

The A-221 Small-Bore Self-Centering Target

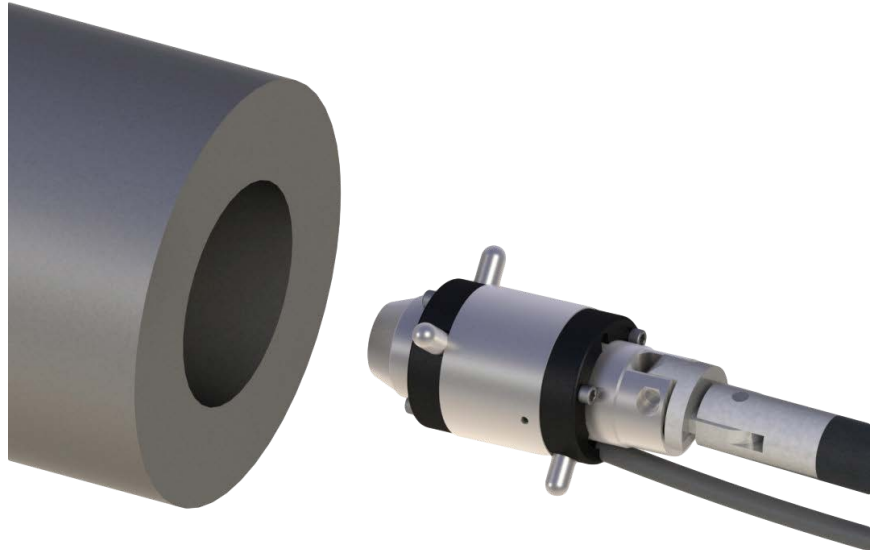
The ideal alignment tool for large gun barrel straightness, and small extruder barrel alignment

Target Features

Hamar Laser's A-221 Self-Centering, Small-Bore Target is designed specifically to measure the straightness and alignment of small to medium sized bores, from 1.18 to 16 in. (30 to 406 mm). This small, lightweight, compact target self-centers to an accuracy of .0007 in. (0.018 mm) and has a sensor area of 10x10 mm.

Target features include:

- Self-centering bore adapters with customized legs to fit the bore diameter, but can accommodate diameter changes of $\pm .040$ in. (1 mm) without affecting the self-centering feature.
- 10x10 mm PSD (Position Sensing Detector) is concentric to bore ID to within .0005 in. (0.013 mm)
- Measurement resolution of .0001 in. (0.001 mm) when used with the R-1307 Readout.
- 5 ft. (1.5 m) insertion pole with connector for extra lengths up to a total of 15 ft. (4.5 m) insertion length.



The A-221 Small-Bore, Self-Centering Target

- Accommodates bores from 1.18 in. (30 mm) to 16 in. (410 mm) when used with customized Bore Adapters (see specifications for details).
- Can be used with the R-1307C or R-1307 2.4ZB target readouts. Use the A-910-2.4ZB Radio Receiver for a PC with the R-1307-2.4ZB for wireless data downloads to our Bore9 software.
- Bullseye level orients the PSD sensor axes to the alignment axes of the bore.



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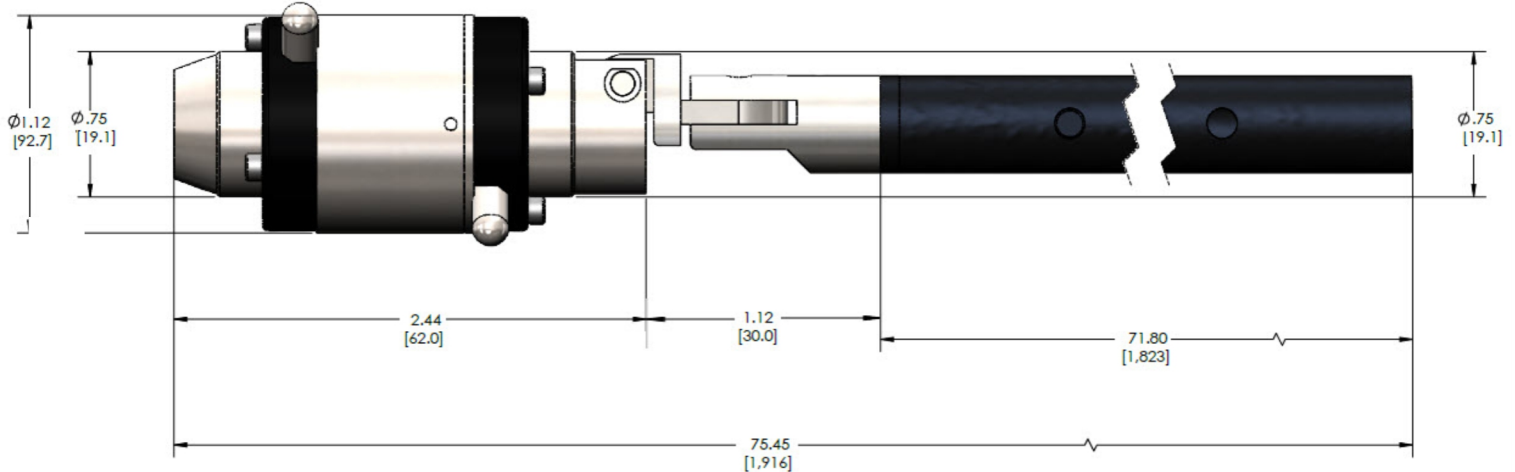
For a list of our distributors, please visit: http://www.hamarlaser.com/intl_distributors.htm

Specifications

The A-221 Small-Bore Self-Centering Target

Dimensions:	1.12 in. (28.5 mm) OD. 3.56 in. (92.0 mm) long without pole.
Sensor Size/Resolution:	10x10 mm PSD with .0001 in. (0.001 mm) resolution when used with the R-1307.
Sensor Concentricity to Housing:	< .0005 in. (0.013 mm)
Material:	303 stainless steel
Cable:	Hard-mounted 10 ft. (3m) cable with Lemo connector.
Weight:	5 oz. (85 g)
Bore Diameter Range:	Each bore adapter can accommodate $\pm .040$ in. (± 1 mm) diameter change and still self-center.
Insertion Pole:	5 ft. (1.5 m) insertion pole with connector for extra lengths for up to a total of 20 ft. (6.1 m) insertion length.
Bore Adapters - Small:	Bore ID's from 1.18 - 2.0 in. (30-51mm): use M-221CLS-A Customized Measuring Legs for each bore ID.
Bore Adapters - Medium:	Bore ID's from 2.00 - 4.0 in. (51-102 mm): use M-221CLS-B Customized Measuring Legs for each bore ID.
Bore Adapters - Large:	Bore ID's from 4.0 - 16.0 in. (102-410 mm): use Use A-221LTA Self-Centering Bore Adapter Rings (set of 2) plus M-221CLL Customized Adapter Legs for each bore ID.

A-221 Target with M-221CLS-A Measuring Legs



A-221LTA Adapter Hubs



M-221CLL Measuring Legs



A-221 with A-221LTA + M-221CLL