

M9000-3xx Series Weather Shield Enclosures

Product Bulletin

M9000-310, M9000-320, M9000-322, M9000-323,
M9000-330, M9000-340, M9000-342

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The M9000-3xx Series Weather Shield Enclosures are cost-effective and durable weather shields designed to provide a degree of protection for a single Johnson Controls® M(VA)9000 Series Electric Actuator used in control damper, ball valve, and iron flanged valve applications. These weather shield enclosures are manufactured to National Electrical Manufacturers' Association (NEMA) specifications, and protect the electric actuator from corrosion, rain, freezing rain, sleet, and snow. The enclosure can be mounted indoors or outdoors; however, the enclosure may not prevent externally formed ice from restricting the motion of the rotary shaft.

Each enclosure is constructed of impact-grade plastic that provides excellent impact resistance. The cover features ultraviolet (UV) inhibitors that extend service life by preventing the cover from becoming brittle or damaged by the sun or other environmental elements. The transparent cover provides an unobstructed view of the electric actuator without having to disassemble the enclosure. An appliance cord in the M9000-310 and M9000-330 Weather Shield Enclosures enable control wiring installation, and a form-fitting seal prevents water or moisture from entering the unit and damaging the actuator.

Figure 1: M9000-3xx Series Weather Shield Enclosures Shown Mounted onto a Control Damper, Flanged Ball Valve, Threaded Ball Valve, and Flanged Cast Iron Valve



Table 1: Features and Benefits

Feature	Benefit
Durable Construction	Provides a degree of protection from the elements for a single Johnson Controls M(VA)9000 Series Electric Actuator used in control damper, ball valve, and iron flanged valve applications.
Fully Enclosed Design	Protects the electric actuator from corrosion, rain, freezing rain, sleet, and snow.
Impact-Grade Plastic Enclosure	Provides impact resistance.
Cover Constructed Using UV Inhibitors	Extends service life by preventing the cover from becoming brittle or damaged by the sun or other environmental elements.
Transparent Cover	Allows the electric actuator to be fully visible without having to disassemble the enclosure.
Appliance Cord (M9000-310 and M9000-330 Models)	Facilitates control wiring installation.
Strain Relief Conduit Fittings	Protect the electric actuator from damage by preventing tension on the electrical connection.

Product Details

The M9000-3xx Series Weather Shield Enclosures are shipped from the factory partially assembled, and include mounting brackets for securing the unit to a control damper or a valve.

IMPORTANT: The M9000-3xx Series Weather Shield Enclosures only provide protection for the Johnson Controls M9000 Series Electric Actuator used in control damper, ball valve, and iron flanged valve applications. To ensure proper operation, check that all associated equipment used in the application is suitable for the surrounding environment.

Refer to the following documentation for more information on electric actuators and the valve linkages used with these actuators:

