

HILTON H-200-B BONNETED KNIFE GATE VALVES



- **Standard Designs to 96" (2400mm)**
- **Custom Designs to 144" (3600mm)**

Made in the U.S.A.

Hilton Technology, Standard Designs, Rugged Construction

Fabricated Construction for Design Versatility & Quick Turnaround

Hilton standard design Bonneted Knife Gate Valves provide performance, economy and rugged construction for a broad range of water and industrial applications including Water, Wastewater, Paper, Mining, Power and Hydro Dams.

The use of readily available plate steel and alloy materials allows faster manufacturing turn-around as compared to cast valves. In larger sizes, fabricated construction expands knife gate manufacturing capability beyond the practical range of cast valves. Special application configurations can be added to standard fabricated valves at lower cost, and materials of construction can be varied within the design adding further versatility.

A leader in fabricated valve technology, Hilton offers H-200-B Standard Knife Gate Valves in sizes 2" to 96".

Standard Pressure Ratings

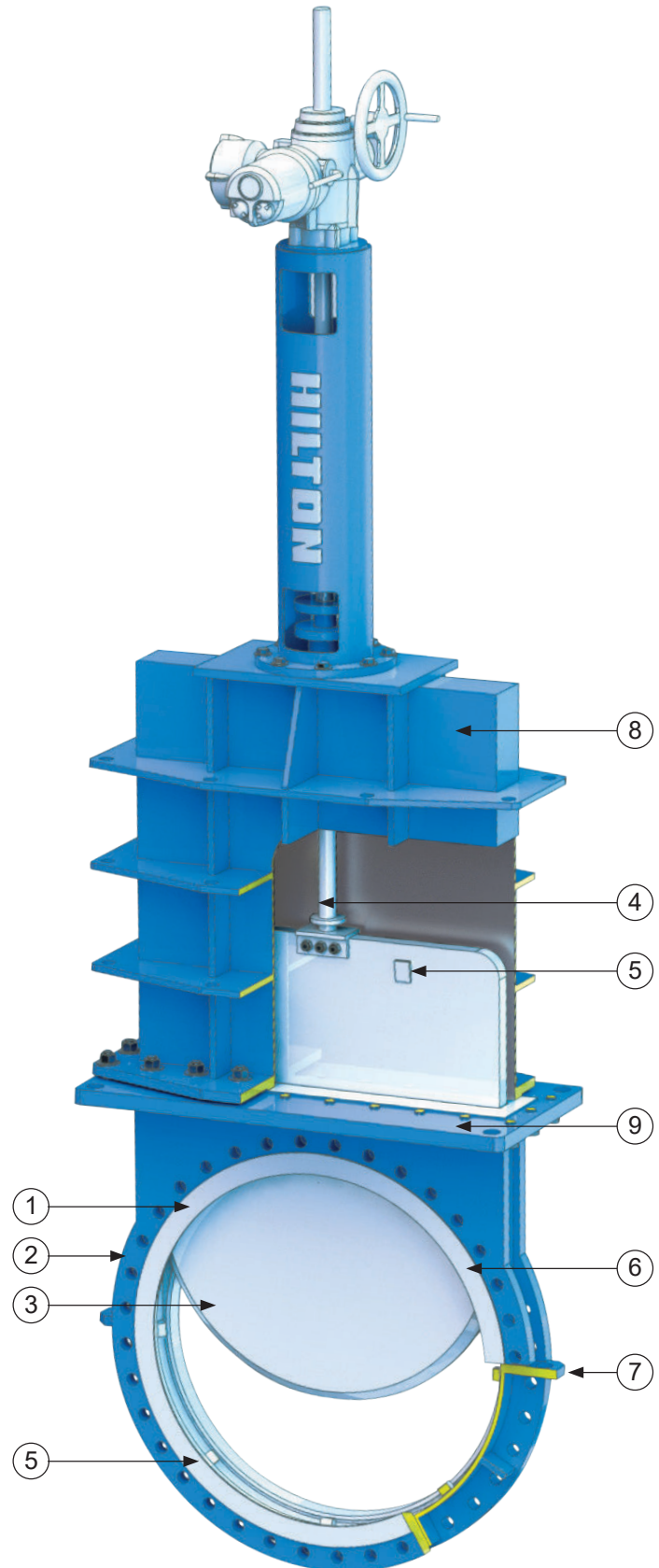
Standard pressure rating is 150 psi in sizes 2-24" and 50 psi in sizes 30-96". All valve components are designed to specified pressure rating requirements. This provides the most cost-effective valve for lower pressure applications with the option of higher pressure capability where needed. Alternate designs are available to meet higher pressure requirements. Hilton custom fabricated valves are available to 144" and with higher pressures and temperature capabilities to meet particular application requirements.

