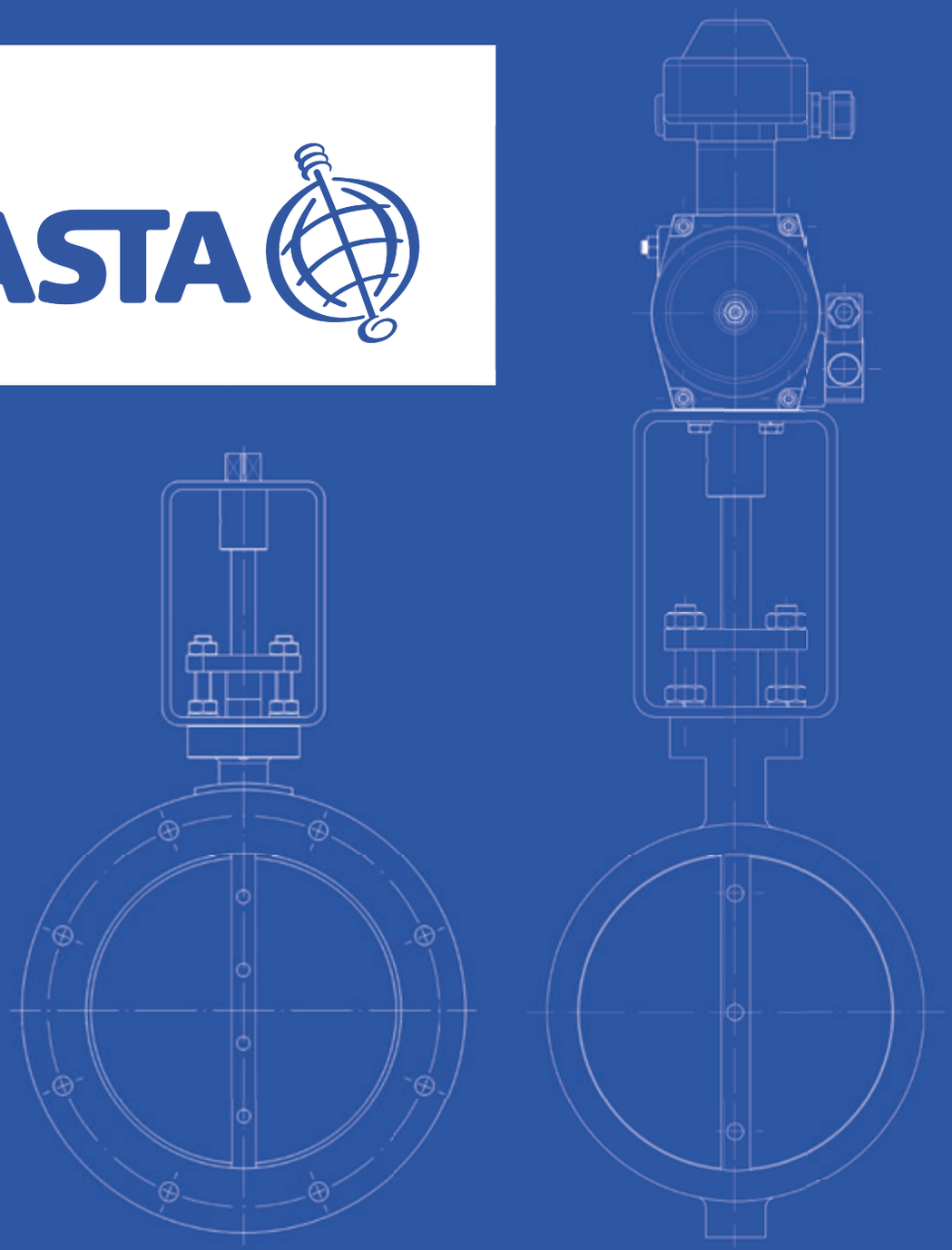
JASTA

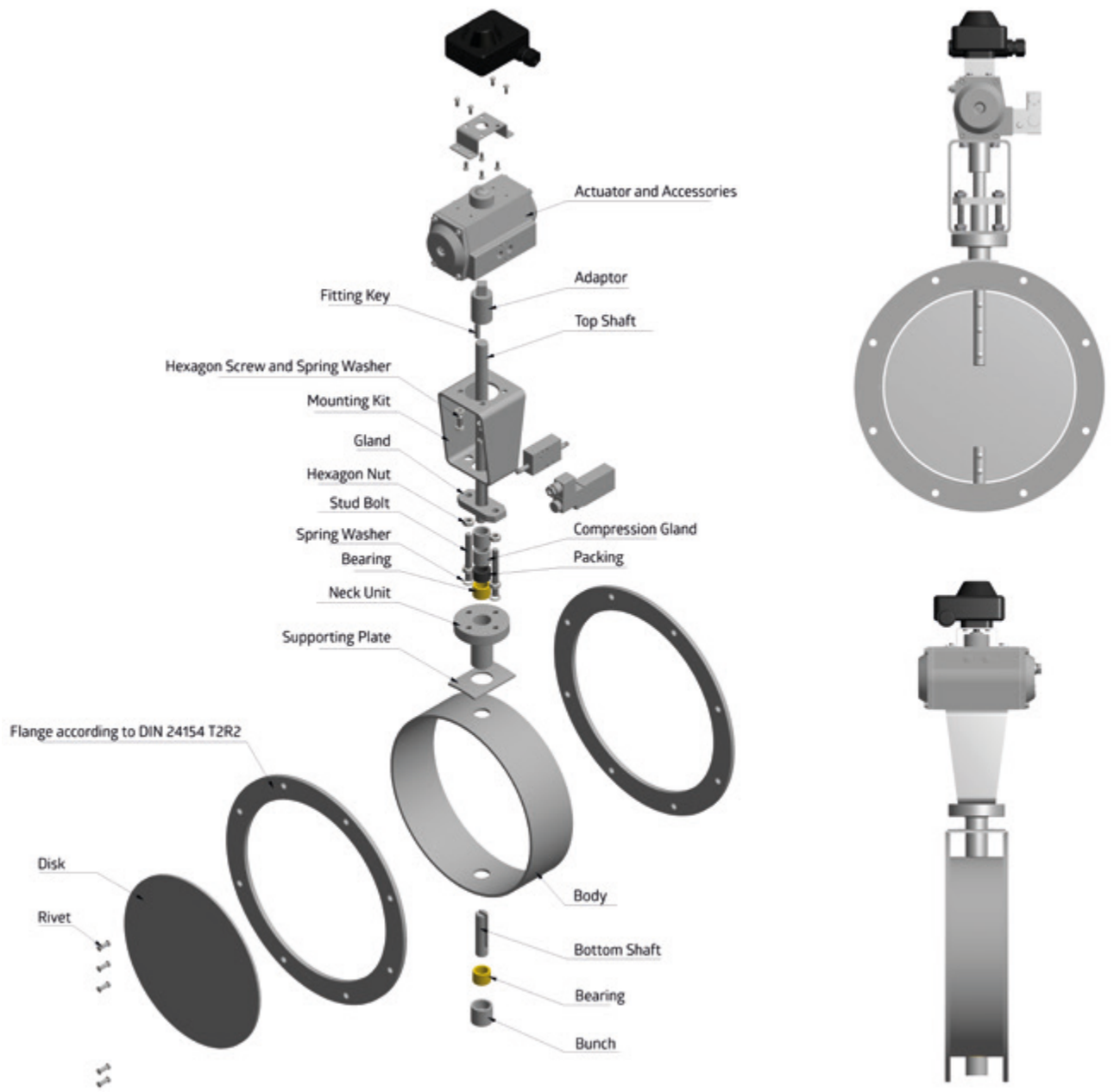


Flange Throttle Valve

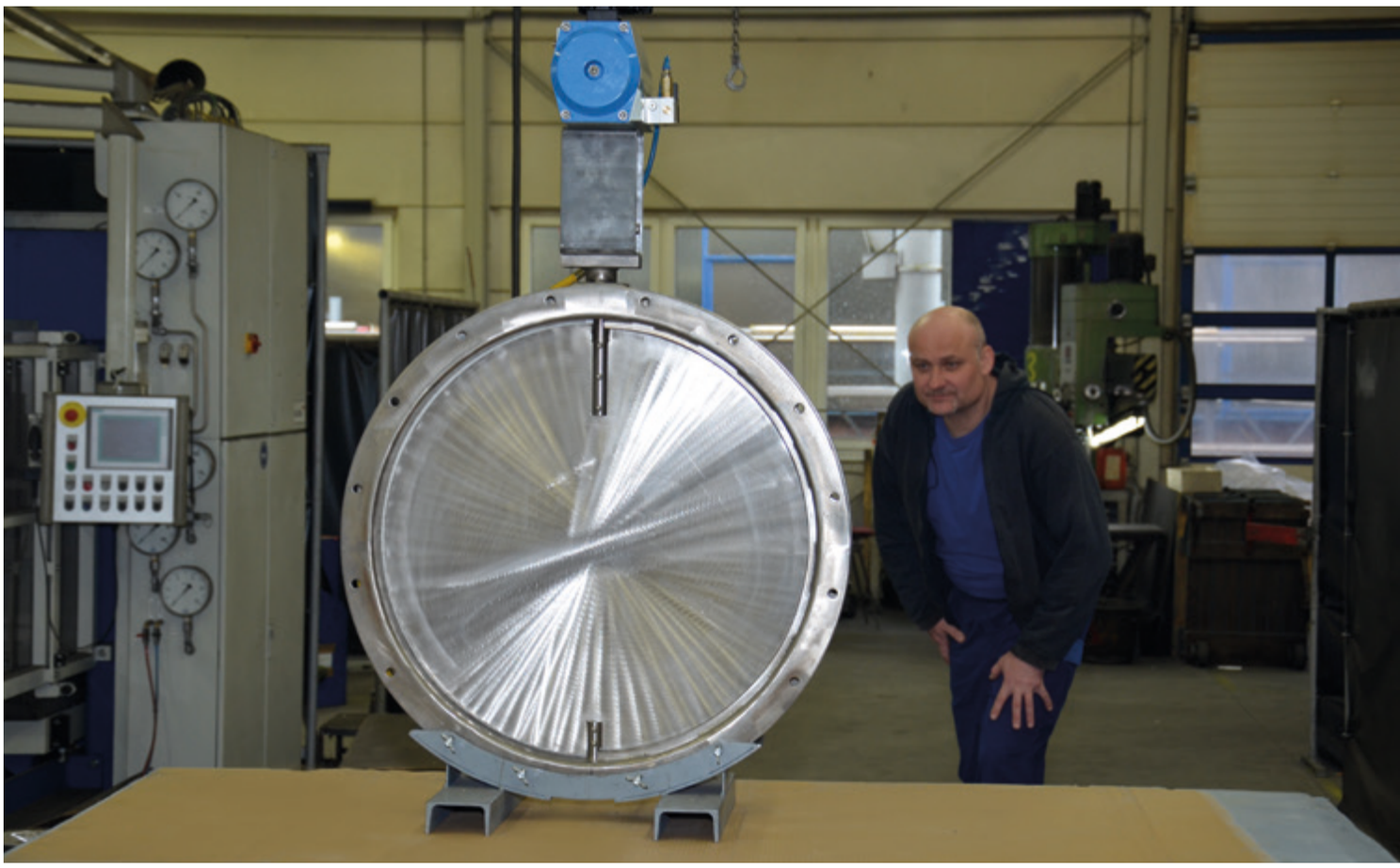
Type LDK

LDK-4 / LDK-1

Flange Throttle Valve Type LDK-4 with flanges drilled according to DIN 24154 T2R2 and mounted pneumatic actuator



Exploded view of a standard LDK-4 with a swing through steel disk and a pneumatic actuator.



