



# KLINGER KKD-83

High Performance  
Triple Eccentric Butterfly Valve  
DN 80 - DN 900



# Temperature resistant, bi and zero leakage

Before and after, perfect operation



## PRODUCT ADVANTAGES

- » The triple eccentric seat/disc design not only keeps the low torque advantage of the double eccentric design, but also provides full pressure-rated bidirectional sealing and high temperature use.
- » Save space with a compact body design
- » Bi-directional



## SPECIAL TYPES

- » Fire safe version
- » VOC (Low fugitive emission) version
- » Oil, grease and silicone-free
- » Oxygen version
- » Vacuum version



## PRODUCT DETAILS

Pressure Rating	PN10/16/CLASS 150, PN40/CLASS300
Size	DN80 - DN 900, 3" - 36"
Material	Carbon steel, Stainless steel, further materials upon request
Temperature	-20°C to 425°C
Design	Triple Eccentric
Type	Wafer type, lug type Double-flanged

## Gland Flange

Adjustable two-piece gland flange ensures even packing load.

## Gland Packing

Five gland packing systems to suit different applications.

## Valve Seat

- » Solid metal seat  
The solid metal seat to disc contact, suitable for fluids with particles or fibers.
- » Laminated metal seat  
The valve seat, which is laminated by multiple layers of stainless steel and graphite, has both elasticity and rigidity, and is suitable for achieving zero leakage performance in eccentric sealing.

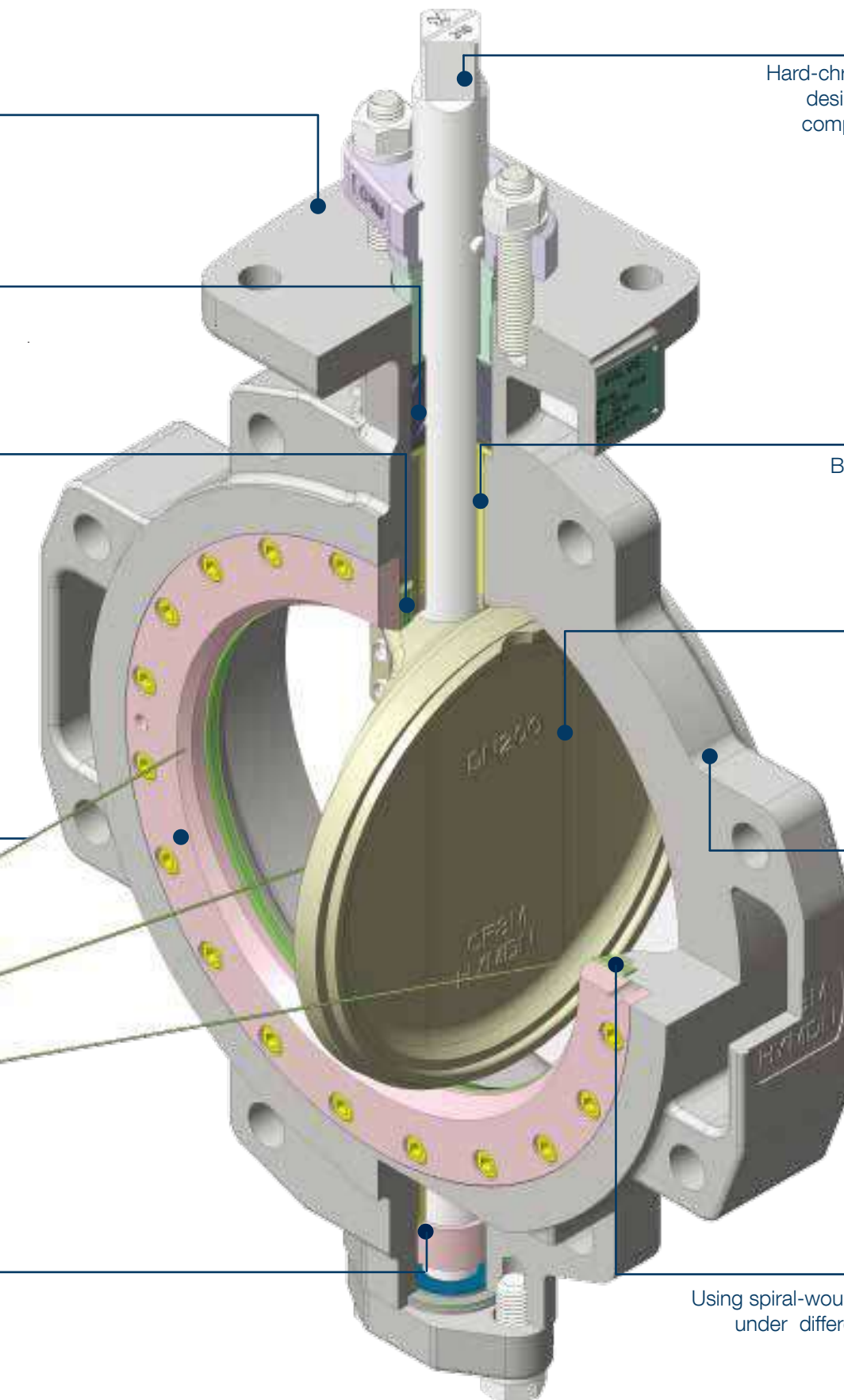
## Retainer Ring

A screw-fixed design retainer ring can be applied to dead-end installation of pipeline. Surface roughness is 125-200 AARH.

## Thrust Ring

Rigid SS316L ring keeps stem in accurate position.

# bidirectional



## **Valve Stem**

Hard-chrome plated rigid one-piece-stem design offering overall strength. Stem components are ISO 5211 compliant. Stem material and disc position are marked on the top of stem.

## **Self-lubricant Bush**

Bush in RPTFE+S.S.316L material reduces stem's friction factor.

## **Valve Disc**

Hard-chrome plated disc with streamlined design which lowers noise and turbulence.

## **Valve Body**

Compliance with API 609 & ASME B16.34.

## **Seat Gasket**

Using spiral-wound gasket to keep zero-leakage under different level of pressure /temperature.

# ABOUT THE SEAT & DISC

Reliable in most tough applications

## TWO TYPES OF SEAT DESIGN

- A** Solid Metal Seat,
- B** Laminated Metal Seat

All Pressure Temperature Rating of above design is compliance with API 609.

These seats are applying reliable section design and corresponding dynamic feature to fulfill bi-directional, drop-tight zero leakage shut-off throughout all pressure ranges. This design reduces rubbing and friction between disc and seat, which significantly extends operation life cycle.

With variability of seat material, our 2 types of seat meet wide range of temperature and working condition.

## SOLID METAL SEAT

The solid metal valve seat adopts precise and reliable cross-section machining, and is perfectly matched with the dynamic design of the valve seat, which can respond to the bidirectional zero leakage pressure resistance under different pressure and temperature changes. This design also reduces friction between the disc and seat, which in turn greatly increases overall valve life.

## LAMINATED METAL SEAT

Laminated metal seats are available in graphite and stainless steel. Through special treatment, we have successfully combined graphite and metal together to make the valve seat have high-strength temperature resistance, pressure resistance, corrosion resistance and erosion resistance. In addition, the flexibility and elasticity of the laminated seat can lead to better leak-tight conditions and longer service life.



