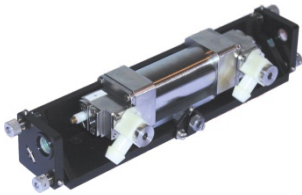
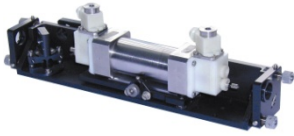
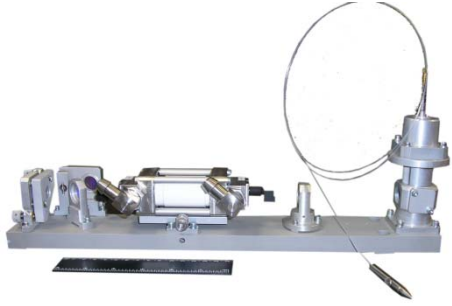
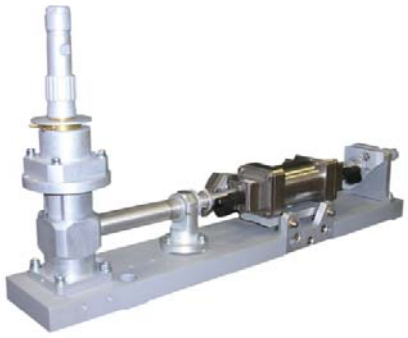


Crystaltechno Ltd. offers

Laser resonators of LRxxx and LHxxx series

Laser resonators are to be used in laser medical and industry application laser systems, operating in free-running mode, flash lamp pumped, with wavelengths 1.06 μ m, 1.32 μ m, 1.4 μ m, 2.94 μ m and liquid cooling.

