

RAYDO® High quality anti-abrasive valve

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Perfect solution
for slurry isolation

SKGV
Slurry Knife Gate Valves

**Perfect solution
for slurry isolation**





COMPANY PROFILE

Raydo Machinery founded in 2008, committed to help our customers to serving severe conveying applications such as mineral slurry, wastewater and powder pneumatic conveying.

Raydo has been striving to be one of the best suppliers in abrasive & corrosive industries.

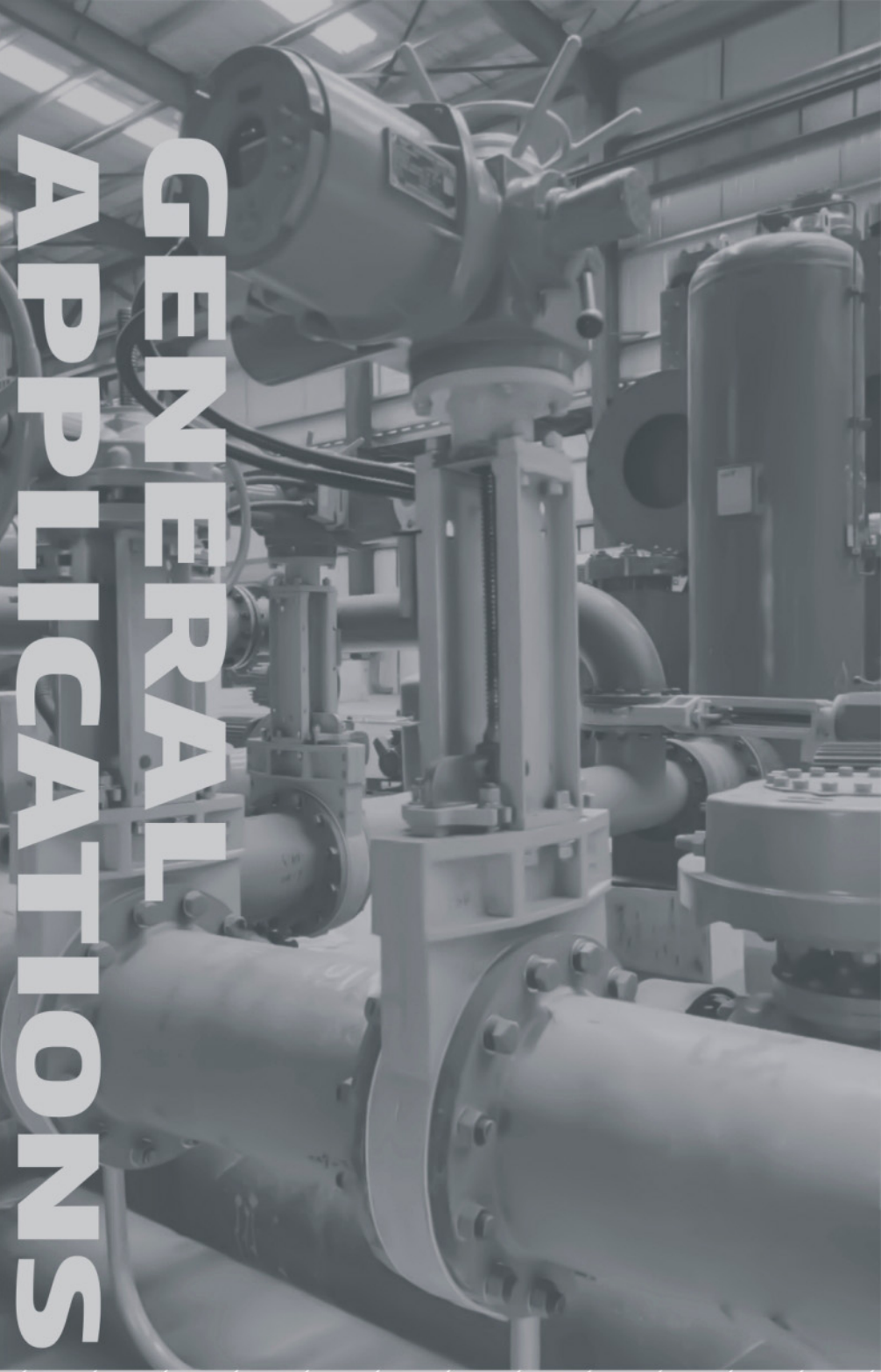
Through years of field application experience, research and development, Raydo has designed products that are reliable in severe applications. We have earned a reputation for excellence by creating products of superior value and quality, providing personalized customer service and stringent on-time deliveries. Our success has always been the direct result of our integrity and responsibility to our customers.

Raydo manufacturing facilities are certified to ISO 9001 quality standards, assuring product quality, precision manufacturing and internal process integrity.



RAYDO

MACHINERY



GENERAL APPLICATIONS

Mining Industry
Water treatment
Power stations
Powder pneumatic conveying

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Perfect solution for slurry isolation

