



ENERGY ISOLATION LOCKOUT VALVES WITH SOFT-START L-O-X[®] WITH EEZ-ON[®] 15 & 27 SERIES

PRODUCT CATALOG



Manual Lockout L-O-X® Valves with Soft Start EEZ-ON® 15 Series

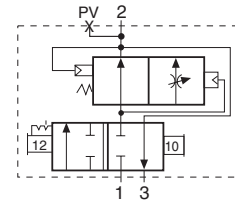
Product Overview



Energy Isolation Lockout with Soft-Start Safety Function

The L-O-X® with EEZ-ON® operation valve combines shut-off certainty with gradual pressurization upon start-up.

Valve Schematic



Combining two functions critical to safety concerns in any application, the ROSS L-O-X® valve with EEZ-ON® operation provides the shutdown and the gradual start-up (or, “Soft-Start”) capabilities today’s systems require. In addition, because the L-O-X® valve with EEZ-ON® operation is two units in one, you eliminate the need for multiple components.

The valve permits the gradual increase of downstream pressure in the pneumatic circuit that has just been actuated. The same unit also features a shut-off and lockout of system air to limit inadvertent actuation. Exhaust port is threaded for the installation of a silencer or a line for remote exhausting.

Modular	Classic
	

VALVE FEATURES

Unique Appearance	Easily identifiable with a yellow body and a blue handle to control ON/OFF positions
Soft-Start Function	Gradual re-application of pneumatic pressure prevents rapid equipment movement at startup
Quick Energy Dump	Full size exhaust ports (equal to or larger than supply) provide rapid exhaust of downstream air and are threaded for silencers or remote exhaust lines
Locking Protection	Design only allows the valve to be lockable in the OFF position
PTFE Seals	Fluorocarbon slipper seals for easy shifting, even after long periods of inactivity
Visible Pressure Indication Option	Includes integrated sensing port for pressure verification with either a visual pop-up indicator or electrical pressure switch
Mounting	Inline or Surface

NOTE: Per specifications and regulations, these products are defined as energy isolation devices, NOT AS EMERGENCY STOP DEVICES.

STANDARD SPECIFICATIONS

GENERAL	Function		3/2 Valve	
	Construction Design		Spool	
	Actuation		Manual	
	Mounting	Type	Modular	Inline
			Classic	Inline or Surface
	Orientation		Any, preferably vertical; easy access to the handle	
	Connection		Threaded; G, NPT	
Minimum Operation Frequency		Once per month, to ensure proper function		
OPERATING CONDITIONS	Temperature	Ambient	40° to 175°F (4° to 80°C)	
		Media		
	Flow Media		Filtered air	
	Operating Pressure	Valve Style	Modular	0 to 200 psig (0 to 14 bar)
Classic			0 to 150 psig (0 to 10 bar)	
LOCK HOLE MEASURES	Diameter		0.27 inch (7.0 mm)	
	Length of Hole		0.43 inch (10.9 mm)	
CONSTRUCTION MATERIAL	Valve Body		Cast Aluminum	
	Spool		Stainless Steel	
	Seals		Fluorocarbon	

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS, WARNINGS** on the inside back cover.

PRODUCT CREDENTIALS

Safety Category	EAC Conformity Declaration	CRN Certification
		Available for appropriately tested valves



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845/3-4 Thepharak RD., T.Thepharak, A.Muang, Samutprakarn 10270 THAILAND
Tel. 0 2384 6060, Fax 0 2384 5701, Email : sales@flutech.co.th, www.flutech.co.th

Ordering Information

MANUAL LOCKOUT L-O-X® VALVES WITH SOFT-START EEZ-ON®					3-Way 2-Position Valves	
Valve Style	Port Size		Body Size	Valve Model Number		
	In-Out	Exhaust		G Thread	NPT Thread	
Modular	1/4	3/4	3/4	YD1523A2103	Y1523A2103	
	3/8	3/4	3/4	YD1523A3103	Y1523A3103	
	1/2	3/4	3/4	YD1523A4103	Y1523A4103	
	3/4	3/4	3/4	YD1523A5113	Y1523A5113	
Classic	3/8	3/4	1/2	YD1523B3102	Y1523B3102	
	1/2	3/4	1/2	YD1523B4102	Y1523B4102	
	3/4	3/4	1/2	YD1523B5112	Y1523B5112	
		1-1/4	1	YD1523B5102	Y1523B5102	
	1	1-1/4	1	YD1523B6102	Y1523B6102	
	1-1/4	1-1/4	1	YD1523B7112	Y1523B7112	