- *M9000-310 and M9000-320 Series Weather Shield Enclosures Installation Instructions (Part No. 14-1330-18)*
- *M9000-330 and M9000-340 Series Weather Shield Enclosures Installation Instructions (Part No. 14-1330-26)*
- *M9000-322 and M9000-323 Damper Actuator Weather Shield Kits Installation Instructions (Part No. 14-1330-42)*
- *M9000-342 Ball Valve Weather Kit Installation Instructions (Part No. 34-636-2499)*
- *M9102-AGA-1S and M9104-xGA-1S Series Electric Non-Spring Return Actuators Installation Instructions (Part No. 34-636-1506)*
- *M9102-AGA-2S and M9104-xGA-2S Series Electric Non-Spring Return Actuators Installation Instructions (Part No. 34-636-1220)*
- *M9102-AGA-3S and M9104-xGA-3S Series Electric Non-Spring Return Actuators Installation Instructions (Part No. 34-636-1433)*
- *M9104-AGx-2N Electric Non-Spring Return Actuators Installation Instructions (Part No. 34-636-631)*
- *M9104-AGP-2S Series Electric Non-Spring Return Actuator with Pressure Sensor for VAV Applications Installation Instructions (Part No. 34-636-2383)*
- *M9104-IUA-2S Electric Non-Spring Return Actuators Installation Instructions (Part No. 34-636-2405)*
- *M9106-xGx-2 Series Electric Non-Spring Return Actuators Installation Instructions (Part No. 34-636-1085)*
- *M9108, M9116, M9124, and M9132 Series Electric Non-Spring Return Actuators Installation Instructions (Part No. 34-636-399)*
- *M9109 Series Electric Non-Spring Return Actuators Installation Instructions (Part No. 34-636-1190)*
- *M9203-AGx-2(Z) Series On/Off and Floating Point Electric Spring Return Actuators Installation Instructions (Part No. 34-1791-8)*
- *M9203-Bxx-2(Z) Series On/Off Electric Spring Return Actuators Installation Instructions (Part No. 34-1791-24)*
- *M9203-GGx-2(Z) Series Proportional Electric Spring Return Actuators Installation Instructions (Part No. 34-1791-16)*
- *M9208-AGx-x Series On/Off and Floating Point Electric Spring Return Actuators Installation Instructions (Part No. 34-636-2170)*
- *M9208-Bxx-3 Series On/Off Electric Spring Return Actuators Installation Instructions (Part No. 34-636-2103)*
- *M9208-GGx-x Series Proportional Electric Spring Return Actuators Installation Instructions (Part No. 34-636-2189)*
- *M9220-AGx-3 Floating Electric Spring Return Actuators Installation Instructions (Part No. 34-636-1689)*
- *M9220-Bxx-3 On/Off Electric Spring Return Actuators Installation Instructions (Part No. 34-636-1239)*
- *M9220-GGx-3 Proportional Electric Spring Return Actuators Installation Instructions (Part No. 34-636-1697)*
- *M9220-HGx-3 Proportional Electric Spring Return Actuators Installation Instructions (Part No. 34-636-1700)*
- *M9300 Series Electric Non-Spring Return Actuators Installation Instructions (Part No. 34-636-2448)*
- *M9320 and M9335 Series Electric Non-Spring Return Actuators Installation Instructions (Part No. 34-636-2502)*
- *M9000-51x Series Valve Linkage Kits Installation Instructions (Part No. 14-1201-13)*

- *M9000-53x Cast Iron Flanged Valve Linkage Kit for Mounting a Single M9000 Series Electric Actuator Installation Instructions (Part No. 14-1298-18)*
- *M9000-53x Series Cast Iron Flanged Valve Linkage Kit for Tandem Mounting of M9000 Series Electric Actuators Installation Instructions (Part No. 14-1298-26)*
- *VA9203-AGx-xx Series On/Off and Floating Point Electric Spring Return Valve Actuators Installation Instructions (Part No. 14-1380-8)*
- *VA9203-Bxx-2 Series On/Off Electric Spring Return Valve Actuators Installation Instructions (Part No. 14-1380-16)*
- *VA9203-GGx-xx Proportional Electric Spring Return Valve Actuators Installation Instructions (Part No. 14-1380-24)*
- *VA9208-AGx-xx Series On/Off and Floating Point Electric Spring Return Valve Actuators Installation Instructions (Part No. 14-1379-5)*
- *VA9208-Bxx-x Series On/Off Electric Spring Return Valve Actuators Installation Instructions (Part No. 14-1379-13)*
- *VA9208-GGx-xx Proportional Electric Spring Return Valve Actuators Installation Instructions (Part No. 14-1379-21)*
- *VA9300 Series Electric Non-Spring Return Valve Actuators Installation Instructions (Part No. 34-636-2421)*

Repair Information

If the M9000-3xx Series Weather Shield Enclosure fails to operate within its specifications, replace the unit. For a replacement weather shield enclosure, contact the nearest Johnson Controls representative.

