

Knife Gate Valve

HERA-BDS

PN 10/16, Class 150
DN 50-600

Type Series Booklet



Legal information/Copyright

Type Series Booklet HERA-BDS

All rights reserved. The contents provided herein must neither be distributed, copied, reproduced, edited or processed for any other purpose, nor otherwise transmitted, published or made available to a third party without the manufacturer's express written consent.

Subject to technical modification without prior notice.

© KSB Valves Changzhou Co., Ltd., China 18/01/2018

Contents

Knife Gate Valves.....	4
Bi-directional Knife Gate Valve	4
HERA-BDS	4
Main applications.....	4
Fluids handled	4
Operating data.....	4
Body materials.....	4
Design details	4
Product benefits.....	4
Related documents	4
Purchase order specifications	4
Pressure/temperature ratings.....	5
Materials.....	5
Dimensions and weights.....	9

Knife Gate Valves

Bi-directional Knife Gate Valve

HERA-BDS



Main applications

- Mining
- Waste water treatment plants
- Pulp and paper industry
- Cement plants
- Chemical industry

Fluids handled

- Slurry
- Abrasive fluids
- Pulp
- Waste water
- Service water
- Other fluids on request.

Operating data

Operating properties

Characteristic	Value
Nominal pressure	PN 10/16
Nominal pressure	Class 150
Nominal size	50 - 600
Max. permissible pressure [bar]	10
Min. permissible temperature [°C]	-10
Max. permissible temperature [°C]	+120

Body materials

Overview of available materials

Material	Temperature limit
ASTM A 216 WCB	≤ 425 °C
ASTM A 351 CF8	≤ 538 °C
ASTM A 351 CF8M	≤ 538 °C

Other materials on request.

Design details

Design

- Design to ASME B16.34 and MSS SP-81
- Pressure/temperature ratings to MSS SP-81
- Full-lug body
- Wafer-type body
- Bi-directional seal
- Rising stem
- Non-rising handwheel
- Resilient lining
- The valves satisfy the safety requirements of Annex I of the European Pressure Equipment Directive 2014/68/EU (PED) for fluids in Group 2.

Variants

- Non-rising stem
- Graphite gland packing for high temperatures
- Locking device
- Protection plate
- Mounting of electric and pneumatic actuators
- Mounting of gearboxes
- Other material variants
- Larger nominal sizes ≤ DN 900

Product benefits

- Blade bottom edge curved for high cutting force. Smooth blade surface due to precision grinding and hard chromium plating, for increased abrasion resistance and long service life.
- Internal gland packing with improved sealing performance
- Two-piece body designed without dead volumes to prevent pulp deposits inside the body and jamming of the blade, particularly in the case of solids-laden fluids.
- Long service life due to resilient, abrasion-resistant die-cast rubber seat with metal backing ring Replaceable seats, easy to remove and install
- Drain facility at the bottom of the valve body. Body bottom dismantles easily for regular cleaning. Flushing system can be fitted by customer.

Related documents

Information/documents

Document	Reference number
Operating manual	7330.8

Purchase order specifications

Please specify the following information in all enquiries or purchase orders:

1. Type
2. Nominal pressure
3. Nominal size
4. Operating pressure

- 5. Operating temperature
- 6. Line connection
- 7. Material
- 8. Fluid handled
- 9. Variants
- 10. Reference number

Always indicate the original serial number and the year of construction when ordering spare parts.