General Description of the Flange-Throttle Valve Type LDK-4

The flange-throttle valve type LDK-4 is one of our all-rounders in the fields of control valve technology and shut-off valve technology. They are mounted between flanges according to DIN 24154 T2R2 in pipelines. The valve LDK-4 stands out due to its compact design and can handle differential pressure up to 100 mbar. We can produce this valve from any materials available on the market, depending on the application (temperature, medium, pressure).

Special valves of this type which have already been implemented are a LDK-4 valve with sliding armatures and a T-type valve for the implementation of a bypass solution.

With our three sided coated sealing gasket we can offer leakage rates of max. 0,05% of Kv 90°. To achieve a leakage rate of 0%, the valve will be equipped with a double jacketed gasket and charged with sealing air.

We do not only offer our valves with free shaft ends, but can also upon requests offer the valves either as manually operated (with grid handle or continuously variable fine adjustment) or an actuator. Any actuator available on the market, whether electric or pneumatic, can be fitted with our standardized mounting kit. The mounting position of the valve standardly is provided with horizontal shaft, but upon request customized solutions are available.

Advantages at a glance

Handling	Easy, depending on the accessories
Impermeability	99%, 99,5% and 99,95% compared to fully opened disk
Operating Temperature	-100°C to +1100°C
Medium Compatibility	Design and material selection according to your medium and further operating conditions, including: (aggressive) flue gas, dust-laden mediums, biogas or exhaust gases from biomass burning
Reliability	Very low possibility of failure
Maintenance Characteristics	Low maintenance

Basic Information

Sizes: DN 63 – DN 2000 (intermediate sizes viable)

- Up to DN 3000 possible as a custom order

LDK-4 as a flange valve with flanges drilled according to

- DIN 24154 T2R2/R4
- Every pattern of drilling available upon request

Operation

- With free shaft-ends
- Manual operation with a grid handle with locking mechanism or continuously variable fine adjustment
- A corresponding shaft adaption with the DIN ISO 5211 mounting kit
- With a mounted actuator (pneumatic, electric or hydraulic)

Shaft Seal

- Gland seal
- O-Rings or shaft seals (EPDM, FPM, NBR, PTFE)
- Smooth running seal
- TA-Luft

Shaft Bearing

- Friction bearing (RG7, Rhyolite, PTFE, DU)
- External fitting through flange bearings for smooth operating
- External fitting over a friction bearing (EN-GJL-250CrNi) for high temperatures up to 1100°C

Impermeability Classes

- Approx. 99% impermeability in a disk swing through design
- Approx. 99,5% impermeability (metallic sealing) compared to fully opened valve disk in a design with a stop bar in the body
- Approx. 99,95% impermeability (with flexible seal) in designs with a stop bar and three sided jacketed gasket in the body

Operating Temperature

- From -100°C to +1100°C

Material

- Steel (e.g. S235JR, S355JR; P265GH)
- Stainless steel (e.g. X5CrNi18-10, X6CrNiTi18-10, X6CrNiMoTi17-12-2, NiMo16Cr16Ti)
- Heat resistant steel (e.g. X15CrNiSi20-12, X15CrNiSi25-21)

Closing Types

Disk swing through	99% impermeability compared to fully opened disk
With a stop bar in the body	99,5% impermeability compared to fully opened disk
With stop bar and gasket seal	99,95% impermeability compared to fully opened disk
With sealing air	Up to 100% impermeability

Material Combinations

Temperature	up to 350°C	up to 550°C	up to 850°C	up to 1100°C
Body	S235JR; P265GH	X5CrNi18-10; X6CrNiTi18-10	X15CrNiSi20-12	X15CrNiSi25-21
Disk	S235JR; X5CrNi18-10	X5CrNi18-10; X6CrNiTi18-10	X15CrNiSi20-12	X15CrNiSi25-21
Shaft	S235JR; X20Cr13	X8CrNiS18-9; X6CrNiTi18-10; X20Cr13	X15CrNiSi20-12	X15CrNiSi25-21
Subject to modification				

Actuators and Actuator Accessories

Operation	Accessory
Manual operation	Grid handle, fine adjustment, worm gear
Pneumatic actuator	Magnet valve, electro-mechanical end switch, inductive proximity switch positioner 4...20mA, PROFIBUS, HART, etc.
Elektric actuator	End switch, revolution off-switch, position encoder 4...20mA, positioner, PROFIBUS, HART
Security functions	Fast closing and opening <1 sec through express airing or drop weights
Cylinder	Magnet valve, End position control
Subject to modification	

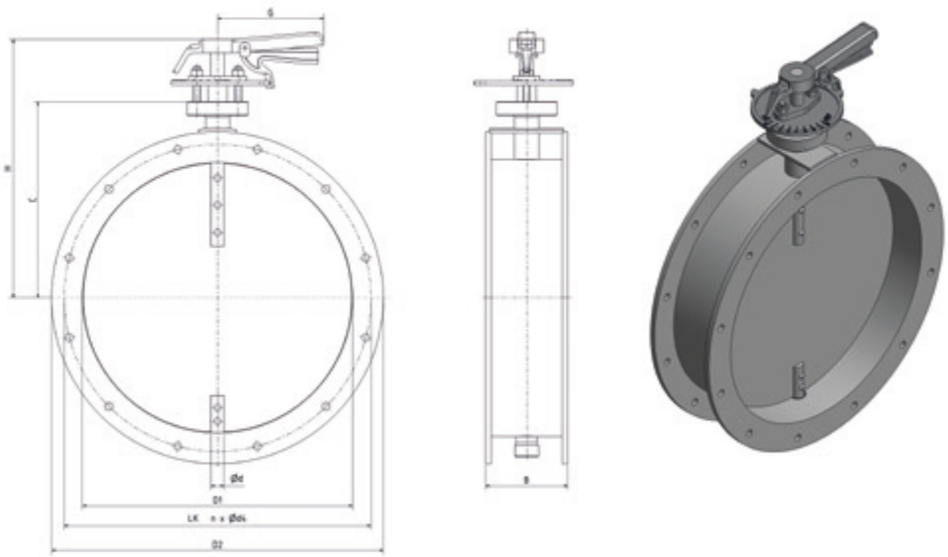
Advantages of the LDK-4

- Our valves are individually produced according to your needs. They are adjusted one hundred percent according to the operational conditions. That includes the specifications, material choice and operation.
- The Kv-values, impermeability and dynamic torque were tested in an FEM simulation.
- The flange valve LDK-4 is produced with flanges, drilled according to DIN 24154 T2R2/R4 or upon request. This ensures quick and safe installation into an existing pipeline.

Application Areas

Smelters, foundries, cement factories, crematoriums, industrial furnaces (for iron, steel, aluminium and stainless steel), glass factories, factories (for Rockwool, autoclaved aerated concrete etc.), ceramic kilns, drying and dust extractors, gas turbines, heat treatment, and high temperature furnace construction.

Standard Measurements LDK-4 with Grid Handle



DN	B	C	D1	D2	ø d	G	H	n x ød4 LK	Mass [kg]
63	100	108	58	128	12	145	188	4 x 9,5 LK-102	4,9
71	100	111	64	133	12	145	191	4 x 9,5 LK-110	5,1
80	100	115	72	142	12	145	195	4 x 9,5 LK-118	5,3
90	100	120	82	152	12	145	200	4 x 9,5 LK-128	5,6
100	100	126	94	162	12	145	206	4 x 9,5 LK-139	5,8
112	100	132	106	174	12	145	212	4 x 9,5 LK-151	6,1
125	100	139	119	187	12	145	219	4 x 9,5 LK-165	6,5
140	100	145	132	212	15	155	230	8 x 11,5 LK-182	7,1
150	100	151	144	222	15	155	236	8 x 11,5 LK-191	7,4
160	100	155	152	232	15	155	240	8 x 11,5 LK-200	7,7
180	100	164	169	252	15	155	249	8 x 11,5 LK-219	8,3
200	100	176	194	273	15	155	261	8 x 11,5 LK-241	8,9
224	100	188	218	297	15	155	273	8 x 11,5 LK-265	9,9
250	100	201	244	323	15	155	286	8 x 11,5 LK-292	10,5
280	100	216	274	363	15	155	301	8 x 11,5 LK-332	13,3
300	100	236	294	383	20	155	321	8 x 11,5 LK-349	15,1
315	100	243	308	398	20	155	328	8 x 11,5 LK-366	17,2
355	100	263	348	438	20	155	348	8 x 11,5 LK-405	19,1
400	100	286	394	484	20	155	371	12 x 11,5 LK-448	21,5

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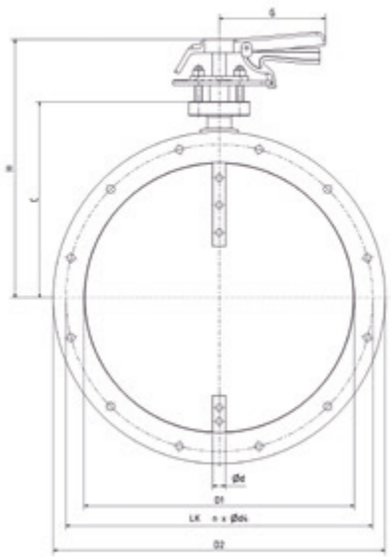
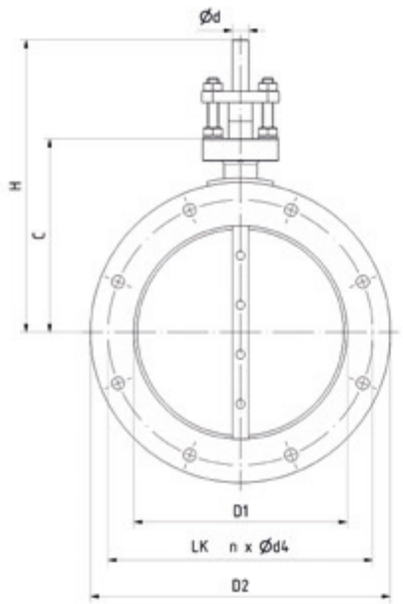
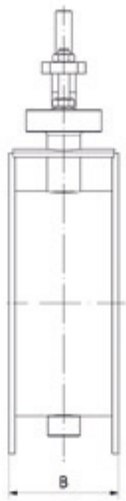
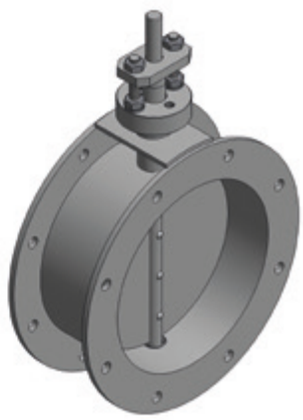


DN	B	C	D1	D2	ø d	G	H	n x ød4 LK	Mass [kg]
450	100	311	444	534	20	155	396	12 x 11,5 LK-497	22
500	100	336	494	584	20	155	421	12 x 11,5 LK-551	26,9
560	100	366	554	664	20	155	451	16 x 14 LK-629	31,8
600	100	402	595	705	25	210	522	16 x 14 LK-665	35
630	100	416	624	734	25	210	536	16 x 14 LK-698	43,8
710	100	456	704	814	25	210	576	16 x 14 LK-775	50,4
750	100	476	744	854	25	210	596	16 x 14 LK-815	57,9
800	100	501	794	904	25	210	621	24 x 14 LK-861	79
850	100	526	844	954	25	210	646	24 x 14 LK-911	100,5
900	100	572	894	1004	30	210	692	24 x 14 LK-958	153
1000	100	623	996	1105	30	210	743	24 x 14 LK-1067	175
1120	140	718	1115	1245	40	RDST-32	868	32 x 18 LK-1200	206
1250	140	783	1245	1375	40	RDST-32	933	32 x 18 LK-1337	281
1400	140	858	1395	1525	40	RDST-32	1008	32 x 18 LK-1475	308
1500	140	900	1480	1613	40	RDST-32	1050	40 x 18 LK-1563	360
1600	140	958	1595	1725	45	RDST-32	1108	40 x 18 LK-1675	400
1800	140	1058	1795	1925	45	RDST-32	1208	40 x 18 LK-1875	470
2000	140	1158	1995	2125	45	RDST-32	1308	40 x 18 LK-2073	580

