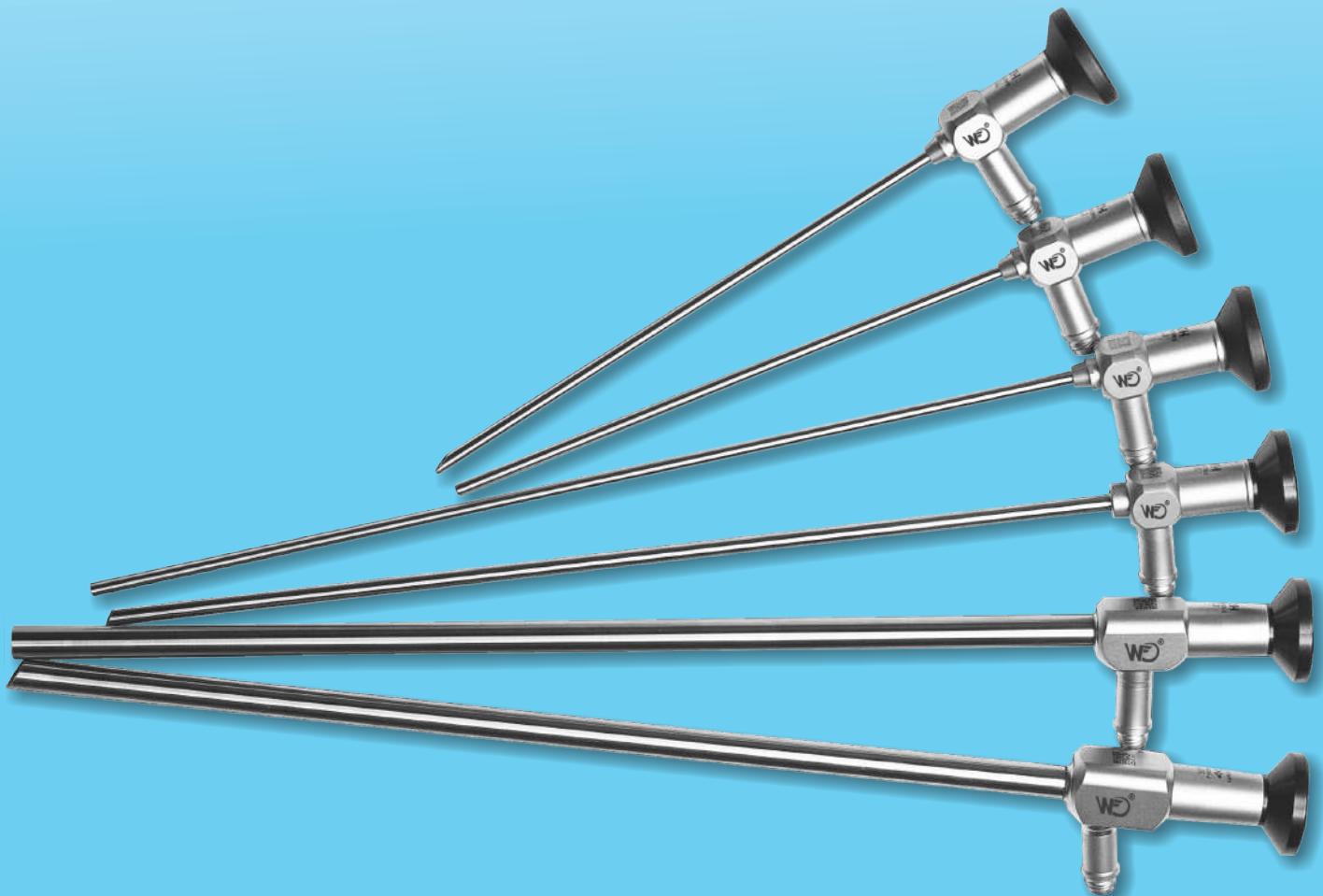




Maximum Service Life!



