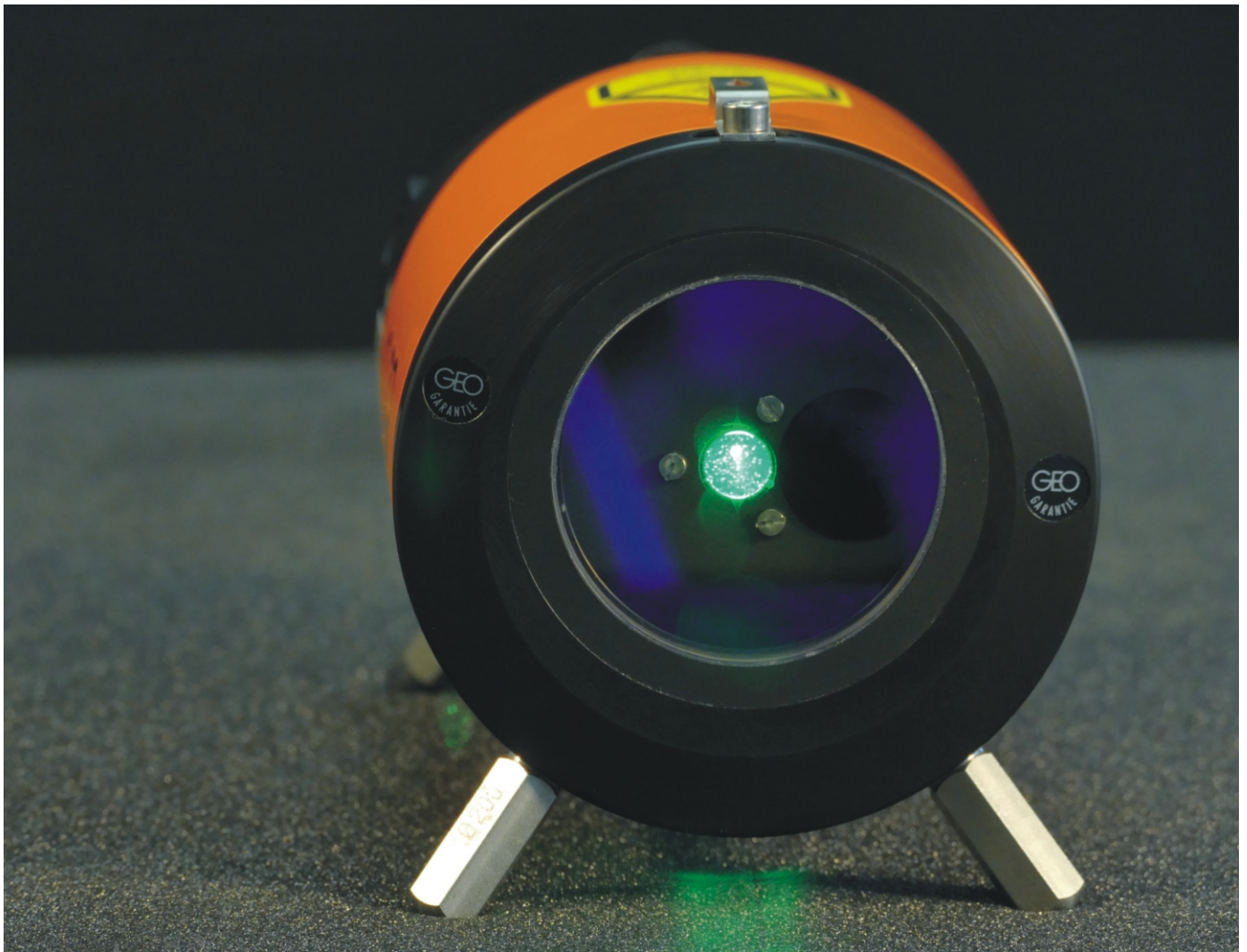
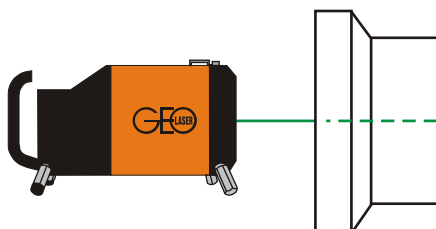


## Automatic- Pipe Laser KL-90L/-91L



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# Automatic Pipe Laser KL-90L/-91L

- safe
- precise
- perfect



The GEO pipe laser emits an automatically levelled or defined inclined laser beam as reference axis. It was specifically designed for pipe laying, but can also be used for a variety of other purposes.

