

# Knife Gate Valve

## HERA-SH

PN 10/16, Class 150  
DN 50-1000

### Type Series Booklet



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Type Series Booklet HERA-SH

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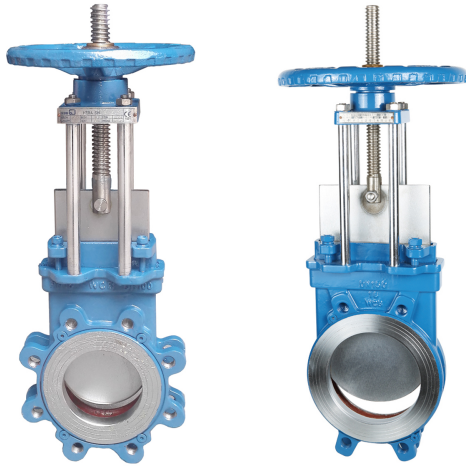
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## Knife Gate Valves

### Uni-directional knife gate valve

## HERA-SH



### Main applications

- Pulp and paper industry
- Waste water treatment plants
- Chemical industry
- Water treatment
- Food industry and beverages industry

### Fluids handled

- Pulp
- Waste water
- Corrosive fluids
- Syrup
- Service water
- Other fluids on request.

### Operating data

#### Operating properties

Characteristic	Value
Nominal pressure	PN 10/16
Nominal pressure	Class 150
Nominal size	DN 50 - 1000
Max. permissible pressure [bar]	10,3
Min. permissible temperature [°C]	-10
Max. permissible temperature [°C]	+180

### 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

- Designed and tested to MSS SP-81
- Pressure/temperature ratings to MSS SP-81
- Single-piece body
- Full-lug body
- Stem sealed by gland packing
- Rising stem
- Outside screw
- Non-rising handwheel
- Uni-directional
- Pillar yoke
- Suitable for mounting electric actuators and gearboxes to DIN ISO 5210
- The valves satisfy the safety requirements of Annex I of the European Pressure Equipment Directive 2014/68/EU (PED) for fluids in Group 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

- Non-rising stem
- Graphite gland packing for high temperatures
- Mounting of electric and pneumatic actuators
- Mounting of gearboxes
- Other material variants
- Larger nominal sizes and other variants on request

#### Product benefits

- In-situ valve maintenance
  - Externally accessible gland packing, so packing rings can be replaced without removing the valve from the piping.
- Long service life
  - 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
  - O-ring-supported self-adjusting flexible seat with high abrasion resistance and long service life.
- Reliable sealing
  - Retaining ring can be adjusted during maintenance work to restore tightness
- Easy actuation
  - Stem nut supported by needle bearing for lower actuating torque and ease of actuation

**Related documents**

Information/documents

Document	Reference number
Type series booklet HERA-BD (knife gate valve, bi-directional)	7328.1
Type series booklet HERA-BDS (knife gate valve, bi-directional)	7332.1
Type series booklet HERA-BHT (knife gate valve, bi-directional)	7330.1
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. Fluid handled
7. Variants
8. Reference number

