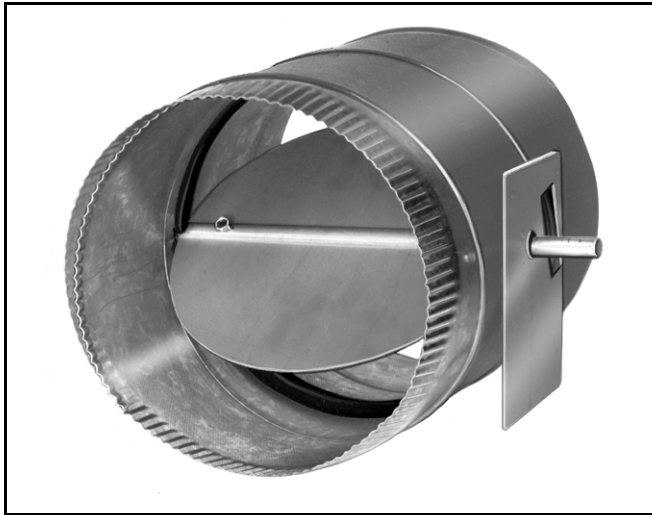


D690 Round Damper LOW-LEAKAGE, SINGLE-BLADE

PRODUCT DATA



FEATURES

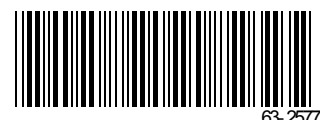
- Neoprene and silicone seal for tight closing and low leakage.
- Oilite bearings for long life.
- 90-degree damper travel for a variety of applications.
- Designed to mount to the Honeywell ML6161 or ML7161 Actuator for an economical package.

APPLICATION

The D690 Round Damper is used in conventional air handling systems to control airflow in a round duct. The damper is specifically designed to mount to the Honeywell ML6161 or ML7161 Actuator.

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SPECIFICATIONS

Models: Order D690 Damper model according to diameter.
See Table 1.

Dimensions: See Fig. 1.

Construction:

Frame: Sleeve-type, spiral duct, crimped on downstream side.
6 to 10 in. (152 to 254 mm) diameter: 24 gage galvanized steel.

12 to 16 in. (305 to 406 mm) diameter: 22 gage galvanized steel.

Sleeve length: Diameter plus 1 in. (25 mm), minimum length 12 in. (305 mm).

Blade: 16 gage galvanized steel.

Shaft: 1/2 in. (13 mm) diameter, zinc-coated steel.

Extends 2 in. (51 mm) beyond actuator mounting plate.

Bearings: Flanged bronze oilite, pressed into frame.

Seals: Closed-cell neoprene on frame with silicone rubber bead.

Maximum Approach Velocity:

2500 ft/min (17.8 m/s), max. static pressure 4 in. wc.

Damper Travel: 90 degrees.

Finish: Mill galvanized.

Pressure Drop:

Max. at full open: 0.035 in. wc at 1000 ft/min (5 m/s).

Leakage: 12.5 cfm per sq ft of Damper face at 1 in. wc.

Refer to Table 2 for leakage at pressures other than 1 in. wc.

Torque:

Accommodates Honeywell ML6161 and ML7161 Actuators.

Actuator Mounting:

Attached plate for mounting Honeywell ML6161 or ML7161 Actuator.

Temperature Range: 32°F to 130°F (0°C to 54°C).

Shipping Weight: See Table 1.

Accessories:

4074EVK Short Shaft Adapter Kit for use when damper shaft length is less than 1-3/8 in. (35 mm).

Table 1. D690 Diameters, Lengths and Shipping Weights.

Diameter in in. (mm)	Length in in. (mm)	Shipping Weight in lb (kg)
6 (152)	12 (305)	3 (1.4)
8 (203)	12 (305)	4 (1.8)
10 (254)	12 (305)	5 (2.3)
12 (305)	13 (330)	6 (2.7)
14 (356)	15 (381)	8 (3.6)
16 (406)	17 (432)	10 (4.5)

Table 2. D690 Leakage Multipliers.

Static Pressure in in. wc	Multiplier
1	1.00
2	1.41
3	1.73
4	2.00

EXAMPLE:

Leakage at 4 in. wc (2.00 × 12.5) = 25.0 cfm per sq ft

ORDERING INFORMATION

When purchasing replacement and modernization products from your TRADELINE® wholesaler or distributor, refer to the TRADELINE® Catalog or price sheets for complete ordering number.

If you have additional questions, need further information, or would like to comment on our products or services, please write or phone:

1. Your local Home and Building Control Sales Office (check white pages of your phone directory).
2. Home and Building Control Customer Logistics
Honeywell, 1885 Douglas Drive North
Minneapolis, Minnesota 55422-4386 (612) 951-1000

In Canada—Honeywell Limited/Honeywell Limitée, 155 Gordon Baker Road, North York, Ontario M2H 3N7.

International Sales and Service Offices in all principal cities of the world. Manufacturing in Australia, Canada, Finland, France, Germany, Japan, Mexico, Netherlands, Spain, Taiwan, United Kingdom, U.S.A.

