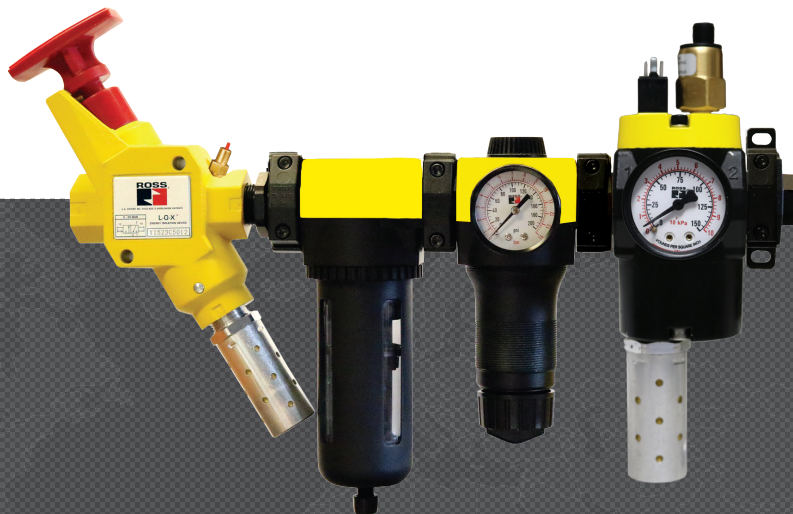




SAFE AIR ENTRY ASSEMBLIES WITH MDC SERIES VALVES

PRODUCT CATALOG



FLU-TECH CO. LTD.

Email: sales@flutech.co.th **Website:** <https://flutech.co.th>

Tel: 02-384-6060, 086-369-5871-3 **Fax:** 02-384-5701 **LINE OA:** @flutech.co.th

Address (HQ): 845/3-4, Moo 3, Theparak Rd., T. Theparak, A. Mueang Samut Prakan, Samut Prakan, 10270, Thailand

LINE OA

WEBSITE



Safe Air Entry Assemblies with MDC Series

Product Overview

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

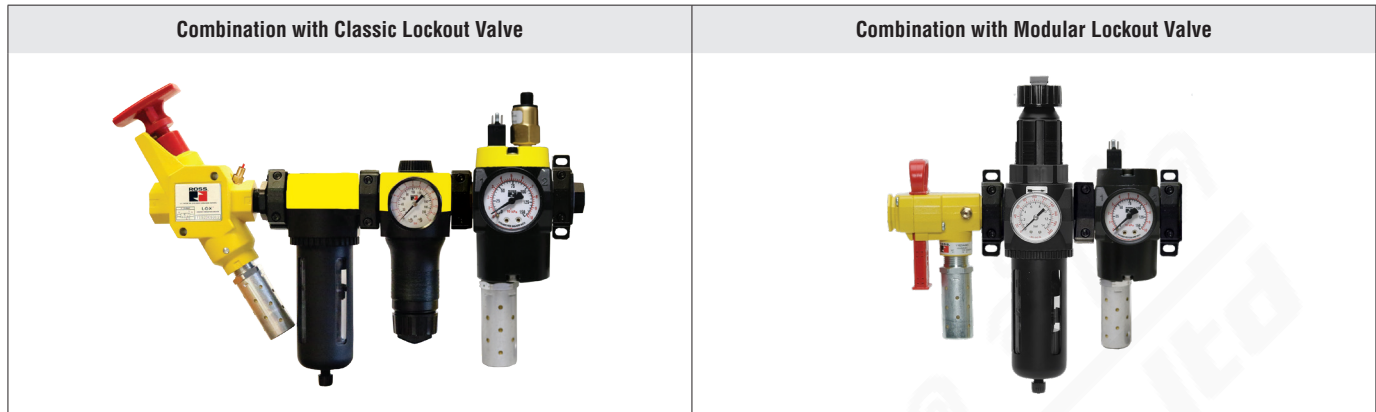


Illustration examples.

