

ROTARY ACTUATOR



Applimotion
Motors & Actuators

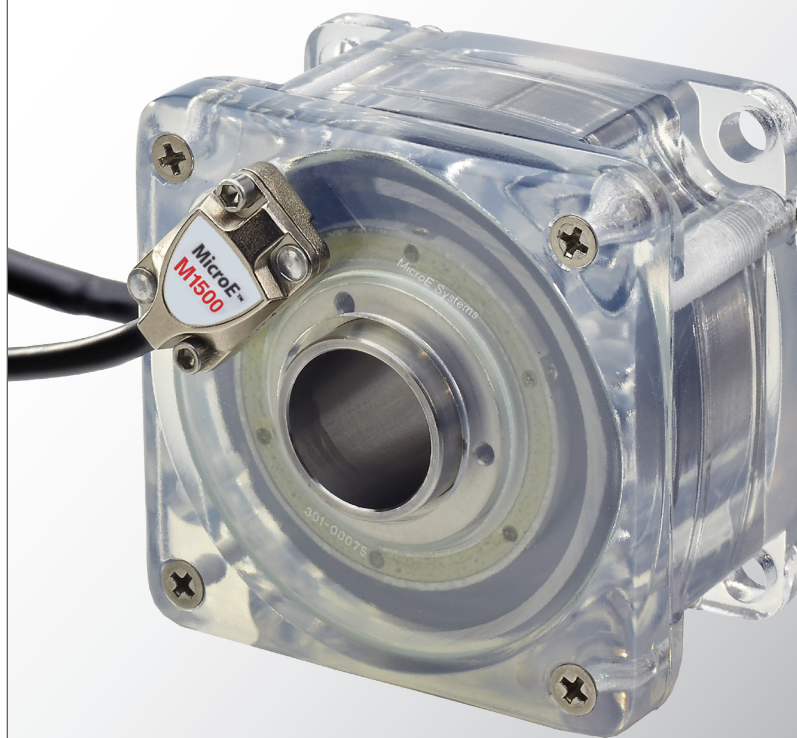
PRODUCT DATA SHEET

OmniRH™ & AgilityRH™ Series Rotary Actuators

Direct Drive NEMA 23
Rotary Actuators with
Large Through Hole

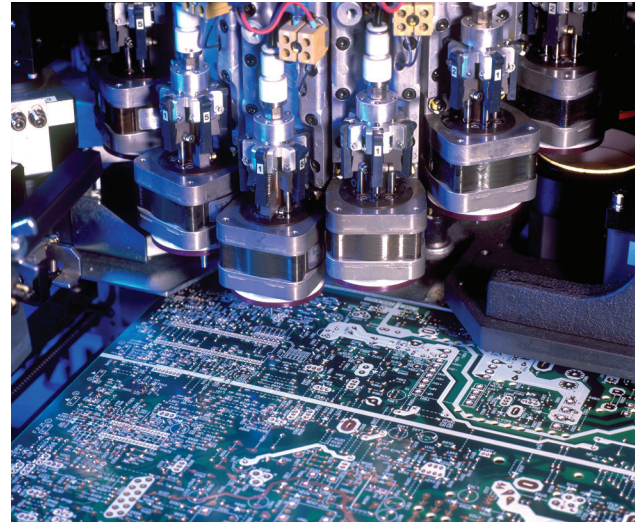
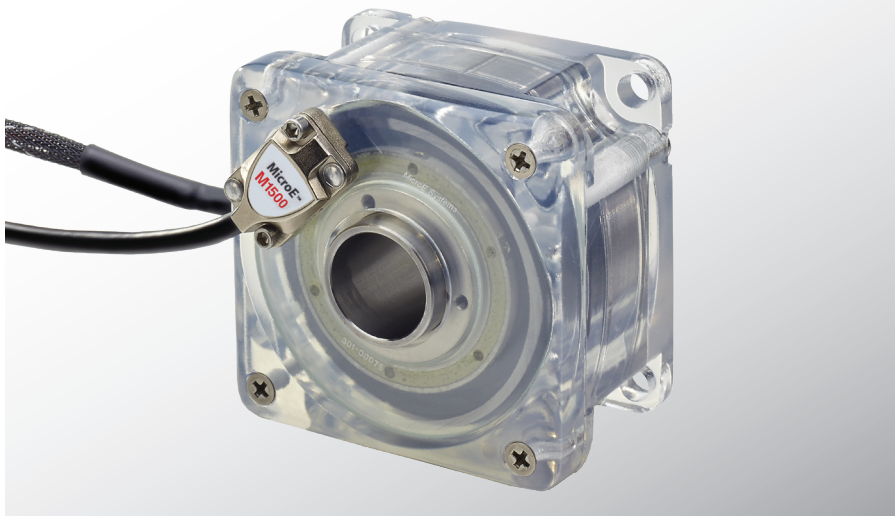
The OmniRH & AgilityRH Series rotary actuators enable OEMs to achieve smooth and accurate motion profiles and conveniently route cables and other system elements via a large through hole.