<p>LH (1.06, 1.32, 2.94)</p> <table border="1"> <tbody> <tr> <td>Wavelength, μm</td> <td>1.06</td> <td>1.32</td> <td>2.94</td> </tr> <tr> <td>Active body</td> <td>Nd:YAG</td> <td>Nd:YAG</td> <td>Er:YAG</td> </tr> <tr> <td>Maximum power, W</td> <td>100</td> <td>50</td> <td>20</td> </tr> <tr> <td>Output energy, J</td> <td>1.5</td> <td>0.75</td> <td>1.5</td> </tr> <tr> <td>Diameter of active body, mm</td> <td>4...6.3</td> <td>4...6.3</td> <td>4...5</td> </tr> <tr> <td>Length of active body, mm</td> <td>u to 100</td> <td>up to 100</td> <td>80...100</td> </tr> </tbody> </table>	Wavelength, μ m	1.06	1.32	2.94	Active body	Nd:YAG	Nd:YAG	Er:YAG	Maximum power, W	100	50	20	Output energy, J	1.5	0.75	1.5	Diameter of active body, mm	4...6.3	4...6.3	4...5	Length of active body, mm	u to 100	up to 100	80...100													
Wavelength, μ m	1.06	1.32	2.94																																		
Active body	Nd:YAG	Nd:YAG	Er:YAG																																		
Maximum power, W	100	50	20																																		
Output energy, J	1.5	0.75	1.5																																		
Diameter of active body, mm	4...6.3	4...6.3	4...5																																		
Length of active body, mm	u to 100	up to 100	80...100																																		
<p>LH 1.44</p> <table border="1"> <tbody> <tr> <td>Wavelength, μm</td> <td>1.44</td> </tr> <tr> <td>Active body</td> <td>Nd:YAG</td> </tr> <tr> <td>Maximum power, W</td> <td>20</td> </tr> <tr> <td>Output energy, J</td> <td>1.0</td> </tr> <tr> <td>Diameter of active body, mm</td> <td>6.3</td> </tr> <tr> <td>Length of active body, mm</td> <td>100</td> </tr> </tbody> </table>	Wavelength, μ m	1.44	Active body	Nd:YAG	Maximum power, W	20	Output energy, J	1.0	Diameter of active body, mm	6.3	Length of active body, mm	100																									
Wavelength, μ m	1.44																																				
Active body	Nd:YAG																																				
Maximum power, W	20																																				
Output energy, J	1.0																																				
Diameter of active body, mm	6.3																																				
Length of active body, mm	100																																				
<p>LR (1.06, 1.32, 1.44) Laser resonators are provided with fiber coupling unit.</p> <table border="1"> <tbody> <tr> <td>Wavelength, μm</td> <td>1.06</td> <td>1.32</td> <td>1.44</td> </tr> <tr> <td>Active body</td> <td>Nd:YAG</td> <td>Nd:YAG</td> <td>Nd:YAG</td> </tr> <tr> <td>Maximum power, W</td> <td>150</td> <td>75</td> <td>20</td> </tr> <tr> <td>Output energy, J</td> <td>1.5</td> <td>0.75</td> <td>1.0</td> </tr> <tr> <td>Diameter of active body, mm</td> <td>4...6.3</td> <td>4...6.3</td> <td>6.3</td> </tr> <tr> <td>Length of active body, mm</td> <td>up to 100</td> <td>up to 100</td> <td>100</td> </tr> <tr> <td>Fiber connector</td> <td>SMA-905</td> <td>SMA-905</td> <td>SMA-905</td> </tr> <tr> <td>Fiber</td> <td>quartz</td> <td>quartz</td> <td>quartz</td> </tr> <tr> <td>Fiber diameter, μ</td> <td>≥ 200</td> <td>≥ 200</td> <td>≥ 400</td> </tr> </tbody> </table>	Wavelength, μ m	1.06	1.32	1.44	Active body	Nd:YAG	Nd:YAG	Nd:YAG	Maximum power, W	150	75	20	Output energy, J	1.5	0.75	1.0	Diameter of active body, mm	4...6.3	4...6.3	6.3	Length of active body, mm	up to 100	up to 100	100	Fiber connector	SMA-905	SMA-905	SMA-905	Fiber	quartz	quartz	quartz	Fiber diameter, μ	≥ 200	≥ 200	≥ 400	
Wavelength, μ m	1.06	1.32	1.44																																		
Active body	Nd:YAG	Nd:YAG	Nd:YAG																																		
Maximum power, W	150	75	20																																		
Output energy, J	1.5	0.75	1.0																																		
Diameter of active body, mm	4...6.3	4...6.3	6.3																																		
Length of active body, mm	up to 100	up to 100	100																																		
Fiber connector	SMA-905	SMA-905	SMA-905																																		
Fiber	quartz	quartz	quartz																																		
Fiber diameter, μ	≥ 200	≥ 200	≥ 400																																		
<p>LR 2.94 Laser resonators are provided with fiber coupling unit.</p> <table border="1"> <tbody> <tr> <td>Wavelength, μm</td> <td>2.94</td> </tr> <tr> <td>Active body</td> <td>Er:YAG</td> </tr> <tr> <td>Maximum power, W</td> <td>20</td> </tr> <tr> <td>Output energy, J</td> <td>1.5</td> </tr> <tr> <td>Diameter of active body, mm</td> <td>4...5</td> </tr> <tr> <td>Length of active body, mm</td> <td>80...100</td> </tr> <tr> <td>Fiber connector</td> <td>SMA-905</td> </tr> <tr> <td>Fiber</td> <td>sapphire</td> </tr> <tr> <td>Fiber diameter, μ</td> <td>425</td> </tr> </tbody> </table>	Wavelength, μ m	2.94	Active body	Er:YAG	Maximum power, W	20	Output energy, J	1.5	Diameter of active body, mm	4...5	Length of active body, mm	80...100	Fiber connector	SMA-905	Fiber	sapphire	Fiber diameter, μ	425																			
Wavelength, μ m	2.94																																				
Active body	Er:YAG																																				
Maximum power, W	20																																				
Output energy, J	1.5																																				
Diameter of active body, mm	4...5																																				
Length of active body, mm	80...100																																				
Fiber connector	SMA-905																																				
Fiber	sapphire																																				
Fiber diameter, μ	425																																				

Q-switched Laser heads.