BEFORE INSTALLATION

The W7751H Smart VAV Actuator is a factory-combined Excel 10 Variable Air Volume (VAV) Box Controller and an ML6161B Direct Coupled Actuator (DCA) with declutch. The actuator/controller assembly field-mounts to the VAV box damper shaft similar to mounting a standard actuator. The controller wiring terminates at the screw terminals located under the snap-on cover. (See Fig. 2). The Smart VAV Actuator is a Free Topology Transceiver (FTT) LonMark® compliant controller.

The ML6161B declutch (see Fig. 3) allows the installer to manually open or close the VAV box damper connected to the W7751H without power or Care/E-Vision to command it.

The W7751H controller contains a Microbridge flow-through pressure sensor and communicates via the 78 kilobaud Echelon® E-Bus Network.

All hardware driven by the Triac outputs must have a minimum current draw, when energized, of 25 mA at 20 Vac and a maximum current draw of 400 mA at 30 Vac.

The actuator on the W7751H mounts directly onto the VAV box damper shaft and has up to 35 lb-in. torque, 90 degree stroke, and 90 second timing at 60 Hz.

NOTE: The actuator can accommodate the optional field-installed auxiliary switches.

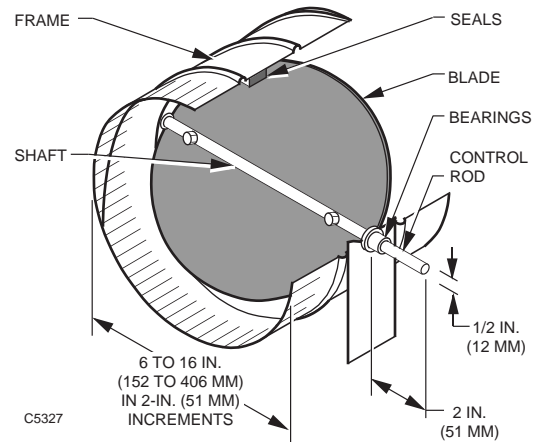


Fig. 1. D690 Dimensions.

INSTALLATION

When Installing this Product...

1. Read these instructions carefully. Failure to follow them could damage the product or cause a hazardous condition.
2. Check the ratings given in the instructions and on the product to make sure the product is suitable for your application.
3. Installer must be a trained, experienced service technician.
4. After installation is complete, check out product operation as provided in these instructions.

IMPORTANT

All wiring must agree with applicable codes, ordinances and regulations.

WARNING

Explosion Hazard.

A spark from the actuator or attached accessories can result in serious injury or death.

Install the actuator in areas free of escaping gas and other explosive vapors.

CAUTION

Electrical Shock or Equipment Damage Hazard.
Can shock individuals or short equipment circuitry.

Disconnect all power supplies before installation.

Actuators with auxiliary switches can have more than one disconnect.

CAUTION

Actuator Damage Hazard.

Deteriorating vapors and acid fumes can damage the actuator metal parts.

Install actuator in areas free of acid fumes and deteriorating vapors.

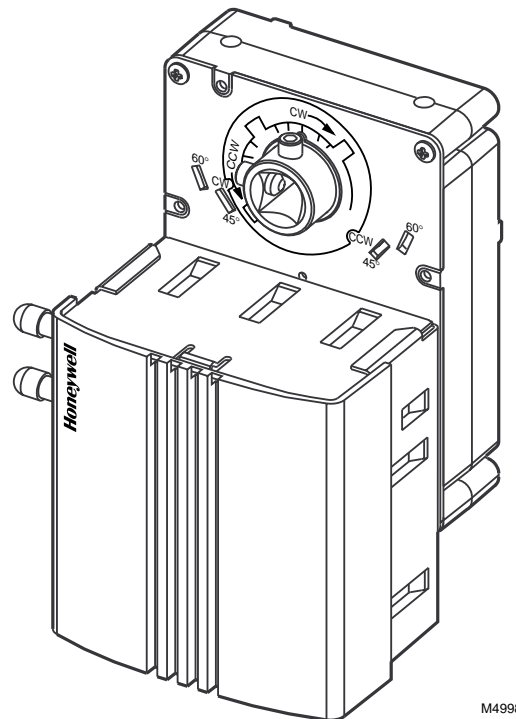
Location

Mount the W7751H on the damper shaft (horizontal only). Allow clearance for wiring, servicing and module removal. See Fig. 3 for mounting dimensions.

IMPORTANT

Mount the assembly on only a horizontal shaft.

This ensures proper heat dissipation from the controller housing. The Smart VAV Actuator must not be mounted with the controller at the top.



M4998

Fig. 2. Excel 10 Smart VAV Actuator.



Before mounting the actuator onto the shaft, determine the following:

-
- TYPE A DAMPER**
- COOLING AIR FLOW →
- ↓
- CW TO OPEN, CCW TO CLOSE
- TYPE B DAMPER**
- COOLING AIR FLOW →
- ↑
- CCW TO OPEN, CW TO CLOSE
- M2067A

M2067A

Mounting

The W7751H assembly field-mounts to the VAV box damper shaft. The actuators are designed to open a damper or valve by driving the shaft in either the clockwise (cw) or counterclockwise (ccw) direction. The actuator has a mounting tab on the bottom that secures it to a damper box. When mounted correctly, this tab allows the actuator to float without rotating relative to the shaft. The tab is sized for a 1/4 in. (6 mm) self-tapping sheet metal screw (not included).