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

SISTEMA Library

Available for download

<p>Performance Level Per ISO 13849-1:2015</p> 	<p>Safety Integrity Level Per IEC 2061:2001</p> 	<p>DGUV</p>  <p>HSM XXXX Sicherheitsteil geprüft Pending</p>	<p>Declaration of Conformity</p> 	<p>Certificate of Compliance</p>  <p>C US Pending</p>
---	---	---	--	--

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

MODEL NUMBER CONFIGURATOR with MDC Valve

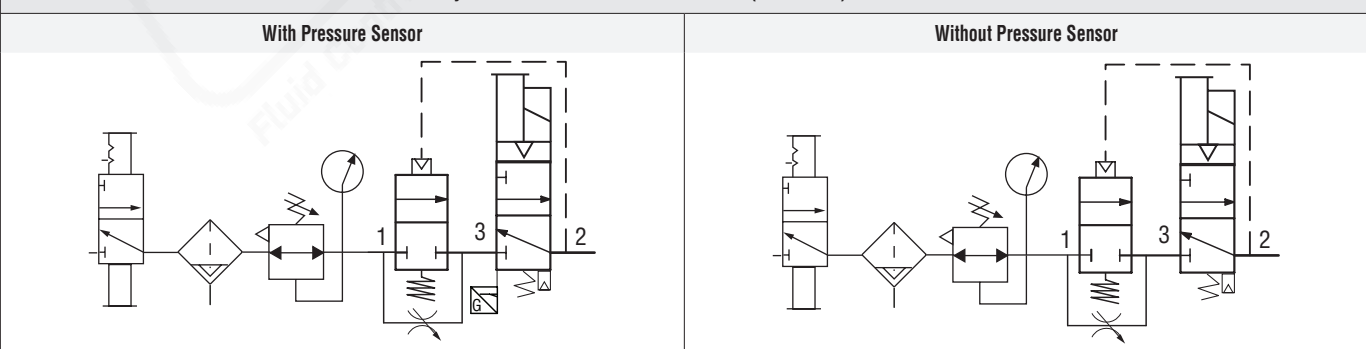
MDC 1 E13 L F 2U 1 N A E X C G A

Series		MDC		
Feedback Signal		1		
Without Pressure Sensor		1		
With Solid State Pressure Sensor		2		
Soft-Start	Body Size	Port Size		
With	1/2	Inlet	Outlet	Exhaust
		3/8	3/8	1
		1/2	1/2	1
		3/4	3/4	1
Lockout L-O-X® Valve				
Classic*				
Modular*				
None				
* Silencer included.				
Filter, Regulator, Lubricator *#				
Integrated Filter/Regulator				
Filter and Regulator				
Integrated Filter/Regulator, and Lubricator				
* Auto Drain.				
# MD4™ Series models.				
Voltage		24 V DC		
Monitoring		Internal		
Communication		None		
Revision Level		A		
Pressure Measuring Device		G		
With Analog Gauge		G		
Digital Transducer		T		
None		X		
Solenoid Connection		C		
DIN EN 175301-803		C		
M12		M		
MDC Exhaust		With Silencer		
Port Thread		N		
NPT		N		
G		G		
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		

Custom configurations available, consult ROSS.

Model Number examples: MDC1E13LF2U1NAEXCGA, MDC2E14ML4U1GAEXMTA.

System Schematic – With EEZ-ON® (Soft-Start) Function



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

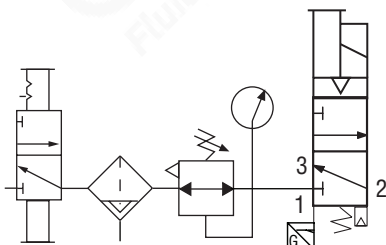
Series		MDC			
Feedback Signal		1			
Without Pressure Sensor		1			
With Solid State Pressure Sensor		2			
Soft-Start	Body Size	Port Size			
		Inlet	Outlet	Exhaust	
		Without	1	1	
		1-1/4	1-1/4	1-1/2	X26
					X27
Lockout L-O-X® Valve		L			
Classic*		L			
None		X			
* Silencer included.					
Filter, Regulator,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

Custom configurations available, consult ROSS.

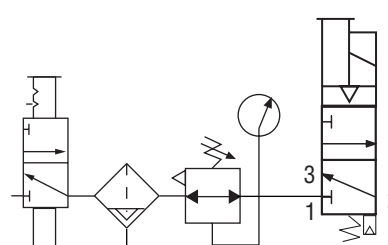
Model Number examples: MDC1X25LRXX1NAEXMTA, MDC2X26LLXX1GAEXCGA.

