



SAFE AIR ENTRY ASSEMBLIES WITH MDC SERIES VALVES



PRODUCT CATALOG

Safe Air Entry Assemblies with MDC Series

Product Overview

Pre-engineered assembly design for Pneumatic Control and Air Dump/Release applications.

Combination with Classic Lockout Valve	Combination with Modular Lockout Valve
	

Illustration examples.

Air entry system via a manual Lockout L-O-X® valve, air preparation FRL combinations, and an MDC Series Safe Exhaust valve with and without Soft-Start function.

ROSS systems have the same quality that you have come to expect from ROSS components. Units are fully configurable, tested and ready for quick and easy installation at the job site.

ASSEMBLY COMPONENTS & FEATURES

Energy Isolation Lockout L-O-X® Valve 15 Series	• 3/2 valve • Classic or Modular L-O-X® • Lockable only in the OFF position • Has a full size exhaust port (equal to or larger than supply) • Simple push/pull of the large handle provides positive direct manual operation • Fluorocarbon slipper seals for easy shifting, even after long periods of inactivity • Integrated sensing port for pressure verification • Visual pop-up indicator for pressure verification included • High flow, clog resistant silencer included
Filter and Regulator Integrated Filter/Regulator, and Lubricator Filter, Regulator, and Lubricator MD4™, and High-Capacity Series	• Filter, Integrated Filter/Regulator, and Lubricator with polycarbonate plastic bowls • 5-micron filter element • Automatic drain • Analog gauge
Safe Exhaust Valve MDC Series	• 3/2 valve • MDC1 Series valves without solid state pressure sensor are rated for Category 1, PL c • MDC2 Series valves with solid state pressure sensor are rated for Category 2, PL c, when used with proper safety controls. • Monitoring the sensor on each actuation and de-actuation of the MDC2 Series valve provides a diagnostic coverage between 60% < 90% • MDC Series valve with EEZ-ON® (Soft-Start) function allows outlet pressure to increase at a slower rate until it reaches approximately 50% of inlet pressure, at which point the valve will then open fully to finish filling the system at full rate

Mounting	Modular or inline
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SISTEMA Library	Available for download
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PRODUCT CREDENTIALS

Performance Level Per ISO 13849-1:2015 	Safety Integrity Level Per IEC 2061:2001 	DGUV  HSM XXXX Sicherheit gegen Reaktionsschaden <i>Pending</i>	Declaration of Conformity 	Certificate of Compliance  C US <i>Pending</i>
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MDC Valve with EEZ-ON® (Soft-Start) Function, with or without Pressure Sensor

MODEL NUMBER CONFIGURATOR

Series

1

E13

L

F

2U

1

N

A

E

X

C

G

A

Feedback Signal	
Without Pressure Sensor	1
With Solid State Pressure Sensor	2

Soft-Start	Body Size	Port Size			
		Inlet	Outlet	Exhaust	
With	1/2	3/8	3/8	1	E13
		1/2	1/2	1	E14
		3/4	3/4	1	E15

Lockout L-O-X® Valve	
Classic*	L
Modular*	M
None	X
* Silencer included.	

Filter, Regulator, Lubricator *#	
Integrated Filter/Regulator	F
Filter and Regulator	R
Integrated Filter/Regulator, and Lubricator	L
* Auto Drain.	
# MD4™ Series models.	

Voltage	
24 V DC	

Monitoring	
Internal	

Communication	
None	

Pressure Measuring Device	
With Analog Gauge	G
Digital Transducer	T
None	X

Solenoid Connection	
DIN EN 175301-803	C
M12	M

Port Thread	
NPT	N
G	G

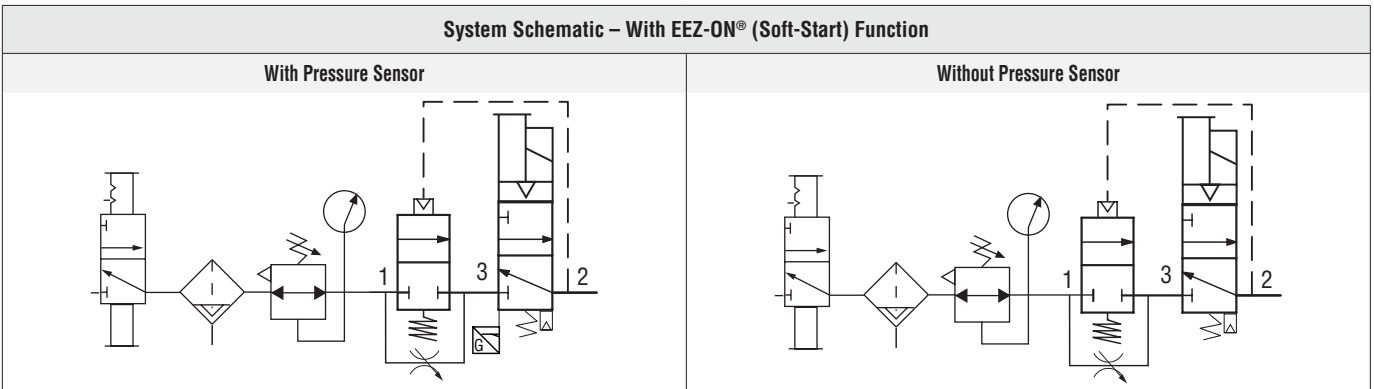
MDC Exhaust	
With Silencer	

Extra Port Block (in relation to MDC valve)		
Location	Size	
Upstream	1/4	2U
	3/8	3U
	1/2	4U
Downstream	1/4	2D
	3/8	3D
	1/2	4D
Both	1/4	2B
	3/8	3B
	1/2	4B
None	NA	XX

with MDC Valve

Custom configurations available, consult ROSS.

Model Number examples: MDC1E13LF2U1NAEXCGA, MDC2E14ML4U1GAEXMTA.



