KRUX
KNIFE VALVES

KR SERIES

Slurry knife gate valves



Heavy-duty isolation for abrasive and corrosive slurries

Krux™ KR series valves isolate slurry lines with a replaceable two-piece rubber sleeve system, a full-bore bi-directional passage and a lubricated, adjustment-free gate seal. Built for hydrocyclone feed, slurry pipelines, tailings and ash handling.

DN32–600
Size range

10 bar
Max. working pressure up to DN400; 16 barg on request

80 / 110 °C
Max. temperature NR / EPDM

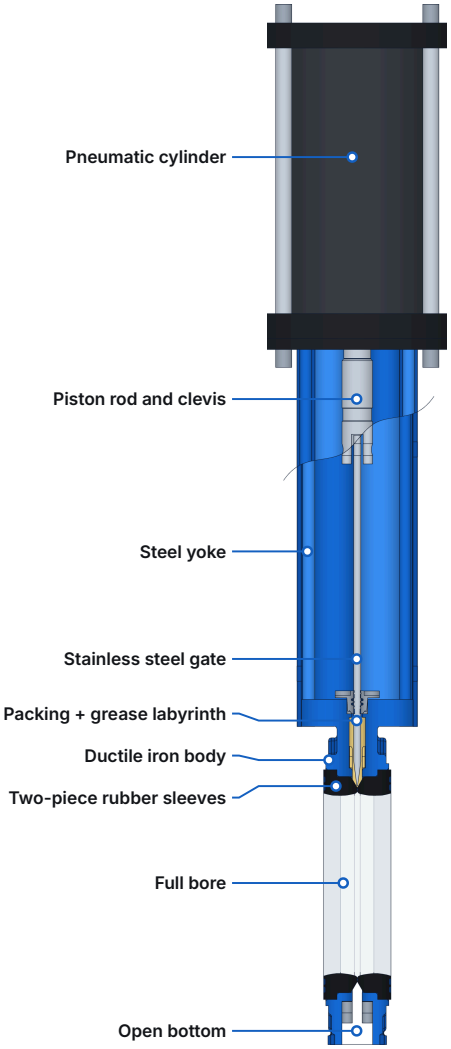
CE
Pressure Equipment Directive 2014/68/EU

A product line of vaikon

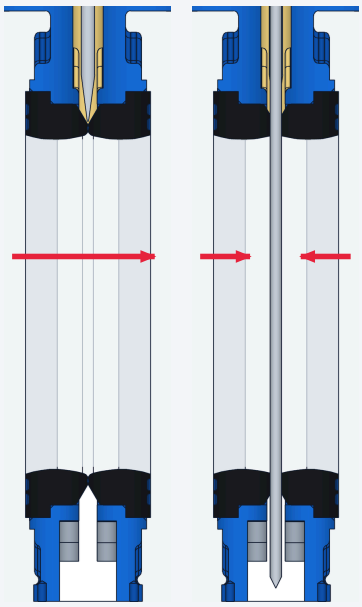
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Built for slurry, not adapted to it

A conventional gate valve relies on O-ring seals and a body that is exposed to the medium. In slurry service the solids attack exactly those parts: seats wear, gates stick and the valve starts to leak. Krux™ turns this around. The slurry only touches rubber and stainless steel, and the parts that wear can be replaced on site.



Section through a Krux™ DN200 with pneumatic actuator (open position)



Two-piece sleeve system

Closed: the gate is clamped between the two rubber sleeves and shuts off in both directions. Open: the gate is retracted and the sleeves close on each other, forming a smooth full-bore passage.

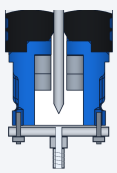
Body
Rubber sleeve
Gate
→ Flow

Body options



Open bottom Standard

Solids displaced by the gate are purged downwards, so nothing builds up in the body. Purging stops once the gate is fully open or closed.



Flushing plate Option

Closes the bottom of the body for minimal discharge when cycling. The connection allows periodic flushing and cleaning of the lower vent.

Design benefits

Long service life
Rugged construction with Vaikon 662 natural rubber for high-wear duty.

Two-piece sleeve system
Integral load-distribution ring limits corrosion and extends performance.

Sleeves replaced on site
Field-replaceable sleeves, no need to dismantle the valve body.

