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

Technical Support

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

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Product Warranty

All Thorlabs products are covered by a manufacturers warranty against faulty workmanship and materials, valid for 12 months 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

DRV304

Precision Differential Micrometer

1.1 Introduction

The DRV304 Differential Drive uses an innovative mechanism that converts a relatively large displacement into a relatively small displacement of the center fine adjustment spindle. The design has the additional benefit of providing a uniform, smooth feel that is largely independent of loading. Two large knobs are provided for the coarse and differential adjustment, adding to the overall sensitivity of the unit. The coarse adjustment knob provides 13 mm of total travel with 5.0 µm resolution while the differential knob provides 300 µm of total travel with 0.5 µm resolution. The Ø3/8" mounting barrel is compatible with a host of standard mounting equipment.

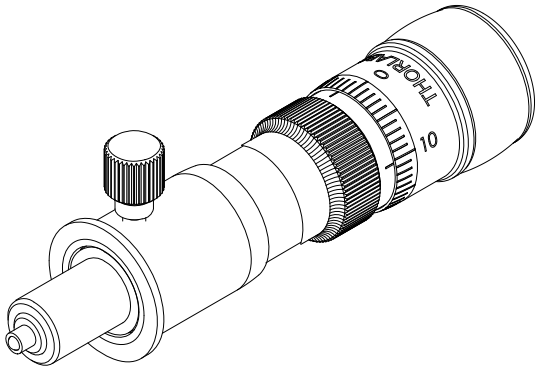

Fig. 1.1 DRV304 Differential Drive

1.2 Specification

Total Travel:	1/2” (13 mm)
Coarse Resolution:	5.0 µm
Fine Drive Travel:	300 µm
Fine Drive Resolution:	0.5 µm
Mounting Barrel:	Ø3/8"

1.3 Fitting and Removal of Drives

The method of fitting will depend on the particular stage. The following procedure details how to fit a drive to RB13 series stage.

Referring to Fig. 1.2...

1) Loosen the drive mounting block pinch bolt.
2) Remove the existing drive.
3) Fit the DRV304 into the mounting block. Ensure that the mounting bush is push fully into the mounting block.
4) Tighten the drive mounting block pinch bolts to secure the drive in place..

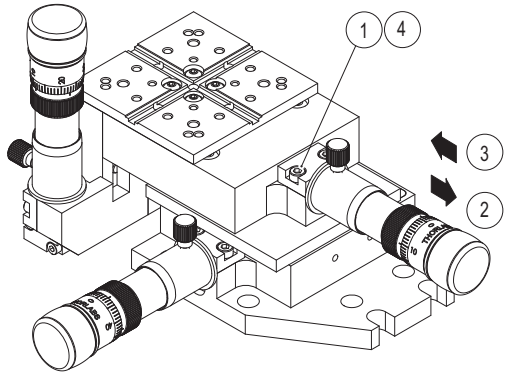

Fig. 1.2 Fitting the Actuator

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.

1.4 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.

1.5 Dimensions

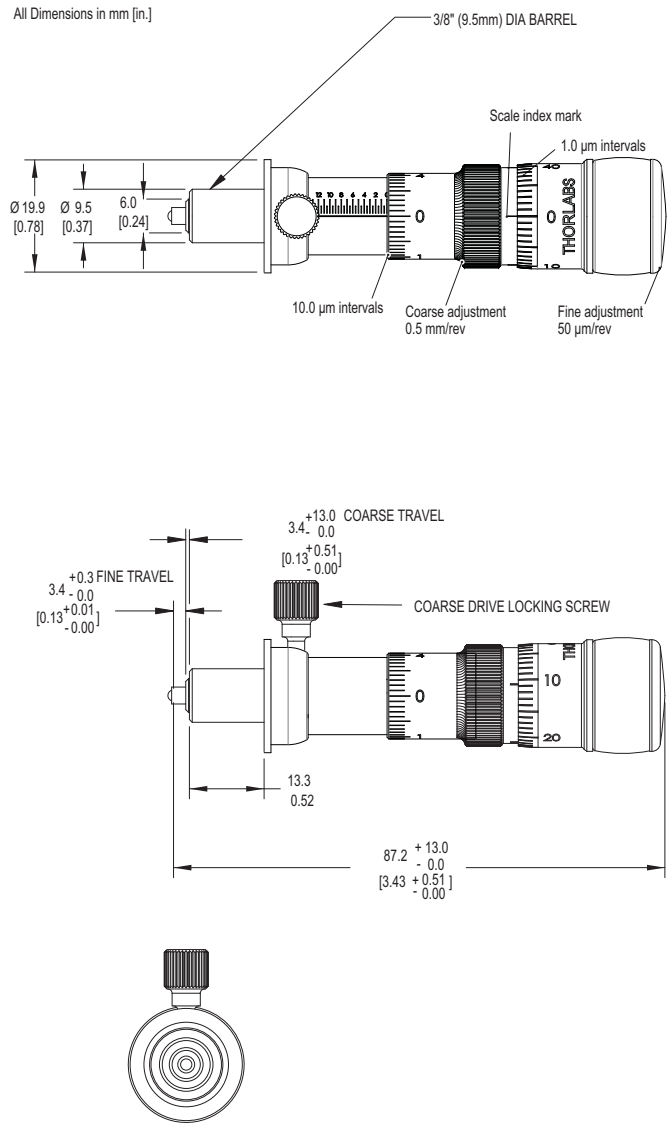

Fig. 1.3 Dimensions

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