

KREBS®

PUMPS, CYCLONES AND VALVES

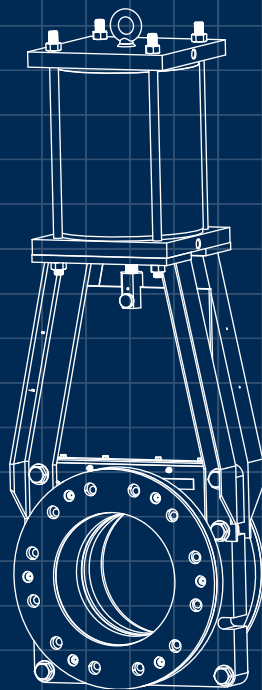
TECHNEQUIP™

Knife Gate Valves



Reliable performance for the most demanding abrasive slurries

Unparalleled performance and service life.
Whoever said you can't have it all never met our premium valves.



Key benefits

■
Enhanced safety
features on
every model

■
Proven quality
materials and
reliability

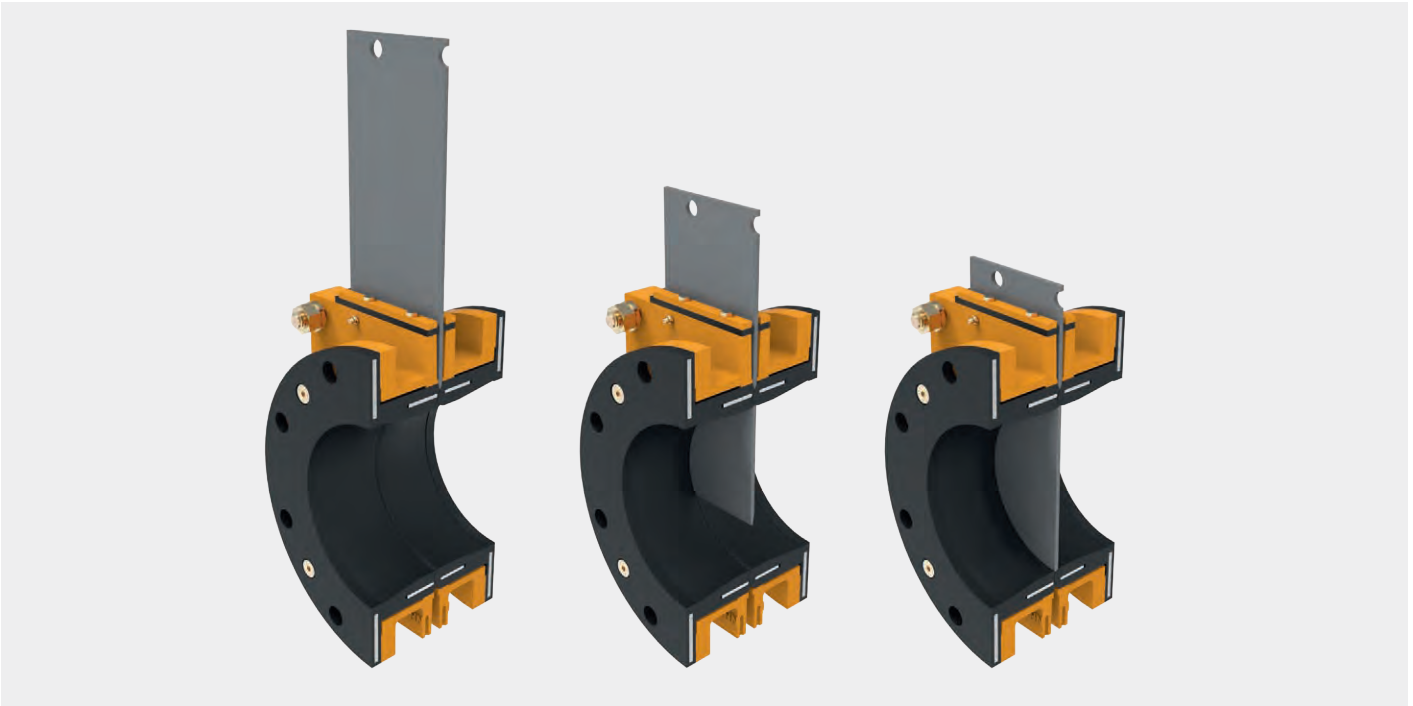
■
Decreased down-
time and faster
maintenance

■
Interchangeable
components
reduce your inventory

■
Premium materials
are supplied
standard on all valves

Design advantages

Gate is fully out of pipeline when open, minimising pressure drop across valve.
We design for safety and productivity.