Ordering Information

MDC Valve with or without Pressure Sensor (without EEZ-ON® (Soft-Start) Function)

MODEL NUMBER CONFIGURATOR

with MDC Valve

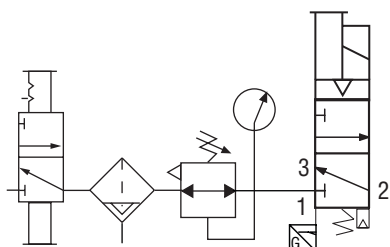
MDC	1	X25	L	R	XX	1	N	A	E	X	M	T	A
Series													Revision Level
Feedback Signal													
Without Pressure Sensor		1											
With Solid State Pressure Sensor		2											
Soft-Start	Body Size	Port Size											
		Inlet	Outlet	Exhaust									
Without	1	3/4	3/4	1-1/2	X25								
		1	1	1-1/2	X26								
		1-1/4	1-1/4	1-1/2	X27								
Lockout L-O-X® Valve													
Classic*		L											
None		X											
* Silencer included.													
Filter, Regulator, Lubricator *#													
Filter and Regulator		R											
Filter, Regulator, and Lubricator		L											
* Auto Drain.													
# High-Capacity Series models.													
Extra Port Block													
None													
MDC Exhaust													
With Silencer													
Pressure Measuring Device													
With Analog Gauge		G											
Digital Transducer		T											
None		X											
Solenoid Connection													
DIN EN 175301-803		C											
M12		M											
Communication													
None													
Monitoring													
Internal													
Voltage													
24 V DC													
Port Thread													
NPT		N											
G		G											

Custom configurations available, consult ROSS.

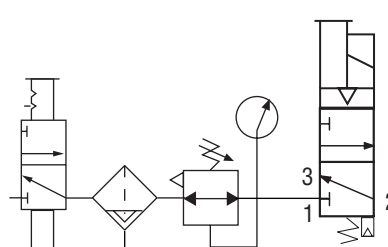
Model Number examples: MDC1X25LRXX1NAEXMTA, MDC2X26LLXX1GAEXCGA.

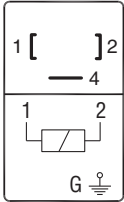
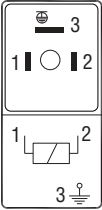
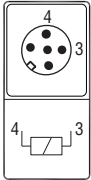
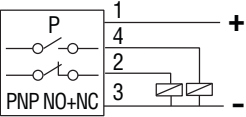
System Schematic – Without EEZ-ON® (Soft-Start) Function

With Pressure Sensor



Without Pressure Sensor



Solenoid & Pressure Sensor Pinouts			
Solenoid	DIN EN 175301-803 Form A	DIN EN 175301-803 Form C	M12
	 1 - Positive 2 - Negative 4 - Ground	 1 - Positive 2 - Negative 3 - Ground	 3 - Positive 4 - Negative
Pressure Sensor	M12 – Solid State Pressure Sensor		
		 1, 2, 3, 4 - Pin PNP - Switched Positive NO - Normally Open NC - Normally Closed	

Digital Transducer – Technical Data

Digital Pressure Transducer Specifications				
Pressure Range psig (bar)	Electrical Output	Electrical Connection	Pressure Port Size/Type	Weight lb (Kg)
0 (0) to 145 (10)	(1) PNP with (1) 4-20ma	M8, 4 Pin	1/8 Male	0.099 (0.045)
Sensor Pinout with Analog Output				
 1 - Brown - 24 VDC 2 - White - 4 to 20mA 3 - Blue - 0 VDC 4 - Black - PNP Open Collector Output 1				

