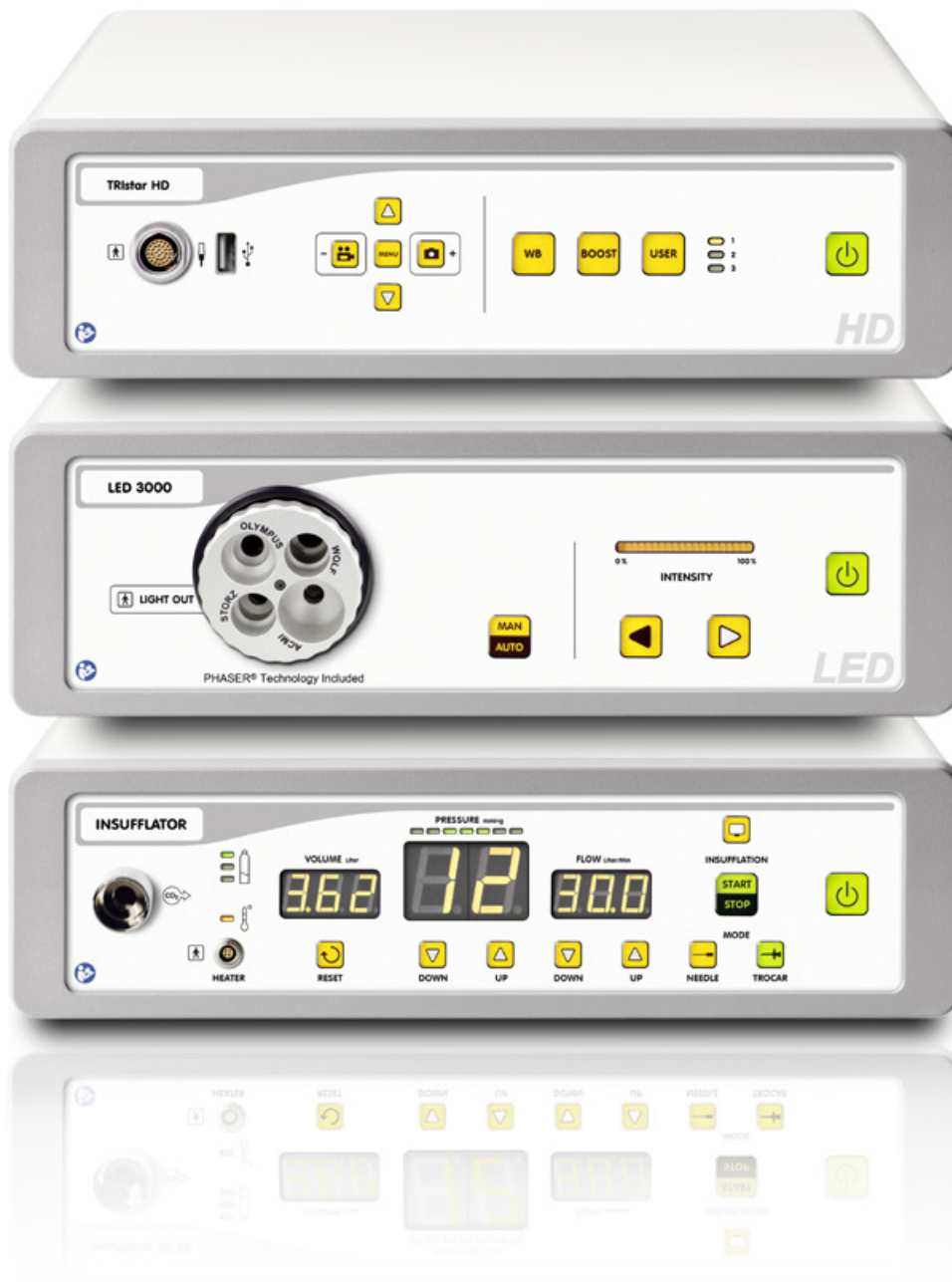


DUCHATEAU

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LIGHT SOURCE

XENON LIGHT SOURCE 180W / 300W

- Low noise, low heat conduction
- Electronical light control via buttons
- Simple lamp replacement
- Waterproof touch control panel

1



LIGHT SOURCE

XENON LIGHT SOURCE 180W / 300W

1


Series	Description		
Single Version:	Xenon X 180-M Xenon X 180-A	180 Watt xenon lamp, Storz adapter, manual light intensity control 180 Watt xenon lamp, Storz adapter, automatic light intensity control	
	Xenon X 300-M Xenon X 300-A Xenon X 300-AT	300 Watt xenon lamp, Storz adapter, manual light intensity control 300 Watt xenon lamp, Storz adapter, automatic light intensity control 300 Watt xenon lamp, turret adapter, automatic light intensity control	
	Backup version:	Xenon X300A-LED	300 Watt xenon lamp, Backup LED lamp, 2x Storz adapter automatic light intensity control
		Xenon X300M-LED	300 Watt xenon lamp, Backup LED lamp, 2x Storz adapter manual light intensity control
		Xenon X300AT-LED	300 Watt xenon lamp, Backup LED lamp, 2x turret adapter automatic light intensity control

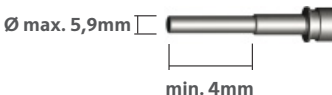
Technical Data

Lamp:	Main:	Backup (optional):
	<ul style="list-style-type: none"> • Xenon arc lamp: 180 W / 300 W • Daylight quality, 5600 K • Lifetime: 500 hr (expected) 	<ul style="list-style-type: none"> • White LED lamp • Daylight quality, 6500 K • Lifetime: > 20.000 hr
Light guide connection:	• Storz, Wolf, Olympus or turret adapter	
Voltage range (current consumption):	• 100-240 V (180W light source: 210 VA / 300W light source: 370 VA)	
Frequency:	• 50-60 Hz	
Device protection:	• 2x T6,3 A	
Video In (optional):	• 1x Video (automatic Version only)	
Protection class (acc.to IEC 60601-1):	• I	
Safety class:	• BF	
IP code:	• IP 20	
Standard:	• IEC 60601-1-2 / IEC 60601-1-1	
Device classification (acc. to MDD 93/42/EEC):	• I	
Dimensions (WxHxD):	• 355mm x 120mm x 340mm	
Weight:	• approx. 11,0 kg (180W) / approx. 12,5 kg (300W)	
Delivery contains:	• Light source, mains cable, user manual, BNC cable (optional)	
Options:	<ul style="list-style-type: none"> • Automatic light intensity control • Backup LED lamp • Multi connector option, turret: 	

Wolf 

ACMI 

Olympus 

Storz 

Exclusively pictured version!

LIGHT SOURCE

LED 1000 - HIGH INTENSITY LIGHTSOURCE

- Low noise, low heat conduction
- Electronical light control via buttons
- Pure daylight quality
- Waterproof touch control panel



LIGHT SOURCE

LED 1000 - HIGH INTENSITY LIGHTSOURCE

Series	Description
LED 1000	Storz adapter, automatic light intensity control
LED 1000	Wolf adapter, automatic light intensity control
LED 1000	Olympus adapter, automatic light intensity control

Technical Data

Lamp:	<ul style="list-style-type: none">• Daylight quality, 6500 K• Lifetime: > 20.000 hr
Light guide connection:	<ul style="list-style-type: none">• Storz, Wolf adapter
Voltage range (current consumption):	<ul style="list-style-type: none">• 100-240 V (130 VA)
Frequency:	<ul style="list-style-type: none">• 50-60 Hz
Device protection:	<ul style="list-style-type: none">• 2x T3,15 A
Video In:	<ul style="list-style-type: none">• 1x Video
Protection class (acc.to IEC 60601-1):	<ul style="list-style-type: none">• I
Safety class:	<ul style="list-style-type: none">• BF
IP code:	<ul style="list-style-type: none">• IP 20
Standard:	<ul style="list-style-type: none">• IEC 60601-1-2 / IEC 60601-1-1
Device classification (acc. to MDD 93/42/EEC):	<ul style="list-style-type: none">• I
Dimensions (WxHxD):	<ul style="list-style-type: none">• 355mm x 103mm x 253mm
Weight:	<ul style="list-style-type: none">• approx. 4,5 kg
Delivery contains:	<ul style="list-style-type: none">• Light source, mains cable, user manual, BNC cable (optional)