Advantages of the Krebs Technequip Valves

The Technequip valve's open-body design eliminates the need for a packing gland. The gate, when open, is fully out of the pipeline, minimising pressure drop across the valve. This design also allows the gate to eject material out of the bottom during actuation, ensuring full gate closure, and providing a reliable seal. When used in the wrong application traditional closed-body valves allow material to become trapped, damaging the gate or valve body and causing leakage.

Designed for your safety and productivity

Safety – keep your crew safe

Our valve safety features are standard on all valves to reduce hazards during installation and maintenance.

Productivity – keep your operation running

Field-replaceable wear sleeves and universal frame design reduce downtime, keeping the valve in service by allowing faster maintenance.

Additional design features

- Long-lasting, field-replaceable sleeves constructed of a dense-moulded elastomer, with an integral stiffener ring moulded into the sleeve
- Heavy duty wear sleeves provide bi-directional flow and 100% bubble-tight seal with zero down stream leakage
- Fully lined valves ensure all metal components remain clear of process material
- Heavy-duty construction supports easy spare-parts replacement
- Industry-standard allows for easy drop-in replacement
- Universal frame (yoke) design allows for change of actuation, without removing the valve from service
- Upgraded safety features and premium materials are supplied standard on all valves
- Optimised secondary seal offers ease of maintenance and prolonged valve life
- Multiple flange drill patterns available
- Customisable options are available to meet the service requirements of any application

Technequip™ Knife Gate Slurry Valve (TG)



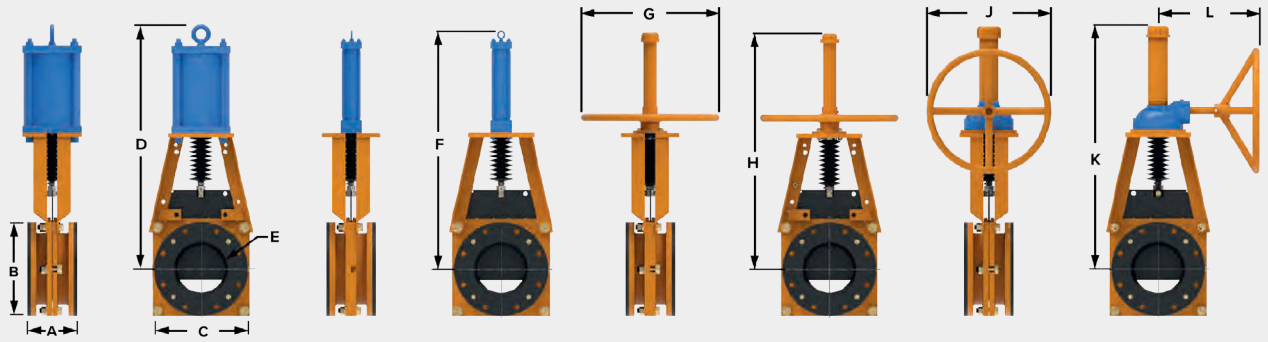
Our Technequip knife gate valve is a true bi-directional slurry knife gate valve with open-body design, and full port flow. Replaceable rubber sleeves are designed to seal and withstand the harsh, abrasive conditions inherent in mining and milling applications.

Specifications

Size range	2" - 48" (50 mm - 1,200 mm) (54" - 1,350 mm also available)
Valve type	Slurry knife gate
Body style	Full flanged
Temperature range	-60F to 300F (-51c to 149c)
Pressure rating	Up to 150 psi
Body material	Cast ductile iron, 2 coat epoxy painted
Gate material	17-4PH Stainless Steel, 316L Stainless Steel, 2205 Duplex Stainless Steel, 2507 Duplex Stainless Steel, C276 HASTELLOY®
Seat material	Gum rubber, high temp EPDM, Neoprene, Nitrile, Chlorobutyl
Duty	Heavy duty abrasive applications

Pressure and temperature ratings depend on valve size and material selection. Please consult your local representative for more information.

