

Knife Gate Valve

## HERA-BD

PN 10  
DN 50-1200

### Type Series Booklet



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Type Series Booklet HERA-BD

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## Knife Gate Valves

### Bi-directional Knife Gate Valve

## HERA-BD



#### Main applications

- Waste water treatment plants
- Biogas plants
- Solids transport
- Water treatment
- Pulp and paper industry
- Drainage systems
- Drainage
- Washing plants
- Sludge disposal
- Sludge processing
- Food industry and beverages industry

#### Fluids handled

- Waste water with/without faeces
- Activated sludge
- Service water
- Digested sludge
- Solids-laden fluids
- River water, lake water and groundwater
- Raw sludge
- Grey water
- Other fluids on request.

#### Operating data

##### Operating properties

Characteristic	Value
Nominal pressure	PN 10
Nominal size	DN 50 - 1200
Max. permissible pressure [bar]	10
Min. permissible temperature [°C]	-10
Max. permissible temperature [°C]	+120

#### Body materials

##### Overview of available materials

Material	Material number	Temperature limit
EN-GJL-250	5.1301	≤ 120 °C

#### Design details

##### Design

- Wafer-type design: suitable for clamping between pipe flanges or dead-end service at full operating pressure
- Single-piece (≤ DN 500) or two-piece (> DN 500) body with integrated flange seal
- Short face-to-face length to EN 558-1/20
- Non-rising stem
- Non-rising handwheel
- Blade made of 1.4571 as standard (≤ DN 400)
- Confined U-shaped seal made of EPDM
- Transverse seal with gland packing
- Robust yoke for actuator mounting as standard
- All steel parts and grey cast iron parts epoxy-coated (200 µm) to protect against corrosion, colour: RAL 5015, blue
- The valves satisfy the safety requirements of Annex I of the European Pressure Equipment Directive 2014/68/EU (PED) for fluids in Groups 1 and 2.
- The valves can be used in potentially explosive atmospheres, Group II, category 2 (zones 1+21) and category 3 (zones 2+22) to ATEX 2014/34/EU.

#### Variants

- Blade made of 1.4571 / AISI 316 Ti (≥ DN 450)
- Stem made of 1.4571 / AISI 316 Ti
- Nuts and bolts made of A4
- Sealing material made of NBR or Viton (U-shaped seal and O-rings)
- Gland packing made of stainless steel braiding, with scraper effect
- Chain wheel ≤ DN 600
- Quick-action lever ≤ DN 150
- Gearbox ≥ DN 400
- Double-acting pneumatic actuators ≤ DN 800
- Electric actuators ≤ DN 1200 (with rising stem)
- Limit switch(es)
- Solenoid valves to Namur
- 3.1 certificate
- Larger nominal sizes and other variants on request

**Product benefits**

- All grey cast iron and steel components are protected against corrosion by high-quality epoxy coating.
- Robust and compact steel mounting yoke for straightforward mounting of pneumatic and electric actuators and limit switches. A hard anodised aluminium NAMUR adapter plate attached to the actuator allows proximity switches or solenoid valves to be quickly installed (plug & run).
- Reliable and service-friendly stem seal: The gland packing is made of PTFE impregnated fibre and can be re-adjusted during operation. There is no need to remove the valve from the piping to replace the packing.
- High functional reliability and tight shut-off in both flow directions.
  - The stainless steel blade is polished on both sides and guided by a confined U-shaped seal during the entire valve travel. This prevents "chattering" of the blade and minimises the risk of deposits.
  - Flushing corners in the body ensure the seat is flushed clean when the valve closes.
- Suitable for universal use. Flange connection via tapped blind holes and throughbolts enables the wafer-type gate valve to be clamped between pipe flanges or used as dead-end valve at full operating pressure.
- Economical
  - The valve is available in a single-piece (up to DN 500) or two-piece body design with full bore providing unrestricted flow passage. The body is fully machined inside, resulting in a tight fit of all components, very low pressure losses and high flow coefficients.

- As a standard feature, O-rings are integrated into the body and serve as flange seals. This helps to save extra costs for providing and fitting external flange seals.

