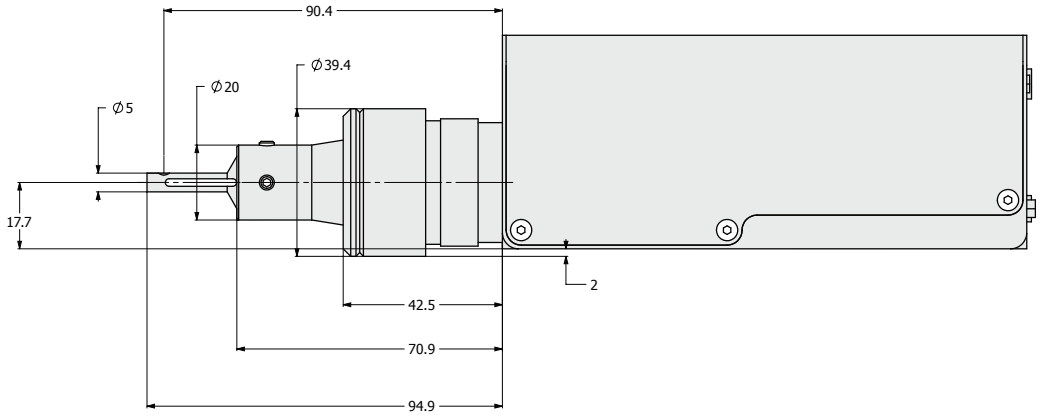
ConoPoint with periscope

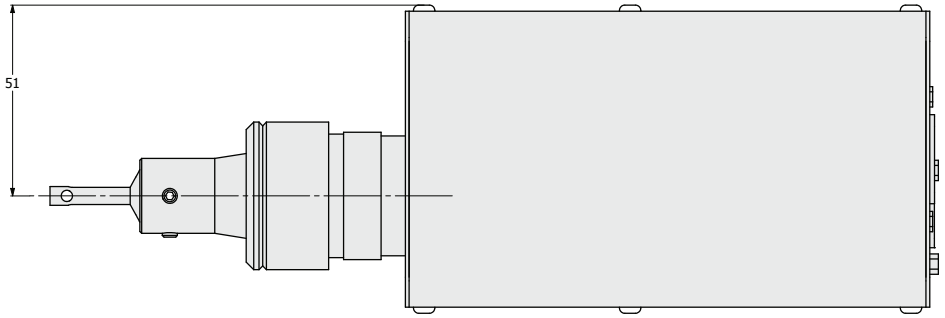
Laser displacement sensor for hole measurement

The periscope is a unique accessory developed by Optimet which overcomes some basic limitations when measuring diameters, steep angles and inner structures of holes and pipes. The periscope is integrated with a regular 75mm lens and enables measuring perpendicularly to the sensor's standard direction. It has all advantages and accuracies of the ConoPoint with the add-ons of measuring areas impossible to reach otherwise.

Features:

- Inspection at 90° related to a standard sensor direction
- Available with 75mm lens, other lenses can be customized upon request
- The periscope can be rotated 180° by user to reach desirable measuring direction
- All of the advantages and features as a regular ConoPoint sensor
- Angular coverage of 150°
- Telescopic joint design prevents tip damage in axial direction





Technical specification

Accessory type		Periscope for 75mm lens
P/N		3Z80510
Measurement range [1]	mm	9.5
Standoff [2]	mm	0.5
Accuracy [3]	µm	10
Linearity [4]	±%	0.15
Reproducibility (dynamic) [5]	µm	3
X laser spot size [7]	µm	47
Angular coverage [8]	°	150

General specifications

Weight periscope	gr	120

Maximum depth range

Maximum penetration	mm	15
Minimum hole diameter	mm	6

Parameter explanations

(1) **Measurement Range:** Effective range of the sensor
(2) **Standoff:** Distance from the tip of the objective lens to the center of the measurement range
(3) **Accuracy:** Difference between two flat surfaces measured as compared to nominal value
(4) **Linearity:** Maximum deviation between measurement and its nominal distance over the measurement range
(5) **Reproducibility (dynamic):** Average of STD between two flat surfaces measured 50 times
(6) **Repeatability (static):** Standard Deviation of 10000 static measurements of a flat surface
(7) **X laser spot size:** Measured full width at half maximum (FWHM) at standoff position
(8) **Angular coverage:** Tested on a flat reference plane of half of the defined angle
(9) **Analog Linearity:** Maximum deviation between output voltage and its nominal distance over the measurement range
(10) **Temperature dependency:** relative (differential) measurements at a range of 18-28˚C. Distance value decreases with increased temperature
(11) **Permissible ambient light:** tested using an incandescent light source near sensor objective surface