



AESCLAP® Endoscopy Units and Accessories

AESCLAP® Endoscopy units



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AESCULAP® 2D camera platform



- CMOS chip technology produces true to life images.
- 4k image visualization in combination with 2D 4K monitor.
- Three different 2D camera heads allow a wide range of applications.
- Optical parfocal zoom lens with 2x magnification for detail magnification.
- Multiple camera functions can be activated via the remote control buttons on the camera head.
- Special modes support the camera settings for the respective indication.
- The current 16:9 aspect ratio (compared to a 4:3 aspect ratio) expands the field of view and allows earlier recognition of instruments.
- Integrated bus system controls activation / standby function of the LED light source from the sterile area.



PV480
2D camera platform



PV481
2D CMOS pendulum camera head



PV482
2D CMOS zoom camera head



PV485
2D 3CMOS zoom camera head

Image sensor	1 x 1/3" CMOS	Dimension camera head (w x h x d)	
Sensor resolution	Native Full HD (1920 x 1080 pixel)	PV481	52 x 114 x 54 mm
Scan mode	Progressive Scan (1080p 50/60 signal)	PV482	53 x 50 x149 mm
On-screen Display	Yes	PV485	53 x 50 x149 mm
Integrated algorithms	Red Enhancement, Smoke Reduction, Image Noise Reduction, De-Vignetting, Dynamic Contrast, Automatic Brightness Adjustment	Weight camera platform	approx. 7 kg
Video signal output	2 x 3G HD-SDI (1080p) 2 x DVI-D (1080p) 1 x HD-SDI (1080i)	Weight camera head (without cable)	(without cable)
Remote control buttons	4	PV481	180 g
Remote control functions	8 (7 are freely selectable)	PV482	294 g
Focal length	14 mm (PV481) 14 to 28 mm (PV482, PV485)	PV485	380 g
Optical zoom	2.0 x	Maximum power consumption CCU	60 W
Digital zoom	2.0 x	Applied part Type	CF defibrillation safe
Shutter speed	1/60 to 1/60.000 s	Classification acc. to	I
Length of camera cable	approx. 3.5 m	Regulation (EU) 2017/745	
Dimension camera platform (w x h x d)	330 x 101 x 353 mm	Accessories PV480 (inclusive)	
		DVI-D cable	Length 3.0 m (1x)
		MIS bus-cable	Length 0.75 m (1x)
Accessories (to be ordered separately)		Accessories	
		See page 41	Power cable
		See page 41	Potential equalization cable

AESCULAP® 2D & 3D camera platform



reddot design award
winner 2017

- Spatial, three-dimensional vision in combination with a future-oriented sterile supply concept for all laparoscopic indications in the fields of general surgery, gynecology, urology and cardiothoracic surgery.
- Permanent prevention of endoscope fogging due to integrated heating elements in the endoscope tip.
- Consistently high image quality due to unique sterile supply concept.
- 4K image visualization in combination with 3D 4K monitor.
- Permanent OR availability of 3D camera head
- Focus-free image.
- Camera platform design enables the adaptation of 2D or 3D camera heads.
- All-in-one 3D camera head design with 0° or 30° viewing angle.

- Box-shaped camera head design should support the user to get a proper orientation for the viewing position.

General advantages of 3D Technology:

- Simplified intracorporeal suturing.¹
- Targeted grasping, exact positioning of needles and precise cutting of finest tissue structures.²
- Spatial vision enables good hand-eye coordination.²
- Shorter learning curve for physicians in training.²

Fluorescence Imaging (PV650, PV651, PV652)

- Simultaneous display of live image and superimposed fluorescence mode.
- Application flexibility through 3 fluorescence overlay modes: FI Green, FI Intensity, FI White.
- Switching between live image and fluorescence mode via camera head remote control button.

1. Baum S, Sillem M et al. What Are the Advantages of 3D Cameras in Gynaecological Laparoscopy? Geburtshilfe Frauenheilkunde. 2017 Jan; 77(1): 45–51. doi: 10.1055/s-0042-120845

2. Sinha RY, Raje SR, Rao GA. Three-dimensional laparoscopy: Principles and practice. J Minim Access Surg. 2017 Jul-Sep; 13(3): 165–169. doi: 10.4103/0972-9941.181761



PV630
2D & 3D camera platform
EinsteinVision® 3.0

PV650
2D & 3D camera platform
EinsteinVision® 3.0 FI



PV631 3D EV3.0 camera head 0°
PV651 3D EV3.0 FI camera head 0°



PV632 3D EV3.0 camera head 30°
PV652 3D EV3.0 FI camera head 30°

Image sensor	2 x 1/3" CMOS	Endoscope tip with anti-fogging function	Integrated electronically controlled heating element
Sensor resolution	Native Full HD (1920 x 1080 pixel)	Image rotation (30° camera head)	180°
Scan mode	Progressive Scan	Sterile handling	via single use sterile camera drape
On-screen Display	Yes	Cable length	approx. 4.1 m
Integrated algorithms	Red Enhancement, Smoke Reduction, Image Noise Reduction, De-Vignetting, Dynamic Contrast, Automatic Brightness Adjustment	Dimension camera platform (w x h x d)	330 x 146 x 353 mm
Video signal output	2 x 3D via 3G HD-SDI (1080p) 2 x 3D via DVI-D (1080p) 2 x 2D via DVI-D (1080p) 1 x 2D via HD-SDI (1080i)	Weight camera platform	approx. 10.2 kg
Remote control buttons	4	Maximum power consumption CCU	120 W
Remote control functions	8 (7 are freely selectable)	Applied part Type	CF defibrillation safe
Focal length	4.6 mm	Classification acc. to Regulation (EU) 2017/745	I
Depth of field	approx. 20 – 200 mm		
Aperture angle at endoscope tip	72°		
Endoscope working length (shaft)	approx. 315 mm		
Endoscope outer shaft diameter	9.2 mm (10.0 mm including sterile camera drape)		
Light cable integrated in camera cable	Yes		
Digital zoom	1.8 x		

Accessories for PV630 & PV650 (inclusive)