Standard Measurements LDK-4 with Free Shaft







DN	B	Body C-size	Body external øD	Shaft ød	H	n x ød4 LK	Mass [kg]
63	100	108	128	12	188	4 x 9,5 LK-102	3,75
71	100	111	133	12	191	4 x 9,5 LK-110	3,95
80	100	115	142	12	195	4 x 9,5 LK-118	4,15
90	100	120	152	12	200	4 x 9,5 LK-128	4,45
100	100	126	162	12	206	4 x 9,5 LK-139	4,65
112	100	132	174	12	212	4 x 9,5 LK-151	4,95
125	100	138,5	187	12	219	4 x 9,5 LK-165	5,35
140	100	145	212	15	235	8 x 11,5 LK-182	5,95
150	100	151	222	15	241	8 x 11,5 LK-191	6,25
160	100	155	232	15	245	8 x 11,5 LK-200	6,55
180	100	163,5	252	15	254	8 x 11,5 LK-219	7,15
200	100	176	273	15	266	8 x 11,5 LK-241	7,75
224	100	188	297	15	278	8 x 11,5 LK-265	8,75
250	100	201	323	15	301	8 x 11,5 LK-292	9,35
280	100	216	363	15	316	8 x 11,5 LK-332	12,15
300	100	236	383	20	336	8 x 11,5 LK-349	13,6
315	100	243	398	20	343	8 x 11,5 LK-366	15,7
355	100	263	438	20	363	8 x 11,5 LK-405	17,6
400	100	286	484	20	386	12 x 11,5 LK-448	20

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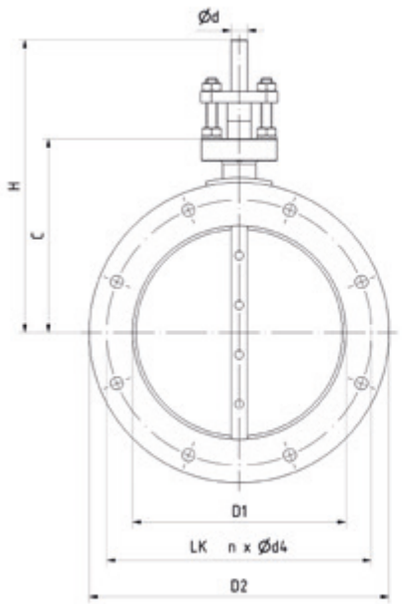
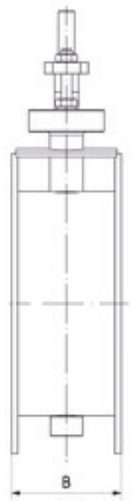
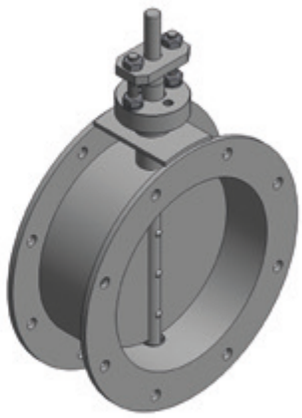
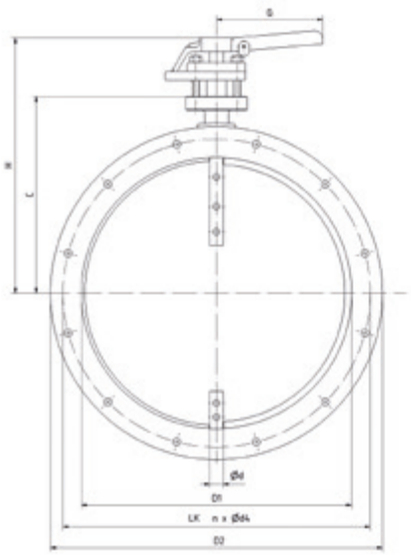


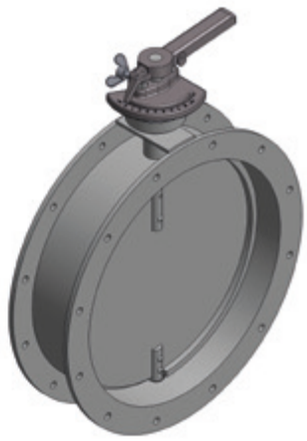




DN	B	Body C-size	Body external øD	Shaft ød	H	n x ød4 LK	Mass [kg]
450	100	311	534	20	411	12 x 11,5 LK-497	20,5
500	100	336	584	20	436	12 x 11,5 LK-551	25,4
560	100	366	664	20	466	16 x 14 LK-629	30,3
600	100	401,5	705	25	532	16 x 14 LK-665	32
630	100	416	734	25	546	16 x 14 LK-698	40,8
710	100	456	814	25	586	16 x 14 LK-775	47,4
750	100	476	854	25	606	16 x 14 LK-815	54,9
800	100	501	904	25	636	24 x 14 LK-861	76
850	100	526	954	25	656	24 x 14 LK-911	97,5
900	100	572	1004	30	702	24 x 14 LK-958	150
1000	100	623	1105	30	753	24 x 14 LK-1067	172
1120	140	717,5	1245	40	868	32 x 18 LK-1200	203
1250	140	782,5	1375	40	933	32 x 18 LK-1337	278
1400	140	857,5	1525	40	1008	32 x 18 LK-1475	305
1500	140	900	1613	40	1050	40 x 18 LK-1563	357
1600	140	957,5	1725	45	1108	40 x 18 LK-1675	397
1800	140	1057,5	1925	45	1208	40 x 18 LK-1875	467
2000	140	1157,5	2125	45	1308	40 x 18 LK-2073	577

Standard Measurements LDK-4 with Fine Adjustment SFD-6





DN	B	C	D1	D2	ø d	G	H	n x ød4 LK	Mass [kg]
63	100	108	58	128	12	145	188	4 x 9,5 LK-102	4,9
71	100	111	64	133	12	145	191	4 x 9,5 LK-110	5,1
80	100	115	72	142	12	145	195	4 x 9,5 LK-118	5,3
90	100	120	82	152	12	145	200	4 x 9,5 LK-128	5,6
100	100	126	94	162	12	145	206	4 x 9,5 LK-139	5,8
112	100	132	106	174	12	145	212	4 x 9,5 LK-151	6,1
125	100	139	119	187	12	145	219	4 x 9,5 LK-165	6,5
140	100	145	132	212	15	155	230	8 x 11,5 LK-182	7,1
150	100	151	144	222	15	155	236	8 x 11,5 LK-191	7,4
160	100	155	152	232	15	155	240	8 x 11,5 LK-200	7,7
180	100	164	169	252	15	155	249	8 x 11,5 LK-219	8,3
200	100	176	194	273	15	155	261	8 x 11,5 LK-241	8,9
224	100	188	218	297	15	155	273	8 x 11,5 LK-265	9,9
250	100	201	244	323	15	155	286	8 x 11,5 LK-292	10,5
280	100	216	274	363	15	155	301	8 x 11,5 LK-332	13,3
300	100	236	294	383	20	155	321	8 x 11,5 LK-349	15,1
315	100	243	308	398	20	155	328	8 x 11,5 LK-366	17,2
355	100	263	348	438	20	155	348	8 x 11,5 LK-405	19,1
400	100	286	394	484	20	155	371	12 x 11,5 LK-448	21,5

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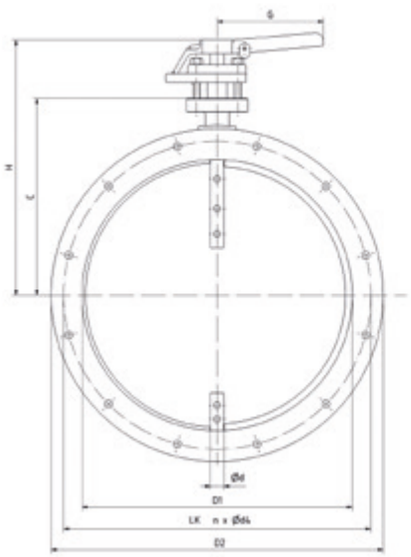
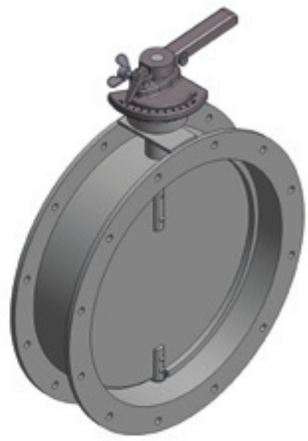
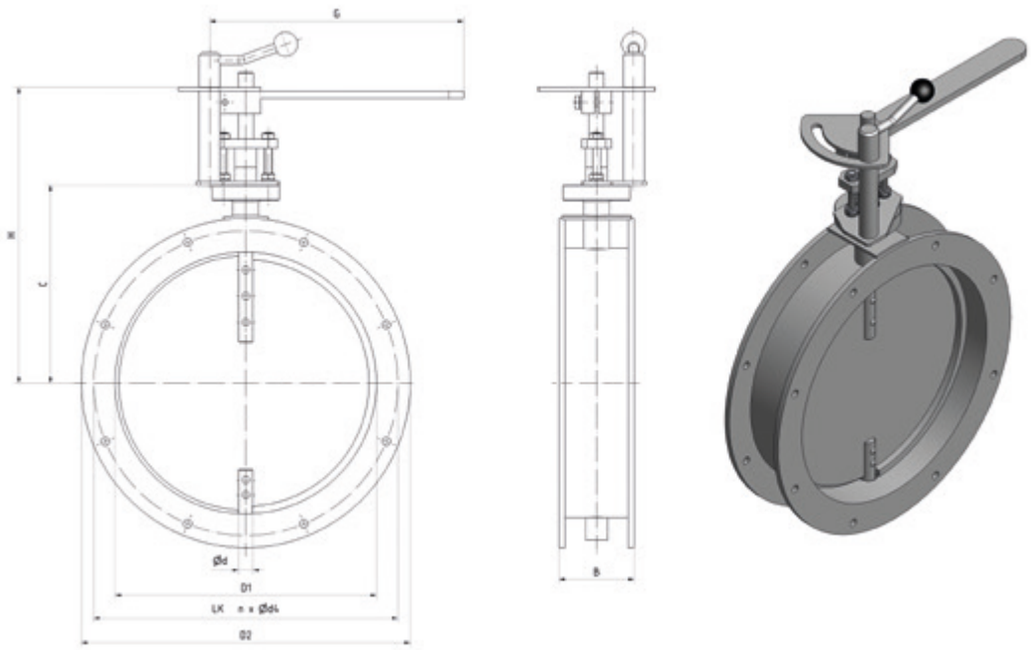