Port Size		Body Size	Flow C _v		Weight lb (kg)
1, 2	3		1-2	2-3	
1/4	3/4	3/4	3.7	7.8	1.7 (0.8)
3/8	3/4	3/4	5.1	8.3	
1/2	3/4	3/4	5.5	8.6	1.8 (0.8)
3/4	3/4	3/4	5.6	8.1	
3/8	3/4	1/2	3.6	2.8	2.0 (0.9)
1/2	3/4	1/2	4.9	3.5	
3/4	3/4	1/2	5.1	2.9	3.0 (1.4)
	1-1/4	1	10	9.0	
1	1-1/4	1	11	9.0	
1-1/4	1-1/4	1	12	9.0	



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Valve Closed

With a short push of the blue handle inward, the flow of supply is blocked and downstream air is exhausted via the exhaust port at the bottom of the valve. It is required by OSHA and ISO 14118 that the L-O-X® valves with EEZ-ON® operation be padlocked in this position to prevent the handle from being pulled outward inadvertently when potential for human injury exists or servicing machinery.

Modular Style Valve

The blue handle will only shift part way due to a mechanical stop button allowing only partial flow from inlet to downstream causing the pressure to increase at a slower rate.

EEZ-ON® Function

Classic Style Valve

With the blue handle pulled out, the adjustable needle valve (accessed through top of handle) setting determines the rate of pressure buildup.


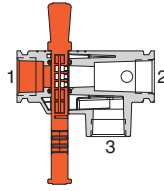
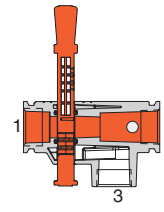
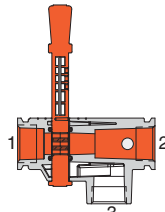

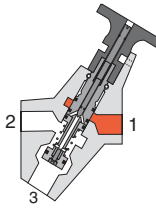
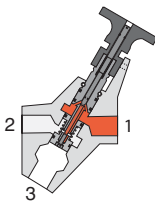
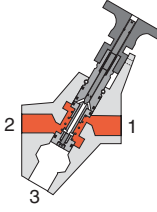
Modular Style Valve

Pressing the mechanical stop button allows the blue handle to be shifted completely open allowing full flow from inlet to downstream.

Valve Open

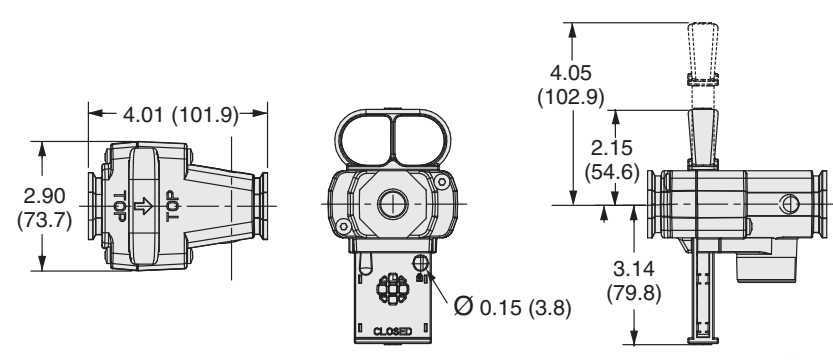
Classic Style Valve

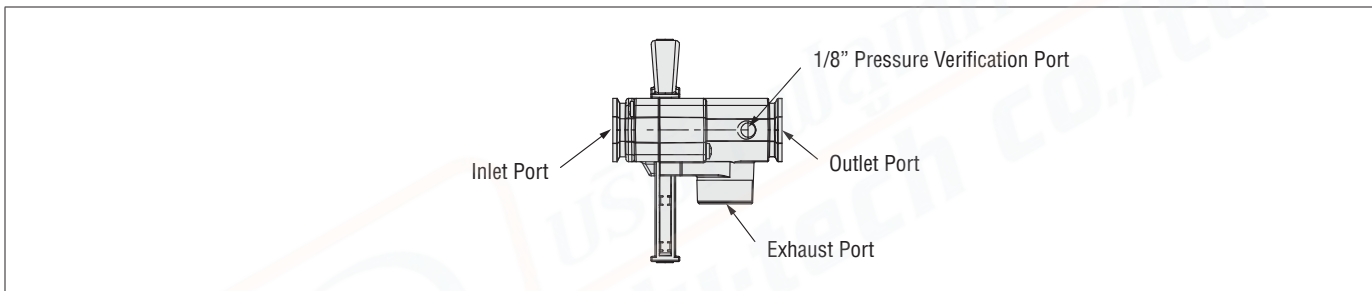
After the blue handle is pulled out and pressure downstream has gradually increased, the valve automatically changes to a fully open state, allowing full flow from inlet to downstream. Full flow is achieved at approximately 50% of inlet pressure.