**A** Solid Metal Seat



**B** Laminated Metal Seat



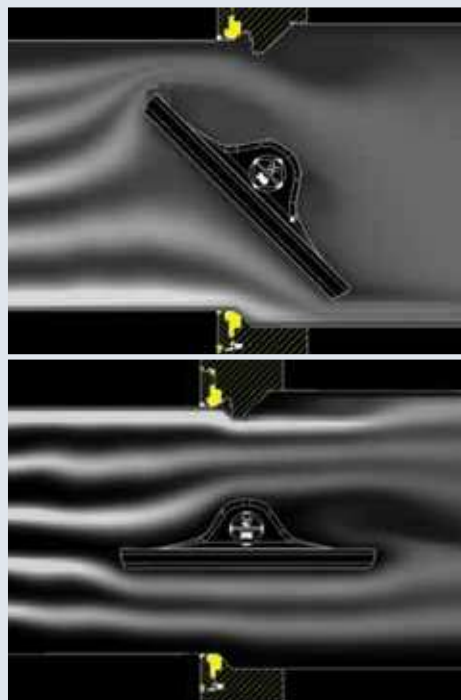
### The 3rd ECCENTRICITY OF SEAT

In addition to the offset on the valve body and shaft, the third eccentricity of the KKD-83 triple eccentric butterfly valve is the elliptical seat geometry. This, together with the offset of the two eccentric shafts, allows the disc to seal against the seat without friction. This seat design provides a uniform seal for bidirectional sealing at maximum differential pressure.

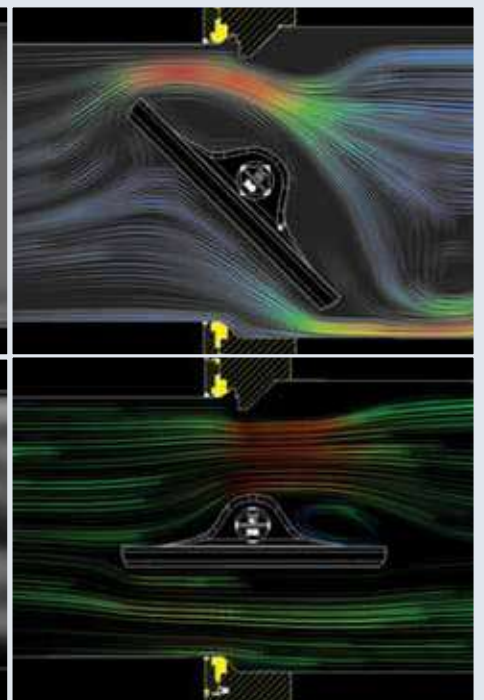
### VALVE DISC

The valve disc is made of stainless steel, and its geometric design is based on the analysis of its stress performance with PTC Creo Parametric software to meet the sealing requirements of API 598. Based on advanced fluid simulations, we have developed a streamlined valve disc with lower noise and turbulence. Also, all our discs and stems are hard chrome plated. This feature significantly improves the friction and impact resistance of the platter, resulting in a better life cycle.

Electro-less nickel-lated or Stellite® Alloy overlay on the edge surface is also available.



Gas Simulation and Analysis (50 M/SEC)

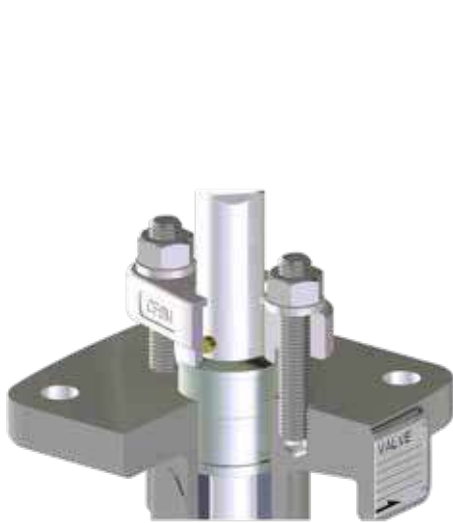


Fluid Simulation and Analysis (10 M/SEC)



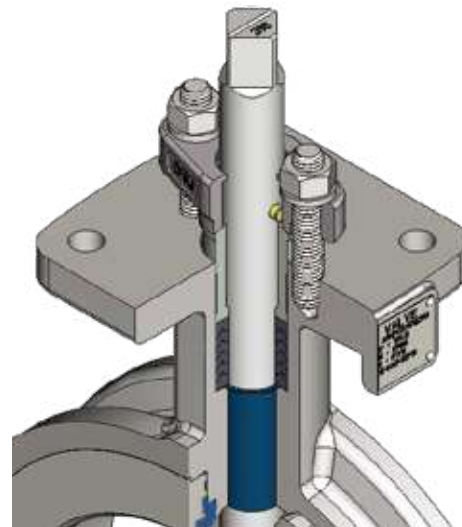
# SEALING OF GLAND & PACKING

## Low Fugitive Emission Gland Packing System



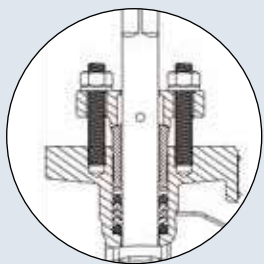
### Gland Flange and Gland Bush

A fully adjustable two-piece gland with spherical mating surfaces ensures even packing load.

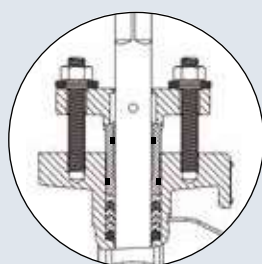


### Long Gland Bush for Positioning

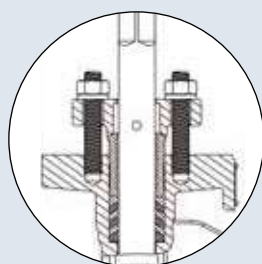
Long gland bush ensures gland flange is always centered while adjusting packing gland. Prevents gland bush away from rubbing and jamming with the stem.



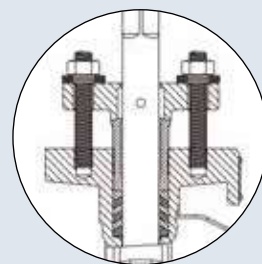
**Standard v-ring  
PTFE or RPTFE**



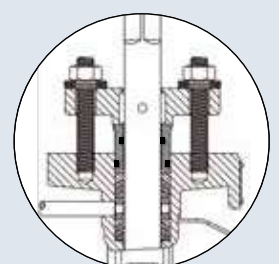
**Live-Loaded Low  
Fugitive Emission  
V-ring PTFE or RPTFE  
Packing System**



**Standard GRAPHITE**



**Live-Loaded Low  
Fugitive Emission  
GRAPHITE**



**Live-loaded Lantern  
Ring**

A lantern ring with double packing, provides functionality of purge and leakage-monitoring from bottom packing.

# CERTIFIED QUALITY

## Promised quality

Various tests and certifications by international standards has proven the many features of KKD-83 Triple Eccentric Butterfly Valves. It means total safety in operation with guaranteed tightness.

» **Valve meets low emission standards (on request)**

With a standard value of 10<sup>-4</sup> mbar l/s, the KKD-83 butterfly valve significantly outperform the requirements of the German Technical Instruction on Air Quality Control, and ISO 15848-1 Fugitive Emission Tests.

» **Fire safe**

The Fire-safe tests in accordance with API 607 and EN ISO 10497 have been certified by international lab.

» **Standard anti-static**

The KKD-83 standardized anti-static equipment according to ISO 7121 and EN 1983 standards. An anti-static bushing ensures electrostatic discharge in all sizes of valve.

» **Operational safety**

The KKD-83 has a fitting for the installation of a locking device as a standard feature. This eliminates the possibility of unintended utilization and movement.