We offer Q-switched laser heads, which can be used in laser rangefinders and target pointers. Laser heads design ensures resistance to great temperature and thermal exposure which makes it possible to use the laser heads in field conditions.

<p>LH-106 M</p> <table border="0"> <tr> <td>Laser radiation wavelength, nm</td> <td>1064</td> </tr> <tr> <td>Operation mode</td> <td>Q-switching</td> </tr> <tr> <td>Maximum generation energy, mJ (pumping energy less then 7J)</td> <td>140</td> </tr> <tr> <td>Maximum pulse repetition rate, Hz</td> <td>25</td> </tr> <tr> <td>Radiation divergence, mRad</td> <td>3.5</td> </tr> <tr> <td>Cooling</td> <td>liquid</td> </tr> <tr> <td>Q-switcher</td> <td>LiNbO₃</td> </tr> <tr> <td>Temperature range</td> <td>-35⁰ C...+55⁰ C</td> </tr> <tr> <td>Mechanical effects</td> <td>shocks up to 10g</td> </tr> <tr> <td>Temperature range</td> <td>-35⁰ C...+55⁰ C</td> </tr> <tr> <td>Mechanical effects</td> <td>shocks 20g</td> </tr> <tr> <td>Dimensions, mm</td> <td>50x70x190</td> </tr> </table>	Laser radiation wavelength, nm	1064	Operation mode	Q-switching	Maximum generation energy, mJ (pumping energy less then 7J)	140	Maximum pulse repetition rate, Hz	25	Radiation divergence, mRad	3.5	Cooling	liquid	Q-switcher	LiNbO ₃	Temperature range	-35 ⁰ C...+55 ⁰ C	Mechanical effects	shocks up to 10g	Temperature range	-35 ⁰ C...+55 ⁰ C	Mechanical effects	shocks 20g	Dimensions, mm	50x70x190	 <p>A rectangular, silver-colored metal laser head with various ports and a white cable attached to the side.</p>
Laser radiation wavelength, nm	1064																								
Operation mode	Q-switching																								
Maximum generation energy, mJ (pumping energy less then 7J)	140																								
Maximum pulse repetition rate, Hz	25																								
Radiation divergence, mRad	3.5																								
Cooling	liquid																								
Q-switcher	LiNbO ₃																								
Temperature range	-35 ⁰ C...+55 ⁰ C																								
Mechanical effects	shocks up to 10g																								
Temperature range	-35 ⁰ C...+55 ⁰ C																								
Mechanical effects	shocks 20g																								
Dimensions, mm	50x70x190																								
<p>LH-106</p> <table border="0"> <tr> <td>Laser radiation wavelength, nm</td> <td>1064</td> </tr> <tr> <td>Operation mode</td> <td>Q-switching</td> </tr> <tr> <td>Maximum generation energy, mJ (pumping energy less then 7J)</td> <td>120</td> </tr> <tr> <td>Maximum pulse repetition rate, Hz</td> <td>25</td> </tr> <tr> <td>Radiation divergence, mRad</td> <td>4.5</td> </tr> <tr> <td>Cooling</td> <td>liquid</td> </tr> <tr> <td>Q-switcher</td> <td>LiNbO₃</td> </tr> <tr> <td>Temperature range</td> <td>-35⁰ C...+55⁰ C</td> </tr> <tr> <td>Mechanical effects</td> <td>shocks 20g</td> </tr> <tr> <td>Dimensions, mm</td> <td>50x50x180</td> </tr> </table>	Laser radiation wavelength, nm	1064	Operation mode	Q-switching	Maximum generation energy, mJ (pumping energy less then 7J)	120	Maximum pulse repetition rate, Hz	25	Radiation divergence, mRad	4.5	Cooling	liquid	Q-switcher	LiNbO ₃	Temperature range	-35 ⁰ C...+55 ⁰ C	Mechanical effects	shocks 20g	Dimensions, mm	50x50x180	 <p>A long, narrow, blue and silver laser head with a lens at the front and various connectors on the side.</p>				
Laser radiation wavelength, nm	1064																								
Operation mode	Q-switching																								
Maximum generation energy, mJ (pumping energy less then 7J)	120																								
Maximum pulse repetition rate, Hz	25																								
Radiation divergence, mRad	4.5																								
Cooling	liquid																								
