Weatherproof motion capture

For more than 30 years, Qualisys has been a leading provider of motion capture technology, providing dependable hardware solutions for any given environment - both indoor and outdoor.

Qualisys is at the forefront when it comes to providing engineers and researchers with motion capture systems that perform in tough environments where others fail, whether the system is setup in a grass field during the hot summer climate, outdoor snow sport research, an underground mine, or on a container crane in the harbor.

All Qualisys cameras can be brought outside and get good measuring results. When there are extreme conditions or a permanent outdoor installation is needed, we provide models with extra features resulting in excellent tracking in those challenging environments.

FEATURES

- Passive & active marker support
- Active filtering for outdoor capture
- Sun Filter[1]
- Protected Housing IP67 (NEMA 6)[1]
- Extended temperature range[1]
- Industrial-grade cables[1]
- Daisy-chaining (no switch required)
- Quick release tripod mount[1]

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

Heat and extreme sunlight won't stop the outdoor measurements at the University of Waikato in New Zealand

SUNLIGHT

Intense ambient light can interfere significantly with the measurement unless you have the right equipment. Even if direct sunlight can be avoided, reflections, can be a challenge to overcome. Qualisys cameras have two features to specifically address these challenges:

The first is active filtering - a hardware feature in which the background is removed from the image before being processed for marker detection, allowing markers to be separated from the environment, even in very bright conditions. The second feature is a custom-made Sun Filter available for a selection of cameras, which effectively blocks intense ambient light from interfering with captures.

Dust is no threat to Qualisys protected cameras, as experienced at Swedish University of Agricultural Sciences.

WATER & DUST

At the other end of the weather spectrum, moisture and rain are also a challenge for outdoor motion capture. In many industrial environments or capture spaces that house animals and livestock, dust and dirt are known to cause trouble over time.

Qualisys provides cameras with weather protected housing which completely conceal the cameras for full operation. The IP67 rated housing, makes the cameras 100% dust-proof and capable of being immersed in water for 30 minutes. Our hardware goes even further as witnessed in our underwater models, built in IP68 rated housing and pressure tested to 40m depths for full underwater use.

The Swedish Winter Sports Research Centre (SWSRC) use Qualisys cameras during cold and snowy captures.

HOT & COLD

Some parts of the world have a hot climate, while snow and ice are common in other regions. Athletes are measured where training occurs, which may mean humid, hot days or cold and snowy conditions. Industrial users face temperatures that go outside of what is normal elsewhere. But the working temperature of most motion capture cameras has not been adapted to this reality.

Qualisys has pushed the boundaries of what is possible in motion capture with our latest camera platform, the Arqus. The camera offers models with an extended temperature range that goes as low as -15°C and as high as 45°C (between 5° and 113° Fahrenheit).

INDUSTRIAL-GRADE CABLES

Motion capture is an essential tool in the development and testing of vehicles and equipment in tough environments. This means that in addition to protected cameras, the system must have durable cables made for the environment. Protected cameras include high quality, sealed connectors and cables made to last in tough environments.

LESS CABLING

A daisy chain is a wiring scheme in which multiple devices are wired together in sequence or in a ring. With the daisy chained setup of all Qualisys cameras, up to 80% less cables are needed than other systems, which makes Qualisys systems uniquely portable.

QUICK MOUNTING

A new feature for the Arqus cameras is the integrated quick release plate for tripod mounts, making it easy to detach the cameras from one location and attach it to where it is needed next.

ADDED SECURITY

The Kensington lock is standard on Qualisys cameras, which makes it easy for you to protect and secure your equipment.

High quality, sealed connectors

*Quick release with special
fitting for tripod*

The all-weather Arqus

The protected versions of the Arqus cameras have everything you need for challenging environments. Arqus housing is IP67 (NEMA 6) rated, ships with Sun Filters and offer extended temperature ranges from -15° to 45° Celsius (5° to 113° Fahrenheit). Arqus protected cameras give you a unique solution for something as demanding as permanent outdoors installations.

TOP FEATURES FOR OUTDOOR MEASUREMENTS

Sun Filter
A custom-made bandpass filter engineered to match each cameras. It removes over 97% of solar light, with only 20% reduction in strobe efficiency.
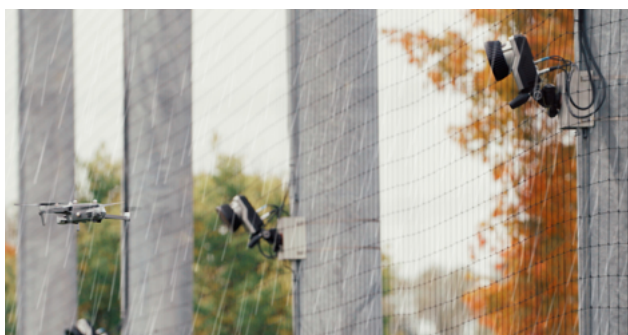
Active Filtering
Active filtering is an in-camera hardware operation that greatly improves performance in the brightest of capture environments.

Weather Protected Housing
Arqus models includes IP67 rated variants, which protects them from dust and allows them to withstand immersion in 1m of water for 30 minutes.

Drone tracking at M-Air carries on, even during a rainy day.

"By combining the IP67 weather protected housing with the Sun Filter, you end up with a truly versatile outdoor motion capture system, working for you in rain or shine."

Magnus Berlander
CTO - Qualisys

CAMERA SELECTION GUIDE FOR CHALLENGING ENVIRONMENTS

FEATURES	Miqus	Arqus Standard	Arqus Protected
Active tracking	+	+	+
Active filtering	+	+	+
Daisy chained	+	+	+
High power strobe	-	+	+
Sun filter	-	*Add-on*	+
Natively waterproof & dustproof	-	-	+
Extended temperature range	-	-	+
Industrial-grade connectors	-	-	+

Not equipped with this feature -   *Equipped with this feature* +