Full bore, bi-directional
Less turbulence and pressure drop, no clogging in either flow direction.

Adjustment-free gate seal
A grease labyrinth lubricates the gate during every cycle.

No cavity blockage
Cavity-free seat: solids cannot build up and jam the gate.

Gate guides
Control gate travel and protect the sleeves from mechanical damage.

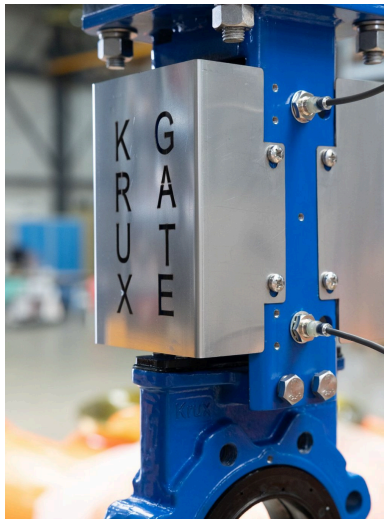
Any actuator
The yoke accepts all actuator types without modification.

Ready for automation
Flushing ports and proximity-switch mounts as standard.

Configured to your process

Materials and options

Component	Standard	On request
Body	Ductile iron GGG40	Stainless steel 316
Gate	Stainless steel 304	Stainless steel 316, duplex stainless steel
Sleeves	Natural rubber (Vaikon 662)	EPDM, NBR, polyurethane
Gland packing	PTFE	PTFE + EPDM, graphite
Yoke and guard	Steel yoke, stainless steel stem guard	—
Flanges	EN 1092-1 PN10	ANSI; PN6, PN16, PN20
Actuation	Handwheel or pneumatic double-acting	Pneumatic single-acting, double-acting with feedback, electric with manual override







Actuation

Manual

Handwheel with rising stem in a protective tube. Bevel gear operator available for larger sizes.

Pneumatic

Double-acting cylinder, air supply 3.5–10 bar, sized for 6 bar. Single-acting and position feedback on request.

Electric

3 × 400 V or 1 × 230 V actuator with manual override.

Position sensing

Inductive limit switches, 24 V DC PNP, on pre-drilled mounts.