DN	B	C	D1	D2	ø d	G	H	n x ød4 LK	Mass [kg]
450	100	311	444	534	20	155	396	12 x 11,5 LK-497	22
500	100	336	494	584	20	155	421	12 x 11,5 LK-551	26,9
560	100	366	554	664	20	155	451	16 x 14 LK-629	31,8
600	100	402	595	705	25	210	522	16 x 14 LK-665	35
630	100	416	624	734	25	210	536	16 x 14 LK-698	43,8
710	100	456	704	814	25	210	576	16 x 14 LK-775	50,4
750	100	476	744	854	25	210	596	16 x 14 LK-815	57,9
800	100	501	794	904	25	210	621	24 x 14 LK-861	79
850	100	526	844	954	25	210	646	24 x 14 LK-911	100,5
900	100	572	894	1004	30	210	692	24 x 14 LK-958	153
1000	100	623	996	1105	30	210	743	24 x 14 LK-1067	175
1120	140	718	1115	1245	40	RDST-32	868	32 x 18 LK-1200	206
1250	140	783	1245	1375	40	RDST-32	933	32 x 18 LK-1337	281
1400	140	858	1395	1525	40	RDST-32	1008	32 x 18 LK-1475	308
1500	140	900	1480	1613	40	RDST-32	1050	40 x 18 LK-1563	360
1600	140	958	1595	1725	45	RDST-32	1108	40 x 18 LK-1675	400
1800	140	1058	1795	1925	45	RDST-32	1208	40 x 18 LK-1875	470
2000	140	1158	1995	2125	45	RDST-32	1308	40 x 18 LK-2073	580

Standard Measurements LDK-4 with Fine Adjustment RDST-32



DN	B	Body C-size	Body external ø	Shaft ød	G	H	n x ød4 LK	Mass [kg]
63	100	108	128	12	255	223	4 x 9,5 LK-102	5,25
71	100	111	133	12	255	226	4 x 9,5 LK-110	5,45
80	100	115	142	12	255	230	4 x 9,5 LK-118	5,65
90	100	120	152	12	255	235	4 x 9,5 LK-128	5,95
100	100	126	162	12	255	241	4 x 9,5 LK-139	6,15
112	100	132	174	12	255	247	4 x 9,5 LK-151	6,45
125	100	138,5	187	12	255	253,5	4 x 9,5 LK-165	6,85
140	100	145	212	15	255	260	8 x 11,5 LK-182	7,45
150	100	151	222	15	255	266	8 x 11,5 LK-191	7,75
160	100	155	232	15	255	270	8 x 11,5 LK-200	8,05
180	100	163,5	252	15	255	278,5	8 x 11,5 LK-219	8,65
200	100	176	273	15	255	291	8 x 11,5 LK-241	9,25
224	100	188	297	15	255	303	8 x 11,5 LK-265	10,25
250	100	201	323	15	255	316	8 x 11,5 LK-292	10,85
280	100	216	363	15	255	331	8 x 11,5 LK-332	13,65
300	100	236	383	20	290	361	8 x 11,5 LK-349	16,2
315	100	243	398	20	290	368	8 x 11,5 LK-366	18,3
355	100	263	438	20	290	388	8 x 11,5 LK-405	20,2
400	100	286	484	20	290	411	12 x 11,5 LK-448	22,6

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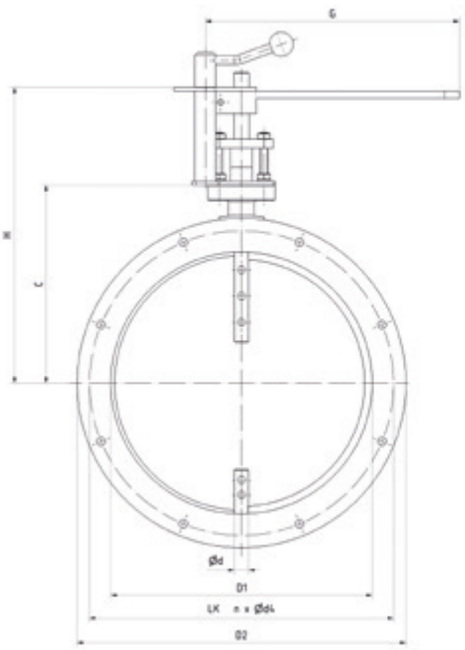
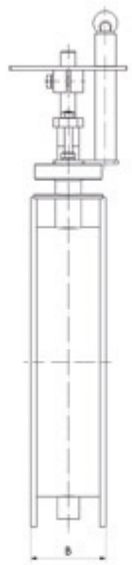
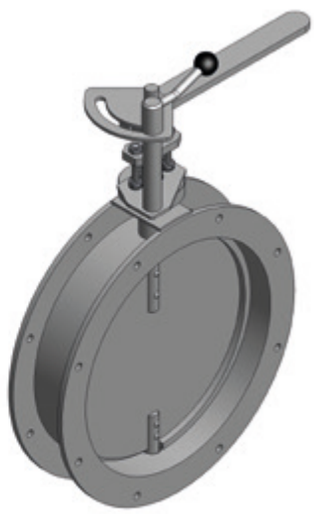
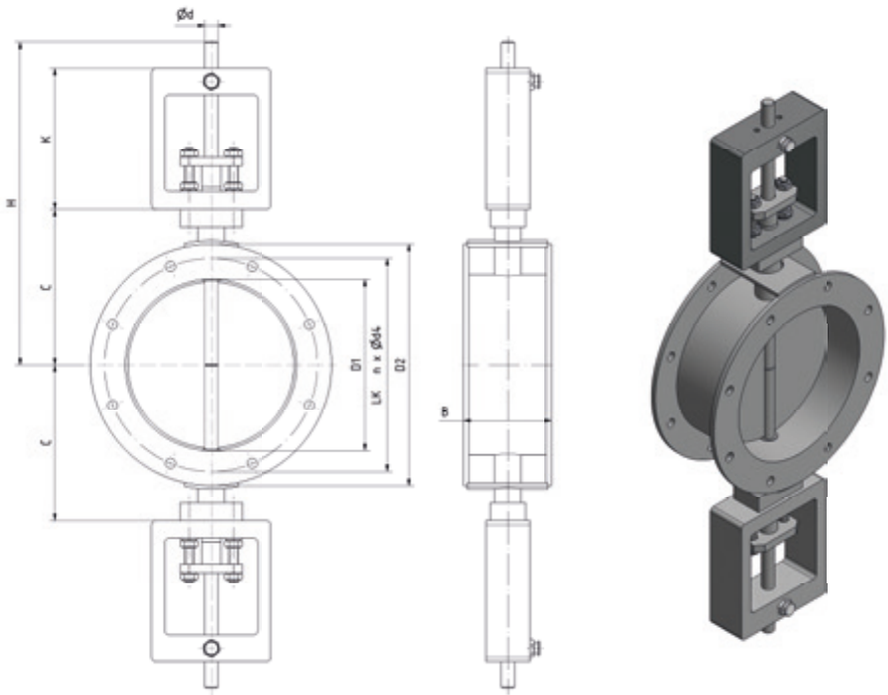






DN	B	Body C-size	Body external ø	Shaft ød	G	H	n x ød4 LK	Mass [kg]
450	100	311	534	20	290	436	12 x 11,5 LK-497	23,1
500	100	336	584	20	290	461	12 x 11,5 LK-551	28
560	100	366	664	20	290	491	16 x 14 LK-629	32,9
600	100	401,5	705	25	290	526,5	16 x 14 LK-665	34,6
630	100	416	734	25	290	541	16 x 14 LK-698	43,4
710	100	456	814	25	290	581	16 x 14 LK-775	50
750	100	476	854	25	290	601	16 x 14 LK-815	57,5
800	100	501	904	25	290	626	24 x 14 LK-861	78,6
850	100	526	954	25	290	651	24 x 14 LK-911	100,1
900	100	572	1004	30	290	697	24 x 14 LK-958	152,6
1000	100	623	1105	30	290	748	24 x 14 LK-1067	174,6
1120	140	717,5	1245	40	400	867,5	32 x 18 LK-1200	210
1250	140	782,5	1375	40	400	932,5	32 x 18 LK-1337	285
1400	140	857,5	1525	40	Actuator	1007,5	32 x 18 LK-1475	312
1500	140	900	1613	40	Actuator	1050	40 x 18 LK-1563	364
1600	140	957,5	1725	45	Actuator	1107,5	40 x 18 LK-1675	404
1800	140	1057,5	1925	45	Actuator	1207,5	40 x 18 LK-1875	474
2000	140	1157,5	2125	45	Actuator	1307,5	40 x 18 LK-2073	584

Standard Measurement LDK-4 with Double External Bearing LB and Free Shaft



DN	B	Body C-size	Body external øD	Shaft ød	H	n x ød4 LK	Mass [kg]
63	100	108	128	12	348	4 x 9,5 LK-102	11,85
71	100	111	133	12	351	4 x 9,5 LK-110	12,05
80	100	115	142	12	355	4 x 9,5 LK-118	12,25
90	100	120	152	12	360	4 x 9,5 LK-128	12,55
100	100	126	162	12	366	4 x 9,5 LK-139	12,75
112	100	132	174	12	372	4 x 9,5 LK-151	13,05
125	100	138,5	187	12	379	4 x 9,5 LK-165	13,45
140	100	145	212	15	395	8 x 11,5 LK-182	14,05
150	100	151	222	15	401	8 x 11,5 LK-191	14,35
160	100	155	232	15	405	8 x 11,5 LK-200	14,65
180	100	163,5	252	15	414	8 x 11,5 LK-219	15,25
200	100	176	273	15	426	8 x 11,5 LK-241	15,85
224	100	188	297	15	438	8 x 11,5 LK-265	16,85
250	100	201	323	15	461	8 x 11,5 LK-292	17,45
280	100	216	363	15	476	8 x 11,5 LK-332	20,25
300	100	236	383	20	496	8 x 11,5 LK-349	22,1
315	100	243	398	20	503	8 x 11,5 LK-366	24,2
355	100	263	438	20	523	8 x 11,5 LK-405	26,1
400	100	286	484	20	546	12 x 11,5 LK-448	28,5

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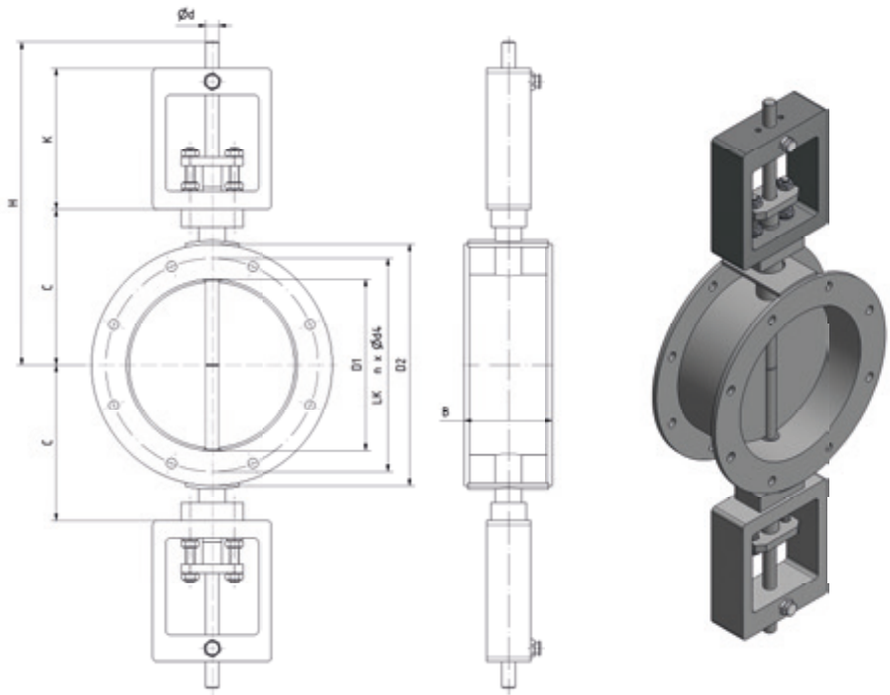
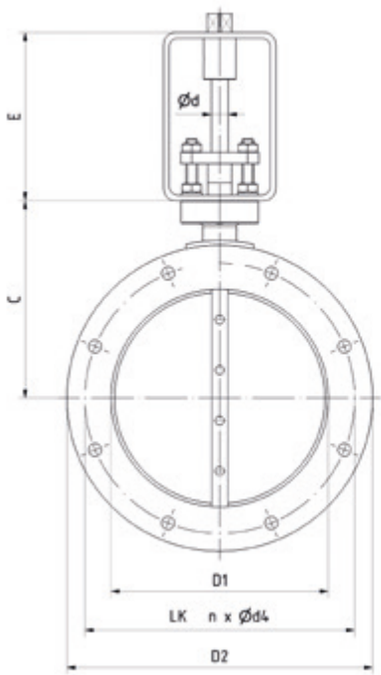
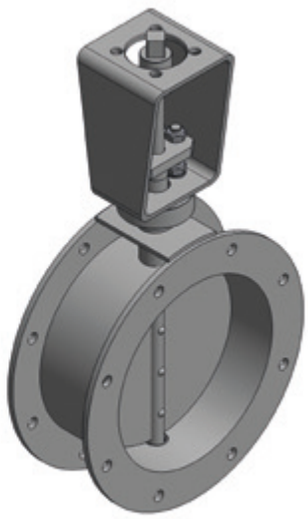


