RIEGL LD90-3HT-GF high-temperature distance meter

Design principle: Transmitter and receiver optics are equipped with narrow-band optical filters to avoid disturbances of the measurement caused by the radiation of light and heat from the hot target surface. Furthermore, the small optical head can be surrounded by a water-cooled robust outer case to insulate the optical head against heat. If necessary the front side can be equipped with a protection tube, which can be flushed with nitrogen or compressed air to keep the lenses clean.

The **technical data** can, to a considerable extent, be influenced by the environmental conditions, especially by the following parameters:

- Surface temperature and reflection characteristics of the target
- Distance of the target
- Angle of the measurement beam with respect to the surface of the target
- Optical attenuation of the gases between target and instrument

LD90-310HT-GF

equipped with optical head MK36(-HT):

Position measurement of glowing slabs in rolling mills etc.

Measuring range
depending on the surface temperature and the reflection coefficient of the target

liquid steel, temperature up to 1450 °C	3 m to 7 m
glowing slabs, temperature up to 1200 °C	2 m to 10 m

Accuracy (typically) [1]	±10 mm plus statistical deviation				
Measuring time (s) [2]	0.1	0.2	0.5	1	2
Statistical deviation (mm) [3]	±7	±5	±3	±2	±2
Resolution (mm) [3] [4]	2	2	1	1	1

Diameter of the infrared measuring beam: approx. 30 mm

Laser product classification according to IEC60825-1:2007
The following clause applies for instruments delivered into the United States:
Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007.

LD90-3100HT-GF

equipped with optical head MK56-HT:

Level measurement of liquid steel in converters, transfer ladles, torpedo cars etc.

Measuring range
depending on the surface temperature and the reflection coefficient of the target

liquid steel, temperature up to 1650 °C	3 m to 10 m
glowing slabs, temperature up to 1200 °C	2 m to 35 m
other targets, temperature up to 800 °C	2 m to 100 m

Accuracy (typically) [1]	±15 mm plus statistical deviation				
Measuring time (s) [2]	0.1	0.2	0.5	1	2
Statistical deviation (mm) [3]	±10	±7	±5	±3	±2
Resolution (mm) [3] [4]	2	2	1	1	1

Diameter of the infrared measuring beam: approx. 50 mm at 2 m, approx. 150 mm at 50 m

Laser product classification according to IEC60825-1:2007
The following clause applies for instruments delivered into the United States:
Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007.

Viewing the laser output with certain optical instruments designed for use at a distance (for example, telescopes and binoculars) may pose an eye hazard.

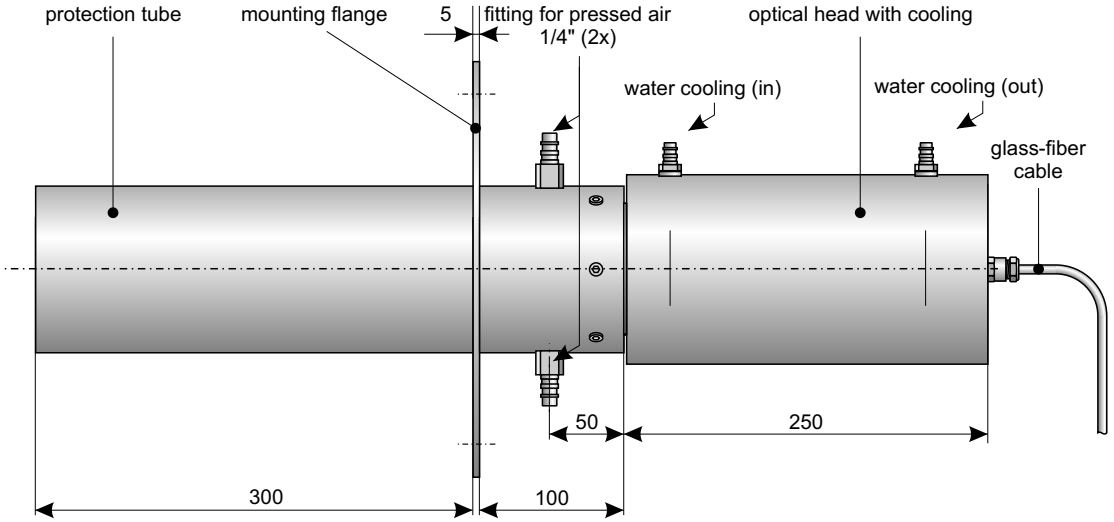
1) standard deviation, plus distance depending error ≤20 ppm
2) adjustable via RS232/RS422
3) depending on measuring time
4) chosen automatically by the internal microprocessor