LIGHT SOURCE

LED 3000 - HIGH INTENSITY LIGHTSOURCE

- PHASER® Technology Included
- Turret multi connector (optional)
- Low noise, low heat conduction
- Pure daylight quality



LIGHT SOURCE

LED 3000 - HIGH INTENSITY LIGHTSOURCE

Series	Description
LED 3000	Storz adapter, automatic light intensity control
LED 3000	Wolf adapter, automatic light intensity control
LED 3000	Olympus adapter, automatic light intensity control
LED 3000 T	Turret adapter, automatic light intensity control

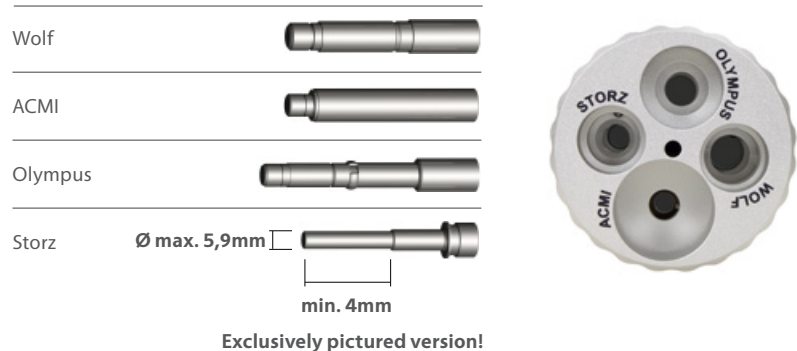
Technical Data

Light guide connection:

• Storz, (standard connection):



• Turret, multi connector (optional):



Lamp

• Daylight quality, 6000 K (+/-500 K)
• Lifetime: ≤30.000 hr

Voltage range (current consumption):

• 100-240 V (130 VA)

Frequency:

• 50-60 Hz

Device protection:

• 2x T6,3 A

Video In:

• 1x Video

Protection class (acc.to IEC 60601-1):

• I

Safety class:

• BF

IP code:

• IP 20

Standard:

• IEC 60601-1-2 / IEC 60601-1-1

Device classification (acc. to MDD 93/42/EEC):

• I

Dimensions (WxHxD):

• 355mm x 120mm x 340mm

Weight:

• approx. 10 kg

Delivery contains:

• Light source, mains cable, user manual, BNC cable

LIGHT SOURCE

HALOGEN HL 150

- Small compact design
- Exchangable lightguide adapter
- Mechanical diaphragm
- Low heat conduction



LIGHT SOURCE

HALOGEN HL 150

Technical Data

Lamp:	• 150 W (1 Halogen reflector lamp), 15 V
Light guide connection:	• Storz, Wolf, Olympus, ACMI
Intensity control:	• Stepless, mechanical diaphragm
System:	• Power supply: 115/230 V (+/- 10%) switchable • Fine fuses: 5x20mm (230 V: T1,6 A 115 V: T3,15 A) • Power consumption: max. 190 VA
Protection class (acc.to IEC 60601-1):	• I
Safety class:	• BF
IP code:	• IP 20
Standard:	• IEC 60601-1-2 / IEC 60601-1-1
Device classification (acc. to MDD 93/42/EEC):	• I
Dimensions (WxHxD):	• 175mm x 82,5mm x 202mm
Weight:	• approx. 2,5 kg
Delivery contains:	• Light source, mains cable, user manual

LIGHT SOURCES - ACCESSORIES

ILLUMINANT

Illuminant	Description	Order number
ILO 300W 5H Xenon	300W Xenon lamp, 5-hole incl. heat transfer compound	125-0008
ILO 180W	180W Xenon bulb, X 180 ILO standard	770-1008
ILO 100W	100W Xenon bulb, X 100 ILO standard	770-1001
Halogen 150W	Halogen lamp 150W, 15V, type: Xenophot HLX 64634, OSRAM	126-0011
Halogen 250W	Halogen lamp 250W, 24V, type: Typ 13163 ILC, Philips	126-0010
Halogen 75W	Halogen lamp 75W, 12V, type: Xenophot HLX 64615, OSRAM	126-0003
Metal Halid bulb	Metal halid bulb X24, 24 Watt	770-0000
X 50 Spare lamp	X 50 Spare lamp ofr XL50, XE50 eco, X50 with mounting ring	770-0005



LIGHT SOURCES - ACCESSORIES

LIQUID & GLASS FIBRE LIGHT GUIDES









Liquid light guides	Diameter	Length	Color	Order number
18 FM 50	5,0 mm	1800 mm	grey	894-0000
23 FM 50	5,0 mm	2300 mm	grey	894-0001
30 FM 50	5,0 mm	3000 mm	grey	894-0002
18 FM 50	5,0 mm	1800 mm	stainless steel mantle	894-0008

Glass fibre light guides	Diameter	Length	Color	Order number
18 LW 35	3,5 mm	1800 mm	grey	890-0003
18 LW 48	4,8 mm	1800 mm	grey	890-0004
23 LW 35	3,5 mm	2300 mm	grey	890-0005
23 LW 48	4,8 mm	2300 mm	grey	890-0006
18 LC 35	3,5 mm	1800 mm	grey	891-0003
18 LC 48	4,8 mm	1800 mm	grey	891-0004
23 LC 35	3,5 mm	2300 mm	grey	891-0005
23 LC 48	4,8 mm	2300 mm	grey	891-0006
23 LC 35	3,5 mm	3000 mm	grey	891-0007
30 LC 48	4,8 mm	3000 mm	grey	891-0008
18 HLC 35	3,5 mm	1800 mm	grey	892-0000
18 HLC 48	4,8 mm	1800 mm	grey	892-0001
23 HLC 35	3,5 mm	2300 mm	grey	892-0002
23 HLC 48	4,8 mm	2300 mm	grey	892-0003
30 HLC 35	3,5 mm	3000 mm	grey	892-0004
30 HLC 48	4,8 mm	3000 mm	grey	892-0005

LIGHT SOURCES - ACCESSORIES





LIGHT GUIDE ADAPTER

1

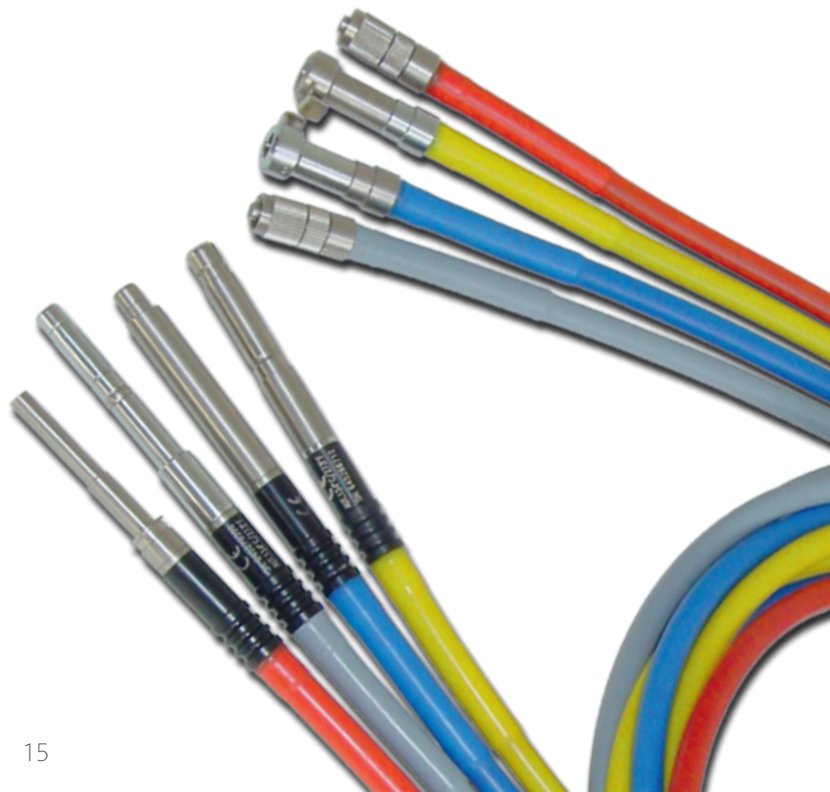
Adapter source side	Description	Order number
input, Storz	Light guide adapter light source side, for LW-, LC-Type 	896-0008
input, Olympus	Light guide adapter light source side, for LW-, LC-Type 	896-0009
input, Wolf	Light guide adapter light source side, for LW-, LC-Type 	896-0010
input, ACMI	Light guide adapter light source side, for LW-, LC-Type 	896-0011
input, Storz HLC	Light guide adapter light source side, for HLC-Type 	896-0016
input, Olympus HLC	Light guide adapter light source side, for HLC-Type 	896-0017
input, Wolf HLC	Light guide adapter light source side, for HLC-Type 	896-0018
input, ACMI HLC	Light guide adapter light source side, for HLC-Type 	896-0019