Table 2: Models and Ordering Information

Code Number	Enclosure Protection Rating	Application				Spring Return Actuators						Non-Spring Return Actuators														
		Dampers	VG2000 Flanged Globe Valves	VG1000 Threaded Ball Valves	VG1000 Flanged Ball Valves	M9203	M9205	M9208	M9220	VA9203	VA9208	M9102	M9104	M9106	M9108	M9109	M9116	M9124	M9132	M9308	M9310	M9320	M9335	VA9104	VA9308	VA9310
M9000-310 ¹	NEMA 3R, IP32	X	X											X	X	X	X	X	X							
M9000-320 ¹	NEMA 3R, IP32	X	X					X																		
M9000-322 ¹	NEMA 4X, IP66	X				X	X	X			X	X								X	X					
M9000-323 ¹	NEMA 4X, IP66	X																			X	X				
M9000-330 ¹	NEMA 5, IP54				X												X	X								
M9000-340 ¹	NEMA 5, IP54				X			X																		
M9000-342 ¹	NEMA 4X, IP66			X					X	X														X	X	X

1. Kit includes one enclosure base and seal assembly, one cover and gasket, and all necessary mounting hardware. One weather shield enclosure is required per electric actuator.

Dimensions

Figure 2: M9000-310 and M9000-320 Weather Shield Enclosure Dimensions, in. (mm)
(See Table 3.)

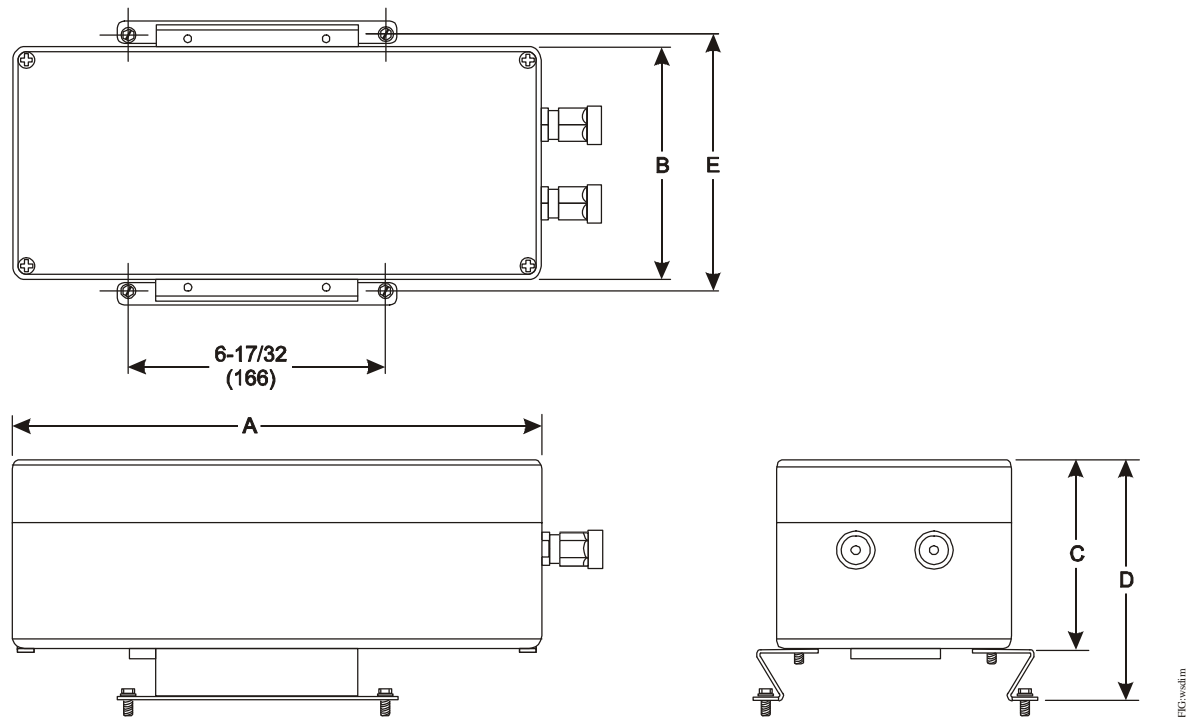


Table 3: M9000-310 and M9000-320 Weather Shield Enclosure Dimensions, in. (mm)

