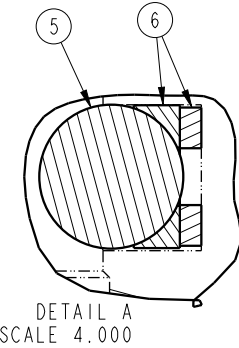
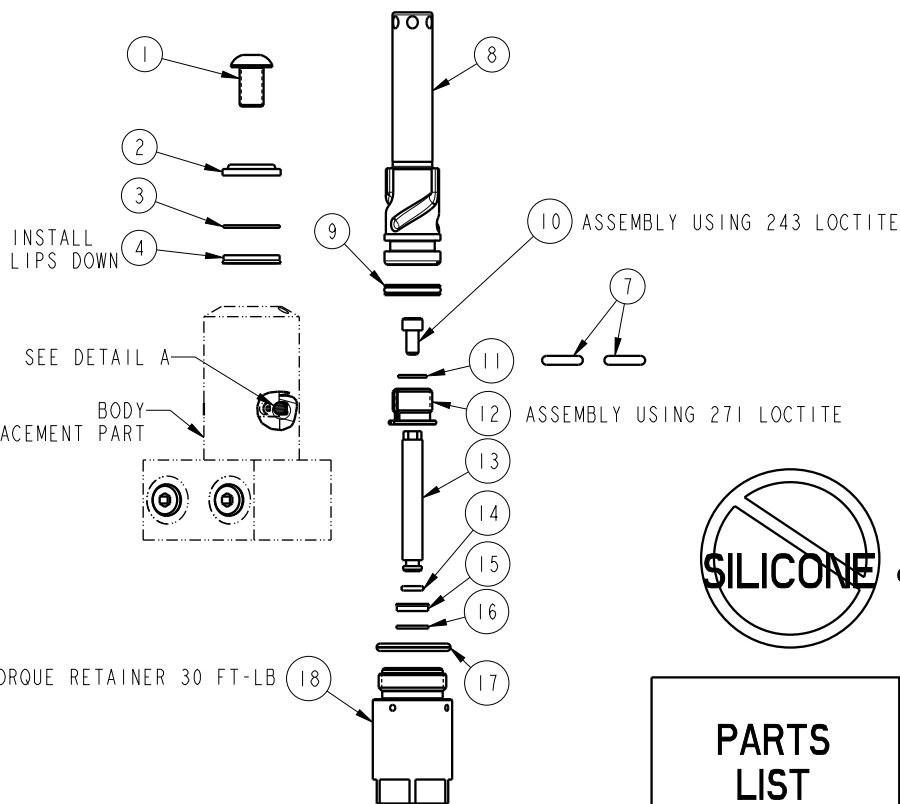