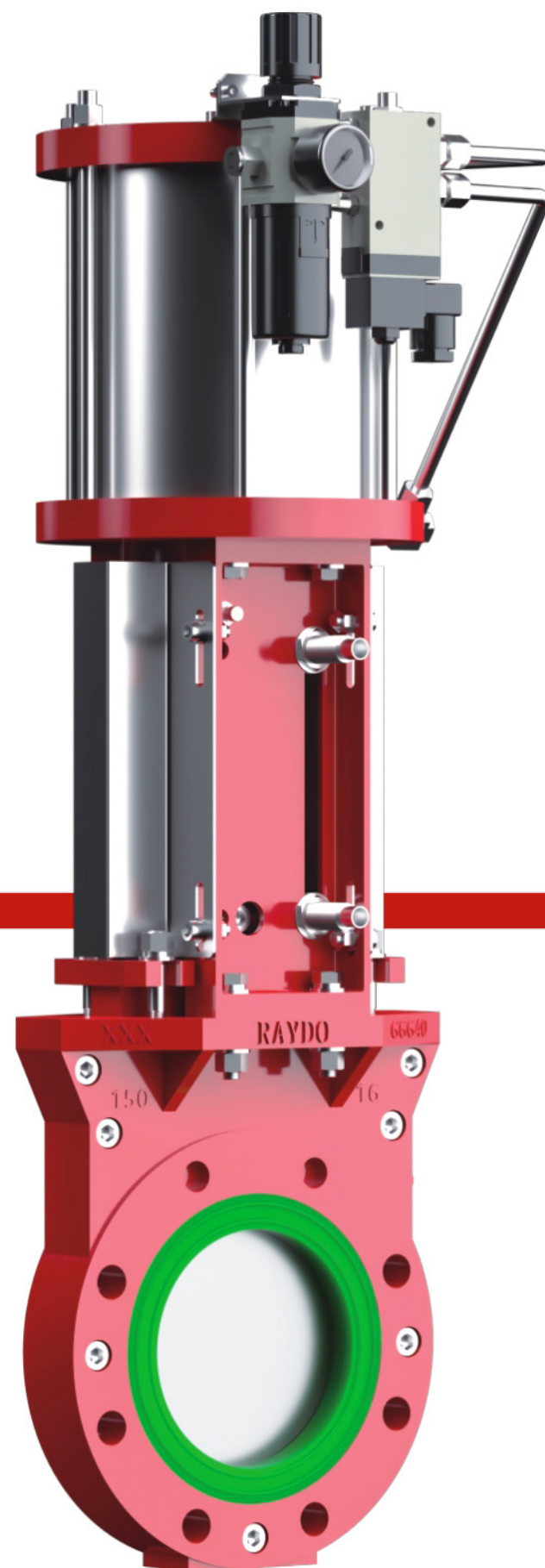


SKGV-11

Series

Slurry Knife Gate Valves

One-piece Replaceable PU lined
Slurry Knife Gate Valve



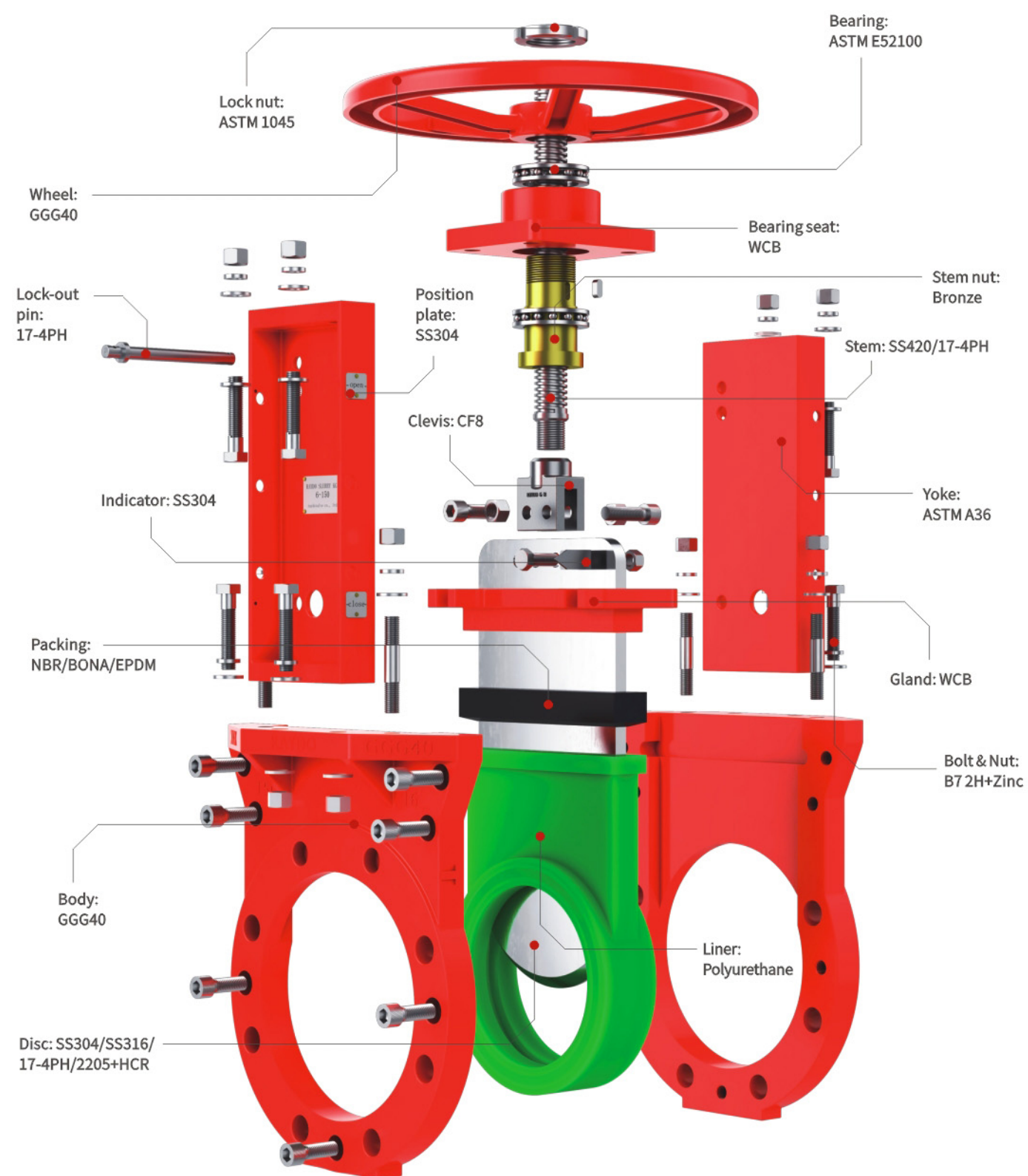
Product Overview

The SGKV-11 series one-piece replaceable PU lined knife gate valve features a full-polyurethane wear-resistant structure, significantly enhancing the service life and sealing performance of the slurry valve.

- Patent No.:
ZL 2017 2 1753543.6
- According to:
MSS SP-81 JB/T 8691-2013
- Application:
Mineral processing,
waste water,
pneumatic conveying...
- Temp.:
-40~80°C
- Rated Pressure:
2-24" 150Psi
30-36" 100Psi

Product Characteristics

- Polyurethane, when submerged, has wear resistance 8 times that of hard alloys, 7 times that of natural rubber, and 3 times that of ultra-high molecular polyethylene.
- Polyurethane offers excellent wear life to abrasive particles, absorbing the impact of particles with its elasticity and superior mechanical properties, and minimizing wear.
- Polyurethane materials are versatile, suitable for various media conditions. We standardly use BASF TDI-type polyurethane from Germany, known for its excellent wear-resistant performance.

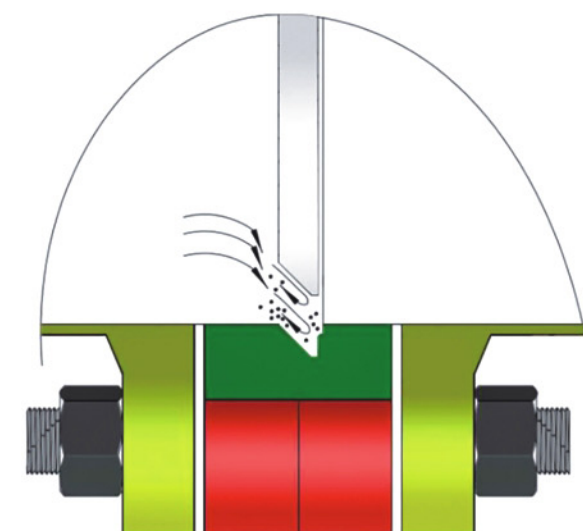


Features

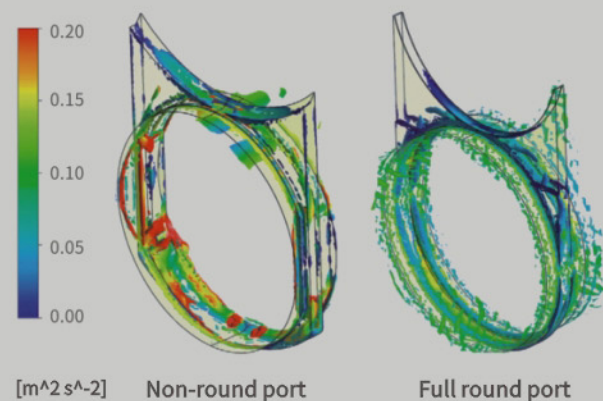


- The wetted parts are fully lined with wear-resistant polyurethane, preventing the medium from fushing the metal valve bodies, which significantly extending the wear life of the valve.
- Full bore design, eliminating turbulence, protecting valve and down stream pipe.
- When valve fully opened, the disc withdraws back to the cavity, avoiding direct contact with the medium, which effectively extends the lifespan of the disc.