Valve Style	Valve Closed	EEZ-ON® Function	Valve Open
Modular 			
Classic 			



Valve Technical Data

DIMENSIONS	Inches (mm)
Modular	 <p>Technical drawings of a modular valve. The left drawing shows a side view with dimensions: 4.01 (101.9) inches in width and 2.90 (73.7) inches in height. The middle drawing shows a top view with a 'CLOSED' label and a hole diameter of $\varnothing 0.15$ (3.8) inches. The right drawing shows a side view with dimensions: 4.05 (102.9) inches in total height, 2.15 (54.6) inches in height to the centerline, and 3.14 (79.8) inches in height to the bottom. It also shows an 'Inlet Port', 'Outlet Port', and 'Exhaust Port'.</p>
<p>For additional information, and to assist you with piping and connectivity designs, our products are available in downloadable 2D drawings and 3D CAD models in a wide range of options including native formats, visit www.rosscontrols.com.</p>	



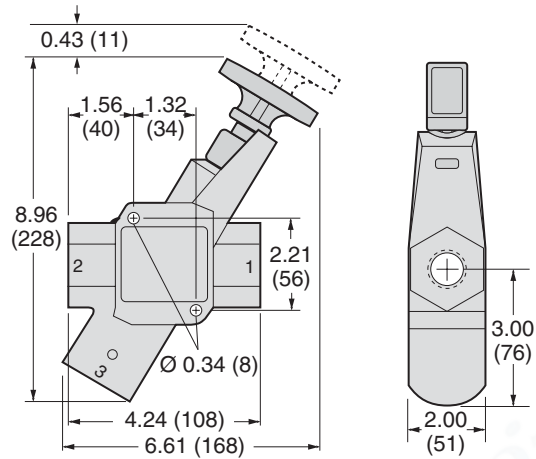
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DIMENSIONS

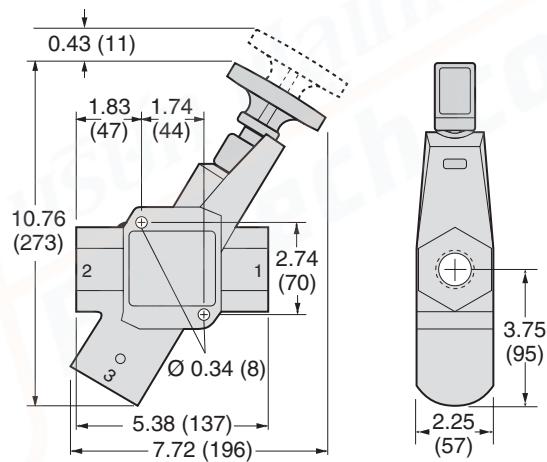
Inches (mm)

Body Size 1/2

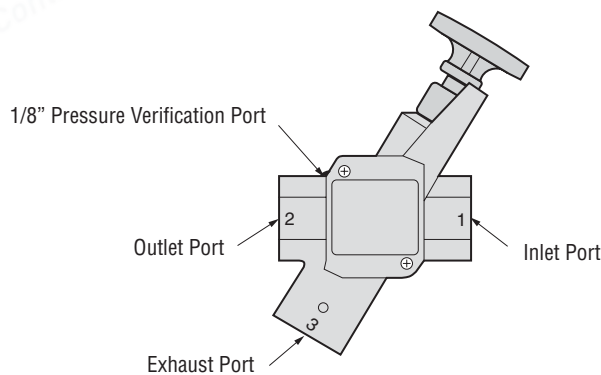


Classic

Body Size 1



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Valves with Manual Lockout L-O-X® Control with Soft-Start EEZ-ON® 27 Series Product Overview



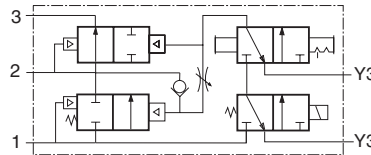
Energy Isolation Soft-Start EEZ-ON® Safety Function

The Lockout L-O-X® valve is used to block the supply and remove the downstream pressure from the circuit or machine and allow the employee to lockout the pneumatic energy for safe machine access. The shut-off function of the solenoid pilot controlled L-O-X® valve is the same as that of the manual L-O-X® valves.

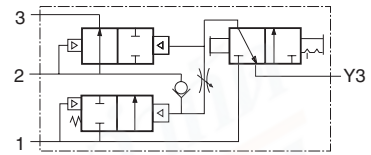
The Soft-Start EEZ-ON® valve provides gradual re-application of pneumatic energy to prevent rapid equipment movement at startup.

Valve Schematics

Solenoid Manual Lockout Controlled Valves with Soft-Start



Manual Lockout Controlled Valves with Soft-Start



The solenoid pilot controlled valve allows the air supply to be turned on or off by remote electrical control whenever the L-O-X® handle is in the outward position. Air flows only if the L-O-X® handle is outward and the solenoid pilot is energized. When the L-O-X® handle is pushed in, air will not flow regardless of the pilot being energized or not. As with all L-O-X® valves, the L-O-X® handle can be padlocked in the closed position. As a further precaution against inadvertent air flow, the solenoid pilot controlled has no manual override.

