

ENDOSCOPES

ELCON
MEDICAL INSTRUMENTS GmbH

ELCON 230

... wide range of top quality instruments



ELCON was founded in the year 1977 by Mr. H.R. Jakobi and a group of professionals with experience of many years in the field of surgical instruments.

All activities and products of ELCON are part of a continuous quality and safety control.

We are certified according to EN ISO 13485 and FDA registered.
Downloads under: www.elcon-medical.com

230
ENDOSCOPES

General Information

N1

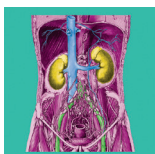


Orthopaedy



Arthroscopes

N2



Laparoscopy / Surgery



Laparoscopes

N3



OP-Laparoscope

N3



Gynaecology



Hysteroscopes

N4

Urology



Cystoscopes

N4



ENT



Sinuscopes

N5



Otoscopes

N6



Laryngo-Pharyngoscopes

N6



Bronchoscopes / Oesophagoscope

N6-7

why ELCON

6 convincing reasons for ELCON endoscopes

N8

Repair / Exchange

Repair if cheaper and safe - Exchange if necessary

N9

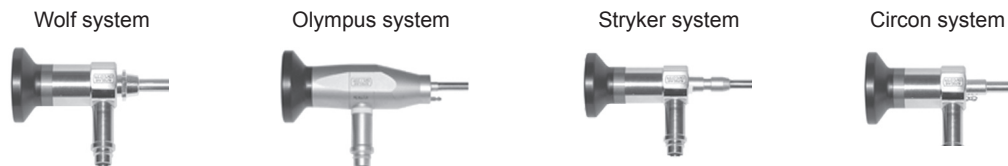
Sterilisation

according to WHO-recommendation

N10

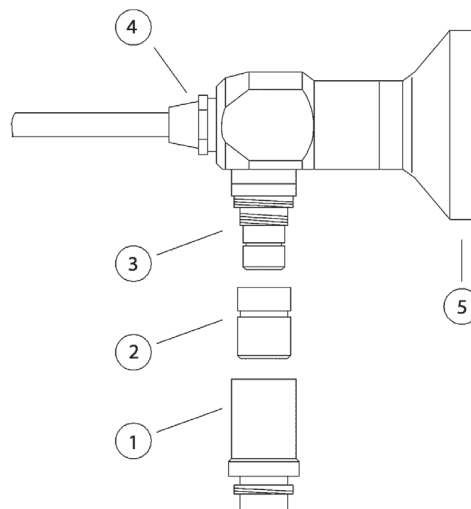
MEDICAL ENDOSCOPES

- For the production of our medical endoscopes we use solely high-grade materials.
All metal parts are made of stainless steel.
- Instrument compatibility
Our Endoscopes are equipped with an instrument connector compatible to Storz.
Other instrument connectors compatible to Wolf, Olympus, Stryker, Circon ... are available on request.



- Light guide compatibility
All endoscopes are equipped with the fittings for all common light guides (Storz, Olympus, Wolf, ACMI-type)

- 1 Storz / Olympus fitting
- 2 Wolf fitting
- 3 ACMI fitting
- 4 Instrument connector
- 5 Eyepiece (DIN 58105)



- TV adapter / Camera compatibility
All eyepieces are compatible to all common TV adapter (corresponding to DIN 58105, part 2)
All endoscopes are compatible to all common camera systems (CCD / 3CCD / HD)
- Sterilisation
Endoscopes marked with "autoclavable" are full autoclavable with 134°C/273°F according to WHO recommendation

For any further requirements please contact us. We are able to design any endoscopic product specific to your needs.