- When the valve is shutting off, the beveled edge of the disc generates high velocity turbulence that sweeps out the deposition from the seat, ensuring 100% zero leakage of every circle.



Turbulence kinetic energy comparison



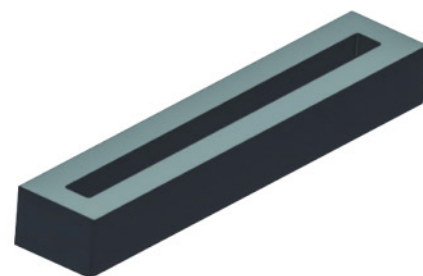
· The round, full-bore, no-turbulence flow path structure minimizes the generation of fluid turbulence. When the valve is used for abrasive media, reduced bore or non-circular structure which is prone to turbulence can significantly accelerate valve wear. This is why our wear-resistant valves always adhere to a round full-bore design.



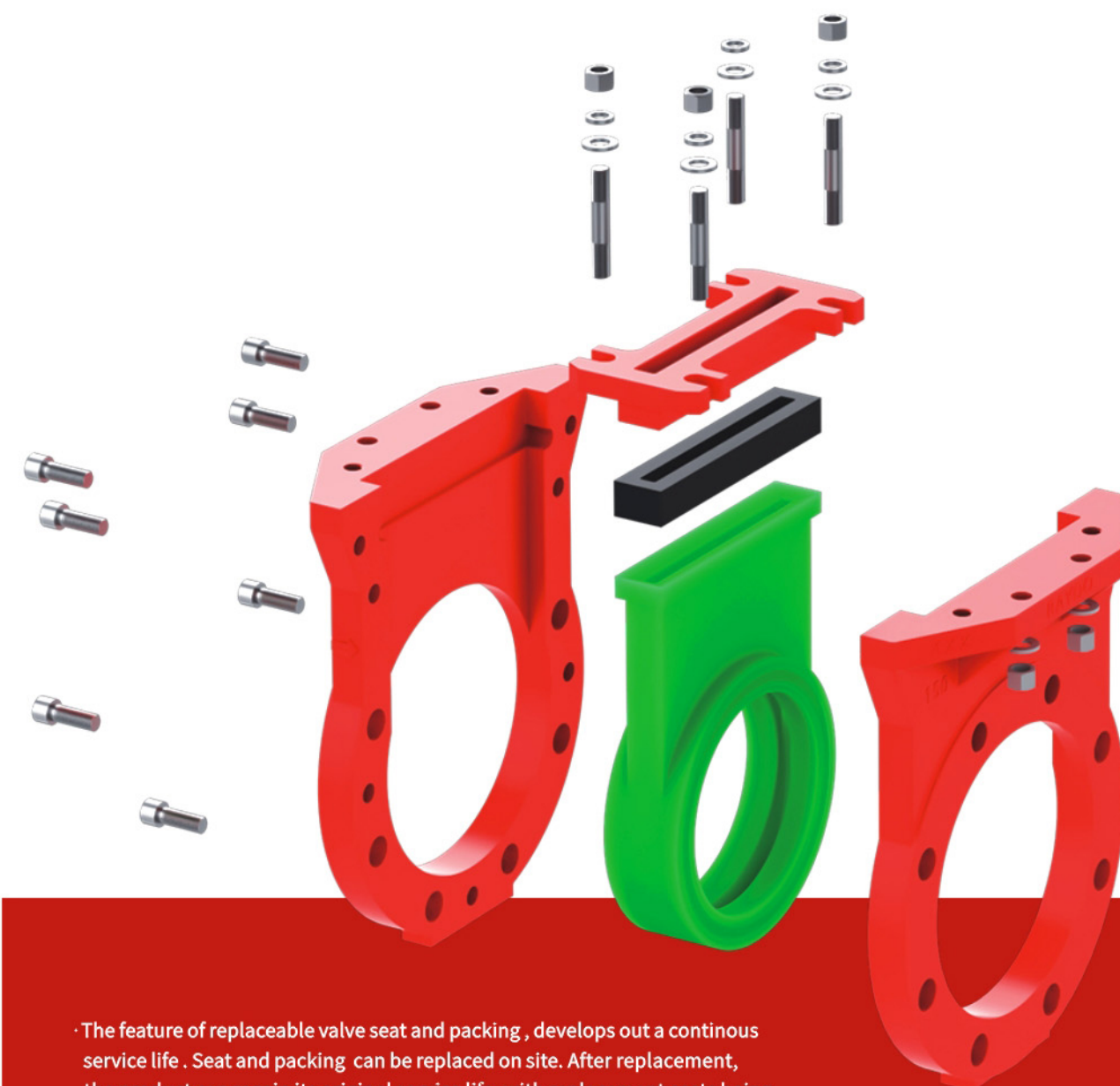
· The liner is equipped with self-cleaning scrapers, which remove attached slurry from the disc surface during valve circling, preventing surface buildup that could cause increased torque or jamming.



· The robust stainless steel valve disc is surface ground, polished, and hardened for enhanced durability.



· The integrated top-seal is made of high-elasticity rubber. It tightly impact to the valve liner, providing better sealing, longer lifespan, and easier maintenance as well.