NO.	QTY.	DESCRIPTION	MODEL NUMBER		STANDARD SEAL KIT	FLUOROCARBON SEAL KIT
			14-2209-01-X-PP	14-2213-01-X-PP		
1	1	BUTTON HEAD CAP SCREW	21-4100-09	21-4100-39	NO	NO
2	1	WIPER, ROD (FLUOROCARBON)	39-0530-01	39-0530-00	YES	YES
3	1	BACK-UP RING, ROD	39-F540-01	39-F540-02	YES	YES
4	1	SEAL, ROD (STANDARD)	39-0100-20	39-0110-46	YES	NO
	1	SEAL, ROD (FLUOROCARBON)	39-V100-20	39-V110-46	NO	YES
5	3	BALL, STEEL ALLOY	23-6000-11	23-6000-02	YES	YES
6	3	BALL SEAT ASSEMBLY	90-1999-57	90-1999-58	YES	YES
7	2	O-RING, MANIFOLD (STANDARD)	39-0000-50	39-0000-50	YES	NO
	2	O-RING, MANIFOLD (FLUOROCARBON)	39-0510-22	39-0510-22	NO	YES
8	1	PLUNGER, LEFT HAND (SHOWN)	81-4000-51	81-4000-52	NO	NO
	1	PLUNGER, RIGHT HAND	81-4000-48	81-4000-49	NO	NO
9	1	SEAL, PLUNGER (STANDARD)	39-H100-18	39-H110-30	YES	NO
	1	SEAL, PLUNGER (FLUOROCARBON)	39-V100-18	39-V110-30	NO	YES
10	1	SOCKET HEAD CAP SCREW	21-4100-73	21-4100-73	NO	NO
11	1	WASHER	23-0500-11	23-0500-11	NO	NO
12	1	PLUNGER BUSHING	81-5000-13	81-5000-14	NO	NO
13	1	ROD, ACTUATOR	81-4001-00	81-4001-95	NO	NO
14	1	O-RING, RETAINER BORE (STANDARD)	39-0511-96	39-0511-96	NO	NO
15	1	SEAL, LOWER ROD (FLUOROCARBON)	39-V520-31	39-V520-31	NO	NO
16	1	BACK-UP RING, LOWER ROD	39-F540-05	39-F540-05	NO	NO
17	1	O-RING, RETAINER (FLUOROCARBON)	39-0510-31	39-V510-43	YES	YES
18	1	RETAINER	81-4000-99	81-4001-94	NO	NO
N/A	N/A	SEAL KIT (STANDARD)	60-1400-26	60-1400-20	INCLUDED IN KIT	
N/A	N/A	SEAL KIT (FLUOROCARBON)	6V-1400-26	6V-1400-20		



SILICONE
Lubricate all seals with clean hydraulic fluid prior to assembly.

PARTS LIST		
	VEKTEK, INC. 1334 E. SIXTH AVE. P.O. BOX 625 EMPORIA, KS. 66801 U.S.A.	
ASSEMBLIES AFFECTED	PARTS LIST, ASSY, SC, HS, BF, 1100, DA, LH, PP	
14220901LPP, 14220901RPP	SIZE A	PL1458
14221301LPP, 14221301RPP	REV A	

A	5805	RELEASE	ALS	9/11/25
REV	IN ACCORDANCE WITH ECN	EFFECTIVE DATE	REVISED BY	DATE
DRW BY: ALS	DRAWING STATUS: Released			
DATE: 9/10/25	PRODUCTION APPROVED FOR RELEASED STATUS ONLY			

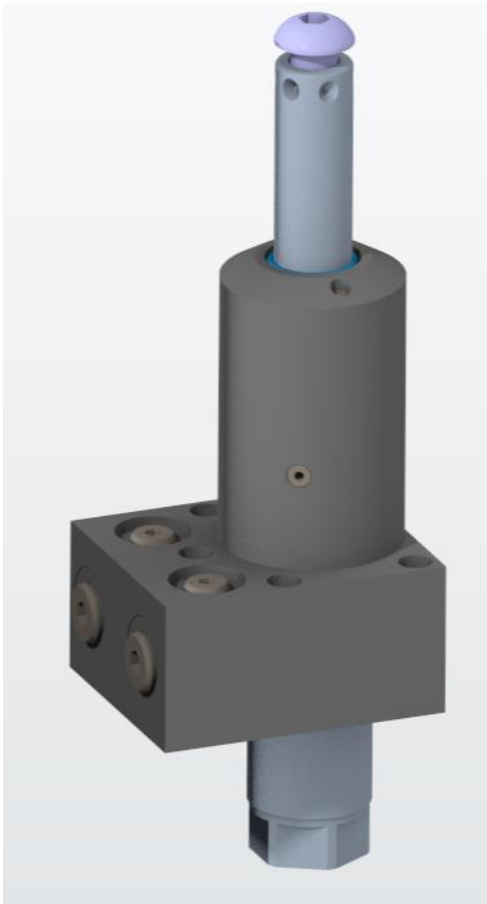
SHEET 1 OF 1

Vektek LLC 1334 East Sixth Ave. P.O. Box 625 Emporia, Ks. 66801 U.S.A.	Instruction Sheet	IS1603	
		REV: B	
		REV. BY/DATE: ALS	11/12/25
		APPR/DATE: BCD	12/3/25
TITLE: External Pneumatic Position Sensing Clamps Setup Guide			