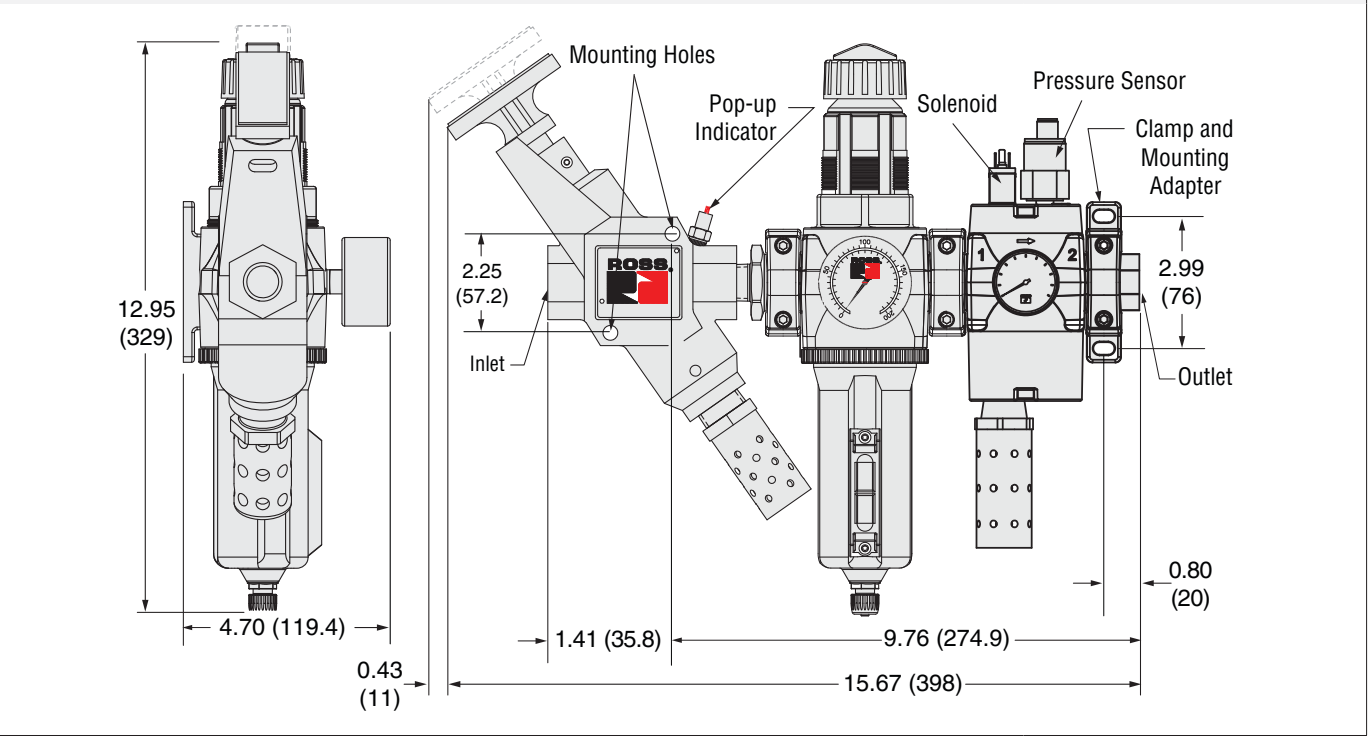
Technical Data

MDC Valve with Classic L-O-X® – Body Size 1/2

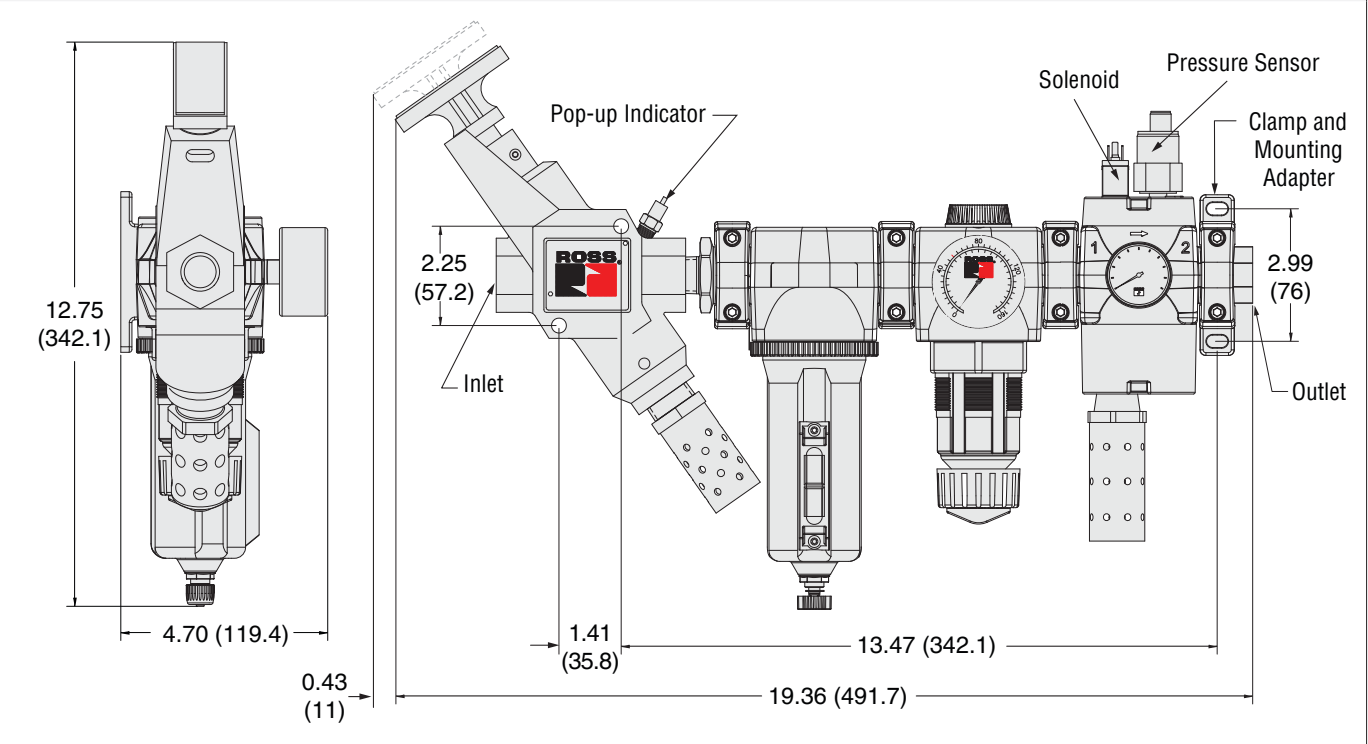
ASSEMBLY COMBINATION EXAMPLES

DIMENSIONS – Inches (mm)

