

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

The A-220-SC-BL Small-Bore Self-Centering Target

Hamar Laser's A-220-SC-BL Small-Bore, Self-Centering Target is designed specifically to measure the straightness of small bores, from .75 to 3.0 in. (19.1 to 76.2 mm). This small, lightweight, compact target self-centers to an accuracy of .0005 in. (0.013 mm) and has a sensor area of 4 x 4 mm.

Target features include:

- ✦ 3 ft. (1 mm) carbon fiber insertion pole with connector (can be folded to 1.5 ft.). Extra lengths of pole are available for bores up to 10 feet (3 m) long.
- ✦ Uses bore adapters that are customized for each bore diameter:
 - ✦ M-220-ID-BW is used for barrel-wear measurements and can accommodate bores from Ø.90 – 3.0 in. (Ø22.8 - 76.2 mm).
 - ✦ M-220-ID-SC is used for straightness measurements and can accommodate bores from Ø.75 – 3.0 in. (Ø19 - 76.2 mm).
- ✦ The A-220-SC-BL can accommodate barrel diameter changes of $\pm .005$ in. (± 0.13 mm) without affecting the ability to self-center itself in the bore.
- ✦ 4 x 4 mm PSD (Position Sensing Detector) is concentric to bore ID to $> .0005$ in. (0.013 mm).
- ✦ .00002 in. (0.0005 mm) resolution when used with the R-1307 Readout.
- ✦ .654 in. (16.6 mm) OD, with tungsten carbide, precision-ground measuring balls (feet) and a tapered end for easy insertion in bores.
- ✦ Accommodates bores from .75 to 1.5 in. (19.1 to 38.1 mm).
- ✦ Can be used with the R-1307C or R-1307 2.4XBE target readouts. Use the A-910-2.4XBE Radio Receiver for a PC with the R-1307-2.4XBE for wireless data downloads to our Bore9 software.
- ✦ Spirit level orients the PSD sensor axes to the alignment axes of the bore.



The A-220-SC-BL Small-Bore, Self-Centering Target



Hamar Laser Instruments, Inc.
5 Ye Olde Road Danbury, CT 06810
Phone: +1.203.730.4600 Fax: 203.730.4611
E-mail: sales@hamarlaser.com www.hamarlaser.com
[Click here](#) for a list of our distributors.



Specifications

Size:	.654 in. (16.6 mm) OD. 1.72 in. (43.7 mm) long without pole.
Sensor Size/Resolution:	4 x 4 mm PSD with .0001 in. (0.001 mm) resolution when used with the R-1307.
Sensor Concentricity to Target Housing:	< .0005 in. (0.013 mm)
Material:	303 stainless steel
Cable:	Hard-mounted 10 ft. (3m) cable mounted inside the inserted pole with Lemo connector.
Weight:	5 oz. (85 g).
Laser:	Requires L-705SM with 1.5 mm diam. beam.
Bore Adapters:	Use M-220-ID-BW for barrel-wear measurements for bores from Ø.90 - 3.0 in. (Ø22.8 - 76.2 mm). Use M-220-ID-SC for straightness measurements for bores from Ø.75 - 3.0 in. (Ø19 - 76.2 mm).
Bore Diameter Range:	Can accommodate $\pm .005$ in. (± 0.13 mm) diameter change and still self-center.
Insertion Pole:	Requires 1 self-centering bore adapter and barrel-wear adapter for each bore ID. 3 ft (1 m) in two 1.5 ft. pieces. Extra lengths of pole are available up to 10 ft. (3 m).

A-220 Micro-Bore Self-Centering Target