LIGHT SOURCES - ACCESSORIES

LIGHT GUIDE ADAPTER

Adapter instrument side	Description	Order number
output, Storz,	Light guide adapter instrument side, for LW-, LC-, HLC-, FM-type 	896-0000
output, Olympus	Light guide adapter instrument side, for LW-, LC-, HLC-, FM-type 	896-0001
output, Wolf	Light guide adapter instrument side, for LW-, LC-, HLC-, FM-type 	896-0002
output, ACMI	Light guide adapter instrument side, for LW-, LC-, HLC-, FM-type 	896-0003

1



CAMERA

EcoCAM 750 - DIGITAL VIDEO CAMERA 1-CCD

-
- Natural colour reproduction
 - Single chip
 - Anti-moiree-filter
 - High image quality
-

2



EcoCAM 750 - DIGITAL VIDEO CAMERA 1-CCD

Technical Data

Camera head:	<ul style="list-style-type: none"> • Aspect ratio: 4:3 • Image sensor: 1/3" CCD • Immersible (using the attached cap)
Voltage range (current consumption):	• 100-240 V (25 VA)
Frequency:	• 50-60 Hz
Device protection:	• 2x T3,15 A
Video System:	<ul style="list-style-type: none"> • PAL/NTSC • Image resolution: PAL 752 x 582/ NTSC 768 x 494 • TV resolution: > 470 lines • Sensitivity: < 1 lux (1/1.4) • White balance automatically, with data hold • shutter speed PAL (NTSC): 1/50 (1/60) to 1/100.000 sec
Video out terminal	• 2x Video; 2x S-Video; 1x Y-Pb-Pr (Component); 1x SDI; 1x USB 2.0
Protection class (acc.to IEC 60601-1):	• I
Safety class:	• BF
IP code:	• IP 20
Standard:	• IEC 60601-1-2 / IEC 60601-1-1
Device classification (acc. to MDD 93/42/EEC):	• I
Dimensions (WxHxD):	• 355mm x 103mm x 253mm
Weight:	• approx. 4,4 kg
Delivery contains:	• CCU, camera head with 3,05m (10ft) cable, mains cable, User manual, Y/C cable, BNC cable

Options

Freeze function:	• Freeze the image via footswitch
------------------	-----------------------------------

EcoCAM 750 camera head

Weight: 80 g
Size: d= 29 mm; l= 55 mm

CAMERA

SWIFTCAM - DIGITAL VIDEO CAMERA 1-CCD

- Multilingual on-screen-menu
- Digital zoom
- Camera control with keyboard
- Character generator

2



SWIFTCAM - DIGITAL VIDEO CAMERA 1-CCD

Technical Data

Camera head:	<ul style="list-style-type: none"> • Aspect ratio: 4:3 • Image sensor: 1/3" CCD • Immersible (using the attached cap)
Voltage range (current consumption):	• 100-240V (25 VA)
Frequency:	• 50-60 Hz
Device protection:	• 2x T3,15 A
Video system:	<ul style="list-style-type: none"> • PAL/NTSC • Image resolution: PAL 752 x 582/ NTSC 768 x 494 • TV resolution: > 470 lines • Sensitivity: < 1 lux (1/1.4) • White balance automatically, with data hold • shutter speed PAL (NTSC): 1/50 (1/60) to 1/100.000 sec
Video out terminal:	• 2x Video; 2x S-Video; 1x Y-Pb-Pr (Component); 1x SDI; 1x USB 2.0
Protection class (acc.to IEC 60601-1):	• I
Safety class:	• BF
IP code:	• IP 20
Standard:	• IEC 60601-1-2 / IEC 60601-1-1
Device classification (acc. to MDD 93/42/EEC):	• I
Dimensions (WxHxD):	• 355mm x 103mm x 253mm
Weight:	• 4,4 kg
Delivery contains	• CCU, camera head with 3,05m (10ft) cable, mains cable, User manual, Y/C cable, BNC cable, HDMI - DVI cable (optional), HDMI cable (optional), USB Stick (optional)

Series	SwiftCAM	SwiftCAM-C	SwiftCAM-D	SwiftCAM-CD
On-screen-display	x	x	x	x
Menu	x	x	x	x
Titel generator option PS/2	x	x	x	x
Capture module (image, video)	-	x	-	x
HDMI out	-	-	x	x
Zoom function	x	x	x	x

Options

Freeze function:	• Freeze the image via push buttons
Remote camera head:	• With programmable push buttons (zoom, freeze)
Remote footswitch:	• With programmable push buttons

SwiftCAM camera head

Without push buttons

Weight: 80 g
Size: d= 29 mm; l= 55 mm



With push buttons

Weight: 105 g
Size: d= 34 mm; l= 73 mm

CAMERA

eco HD - HIGH DEFINITION CAMERA 1-MOS

-
- Full HD resolution
 - High speed shutter
 - Multilingual menu
 - 3 user setting storable
-

2



Technical Data

Camera head:	<ul style="list-style-type: none"> • Aspect ratio: 16:9 • Image sensor: 1/3" MOS • Immersible (using the attached cap) 				
Voltage range (current consumption):	• 100-240 V (25 VA)				
Frequency:	• 50-60 Hz				
Device protection:	• 2x T3,15 A				
Video system:	<ul style="list-style-type: none"> • Image resolution: full HD 1920 x 1080 • TV resolution: > 1000 lines • Sensitivity: < 3 lux (1/1.4) • White balance automatically, with data hold • shutter speed: 1/50 (1/60) to 1/100.000 sec 				
Connections	<table> <tr> <td>Video out terminal:</td> <td>Other connections:</td> </tr> <tr> <td>• 1x HDMI</td> <td> <ul style="list-style-type: none"> • 1 x USB (A) (USB-keyboard) • 1 x Remote IN (footswitch) • 1 x Remote OUT (video printer, video recorder,...) • 1 x RJ45 (Service) </td> </tr> </table>	Video out terminal:	Other connections:	• 1x HDMI	<ul style="list-style-type: none"> • 1 x USB (A) (USB-keyboard) • 1 x Remote IN (footswitch) • 1 x Remote OUT (video printer, video recorder,...) • 1 x RJ45 (Service)
Video out terminal:	Other connections:				
• 1x HDMI	<ul style="list-style-type: none"> • 1 x USB (A) (USB-keyboard) • 1 x Remote IN (footswitch) • 1 x Remote OUT (video printer, video recorder,...) • 1 x RJ45 (Service) 				
Protection class (acc.to IEC 60601-1):	• I				
Safety class:	• BF				
IP code:	• IP 20				
Standard:	• IEC 60601-1-2 / IEC 60601-1-1				
Device classification (acc. to MDD 93/42/EEC):	• I				
Features:	<ul style="list-style-type: none"> • White balance, boost function • On-screen-menu • 3 user settings storable • 2.5 digital zoom • Freeze function • Character generator 				
Dimensions (WxHxD):	• 359,4mm x 106,2mm x 335,2mm				
Weight:	• approx.4,7 kg				
Delivery contains:	• CCU, camera head with 3,05m (10ft) cable, mains cable, HDMI - DVI cable, HDMI cable, user manual				

Options

Optional accessories:	<ul style="list-style-type: none"> • Waterproof keyboard • Footswitch
-----------------------	---

Swift 1HD camera head

Weight: approx. 150g
 Diameter: 36,5mm
 Length: 65,2mm (without grommet)

CAMERA

SWIFT 1HD - HIGH DEFINITION CAMERA 1-MOS

- Full HD resolution
- High speed shutter
- Multilingual menu
- Remote camera head