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

With Pressure Sensor



Without Pressure Sensor



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

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

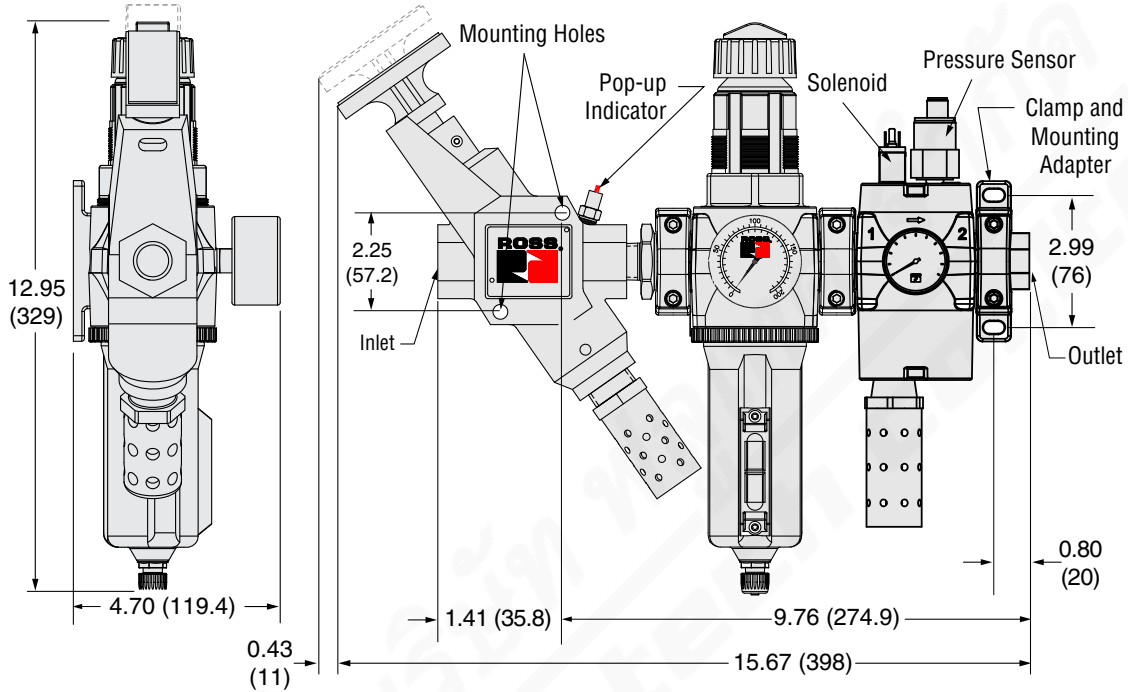
Technical Data