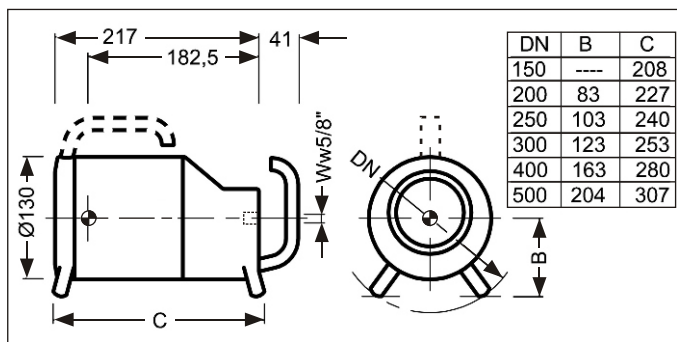
It can be set up centrally or at a constant distance above the pipe invert. Suitable legs, tripods and fastening systems are available for this.

The pipe lasers of the 90 generation have a green laser beam which is much better visible, especially at daylight. Because of a special optics, our newly developed target enables the view from sloped angles, i. e. from above.

## Performance features

- **KL-90L**  
Laser class 2, laser power < 1 mW  
Special feature: laser power adjustable in two steps.
- **KL-91L**  
Laser class 3R, laser power < 5 mW, high-power version.  
Special feature: laser power adjustable in five steps.
- **Fully automatic**  
Automatic levelling, banking compensation, inclination zeroing, direction centring and cut-out in case of undervoltage or jerky movement.
- **Robust metal housing**  
Anodised, plastic-coated, filled with nitrogen, 100 % watertight.
- **Special laser beam quality**  
Diode laser with visible green beam, high life expectancy and low power consumption. The human eye is up to four times more sensitive for the colour green than for red.
- **Brightly illuminated, easily legible LCD display**  
Self-explanatory, for on/off, device data, company data, lock function, inclination, algebraic sign, unit % or ‰, direction limitation, centring, operating status, battery status and menu.
- **Easy-to-use keyboard**  
Clear layout, practical, big, user-friendly keys.
- **Practical carry handle**
- **Lithium ion rechargeable battery**  
Operation time to 50/34 hours with one charge.  
Rechargeable in 5 hours max. without having to take out the battery.  
Special feature: automatic transport cut-out.
- **Stable mounting legs**  
Guarantee secure, positively centred footing in the pipe.
- **User-friendly infrared remote control**  
For direction setting, laser on/off and laser flicker mode.

## Dimensional sketch



## GEO quality guarantee

The new generation of lasers is the result of years of experience in the research, development and production of laser devices for the construction industry. The construction of the devices, the materials used as well as the GEO quality assurance system guarantee high functionality and life expectancy.

## Technical specifications

KL-90L laser class: . . . . . 2, < 1 mW  
 KL-91L laser class: . . . . . 3R, < 5 mW  
 Laser: . . . . . diode laser, visible green, 520 nm  
 Beam diameter: . . . . . 13 mm at laser  
 Range: . . . . . KL-90L to 200 m/KL-91L to 500 m  
 Inclination range: . . . . . -10 % to +40 %  
 Self-levelling range: . . . . . -5 % to +40 %  
 Reading precision: . . . . . 0.001%  
 Permissible deviation: . . . . . ± 5 mm/100 m  
 Direction setting range: . . . . . ± 5.000 %  
 Banking compensation: . . . . . ± 4°  
 Operating time with lith. ion rech. battery: . . . . . KL-90L/-91L: up to 50/34 hours  
 External power supply: . . . . . 11 V DC to 14 V DC with cable 0117.02  
 Undervoltage cut-out: . . . . . yes  
 Watertight: . . . . . to 0.35 bar  
 Temperature range: . . . . . -10° C to + 50° C  
 Dimensions/Weight: . . . . . Ø 130 mm, length 265 mm/3 kg  
 Range IR remote control: . . . . . to 150 m from front/to 17 m from behind  
 Guarantee: . . . . . 24 months

## Standard delivery package

No.	Order no.	Type	Description
01	0001.180	KL-90L	Pipe laser
02	0077.36		Transport case
03	0016.07	KL-04	Target frame
03	0016.08.002		Plexi target DN 150 - 300
04	0037.18	NE-80	Power supply/Battery charger
05	0077.36.002		Double headed wrench 10/13
06	0019.07		Leg set DN 200 (2 x sliding leg/ 2 x fixing leg)
07	0019.08		Leg set DN 250 (2 x sliding leg/ 2 x fixing leg)
08	0019.09		Leg set DN 300 (2 x sliding leg/ 2 x fixing leg)
1 - 8	0001.180.1		KL-90L with standard delivery package
1 - 8	0001.185.1		KL-91L with standard delivery package



## Optional accessories

No.	Order no.	Type	Description
09	0016.08.003		Plexi target DN 400 - 500
10	0026.05	IF-80	IR remote control
11	0019.10		Leg set DN 400 (2 x sliding leg/ 2 x fixing leg)
13	0019.11		Leg set DN 500 (2 x sliding leg/ 2 x fixing leg)
13	0019.90		Leg adapter for mounting with 3 legs
9-13	0125.02.1	KP-IR-GN	Comfort version for pipe laser



## GEO - partner of the construction industry for 50 years

from: