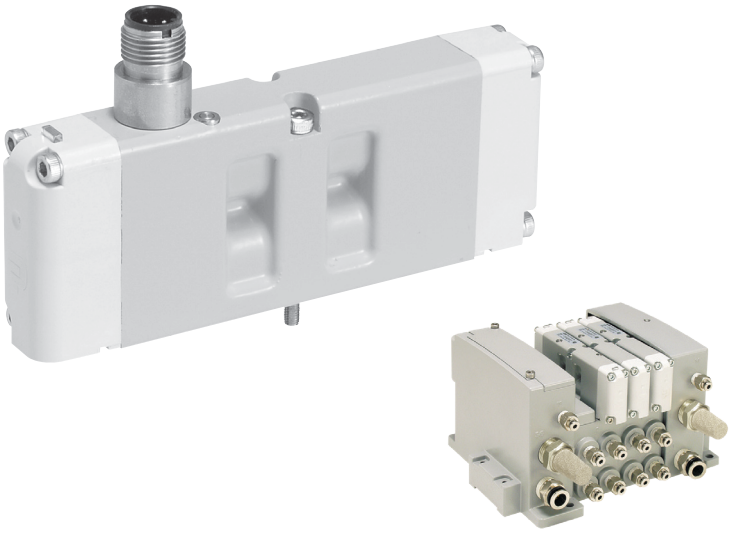
ISO 15407-1 Valves



Product Catalog

a global family

ISO 15407-1 Valves W66 Series
Product Overview

The ROSS® ISO 15407-1 valves W66 Series are base mounted spool and sleeve valves that conform to the ISO standards 15407-1 mounting interface. These ISO Size 0 (26mm) and 00 (18mm) valves are available as, 2- and 3-position, 5-ported 4-way valves. Solenoid pilot options include a locking or non-locking override, and either internal or external pilot supply.

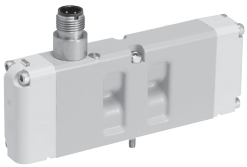
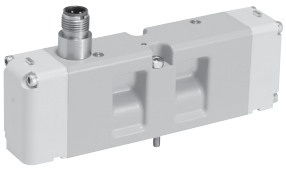
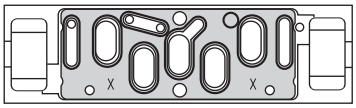
ISO Size 02 (18mm)	ISO Size 01 (26mm)
	

Illustration examples.

15407-1: Drop-cord Standards for Size 01 (26mm) & Size 02 (18mm) Wide Valves



VALVE FEATURES

Spool and Sleeve Design	Spool and Sleeve construction for high dirt tolerance; no seals to wear out
Mounting Options	Individual sub-base or manifold base mounting
Pilot Supply	Internal or external; suitable for vacuum service (with external pilot supply)
Pilot Operation	Provides high shifting force with low power consumption

ISO Size	Port Size		Functions					Actuation	Maximum Flow C_v (Nl/min)	Page
			5/2		5/3					
	1/8	1/4	Single	Double	Closed Center	Open Center	Pressure Center	Solenoid Control		
02 (18mm)	●		●	●	●	●	●	●	1.0 (980)	3 – 7
01 (26mm)		●	●	●	●	●		●	2.5 (2500)	
Single Sub-Bases. Manifold Bases and Manifold Accessories										8 – 9
Accessories										10 – 11

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Specifications

STANDARD SPECIFICATIONS				
GENERAL	Function		5/2 Valve	
			5/3 Valve	Power Center, Closed Center, Open Center
	Construction Design		Spool and Sleeve	
	Actuation		Electrical	Solenoid Pilot Controlled
	Mounting		Sub-Base or Manifold	
	Connection		Threaded Port	NPT
				G
	Manual Override		Flush; rubber, non-locking	
OPERATING CONDITIONS	Temperature		Ambient	5° to 120°F (-15° to 50°C)
			Media	
	Flow Media		Filtered air	
	Operating Pressure		Vacuum to 145 psig (Vacuum to 9.9 bar)	
	Pilot Supply Pressure	5/2 Valves	ISO Size 02 (18mm)	30 psig (2.07 bar)
			ISO Size 01 (26mm)	25 psig (1.73 bar)
		5/3 Valves	ISO Size 02 (18mm)	35 psig (2.41 bar)
			ISO Size 01 (26mm)	
	Pilot Supply Pressure		Internal	Must meet minimum operating pressure
			External	Must be equal to or greater than inlet pressure
ELECTRICAL DATA FOR SOLENOID PILOT	Solenoids		Current Flow	Power Consumption	Operating Voltage (each solenoid)
			DC	24 volts	5 watts
			AC	120 volts, 60 Hz	1.0 VA inrush, 2.0 VA holding
				230-240 volts, 60 Hz	
			Bi-polar, surge suppression (standard)		
			Indicator Light – One per solenoid		
CONSTRUCTION MATERIAL	Valve Body		Cast Aluminum	
	End Caps		Polybutylene Terephthalate (PBT)	
	Fasteners		Zinc Plated Steel	
	Coils		Thermoset Plastic	