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

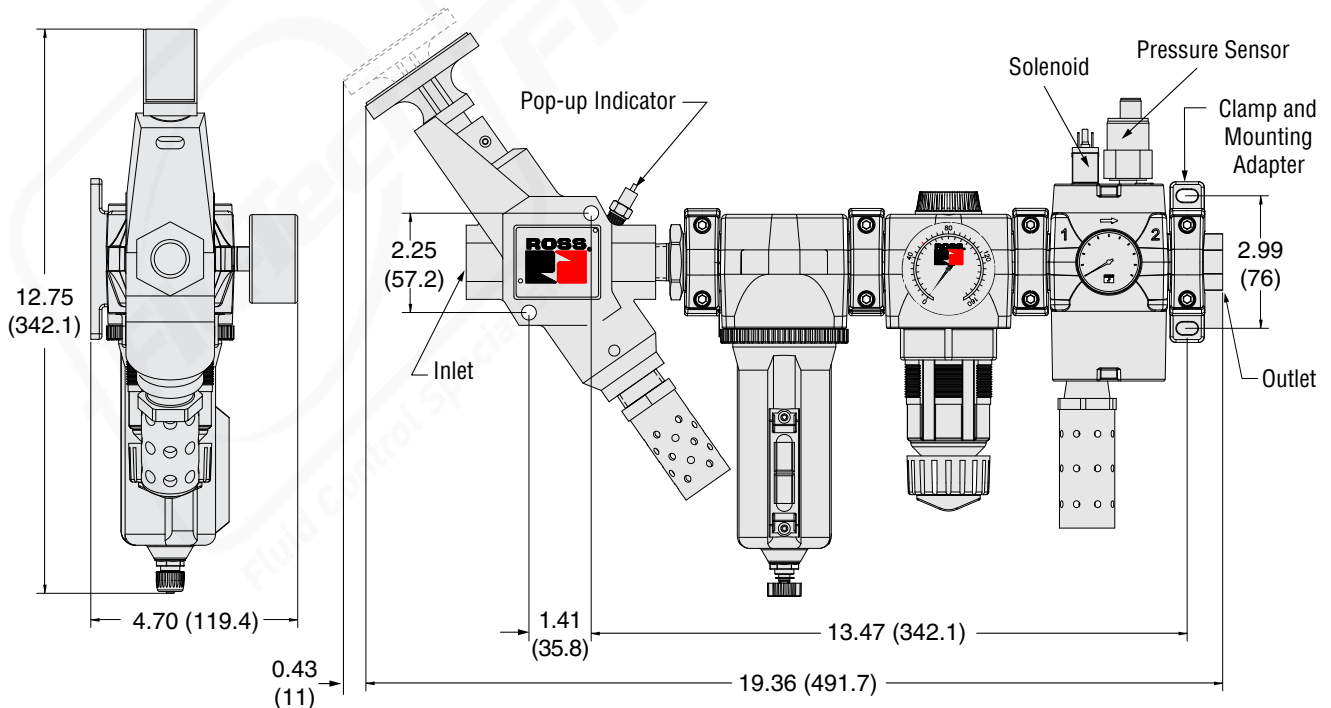
ASSEMBLY COMBINATION EXAMPLES

DIMENSIONS – Inches (mm)

with MD4™ Integrated Filter/Regulator option



with MD4™ Filter and Regulator option



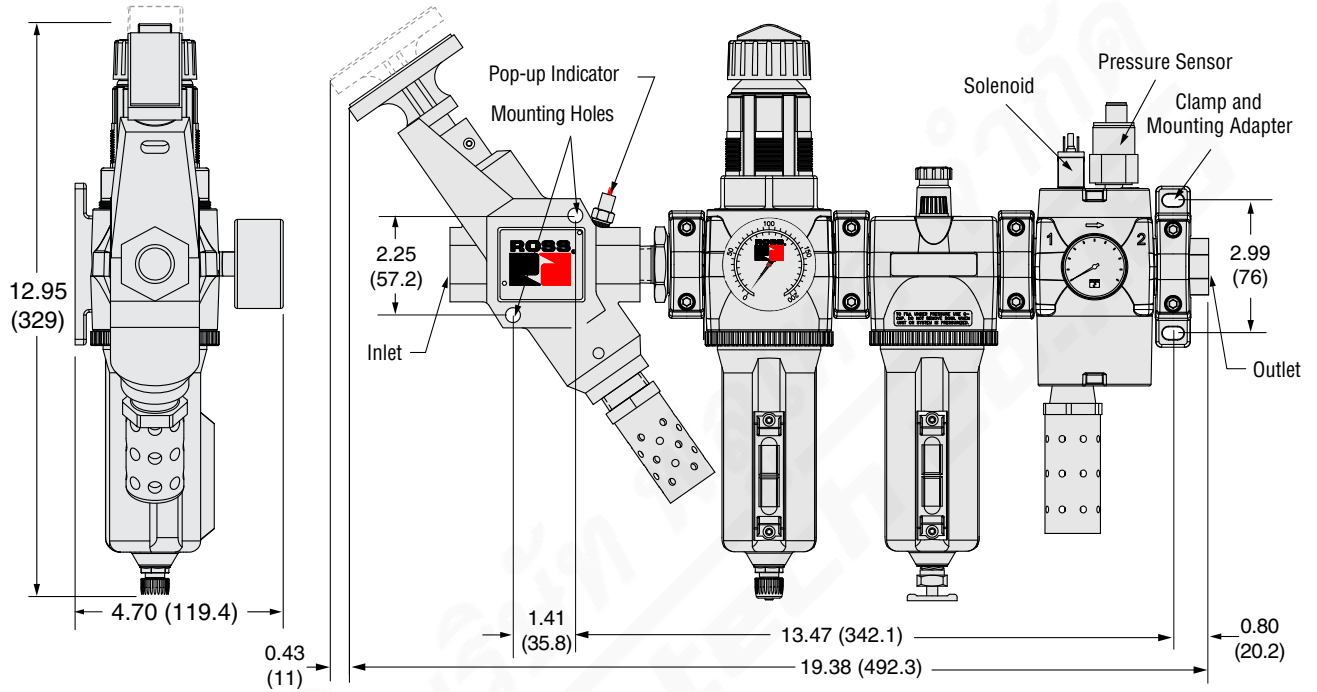
Downloadable CAD models available.