1. Corrosion Resistant Wetted Parts

Standard valve design provides fully welded wetted parts of 304 stainless steel. Optional designs can provide wetted parts of 316 stainless steel or any weldable alloy to meet specific application requirements. Valves can also be supplied in all-stainless or solid alloy construction.

2. Structural Steel Body Construction

Structural carbon steel construction provides maximum strength. The use of steel on non-wetted parts adds to overall design economy. Special purpose coatings are available for corrosion resistance. Valves of all-stainless or solid alloy construction are also available.



3. High Strength Machine-Finished Gate

The ground and polished gate finish assures long seat life and shutoff at full rated pressure. Finish is a minimum of 32 micro-inch R.M.S. The uni-directional beveled knife leading edge pushes aside or cuts through solids for positive seating and shutoff.

4. Heavy Duty Stem Components

Stainless steel Acme thread stems provide maximum torque and lift with faster opening and closing operation. Acid resisting bronze stem nuts provide strength and assure smooth operation. Heavy duty, one-piece stem clevis and bolting are engineered to valve size and pressure rating. These are all standard components on the Hilton Knife Gate Valve.

5. Gate Guides & Wedges for Assured Alignment & Closure

Gate guides are integral to the upper and lower port area to assure full gate support and alignment as the valve opens and closes. Gate wedges in both the upper and lower port area hold the gate against the seat to assure positive seating and shutoff. Only bonneted valves allow for upper gate wedges since there is no gate packing to pull through. This allows for full wedging on all sides for a tighter seal.

6. Raised Face Flanges

Standard flanges have a raised face and spiral serrated finish for best gasket sealing and mating with pipeline flange. Flanges are drilled as standard to ASME and AWWA. International standards including DIN, British, Australian, JIS and other/special requirements available.

7. Lifting Lugs

Lifting lugs are provided as a standard on both the body and bonnet for easy unloading and installation. The body includes tabs on centerline of port and each bonnet stiffener contains holes in all four corners.

Bonnet Design and Construction

Bonnets Provide Media Containment and Superior Packing Seal at Full Rated Pressure

Bonneted Valves provide positive media containment and control of fugitive emissions. The bonnet adds operating safety by fully enclosing the moving gate.

8. Pressure Retaining Enclosure

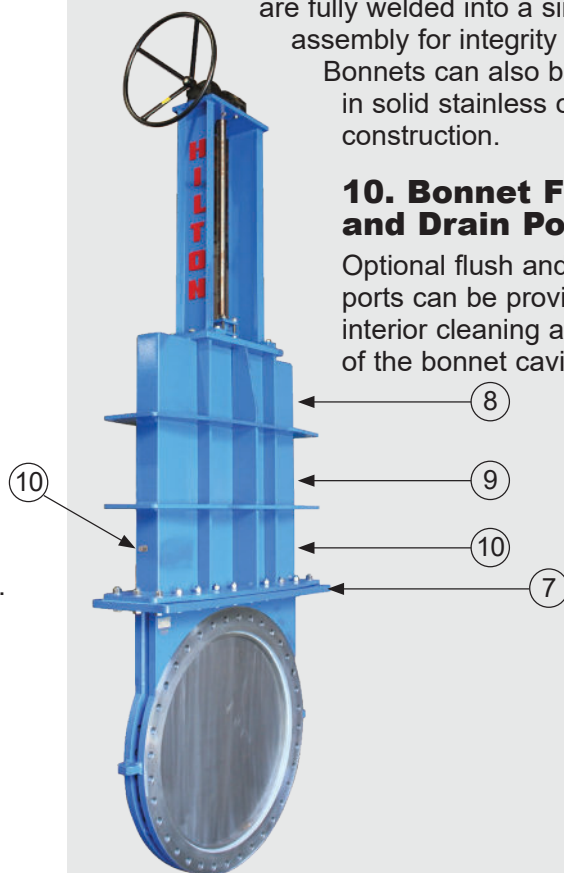
Bonnets are designed as an integral part of the valve and are rated to the full pressure rating of the valve.

9. Stainless Steel Bonnet Construction with Carbon Steel Exterior Stiffeners

Dual materials in the bonnet construction provide 304 stainless steel wetted parts for corrosion resistance with carbon steel bonnet flanges and stiffeners for maximum strength. The result is maximum performance plus economy. All bonnet components are fully welded into a single assembly for integrity and rigidity. Bonnets can also be supplied in solid stainless or alloy construction.