**Related documents**

Other applicable documentation

Document	Reference number
Technical data sheet	7328.22
Operating manual	7328.8

**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. Fluid handled
7. Variants
8. Reference number

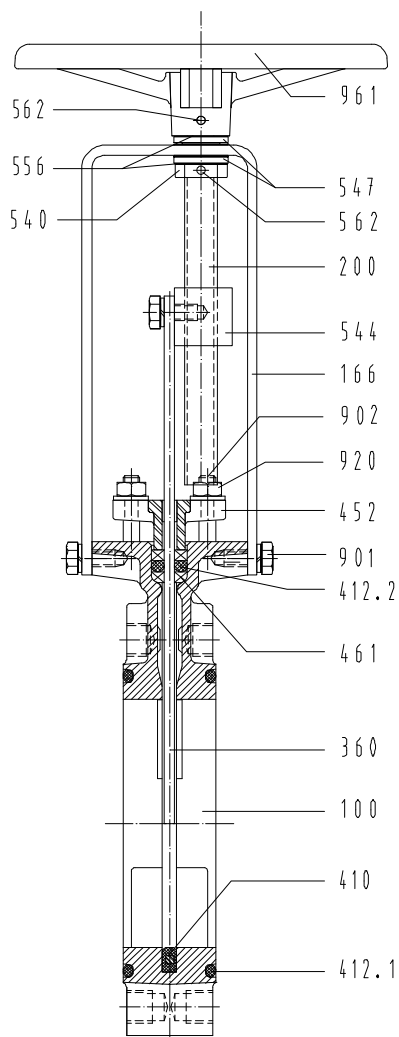
**Pressure/temperature ratings**

Test pressure and operating pressure

PN	DN	Shell test	Leak test (seat)	Permissible operating pressure
		With water		-10 to +120 °C
		Tests P10 and P11 to DIN EN 12266-1	Test P12 to DIN EN 12266-1 <sup>1)</sup>	
		[bar]	[bar]	[bar]
10	50-250	15	11	10
6	300-400	9	6,6	6
5	450	7,5	5,5	5
4	500-600	6	4,4	4
2	700-1200	3	2,2	2

1) DN 50-600: leakage rate A, DN 700-1200: leakage rate B

Materials

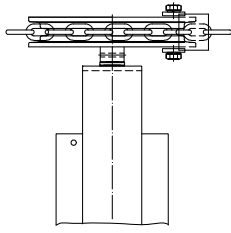


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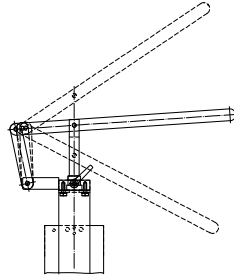
Parts list

Part No.	Description	Material	Material number	Note
100	Body	EN-GJL-250	5.1301	DN 50 - 500: epoxy-coated, single-piece
		EN-GJS-400-15	5.3106	DN 600: epoxy-coated, two-piece
166	Yoke	Steel	1.0044 / S275JR	Epoxy-coated
200	Stem	Stainless steel	1.4016 / AISI 430	Non-rising
360	Blade	Stainless steel	1.4571 / AISI 316 Ti	DN 50-400
		Stainless steel	1.4301 / AISI 304	≥ DN 450
410	U-shaped seal	EPDM with steel core	-	-
412.1	O-ring	EPDM	-	Integrated flange seal
412.2	O-ring	EPDM	-	-
452	Gland follower	EN-GJS-400-15	5.3106	Epoxy-coated
461	Gland packing	PTFE-impregnated synthetic fibres	-	-
540	Bush	Stainless steel	1.4301 / AISI 304	-
544	Threaded bush	Brass	-	-
547	Guide bush	Manganese bronze	C86300 / CB762S	-
556	Anti-friction disc	PET + solid lubricant	-	-
562	Spring-type straight pin	Steel	DIN 7346	-
901	Hexagon head bolt	A2	-	-
902	Stud	A2	-	-
920	Hexagon nut	A2	-	-
961	Handwheel	Steel	-	DN 50-300: epoxy-coated
		EN-GJL-250	5.1301	≥ DN 350: epoxy-coated

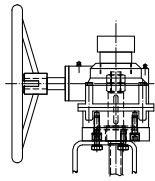
Variants



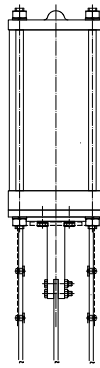
Chain wheel (non-rising stem)



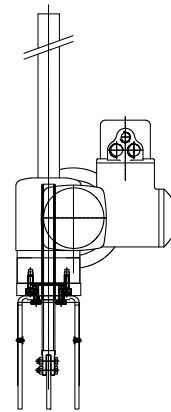
Quick-action lever



Gearbox (non-rising stem)



Pneumatic actuators  
(double-acting)



Electric actuators  
(rising stem)