ARTHROSCOPE - wide angle

AUTOCLAVE
18 min / 134°C / 273°F

HD Scope



| | | |
|-------------------|-----------------------|-----|
| Ø 1.9MM | Working length: 69mm | |
| 230-41-100 | Viewing direction: | 0° |
| 230-41-130 | Viewing direction: | 30° |
| | Working length: 102mm | |
| 230-41-200 | Viewing direction: | 0° |
| 230-41-230 | Viewing direction: | 30° |
| Ø 2.4MM | Working length: 98mm | |
| 230-41-300 | Viewing direction: | 0° |
| 230-41-330 | Viewing direction: | 30° |
| Ø 2.7MM | Working length: 110mm | |
| 230-41-000 | Viewing direction: | 0° |
| 230-41-030 | Viewing direction: | 30° |
| 230-41-070 | Viewing direction: | 70° |
| | Working length: 141mm | |
| 230-49-000 | Viewing direction: | 0° |
| 230-49-030 | Viewing direction: | 30° |
| 230-49-045 | Viewing direction: | 45° |
| 230-49-070 | Viewing direction: | 70° |
| | Working length: 175mm | |
| 230-48-000 | Viewing direction: | 0° |
| 230-48-030 | Viewing direction: | 30° |
| 230-48-045 | Viewing direction: | 45° |
| 230-48-070 | Viewing direction: | 70° |
| | Working length: 187mm | |
| 230-42-000 | Viewing direction: | 0° |
| 230-42-030 | Viewing direction: | 30° |
| 230-42-070 | Viewing direction: | 70° |
| Ø 3MM | Working length: 110mm | |
| 230-41-400 | Viewing direction: | 0° |
| 230-41-430 | Viewing direction: | 30° |
| Ø 4MM | Working length: 175mm | |
| 230-44-000 | Viewing direction: | 0° |
| 230-44-030 | Viewing direction: | 30° |
| 230-44-045 | Viewing direction: | 45° |
| 230-44-070 | Viewing direction: | 70° |

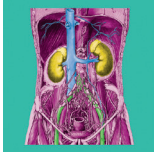
semiflex ARTHROSCOPE - wide angle

AUTOCLAVE
18 min / 134°C / 273°F

HD Scope



| | | |
|---------------------|-----------------------|-----|
| Ø 2.7MM | Working length: 110mm | |
| 230-41-000SF | Viewing direction: | 0° |
| 230-41-030SF | Viewing direction: | 30° |
| | Working length: 141mm | |
| 230-49-030SF | Viewing direction: | 30° |
| | Working length: 175mm | |
| 230-48-000SF | Viewing direction: | 0° |
| 230-48-030SF | Viewing direction: | 30° |
| | Working length: 187mm | |
| 230-42-000SF | Viewing direction: | 0° |
| 230-42-030SF | Viewing direction: | 30° |
| Ø 4MM | Working length: 175mm | |
| 230-44-000SF | Viewing direction: | 0° |
| 230-44-030SF | Viewing direction: | 30° |
| 230-44-045SF | Viewing direction: | 45° |
| 230-44-070SF | Viewing direction: | 70° |