After energy isolation has been completed the rapid introduction of high pressure can cause motion and unnecessary machine wear or damage. The L-O-X® valve with soft-start EEZ-ON® function features all the advantages of the L-O-X® with the added benefit of causing the pressure to increase gradually allowing for a controlled motion to occur.

VALVE FEATURES

Poppet Design

Dirt tolerant, wear compensating for quick response and high flow capacity

Manual Lockout Control

Operated like the manual lockout L-O-X® valve, the position of the blue handle indicates instantaneous full flow pressurizing or exhausting capability

Solenoid Pilot

Allows the air supply to be turned on or off by remote electrical control when valve is not in the lockout position

Soft-Start Control

An adjustable restriction within the EEZ-ON® valve determines the rate of downstream pressure buildup, and consequently the time delay for the full opening of the EEZ-ON® valve

Quick Energy Dump

Full size exhaust ports (equal to or larger than supply) provide rapid exhaust of downstream air and are threaded for silencers or remote exhaust lines

Locking Protection

Design only allows the valve to be lockable in the OFF position

PTFE Seals

Fluorocarbon slipper seals for easy shifting, even after long periods of inactivity

NOTE: Per specifications and regulations, these products are defined as energy isolation devices, NOT AS EMERGENCY STOP DEVICES.

STANDARD SPECIFICATIONS

GENERAL	Function		3/2 Valve	
	Construction Design		Poppet & Spool	
	Actuation		Electrical - Manual Pneumatic - Manual	
	Mounting	Type	Inline	
		Orientation	Any, preferably vertical; easy access to the handle	
	Connection		Threaded; G, NPT	
Minimum Operation Frequency		Once per month, to ensure proper function		
OPERATING CONDITIONS	Temperature	Solenoid Manual Lockout Controlled Valves	Ambient	40° to 120°F (4° to 50°C)
			Media	40° to 175°F (4° to 80°C)
		Manual Lockout Controlled Valves	Ambient	40° to 175°F (4° to 80°C)
			Media	
	Flow Media		Filtered air	
	Operating Pressure		15 to 150 psig (1 to 10 bar)	
External Pilot Supply (solenoid and manual lockout controlled only)		Must be equal to or greater than inlet pressure		
ELECTRICAL DATA FOR SOLENOID PILOT	Solenoids		AC or DC power; rated for continuous duty	
	Operating Voltage		24 volts DC 110-120 volts AC, 50/60 Hz 230 volts AC, 50/60 Hz	
	Power Consumption (each solenoid)		24 V DC – 14 watts 110-120 V AC, 230 V AC – 87 VA inrush, 30 VA holding	
CONSTRUCTION MATERIAL	Valve Body		Cast Aluminum	
	Poppet		Acetal and Stainless Steel	
	Spool (Lockout Valve)		Stainless Steel	
	Seals		Buna-N; Fluorocarbon	
SAFETY DATA	Safety Integrity Level (SIL)	Certified by TÜV Rheinland in accordance to IEC 61508 and IEC 61511 safety integrity level 2 (SIL 2) and EN ISO 13849-1, PL c (with application specific diagnosis) in singular application with HFT = 0 and SIL 3 and PL e in redundant application with HFT \geq 1, for details see certificate.		

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS, WARNINGS** on the inside back cover.

PRODUCT CREDENTIALS

Safety Category	EAC Conformity Declaration	ISO Standard	CSA Certificate of Compliance	CRN Certification
		ISO 13849-1:2015	 Solenoid Pilot Valves	Available for appropriately tested valves



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Ordering Information

SOLENOID MANUAL LOCKOUT CONTROLLED VALVES WITH SOFT-START

3-Way 2-Position Valves

Port Size		Body Size	Valve Model Number					
In-Out	Exhaust		G Thread			NPT Thread		
			24 V DC	110-120 V AC	230 V AC	24 V DC	110-120 V AC	230 V AC
1/4	1/2	3/8	YD2773B2075W	YD2773B2075Z	YD2773B2075Y	Y2773B2075W	Y2773B2075Z	Y2773B2075Y
3/8	1/2	3/8	YD2773B3075W	YD2773B3075Z	YD2773B3075Y	Y2773B3075W	Y2773B3075Z	Y2773B3075Y
1/2	1/2	3/8	YD2773B4085W	YD2773B4085Z	YD2773B4085Y	Y2773B4085W	Y2773B4085Z	Y2773B4085Y
	1	3/4	YD2773B4075W	YD2773B4075Z	YD2773B4075Y	Y2773B4075W	Y2773B4075Z	Y2773B4075Y
3/4	1	3/4	YD2773B5075W	YD2773B5075Z	YD2773B5075Y	Y2773B5075W	Y2773B5075Z	Y2773B5075Y
1	1	3/4	YD2773B6085W	YD2773B6085Z	YD2773B6085Y	Y2773B6085W	Y2773B6085Z	Y2773B6085Y
	1-1/2	1-1/4	YD2773B6075W	YD2773B6075Z	YD2773B6075Y	Y2773B6075W	Y2773B6075Z	Y2773B6075Y
1-1/4	1-1/2	1-1/4	YD2773B7075W	YD2773B7075Z	YD2773B7075Y	Y2773B7075W	Y2773B7075Z	Y2773B7075Y
1-1/2	1-1/2	1-1/4	YD2773B8085W	YD2773B8085Z	YD2773B8085Y	Y2773B8085W	Y2773B8085Z	Y2773B8085Y