Q-switcher	LiNbO ₃																								
Temperature range	-35 ⁰ C...+55 ⁰ C																								
Mechanical effects	shocks 20g																								
Dimensions, mm	50x50x180																								
<p>LH-157</p> <table border="0"> <tr> <td>Laser radiation wavelength, nm</td> <td>1570 (KTP OPO)</td> </tr> <tr> <td>Operation mode</td> <td>Q-switching</td> </tr> <tr> <td>Maximum generation energy, mJ (pumping energy less then 7J)</td> <td>35 (up to 50)</td> </tr> <tr> <td>Maximum pulse repetition rate, Hz</td> <td>15 (25)</td> </tr> <tr> <td>Radiation divergence, mRad</td> <td>7</td> </tr> <tr> <td>Cooling</td> <td>liquid</td> </tr> <tr> <td>Q-switcher</td> <td>LiNbO₃</td> </tr> <tr> <td>Temperature range</td> <td>-35⁰ C...+55⁰ C</td> </tr> <tr> <td>Mechanical effects</td> <td>shocks 10g</td> </tr> <tr> <td>Dimensions, mm</td> <td>50x70x190</td> </tr> </table> <p>OPO technology is used to produce 1570nm laser radiation.</p>	Laser radiation wavelength, nm	1570 (KTP OPO)	Operation mode	Q-switching	Maximum generation energy, mJ (pumping energy less then 7J)	35 (up to 50)	Maximum pulse repetition rate, Hz	15 (25)	Radiation divergence, mRad	7	Cooling	liquid	Q-switcher	LiNbO ₃	Temperature range	-35 ⁰ C...+55 ⁰ C	Mechanical effects	shocks 10g	Dimensions, mm	50x70x190	 <p>A complex, multi-faceted laser head with various lenses, mirrors, and a white cable attached to the side.</p>				
Laser radiation wavelength, nm	1570 (KTP OPO)																								
Operation mode	Q-switching																								
Maximum generation energy, mJ (pumping energy less then 7J)	35 (up to 50)																								
Maximum pulse repetition rate, Hz	15 (25)																								
Radiation divergence, mRad	7																								
Cooling	liquid																								
Q-switcher	LiNbO ₃																								
Temperature range	-35 ⁰ C...+55 ⁰ C																								
Mechanical effects	shocks 10g																								
Dimensions, mm	50x70x190																								
<p>LH-106S</p> <table border="0"> <tr> <td>Laser radiation wavelength, nm</td> <td>1064</td> </tr> <tr> <td>Operation mode</td> <td>Q-switching</td> </tr> <tr> <td>Maximum generation energy, mJ (pumping energy less then 5J)</td> <td>100</td> </tr> <tr> <td>Maximum pulse repetition rate, Hz</td> <td>5</td> </tr> <tr> <td>Radiation divergence, mRad</td> <td>3.5</td> </tr> <tr> <td>Cooling</td> <td>natural</td> </tr> <tr> <td>Q-switcher</td> <td>LiNbO₃</td> </tr> <tr> <td>Temperature range</td> <td>-35⁰ C...+55⁰ C</td> </tr> <tr> <td>Mechanical effects</td> <td>shocks 10g</td> </tr> <tr> <td>Dimensions, mm</td> <td>50x60x180</td> </tr> </table>	Laser radiation wavelength, nm	1064	Operation mode	Q-switching	Maximum generation energy, mJ (pumping energy less then 5J)	100	Maximum pulse repetition rate, Hz	5	Radiation divergence, mRad	3.5	Cooling	natural	Q-switcher	LiNbO ₃	Temperature range	-35 ⁰ C...+55 ⁰ C	Mechanical effects	shocks 10g	Dimensions, mm	50x60x180	 <p>A rectangular, silver-colored metal laser head with a lens at the front and a white cable attached to the side.</p>				
Laser radiation wavelength, nm	1064																								
Operation mode	Q-switching																								
Maximum generation energy, mJ (pumping energy less then 5J)	100																								
Maximum pulse repetition rate, Hz	5																								
Radiation divergence, mRad	3.5																								
Cooling	natural																								
Q-switcher	LiNbO ₃																								
Temperature range	-35 ⁰ C...+55 ⁰ C																								
Mechanical effects	shocks 10g																								
Dimensions, mm	50x60x180																								

