

Virtualmind 360° Endoscopic Probes

Based on multiple technological and clinical studies Virtualmind introduces a new technology for the biomedical and clinical branch, the 360° omnidirectional stereoscopic Realtime Streaming vision.

Realized with a very small device, simple and efficient, it leads the surgeon's eyes within the human body, as if physically could "immerse" himself in the patient's organs, with a futuristic and mini-invasive tool. The vision of the humans organs at 360°.

BACKGROUND

The limit of modern endoscopic probes is the partial view of what surrounds when they are introduced inside the human body; even very recent probes design, although they have a wider viewing angle, have the huge limitation of not being able to observe "everything that surrounds them", but only a too small portion... what falls within the field of view of the probe. This means a big loss of time in repositioning the instrument in the right direction, with considerable inconvenience both for the patient and for the operator.

TECHNICAL CONSIDERATIONS

Modern Team of surgeons have high-tech equipment, but at the same time, complex in their use.

It's obvious and evident the considerable advantage offered by an endoscopic probe capable of observing at 360°: observe in real time the internal organs, with omni directional 360° vision without losing any detail; not having to reposition the probe several times, the Operator may be more focused on the investigation and control operations, no losing attention, as today with the classical unidirectional probes, that although with wide viewing angle does not have a spherical vision of all that surrounds them, in real time.

These highly innovative probes, provide to the surgeon the opportunity, even if only virtual, of miniaturize himself and fit inside the human body to observe where he wants, when he wants, without repositioning the instrument and always have a perfect focus during the surgery.



CHARACTERISTICS

Omnidirectional 360°x 360°; two or more optics,
Video resolution > 10k, photo resolution > 30k
Wireless, Realtime Streaming, Stereoscopic vision
Diameter: 4-15 mm - WEIGHT: 12-55 gr

ADVANTAGES

The benefit of having a probe with a 360° view is absolute: instead of a small shot, you can see... EVERYTHING.

Various types of remote video signals are available: through stereoscopic glasses that offer the surgeon and the Equipe also the depth of field, in addition to the omnidirectional 3d vision for an absolute quality, minimizing the movements of the probe inside the organs; a second two-dimensional vision replicable on external monitors to have an eye on the entire spherical field that surrounds the camera into a single two-dimensional image, an omnidirectional spherical image in 2d.

APPLICATIONS

- Digestive
- Cardiovascular

Investigations and intrathoracic audits points not easily accessible without removing the internal organs.

COMPARATIVE STUDIES

Recent studies have highlighted the absolute need to be able to have a 360° probe for a huge variety of interventions, with absolute advantages, both in terms of time and reduced inconveniences for the patient.

FINANCIAL CONSIDERATIONS

Introduce this 360° technology in the biomedical area will bring innovation as a tech help as well as great advantage in the tools and equipment economic management.

REFERENCES

Site: www.virtualmind.it

International Patent: **WO2014162324 A1**