with MD4™ Integrated Filter/Regulator option



with MD4™ Filter and Regulator option



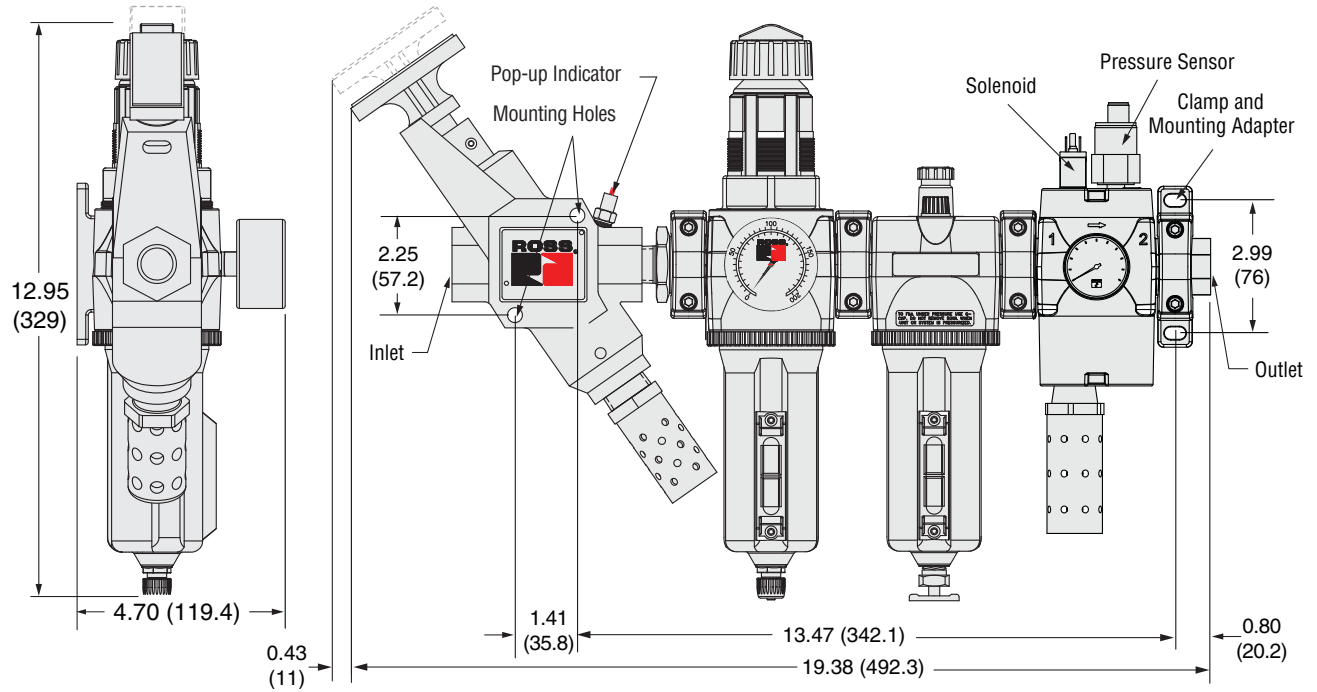
Downloadable CAD models available.

MDC Valve with Classic L-O-X® – Body Size 1/2

ASSEMBLY COMBINATION EXAMPLES

DIMENSIONS – Inches (mm)

with MD4™ Integrated Filter/Regulator and Lubricator option



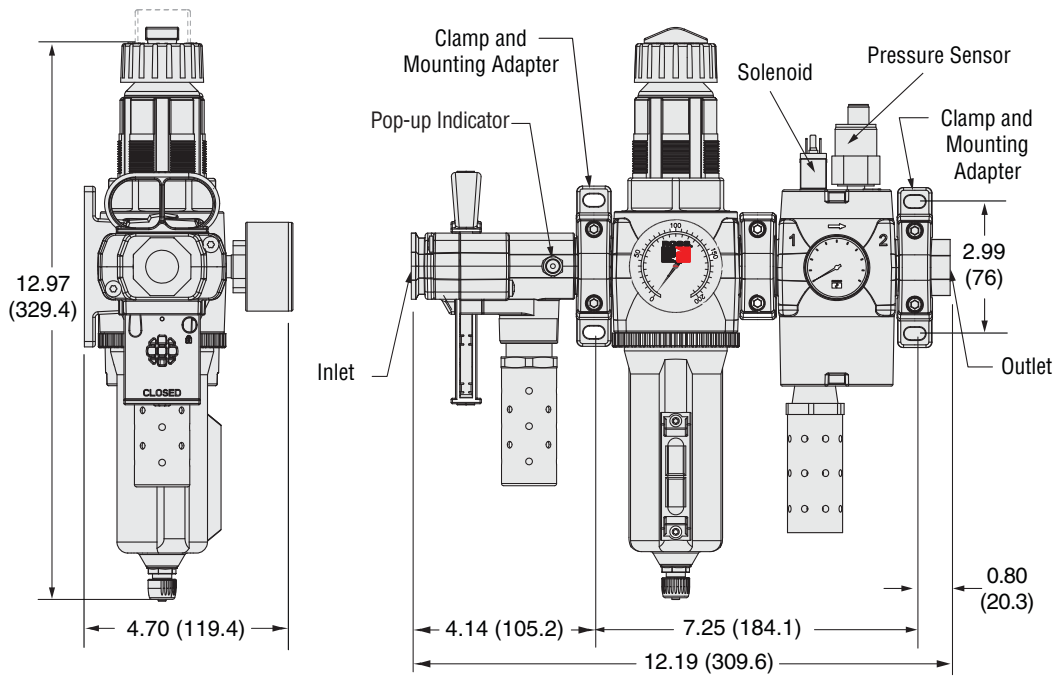
Downloadable CAD models available.

Technical Data

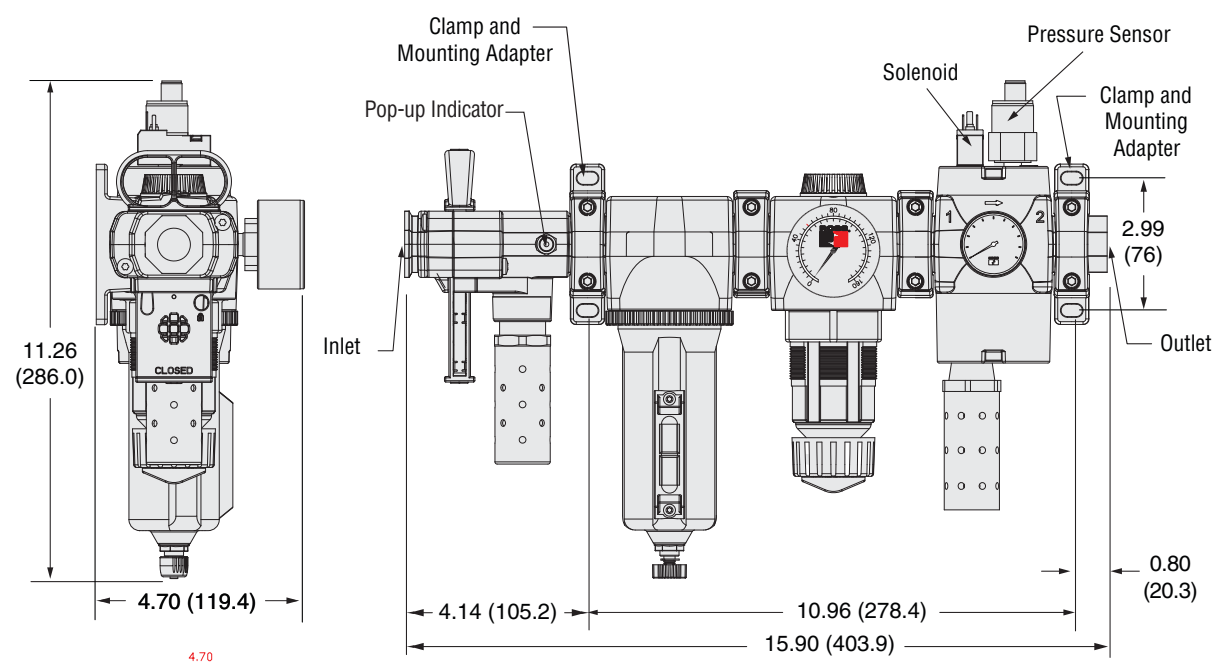
MDC Valve with Modular L-O-X® – Body Size 1/2