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.

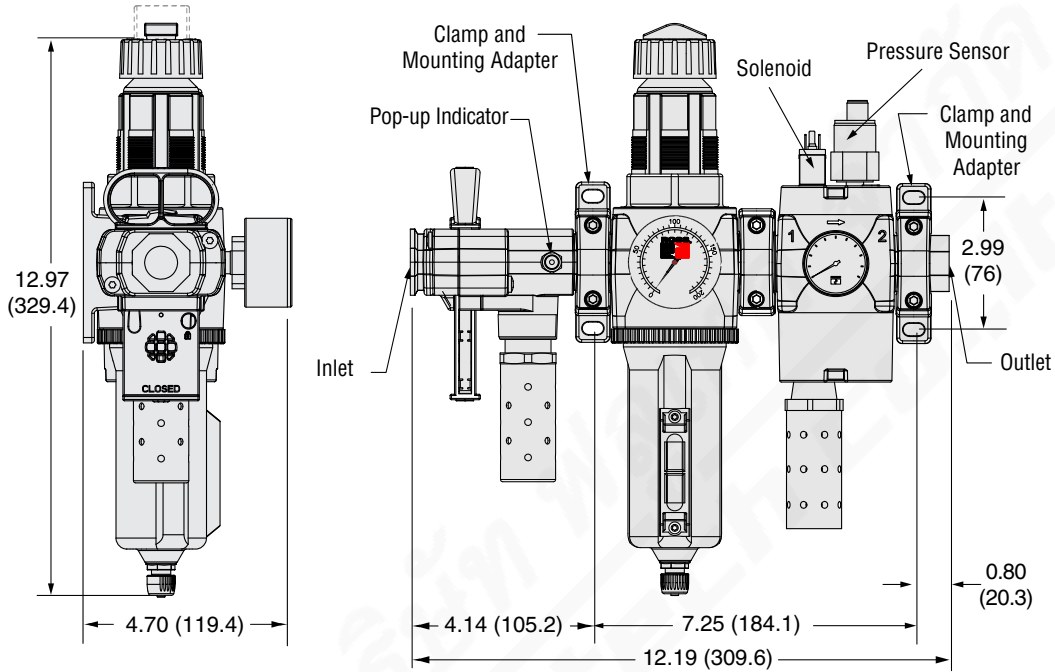
Technical Data

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

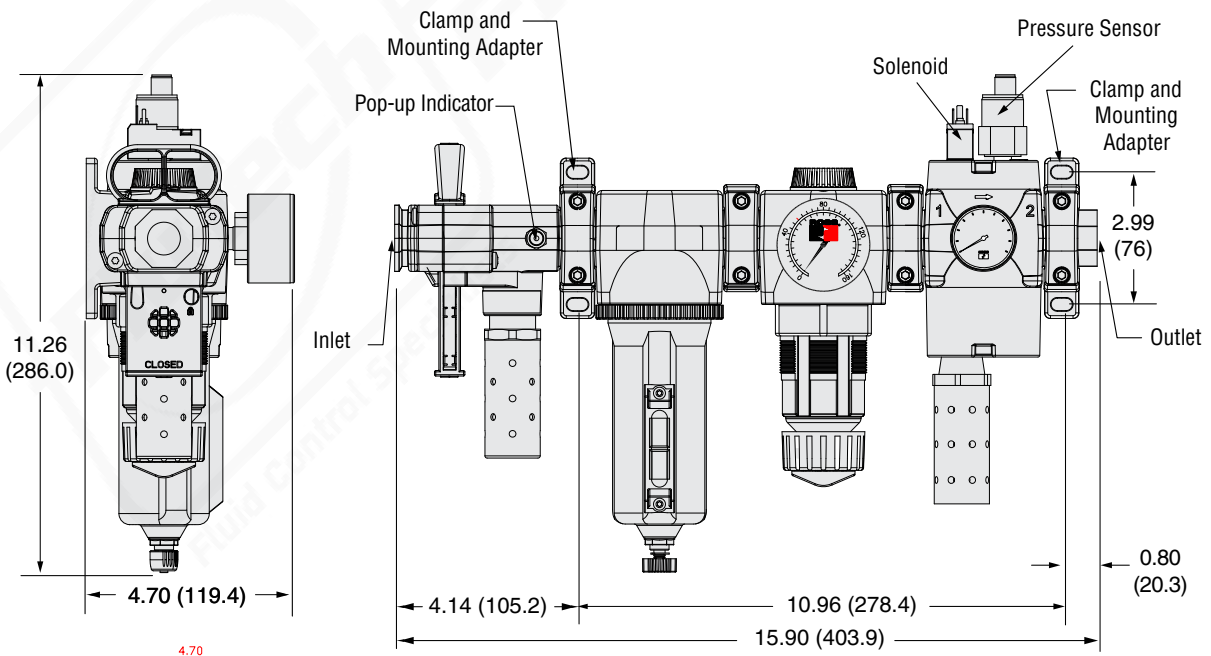
ASSEMBLY COMBINATION EXAMPLES

