



SAFE AIR ENTRY SOLUTIONS WITH DM SERIES C DOUBLE VALVES

PRODUCT CATALOG

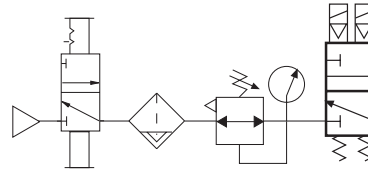


Air Entry Assemblies with DM¹ & DM²[®] Series C Product Overview



Air entry assembly for Pneumatic Control and Air Dump/Release applications.

Assembly Schematic



Air entry system via a manual Lockout L-O-X[®] valve, air preparation FRL combinations, and an DM¹ or DM²[®] Series C Safe Exhaust double valve.

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.

- Custom designs available, consult ROSS
- Explosion proof solenoid pilot available, for more information consult ROSS

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 or visual indicator
- High flow, clog resistant; silencers included

Filter and Regulator Integrated Filter/Regulator, and Lubricator Filter, Regulator, and Lubricator MD3[™], MD4[™], and High-Capacity Series

- Filter, Integrated Filter/Regulator, and Lubricator with metal bowls
- 5-micron filter element
- Automatic drain
- Analog gauge

Control Reliable Safe Exhaust Double Valve DM¹ or DM²[®] Series C

- 3/2 valve
- Self-contained dynamic monitoring system requires no further valve monitoring controls
- Status indicator switch for valve condition (ready-to-run) feedback
- DM¹ Series C
 - Automatic reset
- DM²[®] Series C
 - Dynamic memory of abnormal function prevents unintentional reset with removal and or reapplication of air or electricity
 - Electrical solenoid reset


Mounting

Mounting plate assembly design.

SISTEMA Library

Available for download at rosscontrols.com.

DM¹ & DM²[®] SERIES C VALVE PRODUCT CREDENTIALS

Safety Category	DGUV (German Social Accident Insurance)	CE Conformity Declaration	EAC Conformity Declaration	ISO Standard	CSA Certificate of Compliance	CRN Certification
 	 			ISO 13849-1:2015		Available for appropriately tested valves

NOTE: Per specifications and regulations, lockout L-O-X[®] products are defined as energy isolation devices, NOT AS EMERGENCY STOP DEVICES. These valve assemblies are not designed for controlling clutch/brake mechanisms on mechanical power presses.

Ordering Information



MODEL NUMBER CONFIGURATOR with Classic Lockout L-O-X® Valve

RC
4
08
-
06
W

Thread

G	D
NPT	Leave Blank

Exhaust Valve

DM ¹ Series C	3
DM ² Series C	4

Lockout Valve*

Classic L-O-X®

*Silencer Included.

Other Options*

Connector	Description	
DIN EN 175301-803 Form A	Solenoids	Connector not included
	Solenoid Reset**	DIN EN Connector included
Mechanical Pressure Switch	Adapter DIN EN to M12 Connector included	
M12 (24 V DC only)		Solenoids
	Solenoid Reset**	
Mechanical Pressure Switch		

*See options for connectors or wiring kits.
** DM² Series C valves only.

Exhaust Valve	Port Size			
	In	Out	Exhaust	
DM ¹ C and DM ² C	1/2	1/2	1	08
	3/4	3/4	1	12
	1	1	1	16
DM ² C only	1	1	1-1/2	16HF
	1-1/2	2	2-1/2	32

Filter, Regulator, Lubricator*	Port Size	
Filter and Regulator	1/2 to 1-1/2	Leave Blank
Integrated Filter/Regulator and Lubricator	1/2 & 3/4	L
Filter, Regulator and Lubricator	1 & 1-1/2	

* MD4™ Series models for 1/2 & 3/4 port size.
High-Capacity Series models for 1 & 1-1/2 port size.

Voltage*

24 volts DC	W
110 volts AC, 50 Hz	Z
120 volts AC, 50/60 Hz	
230 volts AC, 50/60 Hz **	C

*For other voltages consult ROSS.
**230 VAC not available in the U.S. (OSHA regulations limit control voltage to no more than 120 volts AC).

