

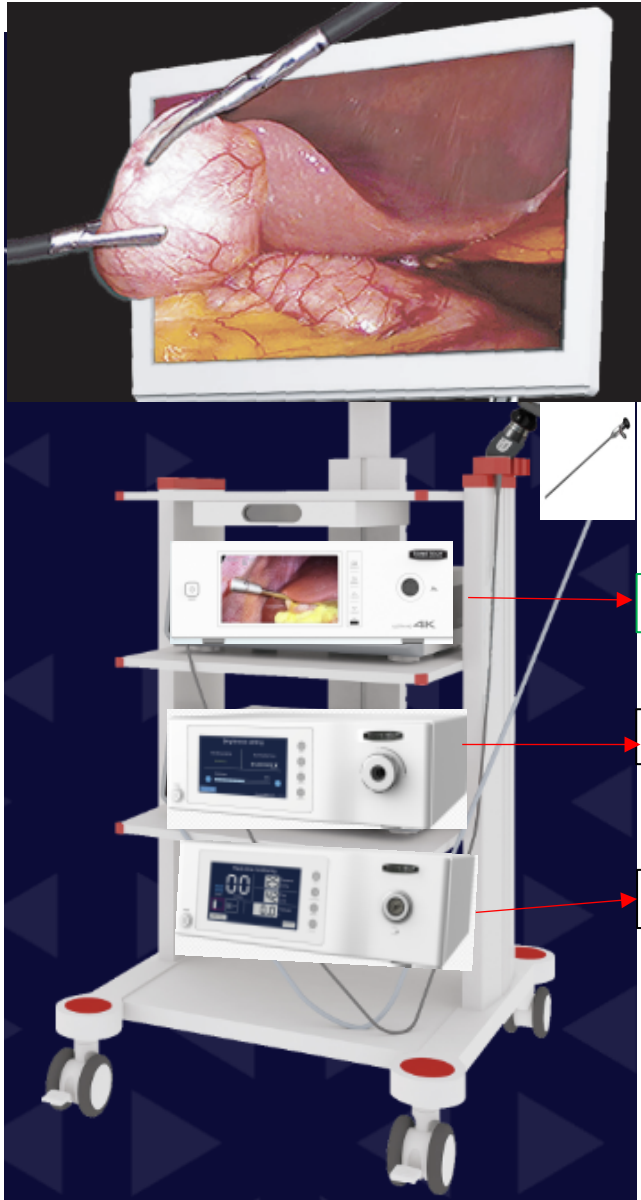
3D 4K Lap.System

Lap. Procedures **Easier & Smarter**



Filkohayes Services Inc.

3D 4K Laparoscopy



3D 4K 32Inch

Telescope

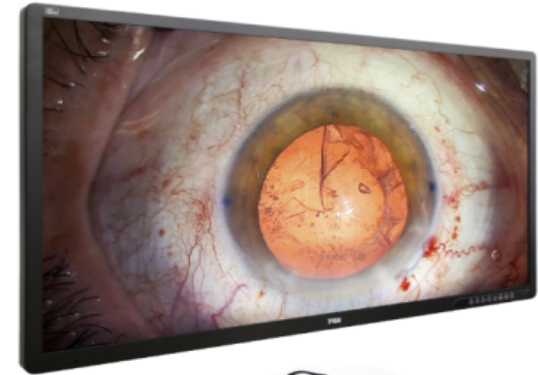
Camera Unit

Light Source

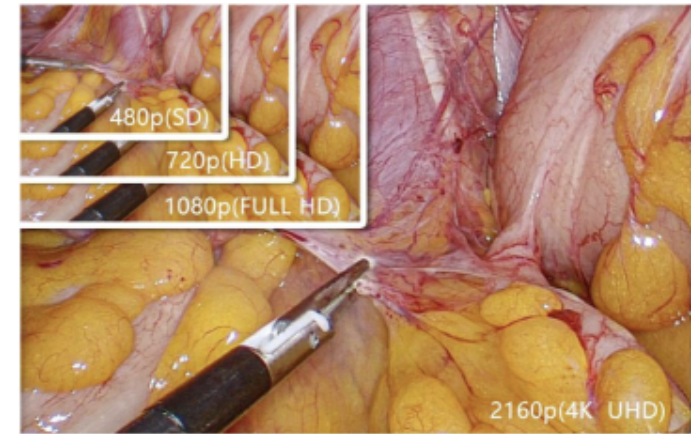
Insufflator



4K to 3D Converter



3D eye wear included.



