물 품 규 격 서

□ 입찰공고번호 : (학)일송학원 관리국 제2025-087호

□ 입찰건명 : 이비인후과(본관 처치실) Electric Video Endoscope System 구매

□ 수요기관 : 한림대학교 강남성심병원

□ 납품장소 : 수요기관 희망장소 입고도

□ 물품내역 등

연번	품명(영문, 국문)	규격 및 사양	총 구매예정수량 (Q'TY)	1회 최대 발주수량	WARRANTY 기간	단위 (UNIT)
1	Electric Video Endoscope System (내시경 시스템)	하단 참조	1	1	검수(합격)일로부터 3년 종료월 말일까지	SET

□ 공통사항

1. 장비의 설치와 작동 및 교육은 무상으로 제공한다.

2. 수요기관 담당자 입회 하에 계약상대자는 제품의 설치 테스트 및 시험작동을 실시하여야 한다.

3. **무상 하자담보 책임기간은 물품 검수(합격)완료일로부터 *3년 종료월 말일 까지*를 기본 원칙으로 하며 계약상대자의 추가 제안에 따라 3년을 초과하여 설정할 수 있다.**

4. 무상 하자담보 책임기간 중 수요기관의 사정으로 인하여 부서 및 장비의 위치가 불가피하게 이동을 필요로 할 경우 설명 및 설치가 무상으로 이루어진다.

5. 무상 하자담보 책임기간 중 중 공급된 장비의 부속품이 단종된 경우 수요기관이 인정하는 동등이상의 장비로 무상교체가 이루어져야한다.

6. 계약상대자는 어떠한 상황에서나 애프터서비스를 위하여 전문서비스 인력을 제공하여야 하며 애프터서비스를 위하여 교체 부품을 보관하여야 한다.

7. 계약상대자는 장비 납품 시 납품일을 기준하여 제품 제조년월이 6개월 이내인 장비를 납품 하고 납품장비에 해당 제조년월이 명시되어야 한다.

⟨규격·사양 A⟩

A. Features

1. Featuring greater image sensor sensitivity, higher contrast and the ability to visualize multiple optical imaging agents across specialties.
2. Greater chip sensitivity, faster processing, and a more versatile laser wavelength.
3. Progressive scan CMOS technology - 3 CMOS
4. Four button camera head : control of 8 functions from the camera head (Light Source, Insufflaor control, Fluorescence Mode Toggling)
5. Multi-Specialty Settings - user selectable specialty setting which custimize video output for the unique needs (10 Specialty Settings - Standard, Arthroscopy, Cystoscopy, ENT, Laparoscopy, Thoracic Hysteroscopy, Laser, Microscopy, Flexiscope)

B. Specifications

1. 4K Camera Control Unit (CCU) & 4K Camera Head and Coupler
  a. IMAGING SYSTEM : 1/2.8" PROGRESSIVE SCAN CMOS ULTRA HIGH DEFINITION
  b. SCANNING SYSTEM : HORIZONTAL 135.00kHz / VERTICAL 60.00Hz
  c. VIDEO OUTPUTS : TWO HDMI 2.0 OUTPUTS
        FORMAT : 1080p = HD DVI - 1920x1080, 60 Hz, 8bit Color 4:4:4 RGB, SDR
        FORMAT : 4K EBT = UHD 3840x2160, 60Hz, 8 bit Color, 4:4:4 RGB, SDR
        FORMAT : 4K TBT = UHD 3840x2160, 60Hz, 10 bit Color, 4:2:2 YCbCr, SDR
        FORMAT : 4K TBT HLG = UHD 3840x2160, 60Hz, 10 bit Color, 4:2:2 YCbCr, HLG

  d. MOUNTING : ENDOSCOPE EYEPIECE USED WITH C-MOUNT COUPLER
        C-MOUNT CAMERA HEAD USED WITH C-MOUNT SCOPES
        C-MOUNT COUPLER / SCOPE THREAD : 1-32"UN 2A
  e. AUTO SHUTTER RANGE : 1/60 - 1/22,478 SECOND
  f. INPUT ELETRICAL RATING : 100-240V ~ 50/60Hz 1.2A

2. Precision LED Light Source
  a. Electrical
  Primary : 100-240V ~ 50/60 Hz, 3.2~1.3A
  Fuses (2) ; T5.0AH 250V
  b. Light Engine Type : LED Bulb
  c. Internal Safety Check : Yes
    Single Head Cable Lock : Yes
    Stand-By Control : Yes

3. Light Cable
  a. 5.0mm x 10ft clear case fiberoptic light cable wolf scope & Stryker light source fittings , Snap-On

4. 4K Surgical Monitor
  a. Screen size : 27"
  b. Resoultion : 4096 dots x 2160 dots

c. Panel Type : IPS Alpha
d. Backlightng : LED

5. 4K Telescope
a. Telescope : Straight Forward Telescope 70°, enlarged view,ø4mm 155mm, autoclavable. reverse cant