ASSEMBLY COMBINATION EXAMPLES DIMENSIONS – Inches (mm)

with MD4™ Integrated Filter/Regulator option



with MD4™ Filter and Regulator option



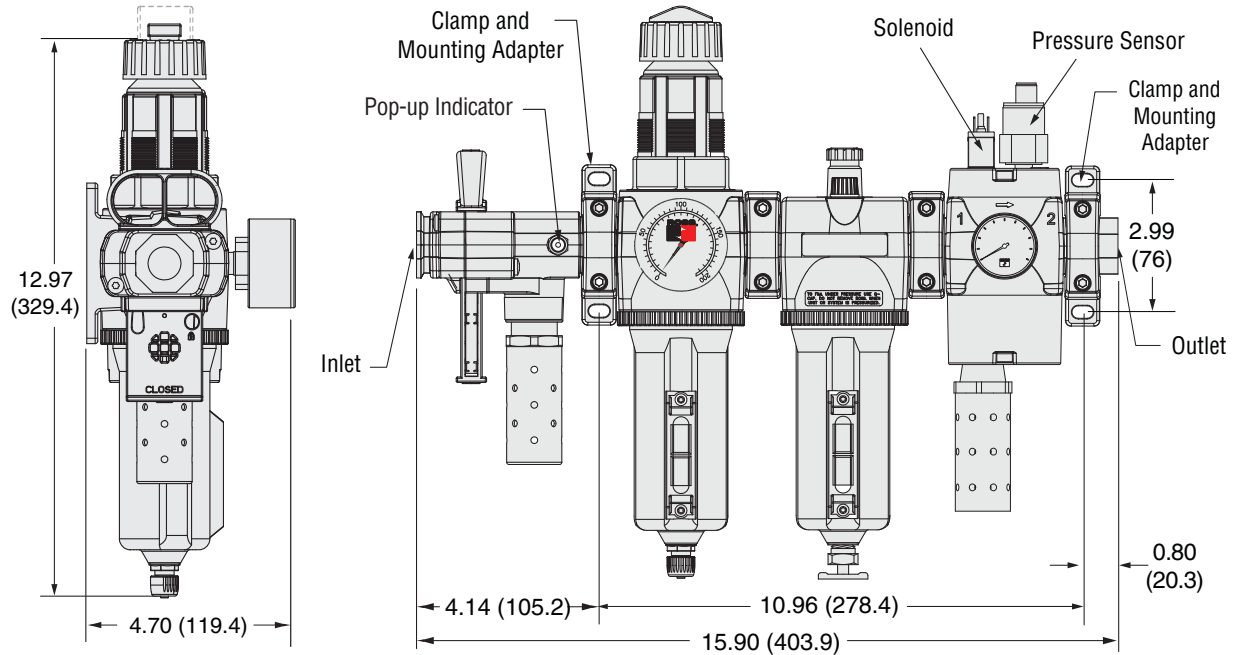
Downloadable CAD models available.

MDC Valve with Modular L-O-X® – Body Size 1/2

ASSEMBLY COMBINATION EXAMPLES

DIMENSIONS – Inches (mm)

with MD4™ Integrated Filter/Regulator and Lubricator option



Downloadable CAD models available.