4K to 3D Converter

DARWIN
3D Endoscopic System

an endoscopic visualization system, is one of the pioneers in the field of endoscopic imaging. It provides a real-time 3D vision of surgical image.



Gamma Adjustment

This function adjusts the exponential relationship between image contrast and brightness. By lowering the gamma value when needed, the darker parts in the image will be clearer.

Adjustable human factor

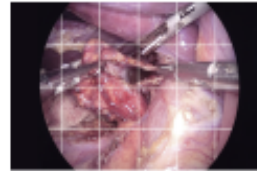
Unlike most 3D endoscopy solutions, the 3D parameter, the disparity levels specially designed for rigid and flexible endoscopy, is adjustable in DARWIN 3D. By adjusting the levels according to the surgeons' preferences, the surgeons can enjoy 3D view much more comfortably.

True 4K Telescope

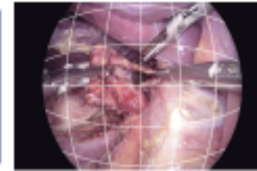
Product Features

- 4K HD laparoscope adopts the world's advanced aspherical optical technology

Realize intraoperative imaging without distortion and improve surgical safety.



Aspherical Lens



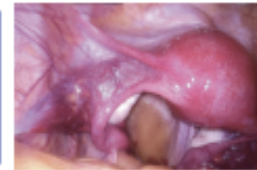
Spherical Lens

- 4K HD laparoscope with Ultra HD Resolution

Display tiny blood vessels, tiny nerves and tissue levels accurately.



4K HD Laparoscope



Traditional Laparoscope

- 4K HD laparoscope with large viewing angle, large depth of field.

The presented image is much better than traditional laparoscopes.



4K HD Laparoscope



Traditional Laparoscope

Product Features

- 4K HD laparoscope is autoclavable

Autoclavable or stand low temperature plasma disinfection, more reliable.



4K HD Laparoscope

able.
ecting

4K to 3D Converter

Unique Features



3D Visualization for Flexible Endoscopes



3D Vision for Rigid scopes (3mm to 10mm)

Authorized Distributor



B-11 L-20 Commonwealth Ave. Holy Spirit, Quezon City, Philippines

Dr. Mainkey Kim

kim.mainkey@gmail.com

Tel: 02-3277-6050

Mobile 1: 0917-562-5052

Mobile 2: 0925-712-7018



32" 3D 4K Medical Display

FM-E3204DC, FM-E3204DGC



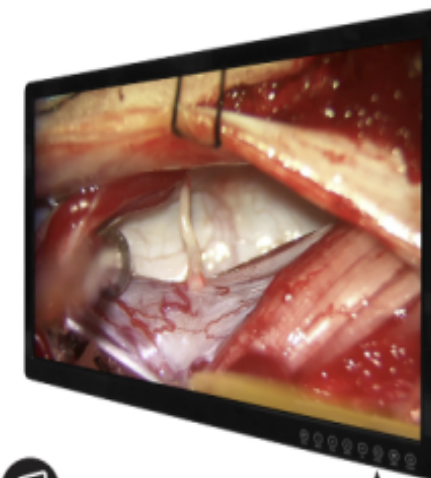
- High brightness level - 500 cd/m².
- Enable and select the best 3D format via the OSD interface.
- Fast detection of MIS camera system video.

3D Technology for the OR

Using specialized imaging systems, 3D visualization allows medical professionals to see spatial relationships and more life-like depth perception during a procedure. FM-E3204DC and FM-E3204DGC deliver super-sharp images using both 2D and 3D video sources.



