Technical data sheet CMB24-L-150D

Basic Non Fail-Safe actuator for controlling dampers in typical commercial HVAC applications.

- **Torque motor 18 in-lb [2 Nm]**
- **Nominal voltage AC/DC 24 V**
- **Control On/Off, Floating point**

Picture may differ from product

5-year warranty

Technical data

Electrical data	Nominal voltage	AC/DC 24 V
	Nominal voltage frequency	50/60 Hz
	Nominal voltage range	AC 19.2...28.8 V / DC 19.2...28.8 V
	Power consumption in operation	0.5 W
	Power consumption in rest position	0.2 W
	Transformer sizing	1 VA
	Connection supply/control	cable 3 ft. [1 m], 3x 0.75 mm²
	Parallel operation	Yes (note the performance data)
	Electrical Connection	18 AWG plenum cable, 1 m
	Overload Protection	electronic throughout full rotation
Functional data	Torque motor	18 in-lb [2 Nm]
	Round duct diameter	6" [DN 150]
	Position feedback U note	No Feedback
	Manual override	disengage with magnet
	Angle of rotation	70°
	Running Time (Motor)	58 s / 70°
	Noise level, motor	35 dB(A)
	Position indication	Mechanical, pluggable (with integrated magnet for gear train disengagement)
	Airtightness	Class 2 (DIN EN 1751)
	Resistance coefficient ζ	0.3 (in open position)
	Static differential pressure	max. 1000 Pa via the damper (4" w.g)
Safety data	Flame class	Damper blade UL 94 HB Actuator UL 94 V-0
	Fire behaviour group	Damper blade RF3 (CH) Actuator RF2 (CH)
	Fire load	4.2 MJ
	Protection class IEC/EN	III, Protective Extra-Low Voltage (PELV)
	Power source UL	Class 2 Supply
	Degree of protection NEMA/UL	NEMA 2
	Housing	UL Enclosure Type 2
	EMC	CE according to 2014/30/EU
	Certification IEC/EN	IEC/EN 60730-1 and IEC/EN 60730-2-14
	Agency Listing	cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2014/30/EU
	Quality Standard	ISO 9001

Technical data

Safety data	UL Approval	cURus according to UL60730-1A, UL60730-2-14 and CAN/CSA E60730-1
	UL 2043 Compliant	Suitable for use in air plenums per Section 300.22(C) of the NEC and Section 602 of the IMC
	Type of action	Type 1
	Rated impulse voltage supply / control	0.8 kV
	Pollution degree	3
	Ambient humidity	Max. 95% RH, non-condensing
	Ambient temperature	-22...122°F [-30...50°C]
	Storage temperature	-40...176°F [-40...80°C]
	Servicing	maintenance-free
Weight	Weight	0.56 lb [0.25 kg]
Materials	Housing material	UL94-5VA

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

Safety notes

- The device must not be used outside the specified field of application, especially not in aircraft or in any other airborne means of transport.
- The device must not be used for safety applications, e.g. fire protection.
- As a rule, the device is resistant to a multitude of organic solvents and alkaline agents. Unusual ambient conditions will, however, require special clarifications. In particular, the damper may not be used in environments where it may be exposed to chemically aggressive substances, e.g. laboratory exhaust air or fume hood exhaust air (laboratory exhaust systems / fume hoods).
- Only authorized specialists may carry out installation. All applicable legal or institutional installation regulations must be complied with during installation.
- The CM..D.. (Art. 70949-00001) installation instructions must be observed in order to ensure smooth operation.
- Adherence to the round duct geometry specified in accordance with DIN EN 1506 must be ensured (no damage).
- The device may only be opened at the manufacturer's site. It does not contain any parts that can be replaced or repaired by the user.
- Cables must not be removed from the device.
- The device contains electrical and electronic components and must not be disposed of as household refuse. All locally valid regulations and requirements must be observed.
- †Rated Impulse Voltage 800V, Type action 1, Control Pollution Degree 3.

Product features

Fields of application
- Airflow through the building shell
- Air distribution / comfort ventilation
- Air outlets
- Zone controls
- Devices with outside air: Facade devices / fan coils / fan-powered boxes / cabin units etc.
- Exhaust air systems, e.g. sanitary facilities

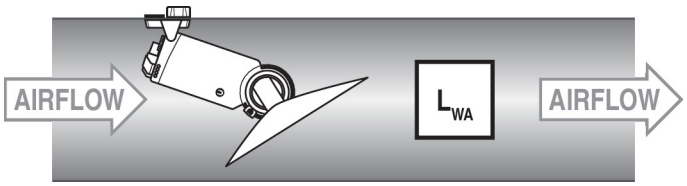
Manual override Manual override with magnet possible (gear disengagement as long as the magnet adheres to the magnet symbol). The Z-MA magnet for the gear disengagement is enclosed.

High functional reliability The actuator is overload protected, requires no limit switches and automatically stops when the end stop is reached.