2



SWIFT 1HD - HIGH DEFINITION CAMERA 1-MOS

Technical Data

Camera head:	<ul style="list-style-type: none"> • Aspect ratio: 16:9 • Image sensor: 1/3" MOS • Immersible (using the attached cap) 		
Voltage range (current consumption):	• 100-240 V (25 VA)		
Frequency:	• 50-60 Hz		
Device protection:	• 2x T3,15 A		
Video system:	<ul style="list-style-type: none"> • Image resolution: full HD 1920 x 1080 • TV resolution: > 1000 lines • Sensitivity: < 3 lux (1/1.4) • White balance automatically, with data hold shutter speed: 1/50 (1/60) to 1/100.000 sec 		
Recording (optional)	<ul style="list-style-type: none"> • Image format: JPG 1920 x 1080 • Video format: Full HD 1920 x 1080; Mpeg-4 (H.264 Codec); Image rate 60fps • Connection: USB (A) 		
Connections:	<table border="0" style="width: 100%;"> <tr> <td style="vertical-align: top;"> Video out terminal: <ul style="list-style-type: none"> • 1x HDMI / DVI • 1x Y-Pb-Pr (Component) • 1x Video (PAL / NTSC) • 1x S-Video (PAL / NTSC) • 2x HD SDI (optional) </td> <td style="vertical-align: top; padding-left: 20px;"> Other connections: <ul style="list-style-type: none"> • 1 x USB (A) (USB-keyboard) • 1 x Remote IN (footswitch) • 1 x Remote OUT (videoprinter, videorecorder,...) • 1 x RJ45 (Service) </td> </tr> </table>	Video out terminal: <ul style="list-style-type: none"> • 1x HDMI / DVI • 1x Y-Pb-Pr (Component) • 1x Video (PAL / NTSC) • 1x S-Video (PAL / NTSC) • 2x HD SDI (optional) 	Other connections: <ul style="list-style-type: none"> • 1 x USB (A) (USB-keyboard) • 1 x Remote IN (footswitch) • 1 x Remote OUT (videoprinter, videorecorder,...) • 1 x RJ45 (Service)
Video out terminal: <ul style="list-style-type: none"> • 1x HDMI / DVI • 1x Y-Pb-Pr (Component) • 1x Video (PAL / NTSC) • 1x S-Video (PAL / NTSC) • 2x HD SDI (optional) 	Other connections: <ul style="list-style-type: none"> • 1 x USB (A) (USB-keyboard) • 1 x Remote IN (footswitch) • 1 x Remote OUT (videoprinter, videorecorder,...) • 1 x RJ45 (Service) 		
Protection class (acc.to IEC 60601-1):	• I		
Safety class:	• BF		
IP code:	• IP 20		
Standard:	• IEC 60601-1-2 / IEC 60601-1-1		
Device classification (acc. to MDD 93/42/EEC):	• I		
Features:	<ul style="list-style-type: none"> • White balance, boost function • On-screen-menu • 3 user settings storable • 2.5 digital zoom • Freeze function • Character generator 		
Dimensions:	• Control unit: 355mm x 103mm x 253mm (WxHxD); Weight: approx. 4,5 kg		
Delivery contains:	• CCU, camera head with 3,05m (10ft) cable, Y/C cable, BNC cable, HDMI - DVI cable, HDMI cable, user manual		

Options

Features:	• Image capture, video capture
Optional accessories:	• Waterproof keyboard
	• Footswitch

Swift 1HD camera head

Weight: 105 g
Size: d= 34 mm; l= 73 mm

With push buttons

CAMERA

TRISTAR HD - HIGH DEFINITION CAMERA 3-MOS

- Full HD resolution
- High speed shutter
- Multilingual menu
- Remote camera head

2



TRISTAR HD - HIGH DEFINITION CAMERA 3-MOS

Technical Data

Camera head:	<ul style="list-style-type: none"> • Aspect ratio: 16:9 • Image sensor: 3x 1/3" MOS • Immersible (using the attached cap) 		
Voltage range (current consumption):	• 100-240 V (40 VA)		
Frequency:	• 50-60 Hz		
Device protection:	• 2x T3,15 A		
Video system:	<ul style="list-style-type: none"> • Image resolution: full HD 1920 x 1080 • TV resolution: > 1000 lines • Sensitivity: < 3 lux (1/1.4) • White balance automatically, with data hold shutter speed: 1/50 (1/60) to 1/100.000 sec 		
Recording (optional)	<ul style="list-style-type: none"> • Image format: JPG 1920 x 1080 • Video format: Full HD 1920 x 1080; Mpeg-4 (H.264 Codec); Image rate 60fps • Connection: USB (A) 		
Connections	<table border="0" style="width: 100%;"> <tr> <td style="vertical-align: top;"> Video out terminal: <ul style="list-style-type: none"> • 2x HD SDI • 1x HDMI / DVI • 1x Y-Pb-Pr (Component) • 1x Y/C (PAL / NTSC) • 1x CVBS (PAL / NTSC) </td> <td style="vertical-align: top; padding-left: 20px;"> Other connections: <ul style="list-style-type: none"> • 1 x USB (A) (USB-keyboard) • 1 x Remote IN (footswitch) • 1 x Remote OUT (videoprinter, videorecorder,...) • 1 x RJ45 (Service) </td> </tr> </table>	Video out terminal: <ul style="list-style-type: none"> • 2x HD SDI • 1x HDMI / DVI • 1x Y-Pb-Pr (Component) • 1x Y/C (PAL / NTSC) • 1x CVBS (PAL / NTSC) 	Other connections: <ul style="list-style-type: none"> • 1 x USB (A) (USB-keyboard) • 1 x Remote IN (footswitch) • 1 x Remote OUT (videoprinter, videorecorder,...) • 1 x RJ45 (Service)
Video out terminal: <ul style="list-style-type: none"> • 2x HD SDI • 1x HDMI / DVI • 1x Y-Pb-Pr (Component) • 1x Y/C (PAL / NTSC) • 1x CVBS (PAL / NTSC) 	Other connections: <ul style="list-style-type: none"> • 1 x USB (A) (USB-keyboard) • 1 x Remote IN (footswitch) • 1 x Remote OUT (videoprinter, videorecorder,...) • 1 x RJ45 (Service) 		
Protection class (acc.to IEC 60601-1):	• I		
Safety class:	• BF		
IP code:	• IP 20		
Standard:	• IEC 60601-1-2 / IEC 60601-1-1		
Device classification (acc. to MDD 93/42/EEC):	• I		
Features:	<ul style="list-style-type: none"> • White balance, boost function • On-screen-menu • 3 user settings storable • 2.5 digital zoom • Freeze function • Character generator 		
Dimensions:	• Control unit: 355mm x 103mm x 253mm (WxHxD); 4,5 kg		
Delivery contains:	• CCU, camera head with 3,05m (10ft) cable, mains cable, Y/C cable, BNC cable, HDMI - DVI cable, HDMI cable, user manual		

Camera head with push buttons

Weight: 145 g
Size: d= 38,5 mm; l= 81 mm

Options

Features	• Image capture, video capture
Optional accessories	<ul style="list-style-type: none"> • Waterproof keyboard • Footswitch

CAMERA

TRistar 4K - ULTRA HIGH DEFINITION CAMERA 3-MOS

- 4K UHD resolution
- Zoom, freeze, fog reduction
- Image enhancement of colour and structure
- 10 USER Presets for surgical application
- Multilingual menu

2



TRlstar 4K - ULTRA HIGH DEFINITION CAMERA 3-MOS

Technical Data

Camera head:	<ul style="list-style-type: none"> • Aspect ratio: 16:9 • Image sensor: 3x 1/3" MOS • Immersible (using the attached cap)
Voltage range (current consumption):	• 100-240 V (60 VA)
Frequency:	• 50-60 Hz
Device protection:	• 2x T3,15 A
Video system:	<ul style="list-style-type: none"> • Image resolution: UHD 3840 x 2160 • TV resolution: 1600 lines • S/N-Ratio 54dB • White balance automatically, with data hold
Video output:	<ul style="list-style-type: none"> • 1 x HDMI 4K (3840 x 2160) • 1 x HDMI Full HD (1920 x 1080) • 1 x SDI 4K (4 x BNC) (3840 x 2160) • 1 x SDI Full HD (1 x BNC) (1920 x 1080)
Video format:	<ul style="list-style-type: none"> • HDMI output: 3840x2160/59.94p, 3840x2160/50p, 1920x1080/59.94p, 1920x1080/59.94i, 1920x1080/50p, 1920x1080/50i • SDI output: 3840x2160/59.94p, 3840x2160/50p, 1080/59.94p, 1080/59.94i, 1080/50p, 1080/50i
Protection class (acc.to IEC 60601-1):	• I
Safety class:	• BF
IP code:	• IP 20
Standard:	• IEC 60601-1-2 / IEC 60601-1-1
Device classification (acc. to MDD 93/42/EEC):	• I
Dimensions (WxHxD):	• 355mm x 103mm x 350mm
Weight:	• approx. 6,2kg
Delivery contains:	• CCU, camera head with 3,05m cable (10ft), mains cable, HDMI cable, User manual

