Welding Camera

Cavitar Ltd is an expert in illumination solutions based on diode laser technology. We offer versatile laser solutions for integrators of industrial monitoring systems and manufacturing machinery.

www.cavitar.com

Monitor and adjust your process in real time.

See through heat and blinding brightness straight to the core of your welding process.

Different levels of integration depending on the application.

Take advantage of the process information that was impossible to see before.

Want to see what you have missed?

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See through heat
CAVITAR  Welding Camera

Small solutions for easy integration
›  Robust, compact and reliable – capable of fulfilling the toughest operational requirements
›  Easy to use and integrate
›  Different levels of integration depending on the application

Far-reaching and safe to operate
›  Easy process monitoring by operator from a safe distance – avoid exposure to arc and welding fumes
›  Good ergonomics for the operator
›  Reaches the process even in difficult places – for welding behind corner, in limited spaces or in dangerous environment
›  Also for training purposes

See through heat and blinding brightness straight to the core of your welding process
›  Immune to surrounding light and vibrations
›  Visualization of weld position with respect to the object gap position (visual seam tracking)
›  Visualization of the presence of unwanted droplets

Monitor and adjust in real-time
›  Monitoring of the melt pool behavior (boundary, shape, size, stability)
›  Monitoring of filler material inside arc – adjust and optimize the welding device accordingly to get a stable process
›  Monitoring of the actual length of the free filler wire
›  Simple real-time measurements with image calibration and adjustable guidelines
›  High-quality live video that can be saved for documentation purposes

For various levels of automation
›  Manual welding
›  Semi-automated welding
›  Automated welding
›  Robot welding

For various welding techniques
›  Arc welding (MIG, MAG, TIG)
›  Laser welding
›  Hybrid welding
›  Plasma welding

Effective and efficient
›  Excellent image and video quality
›  Improved quality and reliability
›  Higher process yield
›  Savings in process set-up and problem solving time
›  Reduces the need for laborious and expensive post-manufacturing checks

Cavitar Welding Camera

Features

<table>
<thead>
<tr>
<th>MODEL</th>
<th>C300</th>
<th>C200</th>
<th>C100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Characteristics</td>
<td>Highly compact and robust camera unit includes laser illumination and has IP 66 case, water or air cooling option. Designed for demanding environments.</td>
<td>Extremely compact camera unit includes integrated illumination optics.</td>
<td>Camera and laser illumination are separated for fully flexible setup. Suitable for special setups or development purposes.</td>
</tr>
<tr>
<td>Target applications</td>
<td>GMAW, TIG, Plasma</td>
<td>GMAW, TIG, Plasma</td>
<td>Laser welding, GMAW, TIG, Plasma</td>
</tr>
<tr>
<td>Camera unit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resolution (pixel)</td>
<td>1440 x 1080</td>
<td>1440 x 1080</td>
<td>Case specific:</td>
</tr>
<tr>
<td>Max frame rate (fps)</td>
<td>30</td>
<td>30</td>
<td>Case specific:</td>
</tr>
<tr>
<td>Field of view (mm²)</td>
<td>~ 30 x 40</td>
<td>~ 35 x 46</td>
<td>Case specific:</td>
</tr>
<tr>
<td>Working distance (mm)</td>
<td>200</td>
<td>200</td>
<td>Case specific:</td>
</tr>
<tr>
<td>Size (WxHxL, mm³)</td>
<td>35 x 40 x 99</td>
<td>29 x 20 x 60</td>
<td>Case specific:</td>
</tr>
<tr>
<td>Weight (g)</td>
<td>300</td>
<td>130</td>
<td>Case specific:</td>
</tr>
<tr>
<td>Laser unit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wavelength (nm)</td>
<td>640</td>
<td>640</td>
<td>640 or 810</td>
</tr>
<tr>
<td>Laser class</td>
<td>3R</td>
<td>3R</td>
<td>3R or 3B depending on the setup</td>
</tr>
<tr>
<td>Size (WxHxL, mm³)</td>
<td>Integrated in camera</td>
<td>36 x 40 x 150</td>
<td>35 x 40 x 150</td>
</tr>
<tr>
<td>Weight (g)</td>
<td>430</td>
<td>430</td>
<td></td>
</tr>
<tr>
<td>Light delivery</td>
<td>Integrated in camera</td>
<td>Light guide</td>
<td>Light guide</td>
</tr>
</tbody>
</table>

YAG laser welding
Laser welding, inside tube monitoring of the root side
MIG welding, longitudinal
TIG welding, narrow groove, orbital
TIG welding, structured light, incomplete weld
TIG welding, structured light, complete weld