

NEW

PRODUCT DATA SHEET INFORMATION



MCSE Series Double Valve

Modular Safety Exhaust (Dump) Control Reliable Double Valve with EEZ-ON® Soft-Start Function, Internally Monitored

FEATURES:

- Proven ROSS Cartridge SERPAR® Technology – Control-reliable, Category 4, PL e applications
- 3/2 Normally closed function – shuts-off pneumatic energy supply and exhausts (dumps) downstream pressure
- EEZ-ON® Soft-Start function for slower build-up of pressure during start-up included (does not increase width of unit) – feature can be disabled if not needed
- Fail-safe shut-off and exhaust even when faulted
- Modular or threaded port connection – for flexible connection to air entry system (Lockout valve, Filter, Regulator, Lubricator)
- Integrated safety relay - could be used for small control functions (e.g., light curtains, door switches, etc.)
- LED indicators – aid troubleshooting (power on main solenoids, ready for operation, fault/no fault condition)
- Silencer included – reduces actuation/de-actuation noise



MCSE Valve shown with Pressure Gauge

HOW TO ORDER

(Choose your options (in red) to configure your valve system model number.)

MCSE **A** 40 **G** **A** **I** **X** AA **G** **B**

Series: MCSE

Port Size: 1/2

Thread: BSPP **G**, NPT **N**

Voltage: 24 volts DC

Monitoring: Internal

Communication: None

Revision Level: **B**

Pressure Measuring Device: Gauge **G**, Digital Transducer **T**, None (plugged port) **X**

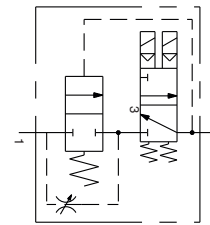
PIN Configuration Combination: Solenoid **A**, Sensor **A**

Version		
PP	A	
NCNO	B	
Start-Button NCNC	C	
Start-Button PM	D	

Port Size			C _v		Weight lb (kg)
Inlet	Outlet	Exhaust	1-2	2-3	
1/2	1/2	1/2	3.9	9.4	9.26 (4.2)



Digital Transducer



Specifications for Digital Pressure Transducer (optional)				
Pressure Range psig (bar)	Electrical Output	Electrical Connection	Pressure Port Size	Weight lb (Kg)
0 (0) to 145 (10)	(1) PNP with (1) 4-20ma	M8, 4 Pin	1/8 NPT or G (male)	0.099 (0.045)

APPLICATIONS: Up to Cat. 4 / PL e, e.g., pneumatic control processes, air dump/release.

STANDARD SPECIFICATIONS:

Design	Redundant, 3/2 Normally Closed, Dual Poppet	Flow Media	Permissible medium Compressed air acc. to ISO 8573-1 Max. particle size 5-µm Oil content of compressed air 0...1 mg/m ³ The oil content of compressed air must remain constant during the life cycle.
Actuation	Electromagnetically externally piloted with air-assisted spring return. One magnet per valve element (2 in total) - both must be operated simultaneously.	Inlet Pressure	30 to 150 psig (2 to 10 bar)
Mounting	Type: In-line mounted - modular/threaded Orientation: Any, preferably vertical	Monitoring	Dynamic, cyclic, internal
Electrical Data	See next page	Minimum Operation Frequency	Once per month, to ensure proper function
Standard Voltages	24 volts DC	Functional Safety Data	DC: High, 99% CCF: >65 B _{10D} : See ROSS Sistema Library Could be used up to Cat 4 / PL e, SIL 3
Temperature	Ambient/Media: 40° to 120°F (4° to 50°C) For temperatures below 4°C, the compressed air must be dried according to ISO 8573-3, class 7		

