

## About the Company

Thorlabs has been an active member of the Photonics community for over 20 years.

We strive to be the ultimate resource for the photonics community—a place to find the products you need to enable your experiments, as well as the information you need to get your application working.

Thorlabs designs, develops, and manufactures building blocks for the photonics industry including equipment for opto-mechanics, motion control, nano-positioning, alignment, optical components, laser diodes, tunable lasers and vibration isolation systems. In addition to core photonics building blocks, we now provide system level solutions including complete OCT and imaging systems.

## Trademarks

THORLABS is a registered trademark of Thorlabs Inc.

## Technical Support

Thorlabs provide a comprehensive after sales service. Contact us through your local representative, or at the address below:

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email: [techsupport.uk@thorlabs.com](mailto:techsupport.uk@thorlabs.com)

## Product Warranty

This Thorlabs product is covered by a manufacturers warranty against faulty workmanship and materials, valid for 2 years from the date of original purchase. All products returned under warranty must be returned in their original packaging.

Prior to installation, the equipment referred to in this handbook must be stored in a clean, dry environment, in accordance with any instructions given. Periodic checks must be made on the equipment's condition.

## Customer Feedback

It is always helpful to have detailed and accurate information about any problems encountered by customers

We welcome comments or suggestions about any aspect of the equipment and instruction handbooks.

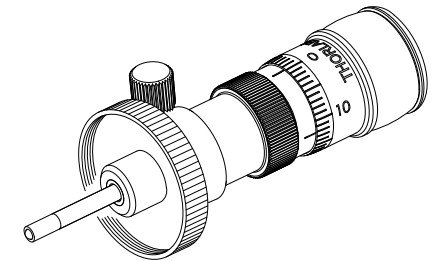
# THORLABS

## DRV3

# Precision Differential Micrometer

## 1.1 Introduction

The DRV3 is directly compatible with our NanoMax 300 series stages. Two large knobs are provided for coarse and fine adjustment. The lockable coarse adjustment provides 8 mm of travel at 500  $\mu\text{m}$  per revolution, while the fine adjustment provides 0.3 mm travel at around 50  $\mu\text{m}$  per revolution.



## 1.2 Fitting and Removal of Drives

### 1.2.1 NanoMax 300 Stages

The following procedure details how to fit a drive to a NanoMax 300 series stage.

Referring to Fig. 1.1...

- 1) Rotate the coarse adjuster counter-clockwise a few turns to retract the drive rod.
- 2) Insert the drive into the mounting bush.
- 3) Tighten the knurled lock ring until finger tight.
- 4) To remove a drive reverse the above procedure.

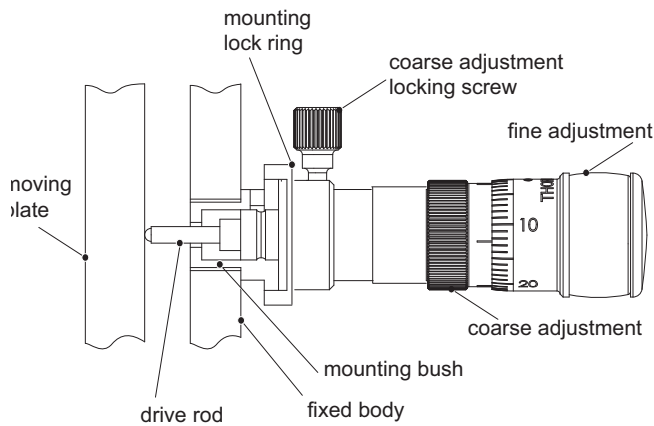


Fig. 1.1 Fitting the Actuator

**Note.** To avoid cross coupling between the coarse and fine adjustment mechanism, the coarse drive position should be fixed by tightening the locking screw, before the fine drive is adjusted.

1.2.2 Stages with 3/8" or 10 mm Barrel Fittings  
Using the MCA1 or MCA2 adapters, the DRV3 actuator can also be used with any stage accepting 3/8" and 10 mm mounting barrels.

