



Minimal Invasive Surgery Systems



Ø	Length	Degree	Article Code
1,9 mm	187 mm	0°	41.0310a
1,9 mm	187 mm	30°	41.0311a
2,0 mm	196 mm	0°	41.0307a
2,0 mm	258 mm	0°	11.0480a
2,0 mm	258 mm	30°	11.0475a
2,7 mm	187 mm	0°	21.0617a
2,7 mm	187 mm	30°	21.0619a
2,7 mm	301 mm	0°	41.0150a
2,7 mm	301 mm	30°	41.0151a
2,9 mm	301 mm	0°	41.0160a
2,9 mm	301 mm	30°	MED15
4,0 mm	301 mm	0°	41.0047a
4,0 mm	301 mm	0°	41.0049a
4,0 mm	301 mm	12°	41.0059a
4,0 mm	301 mm	30°	41.0057a
4,0 mm	301 mm	30°	41.0055a
4,0 mm	301 mm	70°	41.0121a
4,0 mm	301 mm	0°	MED15
4,0 mm	301 mm	30°	MED15
4,0 mm	301 mm	70°	MED15



Ø	Length	Working Channel	Degree	Field of View	Article Code
		(Charr)			
6,0 distal	310	1x4 or 2x2,4	8°	100°	41.0615a.wol
6,0 distal	425	1x4 or 2x2,4	8°	100°	41.0614a.wol
7,5 distal	310	1x5 or 2x3	8°	85°	41.0611a.wol
7,5 distal	425	1x5 or 2x3	8°	85°	41.0609a.wol



Ø	Length	Working Channel	Degree	Article Code
7,4 mm	200 mm	4,7 mm	0°	41.0630a



Ø	Length	Working Channel	Degree	Article Code
10,0	277 mm	5,5	0°	11.0123a
11,0	277 mm	6,0	0°	11.0121a

Laser Resectoscopy



SET	Article Code
Endoscope 4mm 30°	41.0055a
Laser Resectoscope working Unit for Laser Probes 0,8mm	41.0495l
Resectoscope Sheath Continues flow, rotatable 26 Charr.	51.0320b

Laser Cystoscope



SET	Article Code
Endoscope 4mm 30°	41.0055a
Laser cystoscope-urethroscope sheath,conti. flow, with standard obt. and inner sheath with 7 Charr working channel	41.0650a
Visual Obturator	41.0654a

Resectoscope Working Units

“26 and 28 Charr” and “19 and 22 Charr” Sheaths



Outer Sheath Ø	Inner Sheath Ø	Color Code	Article Code
26	24	Yellow	51.0319b
28	27	Black	51.0318b
22	19	White	51.0310b





Convenient Sheaths and Obturators



Charr	Color Code	To Working Unit	Order Number
24	Yellow	51.048b , 41.0479b	42.0410b
27	Black	51.048b , 41.0479b	42.0400b

Charr	Color Code	To Working Unit	Order Number
24	Yellow	51.048b , 41.0479b	42.0200b
27	Black	51.048b , 41.0479b	42.0205b

Color Code	To Sheaths	Order Number
Yellow	24 Charr: 51.0319b; 51.0320b 42.0410b; 42.0200b	42.0370b
Black	27 Charr: 510318b; 51.0322b; 42.0400b; 42.0205b	42.0375b

Color Code	To Sheaths	Order Number
Yellow	24 Charr: 51.0319b; 51.0320b 42.0410b; 42.0200b	42.0371b
Black	27 Charr: 510318b; 51.0322b; 42.0400b; 42.0205b	42.0372b

HF-Electrodes, Monopolar



Name of the Item	Order No. 19 Charr	Order No. 24 Charr	Order No. 27 Charr
Roller Electrode 3mm smooth	-	51.0327b	51.0327c
Roller Electrode 5mm smooth	-	51.0328b	51.0328c
Loop electrode, Straight	51.0391d	51.0391b	51.0391c
Loop Electrode 30° angled	51.0385d	51.0385b	51.0385c
Loop Electrode 30° angled for 0° endoscope only	-	51.0330b	51.0330c
Vaporisation electrode 3mm Checkered	-	51.0390b	51.0390c
Vaporisation electrode 5mm Checkered	-	51.0325b	51.0325c
Vaporisation electrode 3mm serrated	-	51.0393b	51.0393c
Vaporisation electrode 5mm serrated	-	51.0329b	51.0329c
Rollerball electrode 3mm	51.0387d	51.0387b	51.0387c
Rollerball electrode 5mm	-	51.0392b	51.0392c
Cone electrode	-	51.0326b	51.0326c
Knife Electrode, angled	51.0386d	51.0386b	51.0386c
Knife electrode straight	-	51.0388b	51.0388c
HF-Scraper, blunt	-	51.0332b	51.0332c

Cycsto-Urethroscope Sheaths and Obturators and Inserts

	Charr	Color Code	To Endoscope diameter	Order Number		
	17	Yellow	4 mm / 302 mm	41.0619a		
	19	Green	4 mm / 302 mm	41.0622a		
	21	Red	4 mm / 302 mm	41.0406a		
	23	Blue	4 mm / 302 mm	41.0625a		
	25	White	4 mm / 302 mm	41.0626a		
	Color Code	To Sheath	Order Number			
	Yellow	17 Charr. :41.0619a	42.0380a			
	Green	19 Charr. :41.0622a	42.0377a			
	Red	21 Charr. :41.0406a	42.0376a			
	Blue	23 Charr. :41.0625a	42.0378a			
	White	25 Charr. :41.0626a	42.0379a			
To Sheats						
	*Capacity with 17 Charr. sheath	*Capacity with 19 Charr. sheath	*Capacity with 21 Charr. sheath	*Capacity with 23 Charr. sheath	*Capacity with 25 Charr. sheath	Order Number
	41.0619a; 41.0622a; 41.0406a; 410625a; 410626a					41.0422a
	1x5 Charr	1x6 Charr	1x8 Charr	1x10 Charr	1x12Charr	41.0424a
	2x4 or 1x5 Charr	2x5 or 1x6 Charr	2x6 or 1x8 Charr	2x7 or 1x10 Charr	2x8 or 1x12 Charr	41.0425a
Description						
	*Capacity with 19 Charr. sheath	*Capacity with 21 Charr. sheath	*Capacity with 23 Charr. sheath	*Capacity with 25 Charr. sheath	Order Number	
Working Unit (Working insert with ALBARRAN levr with raster and 1 instrument channel)	1x6 Charr	1x7 Charr	1x9 Charr	1x12 Charr	41.0420a	
	2x5 or 1x6 Charr	2x5 or 1x7 Charr	2x6 or 1x9 Charr	2x8 or 1x12 Charr	41.0421a	

Optical Instruments, Forceps and Scissors

Description	For Use with Endoscope	Order Number
 Biopsy forceps,double action jaws	4 mm,0°/12°	42.0351a
 Stone Grasping forceps, double action jaws	4 mm,0°/12°	42.0352a
 Biopsy Punchi through-cutting, double action jaws	4 mm,0°/12°	42.0353a
 Scissors, double action	4 mm,0°/12°	42.0357a
 Biopsy forceps down double action jaws	4 mm,12°/30°	42.0358a
		42.0359a

UROLOGY/GYNECOLOGY

Description	To Sheath	For Use with Endoscope	Order Number
 Stone Forceps	41.0626a	4 mm,12°/30°	42.0350a
 Adapter	51.0519b; 51.0520b		42.0349a

Optical Stone Punch

Recommended Set	Order Number
Description Endoscope 4mm 30°	41.0055a
Working Unit For Punch lithotripsy-Optical Stone Punch	42.0340a
Lithotripsy standard sheath for optical stone punch, with central valve and standard obturator	42.0342a
Lithotripsy standard sheath with standard obturator for optical stone punch	42.0343s
Examination insert, inner sheath, with working channel for flezible instruments	42.0344a

42.0340a42.0342a42.0343s42.0344a

Optical Urethrotom

Description	Order Number
 Endoscope 4mm 30°	41.0055a
Working Unit passive, with guide tube for cold knives	51.0384b
Urethrotome Sheath, scaled, with side intrument channel and hollow obturator	42.0450a
Standard Obturator	42.0456a
Hollow obturator for 5 Charr. guiding catheter	42.0451a

51.0384b42.0456a42.0451a

Cold Knives

Safety Note: Do not use cold knives with HF current.

Description	Order Number
 Knife Straight	42.0455b
 Knife Straight, wave cut	42.0457b
 Knife Round	42.0458b
 Knife Hook Shaped	42.0465b
 Knife Round shaped	42.0470b

OTIS Urethrotome Set



Description	Order Number
Set Complete	51.0720a
Dilator	51.0719a
Knives (2pcs)	51.0718a
Conica Tip	51.0717a
Flat Tip	51.0716a
Ball Tip	51.0715a
Wooden Case	51.0714a

OTIS Urrethrotome Set, consisting of: dilator two knives, three different tips and a wooden case.

Instruments and Accesories



Description	Order Number
Complete with glassbowl and pressure and suction ball (ELLIK EVACUATOR)	42.0459a
Glassbowl only	42.0436a
Pressure and suction ball only	42.0464a
Sheath Connection – Hose With Cone	42.0460a
Sheath Connection – Hose With Locking Device	42.0461b
Sheath connector with quick Lock	42.0345b
Bladder Syringe with Locking Device-75ml Complete-	42.0431a
75 ml Cylinder only	42.0436a
50 ml Complete	42.0430a
50 ml Cylinder only	42.0435a
100 ml Complete	42.0432a
100 ml Cylinder only	42.0437a
150 ml Complete	42.0433a
150 ml Cylinder only	42.0438a
200 ml Complete	42.0434a
200 ml Cylinder only	42.0439a
Hose connector – Luer Lock, with stop cock	42.0471a
Hose connector – Luer Lock	42.0472a
Penis Clamp – STRAUS	42.0440a
Penis Clamp – STOCKMANN	42.0441a
Catheter introducing instrument – GUYON,390mm, straight	42.0442a
Catheter Tightener and introducing instrument – GUYON, 350mm, curved	42.0443a

Diagnostic Hysteroscope Sheaths
With one stop cock

Diameter Ø	Color Code	To Endoscope	Working Length	Order Number
2,6 mm	Red	2,0 mm/258mm 0° (11.0480a)	225 mm	51.0401a
2,6 mm	Red	2,0 mm/258mm 30° (11.0475a)	225 mm	51.0403a
3,7 mm	White	2,9 mm/302mm 0° (41.0160a)	270 mm	51.0408a
3,7 mm	White	2,9 mm/302mm 30° (41.0161a)	270 mm	51.0409a
5,0 mm	Blue	4,0 mm/302mm 0° (41.0049a)	270 mm	51.0367a
5,0 mm	Blue	4,0 mm/302mm 30° (41.0055a)	270 mm	51.0364a

