

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 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.



Accurate, Durable, Affordable Break Resistant SMRs

- Three models:
 1. Standard Accuracy (Black Ring)
 2. Long Range (Green Ring)
 3. High Performance (Blue Ring)
- High performance model is 80% more accurate than Heavy Duty break resistant SMRs
- Combination of the sphere properties and the centering of the optics make the high performance model the world's most accurate break resistant SMR
- Lower cost than previous break resistant models
- Single element retroreflector with a gold coating (no separate glass panels that can shift or break over time)



Break Resistant Window SMRs

- Ultimate performance in harsh environments
- Window covering is designed to keep the reflective optics clean
- Replaceable window collar
- Single element retroreflector with a gold coating

Heavy Duty Break Resistant SMRs

- Solid stainless steel ball
- Integrated retroreflector with a gold coating
- Ability to operate at optimum performance at extreme temperatures

Glass Panel SMRs

- Protected silver coating
- Standard and high accuracy models



Repeatability Targets

- Open air corner cubes
- Ensures repeatability regardless of the pointing angle from the laser tracker
- Perfect target for repeatability surveys



RetroProbes

- Measure in recessed areas or small features such as holes, slots and machine faces
- Proves the functionality of an articulated arm or fixed CMM-style probing
- Easily reach into pockets, behind obstructions, and around corners
- Minimize laser tracker repositioning
- One-inch and four-inch extension models

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Performance Specifications

Target Name	Size	Part Number	Range		Centuring Accuracy	Dihedral Angle	Wavefront Distortion
			Vantage	ION			
Standard Accuracy Break Resistant SMR (Black Ring)	1.5"	099-03915-01	60m	40m	± 0.0076mm (0.0003")	2.3 arc sec	≤ 0.80
	0.875"	099-03919-01	40m	40m	± 0.0127mm (0.0005")	4.6 arc sec	≤ 0.80
	0.5"	099-03920-01	30m	30m	± 0.0127mm (0.0005")	8.0 arc sec	≤ 0.80
Long Range Break Resistant SMR (Green Ring)	1.5"	099-03915-02	80m	55m	± 0.0076mm (0.0003")	1.2 arc sec	≤ 0.45
	0.875"	099-03919-02	60m	55m	± 0.0127mm (0.0005")	1.7 arc sec	≤ 0.50
	0.5"	099-03920-02	30m	40m	± 0.0127mm (0.0005")	1.7 arc sec	≤ 0.50
High Performance Break Resistant SMR (Blue Ring)	1.5"	099-03915-03	80m	55m	± 0.0025mm (0.0001")	1.2 arc sec	≤ 0.45
	0.875"	099-03919-03	60m	55m	± 0.0076mm (0.0003")	1.7 arc sec	≤ 0.50
	0.5"	099-03920-03	30m	40m	± 0.0076mm (0.0003")	1.7 arc sec	≤ 0.50
Window Covered Break Resistant SMR*	1.5"	099-03700	60m	40m	± 0.0076mm (0.0003")	2.3 arc sec	≤ 0.70
	0.875"	C-ACC-03926-000	40m	40m	± 0.0127mm (0.0005")	4.6 arc sec	≤ 0.70
Heavy Duty Break Resistant SMR	1.5"	950-02942	60m	40m	± 0.0127mm (0.0005")	2.5 arc sec	≤ 0.70
	0.875"	950-01060	40m	40m	± 0.0508mm (0.0020")	5 arc sec	≤ 0.70
	0.5"	950-01061	30m	30m	± 0.0508mm (0.0020")	8.5 arc sec	≤ 0.70
Standard Glass Panel SMR	1.5"	950-00-030	60m	40m	± 0.0127mm (0.0005")	2.5 arc sec	≤ 0.70
	0.875"	950-00-042	40m	40m	± 0.0127mm (0.0005")	5 arc sec	≤ 0.70
	0.5"	950-00-058	30m	30m	± 0.0127mm (0.0005")	8.5 arc sec	≤ 0.70
High Accuracy Glass Panel SMR	1.5"	950-03910	60m	40m	± 0.0025mm (0.0001")	2.5 arc sec	≤ 0.70
Standard Repeatability Target	0.5"	041-00-011	20m	20m	—	± 12 arc sec	≤ 1.25
Window Covered Standard Repeatability Target	0.75"	C-ACC-04255-000	20m	20m	—	± 12 arc sec	≤ 1.25
Long Range Repeatability Target	0.5"	C-ACC-04256-000	60m	55m	—	± 1.7 arc	≤ 0.50
Window Covered Long Range Repeatability Target	0.75"	C-ACC-04257-000	60m	55m	—	± 1.7 arc	≤ 0.70

Target Name	Part Number	Centuring Accuracy	Range		Dimensions (with stylus)	Dimensions (without stylus)	Weight
			Vantage	ION			
RetroProbe 100**	950-00-016	± 0.0254mm (0.0010")	35m	35m (114.8ft)	120.8 x 54.8 x 106.0mm (4.8 x 2.2 x 4.2")	120.8 x 54.8 x 79.7mm (4.8 x 2.2 x 3.1")	362.9g (0.8lbs)
RetroProbe 400**	950-00-054	± 0.0254mm (0.0010")	35m	35m (114.8ft)	254.0 x 104.1 x 282.0mm (10.0 x 4.1 x 11.1")	254.0 x 104.1 x 255.9mm (10.0 x 4.1 x 10.1")	997.9g (2.2lbs)

All SMRs with the exception of the Heavy Duty Break Resistant SMR are Grade 25 spheres (sphericity is ± 0.000635mm (0.000025"), diameter tolerance is ± 0.00025mm (0.0001"). The sphericity of all Heavy Duty Break Resistant SMRs is listed as ± 0.00127mm (0.000050") 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 (5°F to 122°F).

*Protected by U.S. patent 7,388,654 **Protected by U.S. patent 5,530,549