Dimension	Weather Shield Enclosure	
	M9000-310	M9000-320
A	7-7/8 (200)	13-3/8 (340)
B	4-23/32 (120)	5-29/32 (150)
C	3-17/32 (90)	4-23/32 (120)
D	4-27/32 (123)	6-1/32 (153)
E	5-13/32 (137)	6-9/16 (167)

**Figure 3: M9000-330 and M9000-340 Weather Shield Enclosure Dimensions, in. (mm)
(See Table 4.)**

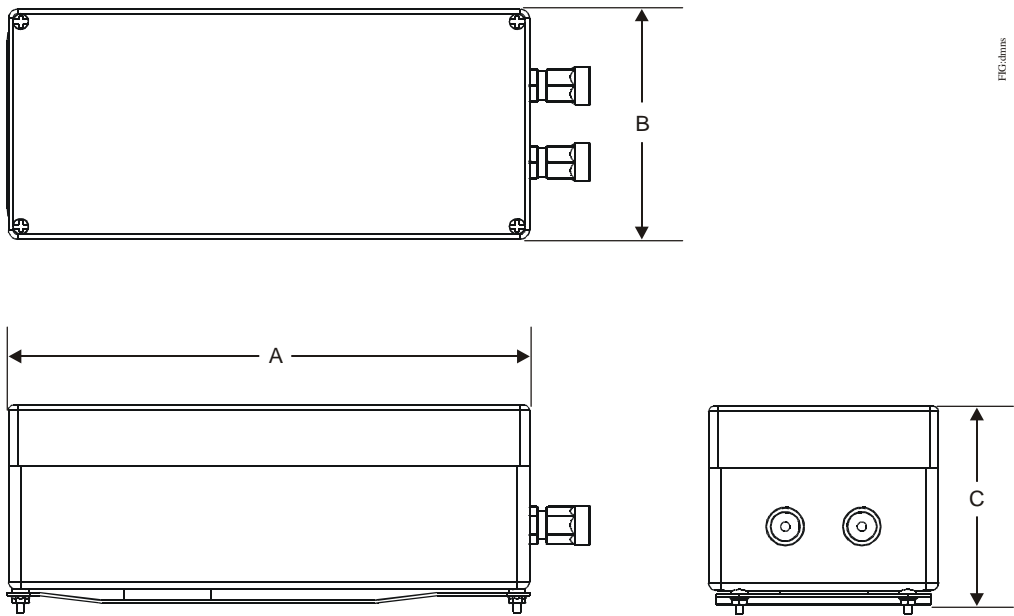


Table 4: M9000-330 and M9000-340 Weather Shield Enclosure Dimensions, in. (mm)

Dimension	Weather Shield Enclosure	
	M9000-330	M9000-340
A	7-7/8 (200)	13-3/8 (340)
B	4-23/32 (120)	5-29/32 (150)
C	3-29/32 (99)	5-1/16 (129)