With two stop socks

Diameter Ø	Color Code	To Endoscope	Working Length	Order Number
3,4 mm	Red	2,0 mm/258mm 0° (11.0480a)	225 mm	51.0428a
3,4 mm	Red	2,0 mm/258mm 30° (11.0475a)	225 mm	51.0429a
5,0 mm	White	2,9 mm/302mm 0° (41.0160a)	270 mm	51.0435a
5,0 mm	White	2,9 mm/302mm 30° (41.0161a)	270 mm	51.0430a
6,5 mm	Blue	4,0 mm/302mm 0° (41.0049a)	270 mm	51.0432a
6,5 mm	Blue	4,0 mm/302mm 12° (41.0059a)	270 mm	51.0432a
6,5 mm	Blue	4,0 mm/302mm 30° (41.0055a)	270 mm	51.0434a

Operative Hysteroscope Sheaths

Consisting of: one continuous-flow operative sheath and one operative-examination sheath with working channel

Outer Diameter Ø	Color Code	To Endoscope	Working Channel	Sheath Form	Order Number
4,3 mm	Red	2,0 mm / 258 mm/ 30° (11.0475a)	5 Charr	Oval	51.0400a
5,0 mm	White	2,9 mm / 302 mm/ 30° (41.0161a)	5 Charr	Drop-shaped	51.0431a
7,0 mm	Green	4,0 mm / 302 mm/ 30° (41.0055a)	7 Charr	Drop-shaped	51.0468a
6,5 mm	Blue	4,0 mm / 302 mm/ 30° (41.0055a)	5 Charr	Drop-shaped	51.0469a

Operative Hysteroscope Sheath - One Piece

High flow capacity due to one – piece design

Outer Diameter Ø	Color Code	To Endoscope	Working Channel	Sheath Form	Order Number
5,5 mm	Red	2,9 mm / 302 mm/ 30° (41.0161a)	5 Charr	Round	51.0431a.n

Operative Hysteroscope Sheaths

Consisting of: one continuous-flow operative sheath, one operative-examination sheath with working channel and additional irrigation

Outer Diameter Ø	Color Code	To Endoscope	Working Channel	Sheath Form	Order Number
7 mm	Blue	4,0 mm / 302 mm/ 30° (41.0055a)	7 Charr	Outer oval Inner Semicircular	51.0431a.n

Operative Hysteroscope Sheath

Consisting of: one operative sheath with integrated handle and working channel as well as detachable irrigation plugs

Outer Diameter Ø	To Endoscope	Working Channel	Order Number
6,5 mm	2,9 mm / 302 mm/ 0° (41.0160a)	5 Charr	51.0357a
6,5 mm	2,9 mm / 302 mm/ 30° (41.0161a)	5 Charr	51.0358a
8,0 mm	4,0 mm / 302 mm/ 0° (41.0049a)	7 Charr	51.0361a
8,0 mm	4,0 mm / 302 mm/ 30° (41.0055a)	7 Charr	51.0363a

Uterus Manipulator



Description	Diameter Ø x Working Length	Order Number
Base Unit only, without working tip		42.0490a
Manipulator Set		Below
Uterus Obturator,thin, short		42.0492a
Uterus obturator, thin, long		42.0493a
Cone, with short thorn		42.0494a
Cone, with long thorn		42.0495a
Uterus obturator,medium,long		42.0496a
Uterus obturator, thick,extra long		42.0497a



Instruments for Gynecology



Diameter Ø	Working Length-Description	Order Number
5	320 mm – Myoma Drill	51.0440a
10	300 mm – Myoma Drill	51.0441a
10	330 mm – Myoma Drill	51.0442a
11	320 mm – Myoma Drill	51.0443a
11	370 mm – Myoma Drill	51.0444a
COHEN	320 mm – Intra uterin probe with one small and one large cervical cone	51.0425a
	Uterus Probe, graduated, swedish model	51.0445a
12 ½"	320 mm Uterus Probe, Graduated SIMS Rigid	51.0448a
12 ½"	320 mm Uterus Probe, Graduated SIMS Bendable	51.0449a
5	330 Bipolar Coagulation Forceps, with U-Handle	S720150
5	400 Bipolar Coagulation Forceps, with U-Handle	S720162
5	330 Bipolar Coagulation Forceps, with U-Handle, micro	S720152
5	400 Bipolar Coagulation Forceps, with U-Handle, micro	S720160

Flexible Instruments, 400mm Working Length



Charr	Order No Flexible Sheath	Order No Semi-rigid Sheath	Description
5	51.0346a	51.0346a.r	Biopsy Forceps, oval, spoon, cutting
7	51.0348a	51.0348a.r	Biopsy Forceps, oval, spoon, cutting
9	51.0351a	51.0351a.r	Biopsy Forceps, oval, spoon, cutting
4	43.0365a	43.0365a.r	Scissors, Single Action Jaws
5	51.0372a	51.0372a.r	Scissors, Single Action Jaws
7	51.0374a	51.0374a.r	Scissors, Single Action Jaws
9	51.0375a	51.0375a.r	Scissors, Single Action Jaws
7	51.0373a	51.0373a.r	Scissors, Double Action Jaws
3	42.0361a	42.0361a.r	Grasping Forceps, Alligator Jaws
5	51.0376a	51.0376a.r	Grasping Forceps, Alligator Jaws
7	51.0378a	51.0378a.r	Grasping Forceps, Alligator Jaws
9	51.0377a	51.0377a.r	Grasping Forceps, Alligator Jaws
4	51.0353a	51.0353a.r	Biopsy Forceps, spoon, serrated
5	51.0354a	51.0354a.r	Biopsy Forceps, spoon, serrated
7	51.0355a	51.0355a.r	Biopsy Forceps, spoon, serrated
9	51.0356a	51.0356a.r	Biopsy Forceps, spoon, serrated
7	51.0338a	51.0338a.r	Foreign Body Grasping Forceps, stones fragments

Flexible Instruments, 600 mm Working Length

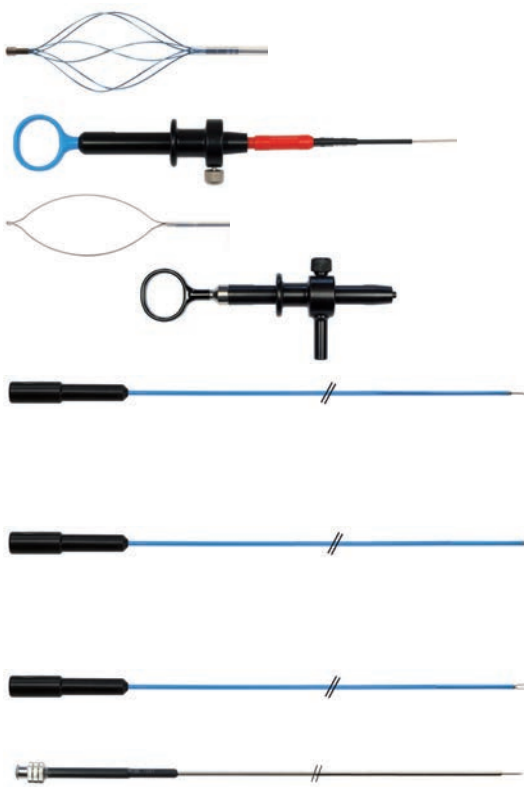


Charr	Order No Flexible Sheath	Order No Semi-rigid Sheath	Description
4	42.0004a	42.0004a.r	Grasping Forceps rat tooth 2:1 teeth
5	42.0007a	42.0007a.r	Grasping Forceps rat tooth 2:1 teeth
4	-	42.0010a.r	Uretero-slitting scissors, retrograde cutting
5	42.0080a	42.0080a.r	Uretero-slitting scissors, retrograde cutting
4	42.0014a	42.0014a.r	Foreign Body Grasping Forceps, Atraumaic, Smooth Serrated
3	42.0013a	42.0013a.r	Biopsy Forceps, oval spoon, cutting
4	42.0015a	42.0015a.r	Biopsy Forceps, oval spoon, cutting
5	42.0040a	42.0040a.r	Biopsy Forceps, oval spoon, cutting
3	42.0012a	42.0012a.r	Grasping Forceps, alligator jaw
4	42.0024a	42.0024a.r	Grasping Forceps, alligator jaw
5	42.0042a	42.0042a.r	Grasping Forceps, alligator jaw
4	42.0082a	42.0082a.r	Grasping Forceps, Spoon, Serrated
5	42.0084a	42.0084a.r	Grasping Forceps, Spoon, Serrated
3	42.0022a	42.0022a.r	Scissors, Single Action Jaw
4	42.0016a	42.0016a.r	Scissors, Single Action Jaw
5	42.0023a	42.0023a.r	Scissors, Single Action Jaw



Charr	Order No Flexible Sheath	Order No Semi-rigid Sheath	Description
4	42.0018a	42.0018a.fr	Grasping Forceps, with long mouth, for stone street
5	42.0019a	42.0019a.fr	Grasping Forceps, with long mouth, for stone street
3	42.0030a	-	Three-pronged Stone Grasper
5	42.0044a	-	Three-pronged Stone Grasper
3	42.0020a	-	Stone Basket Dormia, with four wires
5	42.0046a	-	Stone Basket Dormia, with four wires

Flexible Instruments



Charr	Working Length	Description	Order No
5	600 4 Wires	Stone Basket DORMIA, attachmen only	42.0056a
5	600 6 Wires	Stone Basket DORMIA, attachmen only	42.0077a
7	600 4 Wires	Stone Basket DORMIA, attachmen only	42.0057a
7	600 6 Wires	Stone Basket DORMIA, attachmen only	42.0078a
5	Blue	Handle for DORMIA baskets	42.0075a
7	Yellow	Handle for DORMIA baskets	42.0055a
5	600	Polyp snare,monopolar,attachment only	42.0058a
7	600	Polyp snare,monopolar,attachment only	42.0059a
5-7		Handle with HF-Connector, for Polyp snare,monopolar	42.0076a
3	450	Flexible needle electrode, monopolar	42.0025a
5	450	Flexible needle electrode, monopolar	42.0026a
7	450	Flexible needle electrode, monopolar	42.0027a
3	450	Flexible coagulation electrode, ballshaped, monopolar	42.0032a
5	450	Flexible coagulation electrode, ballshaped, monopolar	42.0033a
7	450	Flexible coagulation electrode, ballshaped, monopolar	42.0034a
9	450	Flexible coagulation electrode, ballshaped, monopolar	42.0035a
5	450	Flexible Loop electrode, monopolar	42.0036a
7	450	Flexible Loop electrode, monopolar	42.0037a
9	450	Flexible Loop electrode, monopolar	42.0038a
6	500	Injection Cannula	42.0039a

Instruments for Percuaneous Nephroscopy



Charr	Working Length	Description	Order No
9	420	Biopsy Forceps single Action	41.0483a
9	420	Grasping Forceps for Stone fragments, double action	41.0484a
9	420	Grasping Forceps for stone fragments double action pike mouth	41.0485a
		Micro-Scissors, straight, 3,5 mm, single	
9	420 action	Threefold graasper for large stone fragments,	41.0486a
9	420	with U-Handle	41.0487a

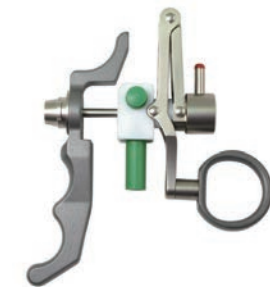
Paediatric Cysro-Urethroscope Sheaths



Diameter Ø	Length	Direction of View	Order Number
1,9 mm	187 mm	0°	41.0310a
1,9 mm	187 mm	30°	41.0311a
2,0 mm	196 mm	0°	41.0307a
2,7 mm	187 mm	0°	21.0617a
2,7 mm	187 mm	30°	21.0619a