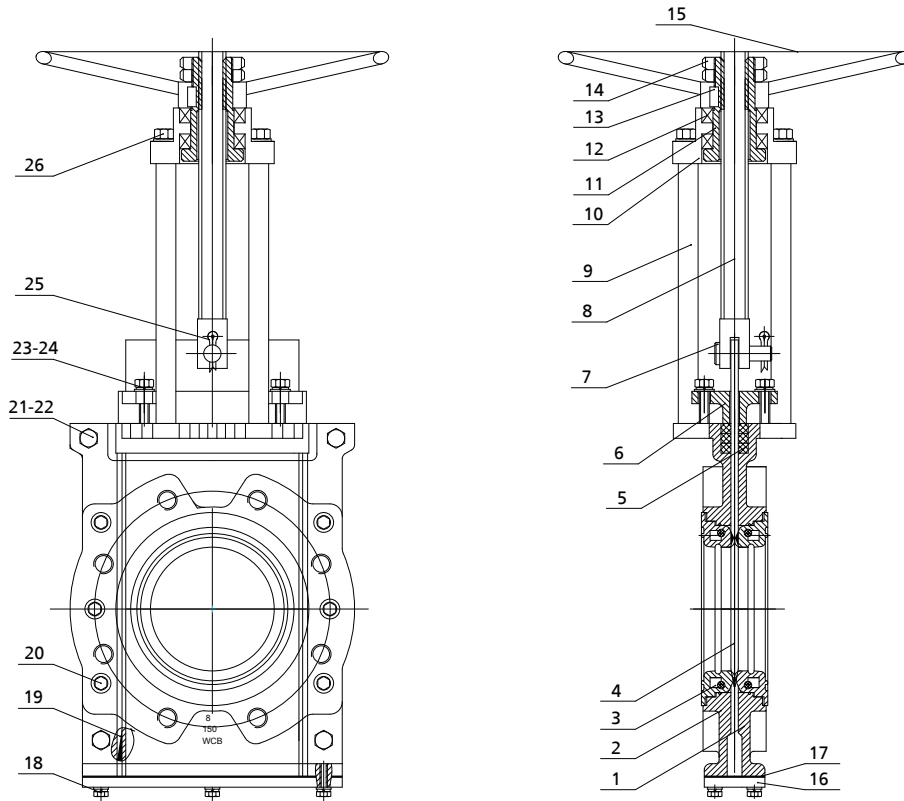
Pressure/temperature ratings

Test pressure and operating pressure

PN	DN	Shell test ¹⁾²⁾	Leak test (seat) ¹⁾	Permissible operating pressure
		With water		
		[bar]	[bar]	[bar]
10	50-600	15	2,8	10,3
16	50-600	24	2,8	10,3
Class 150	50-600	30	2,8	10,3

Materials

HERA-BDS with handwheel



HERA-BDS with handwheel

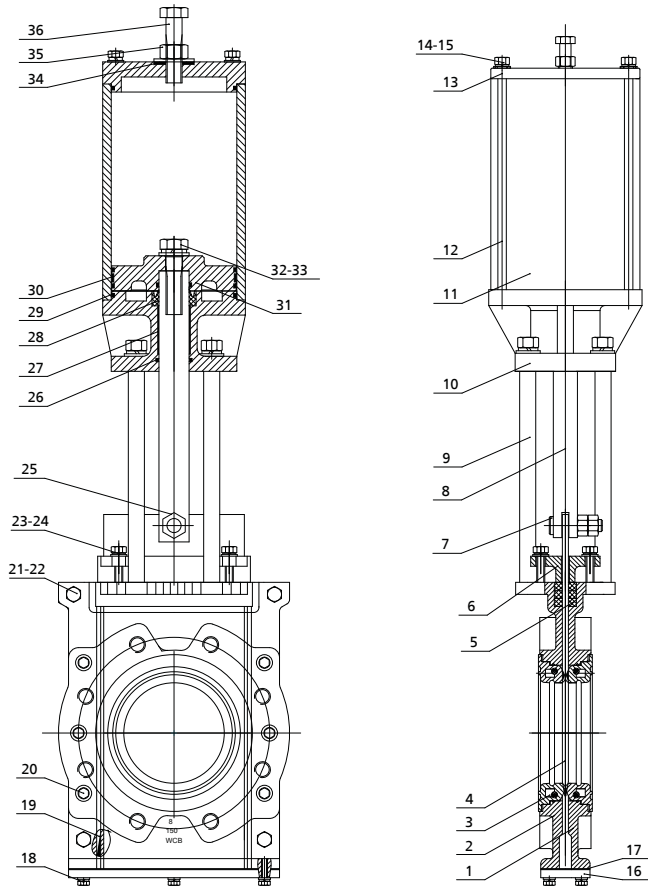
Parts list

Part No.	Description	Material	Note
1	Upper body section	ASTM A 216 WCB	-
		ASTM A 351 CF8	-
		ASTM A 351 CF8M	-
2	Lower body section	ASTM A 216 WCB	-
		ASTM A 351 CF8	-
		ASTM A 351 CF8M	-
3	Seat	EPDM	-
		NBR	-