CAUTION

Equipment Damage Hazard.
Tightly securing mounting tab to damper housing can damage actuator.

Once mounted, the actuator must be allowed to float; do not fully tighten the screw.



CAUTION

Equipment Damage Hazard.
Mounting actuator unevenly with damper housing can damage actuator.

Mount actuator flush with damper housing or add spacer between mounting tab and damper box housing (see Fig. 6).

The W7751H controller enclosure is constructed of a sheet metal housing and a plastic snap-on cover. W7751H wiring terminates at screw terminal blocks located under the snap-on cover. The sheet metal housing has two 1/2 in. (13 mm) knockouts (see Fig. 3) compatible with 1/2 in. (13 mm) or 3/4 in. (19 mm) conduit.

NOTE: The W7751 actuators are shipped in the fully clockwise 90° position as viewed from the end of the damper shaft.

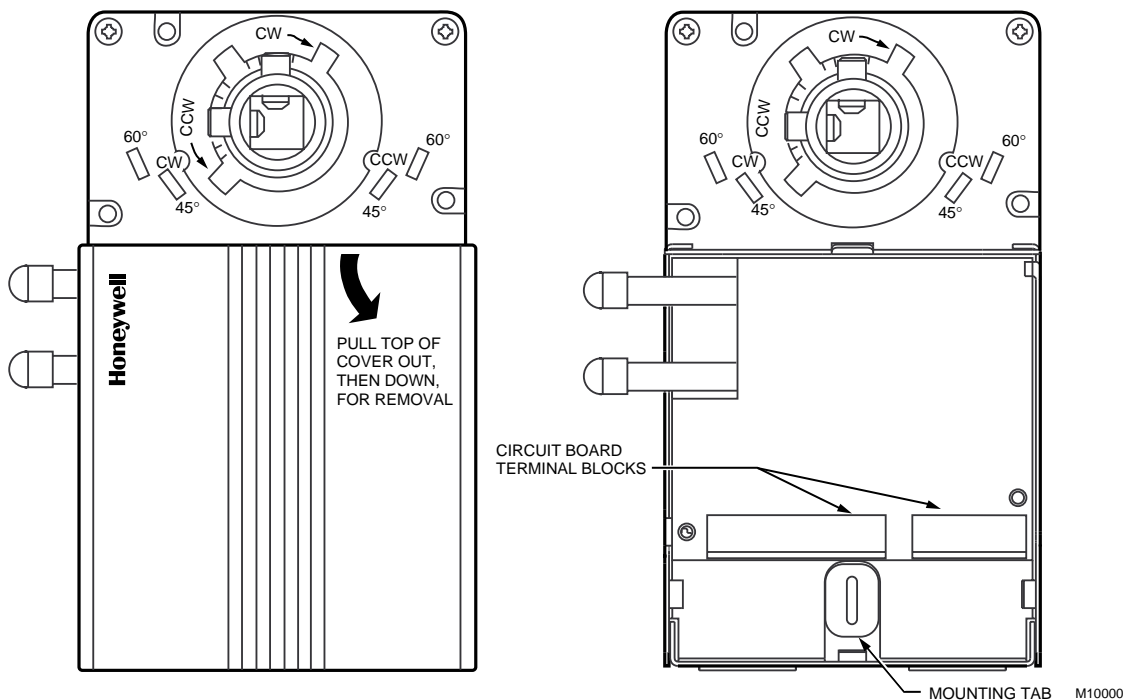
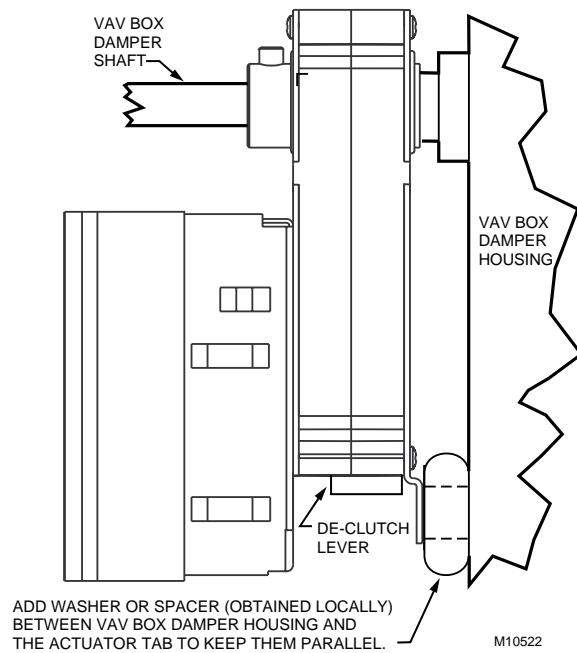


Fig. 5. Cover removal and mounting tab/terminal block access.



**Fig. 6. Mounting W7751H to VAV box when
actuator is not flush with box.**

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Honeywell

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