For other voltages, consult ROSS.

Port Size		Body Size	Flow C _v		Weight lb (kg)
1, 2	3		1-2	2-3	
1/4	1/2	3/8	2.5	3.1	5.3 (2.4)
3/8	1/2	3/8	3.6	5.3	
1/2	1/2	3/8	3.3	5.3	
	1	3/4	10	13	6.0 (2.7)
3/4	1	3/4	12	15	
1	1	3/4	12	16	
	1-1/2	1-1/4	23	34	9.5 (4.3)
1-1/4	1-1/2	1-1/4	30	32	
1-1/2	1-1/2	1-1/4	30	31	



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MANUAL LOCKOUT CONTROLLED VALVES WITH SOFT-START

3-Way 2-Position Valves

Port Size		Body Size	Valve Model Number	
In-Out	Exhaust		G Thread	NPT Thread
1/4	1/2	3/8	YD2783B2055	Y2783B2055
3/8	1/2	3/8	YD2783B3055	Y2783B3055
1/2	1/2	3/8	YD2783B4065	Y2783B4065
	1	3/4	YD2783B4055	Y2783B4055
3/4	1	3/4	YD2783B5055	Y2783B5055
1	1	3/4	YD2783B6065	Y2783B6065
	1-1/2	1-1/4	YD2783A6055	Y2783A6055
1-1/4	1-1/2	1-1/4	YD2783A7055	Y2783A7055
1-1/2	1-1/2	1-1/4	YD2783A8065	Y2783A8065

Port Size		Body Size	Flow C _v		Weight lb (kg)
1, 2	3		1-2	2-3	
1/4	1/2	3/8	2.5	3.1	4.3 (2.0)
3/8	1/2	3/8	3.6	5.3	
1/2	1/2	3/8	3.3	5.3	
	1	3/4	10	13	4.8 (2.2)
3/4	1	3/4	12	15	
1	1	3/4	12	16	7.9 (3.6)
	1-1/2	1-1/4	23	34	
1-1/4	1-1/2	1-1/4	30	32	
1-1/2	1-1/2	1-1/4	30	31	



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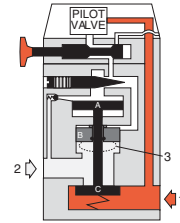
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Valve Operation

Solenoid Manual Lockout Controlled Valves with Soft-Start

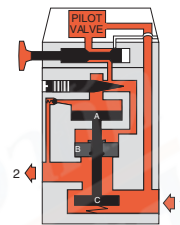
L-O-X® Handle Open and Pilot Not Energized

Pilot air is blocked by the pilot. Any downstream pressure forces piston B (which slides on the valve stem) upward. This opens the exhaust port and vents the downstream line.



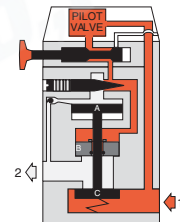
Full Pressure

When the pressure on piston A reaches approximately 50 percent of inlet pressure, it is forced downward and opens inlet poppet C. Full inlet pressure now flows freely to the outlet port.



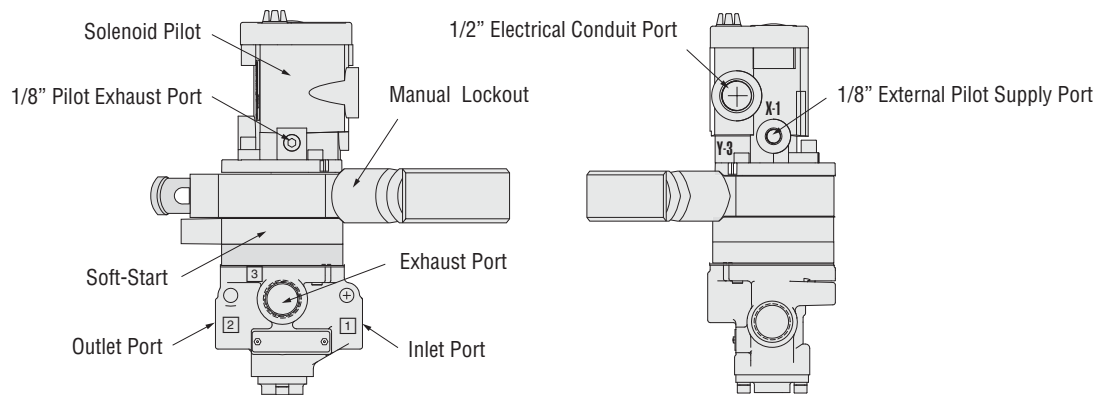
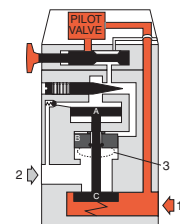
L-O-X® Handle Open and Pilot Energized