BNC cable (red)	Length 3.0 m (1x)
BNC cable (green)	Length 3.0 m (1x)
MIS bus cable	Length 0.75 m (1x)

Accessories for PV630 & PV650 (to be ordered separately)

See page 41	Power cable
See page 41	Potential equalization cable

2D/3D camera accessories

Connecting cables and accessories

	Item number	Description
	PV436	DVI-D connecting cable, 2 m
	PV437	DVI-D connecting cable, 3 m
	PV427	BNC-cable, 1 m
	TA014803	BNC-cable (red), 3 m
	TA014804	BNC-cable (green), 3 m
	OP942	MIS-Bus cable, 0.75 m
	PV968	Remote control cable, 2 m, 3.5 mm / 3.5 mm stereo jack plug (for PV480, PV630, PV640)

	Item number	Description
	JG904	Single use sterile camera drape, ring type, pack of 25
	JG910	Single use sterile anti-fog solution, pack of 20
	PV641SU	Single use sterile cover for 3D FI and non-FI camera head 0°, pack of 10
	PV642SU	Single use sterile cover for 3D FI and non-FI camera head 30°, pack of 10
	PV621	3D polarization glasses, pack of 15
	PV622	3D Anti-fog polarization glasses, pack of 5
	PV623	3D polarization glasses clip
	PV624	3D eye shield polarization glasses kit (1 reusable shield frame and 3 single use 3D eye shields)

AESCLAP® light sources



- LED lamp module has an average lifetime of approx. 30,000 working hours. In comparison to a Xenon light source this means significant cost savings (average lifetime of xenon lamp between 500 and 700 working hours).
- LED technology provides bright light intensity and a lifelike color rendering.
- Built-in light cable measuring device for testing the light transmission of 4.8mm light cable. This facilitates on-site information about optical quality of light cable.
- Universal light cable adaptor for light cable adaptation of different manufacturers (such as Olympus, Storz, Richard Wolf and others).
- Built-in anti-glare protection (if light cable is not connected to light source).
- Automatic light output control for minimum light exposure in cavity (reducing risk of thermal damage).
- Light intensity can be continuously adjusted via a rotary knob.

- BUS interface allows activation (light source on /standby) via connected 2D/3D Aesculap camera head.
- LED light source (OP950) not to be used in combination with EV3.0 FI Camera Control Unit (PV650).

Exclusive features of LED/Laser light source OP951:

- LED/Laser light source provides light for white light and near-infrared light (ICG fluorescence) illumination.
- Laser module has an average lifetime of approx. 10,000 working hours.
- Laser Class 1M: Wearing of laser glasses not required.



OP950

LED Light Source

System	LED module
Color temperature	5,665 K ($\pm 6.3\%$)
Light flux of LED module	3,000 lumen ($\pm 3,6\%$)
Universal light cable connector	Aesculap/Storz/Olympus/Richard Wolf/etc.
Integrated replacement bulbs	No
Light intensity adjustment	Continuously in steps of 5 %
Automatic light control	Yes
Light output measuring device	Integrated
Dimensions (w x h x d)	330 x 146 x 362 mm
Weight	8.5 kg
Maximum power consumption	240 W
Applied part Type	CF defibrillation safe
Classification acc. to Regulation (EU) 2017/745	I

OP951

LED/Laser Light Source

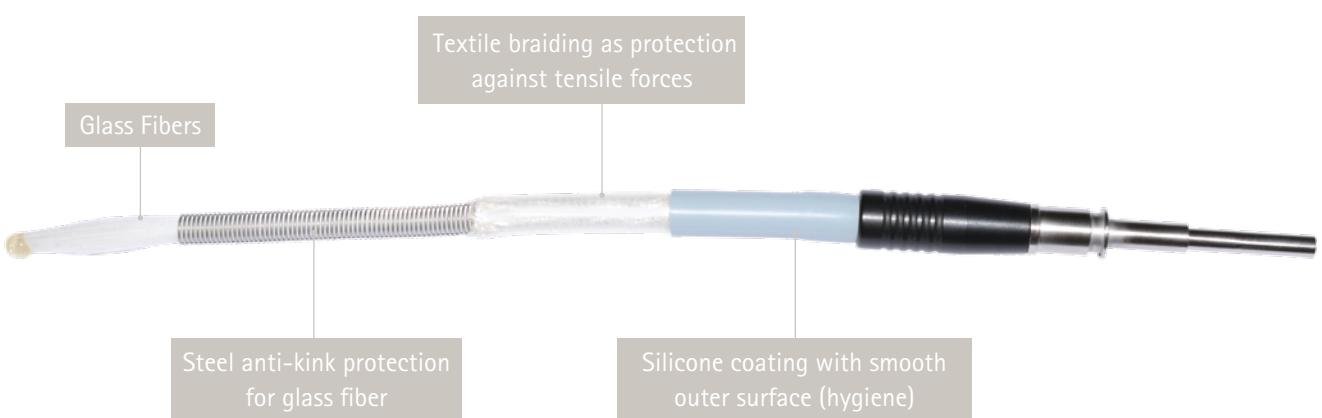
System	LED/Laser module
Universal light cable connector	Aesculap/Storz/Olympus/Richard Wolf/etc.
Integrated replacement bulbs	No
Light intensity adjustment (LED)	Continuously in steps of 5 %
Automatic light control (LED)	Yes
Light output measuring device	Integrated
Dimensions (w x h x d)	330 x 146 x 363 mm
Weight	9 kg
Maximum power consumption	144 W (0.6 A @ 240 V)
Applied part Type	CF defibrillation safe
Classification acc. to Regulation (EU) 2017/745	IIa
Laser Class according to IEC 608025-1	Class 1M
Laser wavelength	805 nm
Laser type	Continuous Wave (CW)

Accessories for OP950 / OP951 (to be ordered separately)

See page 41	Power cable
See page 41	Potential equalization cable
OP941	Light cable adapter
OP942	MIS-Bus cable, 0.75 m