DN	B	Body C-size	Body external øD	Shaft ød	H	n x ød4 LK	Mass [kg]
450	100	311	534	20	571	12 x 11,5 LK-497	29
500	100	336	584	20	596	12 x 11,5 LK-551	33,9
560	100	366	664	20	626	16 x 14 LK-629	38,8
600	100	401,5	705	25	692	16 x 14 LK-665	47,8
630	100	416	734	25	706	16 x 14 LK-698	56,6
710	100	456	814	25	746	16 x 14 LK-775	63,2
750	100	476	854	25	766	16 x 14 LK-815	70,7
800	100	501	904	25	796	24 x 14 LK-861	91,8
850	100	526	954	25	816	24 x 14 LK-911	113,3
900	100	572	1004	30	862	24 x 14 LK-958	166,6
1000	100	623	1105	30	913	24 x 14 LK-1067	188,6
1120	140	717,5	1245	40	1028	32 x 18 LK-1200	224,9
1250	140	782,5	1375	40	1093	32 x 18 LK-1337	299,9
1400	140	857,5	1525	40	1208	32 x 18 LK-1475	326,9
1500	140	900	1613	40	1250	40 x 18 LK-1563	378,9
1600	140	957,5	1725	45	1308	40 x 18 LK-1675	418,9
1800	140	1057,5	1925	45	1408	40 x 18 LK-1875	488,9
2000	140	1157,5	2125	45	1508	40 x 18 LK-2073	598,9

Standard Measurement LDK-4 with Mounting Kit





DN	B	Body C-size	Body external ø	Shaft ø	E	n x ød4 LK	Mass [kg]
63	100	108	128	12	200 (160)	4 x 9,5 LK-102	5,15
71	100	111	133	12	200 (160)	4 x 9,5 LK-110	5,35
80	100	115	142	12	200 (160)	4 x 9,5 LK-118	5,55
90	100	120	152	12	200 (160)	4 x 9,5 LK-128	5,85
100	100	126	162	12	200 (160)	4 x 9,5 LK-139	6,05
112	100	132	174	12	200 (160)	4 x 9,5 LK-151	6,35
125	100	138,5	187	12	200 (160)	4 x 9,5 LK-165	6,75
140	100	145	212	15	200 (160)	8 x 11,5 LK-182	7,35
150	100	151	222	15	200 (160)	8 x 11,5 LK-191	7,65
160	100	155	232	15	200 (160)	8 x 11,5 LK-200	7,95
180	100	163,5	252	15	200 (160)	8 x 11,5 LK-219	8,55
200	100	176	273	15	200 (160)	8 x 11,5 LK-241	9,15
224	100	188	297	15	200 (160)	8 x 11,5 LK-265	10,15
250	100	201	323	15	200 (160)	8 x 11,5 LK-292	10,75
280	100	216	363	15	200 (160)	8 x 11,5 LK-332	13,55
300	100	236	383	20	200 (160)	8 x 11,5 LK-349	15
315	100	243	398	20	200 (160)	8 x 11,5 LK-366	17,1
355	100	263	438	20	200 (160)	8 x 11,5 LK-405	19
400	100	286	484	20	200 (160)	12 x 11,5 LK-448	21,4

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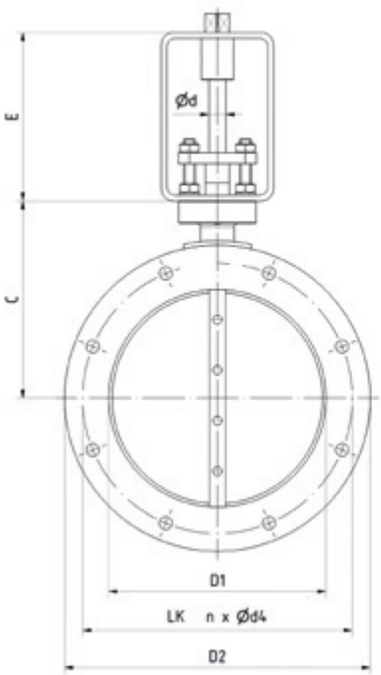
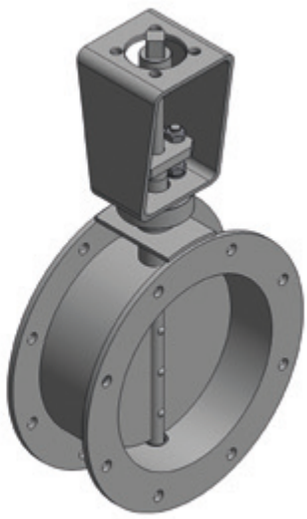
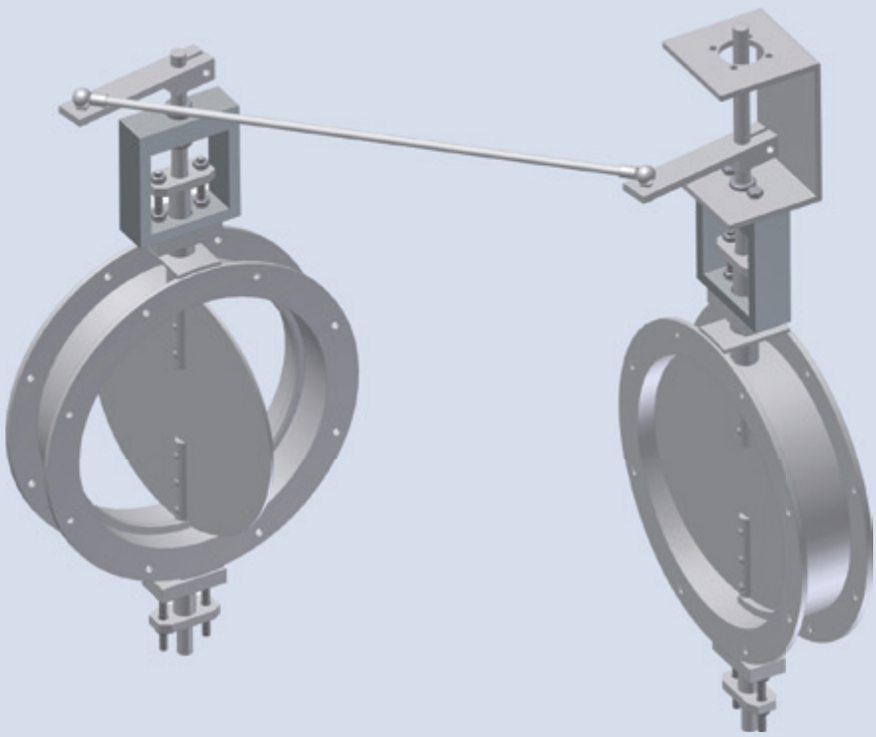




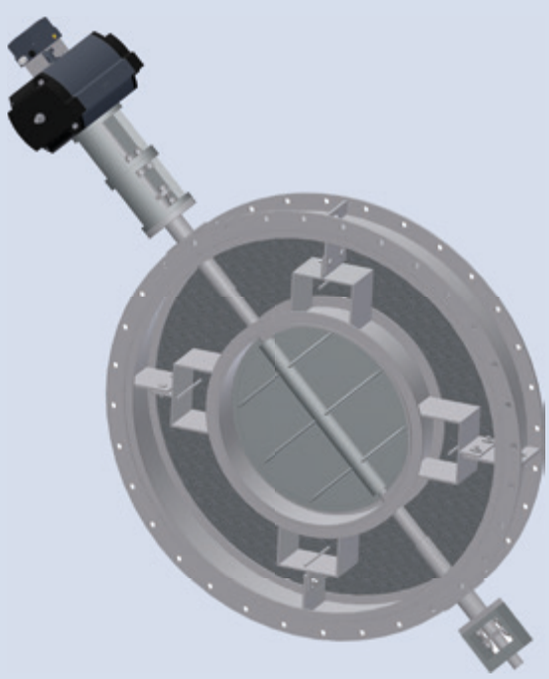
DN	B	Body C-size	Body external ø	Shaft ø	E	n x ød4 LK	Mass [kg]
450	100	311	534	20	200 (160)	12 x 11,5 LK-497	21,9
500	100	336	584	20	200 (160)	12 x 11,5 LK-551	26,8
560	100	366	664	20	200 (160)	16 x 14 LK-629	31,7
600	100	401,5	705	25	200 (160)	16 x 14 LK-665	35,8
630	100	416	734	25	200 (160)	16 x 14 LK-698	44,6
710	100	456	814	25	200 (160)	16 x 14 LK-775	51,2
750	100	476	854	25	200 (160)	16 x 14 LK-815	58,7
800	100	501	904	25	200 (160)	24 x 14 LK-861	79,8
850	100	526	954	25	200 (160)	24 x 14 LK-911	101,3
900	100	572	1004	30	200 (160)	24 x 14 LK-958	153,8
1000	100	623	1105	30	200 (160)	24 x 14 LK-1067	175,8
1120	140	717,5	1245	40	200 (160)	32 x 18 LK-1200	219
1250	140	782,5	1375	40	200 (160)	32 x 18 LK-1337	294
1400	140	857,5	1525	40	200 (160)	32 x 18 LK-1475	321
1500	140	900	1613	40	200 (160)	40 x 18 LK-1563	373
1600	140	957,5	1725	45	200 (160)	40 x 18 LK-1675	413
1800	140	1057,5	1925	45	200 (160)	40 x 18 LK-1875	483
2000	140	1157,5	2125	45*	200 (160)	40 x 18 LK-2073	593

Custom Designs

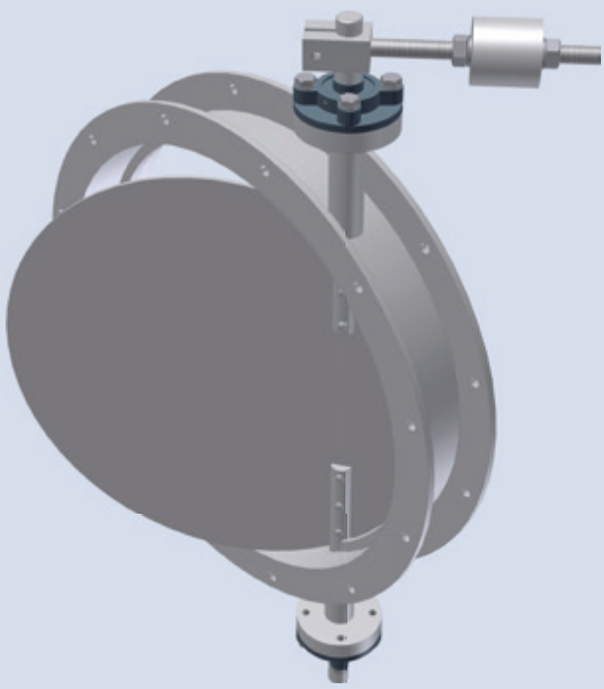
According to your individual needs, we produce the LDK-4 in different material combinations and for different actuators and applications.