DIMENSIONS – Inches (mm)

with MD4™ Integrated Filter/Regulator option



with MD4™ Filter and Regulator option



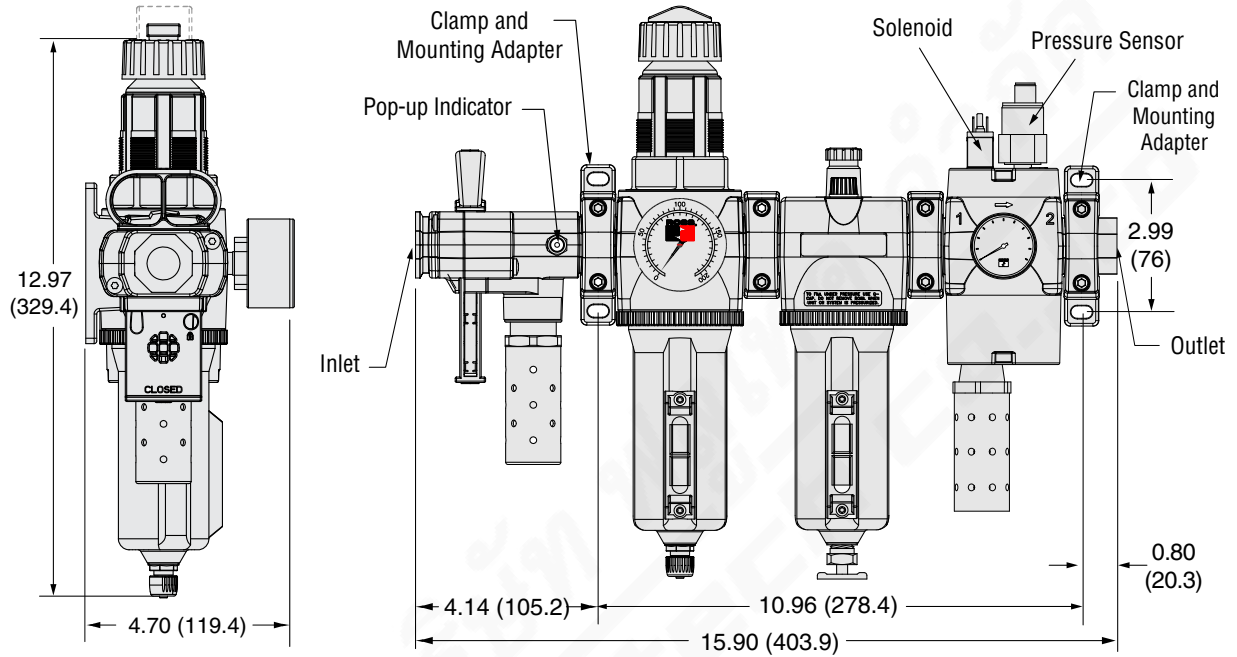
Downloadable CAD models available.

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.