AESCLAP® light cables and accessories

LIGHT SOURCE



Light cable, autoclavable, Ø 4.8 mm



OP923

4K / Full HD fiber optic light cable
250 cm length

OP906

Fiber Optic Light Cable
180 cm length

OP913

Fiber Optic Light Cable
250 cm length

OP914

Fiber Optic Light Cable
350 cm length

OP917

Light cable tester
(battery operated, 9V)For testing light transmission output of
light cables with Aesculap connector
(e. g. Storz, Olympus)

Light cable adapter for light source of other manufacturer:



TE683R

Olympus



TE684R

Wolf

Light cable adapter for endoscopes of other manufacturer:



TE687R

Wolf

AESCULAP® EDDY 3D documentation system



- Recording of 2D/3D still images and video sequences in Full HD resolution (1920 x 1080 pixel)
- Post-op data saving to DVD/CD ROM, USB, hard disk or network
- Optional intraoperative data storage to DVD
- Video recording available with pre-recording function
- Networkable (also via WLAN)
- Double layer DVD drive with an 8.5 GB max. storage capacity
- Security backup (recorded data always stored on internal hard disc regardless of whether other storage media are connected or not)
- Integration into almost any existing endoscopy tower
- Documentation via camera head, USB mouse, USB keyboard or touch screen monitor
- DICOM 3.0 compatibility (integration with DICOM configuration wizard)
- Search function for displaying existing patient data
- Multiple patient selection to copy data and print images
- Software wizard helps to remove recorded data from internal hard drive
- Eddy image viewing software (compatible with Windows and Apple OS)
- Printable OR report (local color printer/network printer)
- PDF export of OR report
- Encryption of patient data (transport mode)



PV640	2D/3D documentation system "Eddy 3D"
Image and video documentation	2D or 3D
Image resolution	
2D/3D still images	1920 x 1080 pixel (native)
2D/3D video sequences	1920 x 1080 pixel (native)
Data storage	Internal hard disk, CD/DVD, USB, LAN or PACS server
Internal hard disk capacity	1TB
Double Layer Drive	Yes
DVD System	DVD-R/-RW; DVD+R/+RW; DVD-RAM; DVD-RDL/+RDL
Patient data transfer from PACS server	DICOM 3.0 (worklist)
Patient data transfer from KIS System	HL7
2D format for still images	JPEG, Bitmap, PNG
2D format for videos	MPEG-2 and MPEG-4 (AVC/H.264)
3D format for still images	MPO, PNS
3D format for videos	MVC format
Recording format of 2D/3D video data	16:9
Video with pre-recording function	Yes
Signal format for 2D and 3D recording	1080p 50/60
Hard disk delete wizard	Yes
Video inputs	2 x 3G-SDI (3D camera system) 1 x 3G-SDI (2D camera system) 1 x HD-SDI 1 x 3G-SDI (2D monitor)
Video output	1 x Display port (3D monitor) 1 x DVI-D (2D operating monitor)
Others	2 x USB 3.0 (front side) 4 x USB 3.0 (back side) 4 x USB 2.0 (back side) 1 x potential equalization 1 x RJ 45 (Ethernet) 2 x remote (3.5 mm mono jack for 2D and 3D)
Operating system	Windows 10 IoT Enterprise 2019 LTSC
Dimensions (w x h x d)	330 x 146 x 353 mm
Weight	8.1 kg
Maximum power consumption	180 W
Applied part Type	CF defibrillation safe
Classification acc. to	I
Regulation (EU) 2017/745	

Included accessories

PV640240	1 x USB mouse
PV640241	2 x SDI cable (1 m)
PV640242	4 x SDI adapter cable
PV640243	1 x Displayport - DVI cable (3 m)
PV640244	1 x WLAN dongle
PV640245	1 x Ethernet connector
PV968	1 x Remote control cable (2 m)

Accessories (to be ordered separately)

PV643	DICOM 3.0 USB Upgrade Set
See page 41	Power cable
See page 41	Potential equalization cable

AESCLAP® high resolution endoscopes

SCOPES



- Made from rust-proof stainless steel
- Fully autoclavable at 134°C
- High-quality fiber optics for luminous illumination
- High-quality glass prisms and lenses for natural color rendition, high contrast and sharpness

Discipline	Item no.	Description	Storz connection	Diameter	Working length	Viewing angle
Arthroscopy/ENT	PE182A	Arthroscope		2.7 mm	11 cm	0°
	PE202A	Arthroscope		2.7 mm	11 cm	30°
	PE185A	Arthroscope	Yes	2.7 mm	19 cm	0°
	PE484A	Arthroscope, short		4.0 mm	14 cm	0°
	PE514A	Arthroscope, short		4.0 mm	14 cm	30°
	PE485A	Arthroscope	Yes	4.0 mm	18 cm	0°
	PE505A	Arthroscope	Yes	4.0 mm	18 cm	30°
	PE525A	Arthroscope	Yes	4.0 mm	18 cm	70°
Urology/Gynecology	PE218A	Hysteroscope	Yes	2.9 mm	30 cm	30°
	PE522A	Cystoscope	Yes	4.0 mm	30 cm	0°
	PE528A	Cystoscope/Hysteroscope	Yes	4.0 mm	30 cm	12°
	PE508A	Cystoscope/Hysteroscope	Yes	4.0 mm	30 cm	30°
	PE530A	Hysteroscope	Yes	4.0 mm	30 cm	70°
Laparoscopy	PE590A	Laparoscope		5.0 mm	31 cm	0°
	PE610A	Laparoscope		5.0 mm	31 cm	30°
	PE889A	Laparoscope		10.0 mm	33 cm	0°
	PE909A	Laparoscope		10.0 mm	33 cm	30°
	PE969A	Laparoscope		10.0 mm	33 cm	45°
Neurosurgery	PE184A	Intraventricular neuroendoscope		2.7 mm	18 cm	0°
	PE204A	Intraventricular neuroendoscope		2.7 mm	18 cm	30°
	PE487A	Transnasal endoscope		4.0 mm	19.5 cm	0°
	PE507A	Transnasal endoscope		4.0 mm	19.5 cm	30°
	PE486A	Neuroendoscope for EAM*		4.0 mm	15 cm	0°
	PE506A	Neuroendoscope for EAM*		4.0 mm	15 cm	30°