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

PRODUCT CREDENTIALS		
CSA Certificate of Compliance	Declaration of Conformity	
	CE	EAC

Ordering Information

5/2 Solenoid Pilot Controlled Valves

MODEL NUMBER CONFIGURATOR — 5-Way 2-Position Valves

W66	76	A	0	4	61	W

Series

Valve Function

5/3

Revision Level

ISO Size	
02 (18mm)	0
01 (26mm)	1

Current	Voltage *	
DC	24 V	W
AC	110-120 V, 50/60 Hz	Z
	230-240 V, 60 Hz	Y

* For other voltages consult ROSS.

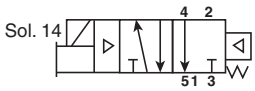
Actuation	Options		
Single Solenoid Pilot	Non-Locking Overrides	Internal Pilot	61
		External Pilot	81
	Locking Overrides	Internal Pilot	71
		External Pilot	91
Double Solenoid Pilot	Non-Locking Overrides	Internal Pilot	67
		External Pilot	87
	Locking Overrides	Internal Pilot	77
		External Pilot	97

Sub-bases and manifold bases ordered separately. Please see Sub-Base and Manifold pages.

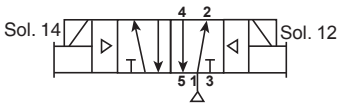
ISO Size	Valve Actuation	Flow C_V (Nl/min)	Weight ≈ lb (kg)
02 (18 mm)	Single Solenoid Pilot	0.55 (540)	0.3 (0.15)
	Double Solenoid Pilot	0.55 (540)	0.4 (0.16)
01 (26mm)	Single Solenoid Pilot	1.1 (1100)	0.6 (0.25)
	Double Solenoid Pilot		

Valve Schematics

Single Solenoid Pilot Controlled



Double Solenoid Pilot Controlled



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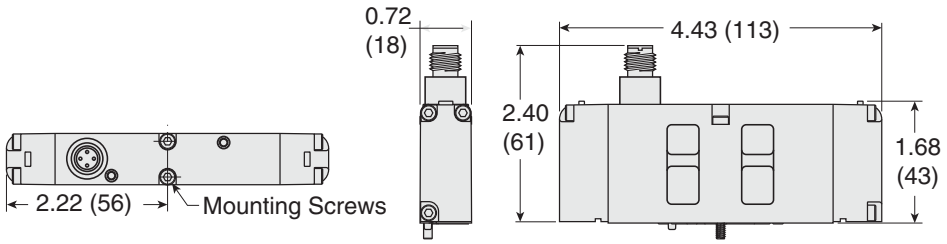
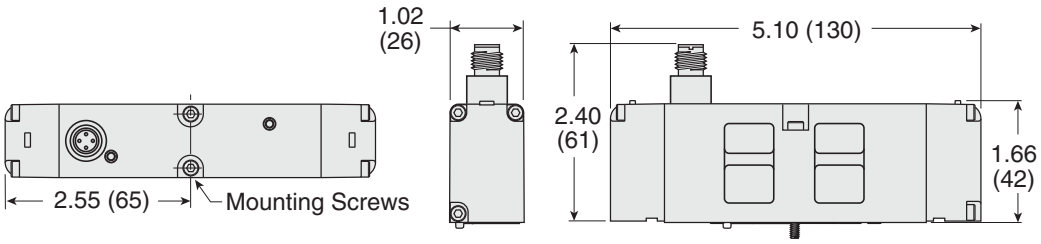
5/2 Solenoid Pilot Controlled Valves

DIMENSIONS	Inches (mm)
ISO Size 1	
ISO Size 2.5	

Downloadable CAD models available.