» **3.1 Final inspection certificate**

In order to ensure quality, application safety, and guaranteed tightness for the operator, the KKD-83 is standard issued with a final inspection certificate on the basis of EN 10204-3.1.

The Series KKD-83 High Performance Butterfly Valves are designed 100% compliance with API 609 and ASME B16.34. Utilizing PTC Creo Parametric (Pro/E) Computer-aid-design in every component and result in best reliability.



# TRIPLE ECC. BFV KKD-83

## Overview of types



**KKD-83W- PN10/PN16/CL150**  
Wafer type



**KKD-83W- PN40/CL300**  
Wafer type



**KKD-83L- PN10/PN16/CL150**  
Lug type



**KKD-83L- PN40/CL300**  
Lug type



**KKD-83F- CL150**  
Double flanged



**KKD-83F- CL300**  
Double flanged



# KKD-83W

## -PN16/PN10/CL150

PN10/PN16/CLASS 150

Wafer type connection, Bare shaft

### GENERAL FEATURES

- » The triple eccentric seat/disc design not only keeps the low torque advantage of the double eccentric design, but also provides full pressure-rated bidirectional sealing and high temperature use.
- » Save space with a compact body design
- » Bi-directional

### CONNECTIONS

Wafer Type

### DIMENSIONS

Face to Face Dimension in acc. with API 609 Cat. B

### ACCEPTANCE TESTING

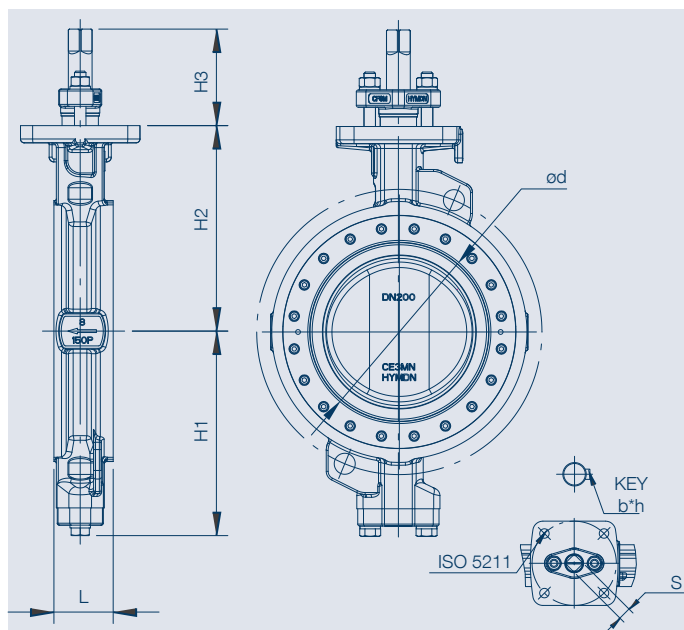
- » Shell strength: EN 12266-1 P10
- » Shell tightness: EN 12266-1 P11
- » Seat leak tightness: FCI 70-2 class IV/V

### AUTOMATION

Flange connection in accordance with ISO 5211, allows for mounting of an actuator by means of brackets. Pneumatic and electrical actuators utilizable.

### TEMPERATURE

- » -20 °C to +425 °C



Size		Dimensions						Mounting flange	Weight
DN	NPS	Ød	L	H1	H2	H3	S	ISO	kg
80	3	76	48	134	140	86	14	F10	7
100	4	96	54	144	150	86	14	F10	9
150	6	143	57	190	185	89	17	F10	13
200	8	188	62	214	215	101	19	F12	21
250	10	236	70	254	260	104	22	F12	30
300	12	281	81	298	290	129	27	F14	46
350	14	320	92	328	320	134	32	F14	63
400	16	371	102	377	370	158	36	F16	95
450	18	420	114	402	395	158	36	F16	125
500	20	469	127	437	430	168	46	F16	160
600	24	549	154	492	480	240	18x12	F25	265
700	28	655	165	570	555	245	20x14	F25	360
750	30	698	190	610	600	300	25x14	F30	460
800	32	755	190	620	625	310	25x14	F30	500
900	36	870	203	680	685	320	28x16	F30	600

# KKD-83W -PN16/PN10/CL150

PN10/PN16/CLASS 150

Wafer type connection, Gear operator

## GENERAL FEATURES

- » The triple eccentric seat/disc design not only keeps the low torque advantage of the double eccentric design, but also provides full pressure-rated bidirectional sealing and high temperature use.
- » Save space with a compact body design
- » Bi-directional

## CONNECTIONS

Wafer Type

## DIMENSIONS

Face to Face Dimension in acc. with API 609 Cat. B

## ACCEPTANCE TESTING

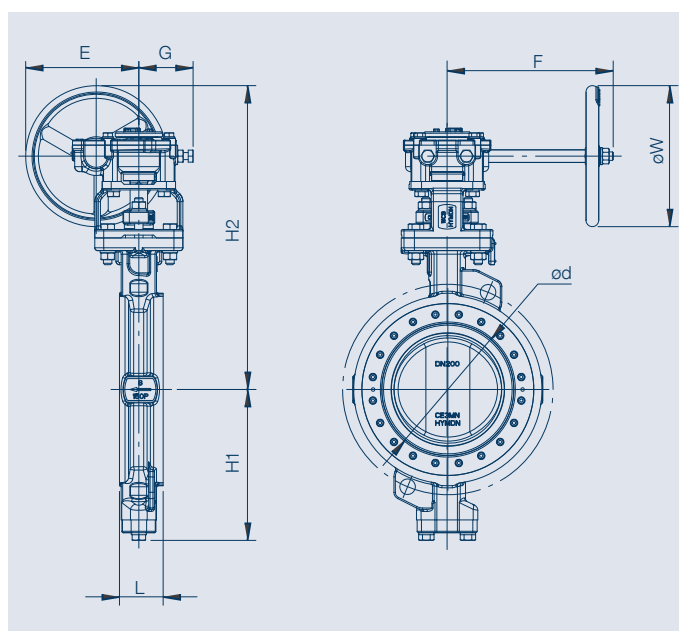
- » Shell strength: EN 12266-1 P10
- » Shell tightness: EN 12266-1 P11
- » Seat leak tightness: FCI 70-2 class IV/V

## AUTOMATION

Flange connection in accordance with ISO 5211, allows for mounting of an actuator by means of brackets. Pneumatic and electrical actuators utilizable.