FM-E3204DGC comes with SDI connections, 3G and 12G, for the ultimate feature set, including signal compatibility, multi-window layouts, and dual 3D inputs.



3D mode ON or OFF button. →



3D eyewear that brings out the best in 3D technology is provided with each display monitor. Use the OSD interface to select 2D or 3D mode. The clarity and color of 4K UHD brings out the best in all types of surgical images.

The technology designed into FM-E3204DC and FM-E3204DGC produces superior color, sharpness, and functionality in clinical environments. Set-up and connections are simple. FSN monitors are well known for their fast detection of compatible video signals. The user interface offers a friendly way to control all settings and adjustments.

4K UHD Camera Unit



Product Features & Spec.

(Model:LC-4K)

+ Resolution: 4K UHD 3840 x 2160 Pixels Image Form;16:9

+ 3 Groups of 1/3" CMOS Sensors / BT2020 Color Gamut

+ Color Control : Automatic white Balance by pressing a button.

+ White balance Color Temperature Range: from 2300K to 7000K

+ Brightness Control: Automatic Shutter & Gain Control

+ Rigid & Flexible Mode for Endoscope (Choleido & Bronchoscope)

+ Built-in Recorder with USB for External Media (FAT32/NIFS File System)

+ Protection Degree against Waterproof & Disinfection: IPX-8

+ Simultaneous Image-output from 8" Camera Monitor & 32" Main monitor

+ 2.5X Zoom Mode

+ Real-Time Live Broadcast in a remote Area by Network

+ Camera Head with Low Thermal Conductivity & Ergonomic Design

4K UHD Telescope

To match our 4K monitor, 4K camera and light source, we can provide professional 4K UHD telescope to achieve the best 4K effect.



Selection of 4K laparoscope:

- Diameter: 5mm & 10mm
- Angle: 0° & 30°

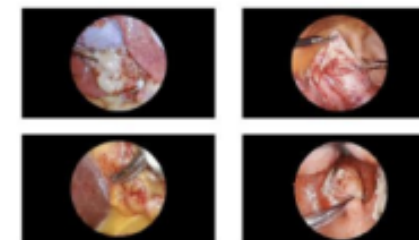
Advantages:

- Brighten the dark areas of the image while reducing overexposure
- Disinfection: autoclave & low temperature plasma
- Improved picture clarity
- Reduce chromatic aberration
- Improved overlay

Application of the ultra telescope:

Laparoscopic surgery for rectal cancer
 Laparoscopic gallbladder surgery
 Laparoscopic hernia repair
 Laparoscopic total hysterectomy
 Laparoscopic myomectomy
 Laparoscopic hyperthyroidism surgery

...







Insufflator(LC-800)

LC800 Smart Machine



Insufflator with touchable Interface & 0L/Mim -42L/Min. Adult & Infant Mode

Equipment Accessories

- High pressure Pipe 
- Veress needle 
- Gas Filter 
- Inflatable silicone tube 
- Cylinder valve (Optional) 

Features

- Smart LCD touchable interface
- Smart self-test, finding out hidden danger in time
- Preset patient pneumoperitoneum pressure with auto-memory, recover memory set-point by click one Key
- Max 42L flow, work up pneumoperitoneum rapidly
- Remind operating status with smart voice
- Adjust aerated flow intelligently, maintain stable pneumoperitoneum pressure
- Pressure relief with only one key touching
- Hard/Soft ingredients protected doubly, safe and reliable

Technician Parameters

- Display: 7 Inch smart touchable screen
- Power: AC100-240V, 50/60Fz, 50VA
- Inflatable media: Medical CO₂
- Setting flow range: 0L/min~42L/min
Adjustment accuracy: 1L/min
- Setting pressure range: 3~25mmHg
Adjustment Accuracy: 1mmHg
- Max accumulation inflatable amount range: 99L

2 Years Quality Warranty

Light Source (LC-400)