**LAPAROSCOPE - wide angle**
AUTOCLAVE
 18 min / 134°C / 273°F

HD Scope
**Ø 10MM**

Working length: 210mm

230-07-000

Viewing direction: 0°

230-07-030

Viewing direction: 30°

Working length: 310mm

230-08-000

Viewing direction: 0°

230-08-030

Viewing direction: 30°

230-08-045

Viewing direction: 45°

Working length: 450mm

230-09-000

Viewing direction: 0°

230-09-030

Viewing direction: 30°

230-09-045

Viewing direction: 45°

Working length: 540mm

230-09-100

Viewing direction: 0°

230-09-130

Viewing direction: 30°

Ø 3MM

Working length: 300mm

230-12-000

Viewing direction: 0°

230-12-030

Viewing direction: 30°

Ø 5MM

Working length: 300mm

230-03-000

Viewing direction: 0°

230-03-030

Viewing direction: 30°

230-03-045

Viewing direction: 45°

230-03-070

Viewing direction: 70°

Working length: 360mm

230-04-000

Viewing direction: 0°

230-04-030

Viewing direction: 30°

230-04-045

Viewing direction: 45°

Working length: 450mm

230-04-100

Viewing direction: 0°

230-04-130

Viewing direction: 30°

Ø 5.5MM

Working length: 310mm

230-13-000

Viewing direction: 0°

230-13-030

Viewing direction: 30°

Ø 6.5MM

Working length: 300mm

230-05-000

Viewing direction: 0°

230-05-030

Viewing direction: 30°

semiflex LAPAROSCOPE - wide angle
AUTOCLAVE
 18 min / 134°C / 273°F

HD Scope
**Ø 5MM**

Working length: 300mm

230-03-000SF

Viewing direction: 0°

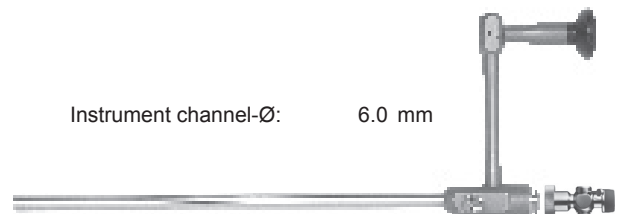
230-03-030SF

Viewing direction: 30°

OP LAPAROSCOPE - wide angle
AUTOCLAVE
 18 min / 134°C / 273°F

HD Scope

Instrument channel-Ø: 6.0 mm

**Ø 10MM**

Working length: 329mm

230-16-000

Viewing direction: 0°

230-16-000A

Instrument adapter (optional)



HYSTEROSCOPE

AUTOCLAVE
18 min / 134°C / 273°F
HD Scope



| | | |
|-------------------|-----------------------|-----|
| Ø 2.0MM | Working length: 260mm | |
| 230-55-030 | Viewing direction: | 30° |
| Ø 2.7MM | Working length: 302mm | |
| 230-56-000 | Viewing direction: | 0° |
| 230-56-012 | Viewing direction: | 12° |
| 230-56-030 | Viewing direction: | 30° |
| 230-56-070 | Viewing direction: | 70° |
| Ø 2.9MM | Working length: 302mm | |
| 230-50-000 | Viewing direction: | 0° |
| 230-50-012 | Viewing direction: | 12° |
| 230-50-030 | Viewing direction: | 30° |
| Ø 4MM | Working length: 302mm | |
| 230-57-000 | Viewing direction: | 0° |
| 230-57-012 | Viewing direction: | 12° |
| 230-57-030 | Viewing direction: | 30° |
| 230-57-070 | Viewing direction: | 70° |

CYSTOSCOPE

AUTOCLAVE
18 min / 134°C / 273°F
HD Scope



| | | |
|-------------------|-------------------------|-----|
| Ø 1.9MM | Working length: 187.5mm | |
| 230-19-000 | Viewing direction: | 0° |
| 230-19-030 | Viewing direction: | 30° |
| Ø 2.7MM | Working length: 187.5mm | |
| 230-20-100 | Viewing direction: | 0° |
| 230-20-130 | Viewing direction: | 30° |
| 230-20-170 | Viewing direction: | 70° |
| Ø 2.7MM | Working length: 302mm | |
| 230-20-000 | Viewing direction: | 0° |
| 230-20-012 | Viewing direction: | 12° |
| 230-20-030 | Viewing direction: | 30° |
| 230-20-070 | Viewing direction: | 70° |
| Ø 2.9MM | Working length: 302mm | |
| 230-22-000 | Viewing direction: | 0° |
| 230-22-012 | Viewing direction: | 12° |
| 230-22-030 | Viewing direction: | 30° |
| Ø 4MM | Working length: 302mm | |
| 230-21-000 | Viewing direction: | 0° |
| 230-21-012 | Viewing direction: | 12° |
| 230-21-030 | Viewing direction: | 30° |
| 230-21-070 | Viewing direction: | 70° |