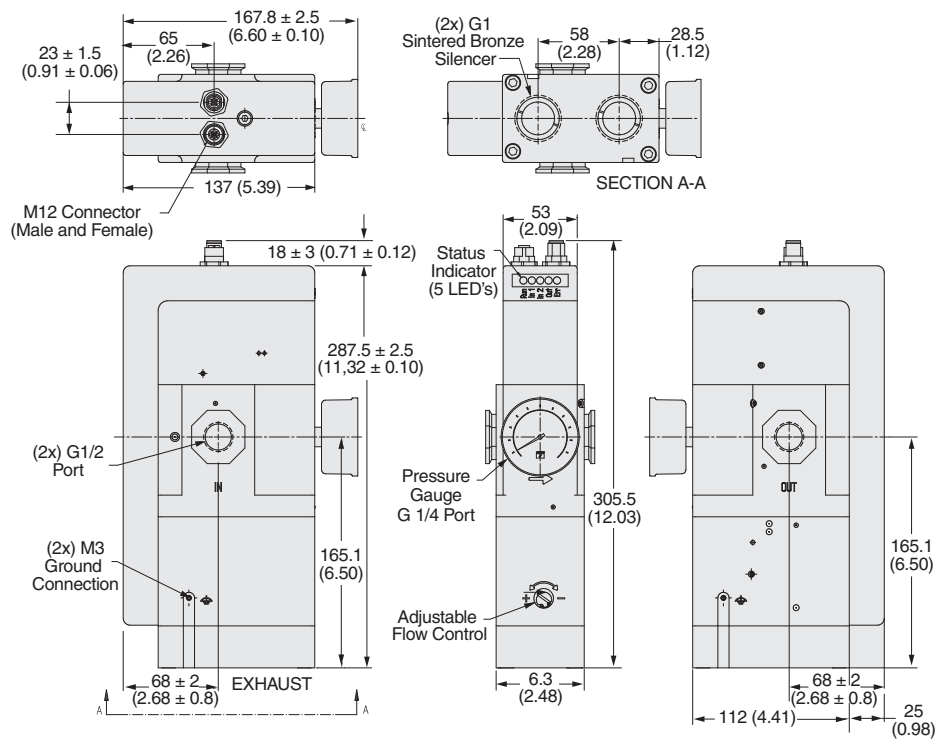
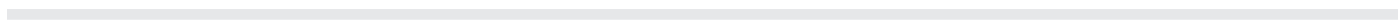
Electrical Data	
Supply voltage	Power pack/main supply SELV power pack in accordance with DIN EN 60950 for operation in a PELV circuit in accordance with EN/IEC 60204-1
Inputs S12, S22, X2	24 V DC, 8 mA
Clock output S11, 21	20 V DC, 10 mA per output
Cable length	1500 m at 1.5 mm ² 2500 m at 2.5 mm ²
Line resistance	max. 40 Ω
Power consumption	280 mA
Protection class according to IEC 60529/EN 60529	IP65 (only when assembled and with all electrical plugs connected)
Electrical connections	1x plug and 1x socket, 5-pin, M12
Tightening delay	< 150 ms
Drop-out delay	In case of emergency stop: < 10 ms In case of power failure: < 10 ms
Override time in case of voltage drop	5 ms
Time until ready for operation after switch on	> 1.0s
Switching capacity of signal outputs	41–42: 24 V DC, 0.2 A

The MCSE Series double valves are safety components designed and manufactured in accordance with Machinery Directive 2006/42/EC. Its intended use is to control ventilation and exhaust in compressed air systems or similar applications, as well as to avoid unexpected switch-on and release of energy in pneumatic tubing systems and end devices in the industry.

The MCSE Series double valves are designed for safe, redundant operation and have internal monitoring. The valves consist of redundant 3/2 valves and have the overall function of an externally piloted valve with spring return.

Soft-Start

The MCSE Series double valves have a EEZ-ON® soft-start function. The function of the soft-start module is that the output pressure increases slower than normal during pressurization, until it reaches approximately 50% of the inlet pressure. The valve then opens fully at this point and fills the system with the full flow rate. This feature can be used to reduce the surge of a sudden, quick pressure application of cylinders. This function is particularly useful when inline flow controllers are placed in the cylinder control lines. The soft-start function could be bypassed by fully opening.

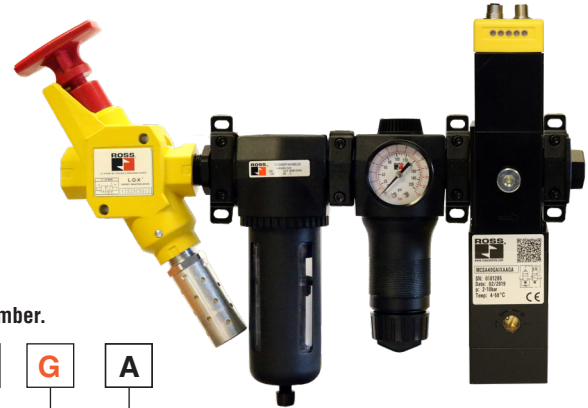


Valve Dimensions – inches (mm)