TG Series: Technequip™ Knife Gate Valve



Imperial units (in)

Valve size	A	B	C	D	E	F	G	H	J	K	L
2	6 1/2	6	6 3/8	18 7/16	13/4	18	8	16 1/16	-	-	-
3	6 3/4	7 1/2	9	21 1/2	2 13/16	19 5/8	12	22	-	-	-
4	6 3/4	9	10	24 5/16	3 7/8	22 7/16	12	23 11/16	18	25 3/4	14 1/2
6	6 7/8	11	12 3/4	30 3/8	5 13/16	28 3/16	16	29 7/8	18	31 1/8	14 1/2
8	7 1/8	13 1/2	15	35 1/8	7 3/4	33 7/16	20	33 7/8	18	34 7/16	14 1/2
10	8 3/4	16	16 3/4	40 1/2	9 13/16	40 1/8	20	39 5/8	18	40 1/6	14 1/2
12	10	19	20	49 1/8	11 1/2	47 1/16	-	-	24	49 1/2	16 5/8
14	10	21	22 5/16	53 3/8	13 1/4	51 3/4	-	-	24	53 1/4	16 5/8
16	10 7/8	23 1/2	25	59 7/8	14 3/4	57 7/8	-	-	24	57	16 5/8
18	12 1/8	25	26 1/2	67 7/8	16 3/4	66	-	-	24	66 1/2	19 3/8
20	14 1/8	27 1/2	28 3/8	73 3/8	18 1/2	74 1/16	-	-	24	72 1/2	19 3/8
24	14 5/8	32	33 3/4	87 15/16	23	86 11/16	-	-	30	85 11/16	21
26	14 3/8	34 1/4	37	92 5/16	25	91 13/16	-	-	-	-	-
30	15 1/2	38 1/4	41 1/2	-	29	104 11/16	-	-	-	-	-
32	15 1/2	41 3/4	43 7/8	-	29	113 1/8	-	-	-	-	-
36	18 3/8	46	48 1/2	-	35	120 9/16	-	-	-	-	-
42	21 1/8	53	56 3/4	-	41 1/2	147 1/4	-	-	-	-	-
48	21 1/8	59 1/2	62 1/2	-	46 7/8	161 3/16	-	-	-	-	-

- Denotes not available in size or actuator.

Metric units (mm)

Valve size	A	B	C	D	E	F	G	H	J	K	L
50	165	152	162	468	45	457	203	408	-	-	-
80	172	191	229	546	71	499	305	559	-	-	-
100	172	229	254	618	98	570	305	602	457	654	368
150	175	279	324	772	148	732	406	759	457	791	368
200	181	343	381	892	197	849	508	860	457	875	368
250	222	406	426	1029	250	1019	508	1006	457	1020	368
300	254	483	508	1247	292	1195	-	-	610	1257	422
350	254	533	567	1356	337	1314	-	-	610	1353	422
400	276	597	635	1522	375	1469	-	-	610	1448	422
450	308	635	673	1624	425	1676	-	-	610	1689	492
500	359	699	721	1863	470	1881	-	-	610	1842	492
600	371	813	857	2234	584	2202	-	-	762	2176	533
650	365	870	940	2345	635	2332	-	-	-	-	-
750	394	984	1054	-	737	2659	-	-	-	-	-
800	394	1060	1114	-	737	2873	-	-	-	-	-
900	467	1168	1232	-	889	3062	-	-	-	-	-
1050	537	1346	1441	-	1054	3740	-	-	-	-	-
1200	537	1511	1588	-	1191	4094	-	-	-	-	-

- Denotes not available in size or actuator.

Technequip™ Wafer Style Knife Gate Slurry Valve (TGW)



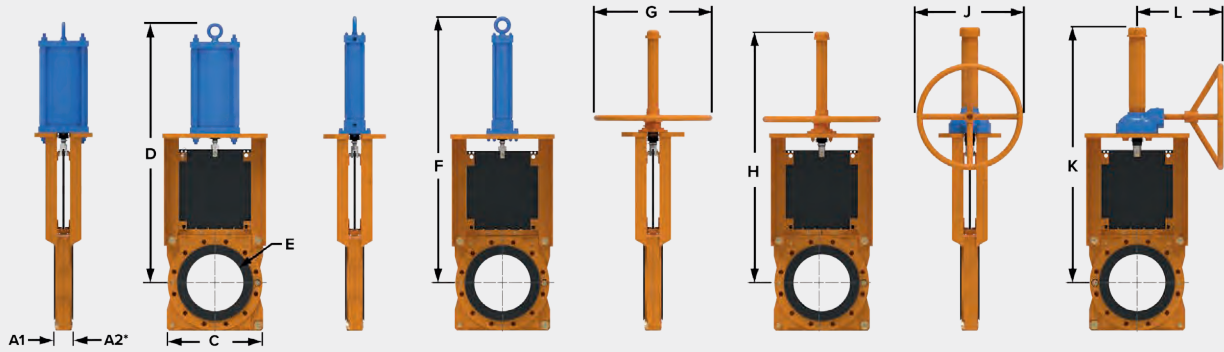
Our wafer knife gate valve is a space-saving option for medium to heavy duty applications. We designed it in response to the industry's need for valves that are able to isolate flow in demanding conditions requiring smaller face-to-face flange dimensions.