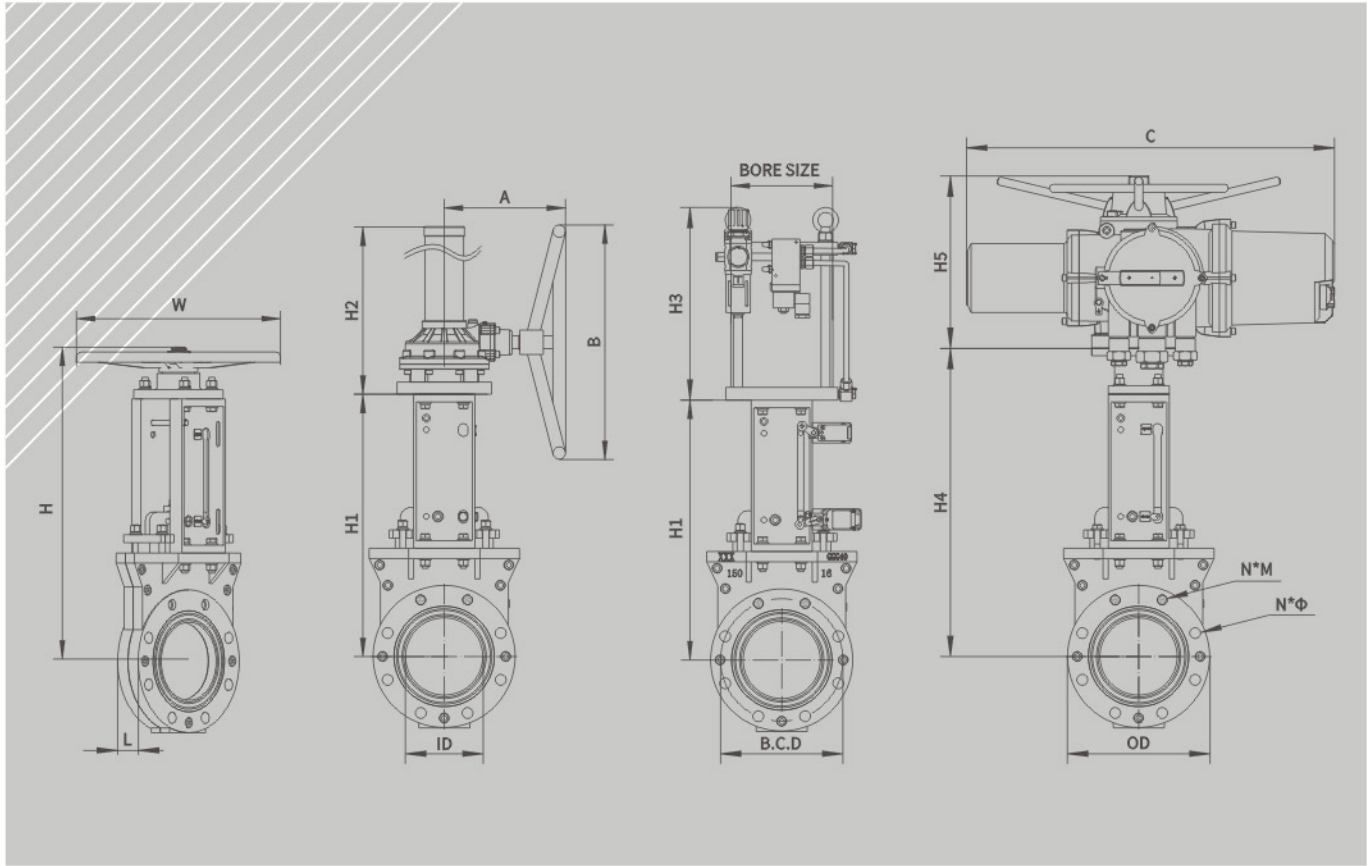


· The feature of replaceable valve seat and packing, develops out a continuous service life. Seat and packing can be replaced on site. After replacement, the product can regain its original service life, with replacement costs being only 20-30% of the total cost of a new unit.

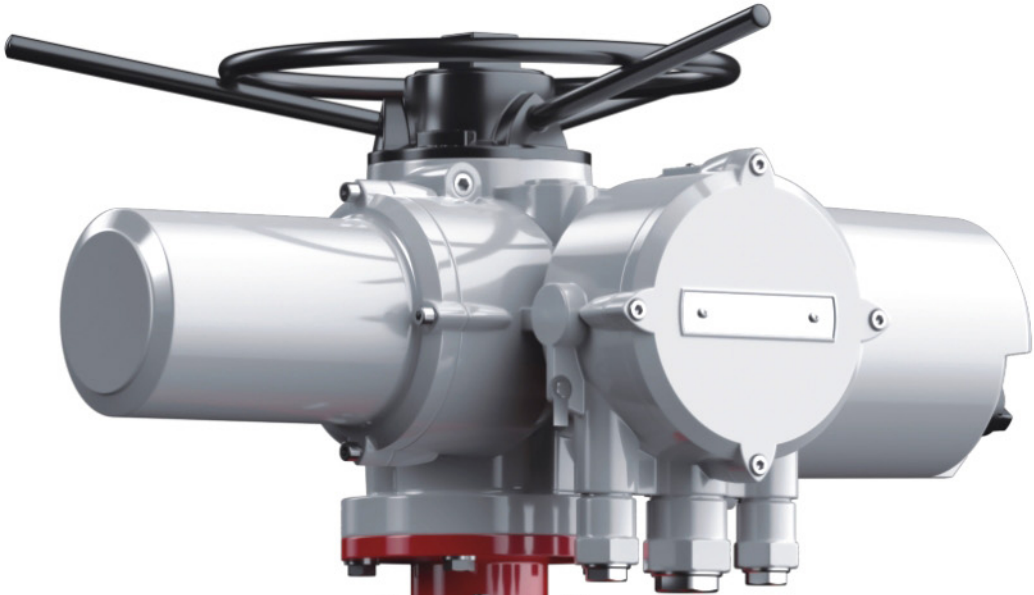




General Dimensions: ANSI B16.5 150CL



SIZE	ID	OD	B.C.D	W	L	H	H1	H2	H3	H4	H5	A	B	BORE SIZE	C	N*M(UNC)	N*Φ
2"	50.8	160	120.5	300	48	405	313	195	217	391	275	210	300	140	557	2*5/8-11	2*Φ18
3"	76.2	190	152.5	300	51	462	361	225	242	439	275	210	300	160	557	2*5/8-11	2*Φ18
4"	101.6	230	190.5	350	51	505	411	245	267	489	275	210	300	160	557	2*5/8-11	6*Φ18
5"	125	255	216	350	57	544	450	260	298	528	275	210	300	200	557	2*3/4-10	6*Φ22
6"	152.4	280	241.5	400	57	618	510	270	320	600	275	210	500	200	722	2*3/4-10	6*Φ22
8"	203.2	343	298.5	400	70	710	606	345	402	696	275	210	500	250	722	2*3/4-10	6*Φ22
10"	254	403	362	550	70	815	732	395	460	822	337	210	500	280	722	4*7/8-9	8*Φ26
12"	304.8	483	432	-	76	-	840	475	520	930	337	233	600	300	722	4*7/8-9	8*Φ26
14"	336.6	535	476	-	76	-	920	525	536	1035	337	233	600	320	722	4*1-8	8*Φ29.5
16"	387.4	600	540	-	129	-	1034	586	593	1149	375	320	600	350	775	6*1-8	10*Φ29.5
18"	438.2	635	578	-	129	-	1166	636	662	1281	375	320	600	400	775	6*1-1/8-7	10*Φ32.5
20"	489	715	635	-	154	-	1330	732	736	1460	460	395	600	450	900	8*1-1/8-7	12*Φ32.5
24"	590.6	815	749.5	-	154	-	1535	832	836	1665	460	395	600	450	900	8*1-1/4-7	12*Φ35.5
30"	743	985	914	-	157	-	1810	1040	986	1940	630	395	600	500	1027	10*1-1/4-7	18*Φ35.5



SKGV-21

Series

Slurry Knife Gate Valves



One-piece Cast-in-place PU lined
Slurry Knife Gate Valve

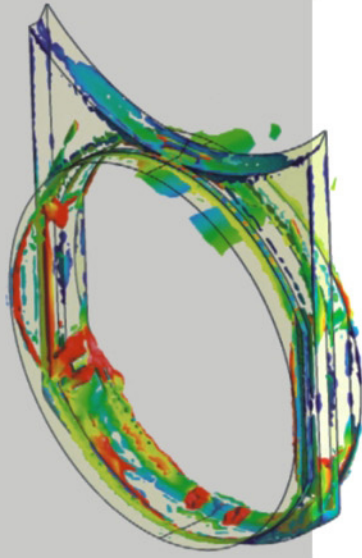
Turbulence kinetic energy comparison

SKGV-21 Series One-piece Cast-in-place PU lined Slurry Knife Gate Valve Design and Constructions.