6. HD Naso-Pharyngo-Laryngoscope
a. Optical System
(1) Field of view : 80°
(2) Direction of view : 0° Forward viewing
(3) Depth of field : 3 to 50mm
b. Distal End
(1) Outer diameter : 2.4mm
c. Insertion Tube
(1) Outer diameter : 2.9mm
d. Bending Section
(1) Angulation range : Up / Down : 130° / 130°
e. Working Length : 300mm
f. Total length : 500mm

7. HD Digital Video Processor
a. Video signal output : DVI-D, RGB connector, Video (Y/C) , Composite Video
b. Auto White balance Function with one touch function
c. Standard color chart output in Detail
d. Color tone adjustment : / "R" control;+5steps, -5steps / "B" control; +5steps, -5steps
e. Automatic gain Iris Function
f. Contrast Function : Normal Contrast mode / Low Contrast mode / High Contrast mode
g. Iris mode selection : Average / Peak
h. Surface enhancement setting : "Low" / "Medium" / "High"
I. Edge enhancement setting : Detail Function
j. Image size : Full & Midium Screen selectable
k. Default reset Function
l. Freeze screen display Function
   The endoscope switch and Keyboard and It also   supply sub-screen image
m. Remote control : the endoscope remote switch, the front panel and the keyboard
n. Patient data display Function
o. Pre-procedural patient data storage Function
p. Scope ID Function : registered scope information on monitor
q. Image storage and retrieval : Monitor output switch
r. Memorization of selected setting Function
s. Power supply
   - Voltage : NTSC 220V AC
   - Frequency : 50/60 Hz
   - Input current : NTSC 2.0A

t. Size
  - Dimensions : 350(W) X180(H) X 485(D)mm
  - Weight : 13Kg
u. Automatic brightness control
  - Automatic brightness control method : Auto Iris Function
  - Automatic exposure : 10 steps
v. Air feeding
  - Pump : Diaghragm pump
  - Pressure switching : 5-level switching by switching
w. Water feeding
  - Method : Air pressurization or detachable water bottle
x. Indicators on front panel
  - Emergency lamp : Reports absence of emergency lamp, disconnection and use of emergency lamp.
y. Illumination
  - Lamp : Xenon 150W
  - Average lamp life : Approx. 300~500 hours on continuous use
  - Ignition method : Switching regulator
  - Brightness adjustment : Light-distibution control
  - Cooling : Forced-air cooling
  - Emergency lamp : LED

8. 4K Video Recorder System for PACS
  a. Resolution : 3840*2160
  b. Recording formula : AVI , MP4
  c. Capture fomula : JPEG, BMP, TIFF, PNG
  d. Still capture :can be captured with recording at the same time
  e. Digital output : DVI, HDMI, DisplayPort
  f. Input : HDMI
  g. Monitor : 19" LED Monitor
  h. PC
    (1) CPU - Intel I 7
    (2) RAM - 16GB
    (3) O/S - Windows 10 pro 64bit
    (4) HDD - 4Tera, SSD - 250GB, VGA - Intel
    (5)20x DVD-RW built in body
    (6) Network : LOCAL LAN
    (7) Back-up : CD, DVD, Removable HDD, Other PC by program

C. Consist of(per 1Set)

No	DESCRIPTION	수량
1	CAMERA CONTROL UNIT (CCU)	1
2	AIM 4K CAMERA HEAD C-MOUNT	1
3	IDEAL EYES ZOOM COUPLER	1
4	PRECISION LED Light Source	1
5	FiberOptic Light Cable	1
6	27" 4K Medical Monitor	1
7	4K Telescope 4mm 70°	1
8	HD Naso-Pharyngo-Laryngoscope	1
9	HD DigitalVideoProcessor	1
10	4K Video Recorder System for PACS	1
11	CART	1

D. Remarks

- Warranty : 검수(합격) 완료일로부터 3년 종료 월 말일

<규격 · 사양 B>

A. Features

1. CAMERA CONTROL & LIGHT SOURCE UNIT

1) is a versatile surgical platform to realize efficient system operation by possessing
   many compatible scopes and features optimized to respond to each specialty's clinical needs
2) Extensive versatility for all specialties from a wide range of compatibility with clinically
   optimized scopes/cameras and funtions
3) Easy operation and handling through intuitive user interface, improved ergonimics, and extensive
   line-up of autoclavable products
4) All in one Putting the video processor, light source, and mixer(3D inly) together in one single box,
   a compact imaging system will be provided to our customers, and will also help their initial
   investment by decreasing the number of boxes.
5) Intuitive operation by LCD Touch panel
   The thouch panel is intuitive easy to use(same design as). New features have been added for
   further customizing.
 a. Keyboard-less
 b. "Wizard" fuction allows step by step setting.
 c. User settings for up to 20 users (: 10 users) with 5 user presets (A-E) as templates.
 d. Patient data for up to 50 patients.
 e. System setup, user settings, and patient data can be copied to another OTV-S300/20 using the
    portable memory.
 f. Security funtion for patient data, etc