Specifications

Size range	2" - 24" (50 mm - 600 mm)
Valve type	Slurry knife gate
Body style	Narrow body
Temperature range	-60F to 300F (-51c to 149c)
Pressure rating	Up to 150 psi
Body material	Cast ductile iron, 2 coat epoxy painted
Gate material	17-4PH Stainless Steel, 316L Stainless Steel, 2205 Duplex Stainless Steel, 2507 Duplex Stainless Steel, C276 HASTELLOY®
Seat material	Gum rubber, high temp EPDM, Neoprene, Nitrile, Chlorobutyl
Duty	Medium to heavy duty abrasive applications

Pressure and temperature ratings depend on valve size and material selection. Please consult your local representative for more information.

TGW Series: Technequip™ Wafer Knife Gate Valve



Imperial units (in)

Valve size	A1	A2	C	D	E	F	G	H	J	K	L
2	2 5/16	2 1/8	7 3/4	20 1/8	1 3/4	19 1/4	8	19	-	-	-
3	2 1/2	2 1/4	9 1/8	23 3/8	2 7/8	22 3/8	12	22	12	22 3/16	12 3/4
4	2 1/2	2 1/4	10 3/4	26 1/16	3 7/8	25 3/8	12	24 9/16	12	25 9/16	12 3/4
6	2 3/4	2 1/2	13 3/8	32 1/4	5 7/8	31 1/4	16	31	18	31 7/8	14 5/8
8	3 1/4	3	15 5/8	37 13/16	7 13/16	37	20	36 1/16	18	37 1/4	14 5/8
10	3 5/16	3	17 3/4	43 9/16	9 3/4	45	20	42 1/16	18	44	14 5/8
12	3 9/16	3 1/4	21	51 1/4	11 3/4	52 1/2	-	-	24	52	16 3/4
14	3 9/16	3 1/4	22 7/8	55	13	55 5/8	-	-	24	55 1/4	16 3/4
16	4 1/16	3 3/4	25	61 1/2	15	61 1/2	-	-	24	61	16 3/4
18	4 1/8	3 3/4	27	68 11/16	17	69	-	-	24	68 3/4	19 3/8
20	5 3/16	4 3/4	28 7/8	76	19	76	-	-	24	75 7/8	19 3/8
24	5 1/4	4 3/4	33 3/8	86 9/16	23 1/8	87 3/16	-	-	24	87 1/8	19 3/8

- Denotes not available in size or actuator.

Metric units (mm)

Valve size	A1	A2	C	D	E	F	G	H	J	K	L
50	59	54	197	511	44	489	203	483	-	-	-
80	64	57	232	593	73	568	305	559	304	564	324
100	64	57	273	661	98	645	305	620	304	649	324
150	70	64	340	818	149	940	406	777	457	810	371
200	83	76	397	960	198	1143	508	916	457	946	371
250	84	76	451	1106	248	1334	508	1068	457	1118	371
300	90	83	533	1302	299	1413	-	-	610	1321	425
350	90	83	581	1397	330	1562	-	-	610	1403	425
400	103	95	635	1562	381	1753	-	-	610	1549	425
450	105	95	686	1745	432	1753	-	-	610	1746	492
500	132	121	733	1930	483	1930	-	-	610	1927	492
600	133	121	848	2199	587	2215	-	-	610	2213	492

- Denotes not available in size or actuator.