1) Test procedure to MSS SP-81
2) Test medium at 0 °C to 66 °C

Part No.	Description	Material	Note
3	Seat	Rubber	-
4	Blade	ASTM A 182 F304	Hard chromium plated
		ASTM A 182 F316	Hard chromium plated
		ASTM A 276 410	Material available for model with metal (hard chromium plated) seat only
5	Packing ring	NBR or Viton	-
6	Gland follower	ASTM A 216 WCB	-
		ASTM A 351 CF8	-
		ASTM A 351 CF8M	-
7	Pin	ASTM A 182 F304	-
8	Stem	ASTM A 182 F304	-
9	Pillar	ASTM A 182 F304	Body made of A 351 CF8(M)
		C45 + Cr	Body made of A 216 WCB
10	Cover	ASTM A 216 WCB	-
		ZL102	-
11	Nut	H59	-
12	Plain bearing	GCr6	-
13	Key	45#	-
14	Slotted round nut	45#	Electroless nickel-plated
15	Handwheel	Nodular cast iron	-
16	Bottom	ASTM A 216 WCB	-
		ASTM A 351 CF8	-
		ASTM A 351 CF8M	-
17	Gasket	NBR	-
18	Hexagon head bolt	ASTM A 182 F304	-
19	Sealing cord	NBR	-
20	Hexagon socket head cap screw	ASTM A 182 F304	-
21	Hexagon head bolt	ASTM A 182 F304	-
22	Hexagon nut	ASTM A 182 F304	-
23	Stud	ASTM A 182 F304	-
24	Hexagon nut	ASTM A 182 F304	-
25	Split pin	Stainless steel	-
26	Hexagon nut	ASTM A 182 F304	-