**Figure 4: M9000-322 and M9000-323 Weather Shield Enclosure Dimensions, in. (mm)
(See Table 5.)**

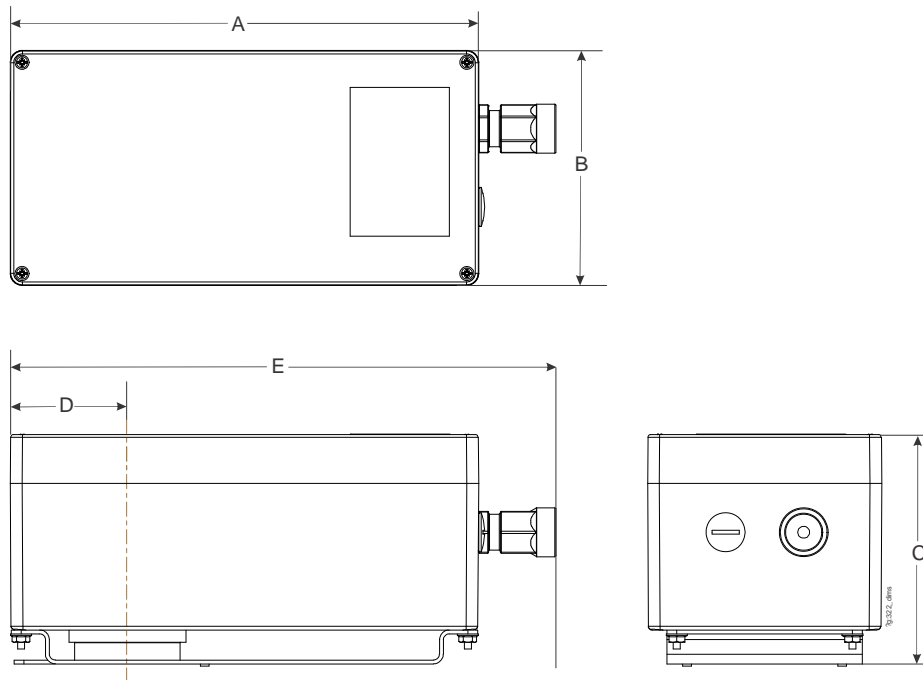


Table 5: M9000-322 and M9000-323 Weather Shield Enclosure Dimensions, in. (mm)

Dimension	Weather Shield Enclosure	
	M9000-322	M9000-323
A	9-29/64 (240)	9-29/64 (240)
B	4-23/32 (120)	4-23/32 (120)
C	4-5/8 (117)	4-5/8 (117)
D	2-3/8 (60)	2-3/8 (60)
E	10-55/64 (276)	10-55/64 (276)

Figure 5: M9000-342 Valve Actuator Weather Shield Kit Dimensions, in. (mm)
(See Table 6.)