6) Convert the current FULL HD image from the camera's main body into a 4K compliant image using the
   upscale filter and implement it on a 4K monitor

7) Flexible endoscope and rigid endoscope compatible with no other devices required on camera body
8) Neck-side handling has the rigid and flexible endoscope image Reverse function in the affected area to enable precise handling with the normal video

2. Camera Head
1) Small Size, Light Weight
2) Powerd focus and Zoom(Available only for EA)
3) Pixel Defect Correction
   Pixel defects will be compensated by balancing out the surrounding pixel color
   (Automatically funtions when power is turned on).
4) Three chip (CMOS) mudule.
   Imaging unit can be more compact when it is modularized compared with CCD since it requires less number of peripheral part, which largely contributes to the smaller size of camera head

3. Rhino-Laryngo Videoscope 2.6mm outer diameter
1) Exceptional luminosity
   Although it has a small diameter, the scope still illuminates a broad area,
   providing a detailed image of any lesions within the field of view.
   This exceptional luminosity is especially useful when observing with NBI.
2) Wide field of view
   The ENF-V4 has a viewing angle of 110° And with HD resolution and
   exceptional illumination, every corner of the field can be thoroughly inspected.
3) Pre-freeze Function
   The scope continuously captures still images even before you push the Pre-freeze
   button. When you press the button, the system automatically selects the sharpest image among several.
4) NBI(Narrow Band Imaging)
   During endoscopic observation, NBI enhances visualization of the capillary network and
   mucosal morphology.
5) HD
   With advances in CCD technology, ENF-V4 delivers HD images, which show even
   greater detail for examinations.
6) Surprisingly Slim Diameter
   The distal end of the ENF-V4 scope is only 2.6mm in diameter.
   Also, the difference between diameters of the distal end and the insertion tube is minimal.
   This makes insertion into tight nasal passages much easier. And with the CCD chip's
   improvement, even this slim scope delivers exceptional image quality.

4. UHD laryngoscopes, Telescope, 4mm, 70°, autoclavable

5. Light-guide cable, 2.8mm, 3m, CF type

6. 4K 27" LCD Monitor
1) Large 4K Screen

2) Wide color gamut

3) Clear and High-contrast View

4) A.I.M.E.™ (Advanced Image Multiple Enhancer)

5) Variety of display formats

7. DIGITAL RECORDING SYSTEM

1) It is to do the consolidation processing system for Archiving, Viewing,Editing

2) Let convert a medical image from analog to digital image easily.

3) Can store a camera image which uses in the medical treatment engine to an image file of the high resolution.

4) Offer various a digital image edit tool and to give a science data and the research data various aid

8. MOBILE CART

B. Specifications

1. CAMERA CONTROL & LIGHT SOURCE UNIT

1) Power supply

   Voltage: 100 – 240 V AC; within ±10%

   Frequency: 50/60 Hz; within ± 3 Hz

   Consumption electric power: 150 VA

2) Size

   Dimensions: 370 x 85 x 455 mm (standard) / 383 x 91 x 489 mm (Maximum)

   Weight: 19.8 kg

3) Classification (medical electrical equipment)

   Type of protection against electric shock

   　　　-Class I

   Degree of protection against electric shock of applied part

   　　　-Depends on applied part. See also applied par (camera head or videoscope).

   Degree of protection against explosion

   　　　-The video system center should be kept away from flammable gases.

2. Camera Head

1) Size

   Camera Head   39 x 52 x 120 mm

   Cable   silicon & parylene coating

2) Eyepiece　　　　　　1.0x eyepiece type

3) Observation Pickup System

   　　　　　　　　Interline type CCD solid-state image pickup

   　　　　　　　　Magnification Ratio　　Focal distance f = 15.8 – 31.3 mm

4) C/D/S:　　　　Cleaning/Disinfection　　Immersible in disinfectant solution.