 **Welfo Endovision**

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# FULL AUTOCLAVABLE HD/4K/ICG/3D RIGID ENDOSCOPES

Minimally invasive surgery (Endo-surgery) procedures require a camera system with a consistently high quality image. Endoscopes are one of the most important links in the optical chain, and pushing to perform a bright, sharp surgical image for the surgeons. Welfo Endovision is absorbed in medical optics, offers medical rigid endoscopes (HD, 4K, NIR/ICG, 3D Laparoscope, Rhinoscope, Otoscope, Arthroscope, Cystoscope, Hysteroscope ...) and the accessories. We have solid optical technology and stable production lines, mainly providing OEM production for **FIRST TIER** brands. Welfo Endovision is committed to manufacturing first class medical optical products and exploring better solutions that benefit patients and doctors.

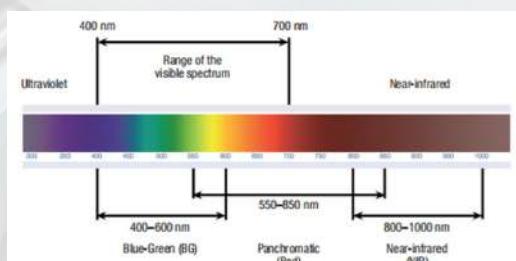
HD	UHD	NIR/ICG
4mm	4K	Fluorescence
10mm	5.5mm	5mm
10mm	134°C/273°F	2.9mm
3mm	3mm	2.7mm

		FULL AUTOCLAVABLE	HD	4K	4K0	NIR/ICG	3D
LAPAROSCOPE	10mm	✓	(UHD)	✓	✓	✓	✓
	5mm	✓		✓			
	5.5mm	✓				✓	
RHINOSCOPE (SINUSCOPE)	4mm	✓		✓		✓	
	3mm	✓		✓			
ARTHROSCOPE	4mm	✓		✓			
	3mm	✓		✓			
CYSTOSCOPE / RESECTOSCOPE / HYSTEROSCOPE	4mm	✓		✓		✓	
	2.9mm	✓		✓			
OTOSCOPE	2.7mm	✓		✓			
	2.7mm	✓		✓			

\*Various nichi endoscopes are available

## \* 4K IMAGE Outstanding image quality

The endoscopes have been optimized to deliver excellent contrast and high resolution. The true colour 4K lens system allows for definition and clarity of finest structures in the entire endoscopic field.



## \* NIR/ICG Near-Infrared Fluorescence

The use of indocyanine green (ICG) together with light at wavelengths in the near infrared range (NIR) permits visualizing anatomic structures.

## \* FULL AUTOCLAVABLE, MAXIMUM DURABILITY 134°C/273°F minimum 200 cycles

Avoid the risk of cross-contamination while greatly improving product durability.



# HD/4K/ICG Laparoscope

## SEE CLEARER, SEE BRIGHTER

Measuring the endoscope's image quality requires several metrics to characterize clarity, distortion and optical transmission. The most objective metric for resolution is the modulation transfer function (MTF). The higher the measurement, the more contrast or clarity between features in the image.

The right image shows the 4K laparoscope MTF curve value of Welfo Endovision endoscope, some German and most Chinese brands'.

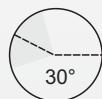
Welfo Endovision laparoscope has equally excellent performance in distortion and optical transmission performance indicators, delivering bright and transparent surgical images to surgeons.



### 4K LAPAROSCOPE



F100W4  
F550W4

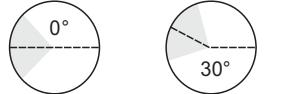


F103W4  
F553W4



Autoclavable, Anti-fogging,  
Laser Sealing Assembly  
German Quality, German Design,  
Low Distortion

## HD/UHD LAPAROSCOPE



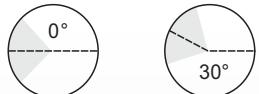
F100WUH F100WUH  
F500WH F500WH



**Laser Sealed Optical system**  
**Maximum Durability**  
**Autoclave sterilization 200 cycles (minimum)**



## 4KO LAPAROSCOPE



F100W4O F103W4O



## NIR/ICG 4K LAPAROSCOPE



F100F4 F103F4  
F550F4 F553F4

### HD/UHD image

Direction of view	Model	Diameter	Length	Field of view
0°	F500WH	5mm	305mm	68° HD
	F100WUH	10mm	327mm	73° UHD
30°	F503WH	5mm	305mm	68° HD
	F103WUH	10mm	327mm	73° UHD