LED Smart Machine



Light Source with Illuminance: 1100000 Lux/Life: 40,000 Hours

Functions and Features:

1. Smart LCD touchable screen for easy operation
2. High illumination, equals to 300W xenon light output
3. Life span long as 40,000hrs
4. Low power consumption, only 40VA
5. Brightness adjusted intelligently, no dark area
6. Smart key: restore the memorized brightness
7. Logging, to record the cumulative service time

Specifications:

1. Illumination: >1100000Lux
2. Color temperature: 5600K
3. Input power: AC100-240V, 50/60Hz, 150VA
4. Light hole diameter: 10mm
5. Life time: 5 years



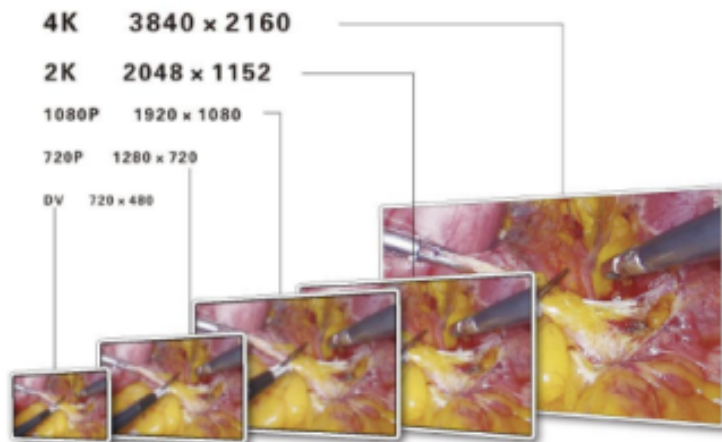
3M Cable

2 Years Quality Warranty

The concept of 4K UHD:

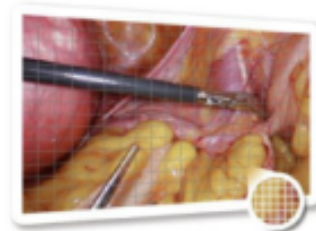
"4K" refers to horizontal resolutions of around 4,000 pixels. The "K" stands for "kilo" (thousand).

4K UHD specifications refer to one of two high definitions: 3840×2160 pixels and 4096×2160 pixels. Through the developments over the years, major 4K UHD displays support 3840×2160 pixels, which is exactly four times the pixel count of full HD displays (1920 x 1080 pixels).



4K resolution is 4 times of 1080P
 $3840 \times 2160 = 1920 \times 2 \times 1080 \times 2$

Name	Pixel layout	Resolution	Pixel number
FHD		1920xRGB (3)x1080 1 pixel = 3 sub pixels (R,G,B)	6.2M Colors
UHD (4Kx2K) RGB		3840xRGB (3)x2160 1 pixel = 3 sub pixels (R,G,B)	24.9M Colors (=FHDx4)