Pilot air forces piston B downward to close the exhaust port. Pilot air flows past the adjusting needle, opens the ball check and begins slowly to pressurize the outlet line. At the same time, pressure is building up on piston A.



L-O-X® Handle Closed

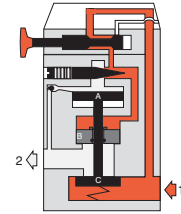
At any time the L-O-X® handle can be pushed inward, thereby closing off the flow of pilot air. Pilot air above pistons A and B is then vented to atmosphere. Piston A moves upward and closes inlet poppet C. Sliding piston B also moves upward to open the exhaust port and vents the downstream line.



Manual Lockout Controlled Valves with Soft-Start

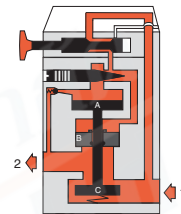
L-O-X® Valve (Handle) Open

Pilot air forces piston B downward to close the exhaust port. Pilot air flows past the adjusting needle, opens the ball check and begins slowly to pressurize the outlet line. At the same time, pressure is building up on piston A.



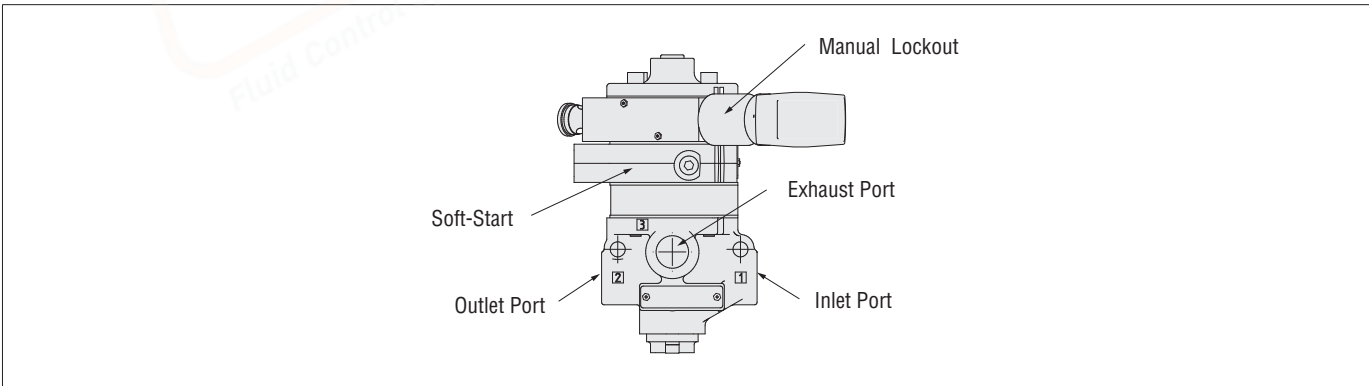
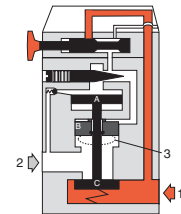
Full Pressure

With a short push of the red handle inward the flow of supply air is blocked and downstream air is exhausted via the exhaust port. Air pressure on the inlet and exhaust poppets produces a large closing force. The L-O-X® valve should be padlocked in this position to prevent the handle from being pulled outward inadvertently when potential for human injury exists or servicing machinery.



L-O-X® Valve (Handle) Closed

Pilot air forces piston B downward to close the exhaust port. Pilot air flows past the adjusting needle, opens the ball check and begins slowly to pressurize the outlet line. At the same time, pressure is building up on piston A.