Technequip™ High-Pressure Knife Gate Slurry Valve (TGH)



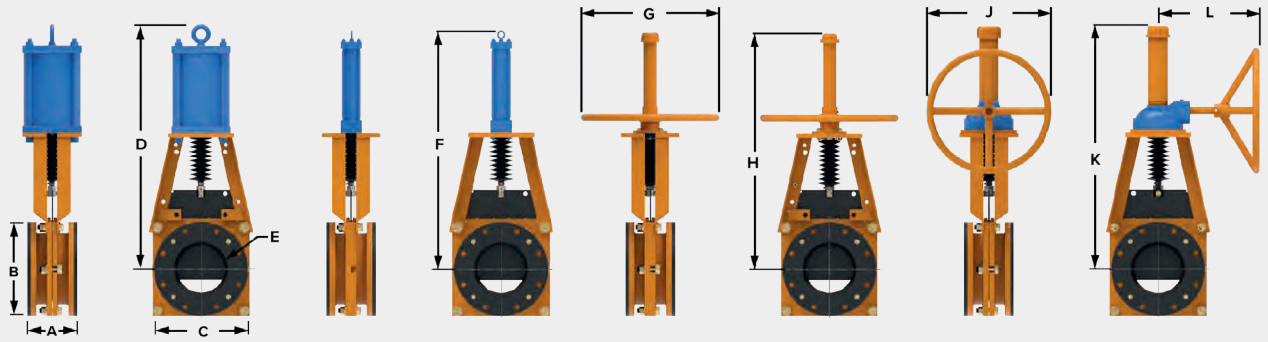
Our Technequip High-Pressure Knife Gate Valve is specifically designed for demanding applications. When higher pressures up to 300 psi are required. All our high pressure valves are constructed with an integrated splash guard for safety.

Specifications

Size range	2" - 36" (50 mm - 900 mm)
Valve type	Slurry knife gate
Body style	Full flanged
Temperature range	-60F to 300F (-51c to 149c)
Pressure rating	Up to 300 psi
Body material	Cast ductile iron, 2 coat epoxy painted
Gate material	17-4PH Stainless Steel, 316L Stainless Steel, 2205 Duplex Stainless Steel, 2507 Duplex Stainless Steel, C276 HASTELLOY®
Seat material	Gum rubber, high temp EPDM, Neoprene, Nitrile, Chlorobutyl
Duty	Heavy duty abrasive applications for high pressures

Pressure and temperature ratings depend on valve size and material selection. Please consult your local representative for more information.

TGH Series: Technequip™ High Pressure Knife Gate Valve



Imperial units (in)

Valve size	A	B	C	D	E	F	G	H	J	K	L
2	*	*	*	*	*	*	*	*	-	-	-
3	6 7/8	8 1/4	8 1/4	23 1/8	2 13/16	23 3/4	16	23 1/2	12	24 1/8	14 1/2
4	6 7/8	10	10	27	3 7/8	28 1/2	16	26 3/8	12	28 1/4	14 1/2
6	7 1/4	12 1/2	12 1/2	33 3/4	5 7/8	34 3/4	20	32	12	34 1/2	14 1/2
8	7 1/4	15	15	40	7 7/8	44	20	40 1/2	18	41 1/2	14 1/2
10	8 15/16	17 1/2	17 1/2	47 5/8	9 13/16	51 1/4	-	-	18	48	14 1/2
12	9 9/16	20 1/2	21 1/2	53 7/8	11 1/2	56 3/8	-	-	24	53 1/4	14 1/2
14	10	23	24 1/2	60 3/8	13 1/4	60 3/4	-	-	24	57 1/2	14 1/2
16	11 1/4	25 1/2	26 5/8	63 1/2	14 3/4	64	-	-	24	63 1/8	19 3/8
18	12 9/16	28	30	68 1/4	16 3/4	69 1/8	-	-	30	66 1/2	19 3/8
20	14 3/8	30 1/2	32 1/4	74 7/8	18 1/2	76 1/2	-	-	30	74	19 3/8
24	14 1/2	36	38	-	23	91 1/2	-	-	30	89 1/2	19 3/8
26	*	*	*	-	*	*	-	-	-	-	-
30	16 1/4	43	47	-	29	113 7/8	-	-	-	-	-
36	18 1/2	50	54 1/2	-	35	134 5/8	-	-	-	-	-

* Consult with your FLSmith representative.

- Denotes not available in size or actuator.