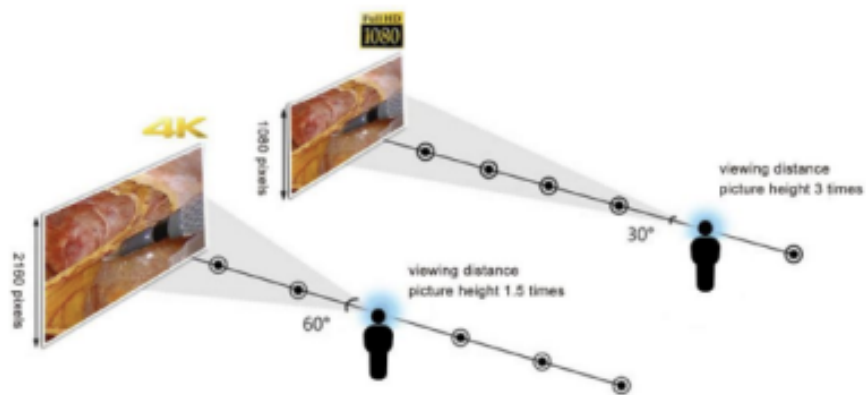
Full HD
1920x1080



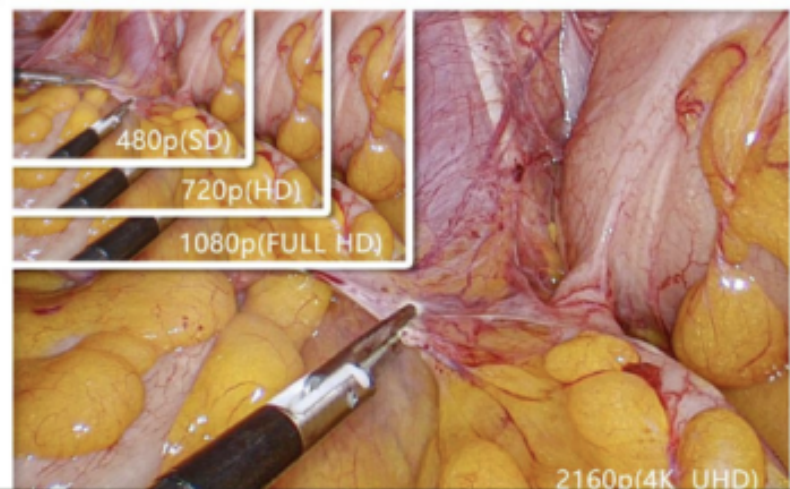
4K UHD
3840x2160

No more visible pixels

When used on the same size monitor, the 4K resolution is four times that of the full HD resolution, so small objects such as sutures and blood vessels that are blurred on the full HD will be clearer at 4K resolution, allowing the surgeon to be clear see the inside of the patient and make sure that they place the tool in the predetermined area to avoid any accidental injury. In addition, full HD monitors can only be used comfortably at a distance, while 4K monitors can be comfortably viewed at closer distances.

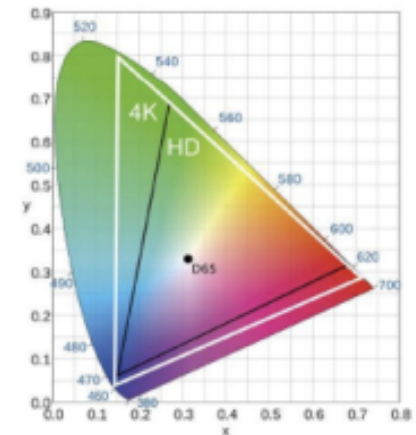


The pixels of 4K UHD(3840*2160) is four times that of traditional Full HD (1920 x 1080). Even on the same size screen, the 4K surgical image quality will become more vivid and delicate due to the increase in pixel density. This difference is particularly obvious in large-screen.



Wider image color gamut

In the ultra-high-definition era, the screen is larger and the resolution is higher. The performance of the display device has been greatly improved compared with the standard-definition and high-definition era. It can support a larger color gamut display, and the color gamut standard should be improved accordingly. The color gamut of the 4K technology standard is bigger than a movie film.



Wide viewing angle

No matter from which point of view, users can see the ideal surgical images with accurate and consistent colors, and gain a visual experience without "dead corners", which is perfect. In addition, the 55-inch 4K large screen makes the picture flicker-free, brighter, and more comfortable to watch.



- The host adopts an integrated multi-layer video image processing board, which has fast calculation speed, high efficiency, low power, low heat generation, strong stability and anti-jamming, and long service life.
- The connection line from the camera head to the host adopts outer layer multi-shielding anti-interference processing, the video signal transmission adopts double coaxial shielded wire, the signal wire adopts copper-plated silver material and processing, and the number of wire bending times is $\geq 50,000$, which effectively guarantees the service life of the whole machine.
- The camera head adopts all aluminum alloy CNC five-axis processing, high precision, fine surface treatment, good hand feeling, light weight, fast heat dissipation, strong anti-interference ability, 8 levels of waterproof, effectively ensuring the stable and normal operation of the camera.
- 4K camera system supports 3G-SDI, DVI and HDMI 2.0 output interfaces.
- The box of machine is made of all 304 stainless steel, and the internal fixing plate is made of pure copper partition, which effectively guarantees the anti-jamming, EMC and EMI of the whole machine.