## TEMPERATURE

- » -20 °C to +425 °C



Size		Dimensions								Weight
DN	NPS	Ød	L	H1	H2	W	G	E	F	kg
80	3	76	48	134	319	150	66	97	133	11
100	4	96	54	144	329	150	66	97	133	12
150	6	143	57	190	364	150	66	97	133	17
200	8	188	62	214	431	200	77	161	236	28
250	10	236	70	254	476	200	77	161	236	37
300	12	281	81	298	529	200	94	183	236	58
350	14	320	92	328	559	200	94	183	236	75
400	16	371	102	377	690	300	120	257	324	118
450	18	420	114	402	715	300	120	257	324	148
500	20	469	127	437	750	300	120	257	324	183
600	24	549	154	492	888	400	153	352	374	315
700	28	655	165	560	963	400	153	352	374	410
750	30	698	190	610	1165	600	185	512	446	555
800	32	755	190	620	1190	600	185	512	446	595
900	36	870	203	680	1250	600	185	512	446	695

# KKD-83W -PN40/CL300

PN40/CLASS 300

Wafer type connection, Bare shaft

## GENERAL FEATURES

- » The triple eccentric seat/disc design not only keeps the low torque advantage of the double eccentric design, but also provides full pressure-rated bidirectional sealing and high temperature use.
- » Save space with a compact body design
- » Bi-directional

## CONNECTIONS

Wafer Type

## DIMENSIONS

Face to Face Dimension in acc. with API 609 Cat. B

## ACCEPTANCE TESTING

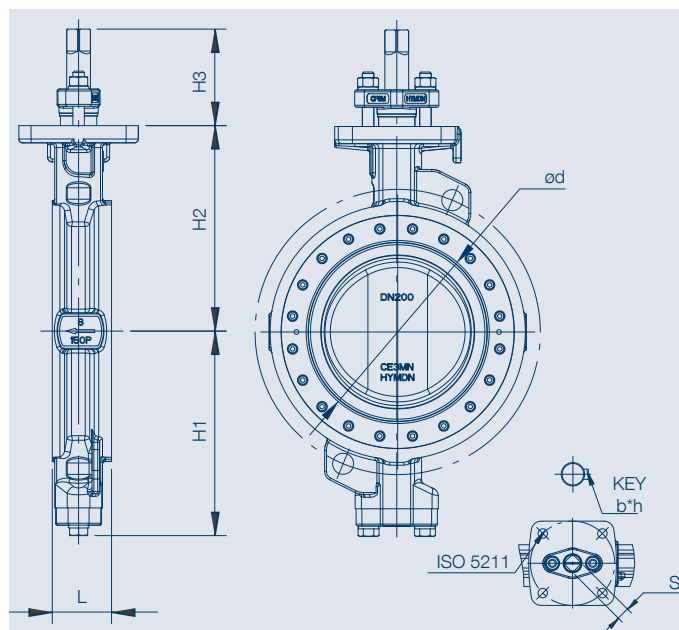
- » Shell strength: EN 12266-1 P10
- » Shell tightness: EN 12266-1 P11
- » Seat leak tightness: FCI 70-2 class IV/V

## AUTOMATION

Flange connection in accordance with ISO 5211, allows for mounting of an actuator by means of brackets. Pneumatic and electrical actuators utilizable.

## TEMPERATURE

- » -20 °C to +425 °C



Size		Dimensions						Mounting flange	Weight
DN	NPS	Ød	L	H1	H2	H3	S	ISO	kg
80	3	76	48	143	140	86	14	F10	9
100	4	96	54	157	160	86	14	F10	10
150	6	143	59	209	200	101	19	F12	15
200	8	188	73	233	235	104	22	F12	28
250	10	236	83	273	275	129	27	F14	40
300	12	281	92	317	310	134	32	F14	62
350	14	320	117	353	350	158	36	F16	95
400	16	371	133	403	380	168	46	F25	130
450	18	420	149	440	415	198	46	F25	168
500	20	469	159	474	450	245	20x14	F25	195
600	24	549	181	542	530	310	25x14	F30	330

# KKD-83W -PN40/CL300

PN40/CLASS 300

Wafer type connection, Gear operator

## GENERAL FEATURES

- » The triple eccentric seat/disc design not only keeps the low torque advantage of the double eccentric design, but also provides full pressure-rated bidirectional sealing and high temperature use.
- » Save space with a compact body design
- » Bi-directional

## CONNECTIONS

Wafer Type

## DIMENSIONS

Face to Face Dimension in acc. with API 609 Cat. B

## ACCEPTANCE TESTING

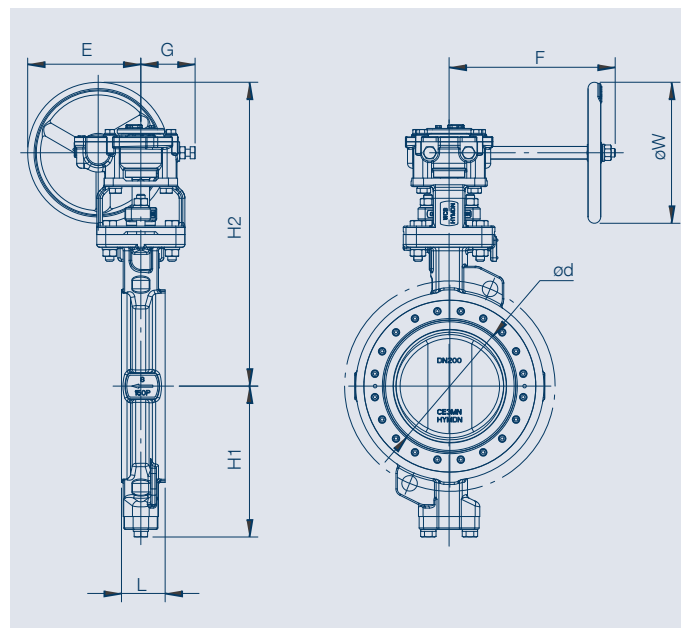
- » Shell strength: EN 12266-1 P10
- » Shell tightness: EN 12266-1 P11
- » Seat leak tightness: FCI 70-2 class IV/V

## AUTOMATION

Flange connection in accordance with ISO 5211, allows for mounting of an actuator by means of brackets. Pneumatic and electrical actuators utilizable.

## TEMPERATURE

- » -20 °C to +425 °C



Size		Dimensions								Weight
DN	NPS	Ød	L	H1	H2	W	G	E	F	kg
80	3	76	48	143	319	150	66	97	133	12
100	4	96	54	157	339	150	66	97	133	13
150	6	143	59	209	416	200	77	161	236	22
200	8	188	73	233	451	200	77	161	236	36
250	10	236	83	273	514	200	94	183	236	52
300	12	281	92	317	549	300	94	183	236	75
350	14	320	117	353	670	300	120	257	324	118
400	16	371	133	403	700	300	120	257	324	153
450	18	420	149	440	823	400	153	352	374	218
500	20	469	159	474	858	400	153	352	374	245
600	24	549	181	542	1045	600	185	509	446	425

# KKD-83L

## -PN10/PN16/CL150

CLASS 150

Lug type connection, Bare shaft

### GENERAL FEATURES

- » The triple eccentric seat/disc design not only keeps the low torque advantage of the double eccentric design, but also provides full pressure-rated bidirectional sealing and high temperature use.
- » Save space with a compact body design
- » Bi-directional

### CONNECTIONS

Lug Type

### DIMENSIONS

Face to Face Dimension in acc. with API 609 Cat. B

### ACCEPTANCE TESTING

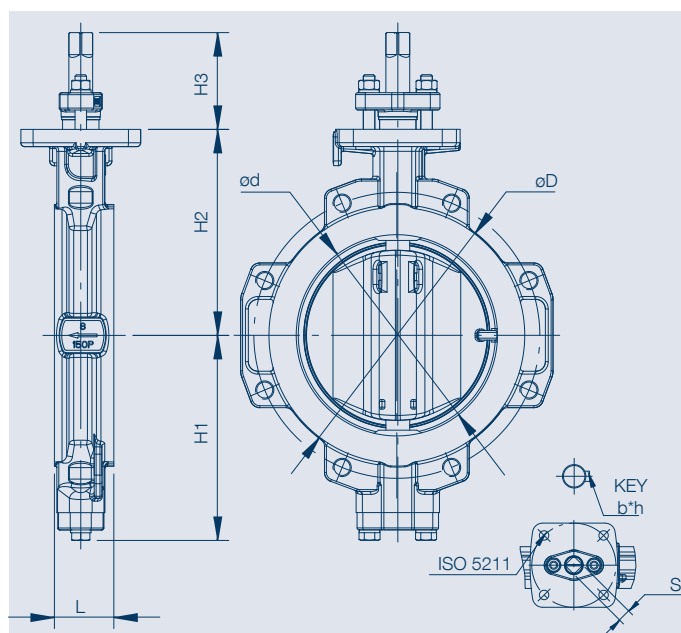
- » Shell strength: EN 12266-1 P10
- » Shell tightness: EN 12266-1 P11
- » Seat leak tightness: FCI 70-2 class IV/V

### AUTOMATION

Flange connection in accordance with ISO 5211, allows for mounting of an actuator by means of brackets. Pneumatic and electrical actuators utilizable.