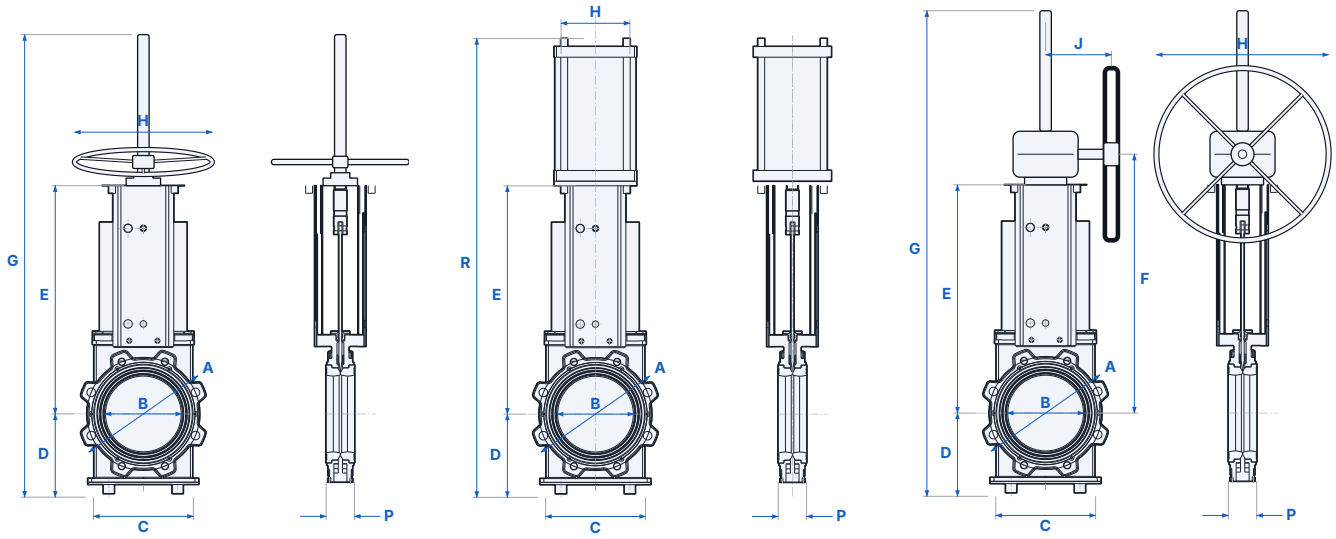
Type code

KR	100	–	SN	.	DS	.	PP	.	BC	.	AM	.	FI	.	PU
SERIES	SIZE DN		SLEEVE		GATE		PACKING		BODY		ACTUATOR		FLANGE		PRESSURE

Sleeve	SN natural rubber · SE EPDM · SR NBR · SP polyurethane
Gate	DS stainless 304 · DV stainless 316 · DD duplex
Packing	PP PTFE · PE PTFE + EPDM · PG graphite
Body	BC standard · BV stainless steel 316
Actuator	AM manual · AD pneumatic double-acting · AS single-acting · AF double-acting with feedback · AE electric 3 × 400 V · AG electric 1 × 230 V
Flange	FI EN/ISO · FA ANSI
Pressure	PC PN6 · PU PN10 · PR PN16 · PL PN20

Example: Krux™ DN100, natural rubber sleeves, stainless steel 304 gate, PTFE packing, standard body, handwheel, EN 1092-1 PN10.

Dimensions



Handwheel | Pneumatic cylinder / hydraulic cylinder | Bevel gear

- **A** Flange outside diameter
- **B** Bore
- **C** Body width
- **D** Centre line to bottom
- **E** Centre line to top of yoke
- **F** Centre line to gearbox handwheel
- **G** Overall height, handwheel or bevel gear
- **H** Handwheel or cylinder diameter
- **J** Gearbox handwheel projection
- **P** Face-to-face length
- **R** Overall height, cylinder

Handwheel DN50–DN400

Size	A	B	C	D	E	G	H	P
DN50 2″	152	48	130	91.5	157	573.7	200	44
DN75 3″	190	74	150	118	323	671	270	51
DN100 4″	228	100	184	136	377	745	270	51
DN150 6″	279	150	236	162	482	930	270	57
DN200 8″	343	203	290	202	609	1203	360	70
DN250 10″	406	249	365	230	758	1520	390	70
DN300 12″	483	299	433	275	865	1645	500	76
DN350 14″	533	328	449	300	949	1918	600	76
DN400 16″	597	374	550	337	1056	2105	600	89

Pneumatic cylinder DN50–DN400

Size	A	B	C	D	E	H	P	R
DN50 2″	152	48	130	91.5	157.3	114.3	44	542
DN75 3″	190	74	150	118	323	143	51	703
DN100 4″	228	100	184	136	377	143	51	795
DN150 6″	279	150	236	162	482	226	57	1028
DN200 8″	343	203	290	202	609	226	70	1231
DN250 10″	406	249	365	230	758	280	70	1560
DN300 12″	483	299	433	275	865	330	76	1724
DN350 14″	533	328	449	300	949	381	76	1848
DN400 16″	597	374	550	337	1056	381	89	2061

Hydraulic cylinder DN250–DN600

Size	A	B	C	D	E	H	P	R
DN250 10″	406	249	365	230	758	280	70	1531
DN300 12″	483	299	433	275	865	330	76	1704
DN350 14″	533	328	449	300	949	381	76	1901
DN400 16″	597	374	550	337	1056	381	89	2074
DN450 18″	640	435	590	355	1110	480	105	2165
DN500 20″	700	470	670	385	1240	600	125	2370
DN600 24″	815	575	760	445	1475	600	125	2860

Bevel gear DN300–DN600

Size	A	B	C	D	E	F	G	H	J	P
DN300 12″	483	299	433	275	865	1066	1822	457	419	76
DN350 14″	533	328	449	300	949	1150	1951	457	419	76
DN400 16″	597	374	550	337	1056	1257	2138	457	419	89
DN450 18″	640	435	590	355	1110	1285	2215	455	420	105
DN500 20″	700	470	670	385	1240	1415	2595	455	420	125
DN600 24″	815	575	760	445	1475	1670	2870	455	475	125

Dimensions in mm, for information only; certified drawings are available for every size and actuator. Flanges drilled to EN 1092-1 PN10 as standard, ANSI on request. DN32, DN65 and DN125 on request.