Charr	Color Code	To Endoscope	Description	Order Number
7	Yellow	2,0mm/196mm:41.0370a	Cystescope-Urethroscope sheath for diagnos-tic with one stop cock	42.0307a
9,5	Blue	2,0mm/196mm: 41.0370a	Cycstescope-urethroscope sheath with two fixed stop cocks instrument channel 1x3 Charr. and blunt obturator	42.0308a
9,5	Blue	1,9mm/187mm: 41.0311a 41.0310a	Cycstescope-urethroscope sheath with two fixed stop cocks instrument channel 1x3 Charr. and blunt obturator	42.0309a
11	Green	2,7mm/187mm: 21.0617a 21.0619a	Cycstescope-urethroscope sheath with two fixed stop cocks instrument channel 1x3 Charr. and blunt obturator	42.0312a
13	Red	2,7mm/187mm: 21.0617a 21.0619a	Cycstescope-urethroscope sheath with two fixed stop cocks instrument channel 1x3 Charr. and blunt obturator	42.0313a
13	Red		Working insert with ALBARRAN lever, for use with sheath 42.0313a	42.0314a
	Red		Examination insert, telescope bridge to sheath 42.0313a	42.0315a

Paediatric Resectoscope Working Unit; 11 and 13 Charr. Sheaths



Charr	Color Code	Description	Order Number
11	Green	Standard Resectoscope sheath with one rotatable stop cock and obturator	51.0465a
13	Red	Standard Resectoscope sheath with one rotatable stop cock and obturator	51.0466a

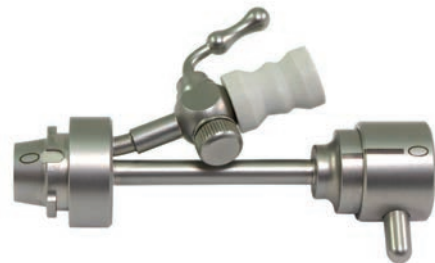
Description of HF-Electrodes, Monopolar, Single Stem	11 Charr Green	13 Charr Red
HF Knife Electrode	51.0470b	51.0471b
HF Loop Electrode Small	51.0472b	51.0473b
HF Loop Electrode Large	51.0474b	51.0475b
HF Ball Electrode	51.0476b	51.0477b
HF Hook Electrode Without Ball	51.0478b	51.0479b

Paediatric Urethrotome, Flexible Instruments



Charr	Color Code	To Endoscope	Order No
11	Green	1,9mm + 2,7mm; 187mm length	51.0480a
13	Red	2,7 mm; 187 mm length	51.0481a

Urethrotome sheath, two stop cocks,rotatable with obturator



Examination insert for urethrotome sheath and standard resectoscope sheath, with one instrument channel

Telescope bridge 1x3 charr working channel



Safety Note: Do not use cold knives with HF current.



Description	Order No for 11 Charr	Order No for 13 Charr
Cold Knife Straight	51.0483b	51.0484b
Cold Knife Round	51.0485b	51.0486b
Cold Knife Hook Shaped	51.0487b	51.0488b
Cold Knife Round Shaped	51.0489b	51.0490b



Flexible Instruments, 280mm length in 3 charr

Description	Order No for Semi Rigid	Order No for Flexible
Scissors, single action	42.0051a.r	42.0051a
Biopsy forceps, oval spoon, cutting	42.0050a.r	42.0050a
Biopsy forceps, double action, serrated	42.0052a.r	42.0052a
Grasping forceps, double action, alligator jaw	42.0048a.r	42.0048a



Electrodes, 250mm length



To Endoscope	Order No
Button Electrode flexible Monopolar	42.0053a
Needle Electrode flexible Monopolar	42.0054a

Urology Pump



Adjustable Pressure Range: 15 – 150 mmHg
Flow Range: 30 – 500 ml/min
360x268x137 (LxWxH)
4 kg
Maximum Ouput Pressure: 200mmHg
Max. Flow : 500 ml/min

Hysteroscopy Pump



Adjustable Pressure Range: 15 – 150 mmHg
Flow Range: 30 – 500 ml/min
360x268x137 (LxWxH)
4 kg
Maximum Ouput Pressure: 200mmHg
Max. Flow : 500 ml/min



LAP.0055a
LAP.0057a

Endoscope-Ø 5.0 mm Working length: 310 mm
Direction of vie 0° Wide Angle
Direction of view 30° Wide Angle



LAP.0031a
LAP.0043a
LAP.0041a

Endoscope-Ø 10.0 mm Working length: 310 mm
Direction of view 0° Wide Angle
Direction of view 30° Wide Angle
Direction of view 45° Wide Angle



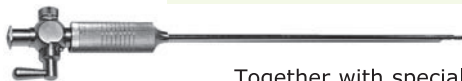
LAP.0480a

Direction of view 0° Wide Angle
Endoscope-Ø 2.0 mm
Length rigid 241.5 mm
High resolution image bundle



LAP.0475a

Direction of view 30° Wide Angle
Endoscope-Ø 2.0 mm
Length rigid 241.5 mm
High resolution image bundle



Together with special accessories the endoscope can be used as "Seeing Veress needle".

W3020

Veress Cannula
Veress cannula with stop cock and Luer-Lock
Ø 2.0 mm, length 100 mm

W3021

Veress cannula with stop cock and Luer-Lock
Ø 2.0 mm, length 120 mm

W3022

Veress cannula with stop cock and Luer-Lock
Ø 2.0 mm, length 150 mm



LAP.0504a

Trocar Systems
Automatic trocar sleeve Ø 5.5 mm with stop
cock, manual trap door valve, metal shaft
exchangeable, for 5 mm endoscopes and
instruments.



LAP.0505a

Trocar 5.5 mm, for LAP.0504a

LAP.0506a

Automatic trocar sleeve Ø 11.0 mm with stop
cock, manual trap door valve, metal shaft
exchangeable, for 10 mm endoscopes and
instruments.

LAP.0507a

Trocar 11 mm, for LAP.0506a

LAP.0316a

Safety Trocar,
fixable, 3-square-edged
for Ø 11.0 mm automatic trocar sleeve

LAP.0299a.m2

Trocar sleeve with silicone valve and insuffla-
tion stop cock, 5.5 mm for 5 mm endoscopes
and instruments

LAP.0496a.m2

Trocar with hollow cut, 5.5 mm
for LAP.0299a.m2

LAP.0298a.m2

Silicone valve for single use,
for LAP.0299a.m2, 1 pack with 5 pcs.

LAP.0311a.m2

Trocar sleeve with silicone valve and insuffla-
tion stop cock, 8 mm for 6.5 mm endoscopes
and instruments

LAP.0502a.m2

Trocar with hollow cut, 8 mm
for LAP.0311a.m2

LAP.0312a.m2

Trocar sleeve with silicone valve and insuffla-
tion stop cock, 11 mm for 10 mm endoscopes
and instruments

LAP.0498a.m2

Trocar with hollow cut, 11 mm
for LAP.0312a.m2

LAP.0315a.m2

Silicone valve for single use,
for LAP.0312a.m2, 1 pack with 5 pcs.

LAP.0330a.m2

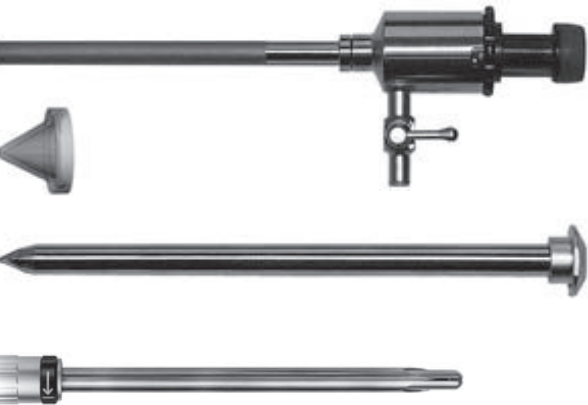
Trocar sleeve with silicone valve and insuffla-
tion stop cock, 12.5 mm for 11 mm endoscopes
and instruments

LAP.0331a.m2

Trocar with hollow cut, 12.5 mm
for LAP.0330a.m2

All trocars are secured against rolling off.

10 mm	330mm	0°	W/A - Geniş Açı
10 mm	330mm	30°	W/A - Geniş Açı
10 mm	330mm	45°	W/A - Geniş Açı
10 mm	310mm	0°	W/A - Geniş Açı
10 mm	310mm	30°	W/A - Geniş Açı
10 mm	310mm	45°	W/A - Geniş Açı





s720430 **Trocar sleeve,** system 15 mm, with trumpet valve and insufflation stop cock

s720432 **Trocar** with triangular tip, system 15 mm

s720433 **Trocar** with conical tip, system 15 mm

s720440 **Trocar sleeve,** system 20 mm, with trumpet valve, without insufflation stop cock

s720441 **Trocar** with triangular tip, system 20 mm



Dilatation Sets

s720329 **Dilatation set** 5 to 10 mm, consisting of guiding tube and dilatation sleeve

s720333 **Dilatation set** 10 to 15 mm consisting of guiding tube and dilatation sleeve

s720323 **Dilatation set** 10 to 20 mm, consisting of guiding tube and dilatation sleeve



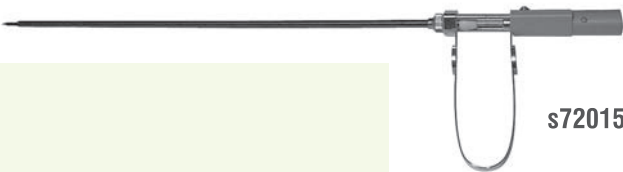
Reduction Sleeves

s720311 **Reduction sleeve** 10 to 5.5 mm

s720318 **Reduction sleeve** 15 to 10 mm

s720321 **Reduction sleeve** 20 to 5.5 mm

s720322 **Reduction sleeve** 20 to 10 mm



s720150

Bipolar Coagulation Forceps
Ø 5.0 mm, length 330 mm, with U-handle, for fallopian tubes and heavy bleedings

Bipolar Coagulation Forceps
Ø 5.0 mm, length 400 mm, with U-handle, for fallopian tubes and heavy bleedings

s720162

Bipolar Coagulation Forceps
Ø 5.0 mm, length 330 mm, with U-handle, micro, for area coagulation

s720152

Bipolar Coagulation Tweezers Forceps
Ø 5.0 mm, length 330 mm, with U-handle, macro, for area coagulation

s720168

Bipolar Coagulation Forceps
Ø 5.0 mm, length 400 mm, with U-handle, micro, for area coagulation

s720160

Bipolar Coagulation Tweezers Forceps
Ø 5.0 mm, length 400 mm with U-handle, macro, for area coagulation

s720164



Spare Parts for Bipolar Forceps
Electrode only for bipolar forceps s720150

s720151

Electrode only for bipolar forceps s720152

s720153

Electrode only for bipolar forceps s720168

s720169

Electrode only for bipolar forceps s720160

s720161

Electrode only for bipolar forceps s720162

s720163

Electrode only for bipolar forceps s720164

s720165

Handle
for bipolar forceps s720150/52, s720160/62 and s720164/68

s720156

Sheath, length 330 mm
for bipolar forceps s720150/52/68

s720157

Sheath, length 400 mm
for bipolar forceps s720160/62/64

s720158

HF Electrosurgical 380 Watt and Bipolar Silicone Cables

Bipolar Silicone Cables

Instrument side:
Flat connector for Select bipolar electrodes, forceps and tweezers



