

ANTI-FOG OPTICAL DEVICE FOR ENDOSCOPIC SURGERY

DESCRIPTION OF THE INVENTION

This technology consists on a optical device for endoscopic surgery, mainly laparoscopic (endoscopic surgery inside the abdominal cavity), that does not fog when introduced in a human or animal hollow organ and that can be cleaned off splatters without needing to remove it from the body, and its mechanism of action.

BUSINESS FIELDS OF APPLICATION

This invention can be used in any kind of endoscopic surgery where an optical instrument is introduced inside the hollow organs of a human or animal organism. However, it is especially suited for application in hollow organs where carbon dioxide (CO₂) is insufflated in order to distend the cavity and improve field of vision. For this reason, laparoscopic surgery is the main field of application of this invention and the medical instruments sector is its main target.

TECHNICAL AND BUSINESS ADVANTAGES

The uninterrupted flow of saline at 50°C through the camera system around the device tubing keeps water vapour from accumulating on the tip of the lens and therefore prevents fogging. As a consequence, the camera does not need to be removed from the hollow organs for cleaning. Solutions currently available and applied to the tip of the lens delay fogging but do not prevent it.

The retractile upper lever in this invention allows for cleaning of the instrument with sterile saline in order to remove any splatters from the tip of the lens. Should this not suffice for cleaning the tip of the lens completely, the super-absorbent sponge can be used to remove all traces of the substance and at the same time absorb the saline used in tip washing just by pushing the lower lever. Up to now, the only way to clean splatters on the tip of the lens was to extract the instrument, immerse it in saline, dry it with a gauze and put it back into the hollow organ.

In 2011, the medical instruments sector generated approximately \$250bn, and its annual growth forecast rate is 6.5%.

DEVELOPMENT STAGE OF THE TECHNOLOGY

A prototype of the device is ready for development and subsequent marketing.

INDUSTRIAL PROPERTY RIGHTS

Protected by a patent in Spain.

TYPE OF COLLABORATION SEEKED

License Agreement with companies willing to market the technology.

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