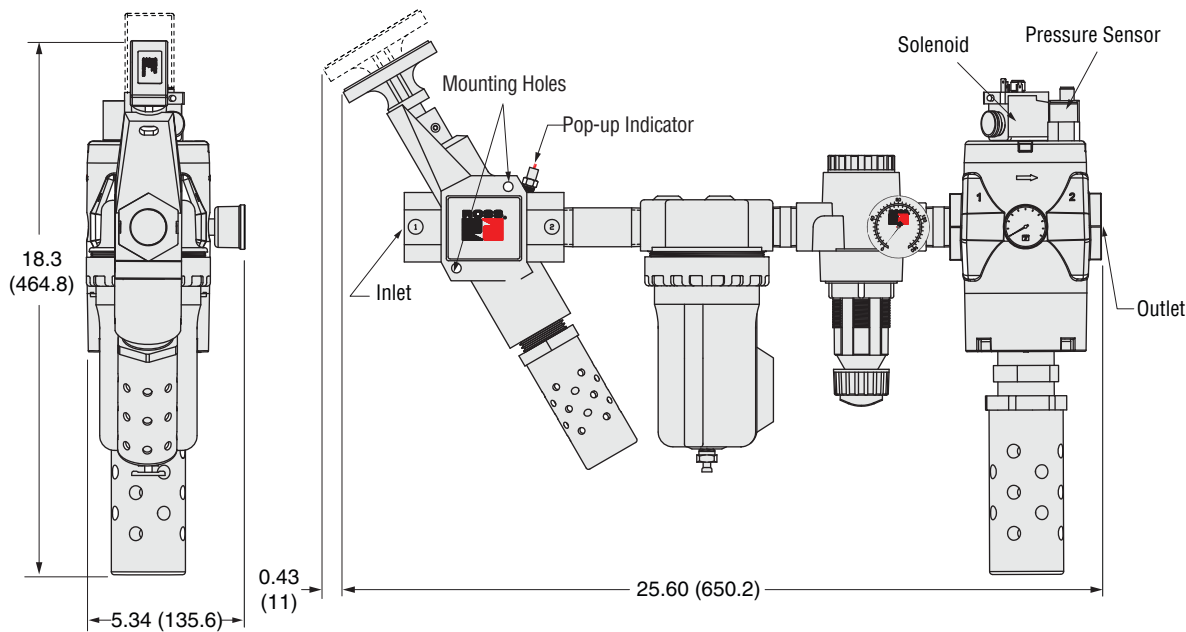
Technical Data

MDC Valve with Classic L-O-X® – Body Size 1

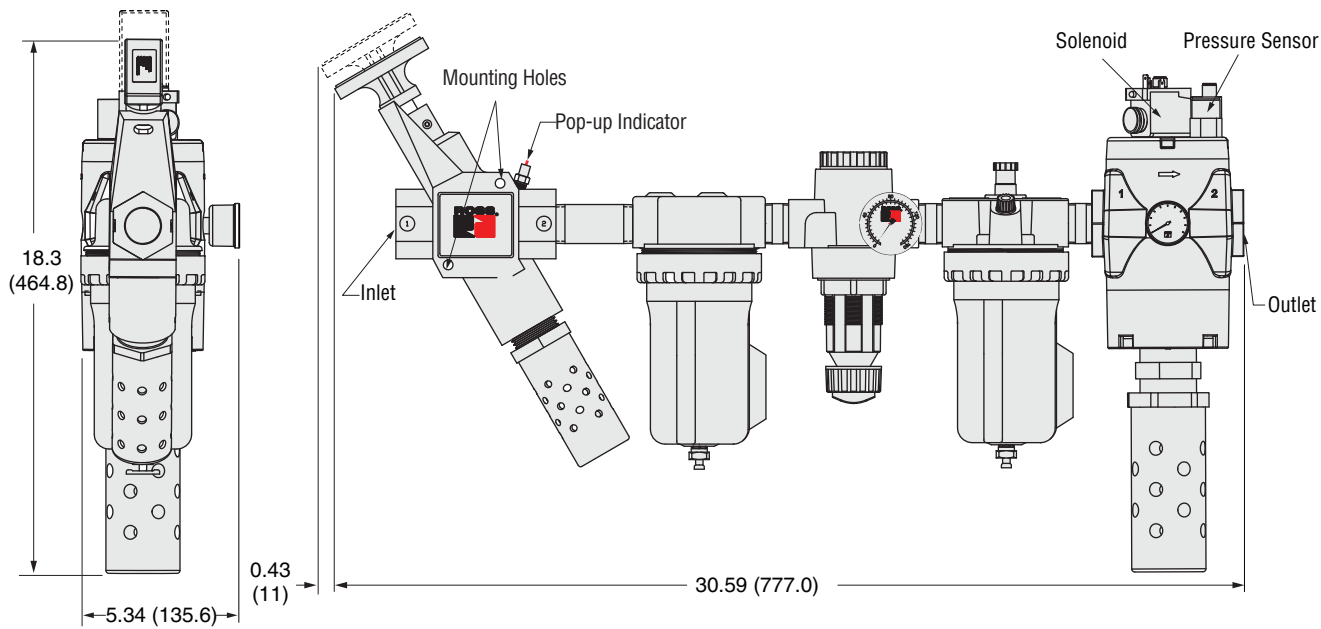
ASSEMBLY COMBINATION EXAMPLES

DIMENSIONS – Inches (mm)

with High-Capacity Filter and Regulator option



with High-Capacity Filter, Regulator and Lubricator option



Downloadable CAD models available.

PRESSURE GAUGE



Illustration example.

Analog Pressure Gauge	Mounting	Port Size	Thread Type	Model Number	Pressure Range psig (bar)	Case Diameter inches (mm)
	Center Back	1/4	NPT – Male	5400A2022	0-150 (0-10)	2.2 (55)
			G – Male	D5400A2022	0-200 (0-14)	

PRESSURE TRANSDUCERS

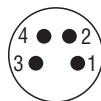


Illustration example.

Digital Pressure Transducers	Monitoring Type	Electrical Connection	Electrical Output	Model Number		Pressure Port Size	Pressure Range psig (bar)	Weight lb (kg)
				NPT Thread	G Thread			
	Electrical	M8, 4 Pin	(1) PNP with (1) 4-20ma	760B94	D760B94	1/8	0 to 145 (0 to 10)	0.099 (0.045)
For Digital Pressure Readout, Analog 4-20mA Output, and Transistor Switching Output.								

Pinout

Sensor Pinout with Analog Output



- 1 - Brown - 24 VDC
- 2 - White - 4 to 20mA
- 3 - Blue - 0 VDC
- 4 - Black - PNP Open Collector Output 1

ENERGY RELEASE VERIFICATION

Pressure Switch



Illustration example.

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

ELECTRICAL STATUS INDICATION

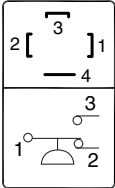


Illustration example.

Pressure Sensor	Indicator Type	Connector Type	Model Number	Port Thread	Factory Preset psi (bar)
	Solid State Pressure Sensor	M12	1335B30W	M10x1	17 (1.2) falling

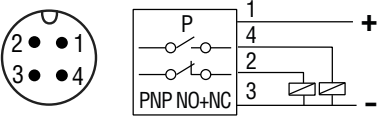
Pinouts

DIN EN 175301-803 Form A - Pressure Switch



1 - Common
2 - Normally Closed
3 - Normally Open
4 - Ground (Not Used)

M12 – Solid State Pressure Sensor



1 - 8-30 VDC
2 - Output
3 - Ground
4 - Output
PNP - Switched Positive
NO - Normally Open
NC - Normally Closed

PREWIRED ELECTRICAL CONNECTORS

DIN EN 175301-803	M12

Illustration examples.