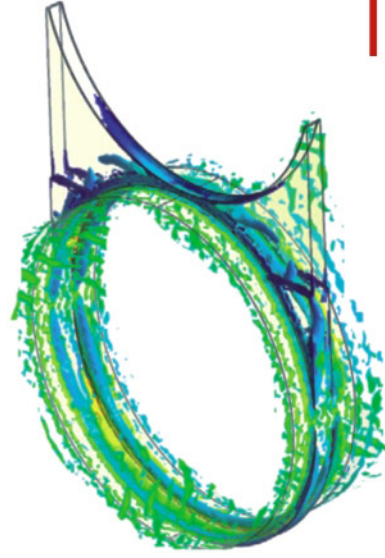
1. Lugged monoblock casting body, designed for heavy duty slurry and dry applications.
2. One-piece cast-in-place PU lined design provides bi-directional bubble-tight shutoff for abrasive materials services.



[m² s⁻²]

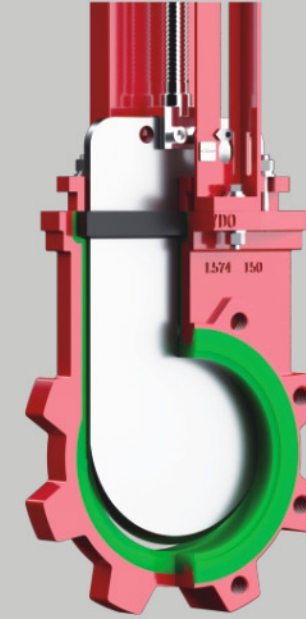


Non-round port

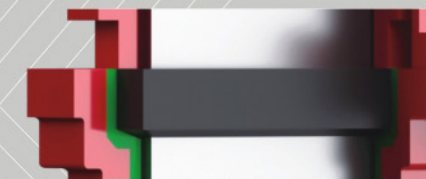
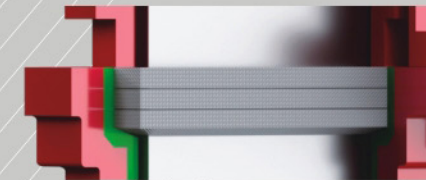


Full round port

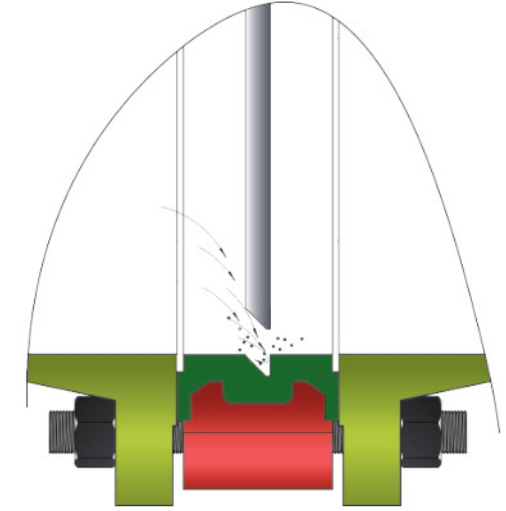
3. The round, full-bore, no-turbulence flow path structure minimizes the generation of fluid turbulence. When the valve is used for abrasive media, reduced bore or non-circular structure which is prone to turbulence can significantly accelerate valve wear. This is why our wear-resistant valves always adhere to a round full-bore design. The inside port diameter is equal to ASME B16.10 standard pipe, allows high flow capacity and minimum pressure drop.



4. All wetted surfaces are lined with urethane including packing chamber and flange face. No additional flange gaskets are required when installation.



5. Packing Option
 - Integrated molded elastomer(NBR/BONA/EPDM).
 - PTFE square braided packing.
 - Aramid square breided packing.



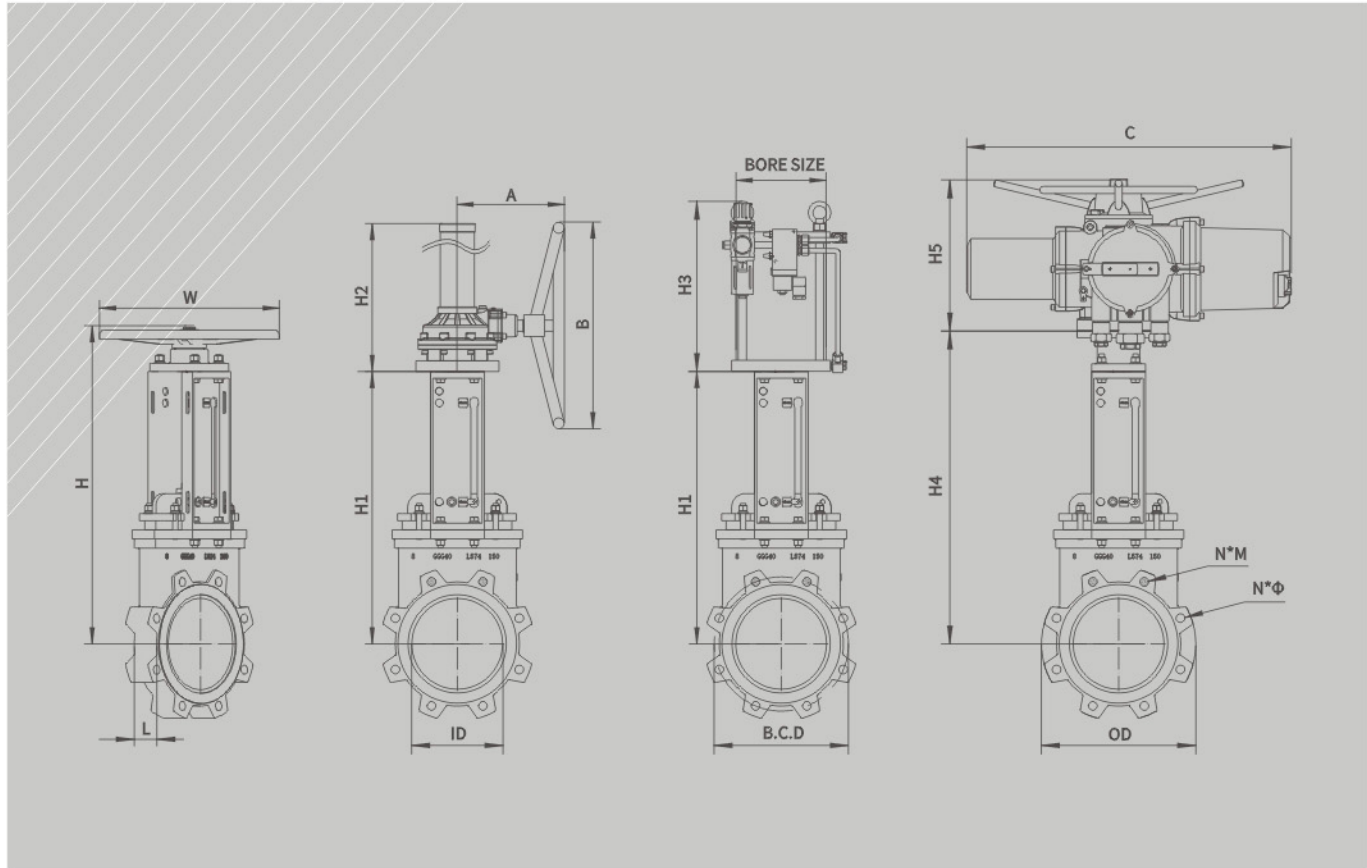
6. When the valve is shutting off, the beveled edge of the disc generates high velocity turbulence that sweeps out the deposition from the seat, ensuring 100% zero leakage of every circle.