HERA-BDS with pneumatic actuator



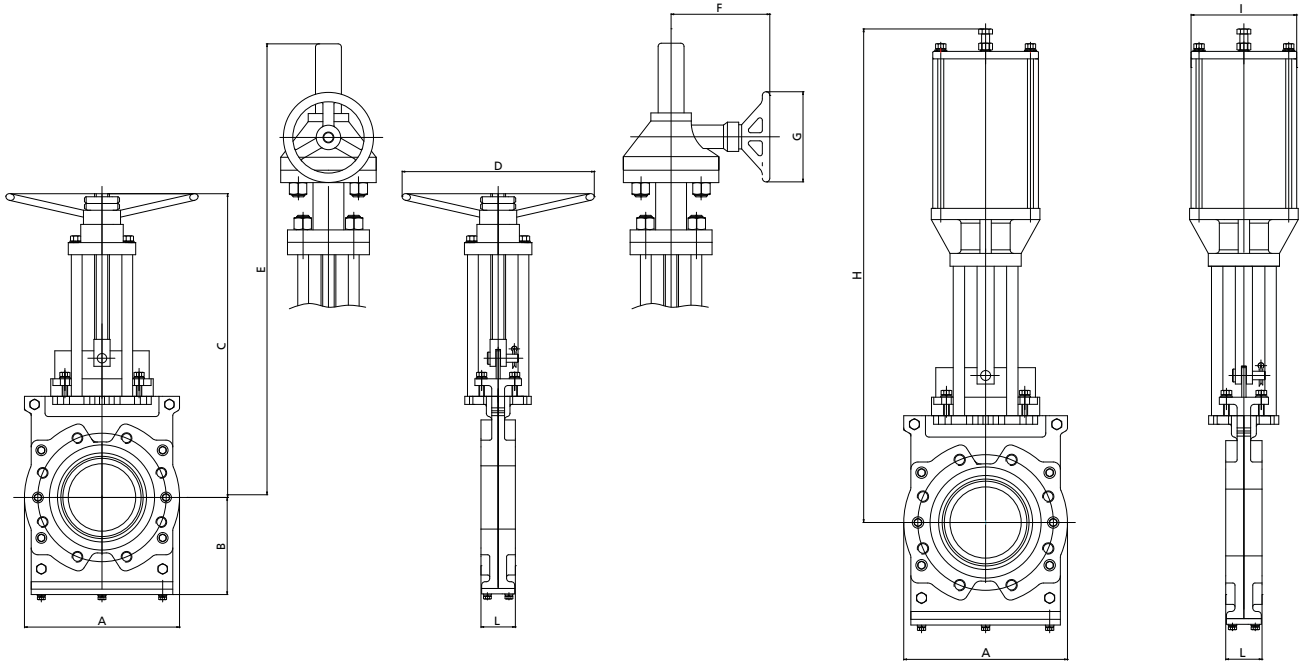
HERA-BDS with pneumatic actuator

Parts list

Part No.	Description	Material	Note
1	Upper body section	ASTM A 216 WCB	-
		ASTM A 351 CF8	-
		ASTM A 351 CF8M	-
2	Lower body section	ASTM A 216 WCB	-
		ASTM A 351 CF8	-
		ASTM A 351 CF8M	-
3	Seat	EPDM	-
		NBR	-
		Rubber	-
4	Blade	ASTM A 182 F304	Hard chromium plated
		ASTM A 182 F316	Hard chromium plated
		ASTM A 276 410	Material available for model with metal (hard chromium plated) seat only
5	Packing ring	NBR or Viton	-
6	Gland follower	ASTM A 216 WCB	-
		ASTM A 351 CF8	-
		ASTM A 351 CF8M	-
7	Pin	ASTM A 182 F304	-
8	Cylinder rod	45#	Hard chromium plated
9	Pillar	ASTM A 182 F304	Body made of A 351 CF8(M)
		C45 + Cr	Body made of A 216 WCB
10	Bottom end cap	Q 235	-
		ZL102	-
11	Cylinder	Q 235	Aluminium alloy
12	Tie bolt	Q 235	Galvanised
		ZL102	-
13	Top end cap	Q 235	-
		ZL102	-
14	Hexagon nut	ASTM A 182 F304	-

Part No.	Description	Material	Note
15	Spring washer	65Mn	-
16	Bottom	ASTM A 216 WCB	-
		ASTM A 351 CF8	-
		ASTM A 351 CF8M	-
17	Gasket	NBR	-
18	Hexagon head bolt	ASTM A 182 F304	-
19	Sealing cord	NBR	-
20	Hexagon socket head cap screw	ASTM A 182 F304	-
21	Hexagon head bolt	ASTM A 182 F304	-
22	Hexagon nut	ASTM A 182 F304	-
23	Stud	ASTM A 182 F304	-
24	Hexagon nut	ASTM A 182 F304	-
25	Hexagon nut	ASTM A 182 F304	-
26	O-ring	NBR	-
27	Boundary-lubricated bearing	Composite	-
28	Y-ring	Polyurethane	-
29	O-ring	NBR	-
30	Guide ring	PTFE	-
31	Piston	ZL102	-
		Q 235	-
32	Hexagon head bolt	45#	-
33	Spring washer	65Mn	-
34	Gasket	PTFE	-
35	Hexagon nut	ASTM A 182 F304	-
36	Adjusting screw	ASTM A 182 F304	-

Dimensions and weights



HERA-BDS with handwheel or gearbox

HERA-BDS with pneumatic actuator

Dimensions [mm] and weights [kg]

DN	L	A	B	C ³⁾	E ³⁾	D	F	G	H	I	With handwheel	With gearbox	With pneumatic actuator
											[kg]	[kg]	[kg]
50	48	165	120	450/360	-	220	-	-	550	120	20	-	26
65	48	190	130	475/390	-	220	-	-	600	120	22	-	30
80	51	200	145	535/415	-	220	-	-	640	120	26	-	35
100	51	230	150	600/450	-	250	-	-	700	145	35	-	42
125	57	230	180	690/510	-	250	-	-	840	190	38	-	50
150	57	285	200	740/550	-	282	-	-	910	190	42	-	66
200	70	345	220	885/660	-	355	-	-	1100	225	65	-	87
250	70	405	275	1060/780	-	355	-	-	1280	225	85	-	140
300	76	485	330	1220/870	-	400	-	-	1440	282	120	-	225
350	76	535	350	1400/985	-	500	-	-	1700	330	150	-	298
400	89	600	380	-	1670/1220	-	260	310	1855	410	-	230	335
450	89	635	400	-	1800/1230	-	340	460	2000	500	-	290	395
500	114	705	450	-	1950/1790	-	340	460	2180	550	-	360	470
600	114	820	510	-	1890/2490	-	340	460	2400	650	-	440	570

Mating dimensions as per standard

Face-to-face lengths: MSS SP-81
 Flanges: Mating dimensions Class 150:
 ANSI B 16.5
 Mating dimensions PN 10, PN 16:
 DIN 2501

3) Fully open/closed



KSB Valves (Changzhou) Co., Ltd.
No. 68 Huanbao Four Road
Environment Protection Industrial Park
Xinbei District, Changzhou City, Jiangsu Province
P. R. China