Prewired Connectors	Cable						Model Number	
	End 1	End 2	Connection	Quantity Included	Length meters (feet)	Cord Diameter mm	Without Light	Lighted Connector
	Connector	Cord						24 V DC
	DIN EN 175301-803 Form A	Flying leads	Solenoid	1	2 (6.5)	6	721K77	720K77-W
				1	2 (6.5)	10	371K77	383K77-W
	DIN EN 175301-803 Form C	Flying leads	Solenoid	1	3 (10)	8	2449K77	2450K77-W
	M12 5-pin, Female	Flying leads	Solenoid	1	5 (16.4)	—	2241H77	—
				1	10 (32.8)	—	2242H77	—

ELECTRICAL CONNECTORS

Cable Grip	
Without Light	With Light

Illustration examples.

Connectors	Connector					Model Number	
	Type	Connection	Fitting Connection	Quantity Included	Cord Diameter mm	Without Light	Lighted Connector
							24 V DC
	DIN EN 175301-803 Form A	Solenoid	Cable grip	1	8 to 10	937K87	936K87-W
			1/2" NPT conduit	1	—	723K77	724K77-W
	DIN EN 175301-803 Form C	Solenoid	1/2" NPT conduit	1	—	2452K77	2453K77-W

Connector Pinouts		
DIN EN 175301-803 Form A	DIN EN 175301-803 Form C	M12
1 - Black 2 - Black 4 - Green/Yellow (Ground)	1 - Brown 2 - Blue 3 - Green/Yellow (Ground) 4 - Green/Yellow (Ground)	3 - Blue 4 - Black

* Lights in connectors with a translucent housing can be used as indicator lights to show when solenoids are energized.

EXHAUST SILENCERS

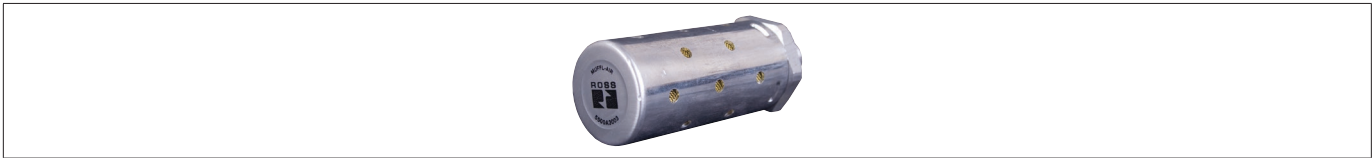


Illustration example.

Silencers	SPECIFICATIONS		Silencer Material		Pressure Range psig (bar)		Schematic	
			Aluminum		0-290 (0-20) maximum			
	Port Size	Thread Type	Flow C _v (NI/min)	Model Number		Dimensions inches (mm)		≈ Weight lb (kg)
				NPT Thread	R/Rp Thread	Length	Hex Size (D)	
	1	Male	18 (18000)	5500A6003	D5500A6003	5.4 (14)	2.0 (51)	0.9 (0.4)
	1-1/2	Female	39 (38000)	5500A8001	D5500A8001	5.7 (14)	2.5 (64)	1.3 (0.6)

FEMALE SILENCER CONNECTORS

Hex Nipples	Material	Fitting Pipe Size	Thread Type	Model Number		
				NPT Thread	BSPT Thread	
	Steel	1-1/2	Male - Male	488J27	122J39	

LOCKOUT DEVICE

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

MODULAR CONNECTION

MDC Series valves have both modular receptacles for piping and female threaded ports inside receptacles, which allows either modular connection or direct piping. Mounting accessories listed below are used for modular connection to ROSS MD Series filter-regulator units.

Clamp		Bracket, Screw, and Clamp	
Extra Port Blocks	Female End Ports		Male End Ports

Illustration examples.

Mounting Brackets & Clamp for Module Connections	Options		Model Number	
	Clamp only		R-A118-105	
	Bracket, Screw, and Clamp		R-A118-105M	
Port Block and End Ports	Options	Port Size	Model Number	
			NPTF Thread	G Thread
	Extra Port Blocks	1/4	R-118-106-2	R-118-106-2W
		3/8	R-118-106-3	R-118-106-3W
		1/2	R-118-106-4	R-118-106-4W
	Female End Ports	1/2	R-118-100-4	R-118-100-4W
		3/4	R-118-100-6	R-118-100-6W
	Male End Ports	1/2	R-118-109-4F	R-118-109-4FW
		3/4	R-118-109-6F	R-118-109-6FW

REPLACEMENT FILTER ELEMENTS

Polyethylene	Sintered Bronze

Illustration examples.

Filter Elements	Series	Bowl Type	Element Rating	Element Material	Model Number
	MD4™	Standard	5-µm	Polyethylene	R-A115-106PE5
				Sintered Bronze	R-A115-106E5
			20-µm	Sintered Bronze	R-A115-106E4
			40-µm	Polyethylene	R-A115-106PE3
	HIGH-CAPACITY Flow to 660 scfm	Standard	5-µm	Sintered Bronze	1656K77
			40-µm	Sintered Bronze	R-A114-106E3

LUBRICANTS, POLYCARBONATE BOWL CAUTIONS

COMPATIBLE LUBRICANTS

Although air line lubrication is not required for most ROSS valves, other mechanisms in the system may need such lubrication. When a lubricator is used, it should be supplied only with oils which are compatible with the materials used in the valves for seals and poppets. Generally speaking, these are petroleum base oils with oxidation inhibitors, and aniline point between 180°F (82°C) and 220°F (104°C) and an ISO 32, or lighter, viscosity. Oils with phosphate type additives, such as zinc dithiophosphate, must be avoided because they can harm polyurethane valve components. The best oils to use in pneumatic systems are those specifically compounded for air line lubricator service.

