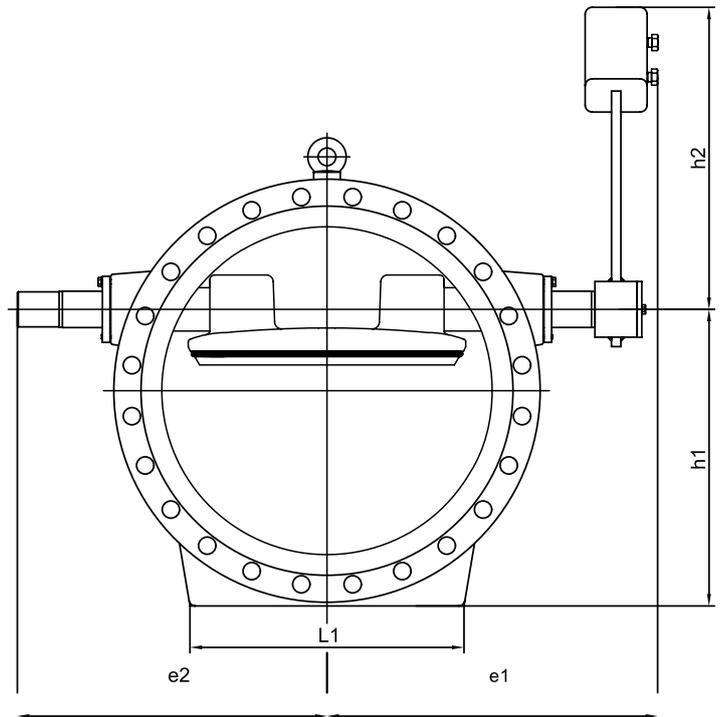


FIG. 6 Tilting Disc Check Valve Front View

TABLE 2 Tilting Check Valve PN10 Technical Information

DN	PN	ØD	Øk*	Ød	C	f	ØLxn	L	L1	L2	e1	e2	e3	h1	h2	h3
100	10	220	180	156	19	3	19x8	190	-	200	200	184	-	135	188	26
125	10	250	210	184	19	3	19x8	200	-	200	223	207	-	156	188	47
150	10	285	240	211	19	3	23x8	210	-	200	245	230	9	180	188	69
200	10	340	295	266	20	3	23x8	230	-	200	268	252	35	220	188	107
250	10	405	350	319	22	3	23x12	250	-	300	325	305	68	265	285	92
300	10	460	400	370	24.5	4	23x12	270	285	300	340	317	87	315	285	142
350	10	520	460	429	26.5	4	23x16	290	250	400	410	382	117	357	372	140
400	10	580	515	480	28	4	28x16	310	370	400	440	412	138	400	372	182
450	10	640	565	530	30	4	28x20	330	425	450	470	443	165	442	418	204
500	10	670	620	582	26.5	4	28x20	350	460	500	520	490	188	470	465	200
600	10	780	725	682	30	5	31x20	390	470	600	570	546	238	550	555	237
700	10	910	840	794	39.5	5	31x24	430	580	700	700	661	305	640	653	273
800	10	1025	950	901	43	5	34x24	470	655	800	745	711	355	723	743	314
900	10	1125	1050	1001	46.5	5	34x28	510	680	900	800	780	400	797	830	348
1000	10	1255	1160	1112	50	5	37x28	550	690	1000	870	863	460	887	935	360
1200	10	1455	1380	1328	45	5	41x32	630	810	1200	960	938	568	1040	1113	427
1400	10	1675	1590	1530	46	5	44x36	710	900	1400	1240	1205	682	1205	1305	482

**Note:** Please contact us for other sizes and pressure rates.

\* EN1092 Flange pattern shown. Multiple flange standards available.