LH106 HP High Power Q-switched Nd:YAG Laser.

- Water proof casing
- Compact design
- High energy per pulse
- High repetition rate range
- Built in energy meter
- Reliable at field application

Nd:YAG generator and amplifier provides for high energy of laser radiation. Special design of generator resonator ensures stability of laser energy within wide range of pulse repetition rate.

<p>LH106 HP (water proof casing)</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Laser wavelength, nm</td> <td style="width: 50%;">1064</td> </tr> <tr> <td>Maximum energy per pulse, J</td> <td>up to 0.75</td> </tr> <tr> <td>Laser pulse duration, ns</td> <td>8...10</td> </tr> <tr> <td>Pulse repetition rate, Hz</td> <td>5...50</td> </tr> <tr> <td>Laser beam divergence, mRad</td> <td></td> </tr> <tr> <td style="padding-left: 100px;">without beam expander</td> <td>6</td> </tr> <tr> <td style="padding-left: 100px;">with 3^x beam expander</td> <td>2</td> </tr> <tr> <td>Cooling</td> <td>liquid</td> </tr> <tr> <td>Operation temperature, °C</td> <td>-35 ...+55</td> </tr> <tr> <td>Shock and vibration resistance</td> <td>yes</td> </tr> <tr> <td>Dimensions, mm</td> <td>120x205x420</td> </tr> </table>	Laser wavelength, nm	1064	Maximum energy per pulse, J	up to 0.75	Laser pulse duration, ns	8...10	Pulse repetition rate, Hz	5...50	Laser beam divergence, mRad		without beam expander	6	with 3 ^x beam expander	2	Cooling	liquid	Operation temperature, °C	-35 ...+55	Shock and vibration resistance	yes	Dimensions, mm	120x205x420	
Laser wavelength, nm	1064																						
Maximum energy per pulse, J	up to 0.75																						
Laser pulse duration, ns	8...10																						
Pulse repetition rate, Hz	5...50																						
Laser beam divergence, mRad																							
without beam expander	6																						
with 3 ^x beam expander	2																						
Cooling	liquid																						
Operation temperature, °C	-35 ...+55																						
Shock and vibration resistance	yes																						
Dimensions, mm	120x205x420																						
<p>Generator – amplifier power supply, cooling unit and control unit are available on request.</p> <p>Set includes: generator power supply (PS), amplifier power supply (PS), cooling unit (CU), control unit.</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Power of generator PS, W</td> <td style="width: 50%;">1500</td> </tr> <tr> <td>Power of amplifier PS, W</td> <td>1500</td> </tr> <tr> <td>Cooling possibility of CU, W</td> <td>3000</td> </tr> <tr> <td>Control unit</td> <td>PC controlled, RS 232, RS 422</td> </tr> <tr> <td>Supply voltage, V</td> <td>220V, 50/60 Hz</td> </tr> </table>	Power of generator PS, W	1500	Power of amplifier PS, W	1500	Cooling possibility of CU, W	3000	Control unit	PC controlled, RS 232, RS 422	Supply voltage, V	220V, 50/60 Hz													
Power of generator PS, W	1500																						
Power of amplifier PS, W	1500																						
Cooling possibility of CU, W	3000																						
Control unit	PC controlled, RS 232, RS 422																						
Supply voltage, V	220V, 50/60 Hz																						