Options

- Image capture, video capture

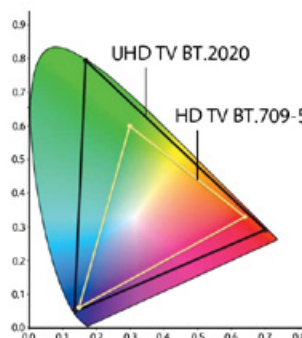
TRlstar 4K camera head

Weight: approx. 200g
 Diameter: 43mm
 Length: 85,7mm (without grommet)

With 4 push buttons

Colour space

The camera is able to reproduce the extended color space BT.2020 in addition to the BT.709 color space for HDTV. (Prerequisite is a BT.2020 compatible monitor)



TV ADAPTER

Series	Description	Order number
TV-ILO 21 WP	Adapter f = 21.0 mm, c-mount, soakable	870-0000
TV-ILO 28 WP	Adapter f = 28.0 mm, c-mount, soakable	870-0001
TV-ILO 35 WP	Adapter f = 35.0 mm, c-mount, soakable	870-0002
TV-ILO 15 WP	Adapter f = 15.0 mm, c-mount, soakable	870-0003
TV-ILO 40 WP	Adapter f = 40.0 mm, c-mount, soakable	870-0006
<hr/>		
TV-Zoom 1535 PWP	Adapter, vario-zoom, f = 15.0 - 35.0 mm, c-mount, soakable	870-0016
TV-Zoom 1525 WP	Adapter, f = 15.0 - 25.0 mm, c-mount, soakable	870-0004
TV-Zoom 2540 WP	Adapter, f = 25.0 - 40.0 mm, c-mount, soakable	870-0005
<hr/>		
TV-28 HDWP	Adapter f = 28.0 mm, S-design, c-mount, soakable	870-0027
TV-25 HDWP	Adapter f = 25.0 mm, S-design, c-mount, soakable	870-0029
TV-14 HDWP	Adapter f = 14.0 mm, S-design, c-mount, soakable	870-0029
TV-21 HDWP	Adapter f = 21.0 mm, S-design, c-mount, soakable	870-0031
<hr/>		
TV-Adapter angled	Adapter, angled 90°, f = 30.0 mm, c-mount, soakable	870-0008
TV-Adapter angled	Adapter, angled 90°, f = 25.0 mm, c-mount, soakable	870-0009
TV-Adapter angled	Adapter, angled 90°, f = 18.0 mm, c-mount, soakable	870-0010
<hr/>		
TS-ILO 30 WP	Beamsplitter TV-Adapter, f = 30.0 mm c-mount, soakable	873-0000
TS-ILO 25 WP	Beamsplitter TV-Adapter, f = 25.0 mm c-mount, soakable	873-0001
TS-ILO 18 WP	Beamsplitter TV-Adapter, f = 18.0 mm c-mount, soakable	873-0002
TS-ILO 35 WP	Beamsplitter TV-Adapter, f = 35.0 mm c-mount, soakable	873-0003



COMBINATION

XE-50 SERIES

-
- Multifunctional system
 - Compact & efficient
 - Camera and light source
 - Documentation system
-

3

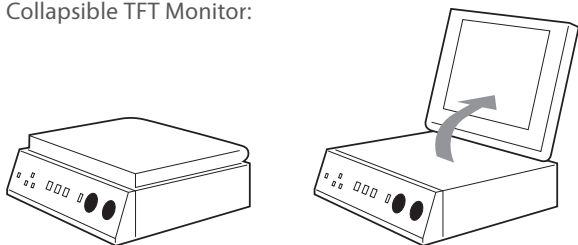


Technical Data

Camera head:	<ul style="list-style-type: none"> • Aspect ratio: 4:3 • Image sensor: 1/3" CCD • Immersible (using the attached cap)
Voltage range (current consumption):	• 100-240 V (120 VA)
Frequency:	• 50-60 Hz
Device protection:	• 2x T3,15 A
Video system:	<ul style="list-style-type: none"> • Video resolution: 470 lines • Sensitivity: < 1 lux (1/1.4) • PAL/NTSC
Monitor:	• 10,4" TFT, 800 x 600 dots resolution
Shutter range:	• PAL 1/50 - 1/100.000 sec; NTSC 1/60 - 1/100.000 sec
Lamp:	• Xenon metal halide short arc Lamp, 50 W, 5500 K
Light guide connection:	• Storz
Video out terminal:	• 2x Video; 2x S-Video; 1x Y-Pb-Pr (Component); 1x SDI; 1x USB 2.0 HDMI (optional)
Protection class (acc.to IEC 60601-1):	• I
Safety class:	• BF
IP code:	• IP 20
Standard:	• IEC 60601-1-2 / IEC 60601-1-1
Device classification (acc. to MDD 93/42/EEC):	• I
Features:	<ul style="list-style-type: none"> • White balance, window functions, boost function, anti-moiree-filter • Freeze function • Video & image capture
Dimensions:	• Control unit: 295mm x 128mm x 278mm (WxHxD); Weight: approx. 6 kg
Delivery contains:	• CCU, mains cable, user manual, , Y/C cable, BNC cable, USB Stick (optional)

Housing

Collapsible TFT Monitor:



Series	XE 50 USB	XE 50 MOTION
Image capture	x	x
Video capture	-	x

XE-50 Motion camera head



Without push buttons

Weight: 80 g
Size: d= 29 mm; l= 55 mm



With push buttons

Weight: 105 g
Size: d= 34 mm; l= 73 mm

COMBINATION

LED-50 SERIES

-
- Multifunctional system
 - Compact & efficient
 - Camera and light source
 - Documentation system
-

3

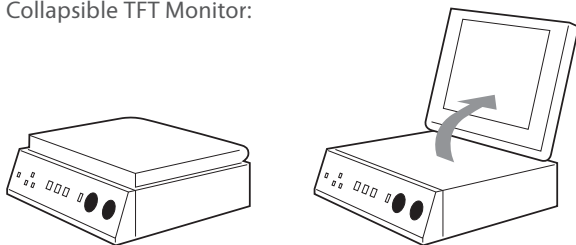


Technical Data

Camera head:	<ul style="list-style-type: none"> • Aspect ratio: 4:3 • Image sensor: 1/3" CCD • Immersible (using the attached cap)
Voltage range (current consumption):	• 100-240 V (95 VA)
Frequency:	• 50-60 Hz
Device protection:	• 2x T3,15 A
Video system:	<ul style="list-style-type: none"> • Video resolution: 470 lines • Sensitivity: < 1 lux (1/1.4) • PAL/NTSC
Monitor:	• 10,4" TFT, 800 x 600 dots resolution
Shutter range:	• PAL 1/50 - 1/100.000 sec; NTSC 1/60 - 1/100.000 sec
Lamp:	• LED lamp, comparable 50 W, 5500 K
Light guide connection:	• Storz
Video out terminal:	• 2x Video; 2x S-Video; 1x Y-Pb-Pr (Component); 1x SDI; 1x USB 2.0; HDMI (optional)
Protection class (acc.to IEC 60601-1):	• I
Safety class:	• BF
IP code:	• IP 20
Standard:	• IEC 60601-1-2 / IEC 60601-1-1
Device classification (acc. to MDD 93/42/EEC):	• I
Features:	<ul style="list-style-type: none"> • White balance, window functions, boost function, anti-moiree-filter • Freeze function • Documentation system
Dimensions:	• Control unit: 295mm x 128mm x 278mm (WxHxD); Weight: approx. 5 kg
Delivery contains:	• CCU, mains cable, user manual, , Y/C cable, BNC cable, USB Stick (optional)

Housing

Collapsible TFT Monitor:



Series	LED-50 USB	LED-50 MOTION
Image capture	x	x
Video capture	-	x
	LED-50 USB-D	LED-50 MOTION-D
HDMI	x	x