Ordering Information

5/3 Double Solenoid Pilot Controlled Valves

MODEL NUMBER CONFIGURATOR — 5-Way 3-Position Valves

W66	77	A	0	4	61	W

Series

Valve Function

5/3

Revision Level

ISO Size	
02 (18mm)	0
01 (26mm)	1

Current	Voltage *	
DC	24 V	W
AC	110-120 V, 50/60 Hz	Z
	230-240 V, 60 Hz	Y

* For other voltages consult ROSS.

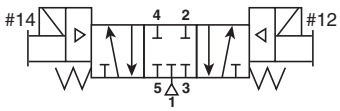
Center Position	Options		
Closed Center	Non-Locking Overrides	Internal Pilot	61
		External Pilot	81
	Locking Overrides	Internal Pilot	71
		External Pilot	91
Power Center	Non-Locking Overrides	Internal Pilot	63
		External Pilot	83
	Locking Overrides	Internal Pilot	73
		External Pilot	93
Open Center	Non-Locking Overrides	Internal Pilot	67
		External Pilot	87
	Locking Overrides	Internal Pilot	77
		External Pilot	97

Sub-bases and manifold bases ordered separately. Please see Sub-Base and Manifold pages.

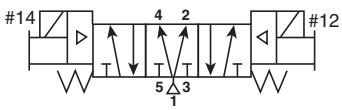
ISO Size	Valve Actuation	Flow C_v (Nl/min)	Weight ≈ lb (kg)
02 (18 mm)	Double Solenoid Pilot	0.55 (540)	0.4 (0.16)
01 (26mm)	Double Solenoid Pilot	1.1 (1100)	0.6 (0.25)

Valve Schematics

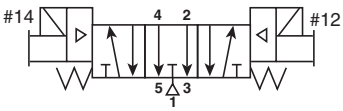
Closed Center



Power Center



Open Center



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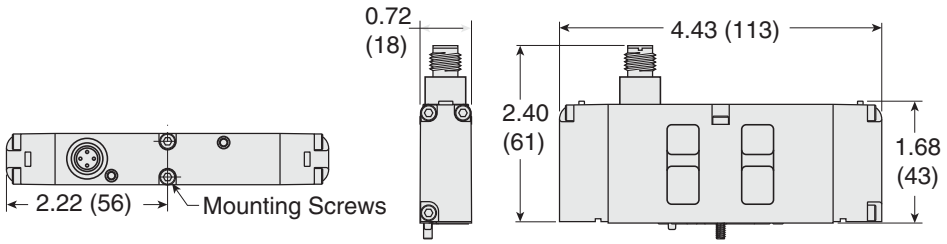
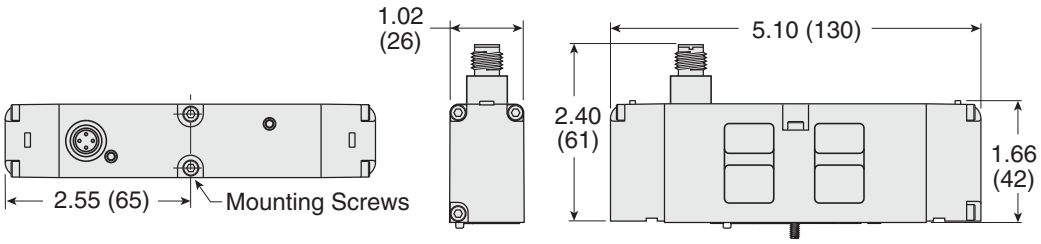
5/3 Double Solenoid Pilot Controlled Valves

DIMENSIONS	Inches (mm)
ISO Size 1	
ISO Size 2.5	

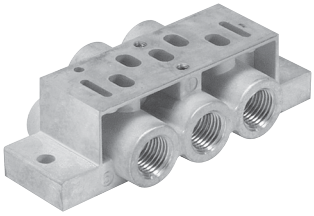
Downloadable CAD models available.

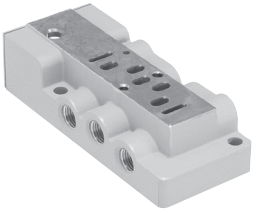
SINGLE SUB-BASES WITH SIDE PORTS

ISO Size	Outlet Port	Model Number *	
		NPT Thread	G Thread **
02 (18mm)	1/8	RPL02-01-80	RPL02-01-70
01 (26mm)	1/4	RPS5511130P	RPS5511140P

* Can be used for external, single, or double remote pilot.