   　　　　　　　Sterilization　　　　　　Ethylene oxide gas sterilization and steam

   　　　　　　　　　　　　　　　　　　(autoclavable sterilization possible

5) Classification　　　Type CF

Product should be kept away from flammable gases

3. Light-guide cable, 2.8mm, 3m, CF type

4. Rhino-Laryngo Videoscope 2.6mm outer diameter

Optical System
- **-**Optical System : 110°
- **-**Depth of field : 5.0-50 mm

Insertion Tube
- -Distal end outer diameter : 2.9 mm
- -Insertion tube outer diameter : 2.6 mm
- -Working lenghth : 300 mm

Bending Section
- -Angulation range : Up 130°/Down 130°

Total Length : 510 mm
Number of Remote Switch : 4
NBI : Available
Stroboscopic Light Source : Available

5. ULTRA HIGH DEFINITION Laryngoscope 4mm 70°
- -Diameter: 4mm
- -Direction of view: 70°
- -Working length: 175mm
- -Autoclavable

6. VISERA 4K 27" LCD Monitor
1) Picture Performance
*Panel: a-Si TFT Active Matrix LCD
*Resolution: 4096 x 2160 pixels
*Picture Size: 789.06 mm (31 1/8 inches)
*Effective Picture Size (H x V): 698.0 x 368.1 mm (27 1/2 x 14 1/2 inches)
*Pixel pitch: 0.1704 x 0.1704 mm
*Aspect:17 : 9
*Pixel Efficiency: 0.9999
*Backlight: LED
*Contrast Ratio: 1450 : 1
*Colors: Approx.1.073 billion colors
*Viewing Angle: 89°/89°/89°/89°(typical)
*Gamma: 1.8, 2.0, 2.2, 2.4, 2.6, DICOM, Highlight
2) Input / Output
*IN PUT

HDMI Input: HDMI (x1) (HDCP 1.4 correspondence)

DVI-D Input: DVI-D (x1) (HDCP 1.4 correspondence) TMDS single link

SDI Input: BNC (x5), 3G/HD/SD-SDI

*Output

DVI-D Output: DVI-D (x1) when HDCP disabling

SDI Output: BNC (x5)

DC 5 V/12 V Output: 5 V Output (x1), 8 W , 12 V Output (x1) 20 W max

3) General

*Power Requirements: LCD monitor

 DC Input: 26 V, 6.9 A

 AC adaptor (AC-300MD): 245 (W) x 150 (L) x 58 (H) mm

 AC adapter's AC IN: 100 V - 240 V,

 50/60 Hz, 2.1 A – 1.0 A

*Power Consumption: LCD monitor: Approx. 180 W (max.)

*Operating Temperature: 0°C to 40°C (32°F to 104°F) (Recommended: 20°C to 30°C (68°F to 86°F))

*Operating Humidity: 30% to 85% (no condensation)

*Storage/Transport Temperature: -20°C to +60°C (-4°F to +140°F)

*Storage/Transport Humidity: 0% to 90%

*Operating/Storage/ Transport Pressure: 700 hPa to 1060 hPa

*Dimensions (W x H x D): 753.8 x 456.4 x 69.3 mm (Slimmest D 28mm) (29 3/4 x 18 x 2 3/4 inches)

*Mass: Approx. 11.8 kg (Approx. 26 lb 0.23 oz)

*Supplied Accessories:

AC adaptor: AC-300MD (1)

AC power cord (1)

Instructions for Use (CD-ROM) (1)

Abridged edition of Instructions for Use (1)

AC power plug holder (2)

Instrauctions for Use of the AC adaptor (1)

Service Contact List (1)

M4 x 12 mm Screw (4)

7. DIGITAL RECORDING SYSTEM

Control Key 10 button (Power, Menu, Patient, Up, Down, Right, Left, Enter, Record, Capture)

Output Signal   DVI-D1 x 1, SD/HD/3G-SDI(BNC) x 1

Input Signal DVI-D1 x 1, SD/HD/3G-SDI(BNC) x 1, Composite Video(CVBS) X 1(BNC)

External Control   RS-232C, GPIO, USB mini(SVC), 3.5mm Stereo

HDD   1TB

Power   AC 100~240V

Storage   USB memory stick, External SSD, HDD

Data Format Type   FAT32 format

Resolution   Up to 1920 x 1080 pixel

Weigh   2.9 kg/ 6.40 lbs

Dimension   250 (W) x 300 (H) x 87 (D) mm

8. MOBILE CART

C. Consist of(per 1Set)

1. CAMERA CONTROL UNIT & LIGHT SOURCE	1ea
2. FULL HD Camera Head	1ea
3. Light-guide cable, 2.8mm, 3m, CF type	1ea
4. Rhino-Laryngo Videoscope 2.6mm outer diameter	1ea
5. UHD Laryngoscopes, 4mm, 70°	1ea
6. 4K 27" LCD Monitor	1ea
7. DIGITAL RECORDING SYSTEMM	1ea
8. MOBILE CAR	1ea

D. Remarks

- Warranty : 검수(합격) 완료일로부터 3년 종료 월 말일