Application Images

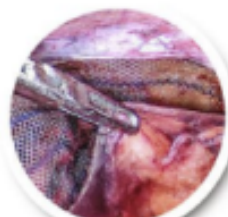
In addition to more vivid and natural colors, many functions can be achieved through buttons on camera head, including freezing and other custom functions. At the same time, according to the actual situation, special imaging modes can improve the operation picture, such as one-key switching of fiberscope modes to eliminate Moiré pattern ensures a clear vision under the fiberscope.



Uterine myomectomy under laparoscopy



Laparoscopic cholecystectomy



Laparoscopic hernia repair

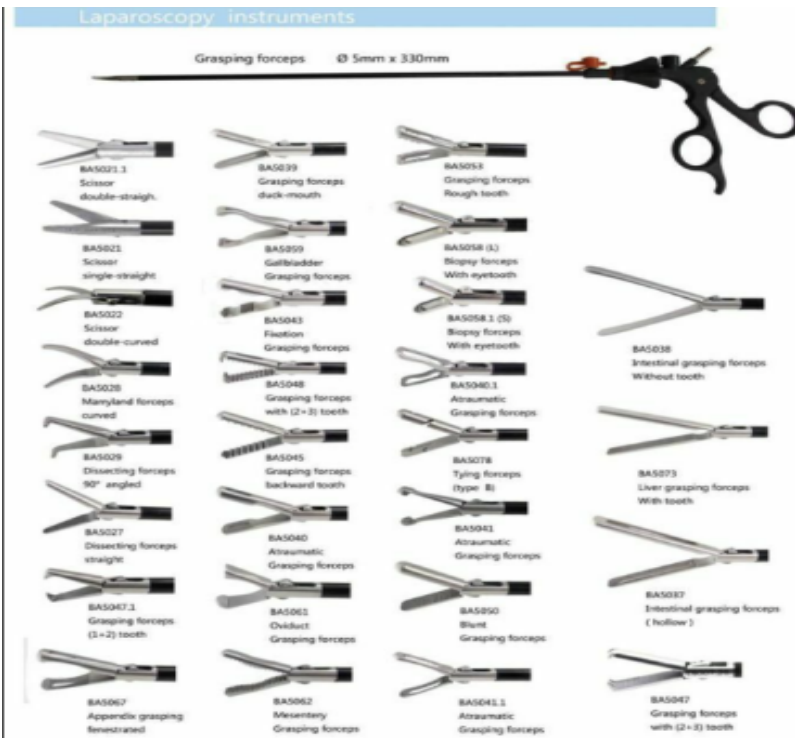
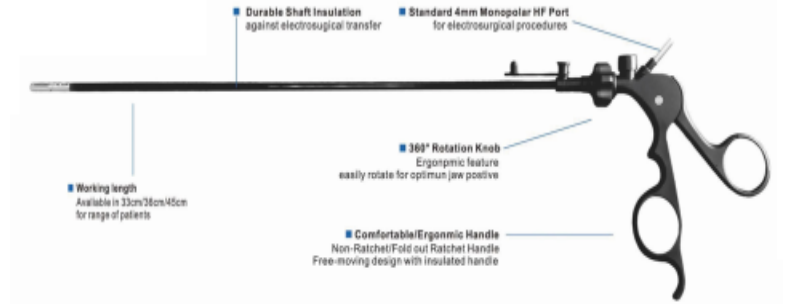


Laparoscopic ovarian cyst removal

Full-set of Lap. Instruments with Sterilization Case



Easily Reassembled with 3parts/ Compatible with Storz/ Insulated Shaft/ 360° Rotatable/ Easily tip placement with 1 finger control/ Light & Durable





Everything for Lap.Procedures