MODEL NUMBER CONFIGURATOR with Modular Lockout L-O-X® Valve

D
RC
3
04
-
09
W

Thread

G	D
NPT	Leave Blank

Exhaust Valve

DM ¹ Series C	3
DM ² Series C	4

Lockout Valve*

Modular L-O-X®

*Silencer Included.

Other Options*

Connector	Description	
DIN EN 175301-803 Form A	Solenoids	Connector not included
	Solenoid Reset**	DIN EN Connector included
Mechanical Pressure Switch	Adapter DIN EN to M12 Connector included	
M12 (24 V DC only)		Solenoids
	Solenoid Reset**	
Mechanical Pressure Switch		

*See options for connectors or wiring kits.
** DM² Series C valves only.

Port Size				
	In	Out	Exhaust	
1/4	1/4	3/4	04	
3/8	3/8	3/4	06	

Filter, Regulator, Lubricator	
Integrated Filter/Regulator	Leave Blank
Filter, Regulator, and Lubricator	L

* MD3™ Series models.

Voltage*

24 volts DC	W
110 volts AC, 50 Hz	Z
120 volts AC, 50/60 Hz	
230 volts AC, 50/60 Hz **	C

*For other voltages consult ROSS.
**230 VAC not available in the U.S. (OSHA regulations limit control voltage to no more than 120 volts AC).

Technical Data

FLOW

DM ² ® & DM ¹ Series C Valves	Port Size			Flow C _v	
	1	2	3	1-2	2-3
	1/4	1/4	3/4	1.7	2.6
	3/8	3/8	3/4	2.2	3.6
	1/2	1/2	1	3.0	6.5
	3/4	3/4	1	4.2	9.4
	1	1	1	4.3	9.4
	1	1	1-1/2	8.7	17
	1-1/2	2	2-1/2	20	55

DIMENSIONS

Port Size			FRL Combination	Assembly Model Number Identification	Dimensions inches (mm)		
In	Out	Exhaust			Mounting Plate		Unit Depth
					Length	Width	
1/4	1/4	3/4	Integrated Filter/Regulator	DRC304-09*** DRC404-09***	13.00 (60.1)	13.00 (60.1)	5.50 (139.7)
			Filter, Regulator, and Lubricator	DRC304L-09*** DRC404L-09***	17.00 (43.2)	14.50 (368.3)	
3/8	3/8	3/4	Integrated Filter/Regulator	DRC306-09*** DRC406-09***	13.00 (60.1)	13.00 (60.1)	5.50 (139.7)
			Filter, Regulator, and Lubricator	DRC306L-09*** DRC406L-09***	17.00 (43.2)	14.50 (368.3)	
1/2	1/2	1	Filter and Regulator	DRC308-06*** DRC408-06***	24.00 (609.6)	17.00 (43.2)	7.50 (190.5)
			Integrated Filter/Regulator and Lubricator	DRC308L-06*** DRC408L-06***			
3/4	3/4	1	Filter and Regulator	DRC312-06*** DRC412-06***	24.00 (609.6)	17.00 (43.2)	8.50 (215.9)
			Integrated Filter/Regulator and Lubricator	DRC312L-06*** DRC412L-06***			
1	1	1	Filter and Regulator	DRC316-06*** DRC416-06***	27.00 (685.8)	18.00 (45.7)	9.00 (228.6)
			Filter, Regulator and Lubricator	DRC316L-06*** DRC416L-06***	30.00 (762.0)	20.00 (508.0)	
1	1	1-1/2	Filter and Regulator	DRC316HF-06*** DRC416HF-06***	30.00 (762.0)	20.00 (508.0)	10.00 (254.0)
			Filter, Regulator and Lubricator	DRC316HFL-06*** DRC416HFL-06***	34.00 (863.6)		
1-1/2	2	2-1/2	Filter and Regulator	DRC432-06***	32.00 (812.8)	23.00 (584.2)	12.50 (317.5)
			Filter, Regulator and Lubricator	DRC432L-06***	37.00 (939.8)		