Unit side:
Connector for Martin, Berchtold, Aesculap
Cable length 4.5 m

s360139



Unit side:
for generators Erbe and Select
Cable length 4.5 m

s360131

Irrigation - Suction - Coagulation

Suction-Irrigation-Tube
Ø 5.0 mm, length 330 mm, with two trumpet valves and large Luer Lock connector with seal

Suction Irrigation Tube

s720146

Bipolar Coagulation Electrodes
Length 380 mm
Coagulation, irrigation and suction position are safely fixed by stops

Bipolar Coagulation Electrodes



Monopolar Electrodes

Dissection-Spatula, monopolar, length 330 mm, outside Ø 5.0 mm, insulated sheath



LAP.0720a

Dissection-Hook J, monopolar, length 330 mm, outside Ø 5.0 mm, insulated sheath

LAP.0721a

Dissection-Hook L, monopolar, length 330 mm, outside Ø 5.0 mm, insulated sheath

LAP.0722a

Monopolar Cables for

HF-Unit Erbe ACC/ICC length 3 m
HF-Unit Martin, Berchtold, Erbe length 3 m
HF-Unit Valleylab, Bovie, Conmed,
Birtcher, Medtrexlength 3 m

ACC.0655r

ACC.0656r

ACC.0657r



s720147 Suction-Irrigation Reducer Sleeve

Ø 10.0 mm, length 330 mm, with two trumpet valves for suction and irrigation. Reduction from 10 to 5 mm through trumpet valve. Instruments and electrodes of Ø 5.0 mm can be inserted.

Rotatable Laparoscopy - Instruments Ø 5.0 mm



Please specify the items code which you choose: Is it With Ratchet or Without Ratchet

Dolphin Nose Grasping Forceps, Ø 5.0 mm, length 330 mm, insulated without ratchet with ratchet

Spoon Forceps, fine serrated, Ø 5.0 mm, length 330 mm, insulated without ratchet with ratchet

Cobra-Grasping Forceps, 2 x 3 teeth, Ø 5.0 mm, length 330 mm, insulated without ratchet with ratchet

Grasping Forces, serrated, Ø 5.0 mm, length 330 mm, insulated without ratchet with ratchet

Allis Grasping Forceps, Ø 5.0 mm, length 330 mm, insulated without ratchet with ratchet



LAP.0508a
LAP.0508as



LAP.0518a
LAP.0518as



LAP.0519a
LAP.0519as



LAP.0520a
LAP.0520as



LAP.0522a
LAP.0522as



Rotatable Laparoscopy - Instruments - Ø 5.0 mm / 10.0 mm



LAP.0523a
LAP.0523as



LAP.0544a



LAP.0545a



LAP.1090a

LAP.1090as



LAP.0546a

LAP.0546as



LAP.0525a

Atraumatic Grasping Forceps, Ø 5.0 mm, length 330 mm, insulated without ratchet with ratchet

Scissors Metzenbaum, straight, Ø 5.0 mm, length 330 mm, insulated

Scissors Metzenbaum, curved, Ø 5.0 mm, length 330 mm, insulated

Spoon Forceps, Ø 5.0 mm, length 330 mm, insulated without ratchet with ratchet

Grasping Forceps Maryland, Ø 5.0 mm, length 330 mm, insulated without ratchet with ratchet

Large Operating Sissors, Ø 10.0 mm, length 330 mm, insulated

Rotatable Laparoscopy - Instruments - Ø 5.0 mm / 10.0 mm

Fenestrated Forceps, heavy serrated, double action jaw Ø 5.0 mm, length 330 mm, insulated without ratchet with ratchet

Fenestrated Forceps, fine serrated, double action jaw Ø 5.0 mm, length 330 mm, insulated without ratchet with ratchet

Traumatic Grasping Forceps, single action jaw Ø 5.0 mm, length 330 mm, insulated without ratchet with ratchet

Alligator Forceps, double action jaw Ø 5.0 mm, length 330 mm, insulated without ratchet with ratchet

Babcock Clamp, double action jaw Ø 5.0 mm, length 330 mm, insulated without ratchet with ratchet

Babcock Clamp, double action jaw Ø 10.0 mm, length 330 mm, insulated without ratchet with ratchet



LAP.0561a
LAP.0561as



LAP.0562a
LAP.0562as



LAP.0563a
LAP.0563as



LAP.0564a
LAP.0564as



LAP.0565a
LAP.0565as



LAP.0566a
LAP.0566as



Rotatable Laparoscopy - Instruments Ø 5.0 mm



LAP.0547a
LAP.0547as



LAP.0549a
LAP.0549as



LAP.0550a
LAP.0550as



LAP.0551a
LAP.0551as



LAP.0540a

Grasping Forceps, pike mouth,
Ø 5.0 mm, length 330 mm, insulated
without ratchet
with ratchet

Biopsy Forceps with thorn,
Ø 5.0 mm, length 330 mm, insulated
without ratchet
with ratchet

Grasping and Dissector Forceps,
double movable,
Ø 5.0 mm, length 330 mm, insulated
without ratchet
with ratchet

Kelly Grasping Forceps,
double movable,
Ø 5.0 mm, length 330 mm, insulated
without ratchet
with ratchet

Hook Scissors,
Ø 5.0 mm, length 330 mm, insulated

Rotatable Laparoscopy - Instruments Ø 3.0 mm



Biopsy Forceps with thorn,
double action jaw
Ø 3.0 mm, length 330 mm, insulated
without ratchet
with ratchet

Fenestrated Forceps, fine serrated,
single action jaw
Ø 3.0 mm, length 330 mm, insulated
without ratchet
with ratchet

Metzenbaum-Scissors, straight,
double action jaw
Ø 3.0 mm, length 330 mm, insulated

Metzenbaum Scissors, left curved,
double action jaw
Ø 3.0 mm, length 330 mm, insulated

Maryland Forceps,
double action jaw
Ø 3.0 mm, length 330 mm, insulated
without ratchet
with ratchet



LAP.0567a
LAP.0567as



LAP.0568a
LAP.0568as



LAP.0570a

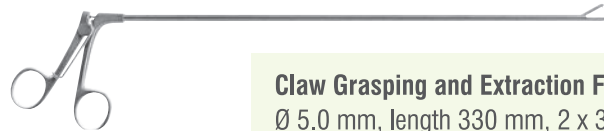


LAP.0571a



LAP.0572a
LAP.0572as

Palpation Probe, Puncture Needle, Abdominal Retractor, Needle Holder



s720284



s720285

Claw Grasping and Extraction Forceps
Ø 5.0 mm, length 330 mm, 2 x 3 teeth, with finger support and restoring spring

Claw Grasping and Extraction Forceps
Ø 10.0 mm, length 330 mm, 2 x 3 teeth, with finger support and restoring spring



s720286

Gallstone Grasping Forceps
Ø 5.0 mm, length 330 mm, with U-handle



LAP.0100a

Bowel Forceps,
with spring handle, Ø 5.0 mm, length 330 mm



s720218

Palpation Probe,
graduated, Ø 5.0 mm, length 330 mm



s720220

Puncture Needle for Aspiration
Ø 5.0 mm, length 330 mm, Luer-lock, needle Ø 1.8 mm



LAP.0580a

Fan Retractor,
detachable, horizontally and vertically adjustable, 5 fingers

Palpation Probe, Puncture Needle, Abdominal Retractor, Needle Holder



Abdominal Retractor
for extraction of the gallbladder

s720207



Cholangiography Forceps
Ø 5.0 mm, length 330 mm for catheters 6 Charr.

s720287

Needle holders with straight handle
and ratchet



Needle holder
with tungsten carbide inserts, Ø 5.0 x 330.0 mm
with tungsten carbide inserts, 5,0mmx330mm

LAP.0101a



Needle holder
with tungsten carbide inserts, 5,0mmx360mm

LAP.0105a



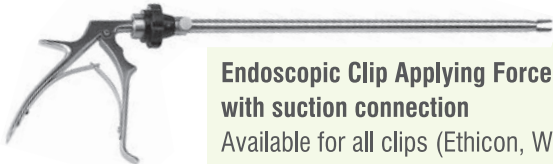
LAP.0106a



LAP.0107a

Clip Applying Forceps Reusable Hernia Stapler

recognized the many problems faced by surgical staffs using currently available endoscopic clip applying forceps. After years of diligent research and development we now present a new system.
Jaws are absolutely free from pins and links; no breaking.
All clip applying forceps have a diameter of 10 mm and a length of 330 mm.



Endoscopic Clip Applying Forceps with suction connection
Available for all clips (Ethicon, Weck, Pilling, Horizon ... in all sizes).
Onehand-360°-rotation in both directions.
Smooth and precise clip-loading as well as proper clip-closure.

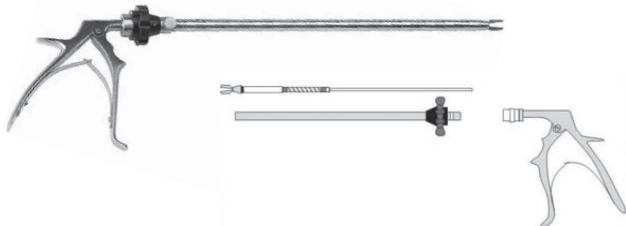
Clip applying forceps
for ETHICON Titanclip medium
for ETHICON Titanclip medium large
for ETHICON Titanclip large
Clip applying forceps
for WECK Titanclip medium
for WECK Titanclip medium large
Clip applying forceps
for PILLING Titanclip medium
for PILLING Titanclip medium large
Clip applying forceps
for HORIZON Titanclip medium
for HORIZON Titanclip medium large
for HORIZON Titanclip large

Upon request clip applying forceps can be produced in different sizes and types.
If so we need more details about the type and size of the clip. However, the best would be to send us a sample.

All forceps are produced for a particular size resp. type. It is in no case allowed to use other clip types or sizes as indicated. Please follow the instructions written on the handle / internal wire.

Clip Applying Forceps Reusable Hernia Stapler

Endoscopic Clip Applying Forceps, rotatable and detachable
A variety of applications by interchangeable inserts for different clips and sizes. Onehand-360°-rotation in both directions. Shaft locks automatically when jaws are closed. The Clip applying forceps are easy to disassemble and reassemble for cleaning and sterilization.