** G threaded model conforms to ISO 1179-1 w 228-1 thread.





MANIFOLD BASES WITH END PORTS

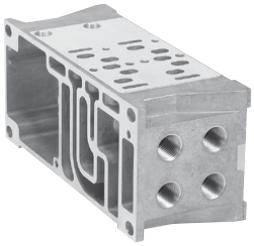
MANIFOLD MODEL NUMBER CONFIGURATOR

RPSHU11	5	4	0	1	P

ISO 15407-1

ISO 15407-1 Size	Port Size	Thread Type	
ISO Size 02 (18mm)	1/8	NPT	1
		G	2
ISO Size 01 (26mm)	1/4	NPT	3
		G	4

Gasket Options	
1, 3, 5 Ports Open and Pilots Open	1
1, 3, 5 Ports Closed and Pilots Open	2
1 Port Closed, 3, 5 Ports Open and Pilots Closed	3
1 Port Open, 3, 5 Ports Closed and Pilots Open	4
1, 3, 5 Ports Open and Pilots Closed	5
1, 3, 5 Ports Closed and Pilots Closed	6
1 Port Closed, 3, 5 Ports Open and Pilots Closed	7
1 Port Open, 3, 5 Ports Closed and Pilots Open	8



END STATION

END STATION MODEL NUMBER CONFIGURATOR

RPSHU31	LO	1	0	P

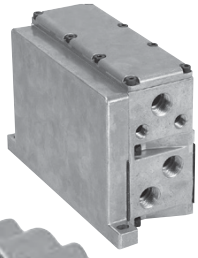
Valve Type		
Non Plug-in	Internal Pilot	RPSHU31
	External Pilot	RPSHU3X

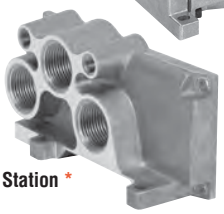
Right Hand End Station Ports	
Exhaust and Inlet Ports Size	
1/2	1
3/4	2

Thread Type	
NPT	0
G	1*

* G thread model conforms to ISO 1179-1 w 228-1 thread.

Left Hand End Station





Hi-Flow Right Hand End Station *

* Hi-Flow Right Hand End Station included.

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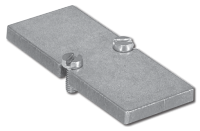
BLANK STATION

Blank Station

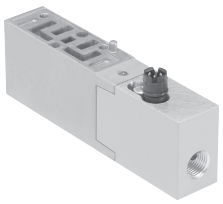
ISO Size	Model Number *
02 (18mm)	RDX02BLK
01 (26mm)	RDX01BLK
* **Includes:** Blank Station Plate, Gasket, and Mounting Bolts.	



INTERPOSED SUPPLY & EXHAUST MODULES

Interposed Modules

ISO Size	Outlet Port	Model Number *	
		NPT Thread	G Thread
02 (18mm)	Supply	RPS562600P	RPS562601P
	Exhaust	RPS562700P	RPS562701P
01 (26mm)	Supply	RPS552600P	RPS552601P
	Exhaust	RPS552700P	RPS552701P
* Used on Size 00 & Size 0 valves to provide a pressure or exhaust path to individual valves.			



INTERPOSED FLOW CONTROL

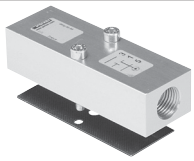
Interposed Flow Control

ISO Size	Model Number *
02 (18mm)	RPS5642P
01 (26mm)	RPS5542P
* Both adjustment screws are located on the 12 end of the unit. Interposed Flow Control mounts with its own studs, which means the valve uses standard bolts for mounting. Interposed Flow Control is not to be used as a shut off device and is not bubble tight when needles are fully turned down.	

INTERMEDIATE AIR SUPPLY BASE

Intermediate Air Supply Base

ISO Size	Port Size	Thread Type	Model Number *
02 (18mm)	1/8	NPT	RD02P-01-80
01 (26mm)	1/4	NPT	RD01P-02-80
* **Includes:** Air Supply Base, Gasket and Mounting Bolts.			