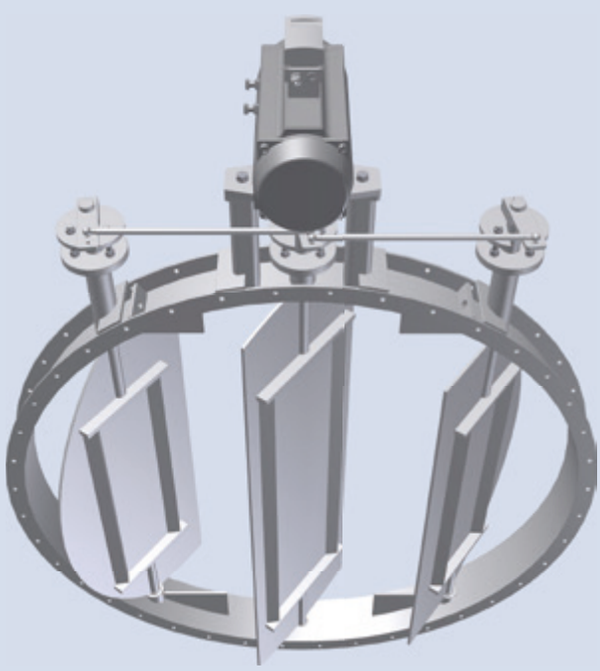
LDK-4 valve system with one-sided external bearing, prepared for actuators or hand worm gears



LDK-4 with double external bearing and internal insulation

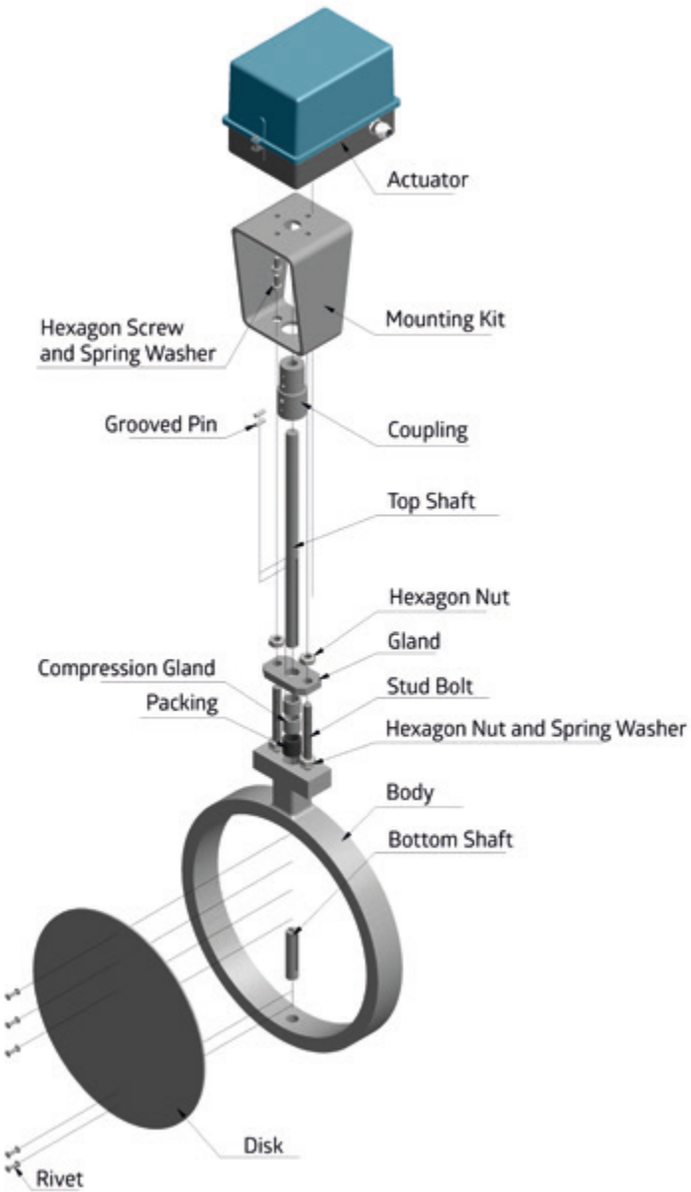


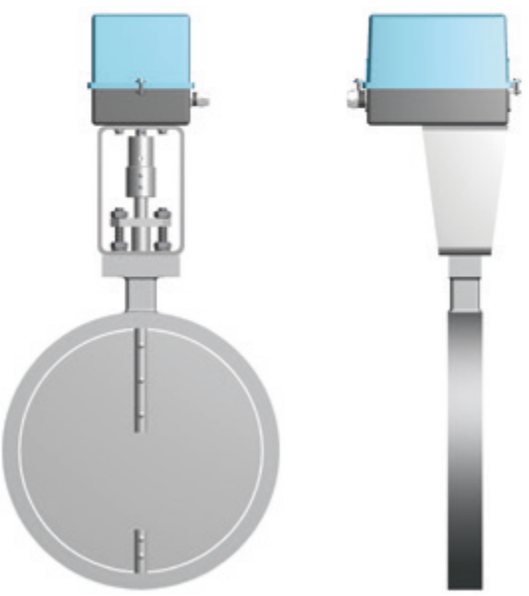
LDK-4 as a non-return valve with additional drop weight



LDK-4 triple-winged for improved control characteristics

Flange Throttle Type LDK-1 to clamp between flanges according to DIN 24154 T2R2 with electric actuator





Exploded view of a standard LDK-1 with a swing through disk and an electric actuator

General Description of the Ventilation Valve Type LDK-1

The throttle valve type LDK-1 is a lightweight valve in the fields of control technology and shut-off technology. They are clamped between flanges according to DIN 24154 T2R2/R4 in pipelines. The valve LDK-1 stands out due to its compact and lightweight design. It can handle differential pressure up to 100 mbar.

According to your application (temperature and medium), we produce the LDK-1 in any material available on the market.

We do not only offer our valves with free shaft ends, but can also upon requests offer the valves either as manually operated (with grid handle or continuously variable fine adjustment) or an actuator.

Any actuator available on the market, whether electric or pneumatic, can be fitted with our standardized mounting kit.

The standard mounting position of the valve is provided with horizontal shaft, but customized solutions are available on request.

Frequent application areas of this valve are: heat treatment, industrial drying, air control industry, fabric industry etc.

Advantages at a glance

Handling	Easy, depending on the accessories
Impermeability	99%, 99,5% and 99,95% compared to fully opened disk
Operating Temperature	-100°C to +1100°C
Medium Compatibility	Design and material selection according to your medium and further operating conditions, including: (aggressive) flue gas, dust-laden mediums, biogas or exhaust gases from biomass burning
Reliability	Very low possibility of failure
Maintenance Characteristics	Low maintenance

Basic Information

Sizes: DN 63 - 1000 (intermediate sizes viable)

LDK-1 as a throttle valve to clamp between flanges

- Clamp flange according to DIN 24154 T2R2/R4

Operation

- With free shaft-ends
- Manual operation with a grid handle with locking mechanism or continuously variable fine adjustment
- A corresponding shaft adaption with the DIN ISO 5211 mounting kit
- With a mounted actuator (pneumatic, electric or hydraulic)

Shaft Seal

- Gland seal
- O-Rings or shaft seals (EPDM, FPM, NBR, PTFE)
- Smooth running seal
- TA-Luft

Shaft Bearing

- Friction bearing (RG7, Rhyolite, PTFE, DU)
- External fitting through flange bearings for smooth operating
- External fitting over a friction bearing (EN-GJL-250CrNi) for high temperatures up to 1100°C

Impermeability Classes

- Approx. 99% impermeability in a swing through design
- Approx. 99,5% impermeability (metallic sealing) compared to fully opened valve disk in a design with a stop bar in the body
- Approx. 99,95% impermeability (with flexible seal) in designs with a stop bar and three sided jacketed gasket in the body

Operating Temperature

- From -100°C bis +1100°C

Material

- Steel (e.g. S235JR, S355JR; P265GH)
- Stainless steel (e.g. X5CrNi18-10, X6CrNiTi18-10, X6CrNiMoTi17-12-2, NiMo16Cr16Ti)
- Heat resistant steel (e.g. X15CrNiSi20-12, X15CrNiSi25-21)

Closing Types

Disk swing through	99% impermeability compared to fully opened disk
With a stop bar in the body	99,5% impermeability compared to fully opened disk
With stop bar and gasket seal *We implement this closing types for sizes from DN 100 to DN 315.*	99,95% impermeability compared to fully opened disk

Material Combinations

Temperature	up to 450°C	up to 550°C	up to 850°C	up to 1100°C
Body	EN-GJL-250	X5CrNi18-10; EN-GJL-250CrNi	X15CrNiSi20-12	X15CrNiSi25-21
Disk	S235JR; P265GH	X5CrNi18-10; 16Mo3	X15CrNiSi20-12	X15CrNiSi25-21
Shaft	S235JR; X20Cr13	X8CrNiS18-9; X6CrNiTi18-10; X20Cr13	X15CrNiSi20-12	X15CrNiSi25-21
Subject to modification				

Actuators and Actuator Accessories

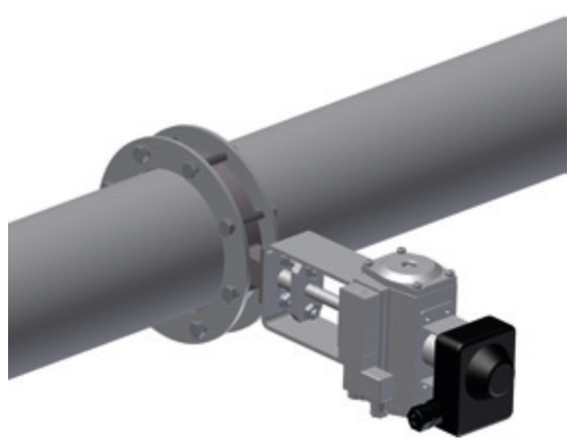
Operation	Accessory
Manual operation	Grid handle, fine adjustment, worm gear
Pneumatic actuator	Magnet valve, electro-mechanical end switch, inductive proximity switch positioner 4...20mA, PROFIBUS, HART, etc.
Elektric actuator	End switch, revolution off-switch, position encoder 4...20mA, positioner, PROFIBUS, HART
Security functions	Fast closing and opening <1 sec through express airing or drop weights
Cylinder	Magnet valve, End position control
Subject to modification	

Advantages of the LDK-1

- Our valves are individually produced according to your needs. They are adjusted one hundred percent according to the operational conditions. That includes the specifications, material choice and operation.
- Due to the compact design of the LDK-1 the pipelines can be constructed weight-saving, because they have to carry less weight.