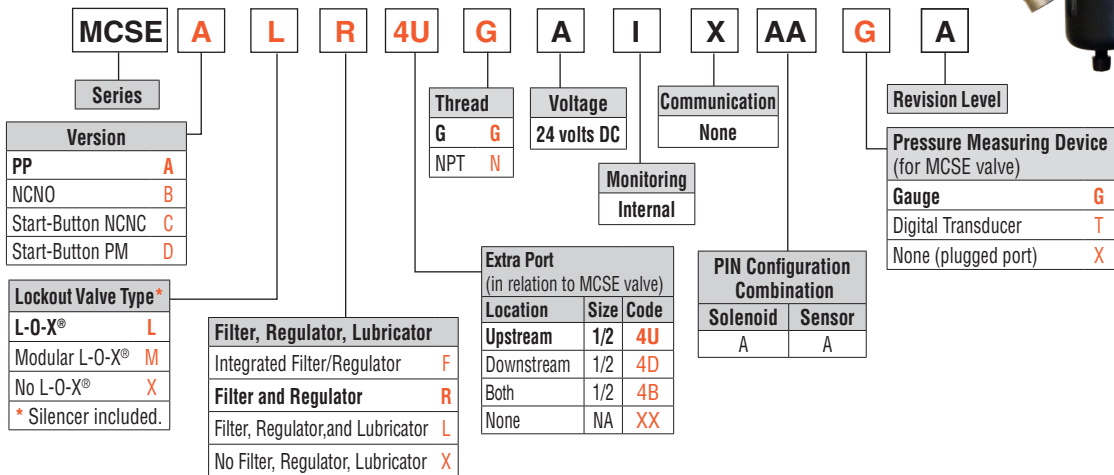
Control Reliable Energy Isolation MCSE Series Double Valves with Soft-Start Function, Manual Lockout L-O-X® Valves with Integrated Filter, Regulator, & Lubricator Combinations

Pre-engineered panel mountable design with air entry via a filter and regulator “FR”, or filter, regulator and lubricator “FRL”. Includes MCSE Series Double Valve with Soft-Start function.

Applications include Pneumatic Control and Air Dump/Release.



Choose your options (in red) to configure your valve assembly model number.

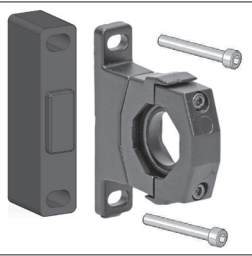


Mounting Accessories

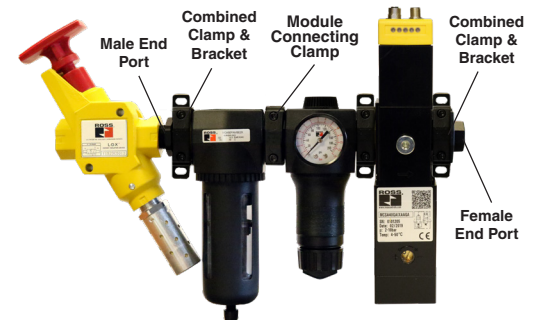
MCSE Series valves have both modular receptacles for piping and female threaded ports inside receptacles, which allows either modular connection or direct piping. Mounting accessories listed below are used for modular connection to ROSS MD series filter-regulator units.

Mounting Brackets & Clamp for Module Connections

Description	Model Number
Bracket, Screw, Clamp and Mounting Adapter	2737K77*
Bracket and Screw	R-A118-103
Clamp	R-A118-105
Bracket, Screw, and Clamp	R-A118-105M



* Bracket, Screw, Clamp and Mounting Adapter shown above.



Extra Port Blocks

Port Size	Model Number	
	NPTF Threads	G Threads
1/2	R-118-106-4	R-118-106-4W



End Ports

Port Size	Model Number	
	NPTF Threads	G Threads
1/2	R-118-100-4	R-118-100-4W
3/4	R-118-100-6	R-118-100-6W



Male End Ports

Port Size	Model Number	
	NPTF Threads	G Threads
1/2	R-118-109-4F	R-118-109-4FW
3/4	R-118-109-6F	R-118-109-6FW



Wiring Kit	Kit Number	Length meters (feet)	Description
	2431H77	5 (16.4)	This kit includes two cords and the cord grips.



WARRANTY, CAUTIONS and WARNINGS

Standard ROSS warranty, cautions and warnings apply, available upon request or at www.rosscontrols.com.

ROSS CONTROLS	USA	Tel: 1-248-764-1800	www.rosscontrols.com
ROSS EUROPA GmbH	Germany	Tel: 49-6103-7597-100	www.rosseuropa.com
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ROSS CANADA <small>(6077170 CANADA INC. AN INDEPENDENT REPRESENTATIVE)</small>	Canada	Tel: 1-416-251-7677 (416-251-ROSS)	www.rosscanada.com