**TABLE 3 FLANGE STANDARD : Flange drilling is to be done according to AS 4087 CLASS 14/16**

FLANGE STANDARD TABLE									LENGTH TABLE							
DN	PN	ØD	ØK	Ød	Metric	C	f	ØLxn	L1	e1	e2	e3	h1	h2	h3	R
100	16	220	178	154	M16	19	3	18x4	190	200	184	95	135	25	26	200
125	16	255	210	186	M16	19	3	18x8	200	220	207	90	156	45	47	200
150	16	285	235	211	M16	19	3	18x8	210	245	230	85	179	55	65	200
200	16	340	292	268	M16	20	3	18x8	230	265	252	75	220	95	107	200
250	16	405	356	328	M20	22	3	22x8	250	320	305	165	279	92	92	300
300	16	460	406	378	M20	24.5	4	22x12	270	335	317	145	315	145	142	300
350	16	525	470	438	M24	26.5	4	26x12	290	410	382	225	360	145	140	400
400	16	580	521	489	M24	28	4	26x12	310	440	412	220	400	182	182	400
450	16	640	584	552	M24	30	4	26x12	330	470	443	255	442	205	204	450
500	16	715	641	609	M24	31.5	4	26x16	350	520	490	290	490	240	222	500
600	16	825	756	720	M27	30	5	30x16	390	570	546	360	575	285	267	600
700	16	910	845	809	M27	39.5	5	30x20	430	700	661	440	640	275	273	700
800	16	1060	984	942	M33	43	5	36x20	470	745	711	510	745	335	314	800
900	16	1175	1092	1050	M33	46.5	5	36x24	510	800	780	575	820	380	348	900
1000	16	1255	1175	1133	M33	50	5	36x24	550	870	863	650	888	360	360	1000
1200	16	1490	1401	1368	M33	57	5	36x32	630	960	938	800	1075	450	442	1200

**Note:** Please contact us for other sizes and pressure rates.

**TABLE 4 Tilting Disc Check Valve PN25 Technical Information**

DN	PN	ØD	Øk*	Ød	C	f	ØLxn	L	L1	L2	e1	e2	e3	h1	h2	h3
100	25	235	190	156	19	3	23x8	190	-	200	200	184	-	143	188	33
125	25	270	220	184	19	3	28x8	200	-	200	223	207	-	166	188	57
150	25	300	250	211	20	3	28x8	210	-	200	245	230	9	186	188	73
200	25	360	310	274	22	3	28x12	230	-	200	268	252	35	230	188	117
250	25	425	370	330	24.5	3	31x12	250	280	300	330	317	68	285	285	111
300	25	485	430	389	27.5	4	31x16	270	310	400	390	362	87	328	370	112
350	25	555	490	448	30	4	34x16	290	250	400	435	410	117	375	372	160
400	25	620	550	503	32	4	37x16	310	370	400	490	469	138	420	376	192
450	25	670	600	548	34.5	4	37x20	330	425	500	510	488	167	457	465	187
500	25	730	660	609	36.5	4	37x20	350	460	500	570	554	188	500	465	230
600	25	845	770	720	42	5	41x20	390	535	600	625	610	238	582	555	270
700	25	960	875	820	46.5	5	44x24	430	610	700	715	698	306	665	647	300
900	25	1185	1090	1028	55.5	5	50x28	510	620	900	835	795	400	838	850	335

**Note:** Please contact us for other sizes and pressure rates.

\*EN1092 Flange pattern shown. Multiple flange standards available.

# Özkan Tilting Disc Check Valves with Hydraulic Damper

## Design Specifications (with Hydraulic Damper)

Özkan Tilting Disc Check Valve with Hydraulic Damper eliminates the slam effect and water hammer across the entire closing stroke.

The closing rate is adjustable depending on operational conditions.

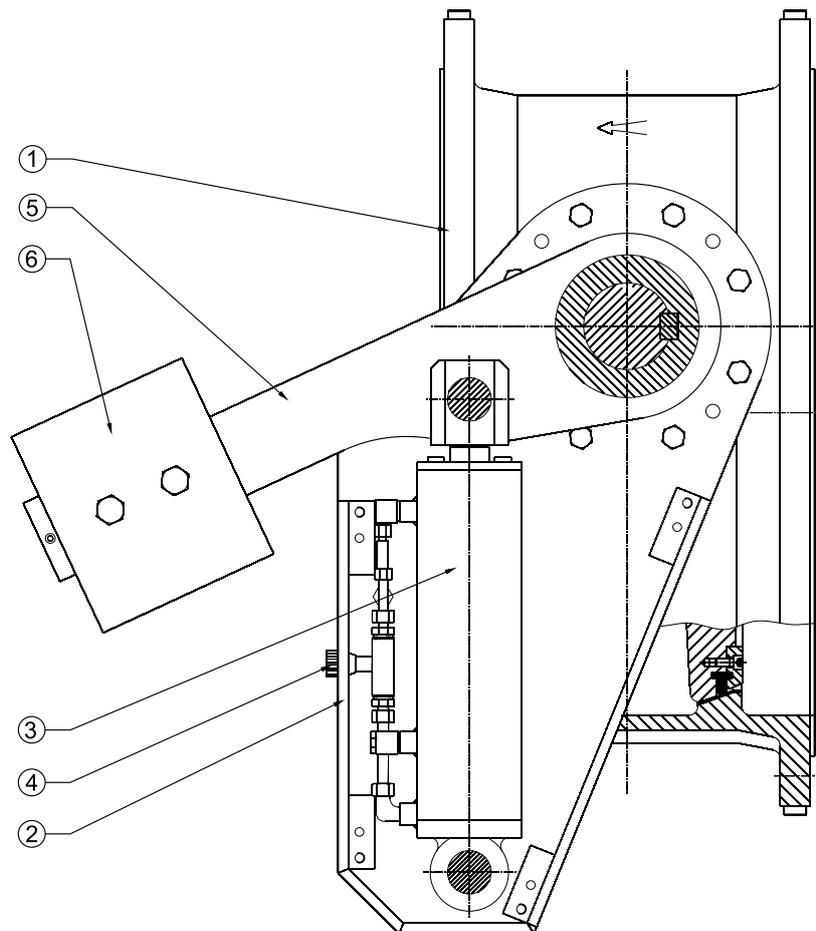
All valve components are designed for high stress caused by damping effect.