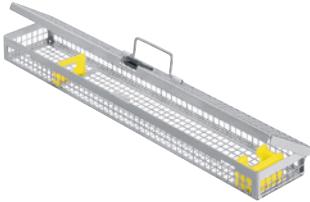
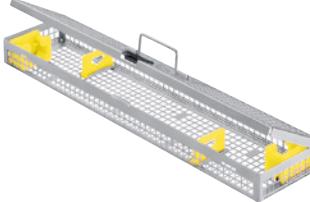
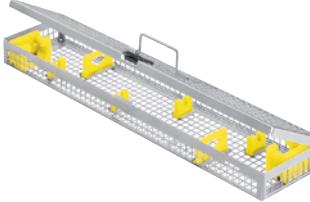
*EAM = endoscope-assisted microneurosurgery

AESCULAP® scope trays

SCOPES



- Silicone shock absorbers help to protect the endoscopes from glass breakage
- Protected perforation field
- Made from rust-proof stainless steel
- Smooth surface

	Item number	Description
	JF431R	Scope tray for one endoscope with shaft length < 340 mm dimensions: 454 x 84 x 41 mm
	JF432R	Scope tray for two endoscopes with shaft length < 340 mm dimensions: 454 x 104 x 41 mm
	JF433R	Scope tray for 2 endoscopes with shaft length < 340 mm with additional silicone shock absorber dimensions: 454 x 104 x 41 mm
	JF434R	Scope tray for hysteroscope with shaft diameter < 4.0 mm dimensions: 454 x 104 x 41 mm
	JF436R	Scope tray for one endoscope with shaft diameter 2.7 – 4.0 mm / shaft length 140 - 200 mm dimensions: 273 x 84 x 41 mm



For more information, please
see our brochure C40402
Sterile Container System

AESCULAP® 2D and 3D monitors

MONITORS



	PV644 31" 4K UHD 3D monitor	PV648 32" Full HD 3D monitor
Medically approved monitor	x	x
Panel quality/ - type	TFT LCD (IPS)	LCD (IPS)
Viewable diagonal (inches)	31.1	32
LED backlight	x	x
Anti-reflective panel	x	x
Max. brightness (cd/m ²)	435	650
Monitor resolution (H x V)	4096 x 2160	1920 x 1080
Viewing angle (horizontal /vertical)	178°	178°
Contrast ratio	1450:1	1400:1
Aspect ratio	17:9	16:9
Video signal input	5x BNC (3G/HD/SD-SDI); 1x HDMI; 1x DVI-D	2x 3G-SDI; 1x S-Video; 1x Video; 2x DVI; 1x RGB
Video signal output	5x BNC (3G/HD/SD-SDI); 1x DVI-D	2x 3G-SDI; 1x DVI; 1x S-Video; 1x Video; 1x RGB
4K upscaler	x	
2D/3D switching button	x	x
Wider Color Gamut (complies with BT. 2020)	x	
Picture-in-Picture function (PiP)	x	x
Picture-out-Picture function (PoP)	x	x
Power-Save mode	x	x
Multilingual user menu	x	x
Key lock (on/off)	x	x
VESA mounting (mm)	100 x 100, 100 x 200	100 x 100, 200 x 200
Dimensions in mm (w x h x d)	754 x 456 x 69	760 x 463 x 96
Dim. ext. power supply in mm (wxhxd)	245 x 58 x 150	64 x 37 x 160
Weight (kg)	11.8	10.2
Weight external power supply (kg)	1.5	0.7
Max. power consumption (W)	180	97
Classification acc. to Regulation (EU) 2017/745	I	I
Accessories (inclusive)	DVI to HDMI cable USB cable; 3D eye shield kit External power supply 26V	3D anti-fog glasses (3 pcs.) Cable connection cover External power supply 24V
Accessories (to be ordered separately)	PV647 Monitor stand PV646203 Monitor protecting cover See page 41 power cable and potential equalization cable	PV647 Monitor stand PV646203 Monitor protecting cover See page 41 power cable and potential equalization cable



PV628 31" 4K UHD 2D monitor	PV638 27" Full HD 2D monitor	PV904 21.5" Full HD 2D Touch monitor
x	x	x
LCD (IPS)	TFT (IPS)	TFT LCD (IPS) Touch
31	27	21
x	x	x
x	x	x
350	900	250
3840 x 2160	1920 x 1080	1920 x 1080
178°	178°	178°
1500:1	1000:1	1000:1
16:9	16:9	16:9
4x BNC (3G-SDI); 1x Display- Port; 2x DVI-D (with HDCP)	1x DVI-I; 1x DVI-D; 2x 3G SDI	HDMI Display Port
4x BNC (3G-SDI)	1x DVI-I; 1x DVI-D;	-
1x DVI-D	2x 3G SDI	
x		
x	x	
x	x	
x	x	x
x	x	
100 x 100, 200 x 200	100 x 100	100 x 100
760 x 444 x 87	678 x 445 x 84	537 x 329 x 59
89 x 37 x 223	64 x 46 x 209	60 x 34 x 133
11.2	8.9	5.7
1.0	0.7	0.4
146	70	40
I	I	I
External power supply 48V	External power supply 24V	DVI to HDMI cable USB cable External power supply 24V
PV647 Monitor stand PV646203 Monitor protecting cover See page 41 power cable and potential equalization cable	PV647 Monitor stand PV638203 Monitor protecting cover See page 41 power cable and potential equalization cable	PV908 Monitor stand See page 41 power cable and potential equalization cable

AESCLAP® Flow 50 insufflator

INSUFFLATION



- 5 different indication modes:
 - Standard
 - Bariatric
 - Pediatric
 - Vessel harvesting
 - Fieldflooding for open and endoscopically assisted cardiac surgery
- Two selectable insufflation modes for Standard and Bariatric: Veress or Highflow
- Sensitive insufflation mode for Pediatric
- Integrated gas heating, which helps to prevent hypothermia and reduces fogging of the optics
- Integrated smoke evacuation for a better image
- Replaceable smoke evacuation filter cassette for a reduction of harmful gases through activated carbon filtering
- Automatic venting system if overpressure is detected
- Pressure preselection in mmHg
- Pre-settable flowrate
- Reduced flowrate increments for pediatric surgery
- Display of gas consumption in liter
- Gas supply monitoring by symbols and acoustic signals
- Universal US gas connector for bottle and central gas supply