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

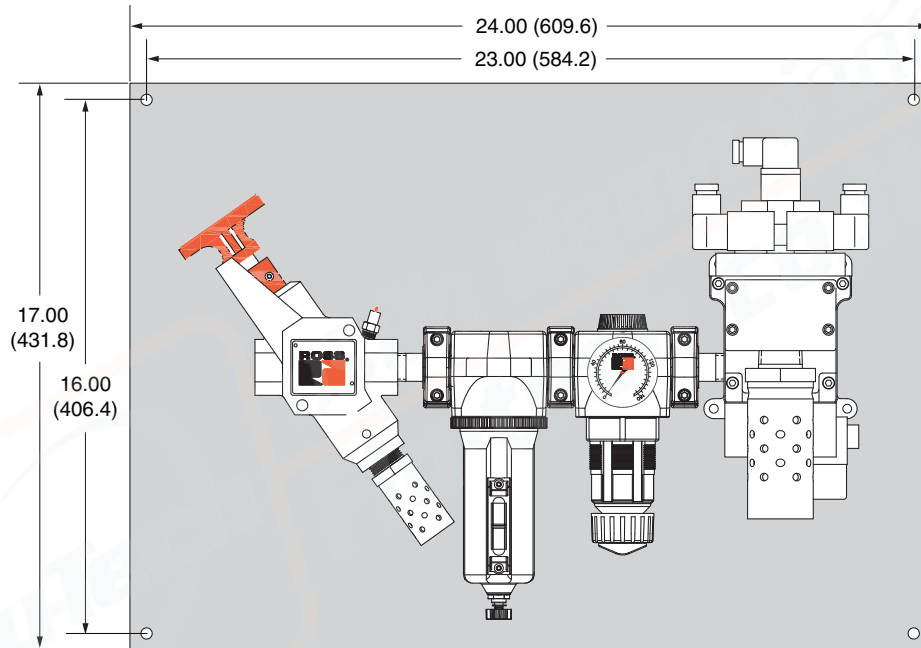
Models with Classic Lockout L-O-X® Valve

ASSEMBLY COMBINATION EXAMPLES

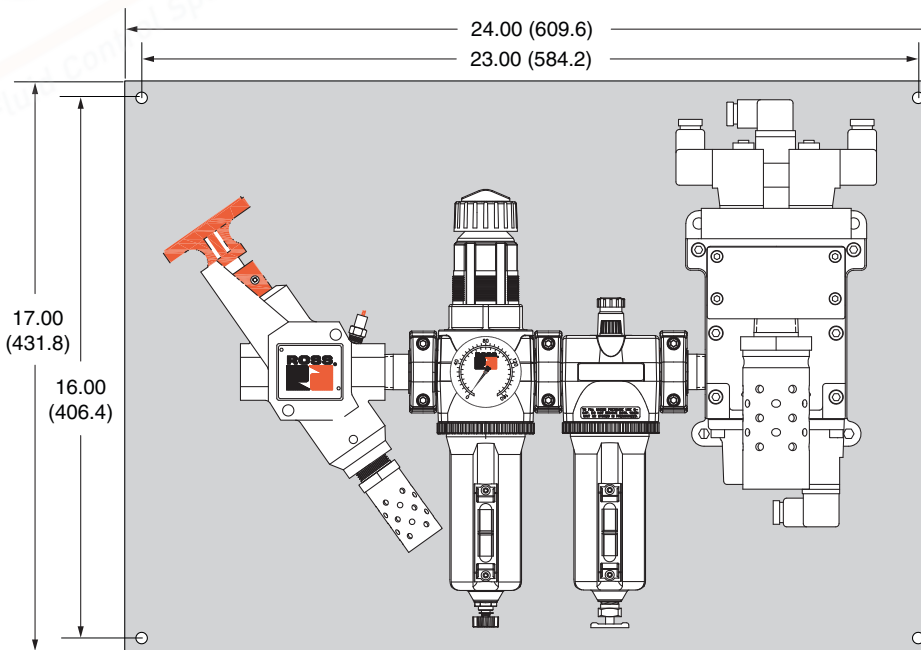
DIMENSIONS – Inches (mm)

Port Size 1/2"

with MD4™ Filter and Regulator option



with MD4™ Integrated Filter/Regulator and Lubricator option



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.