Metric units (mm)

Valve size	A	B	C	D	E	F	G	H	J	K	L
50	*	*	*	*	*	*	*	*	-	-	-
80	175	210	210	587	71	603	406	597	305	613	368
100	175	254	254	686	98	724	406	670	305	718	368
150	184	318	318	857	149	883	508	813	305	876	368
200	184	381	381	1016	200	1118	508	1029	457	1054	368
250	227	445	445	1210	249	1302	-	-	457	1219	368
300	243	521	546	1368	292	1432	-	-	610	1353	368
350	254	584	622	1534	337	1543	-	-	610	1461	368
400	286	648	676	1613	375	1626	-	-	610	1603	492
450	319	711	762	1734	425	1756	-	-	762	1689	492
500	365	775	819	1902	470	1943	-	-	762	1880	492
600	368	914	965	-	584	2324	-	-	762	2273	492
650	*	*	*	-	*	*	-	-	-	-	-
750	413	1092	1194	-	737	2892	-	-	-	-	-
900	470	1270	1384	-	889	3419	-	-	-	-	-

* Consult with your FLSmith representative.

- Denotes not available in size or actuator.

Technequip™ Extra-High Pressure Knife Gate Slurry Valve (TGHP)



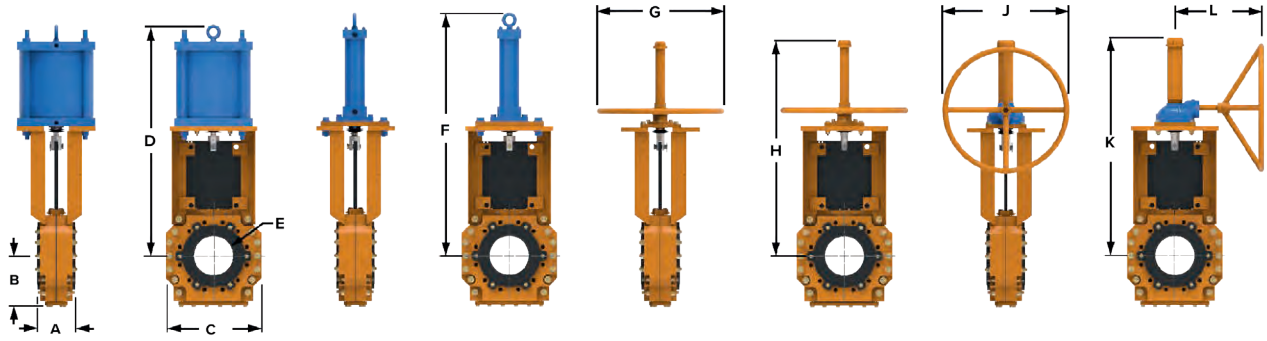
Our Extra-High Pressure Knife Gate Valves are designed for the most demanding of high pressure slurry applications. The heavy duty, extra-high-pressure valve is bi-directional with a full port design. All our high pressure valves are constructed with an integrated splash guard for safety.

Specifications

Size range	2" - 36" (50 mm - 900 mm)
Valve type	Slurry knife gate
Body style	Full flanged
Temperature range	-60F to 300F (-51c to 149c)
Pressure rating	Up to 740 psi
Body material	Fabricated Steel / 2 coat epoxy painted
Gate material	17-4PH Stainless Steel, 316L Stainless Steel, 2205 Duplex Stainless Steel, 2507 Duplex Stainless Steel, C276 HASTELLOY®
Seat material	Gum rubber, high temp EPDM, Neoprene, Nitrile, Chlorobutyl
Duty	Heavy duty abrasive applications for extra high pressures

Pressure and temperature ratings depend on valve size and material selection. Please consult your local representative for more information.

TGHP Series: Technequip™ Extra High Pressure Knife Gate Valve



Imperial units (in)