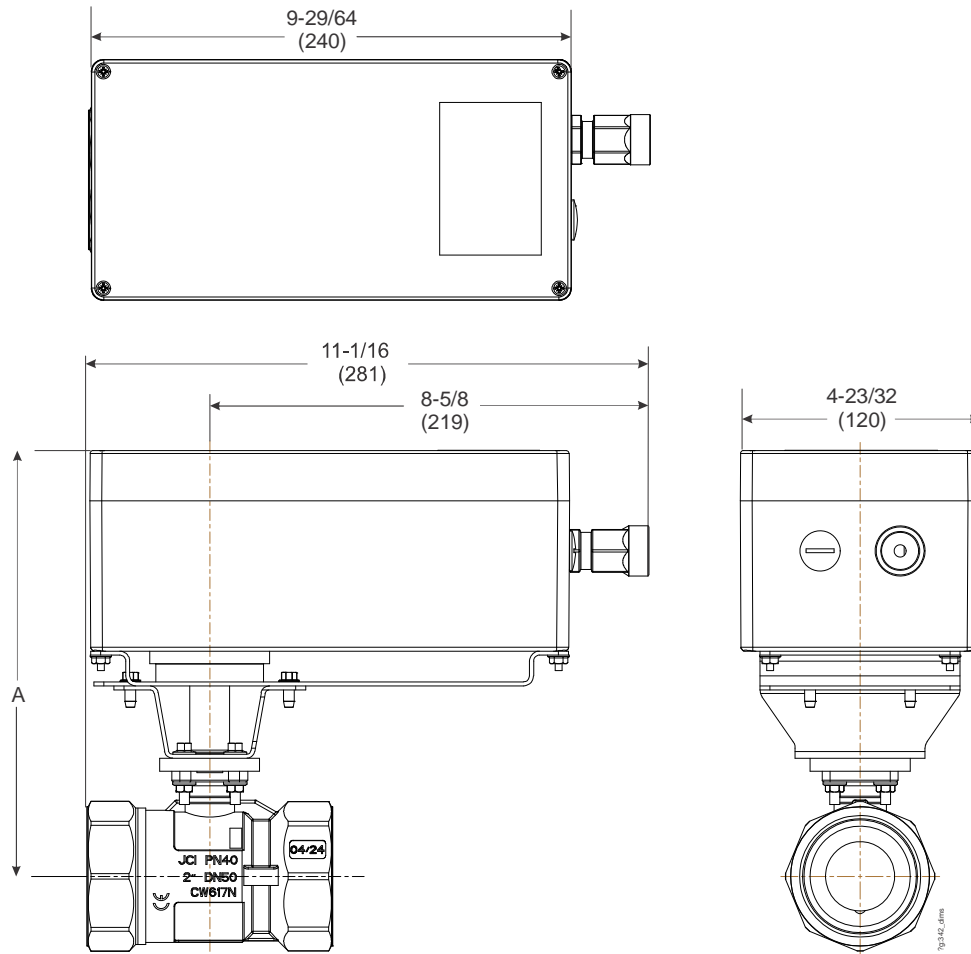


Table 6: M9000-342 Valve Actuator Weather Shield Kit Dimensions, in. (mm)

Valve Size, in. (DN)	A
1/2 (DN15)	7-1/2 (191)
3/4 (DN20)	7-1/2 (191)
1 (DN25)	7-37/64 (192)
1-1/4 (DN32)	8 (203)
1-1/2 (DN40)	8-11/64 (208)
2 (DN50)	8-11/32 (212)

Technical Specifications

M9000-3xx Series Weather Shield Enclosures

Enclosure	M9000-310, M9000-320, M9000-330, M9000-340	Impact-grade ABS plastic
	M9000-322, M9000-323, M9000-342	UV resistant polycarbonate plastic
Enclosure Seal		Nitrile
Cover	M9000-310, M9000-320, M9000-330, M9000-340	Transparent impact-grade ABS plastic with UV inhibitors
	M9000-322, M9000-323, M9000-342	Transparent UV resistant polycarbonate plastic
Cover Gasket	M9000-310, M9000-320, M9000-330, M9000-340	Neoprene
	M9000-322, M9000-323, M9000-342	Polyurethane
Enclosure Protection Rating	M9000-310	NEMA 3R, IP32
	M9000-320	NEMA 3R, IP32
	M9000-322	NEMA 4X, IP66
	M9000-323	NEMA 4X, IP66
	M9000-330	NEMA 5, IP54
	M9000-340	NEMA 5, IP54
	M9000-342	NEMA 4X, IP66
Weather Shield Enclosure Ambient Storage Temperature Limits		-40 to 176°F (-40 to 80°C)
Electrical Connections		Strain relief conduit fittings with 1/2 in. (13 mm) National Pipe Straight Mechanical (NPSM) exit
Appliance Cord (M9000-310 and M9000-320)		6 conductor, 18 AWG wire gauge, 43 in. (110 cm)
Shipping Weight	M9000-310	2.0 lb (0.9 kg)
	M9000-320	3.3 lb (1.5 kg)
	M9000-322	4.2 lb (1.9 kg)
	M9000-323	4.2 lb (1.9 kg)
	M9000-330	3.2 lb (1.45 kg)
	M9000-340	4.2 lb (1.9 kg)
	M9000-342	4.2 lb (1.9 kg)

The performance specifications are nominal and conform to acceptable industry standards. For application at conditions beyond these specifications, consult the local Johnson Controls office. Johnson Controls shall not be liable for damages resulting from misapplication or misuse of its products.



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