Technical Data

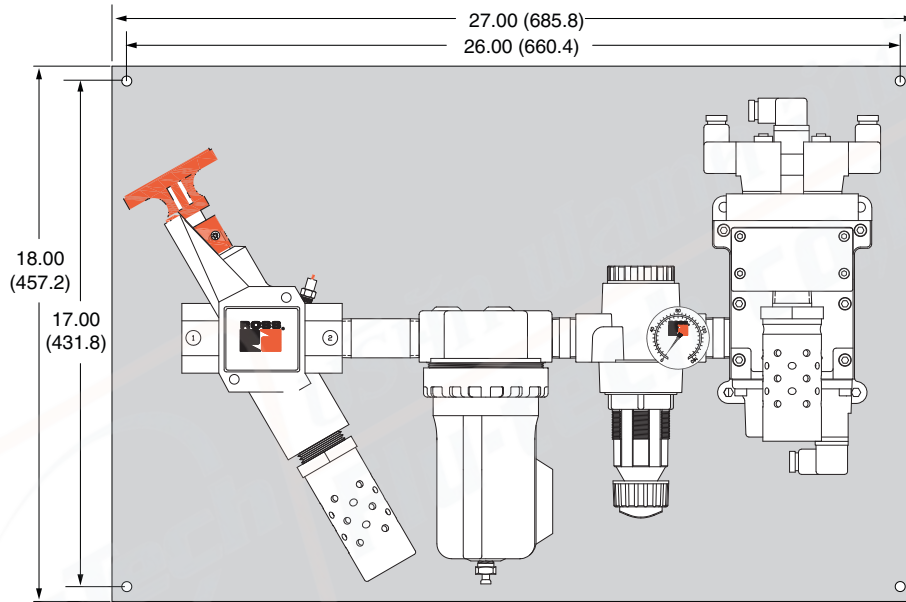
Models with Classic Lockout L-O-X® Valve

ASSEMBLY COMBINATION EXAMPLES

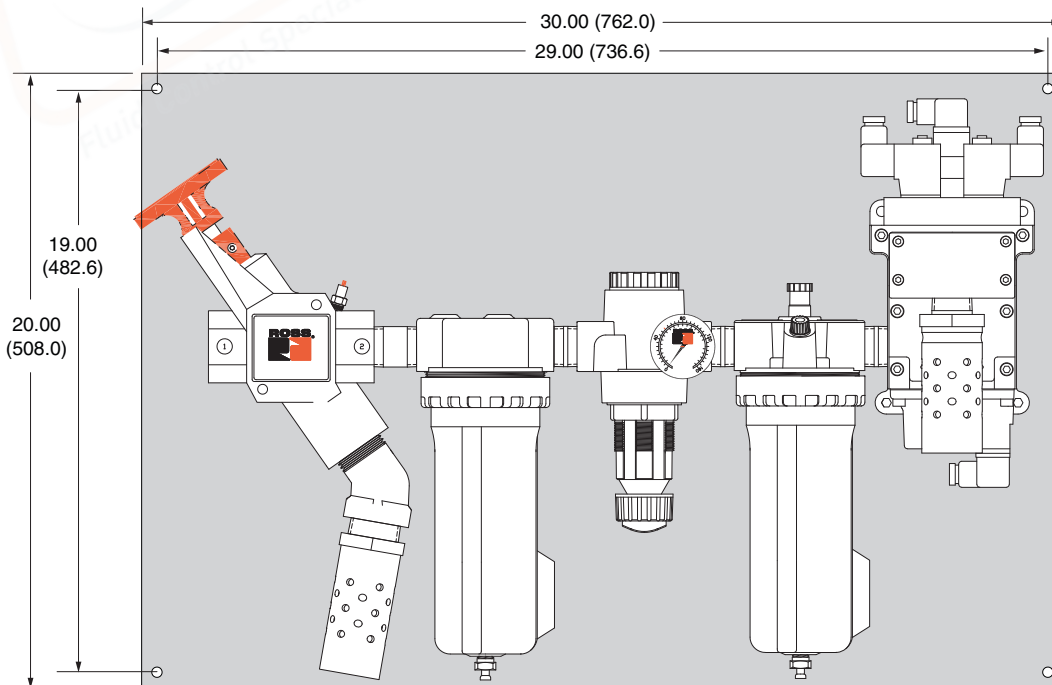
DIMENSIONS – Inches (mm)