GASKET KITS MANIFOLD TO MANIFOLD

Gasket Kits Manifold to Manifold

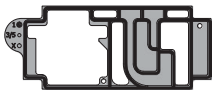
Pilots Status	Diagram Reference	Description	Kit Number
Pilots Opened	1	Supply & Exhaust & Pilots Open	RPSHU11P
	2	Supply Closed, Exhaust & Pilots Open	RPSHU12P
	3	Supply & Exhaust Closed, Pilots Open	RPSHU13P
	4	Supply & Pilots Open, Exhaust Closed	RPSHU14P
Pilots Blocked	5	Supply & Exhaust Open, Pilots Closed	RPSHU15P
	6	Supply & Pilots Closed, Exhaust Open	RPSHU16P
	7	Supply & Exhaust & Pilots Closed	RPSHU17P
	8	Supply Open, Exhaust & Pilots Closed	RPSHU18P

1 – Supply & Exhaust & Pilots Open

3 – Supply & Exhaust Closed, Pilots Open

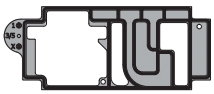
5 – Supply & Exhaust Open, Pilots Closed

7 – Supply & Exhaust & Pilots Closed



2 – Supply Closed, Exhaust & Pilots Open

4 – Supply & Pilots Open, Exhaust Closed



6 – Supply & Pilots Closed, Exhaust Open

8 – Supply Open, Exhaust & Pilots Closed

INTERPOSED PRESSURE REGULATORS

Pressure Regulators

MODEL NUMBER CONFIGURATOR

RPS5637	1	6	6	P

Basic Series	
ISO Size 02 (18mm)	RPS5637
ISO Size 01 (26mm)	RPS5537

Regulator Function	
Common Pressure Regulator	1
Independent Pressure Regulator	2

#2 Port Regulator/Gauge *	
2-60 psig w/o Gauge	2
5-125 psig w/o Gauge	3
2-60 psig w/Gauge	5
5-125 psig w/Gauge	6

#4 Port Regulator/Gauge *	
2-60 psig w/o Gauge	2
5-125 psig w/o Gauge	3
2-60 psig w/Gauge	5
5-125 psig w/Gauge	6

* For Common Pressure Regulator Option, Regulator Gauge callout must be the same number for both Port #4 and Port #2. (Example: 166)

Remote Air Pilot Operated for hard-to-reach pressure control Unregulated Pilot Pressure to valve for consistent valve shifting regardless of pressure adjustment.

Dual Interposed Regulator
Size 02 - 18mm

Single Interposed Regulator
Size 01 - 26mm

GAUGE ADAPTER KITS

Gauge Adapter

Description	Model Number
Gauge Adapter Kit	RPS5651160P
1/8" Female to 1/8" Female Coupling	R207P-2 *
1/8" Male to 1/8" Male Long Nipple	RVS215PNL-2-15 *

* Included in Gauge Adapter RPS5651160P.

Included with all Size 02 Regulators. Both kits are required on all Size 01 & 02 Regulators when the Regulator is on the last Station on the Right (14) End.

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EXHAUST SILENCERS

Illustration example.

SPECIFICATIONS	Silencer Material	Pressure Range psig (bar)	Schematic
	Aluminum	0-290 (0-20) maximum	

Silencers

Port Size	Thread Type	Flow C_v (Nl/min)	Model Number		Dimensions inches (mm)		Weight ≈ lb (kg)
			NPT Thread	R/Rp Thread	Length	Hex Size (D)	
1/8	Male	1.3 (1300)	5500A1003	D5500A1003	2.0 (5)	0.81 (21)	0.07 (0.03)
1/4	Male	2.3 (2300)	5500A2003	D5500A2003	2.2 (6)	0.81 (21)	0.07 (0.03)
1/2	Male	6.8 (6700)	5500A4003	D5500A4003	3.6 (9)	1.25 (32)	0.2 (0.1)
3/4	Male	7.2 (7100)	5500A5013	D5500A5013	3.6 (9)	1.25 (32)	0.2 (0.1)

Notes

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Notes

Notes

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CAUTIONS, WARNINGS And STANDARD WARRANTY

ROSS OPERATING VALVE, ROSS CONTROLS®, ROSS DECCO®, and AUTOMATIC VALVE INDUSTRIAL, collectively the "ROSS Group".