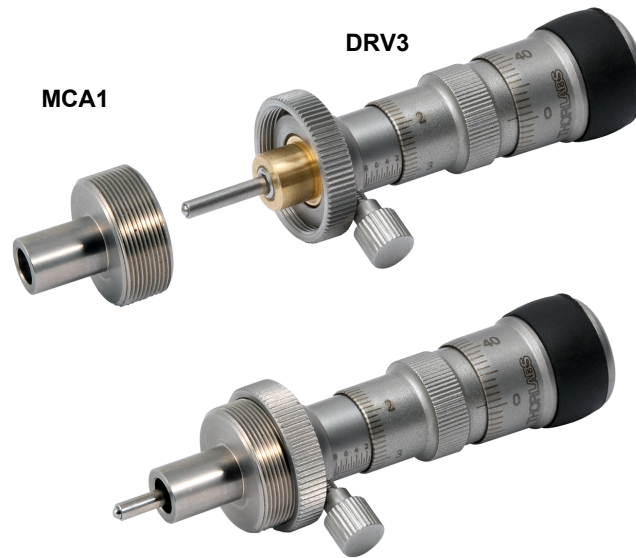


Fig. 1.2 Fitting the Mounting Barrel Adapters

For more details, please search for MCA1 at [www.thorlabs.com](http://www.thorlabs.com)

## 1.3 Maintenance

After prolonged use, and particularly in applications where small movements are continually repeated, the grease on the drive shaft may build up in ridges. This may cause rough or noisy movement and vibration.

It is good practise to run the actuator periodically from one end of travel to the other several times in order to redistribute the grease.

## 1.4 Specification

<b>Total Travel:</b>	0.31" (8mm)
<b>Coarse Adjustment:</b>	500 µm per revolution
<b>Fine Adjustment:</b>	50 µm per revolution
<b>Coarse Resolution:</b>	5.0 µm
<b>Fine Resolution:</b>	0.5 µm

## 1.5 Dimensions

all dimensions in inches (mm)

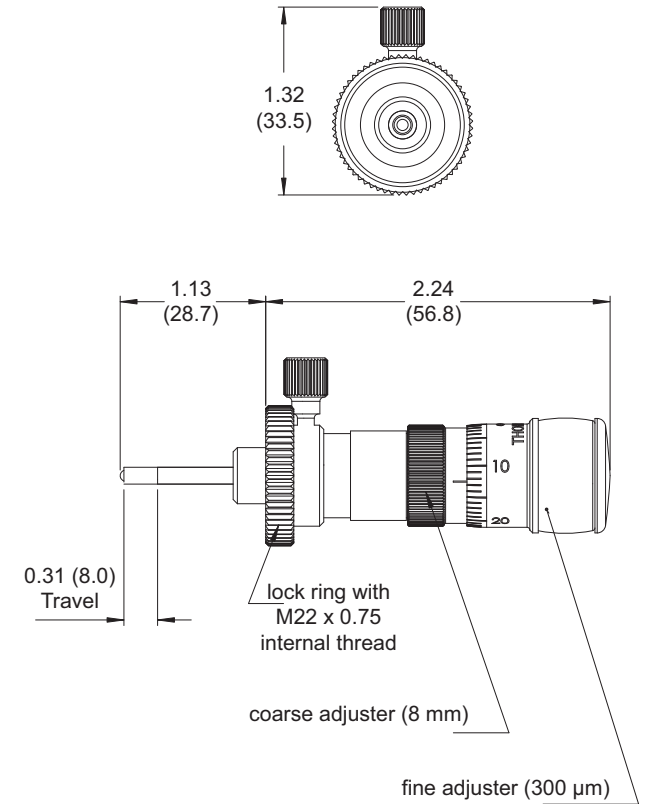


Fig. 1.3 Dimensions



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