Port Size 1"

with High-Capacity Filter and Regulator option



with High-Capacity Filter, Regulator and Lubricator option



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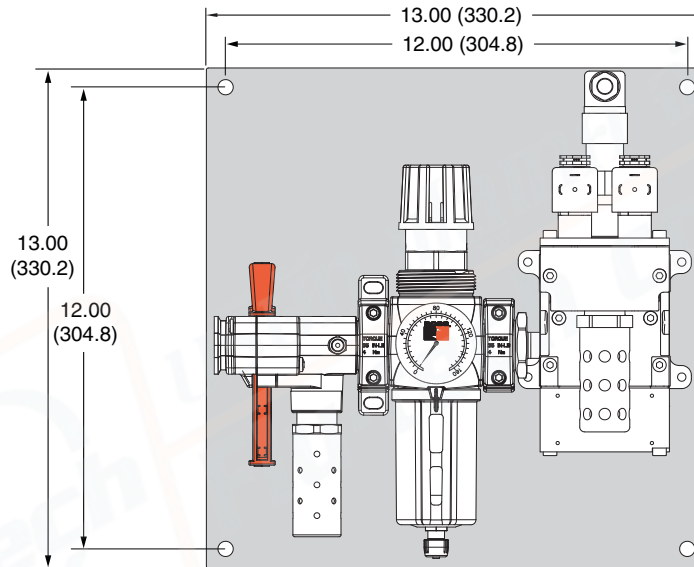
Models with Modular Lockout L-O-X® Valve

ASSEMBLY COMBINATION EXAMPLES

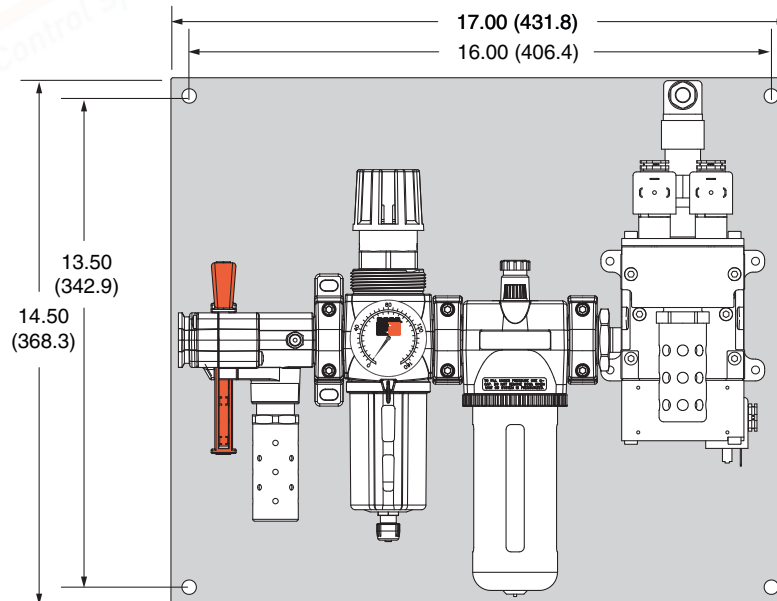
DIMENSIONS – Inches (mm)

Port Size 1/4 or 3/8"

with MD3™ Integrated Filter/Regulator option



with MD3™ Integrated Filter/Regulator, Lubricator option



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Accessories & Options

PRESSURE STATUS INDICATION

Pressure Switches for Status Indicator	Indicator Type	Connector Type	Model Number	Port Thread	Factory Preset psi (bar)
	Mechanical Pressure Switch	DIN EN 175301-803 Form A	1104A30	M10x1	22 (1.5) falling
	M12	1153A30			
	Solid State Pressure Sensor	M12	1335B30W	M10x1	17 (1.2) falling

Status Indicator Assemblies	Indicator Type	Connector Type	Model Number	Factory Preset psi (bar)
	Mechanical Pressure Switch	DIN EN 175301-803 Form A	Y670B94	22 (1.5) falling
Solid State Pressure Sensor	M12	Y766B94#	17 (1.2) falling	

Not compatible with Size 4 valves manufactured before 3/2021, e.g., DM2CDA4*** or DM1CNA4***. For Size 4 valves manufactured before 3/2021, use part number Y670B94.