Link Clamp

Swing Clamp



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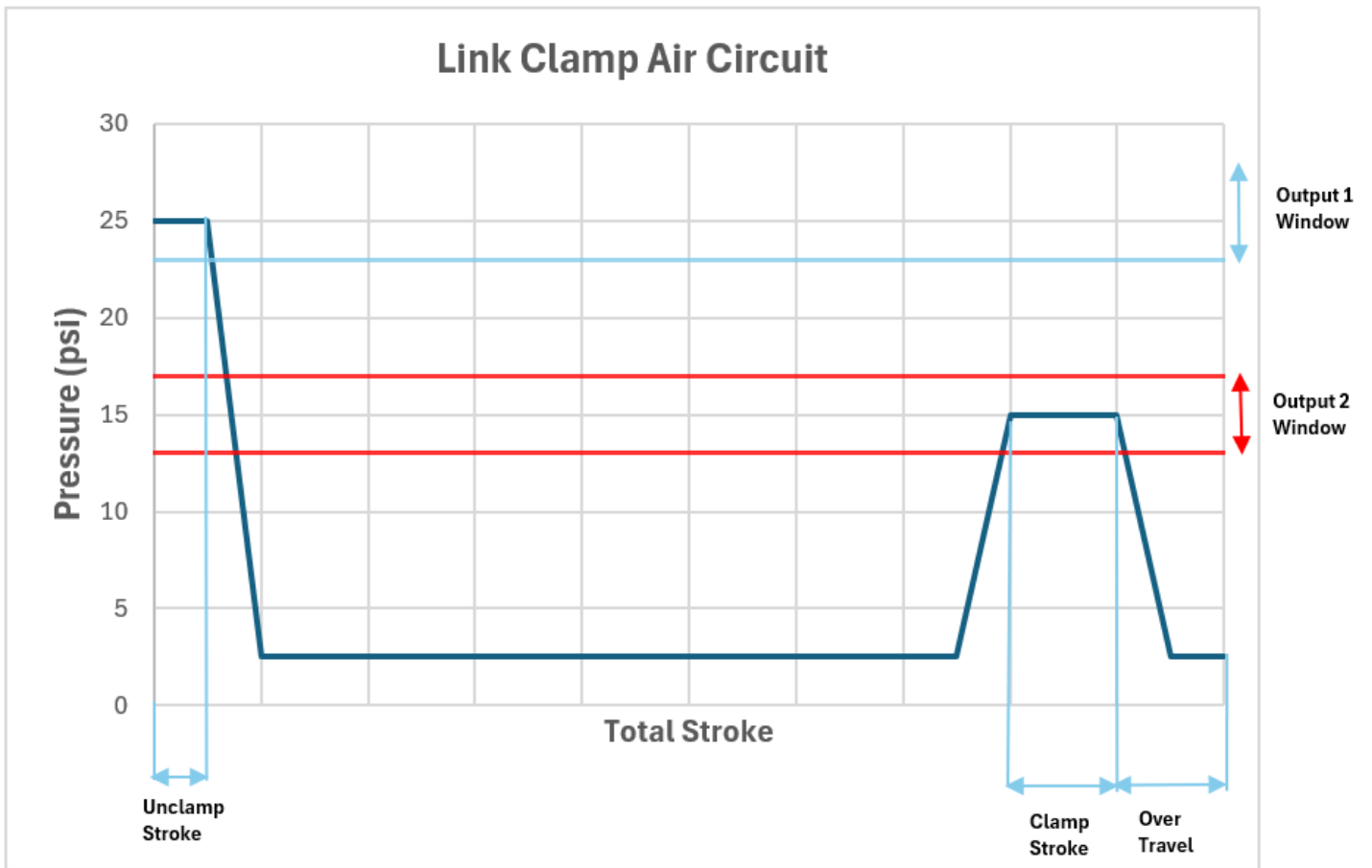
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External pneumatic position sensing clamps.....	3