Product features

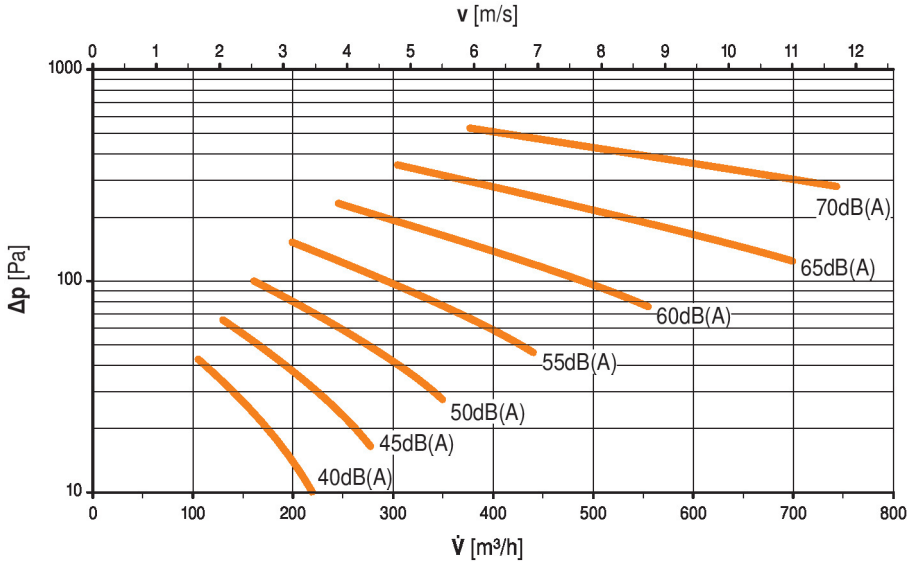
Flow noise

The noise caused by the airflow in the round duct with a built-in air damper and passed through it. Below, the noise levels listed are A-evaluated in the round duct as a function of dimension, volumetric flow and pressure loss.



Noise level LWA

Noise level with A-evaluation, including correction of the outlet reflection LWA



Volumetric flow
Air velocity v
Pressure loss Δp

Accessories

Tools	Description	Type
	Gear train disengagement magnet, Multipack 20 pcs.	Z-MA
	Signal simulator, Power supply AC 120 V	PS-100

Electrical accessories	Description	Type
	Connecting cable 16 ft [5 m], A: RJ11 6/4 LINK.10, B: 6-pin for connection to service socket	ZK1-GEN
	Connecting cable 16 ft [5 m], A: RJ11 6/4 LINK.10, B: free wire end for connection to MP/PP terminal	ZK2-GEN
	Service tool, with ZIP-USB function, for configurable and communicative Belimo actuators, VAV controller and HVAC performance devices	ZTH US

Mechanical accessories	Description	Type
	Position indicator, Multipack 20 pcs.	Z-PICM
	End stop clip, Multipack 20 pcs.	Z-ESCM
	Anti-rotation clip, Multipack 20 pcs.	Z-ARCM

Electrical installation

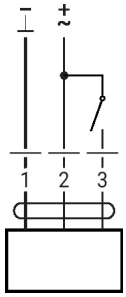
Supply from isolating transformer.

Parallel connection of other actuators possible. Observe the performance data.

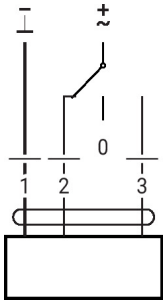
Wire colors:
1 = black
2 = red
3 = white

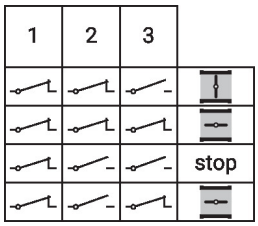
Electrical installation

AC/DC 24 V, on/off



AC/DC 24 V, 3-point





Installation notes

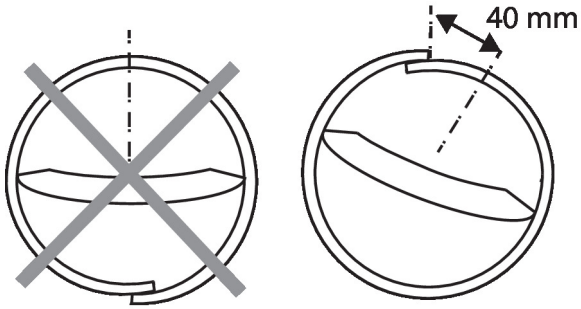
Round ducts

• Belimo recommends the use of spiral ducts with 0.5 mm metal gauge (in accordance with DIN EN 1506) and with the fold on the outside of the round duct. Spiral ducts are usually rounder than longitudinally folded round ducts. Leakages can be reduced as a result. The interior side of the spiral ducts is smooth. The welded or folded seam can inhibit the function of the damper blade with longitudinally welded or folded round ducts. If such round ducts are used, Belimo cannot guarantee the proper functioning of the actuator.

• No protruding longitudinal fold facing inward permitted

• Use only galvanized sheet steel or chrome steel. Installation in plastic round ducts is not recommended.

• Do not place the fastening holes of the actuator across from the longitudinal fold. The damper blade could become damaged after a short time. The fastening holes should be drilled approximately 40 mm away from the longitudinal fold. This will reduce the damper noise and damage to the damper blade to a minimum.



Dimensions

PC