Clip applying forceps
for ETHICON Titanclip medium
for ETHICON Titanclip medium large
for ETHICON Titanclip large
Clip applying forceps
for WECK Titanclip medium
for WECK Titanclip medium large
Clip applying forceps
for PILLING Titanclip medium
for PILLING Titanclip medium large
Clip applying forceps
for HORIZON Titanclip medium
for HORIZON Titanclip medium large
for HORIZON Titanclip large

Insufflator



CO₂-GASHEATING

SAFETY-RELIEF VALVE

SMOKE-EVACUATION



VACUUM DISPLAYED

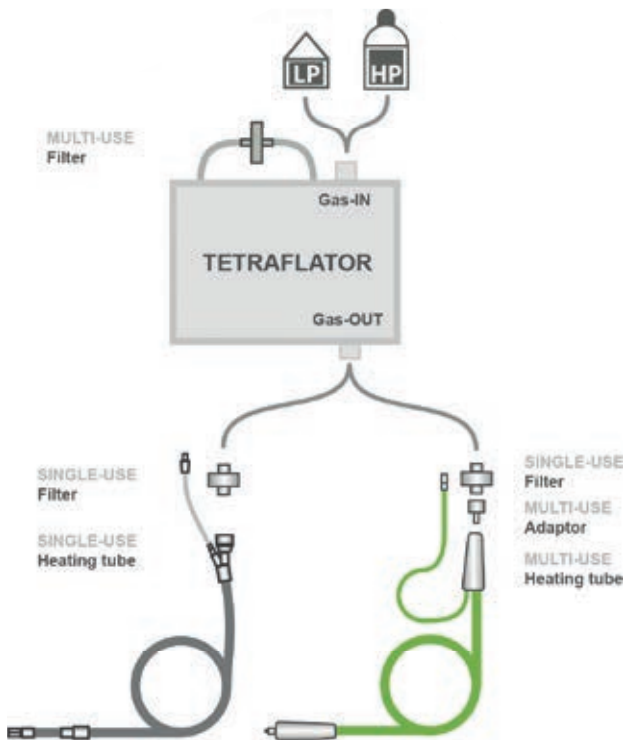
Technical Data

Max. gas flow:	30 / 45 / 50 l/min
Pressure range:	3-30 mmHg
Gas connection:	CO ₂ US-Standard
Mains voltage:	100-240 V / 50/60 Hz
Power input:	Tetraflator Standard 100 VA Tetraflator with smoke evacuation 140 VA
Casing:	Stainless steel, aluminium / white coated
Dimensions:	w x h x d = 350 x 130 x 360 mm
Weight:	app. 8 kg

Surgipump for Suction and Irrigation



Technical Data:
Max Flow Rate
Irrigation:1.8 l/min, (±10%)
Suction:1.8 l/min, (+0.4/-0.1l/min))
Max pump capacity:400 mm Hg
(W/H/D):280 x 137 x 408 mm
Weight:app. 5.9 kg



Arthroscopes



Diameter Ø	Length	Direction of View	Order Number
2,0 mm	110 mm	0°	21.0622a
2,0 mm	110 mm	30°	21.0623a
2,7 mm	110 mm	0°	31.0005a
2,7 mm	110 mm	30°	31.0007a
2,7 mm	110 mm	70°	31.0009a
2,7 mm	187 mm	0°	21.0617a
2,7 mm	187 mm	30°	21.0619a
2,7 mm	187 mm	70°	21.0621a
4,0 mm	175 mm	0°	21.0003a
4,0 mm	175 mm	30°	21.0008a
4,0 mm	175 mm	45°	21.0101a
4,0 mm	175 mm	70°	21.0011a
2,7 mm	140 mm	30°	MED15
4,0 mm	175 mm	30°	MED15

Compatible Arthroscopes



Diameter Ø	Length	Direction of View	To System	Order Number
4,0 mm	170 mm	25°	Wolf	21.0051a
4,0 mm	170 mm	70°	Wolf	21.0053a
4,0 mm	157 mm	30°	Dyonics	21.0061a
4,0 mm	142 mm	30°	Stryker	21.0081a
4,0 mm	130 mm	30°	Olympus	21.0066a

Sheaths/Trocars

Sheath with one fixes stop cock

For Arthroscope Diameter Ø	Length of Arthroscope	For Direction Of View	Type	Order Number
2,0	110	0°+30°	Universal	21.0626a
2,7	110	0°+70°		31.0628a
2,7	187	0°+70°		21.0628a
2,7	187	30°	Universal	21.0633a
4,0	175	0°+70°		21.0156a
4,0	175	30°		21.0157a
2,7	140	0°+70°	Universal	MED15
4,0	175	0°+70°	Universal	MED15

Sheath with one rotatable stop cock

For Arthroscope Diameter Ø	Length of Arthroscope	For Direction Of View	Type	Order Number
4,0	175	0°+70°	Universal	21.0615a
4,0	175	30°		21.0640a
2,7	140	0°+70°	Universal	MED15
4,0	175	0°+70°	Universal	MED15

Sheath with two rotatable stop cock

For Arthroscope Diameter Ø	Length of Arthroscope	For Direction Of View	Type	Order Number
2,0	110	0°+30°	Universal	21.0634a
2,7	110	0°+70°		31.0631a
2,7	110	30°		31.0632a
2,7	187	0°+70°	Universal	21.0631a
2,7	187	30°		21.0632a
4,0	175	0°+70°	Universal	21.0360a
4,0	175	30°		21.0613a
4,0	175	30°	HIGH FLOW	21.0361a
2,7	140	0°+70°	Universal	MED15
4,0	175	0°+70°	Universal	MED15

Pyramidal Trocar



For Arthroscope Diameter Ø	Length of Arthroscope	For Sheath	Order Number
2,0	110	21.0626a , 21.0634a	21.0635a
2,7	110	31.0628a, 31.0631a, 31.0632a	21.0630a
2,7	187	21.0628a, 21.0633a, 21.0631a, 21.0632a	21.0630a
4,0	175	21.0156a, 21.0157a, 21.0615a 21.0640a, 21.0360a, 21.0613a	21.0236a
4,0	175	HIGH FLOW 21.0361a	21.0362a

Blunt Trocar



For Arthroscope Diameter Ø	Length of Arthroscope	For Sheath	Order Number
2,0	110	21.0626a , 21.0634a	21.0636a
2,7	110	31.0628a, 31.0631a, 31.0632a	21.0629a
2,7	187	21.0628a, 21.0633a, 21.0631a, 21.0632a	21.0629a
4,0	175	21.0156a, 21.0157a, 21.0615a 21.0640a, 21.0360a, 21.0613a	21.0238a
4,0	175	HIGH FLOW 21.0361a	21.0363a

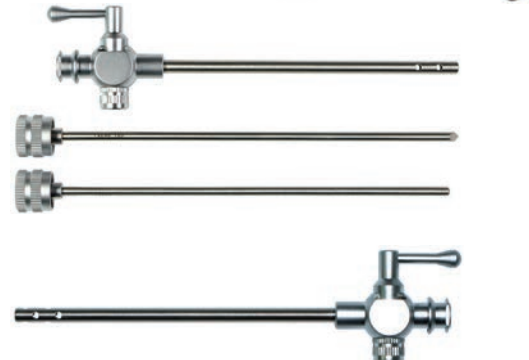
Suction Punch/Suction Cannulas

A simple reusable, alternative to the shaver. The turnable sheath with window allows the optimum adaption to the application



Diameter Ø	Basic Set	Handle	Turnable Sheath	Punch Tubes
4,5	22.001a	22.0012a	22.0011a	22.0010a

Cannula Set: Cannula trocar sharp and trocar blunt



Diameter Ø	Lenght	Description	Order Number
3,2	70	Cannula with stop cock	21.0670a
4,5	70	Cannula with stop cock	21.0675a

Cannula with stop cock

Diameter Ø	Lenght	Description	Order Number
3,2	70	Luer Lock for Irrigation –	21.0661a
4,5	70	Luer Lock for Irrigation –	21.0662a

Cannula without stop cock

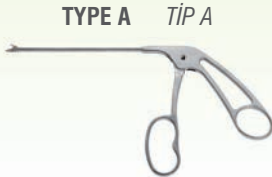
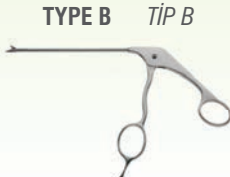
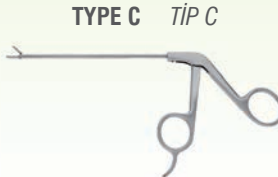
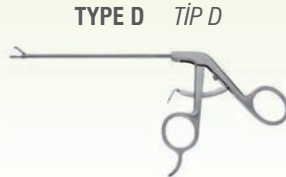
Diameter Ø	Lenght	Description	Order Number
3,2	70	Cannula Only	21.0663a
4,5	70	Cannula Only	21.0664a

Trocars



Diameter Ø	Lenght	Description	Order Number
3,2	70	Trocar Sharp	21.0665a
4,5	70	Trocar Sharp	21.0666a
3,2	70	Trocar Blunt	21.0667a
4,5	70	Trocar Blunt	21.0668a

Instruments

HANDLE TYPE		TYPE A TİP A		TYPE B TİP B		TYPE C TİP C		TYPE D TİP D		
										
Ø	Width of bite mm	Straight	30° right	30° curved left	45° curved right	45° curved left	7° curved up	7° curved down	15° curved up	30° curved down
Kalınlık	Uç Kısmın Genişliği	Düz	30 der. sağa	30 der. sola kavisli	45 der. sağa kavisli	45 der. sola kavisli	7 der. yukarı kavisli	7 der. aşağı kavisli	15 der. yukarı kavisli	15 der. aşağı kavisli
		Hook Punch Blunt								
2,7	5x1,6	22.0840 ...	22.0841 ...	22.0842 ...	22.0843 ...	22.0844 ...			22.0845 ...	22.0846 ...
3,5	5x1,6	22.0850 ...	22.0851 ...	22.0852 ...	22.0853 ...	22.0854 ...			22.0855 ...	22.0856 ...
		Hook Punch with Scoop								
2,7	5x1,6	22.0860 ...	22.0861 ...	22.0862 ...	22.0863 ...	22.0864 ...	22.0865 ...	22.0866 ...	22.0867 ...	
3,5	5x1,6	22.0811 ...	22.0812 ...	22.0813 ...	22.0868 ...	22.0869 ...	22.0870 ...	22.0871 ...	22.0814 ...	
		Hook Punch 15° up milled								
3,5	5x1,6	22.0826 ...	22.0875 ...	22.0876 ...	22.0877 ...	22.0878 ...	22.0879 ...	22.0880 ...	22.0881 ...	22.0882 ...
		Hook Punch cut angular								
2,7	5x1,6	22.0885 ...	22.0886 ...	22.0887 ...					22.0888 ...	
3,5	5x1,6	22.0815 ...	22.0816 ...	22.0817 ...					22.0818 ...	
		Wide jaw punch Small Medium Large								
3,5	6x2,5 small	22.0807 ...	22.0890 ...	22.0891 ...	22.0892 ...	22.0893 ...	22.0894 ...	22.0895 ...	22.0896 ...	22.0897 ...
3,5	5x3,5 medium	22.0808 ...	22.0809 ...	22.0810 ...	22.0900 ...	22.0901 ...	22.0902 ...	22.0903 ...	22.0904 ...	22.0905 ...
3,5	5x4,5 large	22.0910 ...	22.0911 ...	22.0912 ...	22.0913 ...	22.0914 ...	22.0915 ...	22.0916 ...	22.0917 ...	22.0918 ...
		Wide Jaw Punch 15° up milled small medium large								
3,5	6x2,5 small	22.0930 ...	22.0931 ...	22.0932 ...	22.0933 ...	22.0934 ...	22.0935 ...	22.0936 ...	22.0937 ...	22.0938 ...
3,5	5x3,5 medium	22.0940 ...	22.0941 ...	22.0942 ...	22.0943 ...	22.0944 ...	22.0945 ...	22.0946 ...	22.0947 ...	22.0948 ...
3,5	5x4,5 large	22.0950 ...	22.0951 ...	22.0952 ...	22.0953 ...	22.0954 ...	22.0955 ...	22.0956 ...	22.0957 ...	22.0958 ...
		Hook Scissors								
2,7		22.0960 ...	22.0961 ...	22.0962 ...	22.0963 ...	22.0964 ...	22.0965 ...	22.0966 ...	22.0967 ...	22.0968 ...
3,5		22.0800 ...	22.0801 ...	22.0802 ...	22.0969 ...	22.0970 ...	22.0971 ...	22.0972 ...	22.0803 ...	22.0973 ...
		Scissors Punch								
3,5	5x0,8	22.0819 ...	22.0820 ...	22.0821 ...	22.0980 ...	22.0981 ...	22.0982 ...	22.0983 ...	22.0984 ...	22.0985 ...
		Scissors Punch 15° up milled								
3,5	5x0,8	22.0819 ...	22.0820 ...	22.0821 ...	22.0980 ...	22.0981 ...	22.0982 ...	22.0983 ...	22.0984 ...	22.0985 ...