LED-50 series camera head



Weight: 80 g
Size: d= 29 mm; l= 55 mm

Without push buttons



Weight: 105 g
Size: d= 34 mm; l= 73 mm

With push buttons

INSUFFLATOR

CO₂-INSUFFLATOR D-FLOW

- Full automatic
- Filter system for sterility
- Up to 45 liters/ minute
- Microprocessor controlled

4



INSUFFLATOR

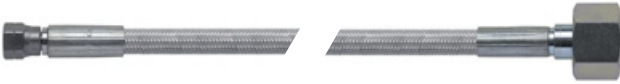
CO₂-INSUFFLATOR D-FLOW

Series	Description
DF-315	Maximum gasflow: 15 l/min
DF-320	Maximum gasflow: 20 l/min
DF-330	Maximum gasflow: 30 l/min
DF-345	Maximum gasflow: 45 l/min
Options	
Version H	• With gas heater
Version V	• With OSD - On-Screen-System (only available with connected ILO OSD Camera)
Technical Data	
Insufflator pressure:	• 0 - 30 mmHg
Power supply:	• 100 - 240 VAC, 50 - 60 Hz
Power consumption:	• 25 - 40 VA (25-105 VA with gas heating)
Protection class (acc.to IEC 60601-1):	• I
Safety class:	• BF
IP code:	• IP 31
Standard:	• IEC 60601-1-2 / IEC 60601-1-1
Device classification (acc. to MDD 93/42/EEC):	• IIb
Gas:	• Carbon dioxide (medical)
Gas connection:	• UNF 7/16"
Dimensions:	• Control unit: 355mm x 105mm x 253mm (WxHxD); 6,5 kg
Delivery contains:	• Insufflator, mains cable, CO ₂ high pressure tube UNF to German gas connection, wrench set: SW14/ SW30, sterile filter, standard silicone tube (not H version), system gas heater with tube set (only H version), user manual
Features:	<ul style="list-style-type: none"> • Flexible gas supply: The device can be used with gas bottles or central gas supply systems. The gas supply mode can be changed very easily by integrated software. • System gas heater: For reduction of post surgery problems the DF Series is available with a high efficient gas heater. The gas heater is preadjusted and works on a plug and play base full automatically. The heat exchanger can be autoclaved with the tube set. • OSD: The On-Screen-Display gives the surgeon the possibility to display the important values on the monitor. • ACF: The DF Series stands for Advance-Continuous-Flow-Insufflation. That means no more disruption between gasflow and pressure reading phases. • Safety: The automatic self check is activated each time the unit is switched on to ensure that all electronic and pneumatic components are in good running order. This safety feature carries a guarantee for lifetime of the unit. The changeable sterile filter prevents reflux of liquids and contamination of the gas way. • Differential pressure indicator: A colored LED array shows the actual-setpoint pressure difference between setted value and factual value in the patient.

INSUFFLATOR ACCESSORIES

Insufflator Accessories	Description	Order Number
Heating Device	Heater source for insufflators with heating, autoclavable	952-0012
Filter	single sterilized filter for insufflator, single use	952-0009
Filter	50 sterilized filter for insufflator, single use	952-0007
Filter	100 sterilized filter for insufflator, single use	952-0005
Filter	250 sterilized filter for insufflator, single use	952-0006
Filter	500 sterilized filter for insufflator, single use	952-0008
High-pressure-tube	DIN GER/ DIN GER, 1m	952-1020
High-pressure-tube	UNF/ UNF, 1m	952-1022
High-pressure-tube	UNF/ PIN Index, 1m	952-1025
High-pressure-tube	UNF/ ISO, 1m	952-1026
High-pressure-tube	UNF/ GER, 1m	952-1021
Tubing	For laparoscopy insufflator without heating, 8mm x 2,5m	952-0004
Tubing	For laparoscopy insufflator with heating, 8mm x 2,5m	952-0003

INSUFFLATOR ACCESSORIES



PUMP

SUCTION IRRIGATION PUMP - SIP 3000

- Full automatic
- Filter system for sterility
- Up to 3 liters/ minute
- Standby function

5



Technical Data

Power supply:	• 115 VAC / 230 VAC switchable
Irrigation:	• Max. 3000 ml/min (depending on tube set and instrument)
Suction:	• Max. 3000 ml/min (depending on tube set and instrument)
Protection class (acc.to IEC 60601-1):	• I
Safety class:	• BF
IP code:	• IP 31
Standard:	• IEC 60601-1-2 / IEC 60601-1-1
Device classification (acc. to MDD 93/42/EEC):	• IIa
Dimensions:	• Control unit: 355mm x 105mm x 253mm (WxHxD); 5,5 kg
Delivery contains	• SIP 3000, 2 liter suction bottle with holder, 2 sterile filter, 1 silicone tube set for suction and irrigation, 1 thorn for rinsing bottle, user manual
Features	• Overpressure in the irrigation bottle and underpressure in the suction bottle are controlled and ballanced by high sensitive electronical sensors. • The automatic standby function keeps the pressure available and reduces the noise if the system is not used. • The use of disposable sterile air filters avoids contamination of the SIP 3000 and the irrigation liquid by contaminated air. • All accessories are full autoclavable. • The SIP 3000 is very simple to install and easy to use

PUMP

ACCESSORIES (SUCTION IRRIGATION PUMP - SIP 3000)

Insufflator Accessories	Description	Order Number
Thorn for rinsing bottle	For suction irrigation pump SIP 3000	956-0010
Filter	50 sterilized filter for Pump, single use	956-0001-50
Filter	100 sterilized filter for Pump, single use	956-0001-100
Filter	500 sterilized filter for Pump, single use	956-0001-500
Tube set	For suction irrigation pump SIP 3000, 8mm	956-0005
	Tubing, 6mm, 1x Male Luer Lock, 250 cm	
	Tubing, 6mm, Silicone Tube, 250 cm	
	Tubing, 6mm, 1x Female Luer Lock, 80 cm	
	Tubing, 6mm, 2x Male Luer Lock, 80 cm	
Suction bottle	For suction irrigation pump SIP 3000	956-0009

PUMP

ACCESSORIES (SUCTION IRRIGATION PUMP - SIP 3000)



PUMP

SUCTION IRRIGATION PUMP - LAPAROSCOPY

- Minimally invasive technique of transporting fluid to and from a surgical site
- Easy in use
- Acoustic and visual warning in case of incorrect tubing placement
- Remote control option

5



SUCTION IRRIGATION PUMP - LAPAROSCOPY

Technical Data

Max. flow rate in the irrigation channel:	• 1,8 l/min (+/- 10%)
Max. flow rate in the suction channel:	• 1,8 l/min (+/- 10%)
Max. pressure in the irrigation channel:	• 400 mmHg (+/- 50mmHg)
Suction pressure:	• -50 kPa to -60 kPa
Dimensions:	• 306mm x 330mm x 120mm (DxWxH), 8,0 kg
System:	• Power supply: 100-240 V AC, 50/60 Hz
Class of protection:	• Application part: Type BF
Casing safety standard:	• IP X1
Ambient temperature / Max. relative humidity:	• During operation: +10°C to +40°C / 70%
	• During storage and transport: -20°C to +45°C / 70%
CE Standard	• EN60601-1; EN60601-1-2

Features

- Autonomous suction and irrigation channels
- Irrigation based on the peristaltic pump module
- Suction based on the high quality vacuum pump module
- Predefined suction and irrigation parameters
- Working parameters controlled by suction-irrigation laparoscopic instrument
- Compatibility with various models of laparoscopic suction-irrigation instrumentst