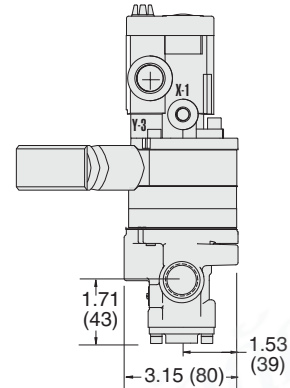
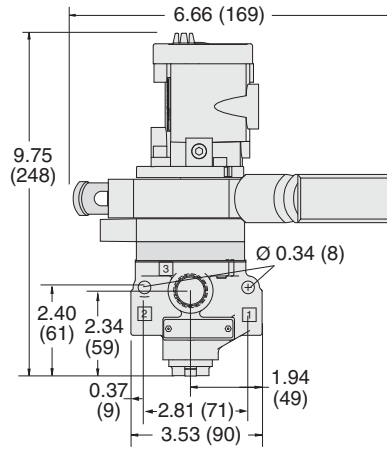
Valve Technical Data

Solenoid Manual Lockout Controlled Valves with Soft-Start

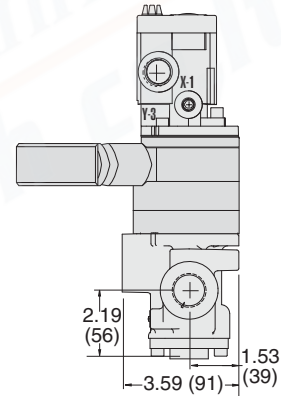
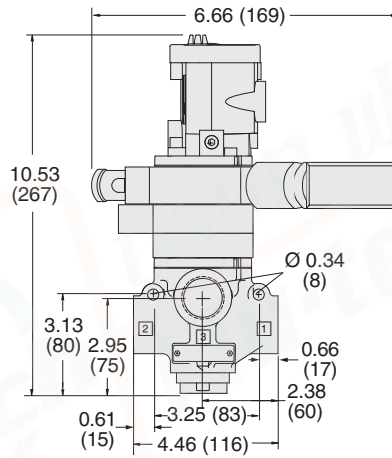
DIMENSIONS

Inches (mm)

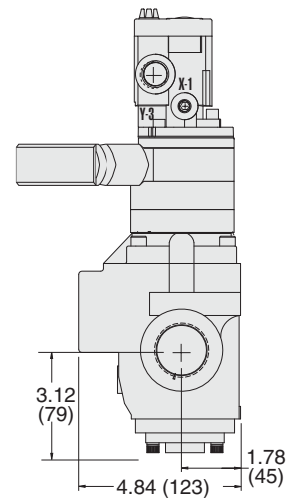
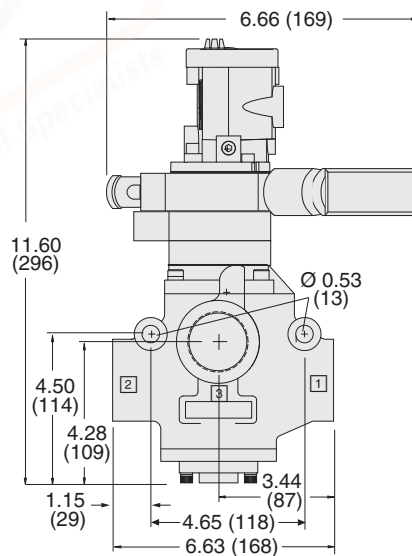
Body Size 3/8



Body Size 3/4



Body Size 1-1/4



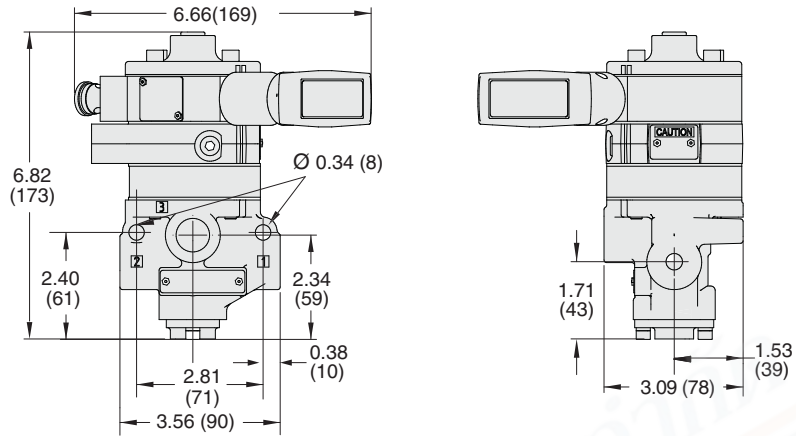
For additional information, and to assist you with piping and connectivity designs, our products are available in downloadable 2D drawings and 3D CAD models in a wide range of options including native formats, visit www.rosscontrols.com.