PRE-INSTALLATION or SERVICE

1. Before servicing a valve or other pneumatic component, be sure all sources of energy are turned off, the entire pneumatic system is shut down and exhausted, and all power sources are locked out (ref: OSHA 1910.147, EN 1037).

2. All ROSS Group Products, including service kits and parts, should be installed and/or serviced only by persons having training and experience with pneumatic equipment. Because any product can be tampered with and/or need servicing after installation, persons responsible for the safety of others or the care of equipment must check ROSS Group Products on a regular basis and perform all necessary maintenance to ensure safe operating conditions.

3. All applicable instructions should be read and complied with before using any fluid power system to prevent harm to persons or equipment. In addition, overhauled or serviced valves must be functionally tested prior to installation and use. If you have any questions, call your nearest ROSS Group location.

4. Each ROSS Group Product should be used within its specification limits. In addition, use only ROSS Group components to repair ROSS Group Products.

WARNINGS:
Failure to follow these instructions can result in personal injury and/or property damage.

FILTRATION and LUBRICATION

1. Dirt, scale, moisture, etc., are present in virtually every air system. Although some valves are more tolerant of these contaminants than others, best performance will be realized if a filter is installed to clean the air supply, thus preventing contaminants from interfering with the proper performance of the equipment. The ROSS Group recommends a filter with a 5-micron rating for normal applications.

2. All standard ROSS Group filters and lubricators with polycarbonate plastic bowls are designed for compressed air applications only. Use the metal bowl guard, where provided, to minimize danger from high pressure fragmentation in the event of bowl failure. Do not expose these products to certain fluids, such as alcohol or liquefied petroleum gas, as they can cause bowls to rupture, creating a combustible condition and hazardous leakage. Immediately replace crazed, cracked, or deteriorated bowls.

3. Only use lubricants which are compatible with materials used in the valves and other components in the system. Normally, compatible lubricants are petroleum base oils with oxidation inhibitors, an aniline point between 180°F (82°C) and 220°F (104°C), and an ISO 32, or lighter, viscosity. Avoid oils with phosphate type additives which can harm polyurethane components, potentially leading to valve failure which risks personal injury, and/or damage to property.

WARNINGS:
Failure to follow these instructions can result in personal injury and/or property damage.

AVOID INTAKE/EXHAUST RESTRICTION

1. Do not restrict air flow in the supply line. To do so could reduce the pressure of the supply air below minimum requirements for the valve and thereby causing erratic action.

2. Do not restrict a valve's exhaust port as this can adversely affect its operation. Exhaust silencers must be resistant to clogging and must have flow capacities at least as great as the exhaust capacities of the valves. Contamination of the silencer can result in reduced flow and increased back pressure.

WARNINGS: ***Failure to follow these instructions can result in personal injury and/or property damage.***

SAFETY APPLICATIONS

1. Mechanical Power Presses and other potentially hazardous machinery using a pneumatically controlled clutch and brake mechanism must use a press control double valve with a monitoring device. A double valve without a self-contained monitoring device should be used only in conjunction with a control system which assures monitoring of the valve. All double valve installations involving hazardous applications should incorporate a monitoring system which inhibits further operation of the valve and machine in the event of a failure within the valve mechanism.

2. Safe Exhaust (dump) valves without a self-contained monitoring device should be used only in conjunction with a control system which assures monitoring of the valve. All Safe Exhaust valve installations should incorporate a monitoring system which inhibits further operation of the valve and machine in the event of a failure within the valve mechanism.

3. Per specifications and regulations, the ROSS L-O-X® and L-O-X® with EEZ-ON®, N06 and N16 Series operation products are defined as energy isolation devices, NOT AS EMERGENCY STOP DEVICES.

WARNINGS:
Failure to follow these instructions can result in personal injury and/or property damage.

STANDARD WARRANTY

All products sold by the ROSS Group are warranted for a one-year period [with the exception of Filters, Regulators and Lubricators ("FRLs") which are warranted for a period of seven (7) years] from the date of purchase. All products are, during their respective warranty periods, warranted to be free of defects in material and workmanship. The ROSS Group's obligation under this warranty is limited to repair, replacement or refund of the purchase price paid for products which the ROSS Group has determined, in its sole discretion, are defective. All warranties become void if a product has been subject to misuse, misapplication, improper maintenance, modification or tampering. Products for which warranty protection is sought must be returned to the ROSS Group freight prepaid.

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