10. Bonnet Flush and Drain Ports

Optional flush and drain ports can be provided for interior cleaning and flushing of the bonnet cavity.



Stem Seal Design with Back Seating Seal Ring

Packing System Provides Superior Sealing

The bonneted valve top mounted packing system provides the most effective seal design for Knife Gate Valves. The packing in the packing gland seals against the valve stem.

Locating the packing gland on the top of the bonnet minimizes the area to be sealed and allows external access to the packing for adjustment or replacement under system pressure without valve or actuator disassembly. Sealing around the smooth stem circumference avoids the wear and difficulty of sealing square corners around the gate as in bonnetless valves. The packing area is smaller, making the seal easier to achieve and maintain.

Stacked Packing Design

The stacked packing design includes multiple rings of square braided packing, ideally suited for frequent valve operation and to provide the most reliable and long-life seal. Standard packing is PTFE impregnated synthetic fiber with other packing materials available on request. The packing follower is readily accessible and provides easy adjustment to further assure packing seal and long packing life.

Efficient Stem Seal Packing

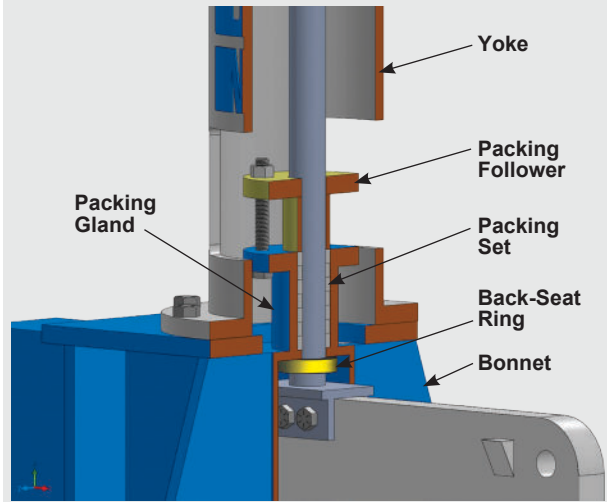
Stem seal packing provides the most effective media containment, reduces packing loads, allows the use of smaller sized operators, and reduces fugitive emissions.

Valve Repackable Under Pressure

Packing can be replaced without valve disassembly and with the valve in the pipeline and under pressure. Maintenance is reduced and downtime is avoided.

Back-Seat Ring

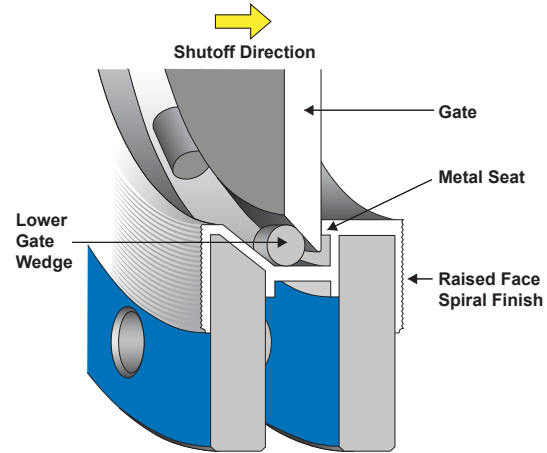
A back-seat ring on the stem seals against the packing gland in the top of the valve bonnet with the gate in the full open position. This allows the stem packing to be replaced with the valve in the line and under pressure without bonnet disassembly.



Metal & Resilient Seat Options

Metal Seats for Maximum Durability

Solid metal seats provide maximum durability and service reliability ruggedness on tough applications. Tapered inlet design provides a relief to keep solids in suspension as the gate closes. Shutoff on metal seated valves meets MSS SP-81 specifications.