Instruments

		Description	Diameter Ø	Order Number
		Suture Grasping Forceps	3,5	23.0001...
		Suture-Pierce 45° sharp up milled	3,5	23.0002...
		Suture-Pierce sharp upmilled	3,5	23.0004...

Choose a handle and place the letter behind the order number of the requested jaw.

HANDLE TYPE	TYPE A <i>TİP A</i>	TYPE B <i>TİP B</i>	TYPE C <i>TİP C</i>	TYPE D <i>TİP D</i>
				
Description		Diameter Ø		Order Number
Grasping Forceps		2,7		22.0799...
Grasping Forceps		3,5		22.0804...
Grasping Forceps 1x2 teeth		3,5		22.0805...
Grasping and biopsy Forceps		3,5		22.0806...
Description		Ø mm	Width of Bite	Straight
Punch retrograde cut right		3,5	4x2,5	22.0996...
Punch retrograde cut left		3,5	4x2,5	22.0994...

Grasping Forceps

Ø mm	Description	Order Number
2,5	130	23.0005a
4,5	120	23.0006a
3,5	120	21.0282a



Mini Grasping Forceps 1x2 teeth with ratchet



Meniscus grasping forceps strong 15mm jaws length, without ratchet



Meniscus forceps, straight, with ratchet

Instruments complete with Triangular Handle

		Ø mm	Ø or Jaw length/width in mm	Order Number
				
		Ring Curette	7,0	23.0100a
		Ring Curette	4,0	23.0101a
		Ring Curette	3,0	21.0146a
		Spoon 30° curved	3,0	23.0102a
		Banana knife, smooth	3,3	23.0104a
		Banana knife, serrated	3,3	23.0105a
		Knife, 45° retrograde curved	3,5	23.0106a

	Ø mm	Ø or Jaw length/width in mm	Order Number
	Hook Knife 5mm curved	5,0	23.0109a
	Hook Knife 90°	3,0	23.0166a
	Sickle Knife	2,0	23.0110a
	Scalpel Knife	3,0	23.0111a
	Smilie meniscotome	7,0	23.0112a
	Smilie meniscotome	5,0	23.0163a
	Smilie meniscotome	3,0	23.0113a
	Hook probe graduated 90° curved	5,0	23.0108a
	Hook probe graduated 90° curved	3,5	21.0162a
	Hook probe graduated 90° curved	2,5	23.0115a
	Hook probe pointed	2,0	23.0107a
	Knife serrated, straight	4,0	23.0116a
	Knife serrated, 30° right	4,0	23.0114a
	Knife serrated, 30° left	4,0	23.0117a
	Bayonet Knife	3,0	23.0118a

Instruments with Changeable Universal Handle

	Ø mm	Ø or Jaw length/width in mm	Order Number
	Ring Curette	7,0	23.0100b
	Ring Curette	4,0	23.0101b
	Ring Curette	3,0	21.0146b
	Spoon 30° curved	3,0	23.0102b
	Banana knife, smooth	3,3	23.0104b
	Banana knife, serrated	3,3	23.0105b
	Knife, 45° retrograde curved	3,5	23.0106b
	Hook Knife 5mm curved	5,0	23.0109b
	Hook Knife 90°	3,0	23.0166b
	Sickle Knife	2,0	23.0110b
	Scalpel Knife	3,0	23.0111b
	Smilie meniscotome	7,0	23.0112b
	Smilie meniscotome	5,0	23.0163b
	Smilie meniscotome	3,0	23.0113b
	Hook probe graduated 90° curved	5,0	23.0108b

	Ø mm	Ø or Jaw length/width in mm	Order Number
	Hook probe graduated 90° curved	3,5	21.0162b
	Hook probe graduated 90° curved	2,5	23.0115b
	Hook probe pointed	2,0	23.0107b
	Knife serrated, straight	4,0	23.0116b
	Knife serrated, 30° right	4,0	23.0114b
	Knife serrated, 30° left	4,0	23.0117b
	Bayonet Knife	3,0	23.0118b

Shaver System



Shaver System

Standart Items

Control Unit
Shaver-Handpiece
Footswitch
Power cord

Optional Accesories

Drill-Handpiece
Saw-Handpiece

Technical Specification

323x118x267 (WxHxD)
4 kg
Can be plugged with 3 different
handpiece in the same time

Shaver Handpiece

Length: 165mm
475 gr
Speed Range: 1000-8000 (inc.
+ 500) rpm +10%
Operating Mode: intermittent mode
– 3 min. ON / 3 min. OFF (at max
speed)
Length of cable: 3 mt.

Drill Handpiece

Length: 165mm
840 gr
Speed Range:
150/300/600/900/1100 rpm +10%
Intermittent mode
Length of cable: 3 mt.

Saw Handpiece

Length: 190 mm
450 gr
Speed Range: 20.000 rpm +10%
Intermittent mode
Length of cable: 3 mt.

Footswitch

266x20x209(WxHxD)
1400gr
Mode of Operation: Clockwise,
counterclockwise, oscillation, speed level
adjustment, handpiece-choice

Shaver Baldes

	Ø mm	Autoclavable	Steril Single Use
	3,4	22.0125a	22.0125c
	4,2	22.0123a	22.0123c
	5,5	22.0124a	22.0124c
	3,4	22.0109a	22.0109c
	4,2	22.0111a	22.0111c
	5,5	22.0112a	22.0112c
	3,4	22.0126a	22.0126c
	4,2	22.0120a	22.0120c
	5,5	22.0121a	22.0121c
	3,4	22.0139a	22.0139c
	4,2	22.0143a	22.0143c
	5,5	22.0144a	22.0144c
	5,5	22.0128a	22.0128c
	5,5	22.0132a	22.0132c
	5,5	22.0130a	22.0130c

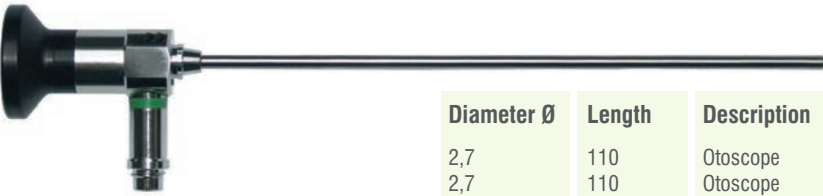
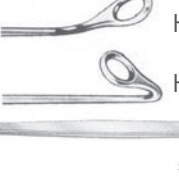
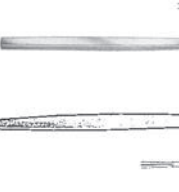
Arthroscopy Pump



Arthroscopy Pump
Pressure Area: 0 – 200 mmHg
Flow Rate: 0 – 1500 ml/min
265x145x390 (WxHxD)
6 kg
Foot Pedal
Pneumatic Remote Control

Displays
Desired Pressure 0 -200mmHg
Actual Pressure 0-350 mmHg
Actual Flow 0,10 - 1,50 L/min

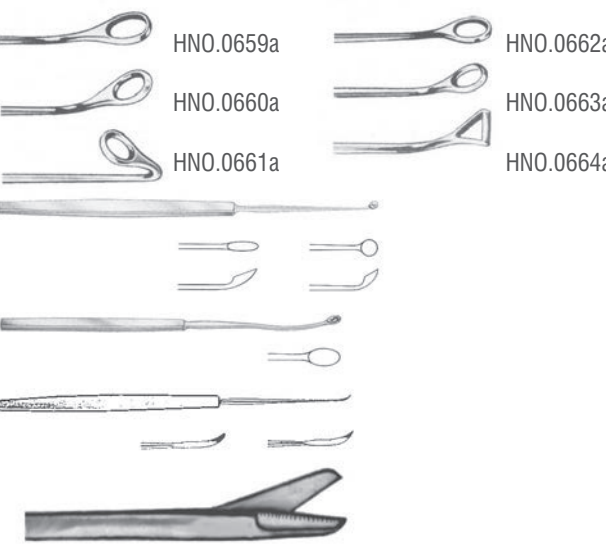
Rigid Scopes

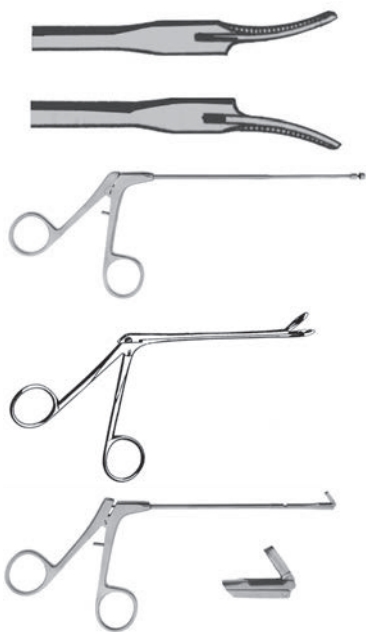
	Diameter Ø	Length	Description	Direction of View	Order Number
	2,7	110	Otoscope	0°	HNO.0005a
	2,7	110	Otoscope	30°	HNO.0007a
	2,7	110	Otoscope	0°	HNO.0009a
	2,7	34	Otoscope	0°	HNO.0022s
	2,7	34	Otoscope	30°	HNO.0023s
	2,7	50	Otoscope	0°	MED15
	2,7	50	Otoscope	30°	MED15
	4	110	Otoscope	0°	MED15
	4	110	Otoscope	30°	MED15
	4	175	Sinuscope	0°	O/H.0003a
	4	175	Sinuscope	30°	O/H.0008a
	4	175	Sinuscope	70°	O/H.0011a
	4	170	Sinuscope	25°	O/H.0051a
	4	170	Sinuscope	70°	O/H.0053a
	4	157	Sinuscope	30°	O/H.0061a
	4	160	Sinuscope	30°	O/H.0066a
	4	142	Sinuscope	30°	O/H.0081a
	4	175	Sinuscope	45°	O/H.0101a
	2,7	175	Sinuscope	0°	MED15
	2,7	175	Sinuscope	30°	MED15
	10	153	Tele-Laryngo-Pharyngoscope	90°	HNO.0606s
	6	164	Laryngo-Pharyngoscope	90°	HNO.0609s
	8	164	Laryngo-Pharyngoscope	90°	HNO.0610s
	8	175	Laryngoscope	70°	MED15
	8	175	Laryngoscope	90°	MED15