semiflex HYSTEROSCOPE

AUTOCLAVE
18 min / 134°C / 273°F
HD Scope



| | | |
|---------------------|-----------------------|-----|
| Ø 2.7MM | Working length: 302mm | |
| 230-56-000SF | Viewing direction: | 0° |
| 230-56-012SF | Viewing direction: | 12° |
| 230-56-030SF | Viewing direction: | 30° |
| Ø 4MM | Working length: 302mm | |
| 230-57-000SF | Viewing direction: | 0° |
| 230-57-012SF | Viewing direction: | 12° |
| 230-57-030SF | Viewing direction: | 30° |
| 230-57-070SF | Viewing direction: | 70° |

semiflex CYSTOSCOPE

AUTOCLAVE
18 min / 134°C / 273°F
HD Scope



| | | |
|---------------------|-----------------------|-----|
| Ø 2.7MM | Working length: 302mm | |
| 230-20-000SF | Viewing direction: | 0° |
| 230-20-012SF | Viewing direction: | 12° |
| 230-20-030SF | Viewing direction: | 30° |
| Ø 4MM | Working length: 302mm | |
| 230-21-000SF | Viewing direction: | 0° |
| 230-21-012SF | Viewing direction: | 12° |
| 230-21-030SF | Viewing direction: | 30° |
| 230-21-070SF | Viewing direction: | 70° |



SINUSCOPE - wide angle

AUTOCLAVE
18 min / 134°C / 273°F

HD Scope

| | | |
|-------------------|-----------------------|-----|
| Ø 1.9MM | Working length: 69mm | |
| 230-34-100 | Viewing direction: | 0° |
| 230-34-130 | Viewing direction: | 30° |
| Ø 2.4MM | Working length: 98mm | |
| 230-34-200 | Viewing direction: | 0° |
| 230-34-230 | Viewing direction: | 30° |
| Ø 2.7MM | Working length: 110mm | |
| 230-34-000 | Viewing direction: | 0° |
| 230-34-030 | Viewing direction: | 30° |
| 230-34-070 | Viewing direction: | 70° |
| | Working length: 141mm | |
| 230-59-000 | Viewing direction: | 0° |
| 230-59-030 | Viewing direction: | 30° |
| 230-59-045 | Viewing direction: | 45° |
| 230-59-070 | Viewing direction: | 70° |
| | Working length: 175mm | |
| 230-58-000 | Viewing direction: | 0° |
| 230-58-030 | Viewing direction: | 30° |
| 230-58-045 | Viewing direction: | 45° |
| 230-58-070 | Viewing direction: | 70° |
| | Working length: 187mm | |
| 230-35-000 | Viewing direction: | 0° |
| 230-35-030 | Viewing direction: | 30° |
| 230-35-070 | Viewing direction: | 70° |
| Ø 3MM | Working length: 110mm | |
| 230-34-300 | Viewing direction: | 0° |
| 230-34-330 | Viewing direction: | 30° |



| | | |
|-------------------|-----------------------|-----|
| Ø 4MM | Working length: 140mm | |
| 230-36-100 | Viewing direction: | 0° |
| 230-36-130 | Viewing direction: | 30° |
| 230-36-145 | Viewing direction: | 45° |
| 230-36-170 | Viewing direction: | 70° |
| | Working length: 175mm | |
| 230-36-000 | Viewing direction: | 0° |
| 230-36-030 | Viewing direction: | 30° |
| 230-36-045 | Viewing direction: | 45° |
| 230-36-070 | Viewing direction: | 70° |
| 230-36-090 | Viewing direction: | 90° |

| | | |
|---------------------|-----------------------|-----|
| | Working length: 175mm | |
| 230-36-030TU | Viewing direction: | 30° |
| 230-36-045TU | Viewing direction: | 45° |