### 4KO image

Direction of view	Model	Diameter	Length	Field of view
0°	F100W4O	10mm	327mm	73°
30°	F103W4O	10mm	327mm	73°

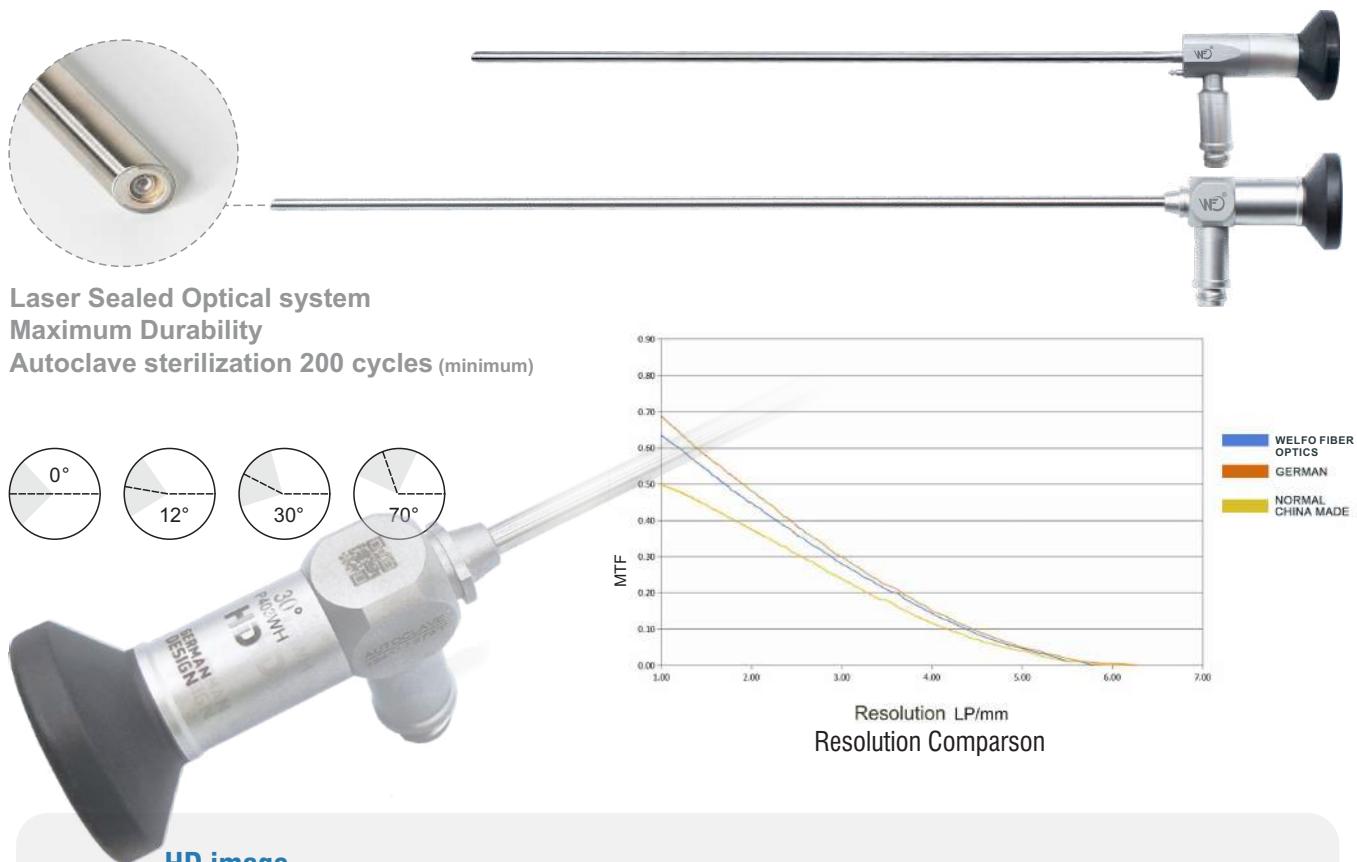
### 4K image

Direction of view	Model	Diameter	Length	Field of view
0°	F550W4	5.5mm	305mm	72°
	F100W4	10mm	325mm	80°
30°	F553W4	5.5mm	305mm	72°
	F103W4	10mm	325mm	80°