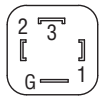
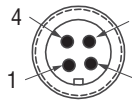
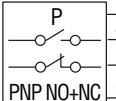
ENERGY RELEASE VERIFICATION

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

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

Redundant Pressure Switch Assembly	Verification Type	Installation Location	Connector Type	Model Number	Factory Preset psi (bar)	Port Thread
	Electrical (Dual)	Downstream	DIN EN 175301-803 Form A	RC026-13	5 (0.3) falling	3/8 NPT

Connectors Pinout

Mechanical Pressure Switch		Solid State Pressure Sensor	
DIN EN 175301-803 Form A	M12	M12	
 <p>1 - Common 2 - Normally Closed 3 - Normally Open G - Ground</p>	 <p>1 - Common 2 - Normally Closed 3 - Not Used 4 - Normally Open</p>	 <p>1, 2, 3, 4 - Pin PNP - Switched Positive NO - Normally Open NC - Normally Closed</p>	



ELECTRICAL CONNECTORS

Pre-wired Connector Kits for DM ¹ Series C Valves	Connection Type	Connector Type	End 1	End 2	Quantity	Length meters (feet)	Kit Number
							Without Light
Solenoid		DIN EN 175301-803 Form A	Connector	Flying leads	2	5 (16.4)	2243H77
					2	10 (32.8)	2244H77
		M12 5-pin, Female	Connector	Flying leads	2	5 (16.4)	2245H77
					2	10 (32.8)	2246H77

Pre-wired Connector Kits for DM ² ® Series C Valves	Connection Type	Connector Type	End 1	End 2	Quantity	Length meters (feet)	Kit Number			
							Without Light	Lighted Connector		
								24 V DC	120 V AC	230 V AC
Solenoid and Status Indicator		DIN EN 175301-803 Form A	Connector	Flying leads	4	5 (16.4)	2283H77	2532H77-W	2532H77-Z	2532H77-Y
					4	10 (32.8)	2284H77	2533H77-W	2533H77-Z	2533H77-Y
		M12 5-pin (Female)	Connector	Flying leads	4	5 (16.4)	2288H77	-	-	-
					4	10 (32.8)	2289H77	-	-	-

Pre-wired Connectors for DM ¹ Series C Valves	Connection Type	Connector Type	End 1	End 2	Quantity	Length meters (feet)	Cord Diameter	Model Number			
								Without Light	Lighted Connector		
									24 V DC	120 V AC	230 V AC
Status Indicator		DIN EN 175301-803 Form A	Connector	Flying leads	1	5 (16.4)	-	2247H77	-	-	-
					1	10 (32.8)	-	2248H77	-	-	-
		M12 5-pin, Female	Connector	Flying leads	1	5 (16.4)	-	2666H77	-	-	-
					1	10 (32.8)	-	2667H77	-	-	-
Solenoid	DIN EN 175301-803 Form A	Connector	Flying leads	1	2 (6.5)	6-mm	721K77	720K77-W	720K77-Z	720K77-Y	
				1		10-mm	371K77	383K77-W	383K77-Z	383K77-Y	

Pre-wired Connectors for DM ² ® Series C Valve	Connection Type	Connector Type	End 1	End 2	Quantity	Length meters (feet)	Cord Diameter	Model Number			
								Without Light	Lighted Connector		
									24 V DC	120 V AC	230 V AC
Solenoid		DIN EN 175301-803 Form A	Connector	Flying leads	1	2 (6.5)	6-mm	721K77	720K77-W	720K77-Z	720K77-Y
					1		10-mm	371K77	383K77-W	383K77-Z	383K77-Y