Installing the clamp.....	4
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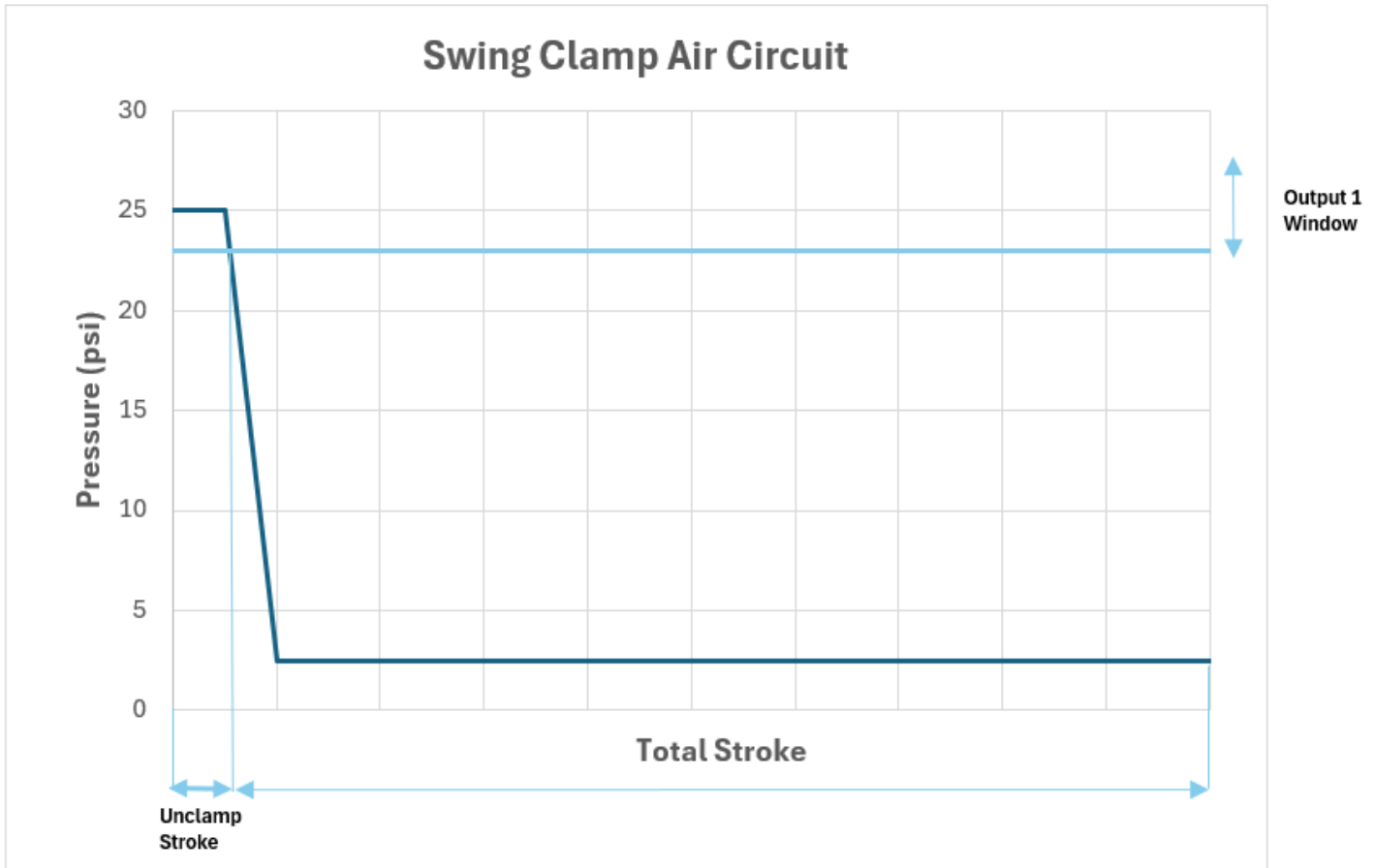
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External pneumatic sensing clamps