Manual Lockout Controlled Valves with Soft-Start

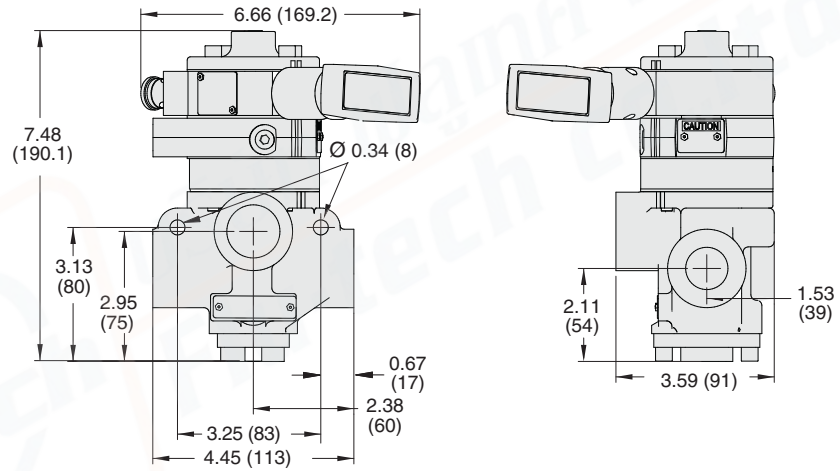
DIMENSIONS

Inches (mm)

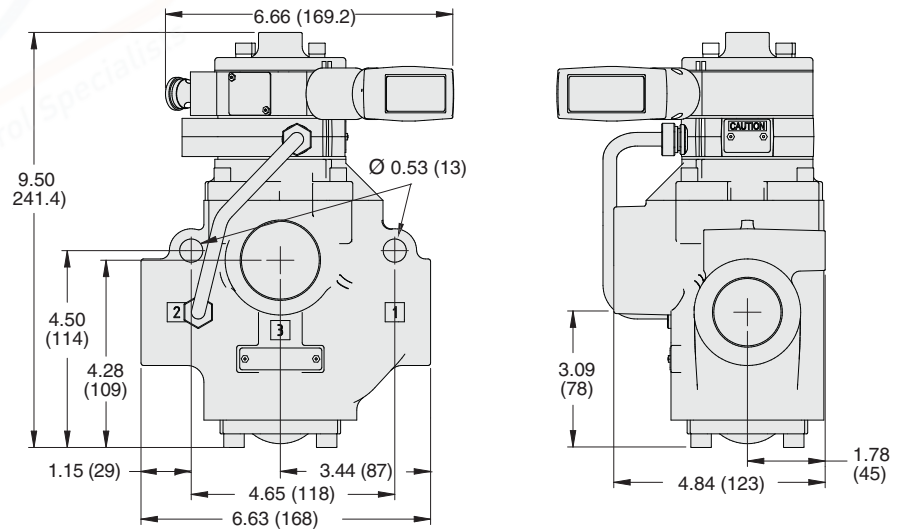
Body Size 3/8



Body Size 3/4



Body Size 1-1/4



For additional information, and to assist you with piping and connectivity designs, our products are available in downloadable 2D drawings and 3D CAD models in a wide range of options including native formats, visit www.rosscontrols.com.

Accessories & Options

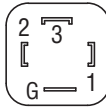
ENERGY RELEASE VERIFICATION

Visual Pressure Indicator	Verification Type	Installation Location	Indicator Type	Model Number	Port Thread
	Pneumatic	Pressure Sensing Port	Visual Pop-up Pin	988A30	1/8 NPT

Pressure Switch	Verification Type	Installation Location	Connector Type	Model Number	Port Thread	Factory Preset psi (bar)
	Electrical	Pressure Sensing Port or Downstream	DIN EN 175301-803 Form A	586A86	1/8 NPT	5 (0.3) falling

Connector Pinout

DIN EN 175301-803 Form A



- 1 - Common
- 2 - Normally Closed
- 3 - Normally Open
- G - Ground



บริษัท ฟลูเทค จำกัด
FLU-TECH CO.,LTD

845/3-4 หมู่ 3 ถ.เทพารักษ์ ต.เทพารักษ์ อ.เมือง จ.สมุทรปราการ 10270
845/3-4 Thepharak RD., T.Thepharak, A.Muang, Samutprakarn 10270 THAILAND
Tel. 0 2384 6060, Fax 0 2384 5701, Email : sales@flutech.co.th, www.flutech.co.th

SILENCERS

	Port Size	Thread Type	Model Number		Flow Avg. C _v	Pressure Range psig (bar)
			R/Rp Thread	NPT Thread		
Silencers	1/2	Male	D5500A4003	5500A4003	4.7	0-290 (0-20) maximum
	3/4	Male	D5500A5013	5500A5013	5.1	
			D5500A5003	5500A5003	12	
	1	Male	D5500A6003	5500A6003	15	
	1-1/4	Male	D5500A7013	5500A7013	16	
		Female	D5500A7001	5500A7001	24	
1-1/2	Female	D5500A8001	5500A8001	30		

LOCKOUT DEVICE

Lockout Hasp	Valve Model Use	Model Number
	Lockout L-O-X® Classic Style	356A30

SOLENOID PILOT OPTIONS

Indicator Light Kits	Kit Number		
	24 V DC	110-120 V AC, 50-60 Hz	230 V AC, 50-60 Hz
	862K87-W	862K87-Z	862K87-Y