Data sheet LD90-3HT-GF, 25/03/2010

RIEGL
LASER MEASUREMENT SYSTEMS
www.riegl.com

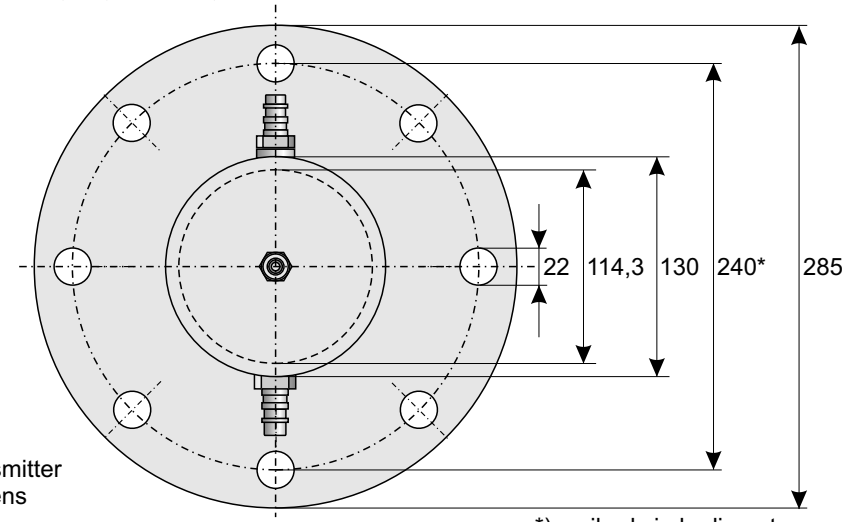
RIEGL Laser Measurement Systems GmbH, A-3580 Horn, Austria
Tel.: +43-2982-4211, Fax: +43-2982-4210, E-mail: office@riegl.co.at
RIEGL USA Inc., Orlando, Florida 32819, USA
Tel.: +1-407-248-9927, Fax: +1-407-248-2636, E-mail: info@rieglusa.com
RIEGL Japan Ltd., Tokyo 1640013, Japan
Tel.: +81-3-3382-7340, Fax: +81-3-3382-5843, E-mail: info@riegl-japan.co.jp

RIEGL Optical heads for high-temperature applications



side view

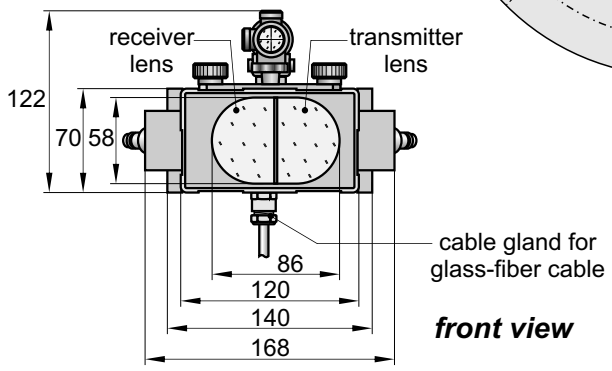
MK36-HT
case: aluminium,
color-less anodized



*) scribed circle diameter

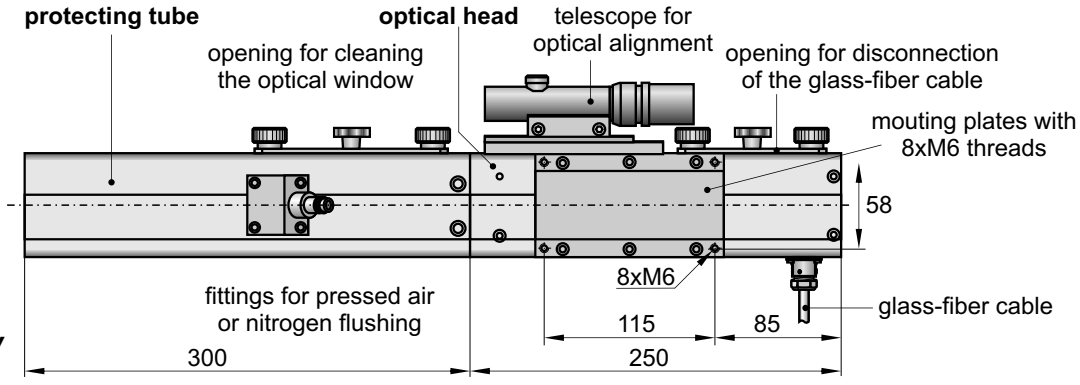
top view

All dimensions in mm.



front view

MK56-HT
case: aluminium,
color-less anodized



side view

Other parameters as given in our general data sheet LD90-3-GF series.