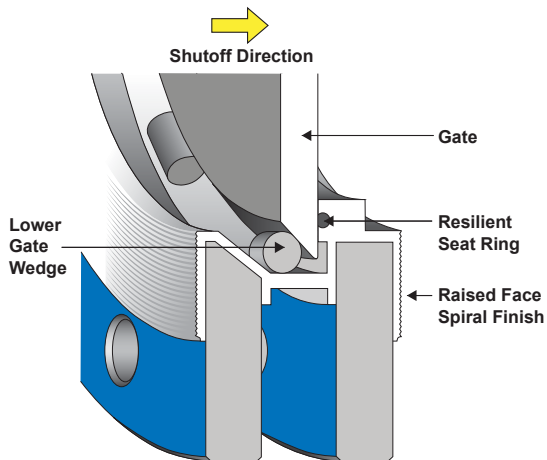


Resilient Seats for Tight Shutoff

Optional resilient seats provide drip tight shutoff. The resilient seat is installed in a self-retaining groove cut into the stainless steel seat ring by a modified dovetail design which holds the sealing surface in place without the use of fasteners or adhesives. Seat rings can be replaced without removing the valve from the pipeline with no special tools. Standard resilient seat material is fluoroelastomer in a 304 stainless steel ring. Other resilient materials available upon request.

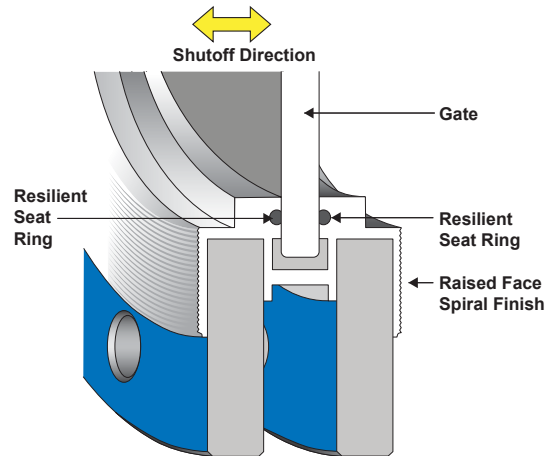
Uni-Directional Resilient Seats

Uni-Directional Resilient seated valves provide drip tight shutoff by utilizing gate wedges and system pressure to push the gate into the seat.



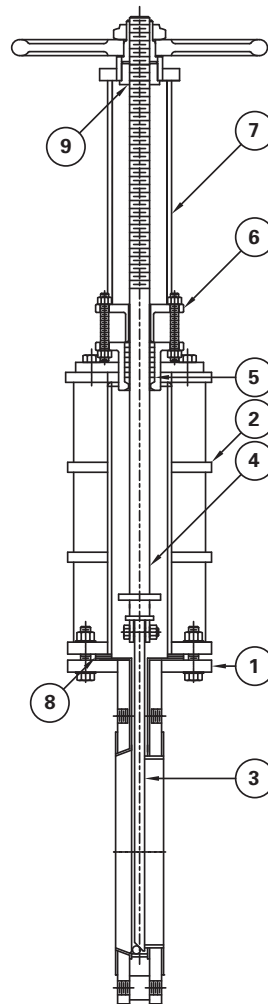
Bi-Directional Resilient Seats

Bi-Directional Resilient Seats are an option that provides drip-tight shutoff with pressure in either direction.

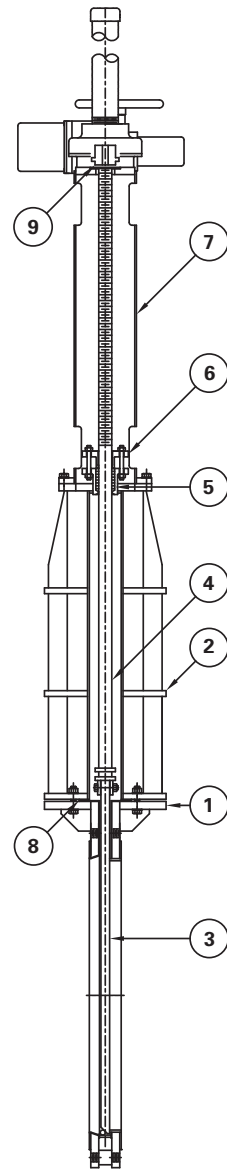


Materials of Construction

Item	Description	Material
1	Body	Carbon Steel / Stainless Steel
2	Bonnet	Carbon Steel / Stainless Steel
3	Gate	Stainless Steel
4	Stem	Stainless Steel
5	Packing Set	PTFE / Synthetic Fiber
6	Packing Follower	Stainless Steel
7	Yoke	Carbon Steel
8	Bonnet Gasket	Synthetic Fiber
9	Stem Nut	Bronze



2-24"



30" and Larger

Valve Selection Shut-Off Capabilities

Resilient Seats	Leak tight/drip tight
Metal Seats	Meet MSS-SP81 and TAPPI TIS 405-8

Pressure Ratings*

2-24" 50-600mm	150 psi CWP 1030 kPa
30-96" 750-2400mm	50 psi CWP 340 kPa
to 144" to 3600mm	As Specified

*Additional Pressure Ratings Available

Temperature Ratings**

2-96" 50-2400mm	400° F 204° C
to 144" 3600mm	As Specified

** Additional temperature ratings are available. The limiting factor in valve selection is the lowest temperature of the packing or seat.