### TEMPERATURE

- » -20 °C to +425 °C



Size		Dimensions							Mounting flange	Weight
DN	NPS	Ød	ØD	L	H1	H2	H3	S	ISO	kg
80	3	76	126	48	134	140	86	14	F10	9
100	4	96	155	54	144	150	86	14	F10	13
150	6	143	215	57	190	185	89	17	F10	19
200	8	188	267	62	214	215	101	19	F12	28
250	10	236	326	70	254	260	104	22	F12	44
300	12	281	375	81	298	290	129	27	F14	66
350	14	320	416	92	328	320	134	32	F14	86
400	16	371	480	102	377	370	158	36	F16	130
450	18	420	534	114	402	395	158	36	F16	163
500	20	469	588	127	437	430	168	46	F16	227
600	24	549	692	154	492	480	240	18x12	F25	358
700	28	655	800	165	570	555	245	20x14	F25	490
750	30	698	855	190	610	600	300	25x14	F30	620
800	32	755	910	190	620	625	310	25x14	F30	800
900	36	870	1000	203	680	685	320	28x16	F30	1020

# KKD-83L -PN10/PN16/CL150

## CLASS 150

## Lug type connection, Gear operator

### GENERAL FEATURES

- » The triple eccentric seat/disc design not only keeps the low torque advantage of the double eccentric design, but also provides full pressure-rated bidirectional sealing and high temperature use.
- » Save space with a compact body design
- » Bi-directional

### CONNECTIONS

Lug Type

### DIMENSIONS

Face to Face Dimension in acc. with API 609 Cat. B

### ACCEPTANCE TESTING

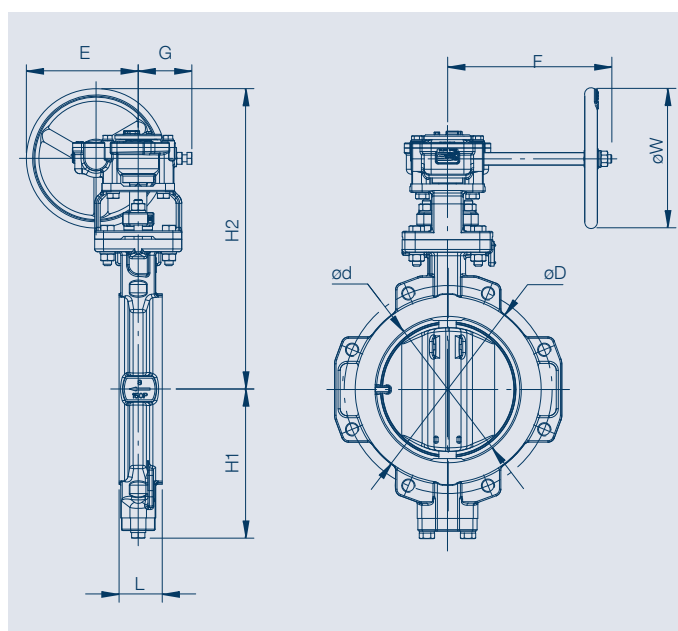
- » Shell strength: EN 12266-1 P10
- » Shell tightness: EN 12266-1 P11
- » Seat leak tightness: FCI 70-2 class IV/V

### AUTOMATION

Flange connection in accordance with ISO 5211, allows for mounting of an actuator by means of brackets. Pneumatic and electrical actuators utilizable.

### TEMPERATURE

- » -20 °C to +425 °C



Size		Dimensions									Weight
DN	NPS	Ød	ØD	L	H1	H2	W	G	E	F	kg
80	3	76	126	48	134	319	150	66	97	133	12
100	4	96	155	54	144	329	150	66	97	133	16
150	6	143	215	57	190	364	150	66	97	133	22
200	8	188	267	62	214	431	200	77	161	236	35
250	10	236	326	70	254	476	200	77	161	236	52
300	12	281	375	81	298	529	200	94	183	236	78
350	14	320	416	92	328	559	200	94	183	236	98
400	16	371	480	102	377	690	300	120	257	324	153
450	18	420	534	114	402	715	300	120	257	324	186
500	20	469	588	127	437	750	300	120	257	324	250
600	24	549	692	154	492	888	400	153	352	374	408
700	28	655	800	165	560	963	400	153	352	374	540
750	30	698	855	190	610	1165	600	185	512	446	715
800	32	755	910	190	620	1190	600	185	512	446	895
900	36	870	1000	203	680	1250	600	185	512	446	1115



# KKD-83L -PN40/CL300

## CLASS 300

### Lug type connection, Bare shaft

#### GENERAL FEATURES

- » The triple eccentric seat/disc design not only keeps the low torque advantage of the double eccentric design, but also provides full pressure-rated bidirectional sealing and high temperature use.
- » Save space with a compact body design
- » Bi-directional

#### CONNECTIONS

Lug Type

#### DIMENSIONS

Face to Face Dimension in acc. with API 609 Cat. B

#### ACCEPTANCE TESTING

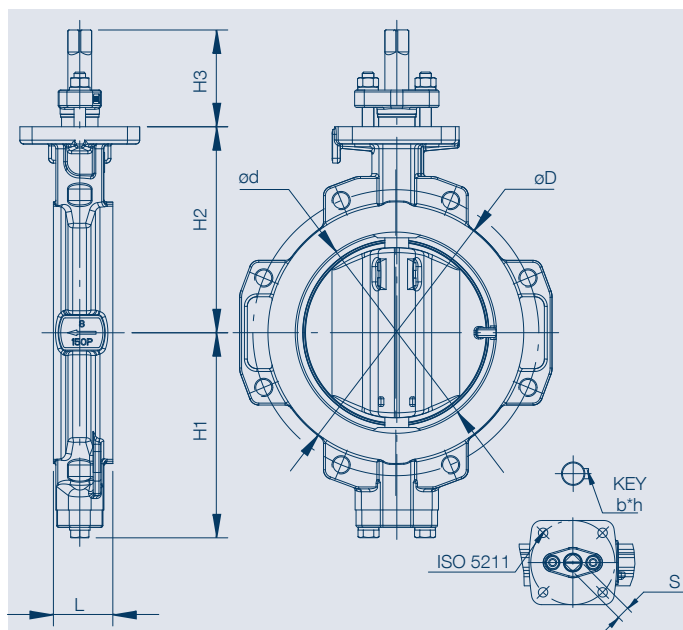
- » Shell strength: EN 12266-1 P10
- » Shell tightness: EN 12266-1 P11
- » Seat leak tightness: FCI 70-2 class IV/V

#### AUTOMATION

Flange connection in accordance with ISO 5211, allows for mounting of an actuator by means of brackets. Pneumatic and electrical actuators utilizable.