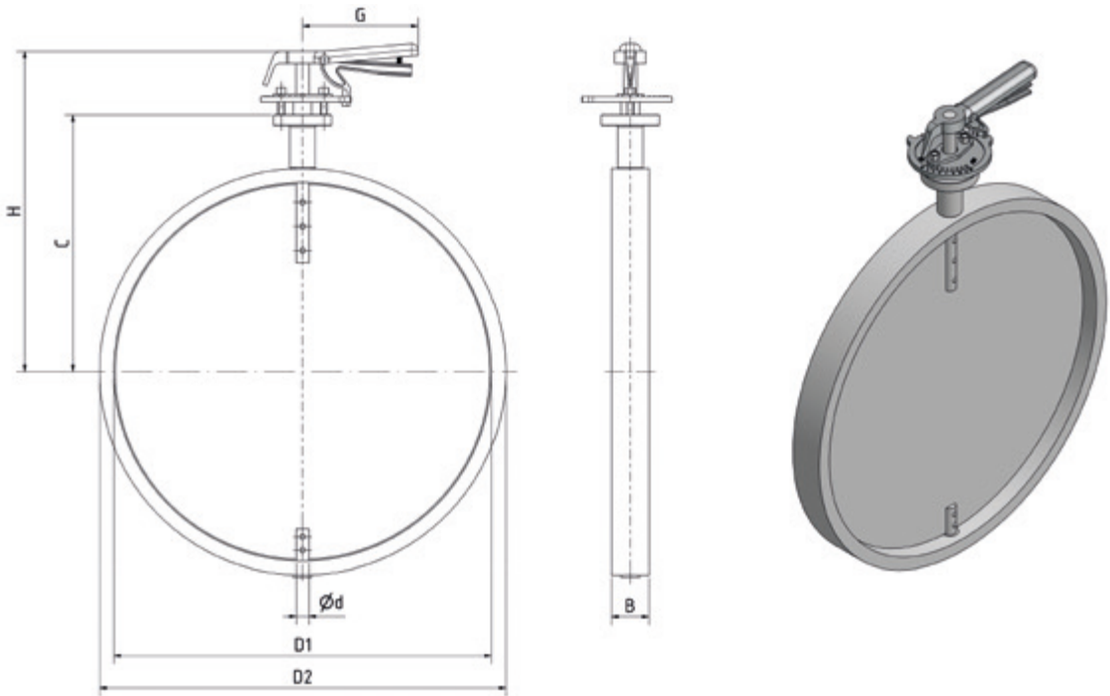
Application Areas

Smelters, foundries, cement factories, crematoriums, industrial furnaces (for iron, steel, aluminium and stainless steel), glass factories, factories (for Rockwool, autoclaved aerated concrete etc.), ceramic kilns, drying and dust extractors, gas turbines, heat treatment, and high temperature furnace construction.



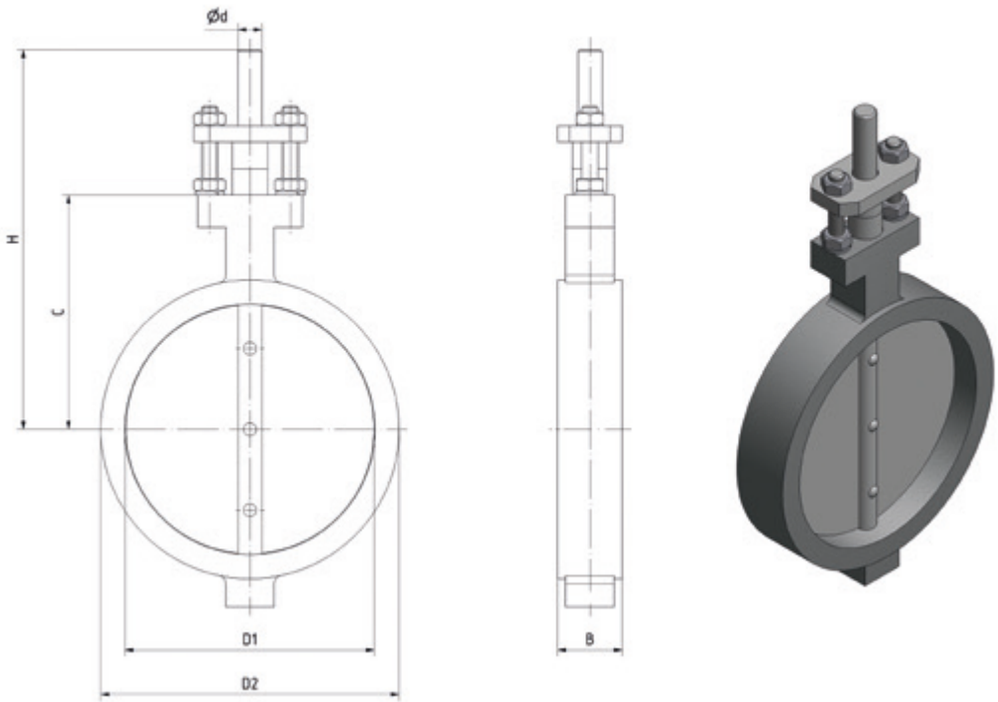
LDK-1

Standard Measurements LDK-1 with Grid Handle



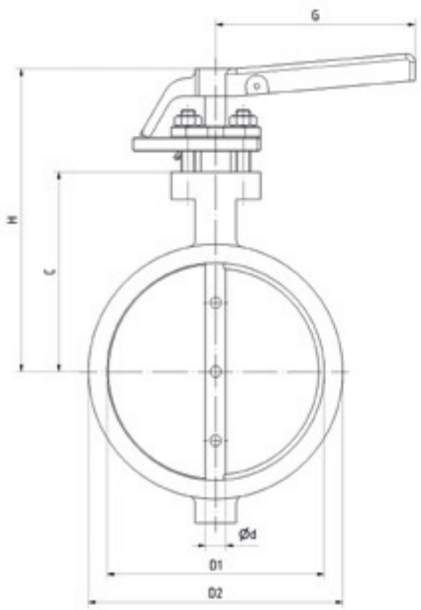
DN	B	C	D1	D2	ø d	G	H	Mass [kg]
63	30	90	57	85	12	145	170	2,44
71	30	95	68	105	12	145	175	2,64
80	30	105	76	105	12	145	185	2,84
90	30	105	89	120	12	145	185	3,15
100	30	115	100	129	12	145	195	3,45
112	30	115	111	140	12	145	195	3,75
125	35	130	123	154	12	145	210	4,05
140	35	140	138	168	15	155	225	4,85
150	40	145	146	179	15	155	230	4,95
160	40	145	155	185	15	155	230	5,05
180	40	155	174	206	15	155	240	5,75
200	40	165	196	225	15	155	250	6,25
224	40	175	220	280	15	155	260	6,75
250	40	200	247	275	15	155	285	7,25
280	40	225	280	320	15	155	310	8,35
300	45	254	297	338	20	155	339	11
315	45	254	312	350	20	155	330	14
355	45	265	353	392	20	155	350	15,7
400	50	285	394	425	20	155	370	16,9
450	50	310	445	485	20	155	395	19
500	50	340	497	530	20	155	425	22
560	60	380	555	610	20	155	465	36,5
630	60	420	625	680	25	210	540	45,4
710	70	480	707	760	25	210	600	60,5
800	80	522	795	845	25	210	642	74,1
900	100	590	890	942	30	210	710	106,9
1000	100	645	999	1050	30	210	765	121,5

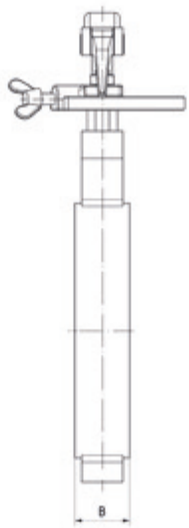
Standard Measurements LDK-1 with Free Shaft



DN	B	C	D1	D2	ø d	H	Mass [kg]
63	30	90	57	85	12	170	1,29
71	30	95	68	105	12	175	1,49
80	30	105	76	105	12	185	1,69
90	30	105	89	120	12	185	1,99
100	30	115	100	129	12	195	2,29
112	30	115	111	140	12	195	2,59
125	35	130	123	154	12	210	2,89
140	35	140	138	168	15	230	3,7
150	40	145	146	179	15	235	3,8
160	40	145	155	185	15	235	3,9
180	40	155	174	206	15	245	4,6
200	40	165	196	225	15	255	5,1
224	40	175	220	280	15	265	5,6
250	40	200	247	275	15	290	6,1
280	40	225	280	320	15	315	7,2
300	45	254	297	338	20	354	9,5
315	45	254	312	350	20	345	12,5
355	45	265	353	392	20	365	14,2
400	50	285	394	425	20	385	15,4
450	50	310	445	485	20	410	17,5
500	50	340	497	530	20	440	20,5
560	60	380	555	610	20	480	35
630	60	420	625	680	25	550	42,4
710	70	480	707	760	25	610	57,5
800	80	522	795	845	25	652	71,1
900	100	590	890	942	30	720	103,9
1000	100	645	999	1050	30	775	118,5

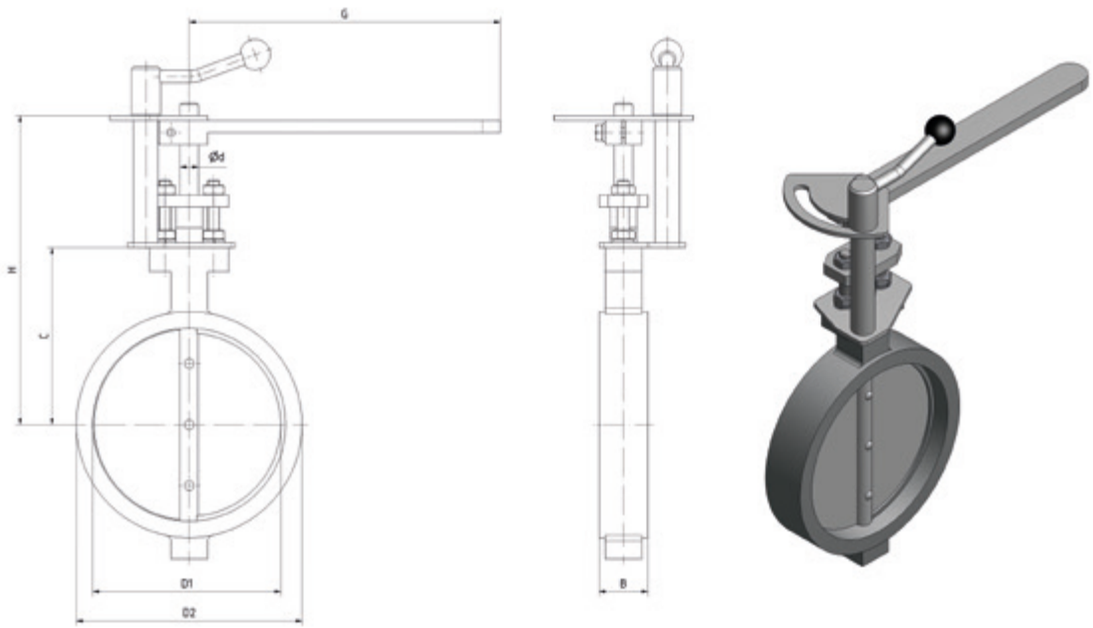
Standard Measurements LDK-1 with Fine Adjustment SFD-6