Valve Selection

Valve Weights Bonneted Valves

Valve Size	Valve with Handwheel	Valve Size	Valve with Handwheel
2"	50	30"	2500
50mm	23	750mm	1135
3"	65	36"	3400
80mm	30	900mm	1543
4"	85	42"	4700
100mm	39	1100mm	2133
6"	135	48"	6300
150mm	62	1200mm	2859
8"	215	54"	8100
200mm	98	1400mm	3676
10"	320	60"	10200
250mm	146	1500mm	4628
12"	445	66"	12500
300mm	202	1700mm	5672
14"	575	72"	14800
350mm	261	1800mm	6716
16"	735	78"	17400
400mm	334	2000mm	7895
18"	900	84"	20300
450mm	409	2100mm	9211
20"	1110	90"	23700
500mm	504	2300mm	10754
24"	1650	96"	28400
600mm	749	2400mm	12886
		to 144"	Contact Factory
		3600mm	

Pounds
Kilograms

Flow Parameters

Valve Size	Metal Seated		Resilient Seated	
	Cv	Port Area in ²	Cv	Port Area in ²
2"	250	3.1	250	3.1
3"	570	7.1	570	7.1
4"	1,050	12.6	1,050	12.6
6"	2,460	28.3	2,460	28.3
8"	4,510	50.3	3,700	41.3
10"	7,200	78.5	5,830	63.6
12"	10,700	113.1	8,920	95.0
14"	14,700	153.9	12,200	127.7
16"	19,200	201.1	15,700	165.1
18"	24,200	254.5	20,400	213.8
20"	30,300	314.2	25,900	268.8
22"	36,600	380.1	31,800	330.1
24"	44,100	452.4	38,800	397.6
30"	69,900	706.9	60,900	615.8
36"	102,000	1017.9	91,000	907.9
42"	139,000	1385.4	126,000	1256.6
48"	182,000	1809.6	167,000	1661.9
54"	230,000	2290.2	213,000	2123.7
60"	284,000	2827.4	265,000	2642.1
66"	343,000	3421.2	323,000	3217.0
72"	408,000	4071.5	386,000	3848.5
78"	479,000	4778.4	455,000	4536.5
84"	555,000	5541.8	529,000	5281.0
90"	638,000	6361.7	603,000	6013.2
96"	725,000	7238.2	688,000	6866.1
to 144"	Contact Factory			

Cv = Flow in GPM of water at 1 psi pressure drop.

Ordering

To order, simply complete the valve order code from information shown. An ordering example is shown for your reference.

Valve Brand Give valve brand code as follows: H = Hilton

Options Give options code as follows: B = Bonnet

Valve Type Give valve type code as follows: 2 = Knife Gate Valve
Body Style Give body style code as follows: 0 = Wafer Body - Lugged 4 = Extended Flange 6 = Extended Flange - ANSI
Seat Type Give seat type code as follows: 0 = Metal 1 = Resilient, Uni-Directional 2 = Resilient, Bi-directional

Pressure Rating Give options code as follows: 5C = 50 psi CWP 15C = 150 psi CWP

Materials of Construction Give options code as follows: T304 = Carbon Steel Construction with Type 304 Stainless Steel wetted parts as standard ST304 = Solid Type 304 Stainless Steel Construction

Ordering Example:
H-200-B15C-T304

Contact DeZURIK for information on ordering additional options, surfacing and coatings.