Flexible Scopes

	Diameter Ø	Length	Description	Direction of View	Order Number
	4,3	400	Nose Pharyngoscope- With Working Channel 1,4 mm	Deflection 140°- 140°----- 0°	HNO.0055a
	3,2	300	Nose-Pharyngoscope 16.000 pixells	Deflection 160°- 160°----- 0°	HNO.1003s
	3,2	300	Nose-Pharyngoscope 12.000 pixells	Deflection 160°- 160°----- 0°	HNO.1001s
	3,4	300	Nose-Pharyngoscope 8.000 pixells	Deflection 160°- 160°----- 0°	HNO.1001a

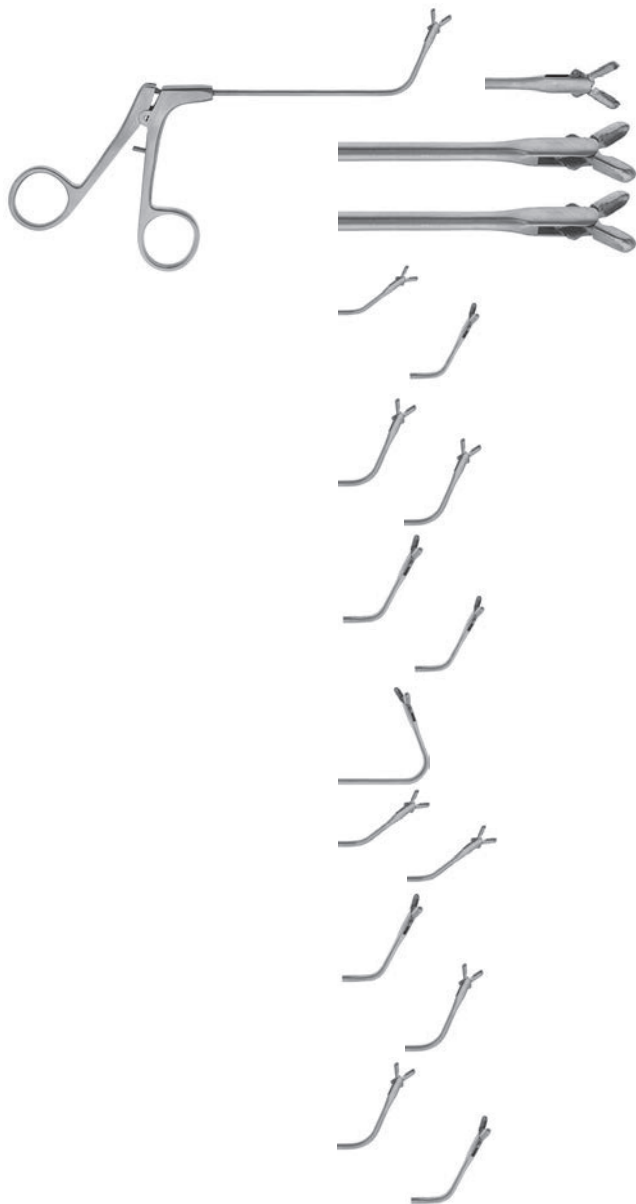
Instruments

	Description	Order Number
	Curette Figure 1	HNO.0659a
	Curette Figure 2	HNO.0660a
	Curette Figure 3	HNO.0661a
	Curette Figure 4	HNO.0662a
	Curette Figure 5	HNO.0663a
	Curette Figure 6	HNO.0664a
	Spoon round sharp	HNO.0665a
	Spoon oval Long sharp 20 cm	HNO.0666a
	Spoon oval sharp 20 cm	HNO.0667a
	Sickle Knife 20 cm	HNO.0668a
	Sickle Knife bent long 20 cm	HNO.0669a
	Nasal Scissors Straight	HNO.0678a

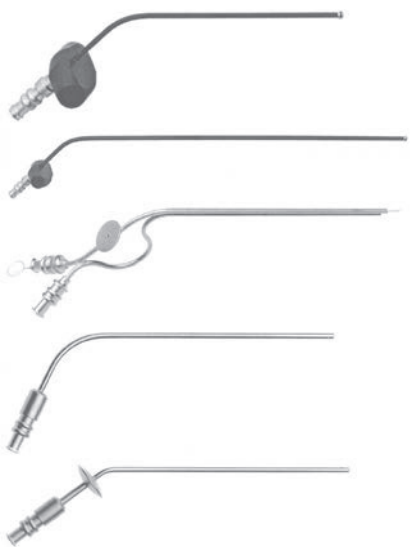
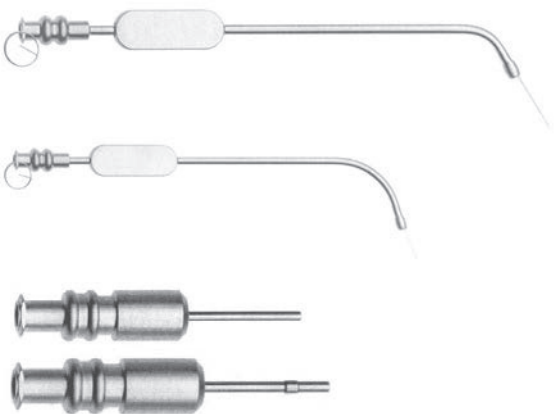


Description	Order Number
Nasal Scissors right curved	HNO.0676a
Nasal Scissors left curved	HNO.0677a
Circular Forceps straight 3,5 mm	HNO.0679a
Circular Forceps straight 4,5 mm	HNO.0680a
Circular Forceps upwards 4,5 mm	HNO.0681a
Circular Forceps upwards 3,5 mm	HNO.0682a
Nasal Cutting Forceps Sharp 19 cm Weil Blakesley without neck straight	HNO.0670a
Nasal Cutting Forceps Sharp 19 cm Weil Blakesley without neck 45°	HNO.0671a
Nasal Cutting Forceps Sharp 19 cm Weil Blakesley without neck 90°	HNO.0672a
Antrum Punches upwards cutting	HNO.0673a
Antrum Punches right cutting	HNO.0674a
Antrum Punches left cutting	HNO.0675a

ENT Instruments Arthroscopy Accessories



Description	Order Number
Biopsy Punch straight vertical 3mm double mobile	HNO.0683a
Biopsy Punch straight horizontal 3mm double mobile	HNO.0684a
Biopsy Punch straight horizontal 3mm single mobile	HNO.0685a
Biopsy Punch 45° vertical 3mm single mobile short	HNO.0686a
Biopsy Punch 45° horizontal 3mm double mobile	HNO.0687a
Biopsy Punch 70° vertical 3mm double mobile	HNO.0688a
Biopsy Punch 70° vertical 3mm single mobile short	HNO.0689a
Biopsy Punch 70° horizontal 3mm double mobile	HNO.0690a
Biopsy Punch 70° horizontal 3mm single mobile short	HNO.0691a
Biopsy Punch 110° horizontal 3mm double mobile	HNO.0692a
Biopsy Punch 45° vertical 4mm double mobile	HNO.0693a
Biopsy Punch 45° vertical 4mm single mobile short	HNO.0694a
Biopsy Punch 45° horizontal 4mm double mobile short	HNO.0695a
Biopsy Punch 70° vertical 4mm double mobile	HNO.0696a
Biopsy Punch 70° vertical 4mm single mobile short	HNO.0697a
Biopsy Punch 70° horizontal 4mm double mobile short	HNO.0698a



Trocars for Sinuscopy

Description	Order Number
Trocar for antroscopy and Sinuscopy 3,5	HNO.0617a
Trocar for antroscopy and Sinuscopy 5,0	HNO.0618a
Trocar for antroscopy and Sinuscopy 5,0	HNO.0619a

Biopsy Accessories

Description	Order Number
Gumholeaspirator with short edge 3,0mm	HNO.0620a
Gumholeaspirator with short edge 4,0 mm	HNO.0621a
Gumholeaspirator with long edge 3,0mm	HNO.0622a
Gumholeaspirator with long edge 4,0mm	HNO.0623a
Suctioncannula short smooth	HNO.0624a
Suctioncannula short with stopring	HNO.0625a

Suction And Irrigation Tubes

Description	Working Length	Ball Ø	Order Number
Coagulation Suction Tube straight 2,5mm	100	3,5	HNO.0650a
Coagulation Suction Tube straight 2,5mm	260	3,5	HNO.0651a
Coagulation Suction Tube straight 4,0 mm	260	5,0	HNO.0652a
Coagulation Suction Tube straight 4,0 mm	300	5,0	HNO.0653a
Suction and Irrigation Tube 4,0mm			HNO.0654a
Irrigation Tube 3,0mm			HNO.0655a
Irrigation Tube with plate 2,5 mm			HNO.0656a

Septum Elevators

Description	Order Number
“Joseph” 16 cm	HNO.0657a
“Freer” sharp, blunt 18 cm	HNO.0658a

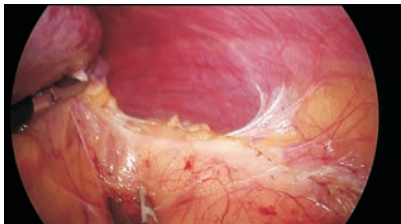
1156 Single CMOS Camera

The endoscopy camera 1156 is a low-cost ultra-high sensitive endoscopy camera. With the latest CCD technology, the 1156 camera provides two times higher sensitivity compared to conventional CCD cameras. This substantially reduces the requirements to the light source. The camera incorporates a 10bit digital image processor which offers superior colour rendition and high dynamic range. With high definition digital output option, image quality is improved due to no signal loss on digital connection. The excellent price-benefit ratio makes the 1156 an ideal camera for micro endoscopic surgery and diagnostic endoscopic procedures.