### NIR/ICG 4K image

Direction of view	Model	Diameter	Length	Field of view
0°	F550F4	5.5mm	305mm	72°
	F100F4	10mm	325mm	80°
30°	F553F4	5.5mm	305mm	72°
	F103F4	10mm	325mm	80°

# HD/ICG Cystoscope/Resectoscope/Hysteroscope



## HD image

Direction of view	Model	Diameter	Length	Field of view
0°	P400WH	4mm	302mm	68°
	P290WH	2.9mm	302mm	80°
12°	P401WH	4mm	302mm	68°
	P291WH	2.9mm	302mm	80°
30°	P403WH	4mm	302mm	68°
	P293WH	2.9mm	302mm	80°
	P403WH-CH	4mm	302mm	68(NOT for resectoscopy)
70°	P407WH	4mm	302mm	70°

\*80°wide angle hysteroscope available

## NIR/ICG HD image

Direction of view	Model	Diameter	Length	Field of view
0°	P400FH	4mm	302mm	68°
12°	P401FH	4mm	302mm	68°
30°	P403FH	4mm	302mm	68°
70	P407FH	4mm	302mm	68°

Cystoscope/Hysteroscope/Resectoscope (Olympus Instr compatible)

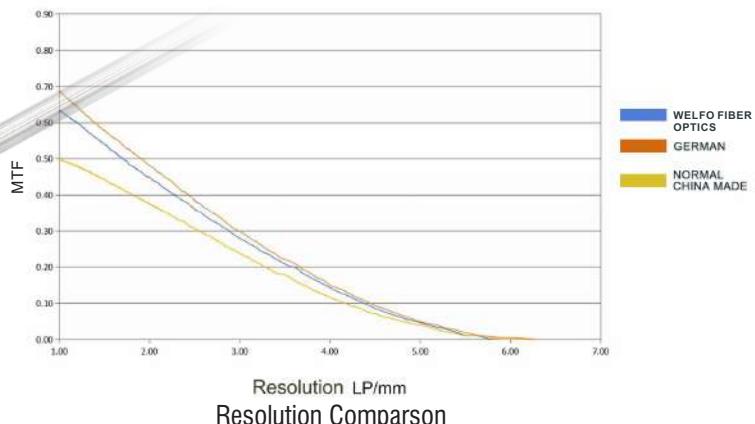
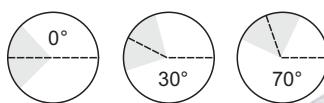
## HD image

Direction of view	Model	Diameter	Length	Field of view
0°	P400WHO	4mm	283mm	68°
	P290WHO	2.9mm	283mm	80°
12°	P401WHO	4mm	283mm	68°
	P291WHO	2.9mm	283mm	80°
30°	P403WHO	4mm	283mm	68°
	P293WHO	2.9mm	283mm	80°
70°	P407WHO	4mm	283mm	68°

# HD/ICG Sinuscope/Arthroscope/Otoscope



**Laser Sealed Optical system**  
**Maximum Durability**  
**Autoclave sterilization 200 cycles (minimum)**



## Sinuscope

### HD image

Direction of view	Model	Diameter	Length	Field of view
0°	B400WH	4mm	175mm	70°
	B290WH	3mm	175mm	80°
30°	B403WH	4mm	175mm	70°
	B293WH	3mm	175mm	80°
70°	B407WH	4mm	175mm	70°

## Otoscope

Sinuscope HD NIR/ICG available

### HD image

Direction of view	Model	Diameter	Length	Field of view
0°	E270WHM	2.7mm	110mm	80°
0°	E270WHS	2.7mm	90mm	80°
0°	E270WHL	2.7mm	140mm	80°

\*30° available

## Arthroscope

### HD image

Direction of view	Model	Diameter	Length	Field of view
0°	G400WH	4mm	175mm	90°
	G290WH	2.9mm	175mm	80°
30°	G403WH	4mm	175mm	90°
	G293WH	2.9mm	175mm	80°
70°	G407WH	4mm	175mm	90°



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