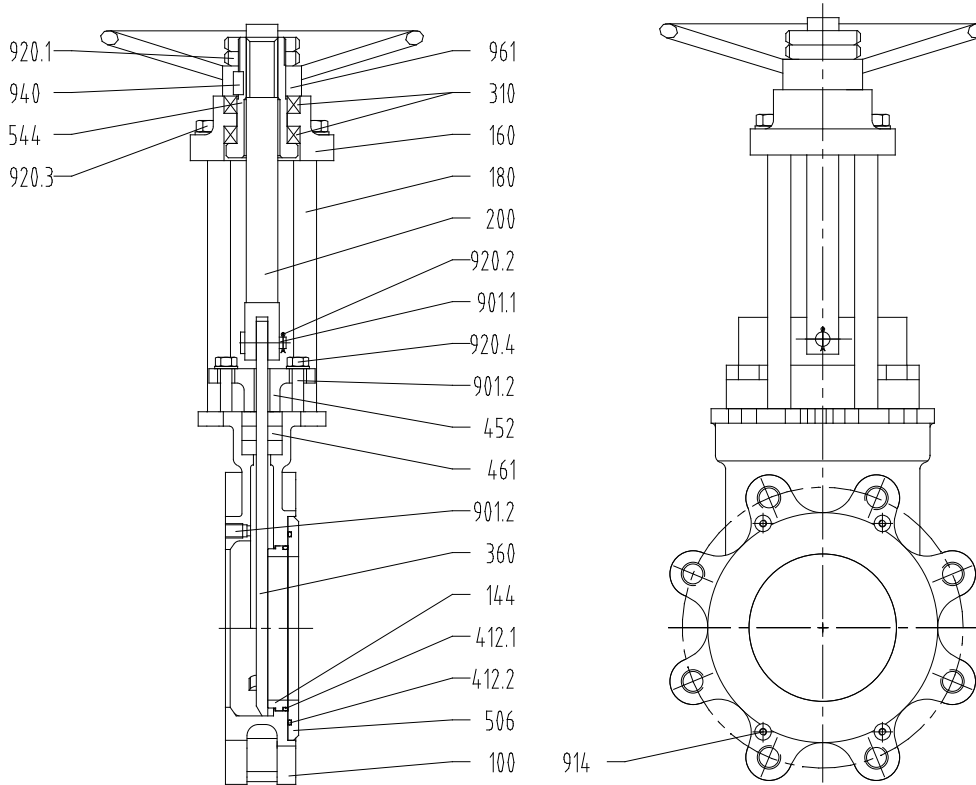
**Pressure/temperature ratings**

Test pressure and operating pressure

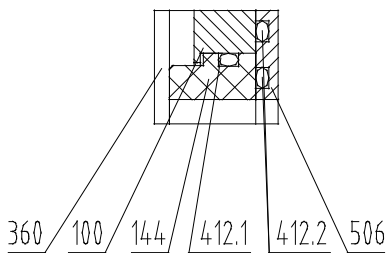
PN	DN	Shell test <sup>1)</sup>	Leak test (seat) <sup>1)</sup>	Permissible operating pressure
		With water		
		[bar]	[bar]	[bar]
10	50-600	15	2,8	10,3
	700-1000	15	2,8	6,9
16	50-600	24	2,8	10,3
	700-1000	24	2,8	6,9
Class 150	50-600	30	2,8	10,3
	700-1000	30	2,8	6,9