Valve size	A	B	C	D	E	F	G	H	J	K	L
2	*	*	*	*	*	*	*	*	-	-	-
3	6 15/16	6 1/8	10 3/4	25 11/16	2 13/16	26 1/4	16	24 9/16	12	24 1/2	14 1/2
4	6 15/16	7 1/8	12 1/2	28 7/16	3 3/4	28 1/8	16	26 7/8	12	27	14 1/2
6	7 1/4	8 1/4	15	37 5/16	5 13/16	38 1/8	20	35	18	35 5/8	14 1/2
8	7 1/4	9 5/8	18	43 1/4	7 3/4	44	20	40 1/2	24	40 13/16	16 11/16
10	8 15/16	11 9/16	20 1/2	51 3/4	9 3/4	52 1/2	-	-	24	49 5/8	19 3/8
12	10 3/16	13	24 1/4	58 1/2	11 3/4	59 1/8	-	-	24	57 1/8	19 3/8
14	10 1/4	14 7/8	27 1/2	64 7/8	13	66 3/8	-	-	24	64	19 3/8
16	11	15 3/4	30	75 1/2	15	77 1/2	-	-	24	70 7/8	22
18	12 5/8	*	*	-	*	*	-	-	*	*	*
20	14 1/2	*	*	-	*	*	-	-	*	*	*
24	14 1/2	*	*	-	*	*	-	-	*	*	*
26	14 1/2	*	*	-	*	*	-	-	-	-	-
30	16 1/4	26 7/8	53 1/2	-	29	125 3/8	-	-	-	-	-
36	18 1/2	31	62	-	35	149 1/2	-	-	-	-	-

* Consult with your FLSmidth representative.

- Denotes not available in size or actuator.

Metric units (mm)

Valve size	A	B	C	D	E	F	G	H	J	K	L
50	*	*	*	*	*	*	*	*	-	-	-
80	176	156	273	652	71	667	406	624	305	622	368
100	176	181	318	722	95	714	406	683	305	686	368
150	184	210	381	948	148	968	508	889	457	905	368
200	184	244	457	1099	197	1118	508	1029	610	1037	424
250	227	294	521	1314	248	1334	-	-	610	1260	492
300	259	330	616	1485	298	1502	-	-	610	1451	492
350	260	378	699	1648	330	1686	-	-	610	1626	492
400	279	400	762	1918	381	1968	-	-	610	1800	559
450	321	*	*	-	*	*	-	-	*	*	*
500	368	*	*	-	*	*	-	-	*	*	*
600	368	*	*	-	*	*	-	-	*	*	*
650	368	*	*	-	*	*	-	-	*	*	-
750	413	683	1359	-	737	3185	-	-	-	-	-
900	470	787	1575	-	889	3797	-	-	-	-	-

* Consult with your FLSmidth representative.

- Denotes not available in size or actuator.

Actuation options



Pneumatic (AC)

Our standard pneumatic actuator is a double acting cylinder supplied with many upgraded features for superior wear and reliability. This includes painted steel end caps, chrome-plated piston rod, machined 17-4PH SS gate clevis and a housing constructed of composite FRP material. Every pneumatic actuator is supplied with an internal magnetic ring attached to the piston. This allows the cylinder to be easily adapted with externally mounted reed limit switches.

We can supply over sized pneumatic actuators when low pressure air supply is a concern. Our AC60 actuators are suitable for a minimum of 60psi (4.1 bar) air.

For mechanical fail safety, we have available our single-acting, spring-return pneumatic actuators built for either “fail open” or “fail close” configurations as required.



Hydraulic (HYD)

Our standard hydraulic actuator is a double acting cylinder available in either standard or high pressure configurations. Each cylinder is supplied with painted steel end caps, chrome-plated piston rod, bronze gland rod, and a machined 17-4PH SS gate clevis.

* Optional hydraulic power units, portable power units, or hydraulic hand pumps can be supplied.



Bevel gear (BG)

All bevel gear operators are manufactured with 3:1 or 4:1 ratios, dependent on size. Each valve is supplied with 304 SS stem, protected by a painted steel stem cover and dust boots.



Electric (ELEC)

All Technequip valves can be fitted with electric actuators of many different makes and models to meet numerous voltage requirements. Each valve is supplied with 304 SS stem, protected by a painted steel stem cover and dust boots.



Hand Wheel (HW)

Our Technequip valves are available with hand wheel operators in sizes 2" (50mm) to 10" (250mm). For sizes larger than 10" (250mm), the rim pull force to operate a hand wheel becomes too large and a bevel gear operator is recommended. Each valve is supplied with 304 SS stem, protected by a painted steel stem cover and dust boots.

Safety options

Splash guard (plate)

Flat plate with gasket mounted to the bottom of the valve with two NPT fittings to either pipe away slurry or a water pipe added for flushing.

Splash guard (pipe)

This guard consists of a machined pipe with a gasket, mounted to the bottom of the valve, to collect and drain discharge.