Diameter	Pressure
DN150-1000	PN 10-25

## Design Features

**TABLE 5** Design Features with Hydraulic Damper

Part number	Description
1	Check Valve body
2	Damper chassis
3	Hydraulic damper
4	Closing speed control valves
5	Lever
6	Weight



**FIG. 7** Tilting Disc Check Valve with Hydraulic Damper

## Technical Specifications (with Hydraulic Damper)

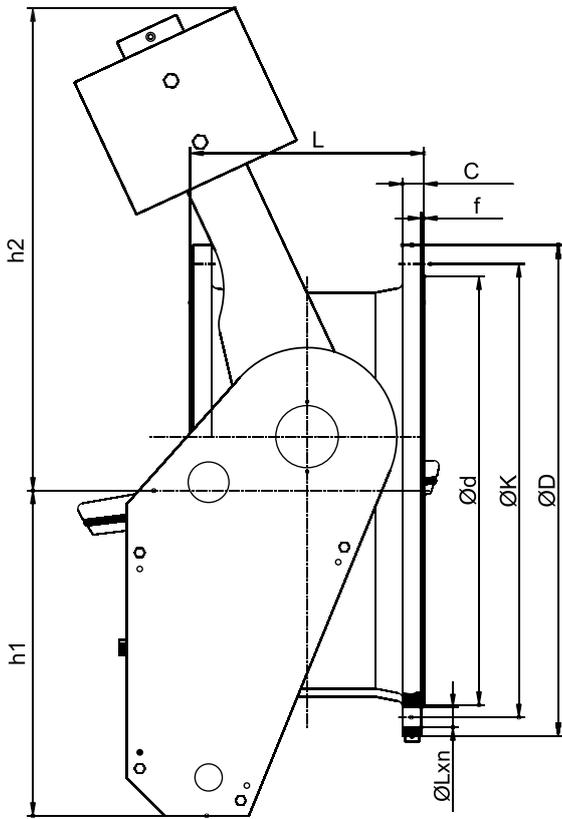


FIG. 8 Tilting Disc Check Valve with Hydraulic Damper Side View

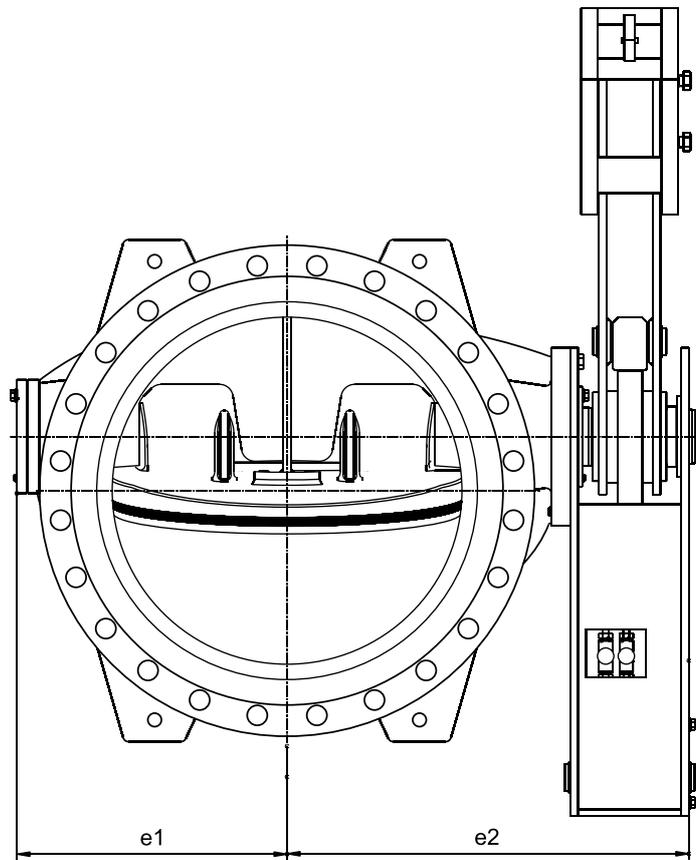


FIG. 9 Tilting Disc Check Valve with Hydraulic Damper Front View

TABLE 6 Tilting Disc Check Valve PN10 with Hydraulic Damper Technical Information

DN	PN	ØD	Øk*	Ød	C	f	ØLxn	e1	e2	h1	h2	h3	Weight (kg)
150	10	285	240	211	19	3	23x8	210	132	265	276	348	45
200	10	340	295	266	20	3	23x8	230	210	357	297	378	95
250	10	405	350	319	22	3	23x12	250	241	373	288	390	110
300	10	460	400	370	24.5	4	23x12	270	261	414	294	383	150
350	10	520	460	429	26.5	4	23x16	290	291	468	325	467	190
400	10	580	515	480	28	4	28x16	310	322	514	339	453	228
450	10	640	565	530	30	4	28x20	330	357	550	335	498	-
500	10	670	620	582	26.5	4	28x20	350	382	595	486	506	358
600	10	780	725	682	30	5	31x20	390	430	631	516	641	505
700	10	910	840	794	39.5	5	31x24	430	497	750	603	807	800
800	10	1025	950	901	43	5	34x24	470	563	812	644	913	-
900	10	1125	1050	1001	46.5	5	34x28	510	662	933	707	1030	1382
1000	10	1255	1160	1112	50	5	37x28	550	688	1045	705	1255	1995

**Note:** Please contact us for other sizes and pressure rates.

\* EN1092 Flange pattern shown. Multiple flange standards available.