#### TEMPERATURE

- » -20 °C to +425 °C



Size		Dimensions							Mounting flange	Weight
DN	NPS	Ød	ØD	L	H1	H2	H3	S	ISO	kg
80	3	76	132	48	143	140	86	14	F10	11
100	4	96	162	54	157	160	86	14	F10	14
150	6	143	224	59	209	200	101	19	F12	23
200	8	188	280	73	233	235	104	22	F12	37
250	10	236	345	83	273	275	129	27	F14	58
300	12	281	395	92	317	310	134	32	F14	80
350	14	320	440	117	353	350	158	36	F16	130
400	16	371	495	133	403	380	168	46	F25	190
450	18	420	560	149	440	415	198	46	F25	240
500	20	469	622	159	474	450	245	20x14	F25	360
600	24	549	720	181	542	530	310	25x14	F30	560

# KKD-83L -PN40/CL300

## CLASS 300

## Lug type connection, Gear operator

### GENERAL FEATURES

- » The triple eccentric seat/disc design not only keeps the low torque advantage of the double eccentric design, but also provides full pressure-rated bidirectional sealing and high temperature use.
- » Save space with a compact body design
- » Bi-directional

### CONNECTIONS

Lug Type

### DIMENSIONS

Face to Face Dimension in acc. with API 609 Cat. B

### ACCEPTANCE TESTING

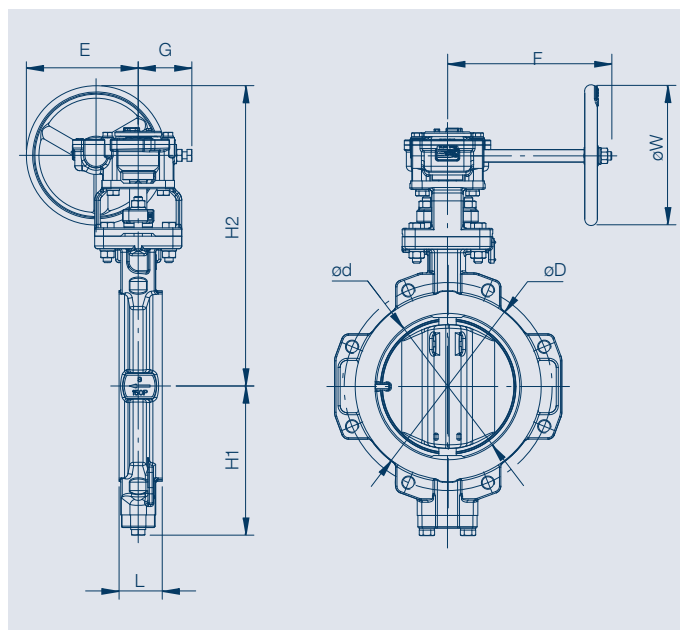
- » Shell strength: EN 12266-1 P10
- » Shell tightness: EN 12266-1 P11
- » Seat leak tightness: FCI 70-2 class IV/V

### AUTOMATION

Flange connection in accordance with ISO 5211, allows for mounting of an actuator by means of brackets. Pneumatic and electrical actuators utilizable.

### TEMPERATURE

- » -20 °C to +425 °C



Size		Dimensions									Weight
DN	NPS	Ød	ØD	L	H1	H2	W	G	E	F	kg
80	3	76	132	48	143	319	150	66	97	133	15
100	4	96	162	54	157	339	150	66	97	133	18
150	6	143	224	59	209	416	200	77	161	236	31
200	8	188	280	73	233	451	200	77	161	236	45
250	10	236	345	83	273	514	200	94	183	236	70
300	12	281	395	92	317	549	300	94	183	236	93
350	14	320	440	117	353	670	300	120	257	324	153
400	16	371	495	133	403	700	300	120	257	324	213
450	18	420	560	149	440	823	400	153	352	374	290
500	20	469	622	159	474	858	400	153	352	374	410
600	24	549	720	181	542	1045	600	185	509	446	655

# KKD-83F -CL150

## CLASS 150

## Double flanged connection, Bare shaft

### GENERAL FEATURES

- » The triple eccentric seat/disc design not only keeps the low torque advantage of the double eccentric design, but also provides full pressure-rated bidirectional sealing and high temperature use.
- » Save space with a compact body design
- » Bi-directional

### CONNECTIONS

Double-flanged

### DIMENSIONS

Face to Face Dimension in acc. with API 609 Cat. B

### ACCEPTANCE TESTING

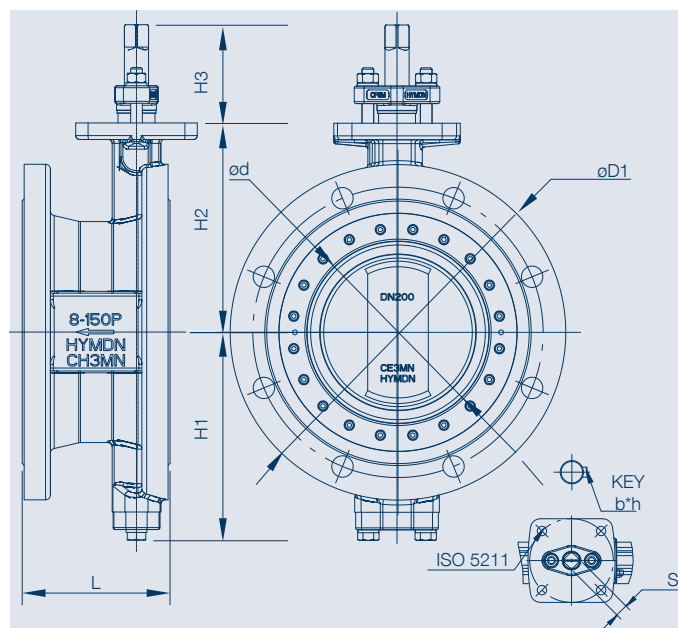
- » Shell strength: EN 12266-1 P10
- » Shell tightness: EN 12266-1 P11
- » Seat leak tightness: FCI 70-2 class IV/V

### AUTOMATION

Flange connection in accordance with ISO 5211, allows for mounting of an actuator by means of brackets. Pneumatic and electrical actuators utilizable.

### TEMPERATURE

- » -20 °C to +425 °C



Size		Dimensions							Mounting flange	Weight
DN	NPS	Ød	ØD1	L	H1	H2	H3	S	ISO	kg
80	3	76	190	114	134	140	86	14	F10	15
100	4	96	230	127	144	150	86	14	F10	17
150	6	143	280	140	190	185	89	17	F10	25
200	8	188	345	152	214	215	101	19	F12	40
250	10	236	405	165	254	260	104	22	F12	57
300	12	281	485	178	298	290	129	27	F14	90
350	14	320	535	190	328	320	134	32	F14	115
400	16	371	595	216	377	370	158	36	F16	156
450	18	420	635	222	402	395	158	36	F16	186
500	20	469	700	229	437	430	168	46	F16	243
600	24	549	815	267	492	480	240	18x12	F25	368
700	28	655	927	292	570	555	245	20x14	F25	576
750	30	698	984	318	610	600	300	25x14	F30	720
800	32	755	1060	318	620	625	310	25x14	F30	834
900	36	870	1168	330	680	685	320	28x16	F30	1053

# KKD-83F -CL150

## CLASS 150

## Double flanged connection, Gear operator

### GENERAL FEATURES

- » The triple eccentric seat/disc design not only keeps the low torque advantage of the double eccentric design, but also provides full pressure-rated bidirectional sealing and high temperature use.
- » Save space with a compact body design
- » Bi-directional

