



Argus Camera features

- * Penetration through the particle barrier for long range viewing in dirty water
- * Unique combination of laser illumination and intensified camera in a single package
- * The ultimate solution in very dirty water with sight depths of less 2 meter or shorter.
- * Simple operation and low operation costs

Argus camera is a unique design where lasers and special arranged illumination makes it possible to increase the visible distance in very dirty water.

The camera in an image intensified camera with high performance . The laser illumination is green for best penetration in water. Laser optics with special design increase the visible range a lot compared to other cameras.

Light scatter from particles do normally destroy the visible range a lot and when lamps are turned on this problem increase a lot. Argus special optics and illumination layout reduce this problem substantially and give an increase in visible range.

Argus camera can operate to 300 meter depth and the output is a standard camera PAL signal. The special optics can be controlled from the surface for compensating the water quality. No single setting can handle all different water qualities in a good way.

Many of our products are protected by patents and patent applications

Datablad Arguscamera 05 11 01



Argus Sub Sea camera system

Ritingsnummer: Argus Camera
Principle of function:
Comments:

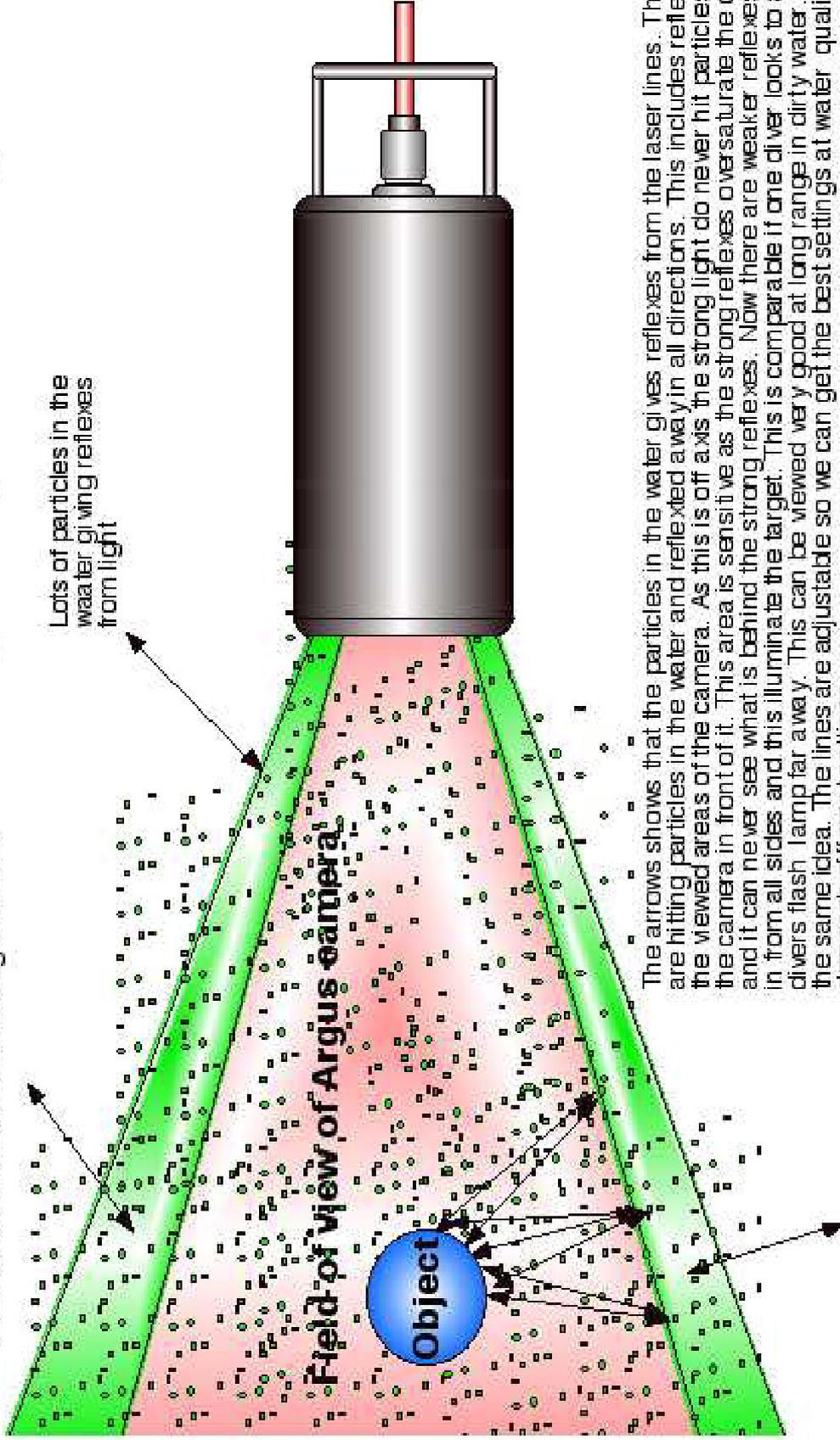
Datum: 2004-03-26

Skala: 1/x

The name Argus

Argus is a 2000 year old latin name for the eye who can see everything.

Illuminated fields of the laser line generators



The arrows shows that the particles in the water gives reflexes from the laser lines. The reflexes are hitting particles in the water and reflected away in all directions. This includes reflexes into the viewed areas of the camera. As this is off axis, the strong light do never hit particles close to the camera in front of it. This area is sensitive as the strong reflexes oversaturate the camera and it can never see what is behind the strong reflexes. Now there are weaker reflexes coming in from all sides and this illuminate the target. This is comparable if one diver looks to an other divers flash lamp far away. This can be viewed very good at long range in dirty water. We use the same idea. The lines are adjustable so we can get the best settings at water quality demands different settings

Illuminated fields of the laser line generators



Technical specifications Argus camera system

Operating depth	0-300 meter
Encapsulation	Stain less steel
Dimensions	Diameter 200 mm Length 370 mm
Weight	Approximately 20 kg
Camera	Intensified CCD camera of gen. 2+
Camera output	PAL signal 420 TV lines resolution
Camera signal	PAL standard
Camera sensitivity	0.0005 Lux
Intensifier	35 000 times amplification
Life time	Service interval and life time of intensifier is about 2000 hours LED system have about 100 000 hours life time Laser illumination system have about 500 hours service interval
Field of view	60 degree standard
Illumination	Green 532 nm lasers 4 units of 50 mW each
Illumination	Green Led support lamps 8 W high visibility input
Settings	Light patterns can be remote controlled depending on water quality
Continuous illumination	LED lamps with Green light only for support bad illumination. Illumination all over the area
Pattern illumination	Illumination can be adjusted in several ways for best penetration in dirty water. Push button controlled
Operating voltage	12-24 Volt DC max 100W input power
Surface monitor	PC screen and a complete PC system
Storage media	All videos can be stored in a PC card disc drive 200 GB
Controller	Surface unit have a controller unit beside the PC where all settings can be adjusted (Not what is in PC)

Operation

The sub sea unit is in the water. The PC unit is the screen for the camera and do also control the storage process and documentation.

The controller have controls of light system. It do also contain controller of illumination pattern. As dirt in water can be very different this needs a individual adjustment of each site of operation. This must be done by the operator.

Normal maintenance

The system have a long service interval and normally it can be operated for several years with no factory maintenance. Weakest point is intensifier tube which is a 2000 hour life time component.

Normal maintenance is keeping the optics clean and wash out of salt water after operation. Optics window is acrylic glass which is string but scratch sensitive. In water the scratches are less critical but this is a key part for care and keeping salt out.

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