The external pneumatic clamp is a standard link or swing clamp with additional components to enable pneumatic position sensing. Position sensing enables the automatic detection of clamp states. Link clamps have unclamped, travel, clamp, and overtravel clamp states. Swing clamps are either in an unclamped state or travel/clamp state. The pressure varies between 0-25psi and this sensing logic is shown in the charts below. Pressures will be around 25psi at unclamp for link clamps and swing clamps, below 5psi during travel for link clamp and swing clamps, and 15psi at clamp for link clamps on a per clamp basis. Swing clamps will be below 5 psi at the clamp state. More than one clamp can be used per air kit, up to a maximum of four. Each additional clamp added beyond the first adds possible failure states due to the different combinations of pressure drops possible.



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Installing the clamp

Air system Setup

Use of pneumatic sensing clamps requires a regulated air supply and flow control. This can be accomplished with the Vekttek Air Sensing Control Kit or a similar system. Max air pressure required is 30psi.

Mounting and air attachment

The clamps mount similarly to the standard top flange clamps, with identical vertical clamping strokes. The pneumatic sensing clamps are connected pneumatically through a NPT port on the bottom of the retainer. Clearance is required around the retainer body to allow air to vent from both vent holes. The maximum number of clamps per fixture or air kit should be kept to four or less clamps. ¼” air line or equivalent should

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be used when possible to reduce restrictions and the number of clamps linked in series should be kept to a minimum. It's recommended to run the main air line to a T fitting between clamps 2 and 3 when running four clamps.

System tuning

Tuning is the last step of the process. When using the Vektek Air Sensing Control Kit or a similar setup, set points must be programmed into the sensor switches to provide feedback to the machining systems. The use of windows is recommended as the number of clamps in the circuit increase.

When setting up pneumatic sensing Link Clamps and Swing Clamps on the same fixture, there must be a separate air circuit for each clamp type. Link Clamps and Swing Clamps can't be mixed because the Swing Clamps lack the clamp and over clamp sensing feature that the Link Clamps use.

The "Unclamp" pressure point is the back pressure that builds when all clamps in the circuit are in the unclamp state. This parameter needs to be higher than all other pressures and is tuned by adjusting the pressure regulator. Vektek recommends 25 PSI (170 kPa) which is the max attainable pressure by the Control Kit regulator.

The "Clamp" pressure point is only available with Link Clamps and is when all clamps are in the clamped state. This is recommended to be set at around half the max pressure or 15psi and is tuned by using the flow control.

The "Travel" pressure point is when the clamp is neither clamped nor unclamped. The "Overtravel" pressure point is only available on Link Clamps and is when the Link Clamp has traveled past its clamp position, indicating a part is missing. Both the "Travel" and "Overtravel" pressure point should be below 5 psi but this value will depend on tuning from the "Clamp" and "Unclamp" states.

Tuning Process

1. Cycle clamps so that all the valves are in the "Unclamped" position.
2. Adjust pressure regulator until the unclamped pressure is achieved.
3. Move all clamps in the circuit to the "Clamped" state and adjust the flow control valve to reach the chosen clamp pressure (Only for Link Clamps).
4. Set windows on the pressure switch to plus or minus 2psi around both states.
5. Cycle the clamps through possible failure combinations. If combinations result in pressure drops landing within the clamped state range, steps 3 and 4 can be repeated with a higher or lower clamped value.