E5300 Heavy Slurry KGV
Installation, Operation and Maintenance Manual

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Operation Notes:

1) All Elite rubber seated knife gate valves are not intended for throttling use, the warranty is limited to on/off applications.
2) No additional gaskets are required with the E5300 model, as the seat has been designed to protrude from the body housing to form the gasket surface.
3) Note; additional ring gaskets will affect the performance of the valve, and increase the thrust requirements to operate the valve.
4) Always confirm the safety lockout bolts have been removed prior to operation.
5) Caution should be used when choosing bolts to install your E5300 valve. Bolts that are too long can have adverse effects on the valve's performance, and cause damage such as stripped threads, body deflection, and excess thrust.

Lubrication:

The E5300 slurry knife gate valve has been designed with a self-lubricating wiper seal, which dispenses lubricant every time it is cycled to reduce thrust requirements. Regular lubrication will be required, and the frequency will be set by the number of cycles of the valve. Note, it has not been noted where too much grease has ever been installed in the valve.

Approved Lubricants:

Silicone based lubricates only, under no circumstance are hydrocarbon-based lubricants to be used.

Dow Corning - Dow III, Dow 44, Dow 7
Dupont – Molykote 7

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Installation:

Refer to dimensional drawings for face-to-face requirements. Since the seat forms the gasket surface, additional clearance will be required during installation. Caution should be used, as the E5300 is designed for flat faced flanges. The use of raised faced flanges is NOT recommended, as this will affect the operating thrusts of the valve, and the crush of the seat.

All pneumatically actuated E5300 knife gate valve cylinders are supplied with eyebolts which are intended to support the cylinder when mounted in a vertical installation.

They can also be used on valve assemblies smaller than 12” in size for vertical lifting or installations, but are NEVER to be used for lifting valves assemblies larger than 12” due to excessive weight, which could result in damage or personal injury.

Always use soft slings when working around or moving your E5300 valve to avoid damage to the paint finish. Ensure the slings are properly loaded rated to suit the valve weight and in good condition.

CAUTION- NEVER WALK UNDER A VALVE WHILE BEING LIFTED INTO POSITION

When removing the valve from a pallet, use two slings lifting both the cylinder and the valve weight together. Place the valve onto a flat surface prior to installation, re-sling for the vertical lift using the suggested lifting locations.

Note: Elite Valve makes NO recommendations on safe lifting procedures, and should always reference certified manuals, using licensed operators

General Maintenance

Elite Valve recommends the E5300 be inspected every 3 months. A visual inspection of the valve includes

1. Check hardware has not loosened due to excessive vibration
2. Any noticeable corrosion or erosion for the gate of body
3. Actuator and valve stem is adequately lubricated and functioning properly

Periodic lubrication of the stem and gate is required for the valve to operate properly and prevent damage to the seats. Grease top-up frequency is process specific and is to be determined from frequent initial valve inspections.

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Safety Features:

Standard on every E5300 slurry valve is the integral safety lockout holes and lockout pin designed for accidental use. They are not intended to be used as a position stop for any other purpose.

Acrylic gate guards are included as a standard, which is mounted on both sides of the top yoke, to prevent dust, debris, and accidental personal contact which could result in injury. Removal of these guards, during operation is NOT recommended and could result in serious injury.

Design Features:

The heavy-duty yoke comes complete with flexible direct mount ISO5211 mounting holes, which allow the installation of various designs and styles of actuators. The yoke mechanism has been designed with a split wall feature, to allow ease of installation on to the body, to deflect forces such as vibration, stresses and thermal effects. The yoke legs will accommodate the installation of 5/8” & 3/4” position target switches, in both open/closed positions.

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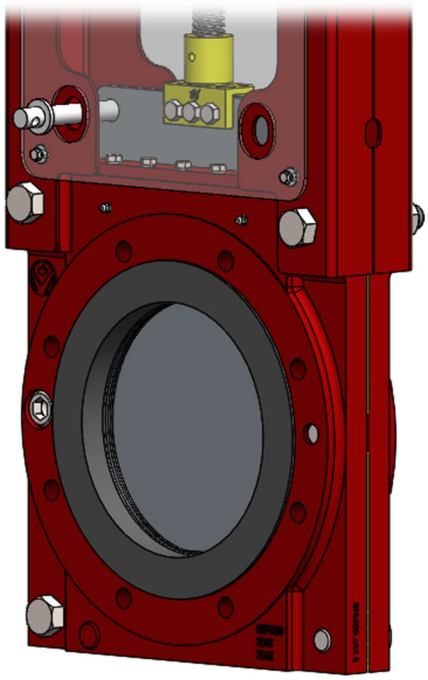
Flange Torque Table