REMOTE CONTROL**ACCESSORIES FOR THE SUCTION CHANNEL**

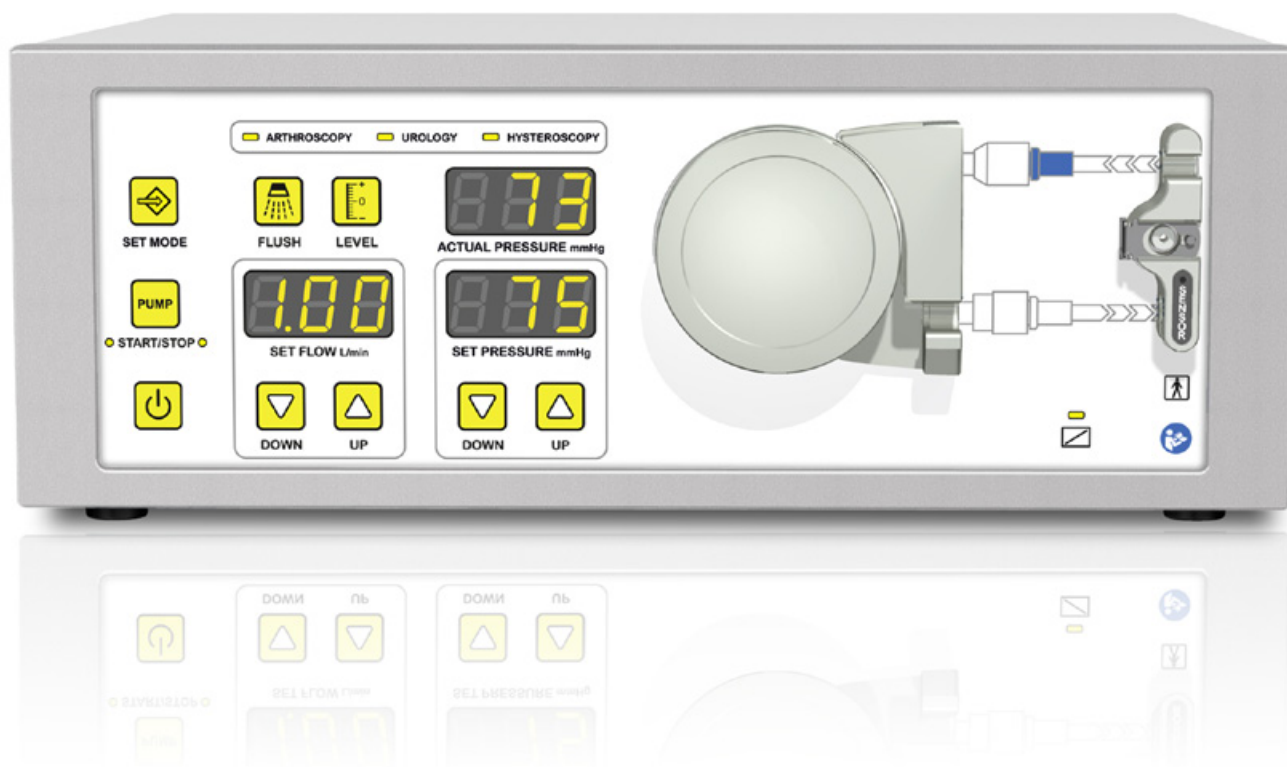
- Single-use hydrophobic filters protects the pump against contamination from an operating area
- Silicone connection tube for hydrophobic filters
- Silicone tubing to connect the pump, suction jar and suction-irrigation instrument
- Various types of suction-irrigation instruments and suction jars

PUMP

UNIVERSAL FLUID PUMP (arthroscopy, hysteroscopy, urology)

- Three working modes (arthroscopy, hysteroscopy, urology)
- A very precise calibration of the measuring system through LEVEL function
- FLUSH function for an efficient rinsing
- Non-volatile memory of recent settings
- Acoustic and visual signals ensuring correct tubing installation

5



UNIVERSAL FLUID PUMP (arthroscopy, hysteroscopy, urology)

Technical Data

Dimensions:	• 306mm x 330mm x 120mm (DxWxH), 7,5 kg
System:	• Power supply: 100-240 V AC, 50/60 Hz
Class of protection:	• Application part: Type BF
Casing safety standard:	• IP X1
Ambient temperature / Max. relative humidity:	• During operation: +10°C to +40°C / 70%
	• During storage and transport: -20°C to +45°C / 70%
CE Standard	• EN60601-1; EN60601-1-2

Features

- Universal model for arthroscopy / urology / hysteroscopy
- Three modes in one device
- LEVEL function
- memory of recent settings
- big and clear display
- intuitive menu
- remote control (optional)
- tubing starter set (3xDUPP; 10xSUPP)

The universal pump provides three working modes:

Specialty	Arthroscopy	Urology	Hysteroscopy
Pressure	10-150 mmHg	10-150 mmHg	10-200 mmHg
Flow	0,1-2,0 l/min	0,1-1,0 l/min	0,1-0,5 l/min

REMOTE CONTROL



- Control the fluid flow and pressure

PUMP

FLUID PUMP - ARTHROSCOPY

- LEVEL function allows a very precise calibration of the measuring system
- FLUSH function for an efficient rinsing
- Non-volatile memory of recent settings
- Acoustic and visual signals ensuring correct tubing installation

5



Technical Data

Dimensions:	• 306mm x 330mm x 120mm (DxWxH), 7,5 kg
System:	• Power supply: 100-240 VAC, 50/60 Hz
Class of protection:	• Application part: Type BF
Casing safety standard:	• IP X1
Ambient temperature / Max. relative humidity:	• During operation: +10°C to +40°C / 70%
	• During storage and transport: -20°C to +45°C / 70%
CE Standard	• EN60601-1; EN60601-1-2

Features

- LEVEL function
- Pressure 10 - 150 mmHg
- Flow 0,1 - 2,0 l/min
- memory of recent settings
- big and clear display
- intuitive menu
- remote control (optional)
- tubing starter set (3xDUPP; 10xSUPP)

REMOTE CONTROL



- Control the fluid flow and pressure

PUMP

FLUID PUMP - UROLOGY

- LEVEL function allows a very precise calibration of the measuring system
- FLUSH function for an efficient rinsing
- Non-volatile memory of recent settings
- Acoustic and visual signals ensuring correct tubing installation

5



Technical Data

Dimensions:	• 306mm x 330mm x 120mm (DxWxH), 7,5 kg
System:	• Power supply: 100-240 VAC, 50/60 Hz
Class of protection:	• Application part: Type BF
Casing safety standard:	• IP X1
Ambient temperature / Max. relative humidity:	• During operation: +10°C to +40°C / 70%
	• During storage and transport: -20°C to +45°C / 70%
CE Standard	• EN60601-1; EN60601-1-2

Features

- LEVEL function
- Pressure 10 - 150 mmHg
- Flow 0,1 - 1,0 l/min
- memory of recent settings
- big and clear display
- intuitive menu
- remote control (optional)
- tubing starter set (3xDUPP; 10xSUPP)