CAUTIONS ON THE USE OF POLYCARBONATE BOWLS

Use Only with Compressed Air. Filters and lubricators with polycarbonate bowls are specifically designed for compressed air service, and their use with any other fluid (liquid or gas) is a misapplication. The use with or injection of certain hazardous fluids in the system (e.g., alcohol or liquefied petroleum gas) could be harmful to the polycarbonate bowl or result in a combustible condition or hazardous leakage. Before using with a fluid other than air, or for nonindustrial applications, or for life support systems, consult ROSS.

Use Metal Bowl Guard When Supplied. A metal bowl guard is supplied with all but the smallest bowls, and must always be used to minimize danger from fragmentation in the event of failure of a polycarbonate bowl.

Avoid Harmful Substances. Some compressor oils, chemical cleaners, solvents, paints, and fumes will attack polycarbonate bowls and can cause bowl failure. Do not use with or near these materials. When a bowl becomes dirty, replace the bowl or wipe it with a clean dry cloth. Immediately replace any polycarbonate bowl which is crazed, cracked, or deteriorated.

SUBSTANCES HARMFUL TO POLYCARBONATE BOWLS

Acetaldehyde	Carbon disulfide	Ethylene dichloride	Phosphorous trichloride
Acetic acid	Carbon tetrachloride	Ethylene glycol	Propionic acid
Acetone	Caustic potash solution	Formic acid	Pyridine
Acrylonitrile	Caustic soda solution	Freon (refrigerant & propellant)	Sodium hydroxide
Ammonia	Chlorobenzene	Gasoline (high aromatic)	Sodium sulfide
Ammonium fluoride	Chloroform	Hydrazine	Styrene
Ammonium hydroxide	Cresol	Hydrochloric acid	Sulfuric acid
Ammonium sulfide	Cyclohexanol	Lacquer thinner	Sulfural chloride
Anaerobic adhesives & sealants	Cyclohexanone	Methyl alcohol	Tetrahydronaphthalene
Antifreeze	Cyclohexene	Methylene chloride	Thiophene
Benzene	Dimethyl formamide	Methylene salicylate	Toluene
Benzoic acid	Dioxane	Milk of lime (CaOH)	Turpentine
Benzyl alcohol	Ethane tetrachloride	Nitric acid	Xylene
Brake fluids	Ethyl acetate	Nitrobenzene	Perchlorethylene
Bromobenzene	Ethyl ether	Nitrocellulose lacquer	
Butyric acid	Ethylamine	Phenol	
Carbolic acid	Ethylene chlorohydrin	Phosphorous hydroxyl chloride	

TRADE NAMES OF SUBSTANCES HARMFUL TO POLYCARBONATE BOWLS

Atlas Perma-Guard	Loctite Threadlocker Red 271	Pydraul AC
Buna-N	Loctite Threadlocker 290	Sears Regular Motor Oil
Cellulube #150 & #220	Loctite 601	Sinclair oil "Lily White"
Crylex #5 cement	Loctite Teflon sealant	Stauffer Chemical FYRQUEL 150
Eastman 910	Marvel Mystery Oil	Stillman #SR 269-75 (polyurethane)
Garlock #98403 (polyurethane)	Minnesota Rubber 366Y	Stillman #SR 513-70 (neoprene)
Haskel #568-023	National Compound #N11	Tannergas
Hilgard Company's Hil-Phene	Nylock VC-3	Telar
Houghton & Co. oil #1120, #1130, #1055	Parco #1306 Neoprene	Tenneco Anderol 495 & 500 oils
Houtosafe 1000	Permabond 910	Titon
Kano Kroil	Petron PD287	Vibra-TITE
Keystone penetrating oil #2	Prestone	Valvolin ZEREX

CAUTIONS, WARNINGS And STANDARD WARRANTY



ROSS OPERATING VALVE, ROSS CONTROLS®, ROSS DECCO®, and AUTOMATIC VALVE INDUSTRIAL, collectively the “ROSS Global Family”.

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 Global Family 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 Global Family 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 Global Family location.
4. Each ROSS Global Family Product should be used within its specification limits. In addition, use only ROSS Group components to repair ROSS Global Family 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 Global Family recommends a filter with a 5-micron rating for normal applications.
2. All standard ROSS Global Family 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 Global Family 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 Global Family's obligation under this warranty is limited to repair, replacement or refund of the purchase price paid for products which the ROSS Global Family 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 Global Family freight prepaid.

THE WARRANTY EXPRESSED ABOVE IS IN LIEU OF AND EXCLUSIVE OF ALL OTHER WARRANTIES AND THE ROSS GLOBAL FAMILY EXPRESSLY DISCLAIMS ALL OTHER WARRANTIES EITHER EXPRESSED OR IMPLIED WITH RESPECT TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THE ROSS GLOBAL FAMILY MAKES NO WARRANTY WITH RESPECT TO ITS PRODUCTS MEETING THE PROVISIONS OF ANY GOVERNMENTAL OCCUPATIONAL SAFETY AND/OR HEALTH LAWS OR REGULATIONS. IN NO EVENT IS THE ROSS GLOBAL FAMILY LIABLE TO PURCHASER, USER, THEIR EMPLOYEES OR OTHERS FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES WHICH MAY RESULT FROM A BREACH OF THE WARRANTY DESCRIBED ABOVE OR THE USE OR MISUSE OF THE PRODUCTS. NO STATEMENT OF ANY REPRESENTATIVE OR EMPLOYEE OF THE ROSS GLOBAL FAMILY MAY EXTEND THE LIABILITY OF THE ROSS GLOBAL FAMILY AS SET FORTH HEREIN.



GLOBAL LOCATIONS

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