Connectors (no cable)	Connection Type	Connector Type	Fitting Connection	Quantity	Model Number			
					Without Light	Lighted Connector		
						24 V DC	120 V AC	230 V AC
Solenoid		DIN EN 175301-803 Form A	Cord grip	1	937K87	936K87-W	936K87-Z	936K87-Y
			1/2" NPT conduit	1	723K77	724K77-W	724K77-Z	724K77-Y

Connectors Pinout

Solenoid		Status Indicator	
DIN EN 175301-803	M12	DIN EN 175301-803	M12
<p>Diagram showing a 2-pin connector with terminals labeled BLACK PIN 1 and BLACK PIN 2. Below the terminals, a circuit diagram shows two black wires connected to a solenoid coil, with a green/yellow ground wire connected to the solenoid's ground terminal.</p>	<p>Diagram showing a 4-pin connector with terminals labeled 3 BLUE, 4 BLACK, 4 BLACK, and 3 BLUE. Below the terminals, a circuit diagram shows a solenoid coil connected between terminals 3 and 4.</p>	<p>Diagram showing a 4-pin connector with terminals labeled GRY, 2, 1, and 3. Below the terminals, a circuit diagram shows a PNP transistor with a brown wire (1) connected to the emitter, a grey wire (2) to the base, and a black wire (3) to the collector. A solenoid coil is connected between terminals 1 and 2.</p>	<p>Diagram showing a 4-pin connector with terminals labeled 2, 1, 3, and 4. Below the terminals, a circuit diagram shows a PNP transistor with Pin 1 connected to the emitter, Pin 4 to the base, Pin 2 to the collector, and Pin 3 to the solenoid coil. A PNP NO+NC symbol is shown below the transistor.</p>

Accessories & Options

JUNCTION BOX OPTIONS

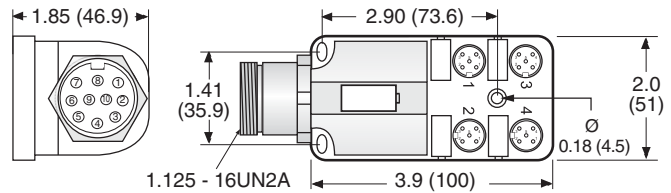
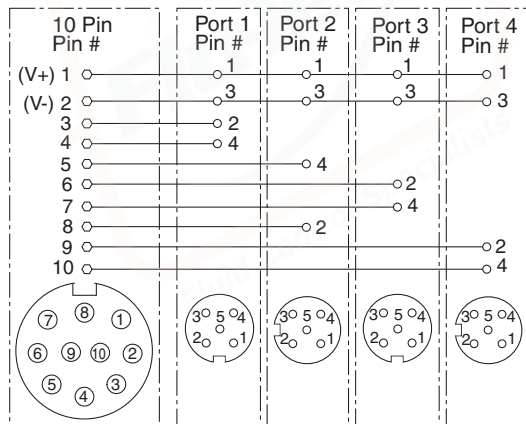
Wiring Kits with J-Box	J-Box			Cable Connector Type		Length meters (feet)	Cable Quantity	Kit Number
	Connection Type		J-Box Quantity	End 1	End 2			
	Control System	Solenoids / Status Indicator						
10-pin Mini	M12 (5-pin)	1	M12	DIN EN 175301-803 Form A	1.0 (3.3)	4	2249H77	
			M12	M12	1.0 (3.3)	4	2250H77	

10-Pin MINI Cables	Connection Type	Cable Connector Type			Length meters (feet)	Cable Quantity	Kit Number
		End 1	End 2	Cable Conductors			
J-Box to Control System	10-pin Mini	Flying leads	18-gauge wire	3.7 (12)	1	2253H77	
				6.1 (20)	1	2254H77	
				9.1 (30)	1	2255H77	
				15.2 (50)	1	2256H77	

Outlet Port Pressure Monitoring Wiring Kit	Port Splitter			Cable Connector Type		Length meters (feet)	Cable Quantity	Kit Number
	Port Connectors	Number of Ports	Splitter Quantity	End 1	End 2			
						M12	3	1