REMOTE CONTROL



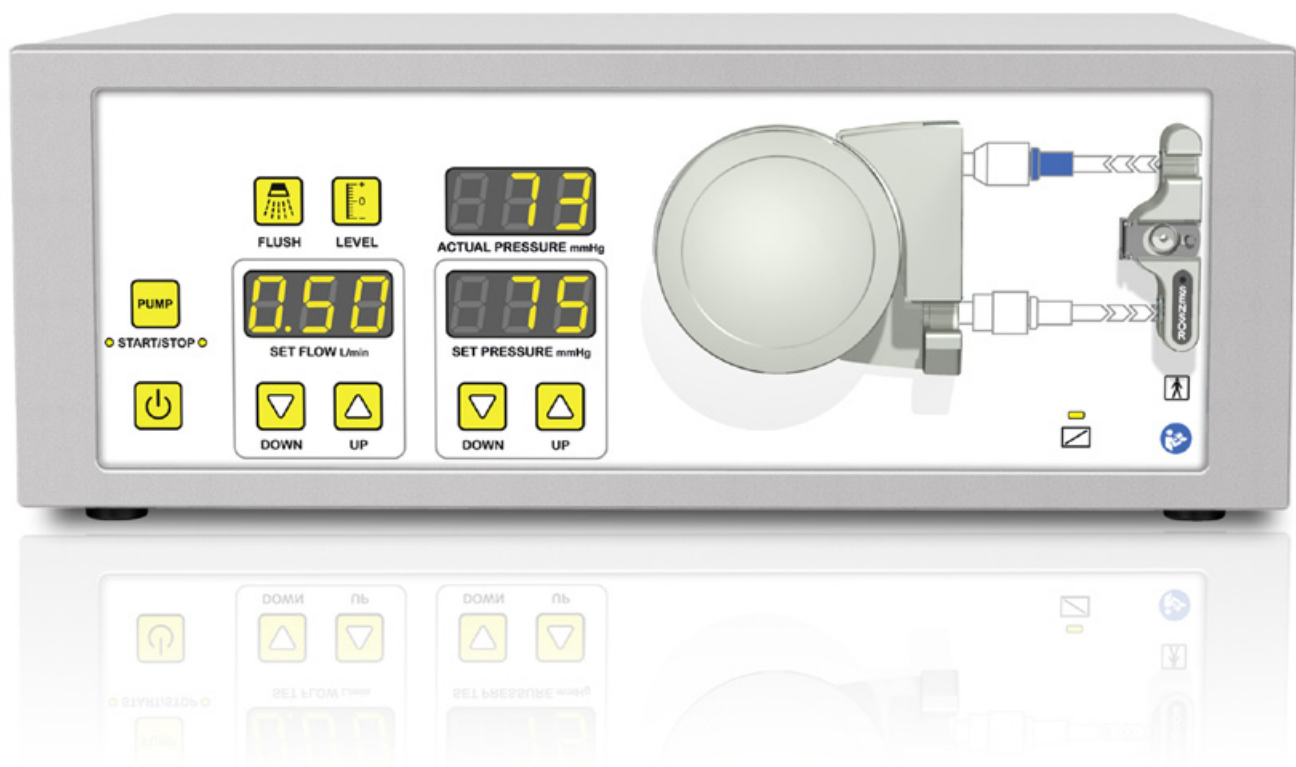
- Control the fluid flow and pressure

PUMP

FLUID PUMP - HYSTEROSCOPY

- LEVEL function allows a very precise calibration of the measuring system
- FLUSH function for an efficient rinsing
- Non-volatile memory of recent settings
- Acoustic and visual signals ensuring correct tubing installation

5



Technical Data

Dimensions:	• 306mm x 330mm x 120mm (DxWxH), 7,5 kg
System:	• Power supply: 100-240 VAC, 50/60 Hz
Class of protection:	• Application part: Type BF
Casing safety standard:	• IP X1
Ambient temperature / Max. relative humidity:	• During operation: +10°C to +40°C / 70%
	• During storage and transport: -20°C to +45°C / 70%
CE Standard	• EN60601-1; EN60601-1-2

Features

- LEVEL function
- Pressure 10 - 200 mmHg
- Flow 0,1 - 0,5 l/min
- memory of recent settings
- big and clear display
- intuitive menu
- remote control (optional)
- tubing starter set (3xDUPP; 10xSUPP)

REMOTE CONTROL



- Control the fluid flow and pressure

SHAVER

ARTHROSCOPY

- Wide range of rotational speed
- Window calibration feature
- Clockwise, counterclockwise and oscillation handpiece rotation modes
- Nine oscillation modes
- Automatic handpiece detection
- Controlled by a footswitch or directly by buttons present on a shaver handpiece
- Fully autoclavable, light and ergonomic shaver handpiece

6



Strengths

- Easy, efficient and reliable cleaning and disinfection process resulting from unique head design
- Sophisticated oscillation modes to meet requirements of the most demanding operator
- Smooth and stable work in all range of rotational speed
- Single-use and reusable shaver blades with uniquely designed hub eliminating problematic articulation effect
- Large and clearly visible user interface facilitates reading of essential parameters of the device
- Remote interface enables presentation of significant parameters on the medical monitor
- Convenient manipulation by means of the manually controlled buttons available on the shaver handpiece

Shaver control unit

Dimensions:	• 250mm x 330mm x 96mm (DxWxH), 4,8 kg
System:	• Power supply: 100-240 V AC; 50/60 Hz
Power consumption:	• 65 VA
Class of protection:	• Class I
Ambient temperature / Max. relative humidity:	• During operation: +10°C to +40°C / 70%
	• During storage and transport: -20°C to +45°C / 70%
CE Standard	• EN60601-1; EN60601-1-2

Shaver hand piece

Dimensions:	• Length: 164 mm; 325 g
System:	• Power supply: 100-240 V AC; 50/60 Hz
Shaver blade chuck:	• Automatic / Barracuda type
Speed range:	• FWD / REV: 500 - 8000 RPM (+/-10%)
	• OSC: 500 - 3500 RPM (+/-10%)
Oscillation modes:	• 9 different modes
Cable length:	• 3,2 m
Sterilization method:	• Steam sterilization 134 °C
Ambient temperature / Max. relative humidity:	• During operation: +10°C to +40°C / 100%
	• During storage and transport: -20°C to +45°C / 90%
Class of protection:	• Application part: BF type



Shaver footswitch

Dimensions:	215mm x 280mm x 28mm (DxWxH), 2,1 kg
Cable length:	3,2 m
Casing safety standard:	IP X7
Functions:	Speed up, speed down, start/stop, window size, direction
Ambient temperature / Max. relative humidity:	• During operation: +10°C to +40°C / 100%
	• During storage and transport: -20°C to +45°C / 90%

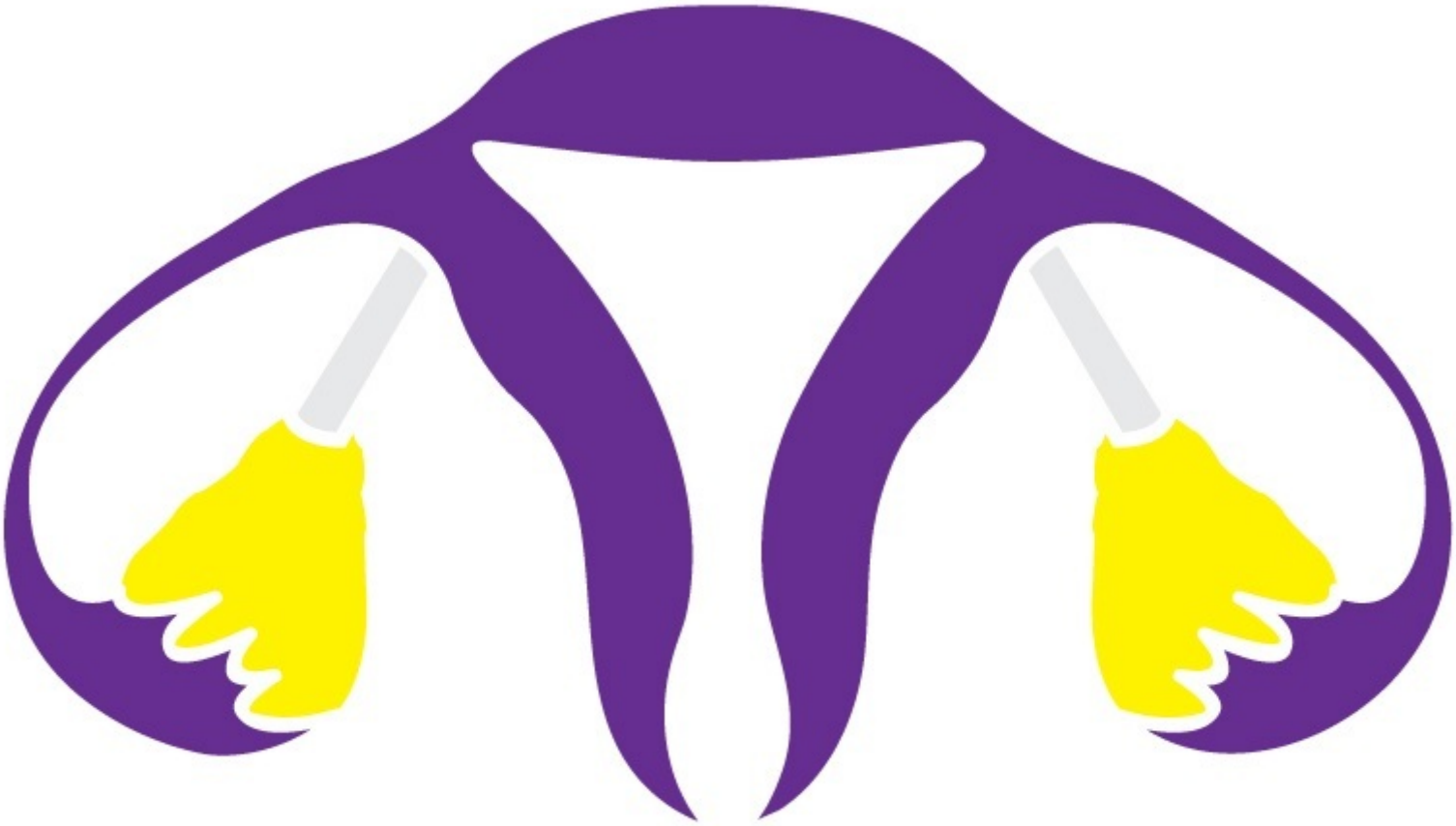


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DUCHATEAU