Dimensions and weights

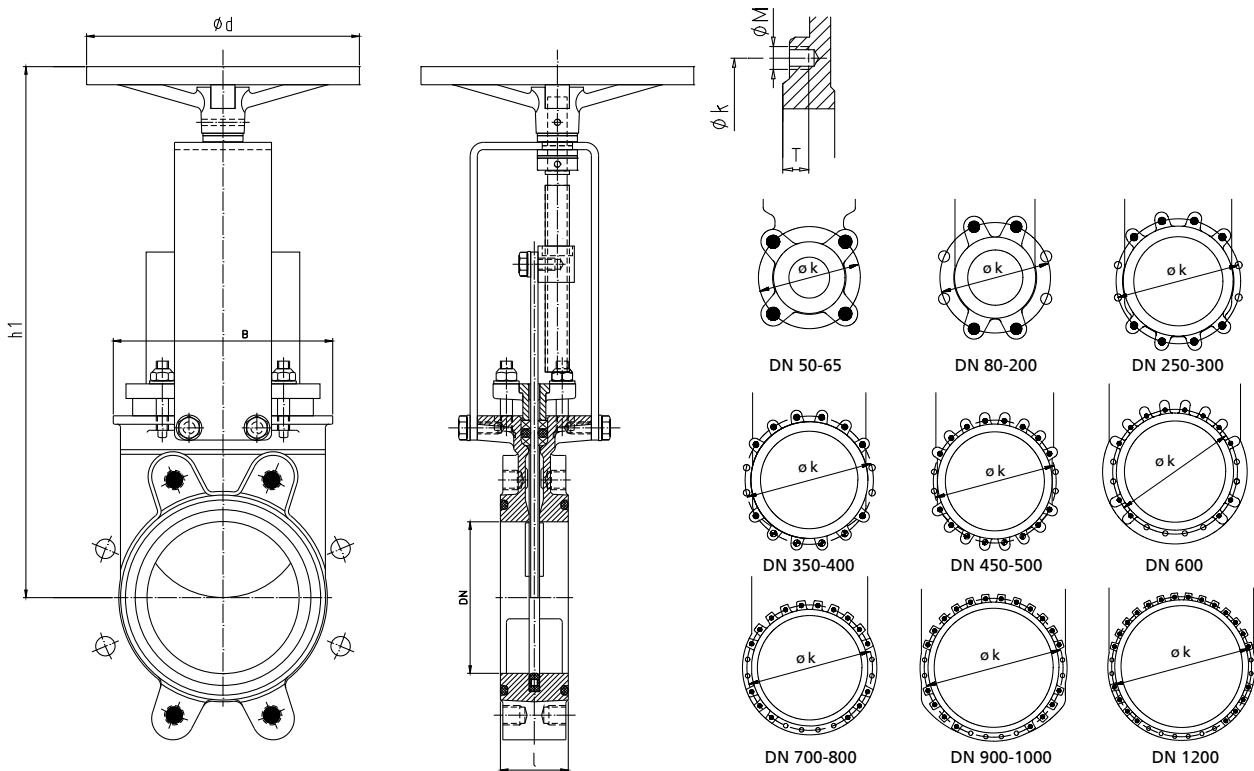


Fig. 1: HERA-BD

Dimensions [mm] and weights [kg]

PN	DN	l	$h_1$	B	$\phi d$	[kg]
10	50	43	311	113	225	8
	65	46	338	128	225	9
	80	46	363	143	225	10
	100	52	404	162	225	12
	125	56	438	181	225	15
	150	56	489	209	225	17
	200	60	594	263	310	30
6	250	68	694	315	310	42
	300	78	784	370	310	60
	350	78	932	420	410	90
5	400	102	1017	478	410	150
	450	114	1119	532	550	185
4	500	127	1219	584	550	224
	600	110	1379	762	550	230
2	700	110	1736	890	800	380
	800	110	1923	1012	800	550
	900	110	2047	1112	800	680
	1000	110	2487	1240	800	800

Dimensions [mm]

PN	DN	$\phi k$	Number of bolt holes z	Bolt size $\phi M$	Blind hole depth T	Number of tapped blind holes $n_1$	Number of clearance holes <sup>2)</sup> $n_2$	Number of tapped holes <sup>3)</sup> $n_3$
10	50	125	4	M16	10	4	0	0
	65	145	4	M16	10	4	0	0
	80	160	8	M16	12	4	4	0
	100	180	8	M16	12	4	4	0
	125	210	8	M16	14	4	4	0
	150	240	8	M20	14	4	4	0
	200	295	8	M20	14	4	4	0
6	250	350	12	M20	18	8	4	0
	300	400	12	M20	21	8	4	0
	350	460	16	M20	21	8	4	4

- 2) Bolts passing along the side of the body  
3) Tapped from both ends, not through-tapped



PN	DN	ø k	Number of bolt holes z	Bolt size ø M	Blind hole depth T	Number of tapped blind holes n <sub>1</sub> <sup>①</sup>	Number of clearance holes <sup>2)</sup> n <sub>2</sub> <sup>②</sup>	Number of tapped holes <sup>3)</sup> n <sub>3</sub> <sup>③</sup>
6	400	515	16	M24	28	8	4	4
5	450	565	20	M24	30	12	4	4
4	500	620	20	M24	40	12	4	4
	600	725	20	M27	26	12	8	0
2	700	840	24	M27	20	16	8	0
	800	950	24	M30	20	16	8	0
	900	1050	28	M30	20	20	8	0
	1000	1160	28	M33	20	20	10	0

### Mating dimensions as per standard

Face-to-face lengths: EN 558-1/20 up to DN 500  
≥ DN 600: see table

Flanges: DIN EN 1092-2

### Other flange designs

- Other flange designs on request

### Installation instructions

HERA BD is bi-directional, i.e. flow may pass the valve in either direction. Installation as dead-end valve at full operating pressure without counterflange is permissible. Observe the maximum operating pressures for the respective nominal sizes. Due to the O-rings integrated into the flange faces no further flange seals are required.







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