1) Test procedure to MSS SP-81

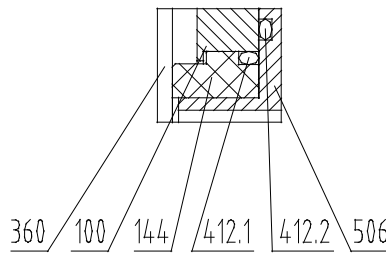
Materials



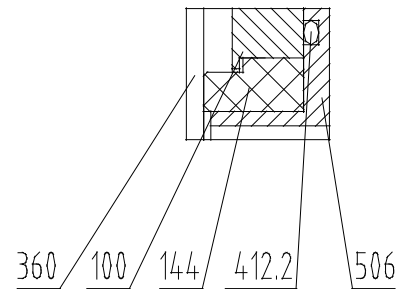
HERA-SH



Metal seat



PTFE seat

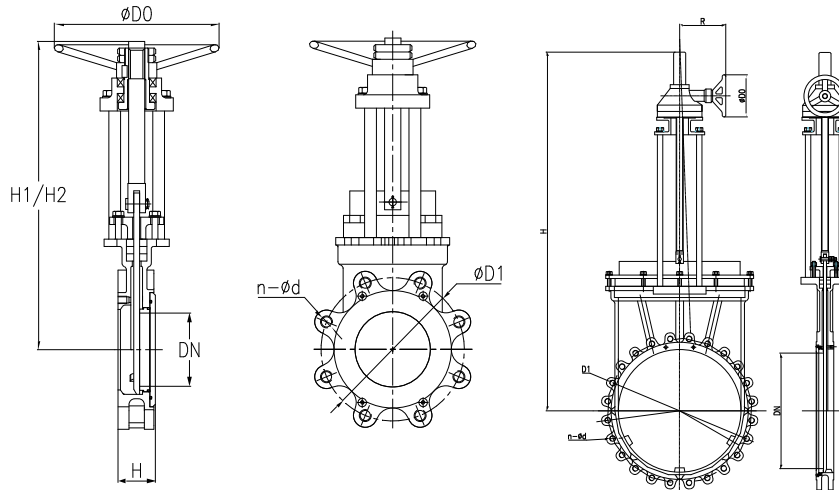


EPDM seat

Parts list

Part No.	Description	Material	Note
100	Body	ASTM A 216 WCB	-
		ASTM A 351 CF8	-
		ASTM A 351 CF8M	-
144	Seat	ASTM A 182 F304	Hard chromium plated for metal-seated design
		ASTM A 182 F316	Hard chromium plated for metal-seated design
		EPDM	-20 °C to +120 °C
		PTFE	-20 °C to +150 °C
160	Cover	Aluminium alloy	-
180	Pillar	ASTM A 182 F304	Body made of A 351 CF8(M)
		C45 + Cr	Body made of A 216 WCB
200	Stem	ASTM A 182 F304	-
310	Plain bearing	GCr6	-
360	Blade	ASTM A 182 F304	Hard chromium plated for metal-seated design
		ASTM A 182 F316	Hard chromium plated for metal-seated design
		ASTM A 276 410	Hard chromium plated
412.1	O-ring	NBR	Standard: -20 °C to +100 °C

Part No.	Description	Material	Note
412.1	O-ring	Viton	Variant: -20 °C to +180 °C
412.2	O-ring	NBR	Standard: -20 °C to +100 °C
		Viton	Variant: -20 °C to +180 °C
452	Gland follower	ASTM A 216 WCB	-
		ASTM A 351 CF8	-
		ASTM A 351 CF8M	-
461	Gland packing	NBR or Viton	-
506	Retaining ring	ASTM A 216 WCB	-
		ASTM A 182 F304	-
		ASTM A 182 F316	-
544	Threaded bush	H59	-
901.1	Bolt	ASTM A 276 304	-
901.2	Bolt	ASTM A 182 F304	-
914	Hexagon socket head cap screw	ASTM A 182 F304	-
920.1	Nut	ASTM A 182 F304	-
920.2	Split pin	ASTM A 182 F304	-
920.3	Nut	ASTM A 182 F304	-
920.4	Nut	ASTM A 182 F304	-
940	Key	C45	-
961	Handwheel	D-2	-

