

Laser Tracker Accessories in All Dimensions

1.5" Corner Cube Reflector CCR



- Air path corner cube in spherical housing
- Replacement program for broken reflectors available
- Applied for:
 - Standard applications
 - Dynamic and static measurements

0.5" Corner Cube Reflector CCR



- Air path corner cube in spherical housing with larger acceptance angle
- Applied for:
 - Static measurements
 - Automated inspection

0.5" Tooling Ball Reflector TBR



- Prism in spherical housing without collar for wider acceptance angle while tracking
- Applied for:
 - Static measurements
 - Automated inspection

0.5" Tooling Ball Reflector TBR



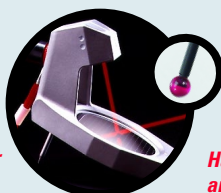
- Prism in spherical housing with collar for guaranteed precise measurements
- Applied for:
 - Static measurements
 - Automated inspection

Cateye



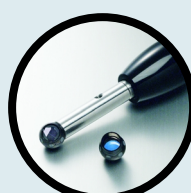
- 75 mm reflector in spherical housing with largest acceptance angle
- Applied for:
 - Robot and machine applications
 - dynamic and static measurements

Surface Reflector



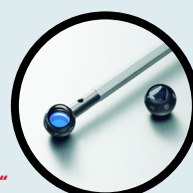
- Plane mirror with beam-display-grid for easy alignment to beam
- Built-in CCR 1.5"
- Exchangeable pinpoint and ruby ball styli
- Handle with safety cord
- Applied for:
 - Direct distance measurement to surface (no offset)

Handle for TBR and CCR 0.5"



- For convenient handling of reflectors
 - Ergonomic grip
 - Magnetic insert at tip
- Mounting of reflector holder may be straight or at right angle

Manipulator for TBR and CCR 0.5"



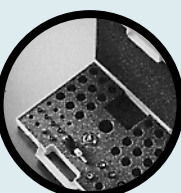
- For convenient handling in restricted space
- Small, light weight
- Magnetic insert at tip
- Does not roll on horizontal surface due to hexagonal rim

0.5" Reflector for fixed installation RFI



- Aluminum housing, blue anodized
- Applied for:
 - Fixed installation
 - Repeatability test
 - Relative measurements
 - Deformation measurements

Standard Reflector Kit



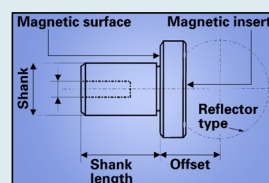
- Carrying case for:
- 1x TBR 0.5" with collar
 - 3x Bird bath adapter for TBR 0.5"
 - 1x Corner Cube reflector CCR 1.5"
 - 1x Reflector Support for CCR 1.5"
 - 1x Handle for TBR 0.5"

Leica Lanyard set for 1.5" CCR



- For safe handling of 1.5" sphere reflectors
- Easy to mount with half circle grip
- Adjustable reflector direction within grip
- Grip with handle or lanyard

Customized supports



- With and without shanks
 - Various adapter sizes
 - Magnetic insert
 - For flexible adaptation to measurement tasks
- Please ask for separate information on supports

Leica Laser Tracker - Making Metrology Mobile

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New Perspectives in Reliable Precision

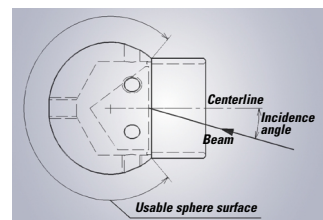
Acceptance Angle and Usable Sphere Surface

The reflectors have different clear acceptance angles due to their design. The acceptance angle corresponds to twice the incidence angle. Laser beams entering prisms at an angle to the center line cause distance and lateral errors (see chart). Therefore the acceptance angle is specified for a given positional accuracy. The collar on the TBR 575770 prevents beams

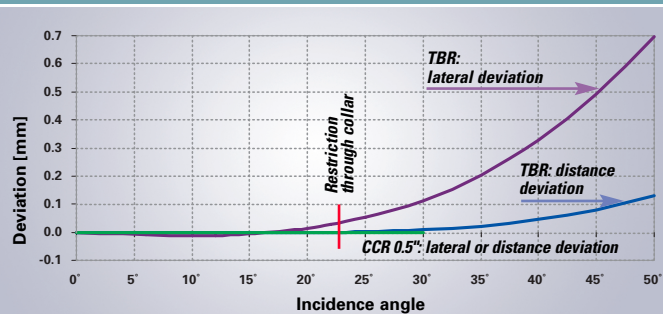
entering the prism at an angle of $> 22^\circ$. The Cateye offers the widest acceptance angle and avoids distance errors due to its optical lay out. Also air path or hollow corner cube reflectors do not exhibit any deflection as the rays do not pass a glass body.