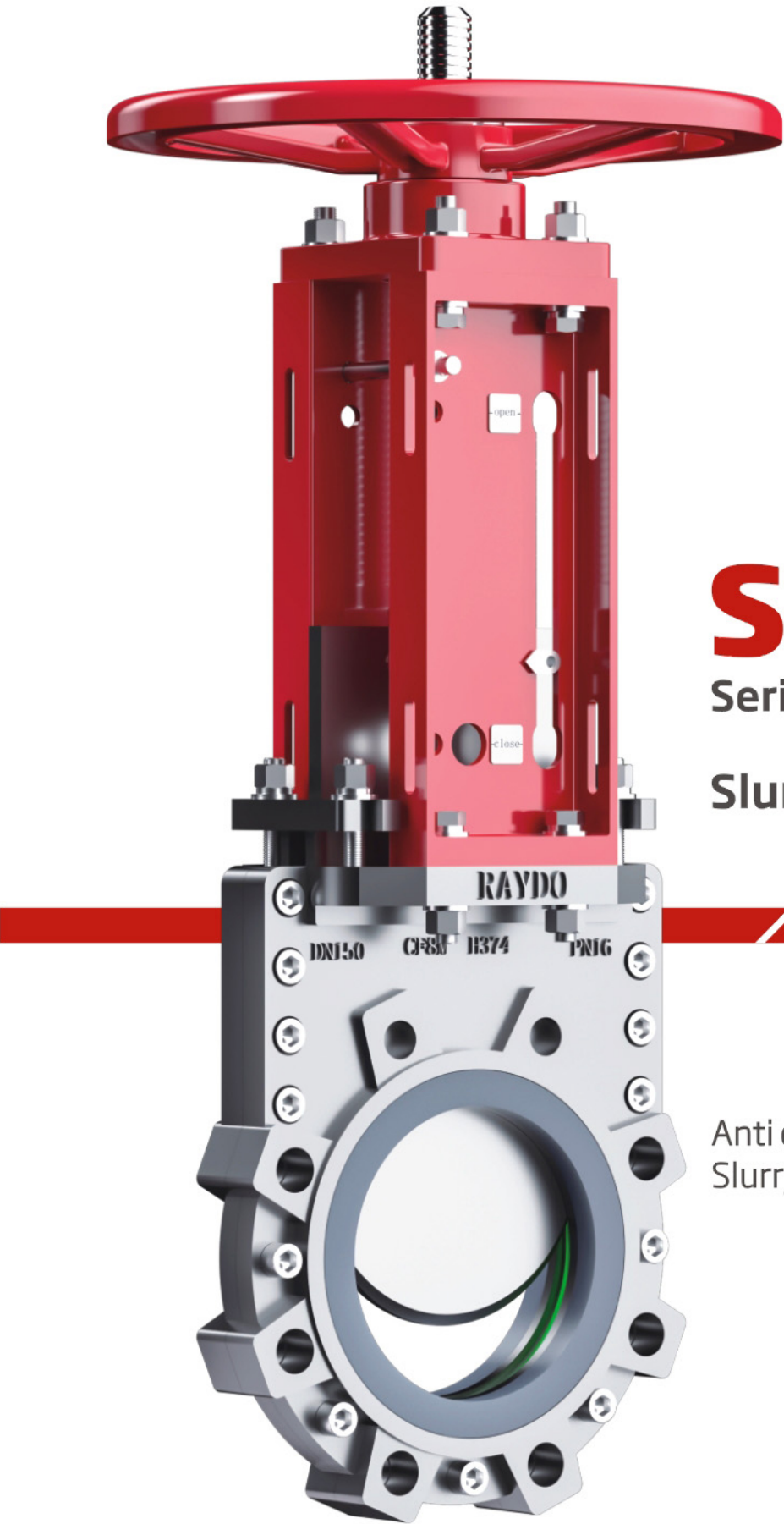
7. The robust stainless steel valve disc is surface ground, polished, and hardened for enhanced durability.



General Dimensions: ANSI B16.5 150CL



SIZE	ID	OD	B.C.D	W	L	H	H1	H2	H3	H4	H5	A	B	BORE SIZE	C	N*M(UNC)	N*Φ
2"	50.8	160	120.5	300	48	410	318	195	217	397	275	248	500	140	557	2*5/8-11	2*Φ18
3"	76.2	190	152.5	300	51	462	361	225	242	439	275	248	500	160	557	2*5/8-11	2*Φ18
4"	101.6	230	190.5	350	51	505	411	245	267	489	275	248	500	160	557	2*5/8-11	6*Φ18
5"	125	255	216	350	57	550	455	260	298	528	275	248	500	200	557	2*3/4-10	6*Φ22
6"	152.4	280	241.5	400	57	612	515	270	320	600	275	248	500	200	722	2*3/4-10	6*Φ22
8"	203.2	343	298.5	400	70	710	606	345	402	696	275	248	500	250	722	2*3/4-10	6*Φ22
10"	254	403	362	550	70	815	732	395	460	822	337	248	600	280	722	4*7/8-9	8*Φ26
12"	304.8	483	432	-	76	-	844	475	520	934	337	270	600	300	722	4*7/8-9	8*Φ26
14"	336.6	535	476	-	76	-	917	525	536	1035	337	270	600	320	722	4*1-8	8*Φ29.5
16"	387.4	600	540	-	89	-	1034	586	593	1149	375	435	600	350	775	6*1-8	10*Φ29.5
18"	438.2	635	578	-	89	-	1149	636	662	1264	375	435	600	400	775	6*1-1/8-7	10*Φ32.5
20"	489	700	635	-	114	-	1301	732	736	1430	460	497	600	450	900	8*1-1/8-7	12*Φ32.5
24"	590.6	815	749.5	-	114	-	1508	832	836	1637	460	497	600	450	900	8*1-1/4-7	12*Φ35.5
30"	743	985	914	-	117	-	1810	1040	986	1940	630	497	600	500	1027	10*1-1/4-7	18*Φ35.5