### CONNECTIONS

Double-flanged

### DIMENSIONS

Face to Face Dimension in acc. with API 609 Cat. B

### ACCEPTANCE TESTING

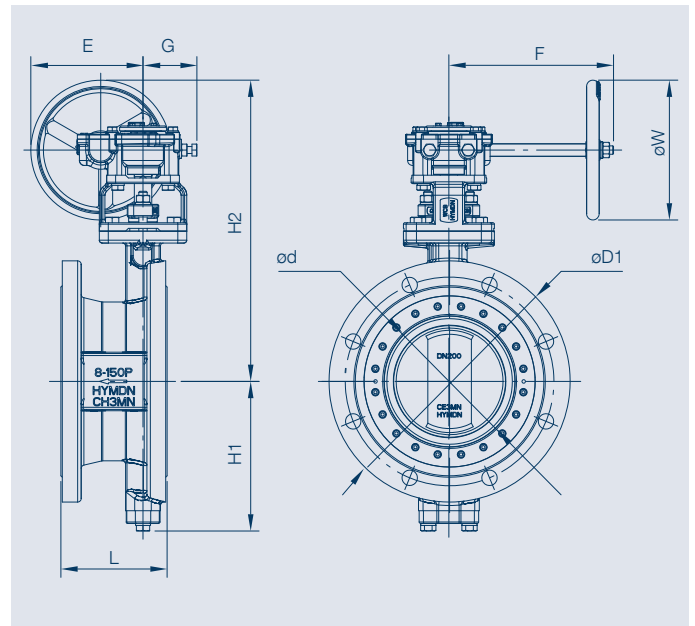
- » Shell strength: EN 12266-1 P10
- » Shell tightness: EN 12266-1 P11
- » Seat leak tightness: FCI 70-2 class IV/V

### AUTOMATION

Flange connection in accordance with ISO 5211, allows for mounting of an actuator by means of brackets. Pneumatic and electrical actuators utilizable.

### TEMPERATURE

- » -20 °C to +425 °C



Size		Dimensions									Weight
DN	NPS	Ød	ØD1	L	H1	H2	W	G	E	F	kg
80	3	76	190	114	134	319	150	66	97	133	18
100	4	96	230	127	144	329	150	66	97	133	20
150	6	143	280	140	190	364	150	66	97	133	28
200	8	188	345	152	214	431	200	77	161	236	47
250	10	236	405	165	254	476	200	77	161	236	64
300	12	281	485	178	298	529	200	94	183	236	102
350	14	320	535	190	328	559	200	94	183	236	127
400	16	371	595	216	377	690	300	120	257	324	179
450	18	420	635	222	402	715	300	120	257	324	209
500	20	469	700	229	437	750	300	120	257	324	266
600	24	549	815	267	492	888	400	153	352	374	418
700	28	655	927	292	560	963	400	153	352	374	626
750	30	698	984	318	610	1165	600	185	512	446	815
800	32	755	1060	318	620	1190	600	185	512	446	929
900	36	870	1168	330	680	1250	600	185	512	446	1148

# KKD-83F -CL300

## CLASS 300

## Double flanged connection, Bare shaft

### GENERAL FEATURES

- » The triple eccentric seat/disc design not only keeps the low torque advantage of the double eccentric design, but also provides full pressure-rated bidirectional sealing and high temperature use.
- » Save space with a compact body design
- » Bi-directional

### CONNECTIONS

Double-flanged

### DIMENSIONS

Face to Face Dimension in acc. with API 609 Cat. B

### ACCEPTANCE TESTING

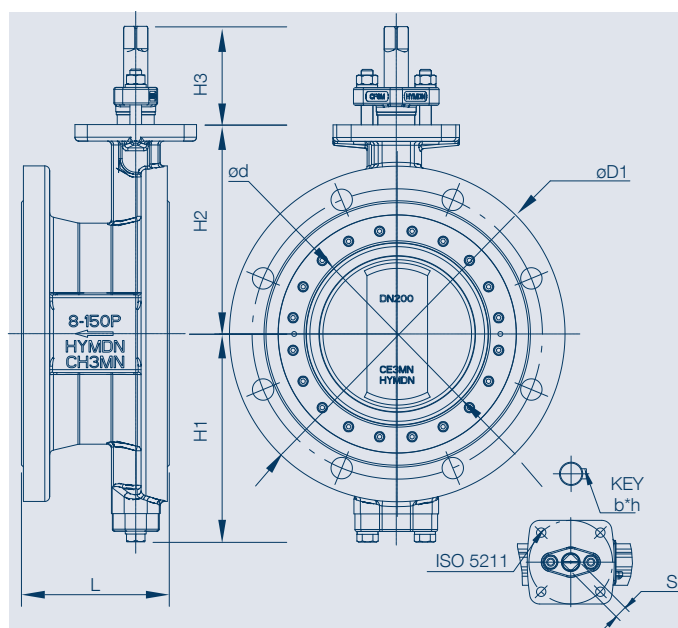
- » Shell strength: EN 12266-1 P10
- » Shell tightness: EN 12266-1 P11
- » Seat leak tightness: FCI 70-2 class IV/V

### AUTOMATION

Flange connection in accordance with ISO 5211, allows for mounting of an actuator by means of brackets. Pneumatic and electrical actuators utilizable.

### TEMPERATURE

- » -20 °C to +425 °C



Size		Dimensions							Mounting flange	Weight
DN	NPS	Ød	ØD1	L	H1	H2	H3	S	ISO	kg
80	3	76	210	114	143	140	86	14	F10	16
100	4	96	254	127	157	160	86	14	F10	18
150	6	143	318	140	209	200	101	19	F12	40
200	8	188	381	152	233	235	104	22	F12	82
250	10	236	445	165	273	275	129	27	F14	128
300	12	281	521	178	317	310	134	32	F14	160
350	14	320	585	190	353	350	158	36	F16	220
400	16	371	648	216	403	380	168	46	F25	274
450	18	420	712	222	440	415	198	46	F25	356
500	20	469	775	229	474	450	245	20x14	F25	492
600	24	549	915	267	542	530	310	25x14	F30	710

# KKD-83F -CL300

## CLASS 300

## Double flanged connection, Gear operator

### GENERAL FEATURES

- » The triple eccentric seat/disc design not only keeps the low torque advantage of the double eccentric design, but also provides full pressure-rated bidirectional sealing and high temperature use.
- » Save space with a compact body design
- » Bi-directional

### CONNECTIONS

Double-flanged

### DIMENSIONS

Face to Face Dimension in acc. with API 609 Cat. B

### ACCEPTANCE TESTING

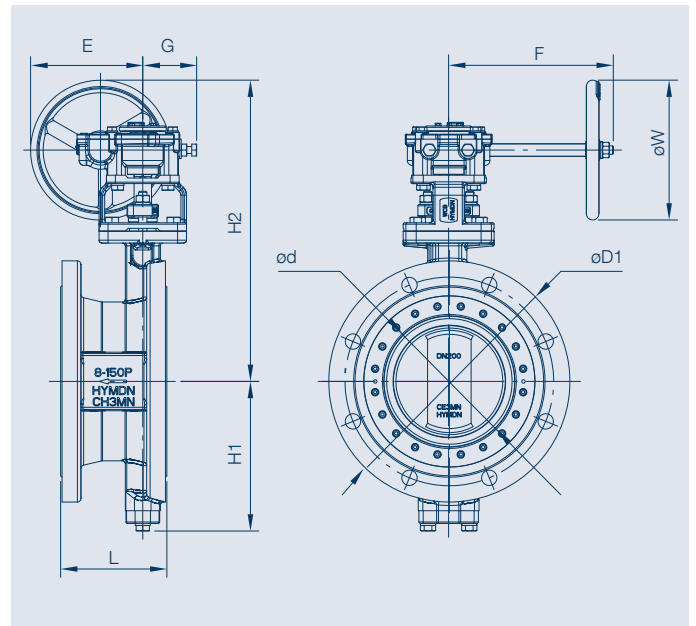
- » Shell strength: EN 12266-1 P10
- » Shell tightness: EN 12266-1 P11
- » Seat leak tightness: FCI 70-2 class IV/V

### AUTOMATION

Flange connection in accordance with ISO 5211, allows for mounting of an actuator by means of brackets. Pneumatic and electrical actuators utilizable.