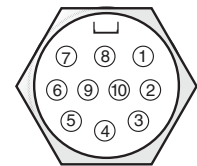
Connectors Pinout and Wiring Diagram

J-Box Wiring

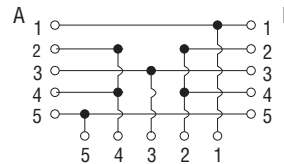
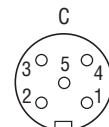
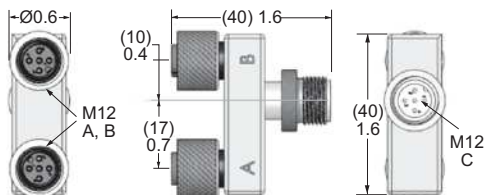


10-Pin MINI Cable

PIN #	Wire Colors	PIN #	Wire Colors
1 +24 V DC	Orange	6 -	Orange w/Black
2 Common V DC	Blue	7 Remote Reset	Red
3 -	White w/Black	8 -	Green/Yellow
4 Solenoid A	Red w/Black	9 Remote Valve Fault Light	Black
5 Solenoid B	Green w/Black	10 Remote System OK Light	White



Outlet Port Pressure Monitoring – Port Splitter




A & B Female
C Male

LOCKOUT DEVICE

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

NOISE REDUCTION SILENCERS

Valve Basic Size	Kit Number*		
	R/Rp Thread	NPT Thread	
2	2328H77	2323H77	
4	2329H77	2324H77	
8	2329H77	2325H77	
12	2330H77	2326H77	
30	2331H77	2327H77	
<p>* Kits include all plumbing required for installation.</p> <p>Reduces the Exponentially Perceived Noise (EPNdB), Impact noise reduction in the 35–40 dB range. Recommended for air exhaust applications for pressures up to 125 psig (8.6 bar). Pressure Range – 125 psig (8.6 bar) maximum.</p>			

Valve Basic Size	Flow scfm (L/s)	Dimensions** inches (mm)				Pressure Range psig (bar)
		Width	Height (R)	Height (NPT)	Depth	
2	800 (378)	4.96 (126.1)	16.05 (407.7)	14.24 (361.7)	5.73 (145.5)	0-125 (0-8.6) maximum
4	800 (378)	4.34 (110.2)	21.40 (543.6)	19.06 (484.1)	7.27 (184.7)	
8	800 (378)	5.41 (137.4)	23.52 (597.4)	21.18 (538.0)	8.41 (213.6)	
12	2080 (982)	6.74 (117.2)	28.20 (716.3)	25.85 (656.6)	10.66 (270.8)	
30	7200 (3398)	9.85 (250.2)	41.55 (1055.4)	41.55 (1055.4)	13.47 (342.1)	

** Dimensions reflect valve with installed silencer.

Accessories & Options

MODULAR CONNECTION

M35 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.

Mounting Brackets & Clamp for Module Connections	Options	Model Number
	Bracket, Screw, Clamp and Mounting Adapter	2737K77
	Clamp	R-A118-105
	Bracket, Screw, and Clamp	R-A118-105M

Port Block and End Ports	Options	Port Size	Model Number	
			BSPP (G) Thread	NPTF Thread
	Extra Port Blocks	1/2	R-118-106-4W	R-118-106-4
	Female End Ports	1/2	R-118-100-4W	R-118-100-4
3/4		R-118-100-6W	R-118-100-6	
Male End Ports	1/2	R-118-109-4FW	R-118-109-4F	
	3/4	R-118-109-6FW	R-118-109-6F	

REPLACEMENT FILTER ELEMENTS

Filter Elements	Series	Bowl Type	Element Rating	Element Material	Model Number	
	MD3™	Standard	5-µm	Polyethylene	R-A60F-03PE5	
				Sintered Bronze	R-A60F-03E5	
				Sintered Bronze	R-A60F-03E4	
	MD3™	Standard	40-µm	Sintered Bronze	R-A60F-03E3	
				5-µm	Polyethylene	R-A115-106PE5
					Sintered Bronze	R-A115-106E5
	MD4™	Standard	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	