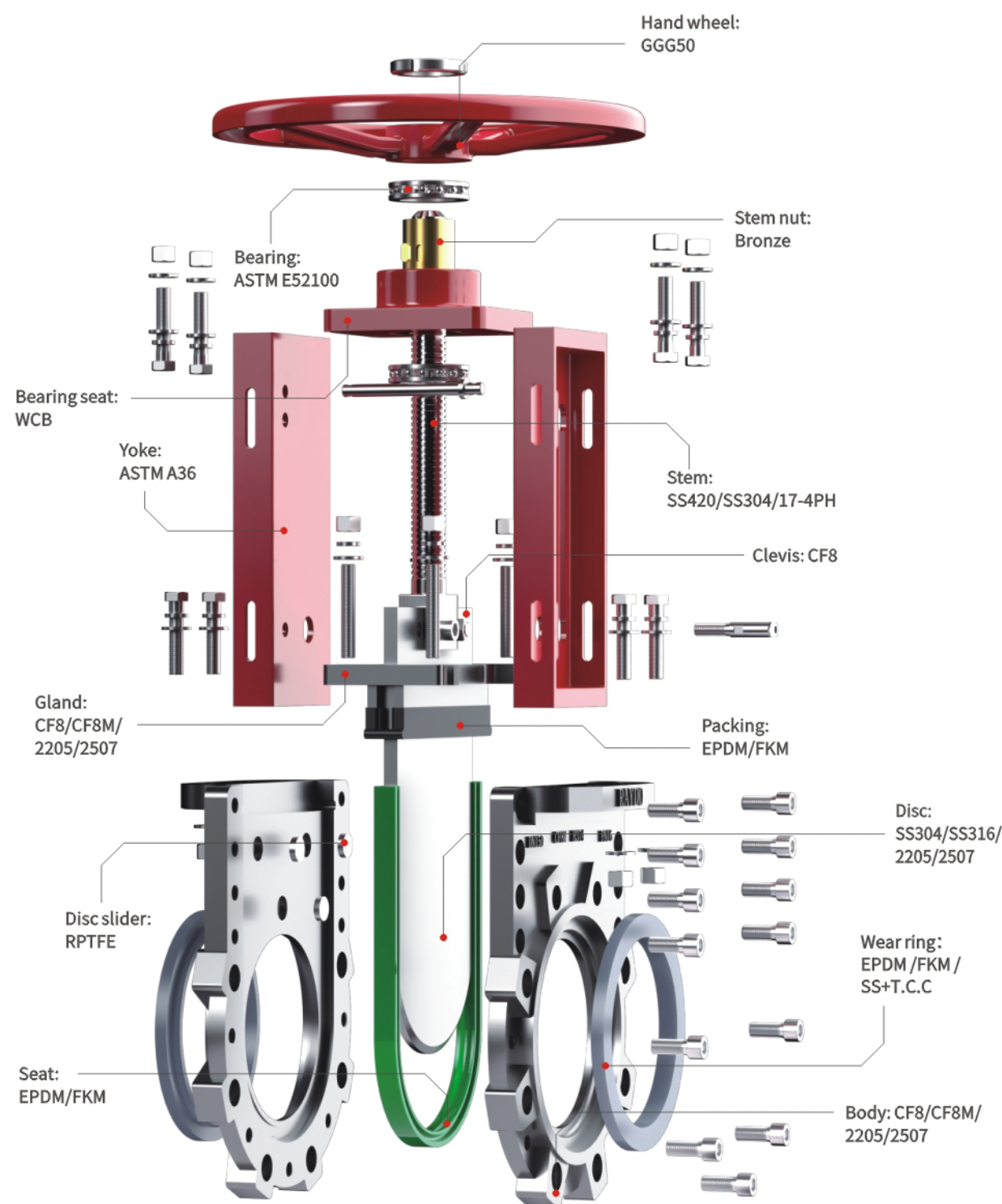


SKGV-13

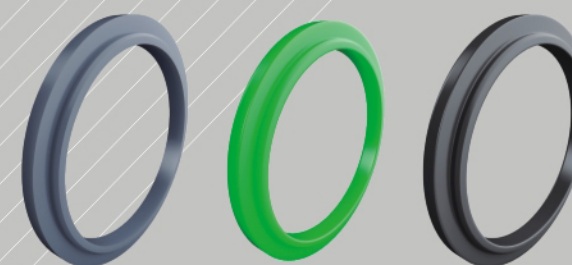
Series

Slurry Knife Gate Valves

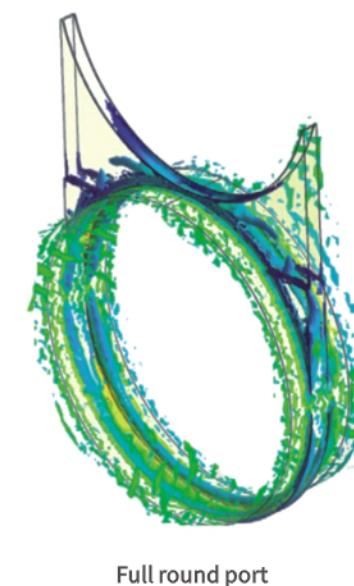
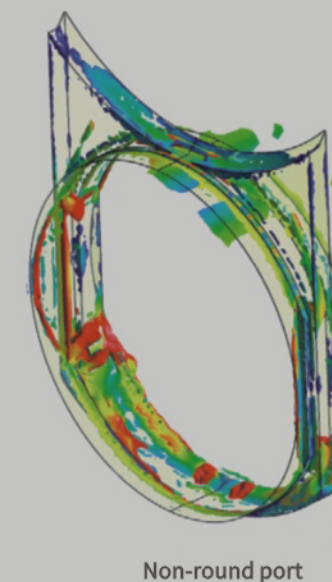
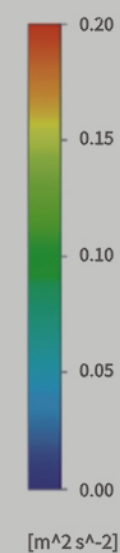
Anti corrosion & abrasion
Slurry Knife Gate Valve



1. The SKGV-13 series knife gate valve features a two-piece valve body structure, where two heavy-duty valve bodies secure elastic a wear-resistant rubber around the disc edge, forming a U-shaped bidirectional seal. This U-shaped seal is hidden inside the valve body and wear ring, preventing direct impact with the medium, which greatly extends the seal's lifespan. The sealing rubber has a double-layer structure: The inner seal is designed to cut off the medium flow, while the outer seal ensures that the medium remains inside the valve body, preventing leakage into the environment even after long service periods. This is especially crucial for handling corrosive media.



