

## FARO Laser Tracker Targets

A laser tracker and its targets go hand in hand. Regardless of how accurate the laser tracker is, the quality of the measurements is directly affected by the precision of the target. FARO's new line of spherically mounted retroreflectors (SMRs) showcases our dedication to providing a total measurement solution — by not only offering the best laser tracker, but by also providing an accurate, robust, and affordable line of targets.



### ***NEW: Accurate, Durable, Affordable Break Resistant SMRs***

FARO is proud to introduce three new break resistant SMRs, including the world's most accurate model, which is 80% more accurate than previous FARO break resistant models. In the past, the peace of mind that came along with a break resistant target would come at a price. It would not only cost more, but you would also have to sacrifice high accuracy — making you choose between the high performance of a glass panel SMR and the durability of a break resistant model. With FARO's new break resistant SMRs, however, you are no longer faced with this dilemma. Not only are they more accurate than previous break resistant models, but they also come at a lower cost — some even less than a traditional glass panel SMR.

These new break resistant targets are available in three models: standard accuracy (black ring), long range (green ring), and high performance (blue ring). They each contain a single element retroreflector with a gold coating. Since the retroreflector is constructed of a single element, there are no separate glass panels that can shift or break over time. Each one has higher accuracy than previous FARO break resistant SMRs, while the long range and high performance models have the ability to track up to 55 meters with the FARO Laser Tracker ION™. In addition to its long range, the combination of the sphere properties and the centering of the optics make the high performance model the world's most accurate break resistant SMR.

### ***NEW: Break Resistant Window SMRs***

FARO's patented window SMRs are now break resistant, and represent the ultimate performance in harsh environments, as the window covering is designed to keep the reflective optics clean. They contain a replaceable window collar and a single element retroreflector with a gold coating.



### **Heavy Duty Break Resistant SMRs**

The heavy duty break resistant SMRs are built from a solid stainless steel ball and contain an integrated retroreflector with a gold coating. They have the ability to operate at optimum performance at extreme temperatures.

### **Glass Panel SMRs**

These traditional glass panel SMRs contain a protected silver coating and are available in both standard and high accuracy models.

### **Repeatability Targets**

FARO repeatability targets are open air corner cubes, designed to ensure repeatability regardless of the pointing angle from the laser tracker. The gold surface is optimized for the ADM beam, making it the perfect target for ADM repeatability surveys. These targets are available in both standard and long range models along with an optional protective window covering.

### **RetroProbes**

The patented FARO RetroProbes enable you to measure in recessed areas or small features such as holes, slots, and machine faces, providing the functionality of an articulated arm or fixed CMM-style probing. You can also easily reach into pockets, behind obstructions, and around corners, helping to minimize laser tracker repositioning. RetroProbes offer a significantly higher accuracy and value over other laser tracker probing solutions and are available in both one-inch and four-inch extension models. They now contain a single element retroreflector with a gold coating.

# FARO Laser Tracker Targets



Target Name	Size	Part Number	Range*	Centuring Accuracy	Dihedral Angle	Wavefront Distortion
Standard Accuracy Break Resistant SMR <b>(Black Ring)</b>	1.5"	099-03915-01	40m	± .0076mm (.0003")	2.3 arc seconds	≤ 0.80
	0.875"	099-03919-01	40m	± .0127mm (.0005")	4.6 arc seconds	≤ 0.80
	0.5"	099-03920-01	30m	± .0127mm (.0005")	8.0 arc seconds	≤ 0.80
Long Range Break Resistant SMR <b>(Green Ring)</b>	1.5"	099-03915-02	55m	± .0076mm (.0003")	1.2 arc seconds	≤ 0.45
	0.875"	099-03919-02	55m	± .0127mm (.0005")	1.7 arc seconds	≤ 0.50
	0.5"	099-03920-02	40m	± .0127mm (.0005")	1.7 arc seconds	≤ 0.50
High Performance Break Resistant SMR <b>(Blue Ring)</b>	1.5"	099-03915-03	55m	± .0025 mm (.0001")	1.2 arc seconds	≤ 0.45
	0.875"	099-03919-03	55m	± .0076mm (.0003")	1.7 arc seconds	≤ 0.50
	0.5"	099-03920-03	40m	± .0076mm (.0003")	1.7 arc seconds	≤ 0.50
Window Covered Break Resistant SMR	1.5"	099-03700	40m	± .0076mm (.0003")	2.3 arc seconds	≤ 0.70
	0.875"	C-ACC-03926-000	40m	± .0127mm (.0005")	4.6 arc seconds	≤ 0.70

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Target Name	Size	Part Number	Range*	Centuring Accuracy	Dihedral Angle	Wavefront Distortion
Heavy Duty Break Resistant SMR	1.5"	950-02942	40m	± .0127mm (.0005")	2.5 arc seconds	≤ 0.70
	0.875"	950-01060	40m	± .0508mm (.0020")	5 arc seconds	≤ 0.70
	0.5"	950-01061	30m	± .0508mm (.0020")	8.5 arc seconds	≤ 0.70
Standard Glass Panel SMR	1.5"	950-00-030	40m	± .0127mm (.0005")	2.5 arc seconds	≤ 0.70
	0.875"	950-00-042	40m	± .0127mm (.0005")	5 arc seconds	≤ 0.70
	0.5"	950-00-058	30m	± .0127mm (.0005")	8.5 arc seconds	≤ 0.70
High Accuracy Glass Panel SMR	1.5"	950-03910	40m	± .0025 mm (.0001")	2.5 arc seconds	≤ 0.70
Standard Repeatability Target	0.5"	041-00-014	20m	—	12 arc seconds	≤ 1.25
Window Covered Standard Repeatability Target	0.75"	C-ACC-04255-000	20m	—	12 arc seconds	≤ 1.25
Long Range Repeatability Target	0.5"	C-ACC-04256-000	55m	—	1.7 arc seconds	≤ 0.50
Window Covered Long Range Repeatability Target	0.75"	C-ACC-04257-000	55m	—	1.7 arc seconds	≤ 0.70

Target Name	Part Number	Centuring Accuracy	Range*	Dimensions (with stylus)	Dimensions (without stylus)	Weight
RetroProbe 100	950-00-016	+/- .0254mm (.0010")	35m	120.8 x 54.8 x 106.0 mm	120.8 x 54.8 x 79.7 mm	0.8 lbs (362.9 g)
RetroProbe 400	950-00-054	+/- .0254mm (.0010")	35m	254.0 x 104.1 x 282.0 mm	254.0 x 104.1 x 255.9 mm	2.2 lbs (997.9 g)

All SMRs with the exception of the Heavy Duty Break Resistant SMR are **Grade 25 spheres** (sphericity is +/- .000635mm (.000025"), diameter tolerance is +/- .00025 mm (.0001"). The sphericity of all Heavy Duty Break Resistant SMRs is listed as +/- .00127 mm (.000050") though all the other specifications are equal to a Grade 25 sphere.

All break resistant SMRs operate in a temperature range of -15°C to 50°C.

\*Range relates to FARO Laser Tracker ION™ only.