PG150

Flow 50 - Insufflator with smoke evacuation

Gas type	Medical CO ₂
Max gas flow	50 l/min
Set pressure	1 - 30 mmHg
Max. suction rate	6 l/min or 12 l/min
Active smoke evacuation	Activation via footswitch, timer 1 – 30 min or unlimited
Indications	Standard, Bariatric, Pediatric, Fieldflooding, Vessel Harvesting
Supports gas heating	Yes
Central information display	Touch screen
Inlet pressure range	2.7 - 80 bar
Gas supply monitoring	5 levels
Dimensions (w x h x d)	330 x 200 x 400 mm
Weight	12 kg
Max. power consumption	120 W
Applied part Type	CF
Classification acc. to 93/42/EEC	IIa

Accessories (to be ordered separately)

See page 41

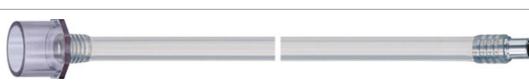
See page 41

Power cable

Potential equalization cable

AESCLAP® Flow 50 accessories

Accessories (to be ordered separately)	Item number	Description
	PG003	VERESS insufflation needle, length 100 mm, Ø 2.1 mm
	PG008	VERESS insufflation needle, length 120 mm, Ø 2.1 mm
	PG011	VERESS insufflation needle, length 150 mm, Ø 2.1 mm
	EJ995	Single use VERESS insufflation needle, length 120 mm, pack of 20
	EJ996	Single use VERESS insufflation needle, length 150 mm, pack of 20
	PG056	Hose for CO ₂ gas bottle supply DIN/US 1.5 m
	PG057	Hose for CO ₂ gas bottle supply ISO/US 1.5 m
	PG058	Hose for CO ₂ gas bottle supply PIN/US 1.5 m
	PG061	Hose for CO ₂ central gas supply DIN/US 3.0 m
	PG091	Hose for CO ₂ central gas supply DIN/US 5.0 m
	PG092	Hose for CO ₂ central gas supply NF/US 5.0 m
	PG093	Hose for CO ₂ central gas supply UNI/US 5.0 m
	PG094	Hose for CO ₂ central gas supply AGA/US 5.0 m

Accessories (to be ordered separately)	Item number	Description
	PG065	Hose for CO ₂ central gas supply DISS/DISS 3.0 m
	PG067	NIST Adapter for central gas supply
	PG068	Switch valve for gas bottles
	PG012	Single use tube set incl. CO ₂ Filter, sterile length 3 m, pack of 10
	PG014	Tube set for insufflation, length 3 m (20 x autoclavable)
	PG014200	ISO connector for PG014, 22 mm
	PG019	Single use CO ₂ Filter, pack of 25
	PG097	Heating tube set for insufflation length, 3 m (100 x autoclavable)
	PG096SU	Single use heating tube set for insufflation length, 3 m, pack of 10
	PG106	Smoke evacuation filter cassette, pack of 30
	PG107SU	Single use tube set for smoke evacuation, length 3 m, pack of 10

AESCLAP® Multi Flow

SUCTION AND IRRIGATION



Multi-functional

- Four indications covered by one device
- Individual irrigation and suction settings
- Comprehensive tube portfolio

Comfortable

- Transponder technology
- Irrigation bag monitoring system
- Hygienic disposable tube sets
- Touch-screen operated



PG130	Multi Flow Pump (irrigation pump)	PG145	Multi Flow Pump Plus (irrigation and suction pump)
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Max. flow rate/pressure	
Laparoscopy	3.5 l/min
Arthroscopy	2.5 l/min / 15-200 mmHg
Hysteroscopy	0.5 l/min / 15-150 mmHg
Urology	0.5 l/min / 15-90 mmHg
Negative suction pressure	700 mbar vacuum pump (PG145 only)
Max. suction rate	2.0 l/min
Dimensions (w x h x d)	305 x 183 x 305 mm
Weight	8.4 kg
Max. power consumption	125 W
Applied part Type	Typ BF acc. to EN 60601-1
Classification acc. to directive 93/42/EWG	II b

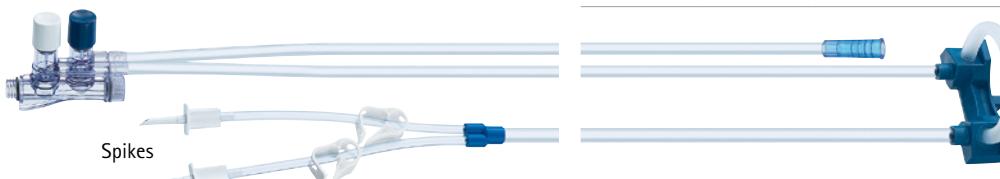
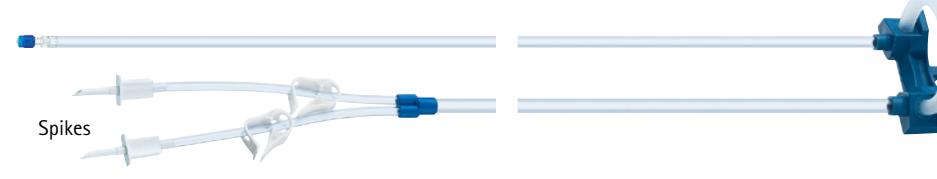
Accessories (to be ordered separately)	
See page 41	Power cable
See page 41	Potential equalization cable

Indication Mode Activation Transponder	Item no.	Description	LAP	ARTHRO	HYS	URO
	PG140	LAP Transponder				
	PG141	ARTHRO Transponder				
	PG142	HYS Transponder				
Package with one piece	PG143	URO Transponder				

	Item no.	Description	LAP	ARTHRO	HYS	URO
	PG124	Foot control "WASH"				
	PG125	Wireless remote control				
	PG126SU	Single use cover for remote control, pack of 10				
	PG144	Difference-in-volume scale, max. load: 7 kg				