Gate guards

Expanded metal gate guards prevent access to the gate, while allowing for washout of the gate area.

Air lockout

A lockable air valve is installed between the air supply and actuator, preventing valve actuation. One air-lockout is required with solenoid option. Two air-lockouts are required without solenoid option.

Gate maintenance pin (manual lockout)

Tabs allow a lock-pin to be placed through the gate, preventing gate movement.

Industries

- Mining and mineral processing
- Mineral Sands
- Oil Sands
- Cement
- Aggregates
- Coal
- Phosphate
- Ash
- Alumina
- Power (FGD)
- Pulp and Paper
- Chemical
- Automotive
- Manufacturing



Quality as a standard

- Manual or automated actuators
- Two-coat epoxy-painted for corrosion resistance
- High-strength 17-4 PH Stainless Steel gate clevis
- Dust boots supplied as standard to protect stem and actuators
- Fluorocarbon gate coating as standard to reduce friction
- No packing gland necessary
- Full port, bi-directional design
- Metric or imperial flange patterns
- Retainer flanges supplied as standard on TG, TGH, TGHP models
- Long-wearing, field-replaceable sleeves create sealing surface
- Machined gate guides to ensure parallel path
- Upgrade zinc-plated hardware for corrosion resistance
- Lubrication ports easily accessible for maintenance
- Flush ports in valve housing help keep gate area free of debris
- Optional factory-installed instrumentation and controls available

Quality – keep the valve that works for you

Our Technequip valves are designed with the operator in mind, using premium quality materials, providing reliable performance.

Inventory – keep your costs low

Interchangeable component design reduces the amount of inventory you need to keep on hand.

FLSmith Inc. - Tucson Operations
5505 W. Gillette Road
Tucson, AZ 85743
USA

Tel: +1 520 744 8200
Fax: +1 520 744 8300
krebs@flsmith.com

For more locations see global contact list below or visit us at www.flsmith.com



GLOBAL SALES LOCATIONS

FLSmith - Australia

Pinkenba, QLD, Australia
Tel: +61 7 5519 5700
krebsaustralia@flsmith.com

FLSmith - Chile

Santiago, Chile
Tel: +56 2 2463 8350
krebschile@flsmith.com

FLSmith - Philippines

Ortigas Center, Pasig City, Philippines
Tel: +63 2 687 9251
krebs-philippines@flsmith.com

FLSmith - Beijing

Beijing P.R. China
Tel: +86 10 8468 9100
krebschina@flsmith.com

FLSmith - Brasil

Sao Paulo, Brasil
Tel: +55 15 3416 7400
krebsbrasil@flsmith.com

FLSmith - Austria

Neusiedl am See, Austria
Tel: +43 2167 3345
krebseurope@flsmith.com

FLSmith Private Limited

Chennai, India
Tel: +91 44 4748 1000
krebsindia@flsmith.com

FLSmith - South Africa

Johannesburg, South Africa
Tel: +27 0 10 210 4000
krebsafrica@flsmith.com

Bringing better solutions to light

in the cement and mining industries

The future is full of possibilities and you are leading the way. But it's never a straight journey and it's easy to lose sight of true potential. With an ally by your side, who shares your ambitions and who sees your world from different angles, we will find the right way together.

For more than 135 years, we have challenged conventions and explored opportunities. Across more than 50 countries, we are 13,000 employees who combine our unique process-knowledge on projects, products and services to drive success. We develop the most advanced technology in our industries and offer market-leading product and service ranges.

Rooted in Danish values, we activate our knowledge and experience to navigate your complexity and bring better solutions to light. So no matter where in the world you are, we are here to help you discover new ground and achieve sustainable productivity enhancement.

We are the market-leading supplier of engineering, equipment and service solutions to customers in the global mining and cement industries.

We discover potential.

-  [flsmidth.com/linkedin](https://www.flsmidth.com/linkedin)
-  [flsmidth.com/twitter](https://www.flsmidth.com/twitter)
-  [flsmidth.com/facebook](https://www.flsmidth.com/facebook)
-  [flsmidth.com/instagram](https://www.flsmidth.com/instagram)
-  [flsmidth.com/youtube](https://www.flsmidth.com/youtube)

FLSmidth A/S
Vigerslev Allé 77
2500 Valby
Denmark

Tel. +45 36 18 10 00
Fax +45 36 30 18 20
info@flsmidth.com

www.flsmidth.com