QUALISYS
Motion Capture Systems

Capture anywhere

The Oqus platform provides motion capture cameras suitable for all possible applications, both indoor and outdoor. They are designed to capture accurate motion capture data with very low latency and works with both passive and active markers.

Select from a number of fields of view (FOV), resolutions and frame rates. Enjoy calibrated high-speed video and full-FOV mocap frame rates up to 1660 fps.
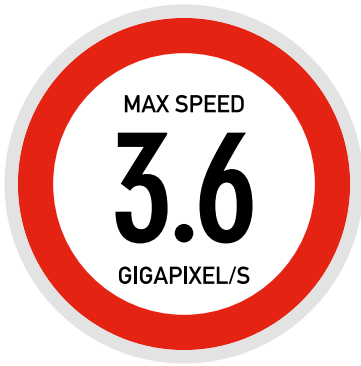
RELIABLE AND VERSATILE

The Oqus is the most versatile motion capture camera in the world. Not only does it perform well indoor and outdoor, but with Qualisys underwater housing it also runs underwater. The IP67 classified housing makes it great for use in marine facilities or under rainy conditions. It can even be used next to an MRI scanner using the shielded MRI housing.

The Oqus cameras are easily synchronized with external systems such as EMG and force plates. The entire system can be controlled by a single laptop or desktop PC.

FEATURES

- High-speed motion capture
- High-speed video[1]
- Resolution: 4, 6 & 12 MP
- Low latency for real-time applications
- Sun filter[1] and active filtering for outdoor captures
- Passive & active marker support
- Water resistant IP67 housing[1]
- Daisy-chaining (no switch required)
- Silent operation
- WiFi[1]

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

OQUS

MRI shielded housing[1]
The Oqus is available with shielded housing that allows it to capture movement inside an MRI scanner.

Outdoor mocap
Active filtering dramatically increases the ability to capture passive markers outdoors.

Water resistant housing[1]
The IP67 classified version of the Oqus is perfect for marine or outdoor applications.

HIGH-SPEED SENSOR MODE

High-speed sensor mode[2] is a sub-sampling mode that gives increased frame rate without sacrificing field-of-view. For example, the new Oqus 6+ is able to capture at 1660 fps, with full FOV and a sensor resolution of 1536 × 992. Even more impressive is the Oqus 7+, which is able to capture at 1100 fps with full FOV and a resolution of 3 megapixels. It is also possible to measure up to 10,000 fps with reduced field of view.

SPORTS, GAIT AND OTHER ANALYSIS MODULES

With the Oqus cameras, you can take the full advantage of the analysis modules for QTM, our motion capture software. Select from a wide range of modules, including ones for gait, golf, baseball and running. The modules are designed for clinical and sport environments, where speed and ease of use is of great importance. The modules are complete with pre-defined marker sets, report templates and documentation.

REAL-TIME SDK & MATLAB

With the Oqus cameras you can take full advantage of the real-time SDK of QTM, our data acquisition software. The Oqus cameras allow any number of 3D coordinates or 6DOF transformations to be streamed in real-time to the host computer. The data is visualized in the software and can be accessible either in MATLAB, LabVIEW or any other software using custom-written scripts and applications that implements Qualisys' real-time protocol.

Input/output.
The power, data, sync in/out & trigger ports on the back of the Oqus.

Motorized lens

Control focus and aperture on Oqus 7+ cameras with motorized lenses. The motorized lens is controlled from QTM, our motion capture software.

Low latency

The Oqus platform is engineered for minimum latency with complete camera and full software pipeline latency down to 4 ms.

3D video overlay

With a calibrated Oqus video reference, synchronized video overlay is a good way of fleshing out the bare bones of 3D motion capture data.

High-speed video[1]

Full-frame high-speed video capability is available as an option. Get frame rates up to 355 fps (full FOV) and up to 10,000 fps with reduced FOV.

External synchronization

Oqus provides configurable sync in and out ports for syncing with external hardware including EMG, force plates and eye tracking devices among others.

Field of view

Get horizontal field of view of up to 70º with our wide angle lenses or choose from numerous lenses with various field of views

Daisy-chaining

The Oqus cameras are daisy-chained which means less cables and easier setup. Plus, small systems can be set up without switches.

Extreme pixel rate

Get 12 MP resolution captured at a frequency of 300 fps, or 3 MP resolution at 1100 fps (full FOV) with the Oqus 7+, our fastest camera yet.

Quick lens access

When a motorized lens is not the available option, easily adjust aperture and focus manually by rotating the strobe to gain lens access.

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

With the sun filter, Oqus 5+, 6+ and 7+ perform well even in extreme sunlight.

TECHNICAL SPECIFICATIONS

Camera output modes	Marker coordinates / high speed video[1]
Built-in camera display	128 x 64 graphical high contrast OLED
Marker support	Both passive and active
Camera body	Convection cooled, custom die-cast aluminum
Synchronization options	Internal 1 ppm clock/ext. freq. output/ext. word clock input/smpte input, PTPv2
Strobe	Invisible infrared light
Cabling	Hybrid cable with Ethernet and power
Wired communication	Hub-less daisy-chained Ethernet 802.3 @ 100Mbps
Wireless communication1	WiFi 802.11b/g @ 54Mbps
Position data noise level	+/- 1 sub-pixels
Maximum frame buffer size	1152 MB
Power	Daisy-chained, 36-72 VDC @ 30 W maximum
Operating temperature	Oqus 5+ 0-35 °C, Oqus 6+ and 7+: 0-30 °C
Camera body, Oqus 5+/6+	185 × 110 × 124 mm (7.3 × 4.3 × 4.9 inches) Weight: 1.9 kg (4.2 lbs)
Camera body, Oqus 7+	200 × 145 × 155 mm (7.9 × 5.7 × 6.1 inches) Weight: 2.1 kg (4.6 lbs)
Available camera housing	Standard / Water resistant IP67 / MRI / Underwater

OQUS

		Oqus 5+	Oqus 6+	Oqus 7+
Normal mode (full FOV)	Pixels	4 MP	6 MP	12 MP
	Resolution	2048 × 2048	3072 × 1984	4096 × 3072
	Frame rate	180 fps	450 fps	300 fps
High-speed mode (full FOV)	Pixels	1 MP	1.5 MP	3 MP
	Resolution	1024 × 1024	1536 × 992	2048 × 1536
	Frame rate	355 fps	1660 fps	1100 fps
Standard lens (hFOV)		49°	56°	54°
Lens options (hFOV)		25°, 49°, 70°	37°, 56°	31°, 54°, 70°
Max frame rate (reduced FOV)		10,000 fps	10,000 fps	10,000 fps
Measurement distances with 16 mm markers		25 m	28 m	35+
Active filtering (improved outdoor support)		Yes	Yes	Yes
Sun filter[1]		Yes	Yes	Yes
High-speed video option[1]		Yes	No	No
Motorized lens		No	No	Yes
Lens mount		C	C	SLR

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