› CELERAMOTION.COM



OmniRH™ & AgilityRH™ Series Rotary Actuators

Direct Drive NEMA 23 Rotary Actuators with Large Through Hole



Smooth and Complete.

Built with Omni™ and Agility™ direct drive motors from Applimotion, PurePrecision™ optical encoder technology from MicroE and precision bearings, the OmniRH & AgilityRH Series rotary actuators provide the benefits of direct drive rotary motor performance in a standard NEMA 23 motor package.

A 16.5 mm axial through hole and 288,000 CPR encoder is standard. Shaft extensions and different encoder resolutions are available.

The OmniRH offers up to 0.106 Nm of torque at speeds up to 200 RPM* and is built using Applimotion's compact and powerful Omni Series Direct Drive Rotary Motors.

The AgilityRH enables ultra-smooth motion by using Applimotion's smooth and accurate Agility Series zero cogging direct drive rotary motors. Up to 0.318 Nm of torque is available at speeds up to 200 RPM*.

All models are compatible with a wide range of controllers and drives.

Benefits

- High performance direct drive motor technology and high precision encoder
- Integrated motor, encoder and bearing makes it easy to upgrade existing NEMA 23 stepper or servo motors
- High mechanical stiffness and low rotor inertia for efficient control of highly dynamic axes
- Low cogging OmniRH or zero cogging AgilityRH for accurate and smooth motion
- Axial through hole for convenient routing of cables, optics, sensing technologies and other system elements
- Compatible with wide range of drives and controllers

Specifications	Units	OmniRH	AgilityRH
Continuous Torque:	Nm [oz-in]	0.076 [10.8]	0.160 [15]
Peak Torque:	Nm [oz-in]	0.106 [32]	0.318 [45]
Rated Speed @ 24V:	rpm	≤ 200*	≤ 200*
Continuous Current:	Amp	2.0	2.75
Cogging Torque:	Nm	0.0018	0.0
Through Hole Diameter:	mm	16.25	16.25

Peak torque output is based on a 3:1 peak to continuous current ratio in the amplifier, and is based upon a limited duty cycle. Specifications subject to change.

* Contact Celera Motion for rated speeds exceeding 200 RPM.

RoHS
CE



Applimotion
Motors & Actuators

3900 Atherton Road, Suite 110 | Rocklin, CA 95765 USA
Tel: 781.266.5200 | innovation@celeramotion.com | celeramotion.com

2

OmniRH™ & AgilityRH™ Series Rotary Actuators

Direct Drive NEMA 23 Rotary Actuators with Large Through Hole

OmniRH & AgilityRH Rotary Actuators

MODEL		OMNIRH	AGILITYRH
PART NUMBER		HO-63-A-44-A-E-000	HO-63-B-44-A-E-000
Frame Size		NEMA 23	NEMA 23
Feedback		Encoder	Encoder
Length	mm [in]	44 [1.73]	44 [1.73]
Through-hole	mm [in]	16.25 [0.64]	16.25 [0.64]
Continuous Torque ¹	Nm [oz-in]	0.076 [10.8]	0.16 [15]
Peak Torque ²	Nm [oz-in]	0.106 [32]	0.318 [45]
Rated Speed @ 24V	rpm	≤ 200*	≤ 200*
Continuous Current ¹	Amps	2	2.75
Resistance	Ohms	4.9	2.7
Motor Constant	Nm/w ^{1/2} [oz-in/w ^{1/2}]	0.038 [5.4]	0.023 [3.3]
Torque Constant	Nm/amp [oz-in/amp]	0.085 [12]	0.039 [5.5]
Voltage Constant	Vpk/krpm	8.8	4.1
Inductance	Mh +/- 25%	6	0.12
Cogging Torque	Nm [oz-in]	0.0018 [25]	0 [0]
Inertia	kg-cm-sec ² [lb-in-sec ²]	0.000023 [0.00002]	0.00034 [0.0003]
Thermal Resistance	°C/watt	4.2	4.2
Weight	kg [lbs]	0.23 [0.5]	0.23 [0.5]

Notes

1. Actuator hanging in air at stall condition; value improves when mounted
2. Assumes 3:1 peak current for 2 - 5 seconds and enough voltage to overcome resistance drop

* Contact Celera Motion for rated speeds exceeding 200 RPM.