### TEMPERATURE

- » -20 °C to +425 °C



Size		Dimensions									Weight
DN	NPS	Ød	ØD1	L	H1	H2	W	G	E	F	kg
80	3	76	210	114	143	319	150	66	97	133	20
100	4	96	254	127	157	339	150	66	97	133	29
150	6	143	318	140	209	416	200	77	161	236	58
200	8	188	381	152	233	451	200	77	161	236	91
250	10	236	445	165	273	514	200	94	183	236	126
300	12	281	521	178	317	549	300	94	183	236	181
350	14	320	585	190	353	670	300	120	257	324	243
400	16	371	648	216	403	700	300	120	257	324	297
450	18	420	712	222	440	823	400	153	352	374	372
500	20	469	775	229	474	858	400	153	352	374	531
600	24	549	915	267	542	1045	600	185	509	446	740



# TECHNICAL DETAILS

## Pressure & Temperature Chart

Pressure & Temperature Table of BODY													
Temperature		PN10/PN16/CL150						PN40/CL300					
		WCB		CF8		CF8M		WCB		CF8		CF8M	
°C	°F	bar	psig	bar	psig	bar	psig	bar	psig	bar	psig	bar	psig
-29 to 38	-20 to 100	19.7	285	19.3	280	19.0	275	51.0	740	50.3	730	49.6	720
66	150	18.8	273	17.9	259	16.9	245	47.9	695	47.0	682	46.2	670
93	200	17.9	260	17.0	247	16.2	235	46.9	680	44.8	650	42.7	620
121	250	16.9	245	16.2	235	15.5	225	46.0	667	43.3	628	40.7	590
149	300	15.9	230	15.3	222	14.8	215	45.2	655	41.9	607	38.6	560
177	350	14.8	215	14.5	210	14.1	205	44.5	645	40.7	591	37.1	538
204	400	13.8	200	13.6	197	13.4	195	43.8	635	39.6	575	35.5	515
232	450	12.8	185	12.8	185	12.8	185	42.7	620	41.9	608	41.2	597
260	500	11.7	170	11.7	170	11.7	170	41.7	605	37.4	542	33.1	480
288	550	10.7	155	10.7	155	10.7	155	41.2	597	36.6	531	32.1	465
316	600	9.7	140	9.7	140	9.7	140	39.3	570	35.2	510	31.0	450

# TECHNICAL DETAILS

## Flow characteristics for the determination of the nominal diameter

The left table represents the Flow Coefficients (Cv) for KKD-83 butterfly valves. This number represents the volume of water at 60°F that will flow in US gallon per minute through a valve with a 1 lb/in<sup>2</sup> pressure drop across in the full open position. For Kv, it is the flow of water with temperature from 5°C - 30°C in cubic meters per hour (m<sup>3</sup>/h) with a pressure drop of 1 bar. The Cv value is dependent on flow rate, pressure drop, specific

gravity. The larger the Cv value is, the easier the fluid will flow within the valve. However, Cv value is easily affected by various factors, such as fluid type, fluid viscosity, saturated steam pressure.

$$Cv = F \sqrt{\frac{SG}{\Delta P}}$$

**Flow Coefficients (Cv) of KKD-83-PN10/PN16/CL150**

Size		Cv Value										
DN	NPS	10°	20°	30°	40°	45°	50°	60°	70°	80°	85°	90°
80	3	6	33	62	94	108	118	143	176	208	230	227
100	4	16	58	106	155	178	213	274	349	433	465	473
150	6	40	147	242	335	382	422	560	729	925	975	1010
200	8	66	237	368	509	606	712	985	1296	1640	1715	2004
250	10	139	390	595	807	963	1168	1606	2134	2814	3180	3199
300	12	204	548	820	1138	1357	1591	2219	3067	4085	4484	4672
350	14	264	674	972	1386	1658	1994	2840	3925	5164	5828	5947
400	16	384	864	1196	1765	2155	2611	3755	5105	6975	7920	8182
450	18	508	1092	1551	2341	2881	3522	5125	7134	9511	10599	11548
500	20	626	1294	1792	2651	3304	4082	5919	8256	11429	13126	13813
600	24	1047	2251	3178	4563	5543	6568	9277	12932	17093	18328	19021

**Flow Coefficients (Cv) of KKD-83-PN40/CL300**

Size		Cv Value										
DN	NPS	10°	20°	30°	40°	45°	50°	60°	70°	80°	85°	90°
80	3	6	33	62	94	108	118	143	176	208	230	227
100	4	16	58	106	155	178	213	274	349	433	465	473
150	6	37	137	225	312	355	393	521	678	860	907	939
200	8	62	220	343	473	563	662	916	1206	1525	1595	1864
250	10	129	362	554	750	896	1087	1493	1985	2617	2957	2975
300	12	190	510	762	1059	1262	1480	2064	2852	3799	4170	4345
350	14	246	627	904	1289	1542	1854	2641	3650	4803	5420	5531
400	16	357	803	1112	1642	2004	2428	3492	4748	6487	7365	7609
450	18	473	1015	1442	2177	2679	3275	4766	6634	8845	9857	10739
500	20	583	1204	1667	2466	3073	3797	5504	7678	10629	12207	12846
600	24	974	2093	2956	4244	5155	6108	8627	12027	15897	17045	17689

# TECHNICAL DETAILS

## Torque chart under pressure load

Torque in N.m of KKD-83-PN10/PN16/CL150

Size		$\Delta P = 6$ bar	$\Delta P = 10$ bar	$\Delta P = 20$ bar
DN	NPS			
80	3	32	41	62
100	4	44	61	97
150	6	73	108	187
200	8	126	202	360
250	10	257	406	716
300	12	403	632	1108
350	14	594	968	1746
400	16	936	1397	2436
450	18	1208	2048	3666
500	20	1769	3106	5589
600	24	2429	4207	7634

Torque in N.m of KKD-83-PN40/CL300

Size		$\Delta P = 20$ bar	$\Delta P = 30$ bar	$\Delta P = 40$ bar
DN	NPS			
80	3	41	62	131
100	4	61	97	216
150	6	123	208	486
200	8	252	435	1030
250	10	406	716	1727
300	12	632	1108	2658
350	14	1192	2118	5139
400	16	2006	3578	8696
450	18	2048	3666	8942
500	20	3948	6855	16331
600	24	4203	7635	18803

---

Edition 2022 | Typing and printing errors reserved

KLINGER Portugal, Ltd.  
Via José Régio, 36  
Centro Empresarial Vilar do Pinheiro,  
4485-860 Vila do Conde  
+351 229 470 910  
E-mail: [geral@klinger.pt](mailto:geral@klinger.pt)

[www.klinger.pt](http://www.klinger.pt)