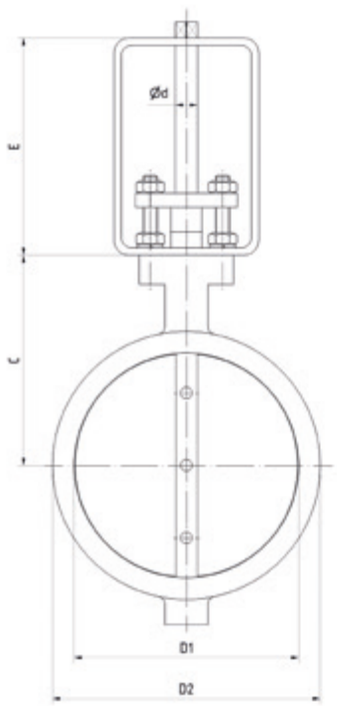
DN	B	C	D1	D2	ø d	G	H	Mass [kg]
63	30	90	57	85	12	145	170	2,44
71	30	95	68	105	12	145	175	2,64
80	30	105	76	105	12	145	185	2,84
90	30	105	89	120	12	145	185	3,15
100	30	115	100	129	12	145	195	3,45
112	30	115	111	140	12	145	195	3,75
125	35	130	123	154	12	145	210	4,05
140	35	140	138	168	15	155	225	4,85
150	40	145	146	179	15	155	230	4,95
160	40	145	155	185	15	155	230	5,05
180	40	155	174	206	15	155	240	5,75
200	40	165	196	225	15	155	250	6,25
224	40	175	220	280	15	155	260	6,75
250	40	200	247	275	15	155	285	7,25
280	40	225	280	320	15	155	310	8,35
300	45	254	297	338	20	155	339	11
315	45	254	312	350	20	155	330	14
355	45	265	353	392	20	155	350	15,7
400	50	285	394	425	20	155	370	16,9
450	50	310	445	485	20	155	395	19
500	50	340	497	530	20	155	425	22
560	60	380	555	610	20	155	465	36,5
630	60	420	625	680	25	210	540	45,4
710	70	480	707	760	25	210	600	60,5
800	80	522	795	845	25	210	642	74,1
900	100	590	890	942	30	210	710	106,9
1000	100	645	999	1050	30	210	765	121,5

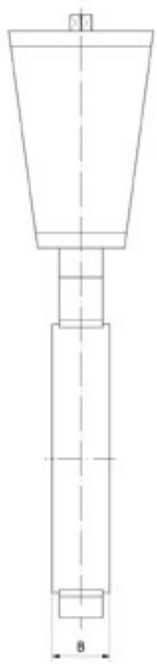
Standard Measurements LDK-1 with Fine Adjustment RDST-32



DN	B	C	D1	D2	ø d	G	H	Mass [kg]
63	30	90	57	85	12	255	205	2,8
71	30	95	68	105	12	255	210	3
80	30	105	76	105	12	255	220	3,2
90	30	105	89	120	12	255	220	3,5
100	30	115	100	129	12	255	230	3,8
112	30	115	111	140	12	255	230	4,1
125	35	130	123	154	12	255	245	4,4
140	35	140	138	168	15	255	255	5,2
150	40	145	146	179	15	255	260	5,3
160	40	145	155	185	15	255	260	5,4
180	40	155	174	206	15	255	270	6,1
200	40	165	196	225	15	255	280	6,6
224	40	175	220	280	15	255	290	7,1
250	40	200	247	275	15	255	315	7,6
280	40	225	280	320	15	255	340	8,7
300	45	254	297	338	20	290	379	13,6
315	45	254	312	350	20	290	370	16,6
355	45	265	353	392	20	290	390	18,3
400	50	285	394	425	20	290	410	19,5
450	50	310	445	485	20	290	435	21,6
500	50	340	497	530	20	290	465	24,6
560	60	380	555	610	20	290	505	39,1
630	60	420	625	680	25	290	545	48
710	70	480	707	760	25	290	605	63,1
800	80	522	795	845	25	290	647	76,7
900	100	590	890	942	30	290	715	109,5
1000	100	645	999	1050	30	290	770	124,1

Standard Measurements LDK-1 with Mounting Kit





DN	B	C	D1	D2	ø d	E	Mass [kg]
63	30	90	57	85	12	200 (160)	2,7
71	30	95	68	105	12	200 (160)	2,9
80	30	105	76	105	12	200 (160)	3,1
90	30	105	89	120	12	200 (160)	3,4
100	30	115	100	129	12	200 (160)	3,7
112	30	115	111	140	12	200 (160)	4
125	35	130	123	154	12	200 (160)	4,3
140	35	140	138	168	15	200 (160)	5,1
150	40	145	146	179	15	200 (160)	5,2
160	40	145	155	185	15	200 (160)	5,3
180	40	155	174	206	15	200 (160)	6
200	40	165	196	225	15	200 (160)	6,5
224	40	175	220	280	15	200 (160)	7
250	40	200	247	275	15	200 (160)	7,5
280	40	225	280	320	15	200 (160)	8,6
300	45	254	297	338	20	200 (160)	10,9
315	45	254	312	350	20	200 (160)	13,9
355	45	265	353	392	20	200 (160)	15,6
400	50	285	394	425	20	200 (160)	16,8
450	50	310	445	485	20	200 (160)	18,9
500	50	340	497	530	20	200 (160)	21,9
560	60	380	555	610	20	200 (160)	36,4
630	60	420	625	680	25	200 (160)	46,2
710	70	480	707	760	25	200 (160)	61,3
800	80	522	795	845	25	200 (160)	74,9
900	100	590	890	942	30	200 (160)	107,7
1000	100	645	999	1050	30	200 (160)	122,3

Kv-values of the LDK-4 and LDK-1

α [°]	DN 50	DN 65	DN 80	DN 100	DN 125	DN 150	DN 200	DN 250	DN 300
5 °	1	2	3	4	6	9	16	26	37
10 °	2	3	5	8	12	18	31	49	70
15 °	4	6	9	14	22	32	57	88	127
20 °	6	9	14	22	35	50	89	139	201
25 °	8	14	21	32	50	72	128	201	289
30 °	11	18	28	44	68	98	175	273	393
35 °	14	24	37	58	90	130	231	361	520
40 °	19	32	48	76	118	170	302	472	680
45 °	25	42	63	98	154	222	394	616	886
50 °	32	54	82	129	201	290	515	804	1158
55 °	42	71	108	169	263	379	674	1054	1518
60 °	55	93	142	221	346	498	885	1383	1991
65 °	73	123	186	290	453	653	1160	1813	2610
70 °	95	160	243	380	593	854	1519	2373	3417
75 °	123	208	315	492	769	1108	1969	3077	4431
80 °	166	281	425	665	1039	1496	2659	4155	5984
85 °	207	349	529	827	1292	1861	3308	5169	7443
90 °	227	384	582	909	1420	2045	3635	5680	8179

α [°]	DN 350	DN 400	DN 450	DN 500	DN 600	DN 700	DN 800	DN 900	DN 1000
5 °	50	65	83	102	147	200	261	331	408
10 °	96	125	158	196	282	384	501	634	783
15 °	173	226	286	353	509	693	905	1145	1414
20 °	273	357	452	558	803	1093	1428	1807	2231
25 °	393	514	650	803	1156	1573	2055	2600	3210
30 °	536	699	885	1093	1574	2142	2798	3541	4372
35 °	708	925	1171	1446	2082	2833	3701	4684	5782
40 °	926	1209	1530	1889	2720	3702	4835	6120	7555
45 °	1206	1576	1994	2462	3546	4826	6303	7977	9849
50 °	1576	2059	2606	3217	4632	6305	8235	10423	12867
55 °	2066	2698	3414	4215	6070	8262	10791	13658	16861
60 °	2711	3540	4481	5532	7966	10842	14161	17923	22127
65 °	3553	4641	5874	7251	10442	14213	18564	23494	29005
70 °	4651	6075	7688	9491	13668	18603	24298	30752	37966
75 °	6031	7878	9970	12309	17725	24126	31511	39881	49236
80 °	8144	10637	13463	16621	23934	32577	42549	53852	66483
85 °	10131	13232	16746	20675	29771	40522	52927	66986	82699
90 °	11132	14540	18402	22718	32714	44527	58158	73607	90872

Please contact us in case you need the values for valves in larger sizes.

References

- EBNER Industrieofenbau Gesellschaft m.b.H., Leonding / Österreich
- KGO GmbH, Wetter
- Recker Ziegelwerk Berentelg & Hebrok OHG, Recke
- TANN Europe GmbH, Essen

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Glossary

Butterfly Valve	A butterfly valve consists of a body and is for flow regulation. Clamped between flanges.
Centering Aid	Lugs right and left of the operating side shaft outlet of the valve. They ensure easier and more precise installation into a pipeline.
Closing	Contact of the valve disk with the body. Possible seals: Striking, swing through, with stop bar and stop bar with seals.
Coupling	Connection between the actuator and the valve shaft.
Electric Operation	Electric operation of the valve. Control over 4 .. 20 mA-signal possible. Wide ranging optional accessories available.
Element	Element flowing through the valve. (Gas, liquid, etc.)
External Seal	Used at high temperatures to guarantee the turning of the valve at all operating conditions.
Fine Adjustment	Lever which has a free swing variance of 90° and is movable per wing screw or clamp lever into any position.
Fitting Key	Metallic adaption of the shaft to the actuator. This is a side connected metal lug on the shaft. Serves for power transfer from the actuator to the shaft.
Flange Bearing	Serves as transmission of high torques.
Four Cornered Shaft	Serves for the adaption of the shaft to the required connection of the actuator.

Grid Handle	Gear teeth on a nut screwed scale provides the possibility of a gradual adjustment of the valve disk. The catch of the hand lever locks into the teeth. 16 positions between 0 and 90 ° are fixed.
Hand Operation	With grid handle, fine adjustment or worm gear. Depending on installation.
Hydraulic Operation	Operates with a hydraulic cylinder. Special: Good power distribution in limited spaces.
Impermeability	Shows how impermeable the flow is inside the valve. (Dependant on construction, classified in leakage rates).
Inner Sizing	Internal flow area of the valve.
Installation Position	Describes the horizontal or vertical position of the shafts of the valve once installed.
ISO 5211	Norm regulates the attachment measurements for actuators to attachment parts onto valves.
Kv 90°	Flow in a fully open valve disk.
Lever System	It regulates two or more valves with an actuator.
Mounting Kit	Normed part for mounting actuators.
Nominal Size	Size of the inner measurement of the valve.
Operation	Operation of the valve. Possible operation: manual, pneumatic- und electric actuators (as standard). All further adaptions available as per customer needs.
Operating Pressure	Pressure in the pipeline which works on the valve.
Operating Temperature	Temperature of the medium in the pipeline.
Packing Gasket	Serves as the seal between the valve and shaft exit from the valve body. Can be produced in various ways. (EPDM, PTFE, TA-Luft eg.)
Pneumatic Operation	Opening of the disk in the valve with a pneumatic actuator. With or without a spring setting. Control possible with a positioner.
RDST-32	Infinitely adjustable fine adjustment for larger valves.
Safety Position	This is decided by the customer. Defines the position of the valve in an emergency.
Seal	Flexible material in the valve. To improve the impermeability.
Sealing Air	Used to seal the shaft up to 100%.
Service	Defines the regular necessary readjustments (readjustment of the packaging, etc.). For the maintenance plan please see operating and maintenance manual.
SFD-6	Infinitely adjustable fine adjustment with a manual handle, used in smaller valves.
Shaft Bearing	Bears of the shafts in the body.
Slide Bearing	Turned sleeve, e.g. from red brass.
Step-seated	Disk valve fitted in the body of the valve and stops the flow.
Stop bar	Metallic valve stop in the valve. Serves to seal the valve.
Swing-through	Valve without seals between the disk and body with defined ring gap.
TA-Luft	German Clean Air Act (§48 BImSchG). Using a TA-Luft packing ensures 100% seal of the shaft bushing to the outside.

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- AD 2000 HP0
- EN 3834-2
- SIL
- ATEX

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