AESCLAP® Multi Flow tube sets

Single use

Item number	Description	Length	LAP	ARTHRO	HYS	URO
PG122SU	Suction/irrigation tubing with transponder. With suction/irrigation trumpet valve handle. Without probe, with multi-adapter suction connector, pack of 10	450 cm	●			
						
PG132SU	Irrigation tubing with transponder, pack of 10	450 cm	●	●	●	●
						
PG138SU	Y-tubing pack of 10	300 cm	●	●	●	●
						

Reusable

Item number	Description	Length	LAP	ARTHRO	HYS	URO
PG131	Irrigation tubing with transponder pack of 1, 20 x autoclavable	450 cm				
PG139	Vacuum suction tube, with hydrophobic filter, with multi-adapter suction connector, for PG145 only, pack of 10	200 cm				

Arthro day tubing

Item number	Description	Length
PG134SU	Irrigation day tubing set with transponder, pack of 10 + 1	450 cm
PG136	Irrigation day tubing set with transponder. Suitable for up to 10 uses within 24 hours.	165 cm

AESCULAP® Multi Flow cannulas

Single use

Item number	Description	Diameter	Length
PG032SU (L type)	Monopolar suction-irrigation cannula pack of 10	5 mm	340 mm
	 Cut-/Coag-Function		
	 Suction-/Irrigation-Function		
PG033SU (Spatula type)	Monopolar suction-irrigation cannula pack of 10	5 mm	340 mm
	 Coag-Function		
	 Suction-/Irrigation-Function		
PG035SU (Coag type)	Monopolar suction-irrigation cannula pack of 10	5 mm	340 mm
			

Single use

Item number	Description	Diameter	Length
PG042SU	Suction-irrigation cannula, pack of 10	5 mm	330 mm
PG043SU	Suction-irrigation cannula, pack of 10	5 mm	450 mm



AESCLAP® Caiman®



Advanced Bipolar Seal and Cut Technology

Caiman Seal & Cut is a bipolar RF sealing system, which consists of the LEKTRAFUSE RF Generator and Caiman instruments. This system can be used for grasping, preparation, sealing and cutting of tissue during open and minimally invasive surgical procedures.

Caiman Seal & Cut can be used on vessels and vessel bundles with diameters up to and including 7 mm as well as soft tissue in general surgery and also surgical specialties such as gynecology, urology and bariatric, colorectal and thoracic surgery.



GN200

High frequency surgical device

Frequency	50–60 Hz
Protection class (acc. to IEC / DIN EN 60601-1)	I
Foot switch circuit	ignition-safe acc. to IEC/DIN EN 60601, approved for use in "medical environment"
Output power	2 x 150 W on 50 Ohm
HF operating frequency	460 kHz ± 1 %, Quasi-Sinus
Operating mode	Int 10 s/30 s
Dimensions (w x h x d)	355 x 100 x 400 mm
Weight	8.1 kg
Maximum power consumption	670 W
Applied part Type	CF
Classification acc. to Regulation (EU) 2017/745	IIb

Accessories (to be ordered separately)

See page 41	Power cable
See page 41	Potential equalization cable
GN330	Unit cart with sliding handle for electrosurgical units, w x h x d: 520 x 900 x 570 mm
PV951R	Wire basket w x h x d: 370 x 225 x 285 mm
GN201	Single pedal foot switch for GN200



AESCULAP® Caiman®



Advanced Bipolar Seal and Cut Technology

▪ One seal confidence

State of the art vessel sealing with only one energy activation.¹

▪ Uniform tissue compression

Leads to consistent sealing quality from distal to proximal tip.¹

▪ Tip first closure

Retains tissues within the jaws for improved compression.¹

▪ Tissue dissection

Fine curved Maryland jaw design allows increased dissection performance and enhanced tip visualization.²

▪ Long jaw tip

Enlarged vessel sealing length and improved surgical efficiency.¹

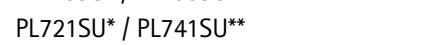
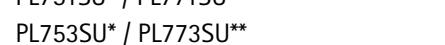
▪ 80 degree articulation jaw

Allows simplified navigation in challenging anatomy.³

1. Eick, S., Loudermilk, B., Walberg, E. et al. Rationale, bench testing and in vivo evaluation of a novel 5 mm laparoscopic vessel sealing device with homogeneous pressure distribution in long instrument jaws. *Ann Surg Innov Res* 7, 15 (2013). <https://doi.org/10.1186/1750-1164-7-15>

2. The Maryland jaw design was rated by 30 surgeons with very good (43.3 %) and good (53.3 %). Fine dissection was rated by 28 surgeons with very good (53.6 %) and good (46.4 %). The tip visibility was rated by 23 surgeons with very good (56.5 %) and good (43.5 %) in a laparoscopic setting.

3. Aaron C. Voegele, Donna L. Korvick, Mario Gutierrez et al. Perpendicular blood vessel seals are stronger than those made at an angle. *Journal of Laparoendoscopic & Advanced Surgical Techniques*. Aug 2013. 669-672. <http://doi.org/10.1089/lap.2013.0028>

GN200	Item number	Shaft diameter	Working length	Pcs. per pack
	Caiman® 5, non articulating jaw			
	PL718SU* / PL738SU**	5 mm	24 cm	6
	PL720SU* / PL740SU**	5 mm	36 cm	6
	PL722SU* / PL742SU**	5 mm	44 cm	6
	Caiman® 5, articulating jaw			
	PL719SU* / PL739SU**	5 mm	24 cm	6
	PL721SU* / PL741SU**	5 mm	36 cm	6
	PL723SU* / PL743SU**	5 mm	44 cm	6
	Caiman® 5, articulating Maryland jaw			
	PL751SU* / PL771SU**	5 mm	36 cm	6
	PL753SU* / PL773SU**	5 mm	44 cm	6
	Caiman® 12, articulating jaw			
	PL730SU	12 mm	24 cm	3
	PL731SU	12 mm	44 cm	3