In order to have a large inclination range of the reflector without breaking the beam too early, the usable sphere surface should be

large. This situation has been optimized with the CCR 1.5".



Deviations in Relation to Incidence Angle

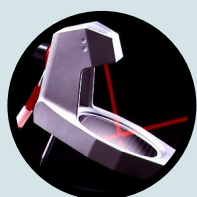


The different ranges for both criteria are shown in the drawing

Art No	Type	Diameter of ball	Material of sphere	Max. Acceptance angle	Usable sphere surface	Centering of optics	Shape	ADM distance offset	Weight
573 510	CER, Cateye reflector For dynamic use	75 mm ± 0.05 mm	steel, surface hardened	$\leq \pm 60^\circ$	230"	$\leq \pm 0.01$ mm	≤ 0.01 mm	59.11 mm ± 0.03 mm	730 g 25.7 oz
575 829	CCR, air path For dynamic use	1.5" 38.1 mm ± 0.01 mm	stainless steel, surface hardened	$\leq \pm 30^\circ$	278"; no holes or flat spots	$\leq \pm 0.01$ mm	≤ 0.005 mm	0 mm ± 0.01 mm	170 g 6.0 oz
575 769	TBR without collar, prism For static use	0.5" 12.7 mm ± 0.01 mm	steel, surface hardened	$\leq \pm 50^\circ$, up to 15" error ≤ 0.01 mm	262"; possible restriction due to flat spots	$\leq \pm 0.01$ mm	≤ 0.01 mm	5.3 mm ± 0.03 mm	5 g 0.18 oz
575 770	TBR with collar, prism For static use	0.5" 12.7 mm ± 0.01 mm	steel, surface hardened	$\leq \pm 22^\circ$, up to 15" error ≤ 0.01 mm	262"; possible restriction due to collar	$\leq \pm 0.01$ mm	≤ 0.01 mm	5.3 mm ± 0.03 mm	5 g 0.18 oz
575 759	CCR, air path For static use	0.5" 12.7 mm ± 0.01 mm	steel, surface hardened	$\leq \pm 30^\circ$	262"; possible restriction due to flat spots	$\leq \pm 0.01$ mm	≤ 0.01 mm	0 mm ± 0.01 mm	5 g 0.18 oz
575 848	Reflector for fixed installation, prism For static use (Package of 5)	0.5"	Aluminium, surface blue anodized	$\leq \pm 50^\circ$	(262") n.a.	n.a.	n.a.	5.3 mm	4 g 0.14 oz

All reflectors are optimized for measurements with absolute distance meter ADM

n.a. = not applicable



Leica Surface Reflector

- A Titanium made Surface Reflector measures deep locations with a 40 mm stand off with significantly increased thermal stability.
- Beam display grid prevents operator from breaking the beam, which increases ease of use and productivity.
- Compatible with absolute distance meter: Optics of surface reflector are equipped with Leica ADM compatible optical coating, which ensures highest accuracy.

Construction Details and Specifications of Leica Surface Reflector

Acceptance Angle	40"
Minimum Beam Angle to object surface	10"
Probe tip standoff	40 mm (1.6")
Point accuracy	
– stylus with ruby ball	$< \pm 0.020$ mm (0.0008")
– stylus with pinpoint orthogonal inclined	$< \pm 0.020$ mm (0.0008") up to $< \pm 0.20$ mm (0.008") depending on size of inclination
Reproducibility	± 0.015 mm (± 0.0006 ")
Size	11 x 7 x 7.7 cm (4.3 x 2.7 x 3.0")
Weight	535 g (18.9 oz)
Mirror coating	optimized for Leica Tracker ADM
Interchangeable styli	3 mm (0.12") ruby ball hardened pinpoint
Material of styli	hardened steel, stainless



Headquarter Leica Geosystems AG, Mönchmattweg 5, CH-5035 Unterentfelden, Switzerland, Phone +41 62 737 67 67, Fax +41 62 723 07 34, www.leica-geosystems.com/metrology

Regional Contacts The Americas, Phone +1 800 367 9453 ■ Canada, Phone +1 416 497 2460 ■ China, Phone +85 225 642 299 ■ Germany, Phone +49 89 149810 0

France, Phone +33 1 30 09 17 00 ■ India, Phone +91 124 5122222 ■ Italy, Phone +39 02 52 53 51 ■ Japan, Phone +81 3 5940 3050 ■ Korea, Phone +82 2 598 1919

Spain, Phone +34 93 494 9440 ■ United Kingdom, Phone +44 190 825 6500 ■ Scandinavia, Phone +46 31 340 99 55 ■ Singapore, Phone +65 776 9309

Dealers and Distributors Phone +41 62 737 67 67

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