**Dimensions and weights**


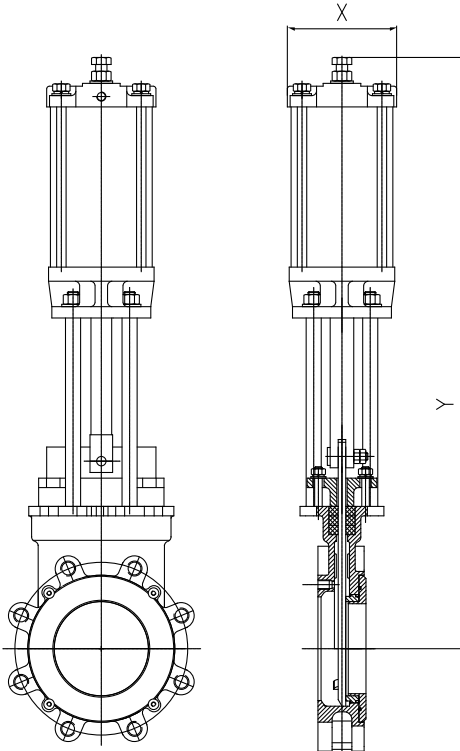
HERA-SH with handwheel or gearbox

**Dimensions [mm] and weights [kg]**

PN	DN	L	H1	H2	H	D0	R	D1	Bolt hole ID d	Number of clearance holes n	Bolt size	[kg]
10	50	48	330	390	-	200	-	125	18	4	M16	10
	65	48	360	435	-	200	-	145	18	4	M16	11
	80	51	390	485	-	220	-	160	18	8	M16	13,5
	100	51	430	545	-	220	-	180	18	8	M16	15,5
	125	57	475	615	-	250	-	210	18	8	M16	23,5
	150	57	510	675	-	280	-	240	22	8	M20	29
	200	70	620	835	-	315	-	295	22	8	M20	43
	250	70	765	1015	-	355	-	350	22	12	M20	67,5
	300	76	850	1170	-	400	-	400	22	12	M20	100,5
	350	76	970	1320	-	450	-	460	22	16	M20	126
	400	89	1060	1469	-	500	-	515	26	16	M24	176,2
	450	89	-	-	1780	460	340	565	26	20	M24	195
	500	114	-	-	1920	460	340	620	26	20	M24	236
	600	114	-	-	2175	460	340	725	30	20	M27	380
	700	117	-	-	2535	460	340	840	30	24	M27	540
	800	117	-	-	2845	530	420	950	33	24	M30	685
900	130	-	-	3270	530	420	1050	33	28	M30	967	
1000	156	-	-	3600	530	420	1160	33	28	M30	1200	
16	50	48	330	390	-	200	-	125	18	4	M16	10
	65	48	360	435	-	200	-	145	18	4	M16	11
	80	51	390	485	-	220	-	160	18	8	M16	13,5
	100	51	430	545	-	220	-	180	18	8	M16	15,5
	125	57	475	615	-	250	-	210	18	8	M16	23,5
	150	57	510	675	-	280	-	240	22	8	M20	29
	200	70	620	835	-	315	-	295	22	12	M20	43,5
	250	70	765	1015	-	355	-	355	26	12	M24	68
	300	76	850	1170	-	400	-	410	26	12	M24	101
	350	76	970	1320	-	450	-	470	26	16	M24	127
	400	89	1060	1469	-	500	-	525	30	16	M27	177
	450	89	-	-	1780	460	340	585	30	20	M27	195
	500	114	-	-	1920	460	340	650	33	20	M30	236
	600	114	-	-	2175	460	340	770	36	20	M33	380
	700	117	-	-	2535	460	340	840	36	24	M33	540
	800	117	-	-	2845	530	420	950	39	24	M36	685
900	130	-	-	3270	530	420	1050	39	28	M36	967	
1000	156	-	-	3600	530	420	1170	42	28	M39	1200	
Class 150	2"	48	330	390	-	200	-	120,5	19	4	5/8"-11UNC	10
	2,5"	48	360	435	-	200	-	139,5	19	4	5/8"-11UNC	11
	3"	51	390	485	-	220	-	152,5	19	4	5/8"-11UNC	13,5
	4"	51	430	545	-	220	-	190,5	19	8	5/8"-11UNC	15,5
	5"	57	475	615	-	250	-	216	22,4	8	3/4"-10UNC	23,5
	6"	57	510	675	-	280	-	241,5	22,4	8	3/4"-10UNC	29
	8"	70	620	835	-	315	-	298,5	22,4	8	3/4"-10UNC	43,5
	10"	70	765	1015	-	355	-	362	25,4	12	7/8"-9UNC	68



PN	DN	L	H1	H2	H	D0	R	D1	Bolt hole ID d	Number of clearance holes n	Bolt size	[kg]
Class 150	12"	76	850	1170	-	400	-	432	25,4	12	7/8"-9UNC	101
	14"	76	970	1320	-	450	-	476	28,4	12	1"-8UNC	127
	16"	89	1060	1460	-	500	-	540	28,4	16	1"-8UNC	177
	18"	89	-	-	1780	460	340	578	31,8	16	1 1/8"-7UNC	195
	20"	114	-	-	1920	460	340	635	31,8	20	1 1/8"-7UNC	236
	24"	114	-	-	2175	460	340	749	35	20	1 1/4"-7UNC	380
	28"	117	-	-	2535	460	340	864	35	28	1 1/4"-7UNC	540
	32"	117	-	-	2845	530	420	978	41,2	28	1 1/2"-6UNC	685
	36"	130	-	-	3270	530	420	1086	41,2	32	1 1/2"-6UNC	967
	40"	156	-	-	3600	530	420	1200	41,2	36	1 1/2"-6UNC	1200



HERA-SH with pneumatic actuator

## Dimensions [mm] and weights [kg]

PN	DN	Pneumatic actuator type (double-acting)	X	Y	[kg]
10 16 Class 150	50	KZSL-100	120	490	14
	65	KZSL-100	120	520	16,5
	80	KZSL-100	120	590	19,5
	100	KZSL-100	120	650	22
	125	KZSL-125	145	715	32
	150	KZSL-125	145	790	38,5
	200	KZSL-160	180	1040	65
	250	KZSL-200	240	1225	95,5
	300	KZSL-250	290	1390	152
	350	KZSL-300	350	1650	240
	400	KZSL-300	350	1820	282
	450	KZSL-350	400	2015	398
	500	KZSL-350	400	2185	470
	600	KZSL-400	450	2380	698
	700	KZSL-500	550	2770	884
800	KZSL-600	650	3040	1180	
900	KZSL-600	680	3500	1500	
1000	KZSL-600	680	3900	1750	

 Face-to-face lengths: MSS SP-81  
 Flanges: DIN 2501 (PN 10/16)  
 ASME B16.5 (Class 150)







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