TU = 180° rotated light cable connection

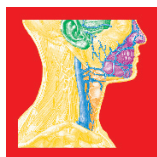
semiflex SINUSCOPE - wide angle

AUTOCLAVE
18 min / 134°C / 273°F

HD Scope



| | | |
|---------------------|-----------------------|-----|
| Ø 2.7MM | Working length: 110mm | |
| 230-34-000SF | Viewing direction: | 0° |
| 230-34-030SF | Viewing direction: | 30° |
| | Working length: 175mm | |
| 230-58-000SF | Viewing direction: | 0° |
| 230-58-030SF | Viewing direction: | 30° |
| | Working length: 187mm | |
| 230-35-000SF | Viewing direction: | 0° |
| 230-35-030SF | Viewing direction: | 30° |
| Ø 4MM | Working length: 175mm | |
| 230-36-000SF | Viewing direction: | 0° |
| 230-36-030SF | Viewing direction: | 30° |
| 230-36-045SF | Viewing direction: | 45° |
| 230-36-070SF | Viewing direction: | 70° |



TELE-LARYNGO-PHARYNGOSCOPE

(Extension: 5x-7x, soakable) / lateral Illumination



HD Scope

| | | |
|-------------------|-----------------------|-----|
| Ø 11MM | Working length: 200mm | |
| 230-62-070 | Viewing direction: | 70° |
| 230-62-090 | Viewing direction: | 90° |



| | | |
|------------------------------|-----------------------|-----|
| Ø 12,4 x 7,2MM - FLAT | Working length: 185mm | |
| 230-62-370 | Viewing direction: | 70° |
| 230-62-390 | Viewing direction: | 90° |

LARYNGOSCOPE

AUTOCLAVE
18 min / 134°C / 273°F

HD Scope



| | | |
|----------------------|-----------------------|-----|
| lateral illumination | | |
| Ø 10MM | Working length: 190mm | |
| 230-63-070 | Viewing direction: | 70° |
| | Working length: 190mm | |
| 230-63-090 | Viewing direction: | 90° |



| | | |
|------------------------------|-----------------------|-----|
| Ø 12,4 x 7,2MM - FLAT | Working length: 185mm | |
| 230-63-370 | Viewing direction: | 70° |
| 230-63-390 | Viewing direction: | 90° |

| | | |
|-----------------------|-----------------------|-----|
| standard illumination | | |
| Ø 4MM | Working length: 175mm | |
| 230-63-170 | Viewing direction: | 70° |
| 230-63-190 | Viewing direction: | 90° |
| Ø 5.8MM | Working length: 188mm | |
| 230-63-270 | Viewing direction: | 70° |

BRONCHOSCOPE OESOPHAGOSCOPE

AUTOCLAVE
18 min / 134°C / 273°F

HD Scope



| | | |
|-------------------|-----------------------|-----|
| Ø 2.9MM | Working length: 303mm | |
| 230-84-000 | Viewing direction: | 0° |
| | Working length: 365mm | |
| 230-84-100 | Viewing direction: | 0° |
| Ø 5.5MM | Working length: 490mm | |
| 230-85-000 | Viewing direction: | 0° |
| 230-85-030 | Viewing direction: | 30° |

OESOPHAGOSCOPE

| | | |
|-------------------|-----------------------|----|
| Ø 5.5MM | Working length: 530mm | |
| 230-86-000 | Viewing direction: | 0° |

OTOSCOPE

AUTOCLAVE
18 min / 134°C / 273°F

HD Scope



| | | |
|-------------------|----------------------|-----|
| Ø 2.7MM | Working length: 50mm | |
| 230-81-000 | Viewing direction: | 0° |
| 230-81-030 | Viewing direction: | 30° |
| Ø 4MM | Working length: 50mm | |
| 230-82-000 | Viewing direction: | 0° |
| 230-82-030 | Viewing direction: | 30° |

**NASO-PHARYNGO / LARYNGOSCOPE**

Naso-Pharyngoscope, 18000 pixels, Ø 2,8mm, working length 300mm, deflection up 150° down 150°, length of the moveable tip 35mm, direction of view 0°, field of view 70°, depth of focus 5mm bis 20mm

