

Motorized mechanical diaphragm MID14-24



The MID14-24 is precise motorized iris diaphragm controlled via PC and intuitive graphic user interface (GUI). Due to the unique design, an aluminum blades forming square diaphragm always remains centered about an “optical axis” including internal SM1-threaded hole. Even while tuned from 0 to 14 mm size, the diaphragm always maintains the centricity of squared aperture to round external diaphragm. The blades are black to reduce unwanted reflections. The MID14-24 motorized iris diaphragm adjustment precision is ~10 μm per min step.

Square Iris diaphragm is also designed to be compatible for both Stand-alone (MID14-24) and 60mm standard (for example Thorlabs) Cage System (MID14-24C).

Diaphragm Specifications

Specification	Value
Microstep Size (Default Resolution)	10 μm
Built-in Controller	No
Recommended Controller	GSMC (24 V) Recommended
Repeatability	~ 10 μm
Backlash	< 30 μm
Encoder Type	None
Closing Speed (Max to Min)	11 sec
Guide Type	Plain bearing
Motor Steps Per Revolution	24
Motor Type	Stepper (2 phase)
Motor Rated Current	500 mA / phase
Motor Winding Resistance	4.8 Ohms / phase
Inductance	4.3 mH / phase
Motor Connection	61201021621 (10 pins, straight, gold plating)
Default Resolution	1/64 of a step
Mechanical Drive System	Lead screw
Limit or Home Sensing	Optical switch
Axes of Motion	1
Mounting Interface	M3 threaded holes
Optics (objective) Mounting Interface	M25 x 0.5
Operating Temperature Range	-35 to 70 $^{\circ}\text{C}$
Vacuum Compatible	No
RoHS Compliant	Yes
CE Compliant	Yes

Motorized Iris Diaphragm

The MID14-24 DATASHEET, October 2022

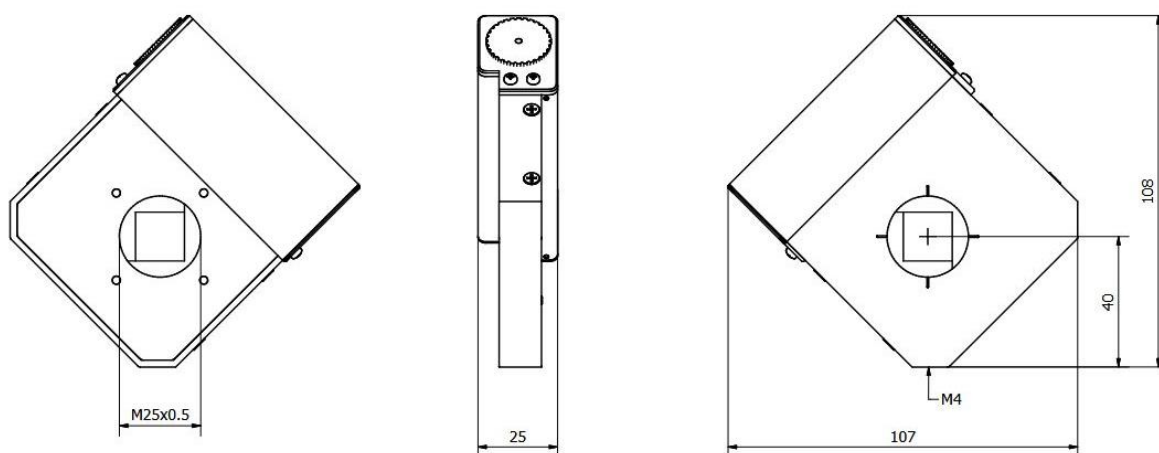


Diaphragm Features

- Always **square** and **centered**!
- Motorized adjustment ranges from **0 to 14 mm**
- Aperture adjustment **precision ~10 μm** within full adjustment range (repeatability)
- Housing contains **SM1-threaded** hole for mounting external optics
- **USB** connection interface for easy PC control
- **A bigger aperture size is available** on request.

Dimensions

The MID14-24 housing has one M4 threaded hole for mounting to general lab post or desired setup.



The MID14-24C diaphragm is [compatible with standard 60mm Cage System](#).