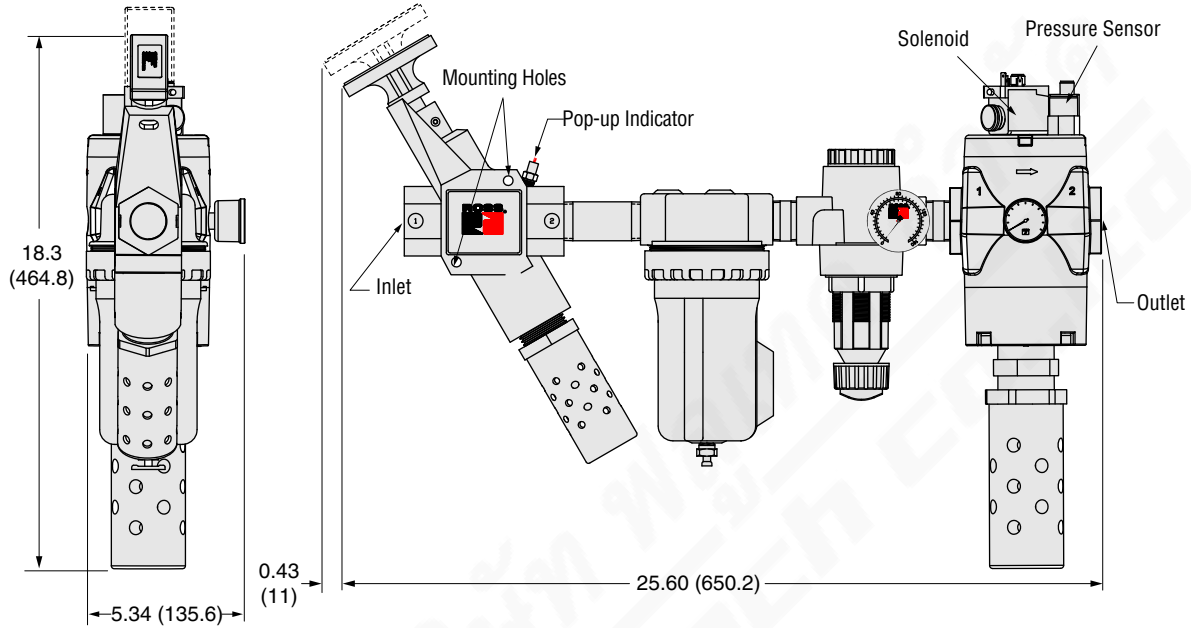
Technical Data

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

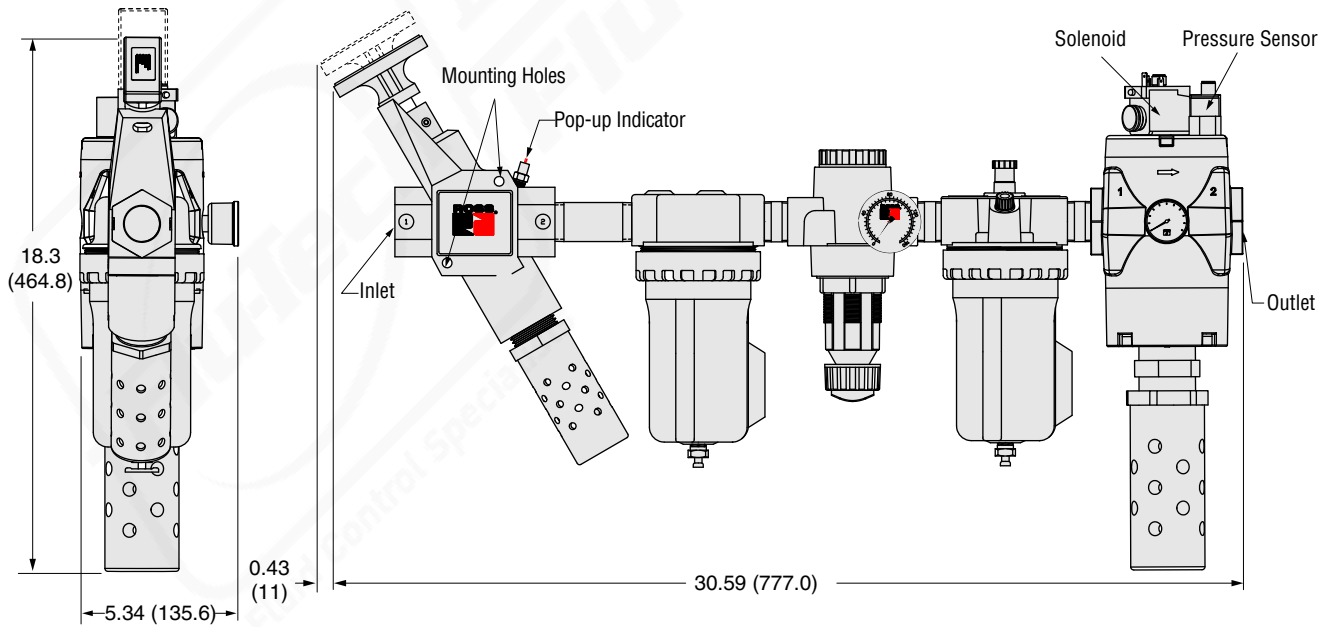
ASSEMBLY COMBINATION EXAMPLES

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	5400A2011	0-200 (0-14)	2.2 (55)

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

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

Pressure Sensor



Illustration example.

Pinouts

DIN EN 175301-803 Form A - Pressure Switch	M12 - Solid State Pressure Sensor
<p>1 - Common 2 - Normally Closed 3 - Normally Open 4 - Ground (Not Used)</p>	<p>1 - 8-30 VDC 2 - Output 3 - Ground 4 - Output PNP - Switched Positive NO - Normally Open NC - Normally Closed</p>