230-70-280

Naso-Pharyngoscope, 18000 pixels, Ø 3,4mm, working length 300mm, deflection up 150° down 150°, length of the moveable tip 35mm, direction of view 0°, field of view 70°, depth of focus 5mm bis 20mm

230-70-340

Delivery contains: Scope, transport case, leakage tester, light guide



Different colours by anodised coating or a grey PTFE coating available on request (standard colour gold)



6 convincing reasons for ELCON Endoscopes

1 Proximal and distal saphir-window, scratch-resistant, no glass corrosion

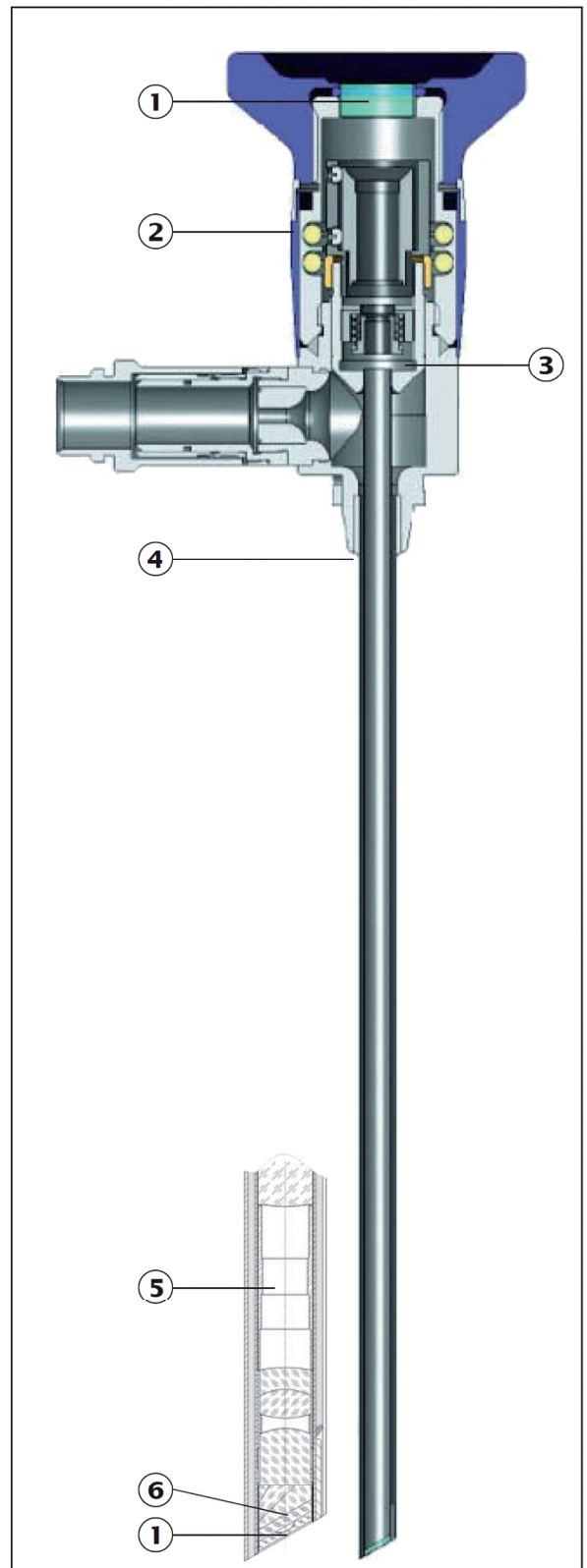
2 Scope body and sheath are made of stainless steel, no coating

3 Laser-welded optical centering = hermetic sealing between optics/fiber optics

4 Laser-welded connection between body and outer tube

5 Airspaces filled with drying agent = less humidity, longer service life

6 Service-friendly objective; most parts can be reuse



Repair or Exchange for all important brands!