Valve size	ft.lbs	N.m
2”	38	51
3”	38	51
4”	38	51
6”	68	92
8”	68	92
10”	111	150
12”	111	150
14”	160	216
16”	165	223
18”	240	324
20”	250	338
24”	360	486
26"	360	486
30"	360	486
36"	625	845
42"	625	845
48"	625	845
54"	1100	1486
60"	1100	1486



Flange Bolting

Valve size	Flange OD (in)	BCD (in)	# of Bolts	Bolt Size (UNC)
2”			4	5/8-11
3”	7.5	6	4	5/8-11
4”	9	7.5	8	5/8-11
6”	11	9.5	8	3/4-10
8”	13.5	11.75	8	3/4-10
10”	16	14.25	12	7/8-9
12”	19	17	12	7/8-9
14”	21	18.75	12	1-8
16”	23.5	21.25	16	1-8
18”	25	22.75	16	1 1/8-7
20”	27.5	25	20	1 1/8-7
24”	32	29.5	20	1 1/4-7
26"	34.25	31.75	24	1 1/4-7
30"	38.75	36	28	1 1/4-7
36"	46	42.75	32	1 1/2-6
42"	53	49.5	36	1 1/2-6
48"	59.5	56	44	1 1/2-6
54"	66.25	62.75	44	1 3/4-5
60"	73	69.25	52	1 3/4-5

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Storage:

If valves are not to be installed upon receipt, then it is recommended that the valve be stored in original factory packing in a clean dry warehouse until ready for installation. All valves should be inspected periodically for proper lubrication. If the valves are to be stored for prolonged periods of time, it is recommended that the valve remain in an open position and the rubber seat retainers be removed to prevent effect of mechanical deformation, and the environment.

If the valves are to be installed outside, then they shall be covered at all times with a water-resistant blanket, or sheet. It shall reflect direct sunlight, to prevent damage caused by sun, water, snow and other environmental impacts. Proper ventilation will prevent the buildup of moisture, the corrosive effects caused by water, heat and air.

If the valves are automated, always follow the actuators guidelines. All port openings, wires and plastic shall be sealed from the environments, pests and insects.

Replacement of the Wiper Seal and Gate:

Caution should always be used when working on any valve inline.

The wiper seals can easily be replaced while the valve is in line, however; the valve gate MUST be in the fully open position, and all potential energy released prior to removing any pressure containing component from the valve. It is also recommended that a blanking plate be installed upstream from the repair to prevent accidental fluid pressure. Hydraulic pressure can eject the gate from the body, if the yoke is removed while under pressure.

1) To access the wiper seal, you must remove the yoke and gate assembly completely, which is done by removing the two upper body bolts that hold the yoke assembly in place.
2) Next, remove the gate clevis bolt (the gate must be in the up, or open position)
3) Always have assistance to remove the top works, hand wheel, gears and motors they can be very heavy.
4) The wiper seal is located just under the cover plant. Therefore, you must remove the retaining bolts from the cover.
5) With the wiper plate now visible, remove the gate and the wiper seal and inspect for wear, such as sharp edges, tears, or scores in the gate.

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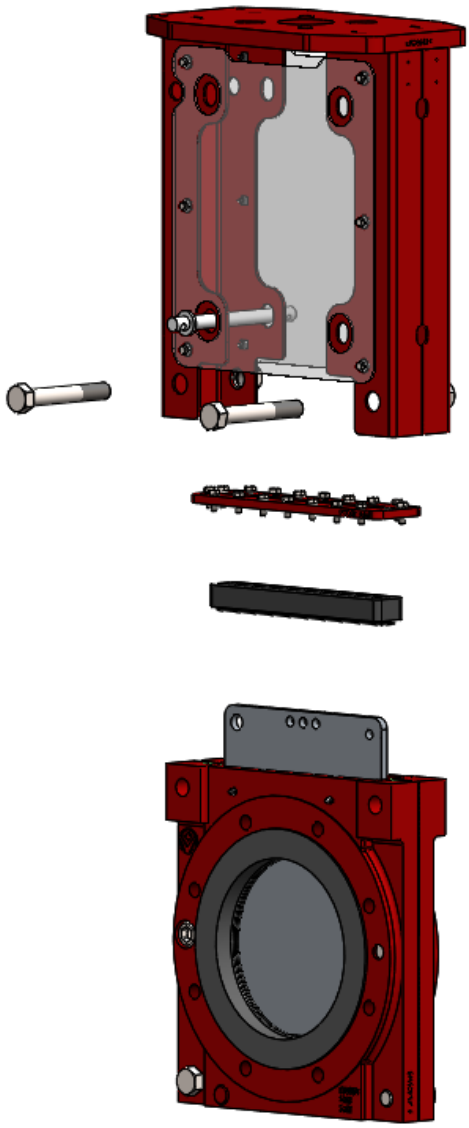
6) Remove the wiper seal from the gate and discard.
7) Remove the new wiper seal from the packaging and apply a liberal coating of Silicone lubricant to the gate, and the mating wiper seal surface.
8) Finally, place the original or replacement gate back in the body with the wiper seal, and slide the seal down the gate into the valve housing.
9) Lastly, re-install the wiper seal cover plate with the retaining bolts, followed by the upper yoke assembly to its original form.