PREWIRED ELECTRICAL CONNECTORS

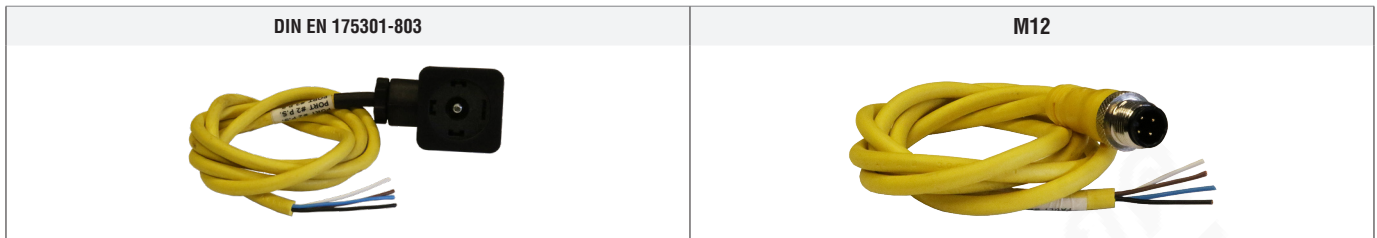


Illustration examples.

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

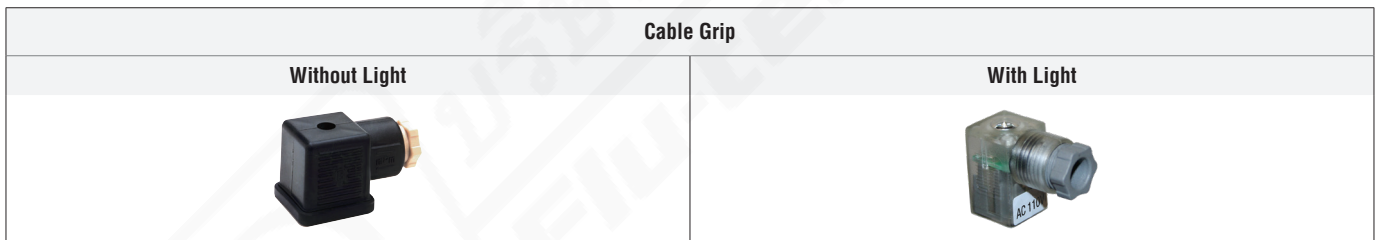


Illustration examples.

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
<p>1 - Black 2 - Black 4 - Green/Yellow (Ground)</p>	<p>1 - Brown 2 - Blue 3 - Green/Yellow (Ground) 4 - Green/Yellow (Ground)</p>	<p>3 - Blue 4 - Black</p>

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

Accessories

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