Power Supply
24 VAC, ±20%, 50/60 Hz, 24 VDC, ±10%

Power consumption in operation
3.5 W

Power consumption in rest position
1.3 W

Transformer sizing
6 VA (class 2 power source)

Shaft Diameter
1/2...1.05" round, centers on 1/2" and 3/4" with insert, 1.05" without insert

Electrical Connection
18 GA plenum cable with 1/2" conduit connector, degree of protection NEMA 2 / IP54, 3 ft [1 m] 10 ft [3 m] and 16 ft [5 m]

Overload Protection
electronic throughout 0...95° rotation

Operating Range
0...135 Ω, Honeywell Electronic Series 90, input 0...135 Ω

Position Feedback
2...10 V, Max. 0.5 mA

Angle of rotation
Max. 95°, adjustable with mechanical stop

Torque motor
180 in-lb [20 Nm]

Direction of motion motor
selectable with switch 0/1

Position indication
Mechanically, 30...65 mm stroke

Manual override
external push button

Running Time (Motor)
default 150 s, variable 90...350 s

Ambient humidity
max. 95% r.H., non-condensing

Ambient temperature
-22...122°F [-30...50°C]

Storage temperature
-40...176°F [-40...80°C]

Degree of Protection
IP54, NEMA 2, UL Enclosure Type 2

Housing material
UL 94-5VA

Agency Listing
cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1-02, CE acc. to 2014/30/EU and 2014/35/EU

Noise level, motor
45 dB(A)

Servicing
maintenance-free

Quality Standard
ISO 9001

Weight
1.5 lb [0.68 kg]

†Rated Impulse Voltage 800V, Type action 1, Control Pollution Degree 3.

Application
For proportional modulation of dampers in HVAC systems. Actuator sizing should be done in accordance with the damper manufacturer’s specifications.

The actuator is mounted directly to a damper shaft up to 1.05" in diameter by means of its universal clamp. A crank arm and several mounting brackets are available for applications where the actuator cannot be direct coupled to the damper shaft.

The default parameters for 0 to 135Ω input applications of the …MFT95 actuator are assigned during manufacturing. If necessary, custom versions of the actuators can be ordered. The parameters can be changed by two means: pre-set and custom configurations from Belimo or on-site configurations using the Belimo PC-Tool software.

Operation
The actuator is not provided with and does not require any limit switches, but is electronically protected against overload. The anti-rotation strap supplied with the actuator will prevent lateral movement.

The actuator provides 95° of rotation and a visual indicator indicates position of the actuator. When reaching the damper or actuator end position, the actuator automatically stops. The gears can be manually disengaged with a button on the actuator cover.

The actuators use a brushless DC motor, which is controlled by an Application Specific Integrated Circuit (ASIC). The ASIC monitors and controls the actuator’s rotation and provides a digital rotation sensing (DRS) function to prevent damage to the actuator in a stall condition. Power consumption is reduced in holding mode.

Add-on auxiliary switches or feedback potentiometers are easily fastened directly onto the actuator body for signaling and switching functions.

For low ambient temperatures, the optional supplemental (-H) Heater add-on is available.

Dimensions (Inches[mm])

Torque min. 180 in-lb, for control of damper surfaces up to 45 sq. ft.
AMX24-MFT95 Technical Data Sheet
Modulating, Non-Spring Return, 24 V, 135 Ω Input

Typical and Override Control

Low Limit Control

High Limit Control

Multiple Actuators
Typical Specification

Proportional control damper actuators shall be electronic direct-coupled type, which require no crank arm and linkage and be capable of direct mounting to a shaft up to 3/4" diameter. Actuators must provide proportional damper control in response to a 2 to 10 VDC or, with the addition of a 500 Ω resistor, a 4 to 20 mA control input from an electronic controller or positioner. Actuators shall have brushless DC motor technology and be protected from overload at all angles of rotation. Actuators shall have reversing switch and manual override on the cover. If required, actuator will be provided with screw terminal strip for electrical connections (AMX24-SR-T and NMX24-SR-T). Run time shall be constant and independent of torque. A 2 to 10 VDC feedback signal shall be provided for position indication. Actuators shall be cULus listed, have a 5-year warranty, and be manufactured under ISO 9001 International Quality Control Standards. Actuators shall be as manufactured by Belimo.

Wiring Diagrams

Provide overload protection and disconnect as required.

Actuators may also be powered by 24 VDC.

Actuators and controller must have separate transformers.

Consult controller instruction data for more detailed information.

Resistor value depends on the type of controller and the number of actuators. No resistor is used for one actuator. Honeywell® resistor kits may also be used.

To reverse control rotation, use the reversing switch.

Actuators may be controlled in parallel. Current draw and input impedance must be observed.

Multiple Actuators with Minimum Position Potentiometer

Multiple Actuators Used with W973, W7100 and T775