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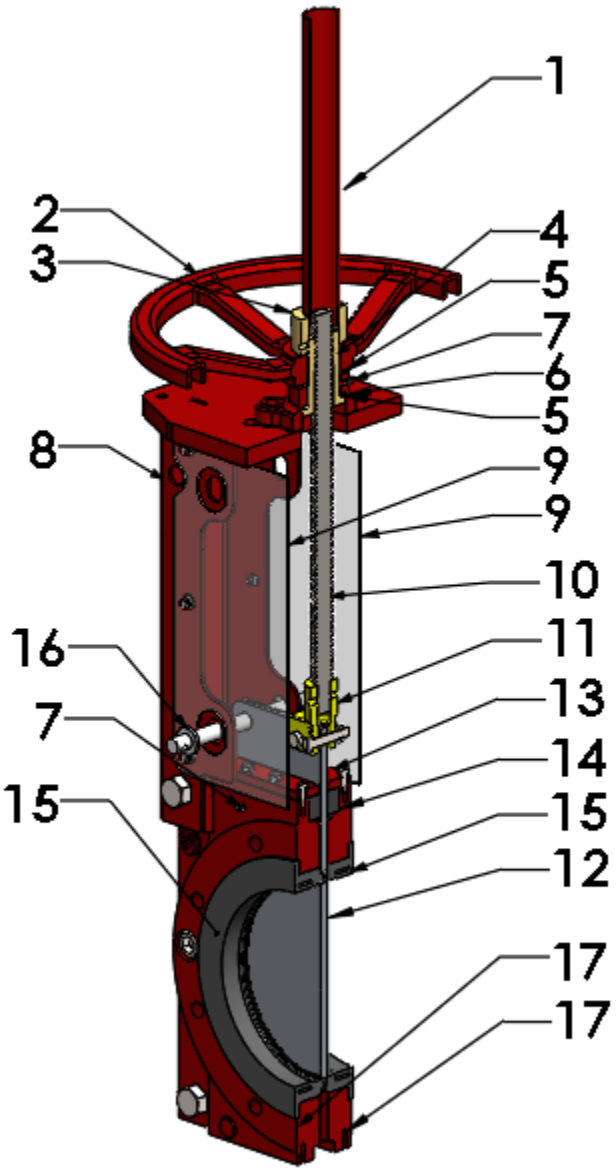
Typical Parts Identification



1	Stem Protector
2	Handwheel
3	Handwheel Nut
4	Handwheel Bushing
5	Thrust Bearing
6	Yoke Bridge
7	Grease Fitting
8	Yoke
9	Gate Guard
10	Stem
11	Clevis
12	Gate
13	Cover Plate
14	Wiper
15	Seat Ring
16	Lockout Pin
17	Body

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Warranty

All Elite Valve products are covered under our standard 12-month warranty which covers all components manufactured by Elite Valve, all castings, gates, operators, but excludes all soft, resilient or replaceable components, such as gaskets, o-rings, elastomers, packing and other wearable components.

This warranty is limited to manufactured items & assembly and does not cover the installation of the valve.

Elite Valve Canada will repair, replace, or credit back the purchase or portion of the purchase price equal to the value of the deflective components, deem defective by Elite Valve personnel. Any valve or valve related components that have been altered, or disassembled for any reason without written approval, will be excluded from this warranty.

This warranty does not cover any associate cost or labor incurred directly or indirectly by the defective part, or to replace the defective components, nor does it cover any transportation cost for the components.

As a manufacturer, we have standard products, special products, and can manufacture our product depending on the application to very specific requirements, provide we understand all the conditions. It is our intention to manufacture the very best product possible, that meets and exceeds our customer's operational criteria.

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