Technical data and service

Pressure and test data

	DN50–DN400	DN450–DN600
Max. working pressure	10 bar	6 bar
Body test pressure	15 bar	9 bar
Seat test pressure	11 bar	6.6 bar

Higher pressure	**16 barg (PN16) on request**
Pneumatic air supply	**3.5–10 bar (sized for 6 bar)**
Max. temperature	**NR 80 °C · EPDM 110 °C**

Standards and certification

Flange connection	**EN 1092-1**
Face-to-face	**Manufacturer's standard**
Shell design	**EN 12516**
Testing	**EN 12266-1**
CE marking	**PED 2014/68/EU; LVD 2014/35/EU and EMC 2014/30/EU for electric actuation**
Machinery safety	**EN ISO 12100, EN 60204-1**

Applications

01 Hydrocyclone feed and isolation

02 Slurry transport pipelines

03 Mineral flotation circuits

04 Low-pressure tailings systems

05 Tailings distribution networks

06 Ash handling in power and industrial plants

07 Mineral sands processing

+ Other slurry duties: ask our engineers

Krux™ versus a conventional gate valve

	Krux™ KR series	Conventional gate valve
Sealing	Two-piece rubber sleeve system	O-ring
Wear parts	Replaceable rubber sleeves	No replaceable liner
Wetted parts	Rubber and stainless steel only, no cast iron in contact with the medium	Body in contact with the medium, wears
Gate lubrication	Grease labyrinth lubricates the gate on every stroke	—
In slurry	Resistant to polluted water and abrasive slurry	Less resistant to solids

Spare parts

Rubber sleeves and gate packing are the only wear parts. Both are supplied as spare parts and are replaced on site, without dismantling the valve body.



One partner for the whole slurry line

Vaikon supplies what keeps a slurry line running: slurry pumps, spare parts, hydrocyclones, rubber-lined hoses and valves, together with the engineering and on-site service to make them work. Ask for a free on-site assessment of your installation.

vaikon

PROVIDING SOLID SOLUTIONS

Krux™ in the field

Krux™ valves in service: from compact, containerised pump stations to hydrocyclone clusters.

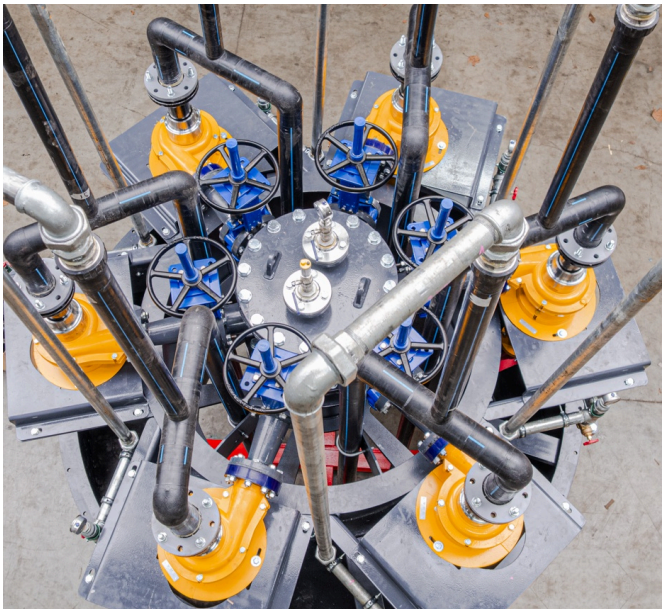




Containerised pump station

Pneumatic and handwheel Krux™ valves side by side on the pump lines. The same valve body takes any actuator, so lines can be automated where the process needs it.

- ✓ Any actuator
- ✓ Ready for automation
- ✓ Full bore, bi-directional





Hydrocyclone cluster

Krux™ valves with handwheel on the feed line of every cyclone in a Kinarox® cluster, so each cyclone can be isolated individually.

- ✓ Hydrocyclone feed and isolation
- ✓ Sleeves replaced on site
- ✓ Long service life



KRUX
KNIFE VALVES

Need a valve for your slurry line?

Send us the size, medium and actuation you need. Our solution engineers select the right configuration and support you on site.

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