Dimensions

H-200B Bonneted Knife Gate Valves

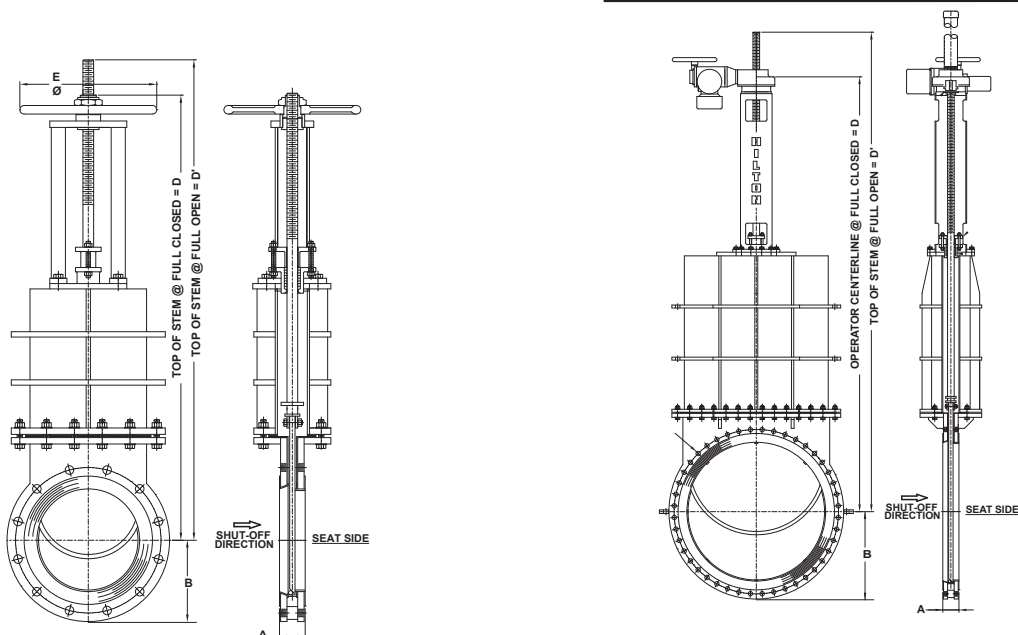
2-24" (50-600mm) Valves

Valve Size	A	B	D	D'	E
2"	1.88	3.00	20.50	23.50	8.00
50mm	48	76	521	597	203
3"	2.00	3.75	23.50	27.50	10.00
80mm	51	95	597	699	254
4"	2.00	4.50	27.00	32.00	10.00
100mm	51	114	686	813	254
6"	2.25	5.50	32.50	39.50	12.00
150mm	57	140	826	1003	305
8"	2.75	6.75	38.50	47.50	14.00
200mm	70	171	978	1207	356
10"	2.75	8.00	44.00	55.00	14.00
250mm	70	203	1118	1397	356
12"	3.00	9.50	50.50	63.50	16.00
300mm	76	241	1283	1613	406
14"	3.00	10.50	56.50	71.50	18.00
350mm	76	267	1435	1816	457
16"	3.50	11.75	63.00	80.00	18.00
400mm	89	298	1600	2032	457
18"	3.50	12.50	69.50	88.50	24.00
450mm	89	318	1765	2248	610
20"	4.50	13.75	75.50	96.50	24.00
500mm	114	349	1918	2451	610
24"	4.50	16.00	89.50	114.50	24.00
600mm	114	406	2273	2908	610

Inches
Millimeters

30-144" (750-3600mm) Valves

Valve Size	A	B	D	D'
30"	4.50	19.38	101.00	132.00
750mm	114	492	2565	3353
36"	5.00	23.00	115.00	152.00
900mm	127	584	2921	3861
42"	5.00	26.50	130.00	173.00
1100mm	127	673	3302	4394
48"	5.50	29.75	148.00	197.00
1200mm	140	756	3759	5004
54"	7.00	33.13	166.00	221.00
1400mm	178	841	4216	5613
60"	7.50	36.50	184.00	245.00
1500mm	191	927	4674	6223
66"	8.00	40.00	202.00	269.00
1700mm	203	1016	5131	6833
72"	8.50	43.25	220.00	293.00
1800mm	216	1099	5588	7442
78"	9.00	46.50	239.00	318.00
2000mm	229	1181	6071	8077
84"	9.00	49.88	258.00	343.00
2100mm	229	1267	6553	8712
90"	9.50	53.25	278.00	369.00
2300mm	241	1353	7061	9373
96"	10.00	56.63	298.00	395.00
2400mm	254	1438	7569	10033
to 144"	Contact Factory			
3600mm				



Sales and Service

For information about our worldwide locations, approvals, certifications and local representative:

Web Site: DeZURIK.com E-Mail: info@dezurik.com

Hilton Valve Direct Line: 425-883-7000



250 Riverside Ave. N. Sartell, Minnesota 56377 • Phone: 320-259-2000 • Fax: 320-259-2227

DeZURIK, Inc. reserves the right to incorporate our latest design and material changes without notice or obligation. Design features, materials of construction and dimensional data, as described in this bulletin, are provided for your information only and should not be relied upon unless confirmed in writing by DeZURIK, Inc. Certified drawings are available upon request.