* Ordering number for the following countries: CN, KR, BR, JP, RU, BO, CO, MY, SG, AR, EC, TW

** Ordering number for the following countries: UK, DE, FR, ES, PL, IT, SE, CZ, NL, BE, LU, PT, AT, CH, BA, DK, FI, IE, SK, NO, TR, HU, RO, BG, CY, SI, GR, KZ, US, ID, PH, AU, NZ, HK, MX, PE, AZ, CL, JO, KW, LY, NC, IN, VN

AESCLAP® equipment carts



- Available in narrow and wide equipment cart versions
- Modular construction
- Interdisciplinary use
- Drawer with lock
- Four shelves, three of them are height-adjustable and one shelf with corner push handles on the front
- Four anti-static twin castors with wall guards, all lockable (diameter 125 mm)
- Integrated cable channels in the columns
- Double upper and lower lockable rear wall with two power strips each with six cold-device plugs
- Upper rear wall with integrated cable outlet on each side
- Base socket for isolating transformer
- Lateral main switch
- Isolating transformers as safety feature
- Wide range of accessories

PV800	Equipment cart (narrow)
Dimensions (w x h x d)	703 x 1513 x 650 mm
Utility space tableau (w x d)	450 x 485 mm
Weight (unloaded)	64 kg
Voltage	Without isolating transformer: ▪ 100 V AC to 240 V AC With isolating transformer PV828: ▪ 2200 W (230 V) AC With isolating transformer PV828U: ▪ 1800 W (120 V) AC
Isolating transformer	Optional
Classification acc. to Regulation (EU) 2017/745	I
Maximum permissible total load	210 kg
POAG Connections	8 equipotential bonding conductor connections



PV810	Equipment cart (wide)
Dimensions (w x h x d)	942 x 1513 x 650 mm
Utility space tableau (w x d)	690 x 485 mm
Weight (unloaded)	83 kg
Voltage	Without isolating transformer: ▪ 100 V AC to 240 V AC With isolating transformer PV828: ▪ 2200 W (230 V) AC With isolating transformer PV828U: ▪ 1800 W (120 V) AC
Isolating transformer	Optional
Classification acc. to Regulation (EU) 2017/745	I
Maximum permissible total load	210 kg
POAG Connections	12 equipotential bonding conductor connections

GN330	Unit Cart with sliding handle
Dimensions (w x h x d)	520 x 900 x 570 mm
Accessories (to be ordered separately)	
PV951R	Wire basket; Dimensions (w x h x d) 370 x 225 x 285 mm

AESCULAP® equipment cart accessories

Accessories (to be ordered separately)



PV821
Standard rail



PV824
Clamp for standard rail



PV822
CO₂ cylinder holder



PV823
Infusion bottle holder



PV826
Camera holding device
for 2D camera head



PV636
EV3.0 camera head holder



PV827
Foot switch holder



PV825
Wire basket for accessories
300 x 300 x 200 mm



PV830
Lifting handle



PV800219
Lateral handle for column



PV839
Cable clamp for fixation of
camera cables



PV836
Additional lateral plate
330 x 330 mm



PV801
Shelf narrow with screws
for PV800



PV811
Shelf wide with screws for
PV810



PV838
Twin caster kit with cable roll-
over protection

PV806
Protective cover for PV800



PV802
Shelf extendible with lateral
pullout for PV800



PV812
Shelf extendible with lateral
pullout for PV810



PV805
Adapter plate for PV800 to
ceiling supply unit



PV815
Adapter plate for PV810 to
ceiling supply unit



PV819
Hook and loop fastener set



PV800222
Central back panel for PV800



PV810221
Central back panel for PV810



TA011388
Cable wrap

Monitor arms and accessories



PV803
Crossbar narrow for central monitor arms



PV813
Crossbar wide for central monitor arms



PV831
Height-adjustable central monitor arm,
load range 13-19 kg



PV832
Height-adjustable central monitor arm,
load range 7-12 kg



PV804
Extension for central monitor arm PV831/PV832



PV833
Lateral height-adjustable monitor arm,
load range 5-8 kg



PV834
Lateral height-adjustable monitor arm with extension,
load range 5-8.5 kg



PV835
Lateral double joint arm for additional monitor,
load range 1-18 kg

Power supply and accessories



PV828
Isolating transformer 2200 VA,
230 V with ISO guard



PV828U
Isolating transformer 1800 VA,
100 -120 V with ISO guard



PV829
Power distributor with counterweightplate



PV829U
Power distributor with counterweight for Japan/USA

Accessories (to be ordered separately)

See page 41

Power cable

See page 41

Potential equalization cable

Others

- TA015055 Plastic groove coverage, 1300 mm
- TA015056 Screws and spring nuts set for PV800/PV810
- TA015057 Touch-Up pens RAL 5003 and RAL 7040
- PV800229 Equipotential bonding pin

Mobile monitor stand and ZeroWire



PV818

Mobile Monitor stand

- Mobile stand for 2D/3D monitors (max. load of 16 kg)
- Four conductive, antistatic, double swivel castors with parking brake, diameter 100 mm
- Mechanically height-adjustable (500 mm)
- Counterweight plate under chassis
- Wire basket on the backside
- Utility space shelf, max. 2 kg load capacity
- Front and rear push handle
- Holding device for two monitor power supplies
- Fixing clamps for connecting cable
- Cable wrap for winding up the power cable
- Dimensions (w x h x d) 530 x 2002 x 610 mm

Accessories (to be ordered separately)

See page 49 Power cable

See page 49 Potential equalization cable

ZeroWire® – Wireless video transmission

- Medical-Grade HD-Video Wireless System
- Wireless 3D and 2D video transmission
- Compatible with multiple monitors (2D, 3D, 27", 31", 32")
- Auto-tracking video signal function
- User-feedback with on-screen messages
- Transmitter (Tx) Video Input DVI-D, 3G-SDI
- Receiver (Rx) Video Input DV-D