With our well established Repair program you can offer your customers a fair and transparent service. You may rest assured, 90 % of all rigid surgical endoscopes can be repaired or exchanged.

Send us your damaged scopes and we offer you:

Repair if cheaper and safe

Four different REPAIR levels keep the program easy and straightforward. Detailed cost estimate reports and service reports with images before / after repair as well as our quality management system gives you full traceability of all repairs.

Exchange if necessary

Exchange your scope (of a reputable brand) against a brand new ELCON endoscope. Upon receipt of your defective endoscope we will credit you EUR 150 on purchase of a new one.

Sterilisation

All ELCON endoscopes with AUTOCLAVE mark are according to WHO-recommendation suitable for steam sterilisation - 18 min. at 134 °C/273 °F.



Since the outbreak of the Creutzfeldt-Jakob disease, many scientists have been busy to find out how to avoid the risk of transmission of the Spongiform Encephalopathy (Creutzfeldt-Jakob Disease, or BSE) during invasive operations particularly in the field of neurosurgery, spinal surgery or in case of ophthalmological surgical operations.

The World Health Organisation (WHO) has now published a report with recommendations regarding the handling of surgical instruments and endoscopes in view of sterility (WHO/CDS/CSR/APH/2000.3 <http://www.who.int/csr/en>).

According to this report, it is advisable to use disposable material. If not possible or too costly, the autoclaving and chemical sterilisation are considered to be most effective methods in order to maintain the heat resistance and reusability of endoscopes. In this context, the mandatory holding time with a defined maximum temperature (18-20 minutes with 134 °C) is a new and technically very complex requirement for rigid endoscopes.

ELCON Medical Instruments GmbH, having its core competence exactly in this field, offers now all autoclavable rigid endoscopes with validation concerning this new requirement of **18-20 minutes with a temperature of 134 °C**.

Reconditioning Compatibility of ELCON - Endoscopes

New sterilisation methods require a constructive consideration in scope manufacturing.

In times of increased infections new sterilisation methods have been developed to assure a safe and fast sterilisation process. Those sterilisation methods which do not have the major disadvantages of gas sterilisation (residues, environmental compatibility), are finding more and more acceptance in hospitals.

The advantages are evident:

- Short cycle times (usually < 75 minutes)
- No cooling cycles
- No toxic residues, therefore no burden for the persons in charge
- Remaining humidity < 5 %, not corrosive
- Virucide, sporicide, tuberculocide, bacteriozide, fungizide
- Suitable for thermolabile materials, as temperature is < 56 °C
- Process controlled

ELCON endoscopes have shown their material compatibility for these application methods by passing several tests.

STERIS® from Steris Corporation

STERIS® is a „cold“ liquid sterilisation. Acetic peroxide is mixed with sterile water, the instruments to be sterilised are washed with solvents. Precise information on www.steris.com

STERRAD® (50, 100, 100S, 200) from Johnson & Johnson

STERRAD® is a low temperature-plasma sterilisation. The hydrogen peroxide dioxide is transported from the magnetic field to the plasma phase.

The methods of STERRAD® and STERIS® help to avoid high temperatures on optical systems. This results in a very gentle sterilisation method. Nevertheless, the use of peracetic acid as well as hydrogen peroxide may cause a more intensive wear of the endoscope surfaces (washout, bleaching effects). However, these effects do not have any influence on the lifetime of the endoscopes. It is mainly a „cosmetical“ effect. These effects have such a minor influence on the lifetime of the endoscopes compared to the effects of high temperature methods.

All ELCON endoscopes are material compatible regarding following process:

- Soaking in disinfectant which is approved for instrument disinfection
- Gas sterilisation: formaldehyde, ethylene oxide
- STERRAD®* and STERIS® methods. The procedure STERRAD® NX is not approved for application.
- Autoclavation 18-20 minutes at 134 °C according to WHO-recommendation, see label.

The effects of the sterilizing process have to be documented by the user



ELCON

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