Eye safe Laser rangefinder

“LRF-2”

KTP OPO with Nd:YAG laser pumping is used. PC controlled, wide temperature range operation.

“LRF-2”

- Operation Laser wavelength - 1.57 μm .
(option 1.06 μm .)
- Laser energy per pulse – 15...25 mJ for 1.57 μm .
- 80...100 mJ for 1.06 μm .
- Laser beam divergence - 0.7 mRad.
- Diameter of receiving optic – 90 mm.
- Measured distance - 150...15 000 m (small size target).
- Pulse repetition rate – up to 5 Hz.
- Range measurement accuracy – 1 m.
- Range resolution – 15m.
- Number of detected targets – 3, range gating.
- RS 422, RS 232 interface.
- Long time operation, not liquid cooling system.
- Supply voltage - 22...32V DC.
- Dimensions – 145x200x290 mm.
- Operating temperature - -32...+55°C
- Shocks - 15g



Eye safe high repetition rate Laser rangefinder

“LRF-3”

KTP OPO, Nd:YAG laser pumping.

“LRF-3”

- Operation Laser wavelength - 1.57 μm . (option 1.06 μm .)
- Laser energy per pulse – 20...35 mJ for 1.57 μm .
100 140 mJ for 1.06 μm .
- Laser beam divergence - 0.7 mRad.
- Diameter of receiving optic – 90 mm.
- Measured distance - 150...20 000 m (small size target).
- Pulse repetition rate – up to 15 Hz. (option 20Hz.)
- Range measurement accuracy – 1 m.
- Range resolution – 15m.
- Number of detected targets – 3, range gating.
- RS 422, RS 232 interface.
- Long time operation, small size liquid cooling system.
- Supply voltage - 22...32V DC.
- Dimensions – 145x250x390 mm.
- Operating temperature - -32...+55 $^{\circ}\text{C}$
- Shocks - 15g



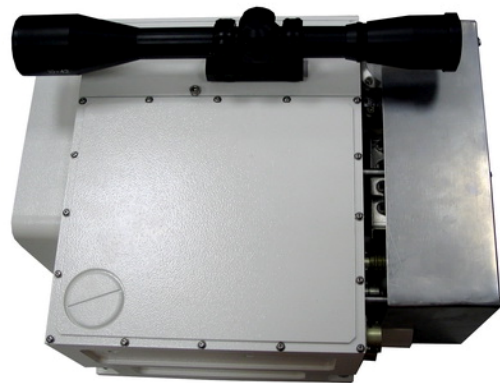
Laser rangefinder

“LRF-3M”

“LRF-3M”

Built – in TV view finder.

- Operation Laser wavelength - 1.06 μm .
- Laser energy per pulse – 100...120 mJ for 1.06 μm .
- Laser beam divergence - 0.7 mRad.
- Diameter of receiving optic – 90 mm.
- Measured distance - 150...20 000 m (small size target).
- Pulse repetition rate – up to 15 Hz. (option 20Hz.)
- Range measurement accuracy – 1 m.
- Range resolution – 15m.
- Number of detected targets – 3, range gating.
- RS 422, RS 232 interface.
- Long time operation, small size liquid cooling system.
- Supply voltage – 22...32V DC.
- Dimensions – 150x295x396 mm.
- Operating temperature - -32...+55 $^{\circ}\text{C}$
- Shocks - 15g



If you are interested please feel free to contact us! You can receive the additional information

e-mail: sales@crystaltechno.com