

Thorlabs SM1 tube construction

Last updated: July 30, 2016

URL: https://www.thorlabs.hk/newgrouppage9.cfm?objectgroup_id=3307

1 Brief description

They all seem to be kind of similar, so they're all in this document. The SM1 tubes help to hold 1" diameter optical components. These optical components can be locked in position by retaining rings, which are in turn inserted into the SM1 tube by a specialised spanner wrench.

SM1 tubes have 40 rotations per inch, so expect 0.634mm per turn. Human resolution is perhaps an eighth of a turn, so that's about 0.08 mm resolution for collimation.

The travelling tubes are included as they're pretty similar.

As of writing, the lab mostly has half inch long SM1 tubes (SM105) which are awkward to use with

the 25mm eff lenses.

SM1V10 is also awkward to use without that many SM1L10 tubes.

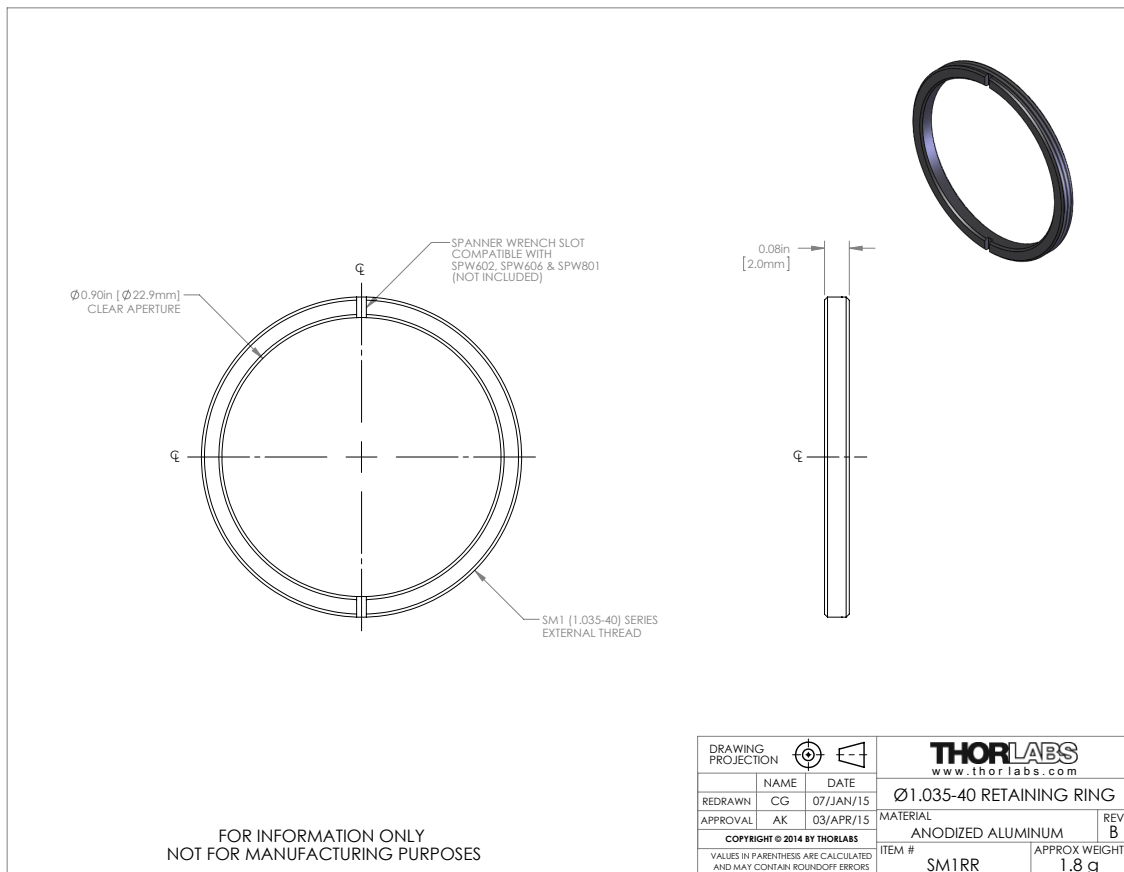
2 Technical Specifications

SM1 Internal Threading

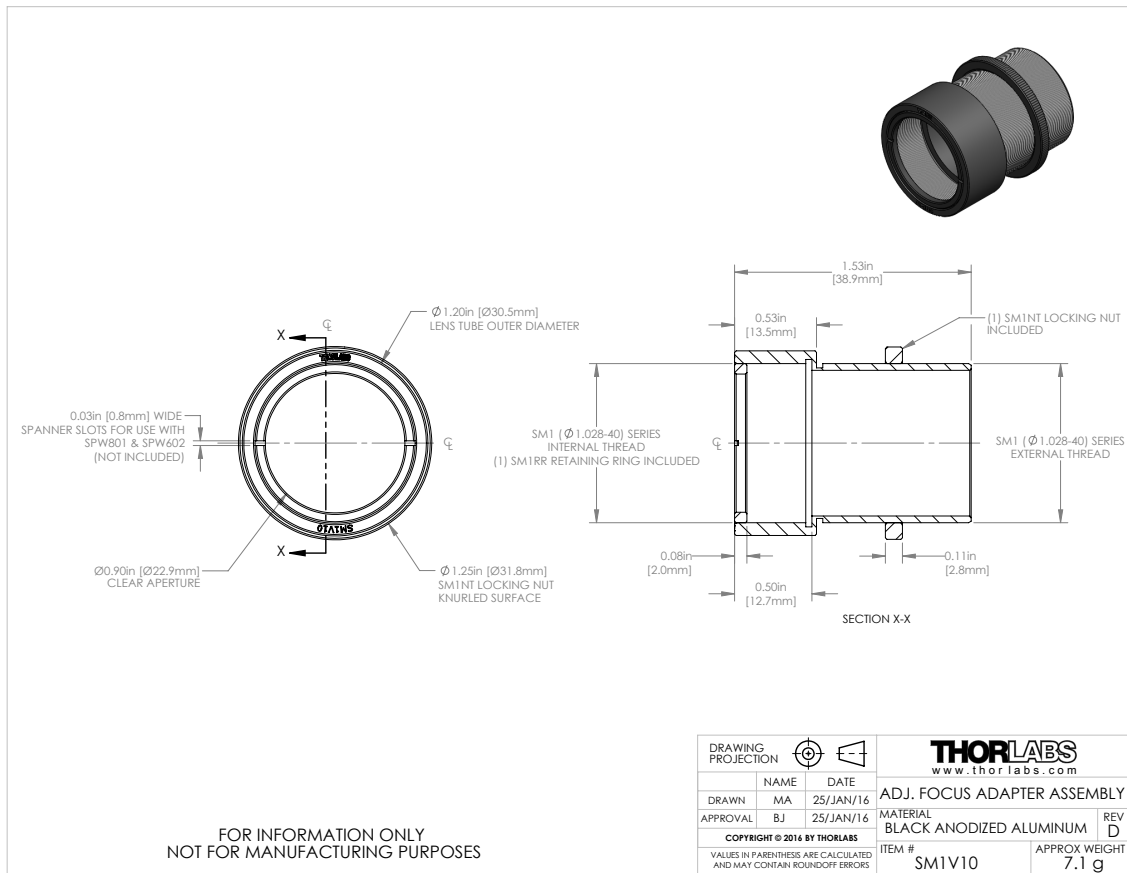
Min. Major diameter	1.0350"
Min. Pitch diameter	1.0188"
Max. Pitch diameter	1.0234"
Min. Minor diameter	1.008"
Max. Minor diameter	1.014"

SM1V10

External thread length	0.81" (20.6mm)
Maximum adjustment range	1.00"



Retaining ring



Travelling tube; awkward to use with SM1L05