**TABLE 7 Tilting Disc Check Valve PN16 with Hydraulic Damper Technical Information**

DN	PN	ØD	Øk*	Ød	C	f	ØLxn	L	e1	e2	h1	h2	Weight (kg)
200	16	340	295	266	20	3	23x12	230	210	357	297	378	95
250	16	405	355	319	22	3	28x12	250	241	373	288	390	110
300	16	460	410	370	24.5	4	28x12	270	261	414	294	383	150
350	16	520	470	429	26.5	4	28x16	290	291	468	325	467	190
400	16	580	525	480	28	4	31x16	310	322	514	339	453	245
450	16	640	585	548	30	4	31x20	330	357	550	335	498	-
500	16	715	650	609	31.5	4	34x20	350	382	595	486	506	334
600	16	840	770	720	36	5	37x20	390	430	631	516	641	505
700	16	910	840	794	39.5	5	37x24	430	497	750	603	807	800
800	16	1025	950	901	43	5	41x24	470	563	812	644	913	-
900	16	1125	1050	1001	46.5	5	41x28	510	662	933	707	1030	1382
1000	16	1255	1170	1112	50	5	44x28	550	688	1045	705	1255	1995

**Note:** Please contact us for other sizes and pressure rates.

**TABLE 8 Tilting Disc Check Valve PN25/40 with Hydraulic Damper Technical Information**

DN	PN	ØD	Øk*	Ød	C	f	ØLxn	L	e1	e2	h1	h2	Weight (kg)
150	25	300	250	211	20	3	28x8	210	132	265	276	348	46
150	40	300	250	211	26	3	28x8	210	132	265	276	348	-
200	25	360	310	274	22	3	28x12	230	210	357	297	378	99
250	25	425	370	330	24.5	3	31x12	250	259	416	297	383	128
250	40	450	385	345	34.5	3	34x12	250	259	416	297	383	170
300	25	485	430	389	27.5	4	31x16	270	261	414	294	383	150
500	25	730	660	609	36.5	4	37x20	350	386	595	486	641	450
600	25	845	770	720	42	5	41x20	390	484	721	670	740	714

**Note:** Please contact us for other sizes and pressure rates.

\* EN1092 Flange pattern shown. Multiple flange standards available.

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