



Underwater motion capture

Combining our groundbreaking underwater cameras with a land-based camera system, over and underwater motion can be combined into a single motion capture.

Capturing a swimmer's motion underwater is not an easy task. When a swimmer jumps in, thousands of tiny bubbles create an explosion of reflective spheres – not unlike the markers meant to be tracked by the cameras. On top of that, the water surface acts as a mirror, reflecting so much light that its brightness is treated like a wall of giant markers. These two phenomena are the greatest obstacles faced when capturing underwater motion.

Oqus Underwater is designed to be the world's most accurate optical motion capture camera for underwater use. It is also designed for mobility, robustness and trouble-free operation. In order to match the needs of different applications, the Oqus camera is available in three series: the Oqus 5, 6, and 7 series.

FEATURES

- High sample rate
- Large measurement area
- Above and under water capabilities
- Industrial housing and cabling
- Passive and active marker support
- Integrated data logging and analysis functions
- Track several vessels simultaneously
- 6DOF analog output
- Wireless tracking to not disturb the movement the model
- Water resistant IP67 housing¹
- Real-time 6DOF data Ethernet TCP/IP

¹ Optional accessory/feature, not available for all camera models

LONG RANGE REFERENCE MARKER

With our new Long Range Active Marker, it is possible to track vessels over 100 meters away at frequencies up to 200 fps. The Long Range Active Marker is mainly intended to be used in marine applications and the driver unit drives up to four active markers. It is triggered by an IR detector or another driver unit.

Installations in an ocean tank are calibrated through a method called fixed camera calibration. Along with the cameras, reference markers are installed around the basin through which the system can be calibrated. The reference markers use the same NIR light and are synchronized in the same way as the Long Range Active Markers.

The maximum triggering distance for the IR eye is at least 100 m. When the control box is operated on battery, it will shut itself down automatically after 6 hours to save battery life. The continuous operation with 4 markers at 100 Hz is 5 h 30 min with a battery pack.

At an aperture of 80mm, the markers can be seen at more than 150m distance. Cameras can be mounted either on the floor or the wall and have mounting points for survey measurement equipment used to position the reference markers in a global coordinate system.

REFERENCES

Marintek, Trondheim, NORWAY
www.marintek.com

Institute for Marine Dynamic, CANADA
<http://iot-ito.nrc-cnrc.gc.ca>



Short range active markers (top)

Long range active markers (bottom)



QUALISYS



qualisys.com

sales@qualisys.com

Qualisys Europe

Gothenburg, Sweden

Qualisys Americas

Chicago, USA

Qualisys Asia Pacific

Shanghai, China