Item number	Description
PV845	ZeroWire® G2 transmitter
PV846	ZeroWire® G2 receiver
PV843	Accessory kit for 26"/27" monitors including 4 M4 x 16 mm screws
PV849	Accessory kit for 31"/32" monitors including 4 M4 x 16 mm screws
PV847	3D / 4K / 2D Switch
PV848	Power supply for PV845, PV846
PV969	Video signal cable HDMI to DVI, 3 m
PV979	Video signal cable HDMI to DVI, 2 m

Power cables

	Item number	Description
	TE780	Mains cord (Euro Plug), 1.5 m
	TE730	Mains cord (Euro Plug), 5.0 m
	TE676	Extension cord 1 m
	TE736	Extension cord 2.5 m
	PV790	Mains cord orange Type E/F (Euro plug), 5 m
	PV791	Mains cord orange Type K, 5 m
	PV792	Mains cord orange Type G, 5 m
	PV793	Mains cord orange Type 23, 5 m
	PV794	Mains cord orange Type 23, 5 m
	PV795	Mains cord orange Type A, 5 m
	PV797	Mains cord orange Type I
	PV796	Mains cord black Type B
	TA008205	Potential equalization cable, 0.8 m
	GK534	Potential equalization cable, 1.5 m
	GK535	Potential equalization cable, 4 m
	GK537	Potential equalization cable, 5 m

AESCULAP® Technical Service - ATS

Our commitment

Those who bear large responsibility deserve reliable and fully functional surgical equipment at all times.

Functionality is related to every single component starting from the optical camera system to the electrosurgical devices. At AESCULAP® Technical Service we want to be the trusted partner for our customers. We know everything about our systems, we are capable of maintaining them to assure an excellent condition so that they are ready whenever they are needed.



With our dedicated customer service team and skilled service technicians, we provide a comprehensive service portfolio. Our service offer is transparent, clear and easily implementable. With our knowledge and experience we contribute to your smooth workflow so that you could concentrate on your most important tasks.

Emergency respond

In the case of unexpected service you need a quick solution. A service contract brings you to the safe side and grants a timely response to your service call.

We restore the function of your equipment so that you could continue your daily routine.

Hotline

Our competent consultants assist you in all questions around the technical service for your equipment. Central coordination assures that your request is addressed to the right person in our team, who will get back to you with a solution as soon as possible.

HOTLINE

Phone: +49 (0) 7461 95-31374
E-Mail: ATS_endo@aesclap.de

Installation

Our skilled technicians make sure the system is safely and fully functional right from the beginning. A full technical installation report is provided for your legal certainty.

Integration into hospital's network system (DICOM)

If foreseen, we integrate your documentation system into the hospitals network system, so that OR data could be stored or shared appropriately.



Service Contracts

We offer different service contract levels in order to best suit various hospitals demand and budget. Thanks to the contracts' transparency the service for your system is granted at a fixed cost.

Maintenance

Prevention is key to a long life and functionality of the system. No one knows this better than medical professionals. For this purpose maintenance is already included in all levels of our service contracts. Please contact your sales representative to learn more.

Repair

Our 150-years-experience allows us to carry out all types of repair and provide you with a one year guarantee on all repair work.

On-site Service

Inspection, maintenance and repair services for large systems are a logistical challenge. Thanks to our steadily growing service network we could offer an onsite service. That way we do not lose time and avoid unnecessary and laborious transportations of sensitive equipment.

Loan Service

In urgent cases we could provide you with a loan device. Thereby the OR down-time could be reduced significantly.

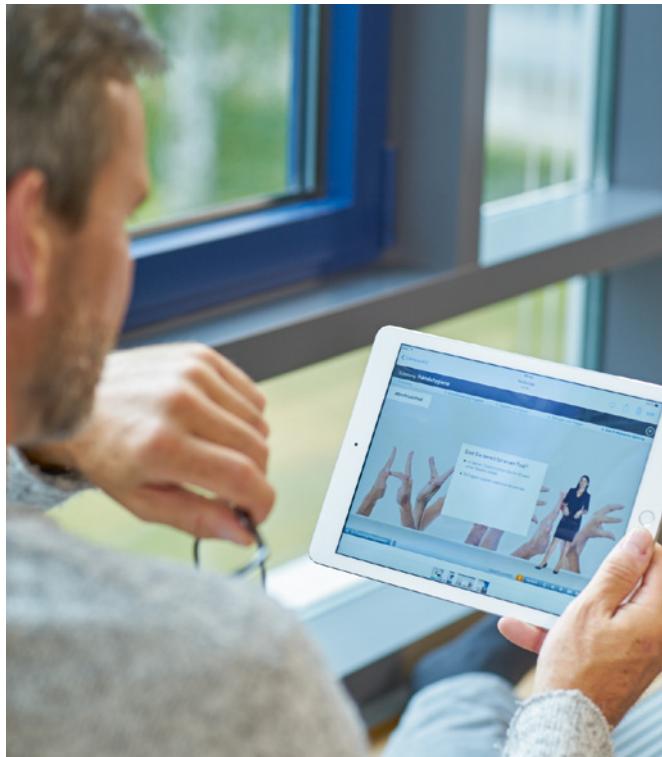


CONNECT. EXCHANGE. ENABLE.

The Aesculap Academy is a leading medical training institution of the B. Braun Group, directed to all those who are professionally committed to human health. The comprehensive and quality-assured medical training and continuing education program is offered in many countries.

The Aesculap Academy has established itself as a strategic partner of clinics and successfully cooperates with renowned national and international medical associations.

The Academy's offering includes scientific seminars in digital or classroom mode, as well as hands-on workshops and product training for the safe application of B. Braun products in clinical and outpatient settings. The Aesculap Academy is now represented with its concept in over 40 countries. The worldwide number of participants speaks for itself. In 2021, more than 200,000 participants could be trained and educated in 2,000 on-site and digital courses.



AESCULAP ACADEMY – part of the B. Braun Group

AESCULAP AKADEMIE GMBH

Am Aesculap-Platz | 78532 Tuttlingen | Germany

www.aesculap-academy.com
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Aesculap AG | Am Aesculap-Platz | 78532 Tuttlingen | Germany
Phone +49 7461 95-0 | Fax +49 7461 95-2600 | www.aesculap.com

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