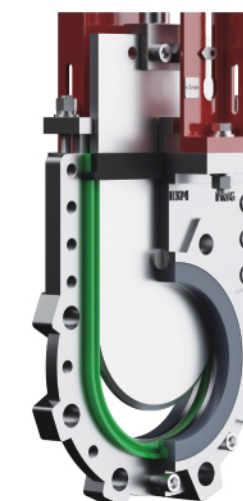
Turbulence kinetic energy comparison

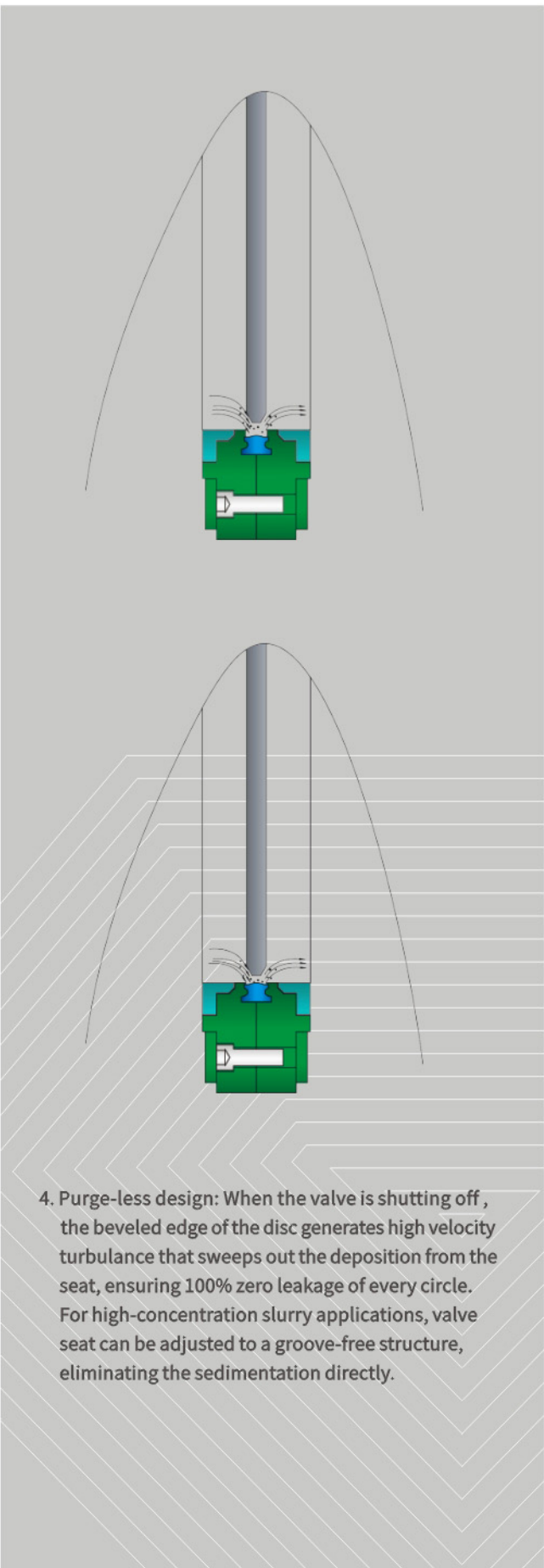


3. SKGV-13 series SKGV deploys a full round port which eliminates protrusions into the flow, minimizing turbulence across the valve to extend body life.

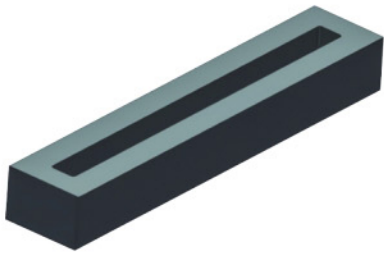
2. Replaceable wear rings are added at the valve's inlet and outlet. These rings can be made from different materials depending on operating conditions, such as wear-resistant rubber rings, ultra-high molecular polyethylene, high-alloy steel, tungsten carbide, and more. The wear rings offer superior wear life and can be replaced independently, significantly reducing the maintenance costs for the entire valve.

This not only ensures the longevity of sealing components, but also minimizes the damaging impacts of slurry on downstream pipeline equipment.





4. Purge-less design: When the valve is shutting off , the beveled edge of the disc generates high velocity turbulence that sweeps out the deposition from the seat, ensuring 100% zero leakage of every circle. For high-concentration slurry applications, valve seat can be adjusted to a groove-free structure, eliminating the sedimentation directly.



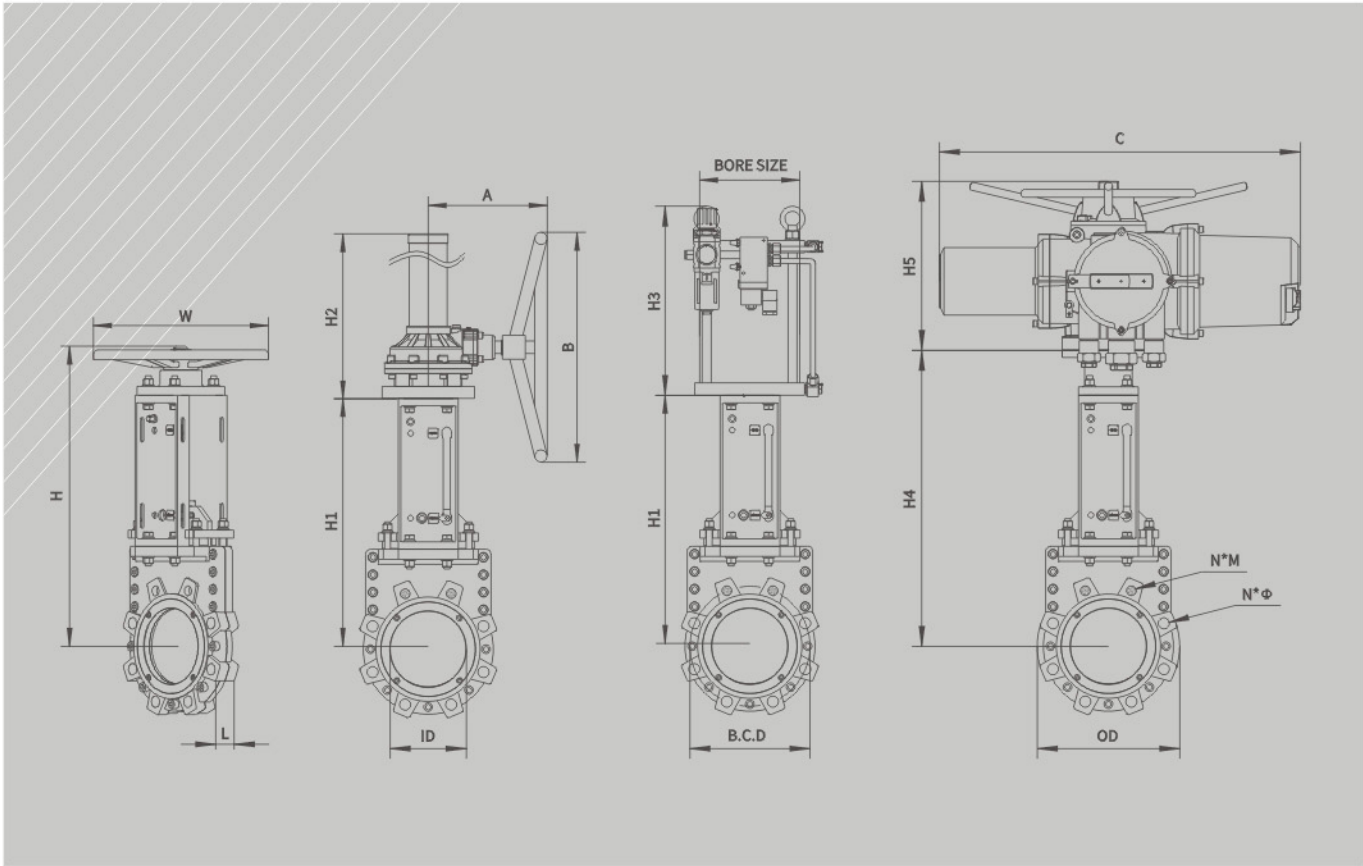
5. The high-elastic, molded rubber packing offers better sealing performance and compensation compared to traditional gland packing in knife gate valves. With frequent opening and closing, the packing may experience wear and leakage. High-elastic rubber packing has superior compensatory properties, allowing the seal to be restored with only slight tightening of the packing gland.



6. The valve body, disc, seals, and packing can be made from corrosion-resistant and wear-resistant materials to address the challenges of abrasive and corrosive slurry.

7. The valve disc has guide sliders on both inlet and outlet, ensuring that the disc remains centered within the valve body during circulation. This guarantees a tight seal and avoids disc scratching by the body.

General Dimensions: ANSI B16.5 150CL



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