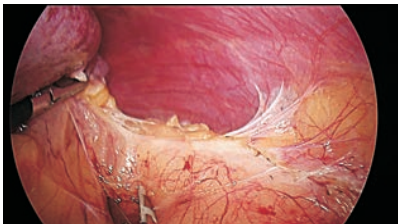


Advanced Image Enhancement

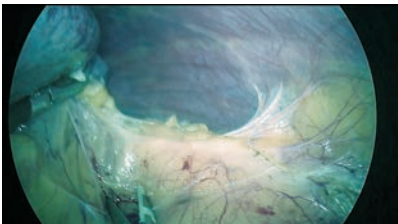
Original Image



Clarity Enhancement



Color Enhancement



TECHNICAL DATA

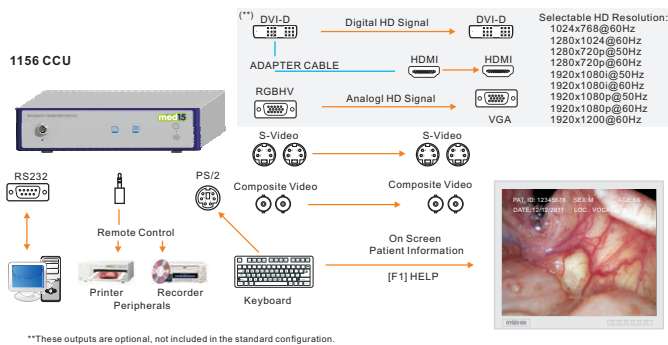
CAMERA HEAD	
Video system	PAL / NTSC
Image sensor	1/3" CCD
Scanning system	Interlaced
Output pixels	752 x 582/768 x 494
Resolution	> 500TV Lines
Signal-to-noise ratio	≥ 54dB
White balance	Auto (push button)
Gain	Auto / OFF / Preset
Minimum illumination	0.1 lux
Endoscopic scene files	5
Frame rate	50Hz / 60Hz
Output signal	2 x S-Video 2 x Composite Video
Advanced settings	On Screen Display (OSD) Menu Patient Information (by external keyboard via PS/2 connector) RS232 (on request)
Environment	0°C - +40°C temperature less than 90% relative humidity
Classification	Class I BF

CONTROL UNIT	
Dimensions (Dia x L)	30 × 32 x 74 mm
Weight	80 g
Lens connection	C-mount
Cable length	3 meters
Protection class	Soakable, IPX7
Control buttons	3

ORDERING DATA	
1156.08.01	1156 Camera Control Unit (PAL)
1156.08.02	1156 Camera Head (PAL)
1156.08.03	1156 HD Camera Control Unit (PAL)
1156.09.01	1156 Camera Control Unit (NTSC)
1156.09.02	1156 Camera Head (NTSC)
1156.09.03	1156 HD Camera Control Unit (NTSC)

Specifications, design and accessories are subject to change without any notice or obligation on the part of the manufacturer.

Camera Control Unit (CCU) Outputs:



**These outputs are optional, not included in the standard configuration.

Full HD Single Chip Camera

A single chip full high definition camera

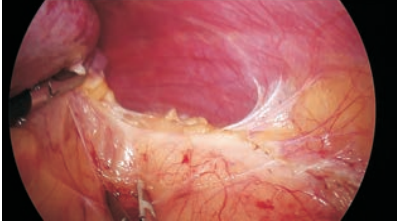


The 6160 camera delivers extremely clear and sharp image in full high definition standard. With modern image processing technology, the camera makes the finest details in tissue structures distinguishable. The camera offers all necessary features for surgical use such as digital zoom, freeze, digital edge enhancement, and etc.

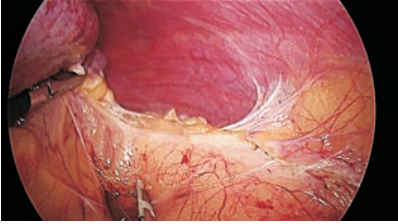
Advanced Image Enhancement

*Optical coupler is optional, the camera head has a standard C-mount interface.

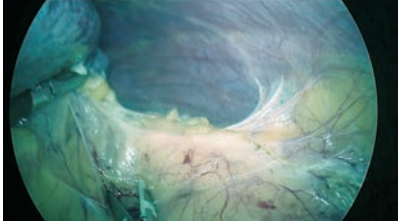
Original Image



Clarity Enhancement



Color Enhancement



TECHNICAL DATA

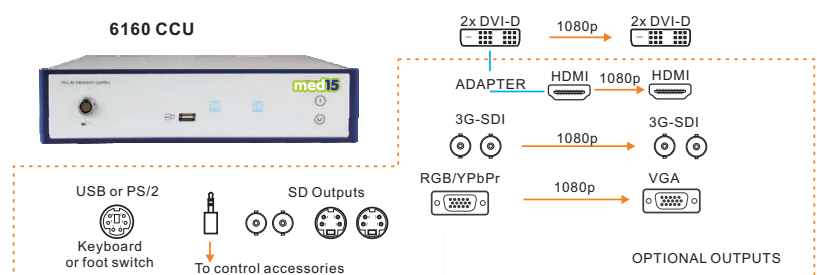
CAMERA HEAD	
Video system	50Hz/ 60Hz Selectable
Image sensor	1/3" HD CHIP
Scanning system	Progressive
Output pixels	1920(H)×1080(V)
User settings	5
Frame rate	50p (EU) / 60p (US)
Keyboard Support	Yes (via USB)
Foot switch support	Optional
Accessories control	Yes (via 3.5mm Jack output)
Output signal	2x DVI-D (SDI Optional) 1x Analog RGB or Y/Pb/Pr (Analog SD Option) 2xS-video on Mini-Din 4 2xComposite Video
Advanced settings	By On Screen Display (OSD) Rs232 (on request)
Environment	0°C - +40°C temperature less than 90% relative humidity
Classification	Class I / BF

CONTROL UNIT	
Dimensions (W×H×D)	33 × 35 x 83 mm
Weight	100 g
Lens connection	C-mount
Cable length	3 meters
Protection class	Soakable, IPX7
Control buttons	3

ORDERING DATA	
6160.02.02	6160 camera head
6160.02.01	6160 Control Unit
6160.12.01	6160 Control Unit with recording option

Specifications, design and accessories are subject to change without any notice or obligation on the part of the manufacturer.

Camera Control Unit (CCU) Outputs:



Full HD 3 Chips Camera

A professional 3Chip full high definition camera

Med15 HD endoscopy camera HD6698 is the latest version of the high definition endoscopy camera, which delivers the clearest, sharpest picture. With the native progressive scan the HD6698 provides the sharpest detail with incomparable natural color rendition at the highest spatial and temporal resolution. Even the finest variations in tissue structures are distinguishable.

HD 6698 will definitely enhance the capabilities of surgeons performing minimally invasive procedures.



Full HD 4K Camera

A professional 3Chip ultra high definition camera

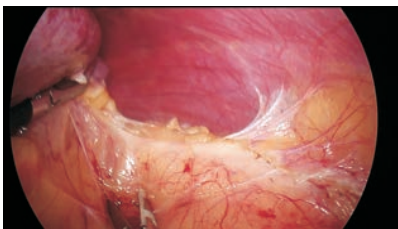
Med15 UHD(4K) endoscopy camera 6802 is the latest version of the ultra high definition endoscopy camera, which delivers a clear and sharp picture. With the native progressive scan, the 6802 provides the sharpest details with incomparable natural color rendition at the highest spatial and temporal resolution. Even the finest variations in tissue structures are distinguishable.

6802 will definitely enhance the capabilities of surgeons performing minimally invasive procedures.

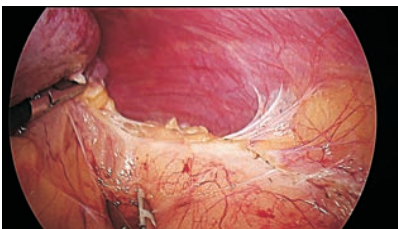


Advanced Image Enhancement

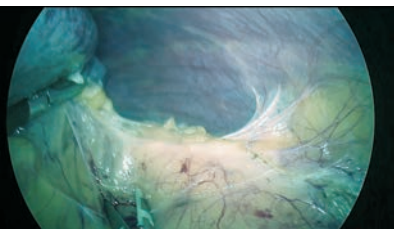
Original Image



Clarity Enhancement



Color Enhancement



TECHNICAL DATA

Video system	50Hz/ 60Hz Selectable
Image sensor	3 × 1/3" CMOS sensor
Scanning system	Progressive
Effective pixels	3 × 1920(H)×1080(V)
Resolution	1100TV Lines
Signal-to-noise ratio	≥ 54dB
Sensitivity	3lux (F1.4)
User settings	5
Frame rate	50p (EU) / 59.94p (US)
Output signal	2x DVI-D or HDMI 2x Digital 3G-SDI 1x Analog RGB or Y/Pb/Pr 2xS-video on Mini-Din 4 2xComposite Video
Advanced settings	By On Screen Display (OSD) Rs232 (on request)
Environment	0°C - +40°C temperature less than 90% relative humidity
Exposure	Automatic and Manual (via OSD)
Classification	CE Class I / BF

CAMERA HEAD

Dimensions (W×H×D)	34 × 42× 58 mm
Weight	90 g
Lens connection	C-mount
Cable length	3 meters
Protection	Soakable, IPX7
Control buttons	3

CONTROL UNIT

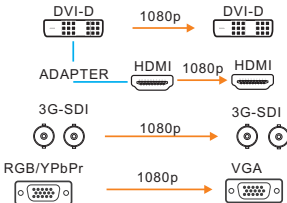
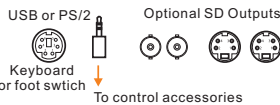
Dimensions (W×H×D)	325 × 74 × 365 mm
Weight	5.1 kg
Protection class	IP20
Line voltage	100-240VAC @ 50-60 Hz
Fuse	2 × T 1.0 A E / 250V (IEC 127)
Power tested acc.To	UL2601-1, EN60601-1, IEC60601-1-2

ORDERING DATA

6698.02.02	6698 camera head
6698.02.01	6698 Control Unit
6698.12.02	6698 Control Unit with recording option

Specifications, design and accessories are subject to change without any notice or obligation on the part of the manufacturer.

Camera Control Unit (CCU) Outputs:



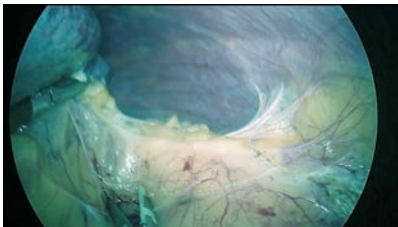
Original Image



Clarity Enhancement



Color Enhancement



TECHNICAL DATA

Video system	50Hz/ 60Hz Mode
Image sensor	3 × 1/3" CHIP
Scanning system	Progressive
Output pixels	3840 x 2160
Resolution	> 1600TV Lines
Signal-to-noise ratio	≥ 56dB
Sensitivity	F6 standard(2000lux) 50Hz
User settings	5
Frame rate	50p (EU) / 59.94p (US)
Output signal	1x HDMI (UHD or HD) 1x HDMI (HD) 4x SDI (UHD or HD)

Advanced settings	By On Screen Display (OSD) RS232 (on request)
Environment	0°C - +40°C temperature less than 90% relative humidity
Classification	CE Class I

CAMERA HEAD

Dimensions (W×H×D)	34 × 42× 58 mm
Weight	90 g
Lens connection	C-mount
Cable length	3 meters
Sterilization	Soakable, IPX7
Control buttons	3

CONTROL UNIT

Dimensions (W×H×D)	325 × 74 × 365 mm
Weight	6.5 kg
Protection class	IP20
Line voltage	100-240VAC @ 50-60 Hz
Fuse	2 × T 1.0 A E / 250V (IEC 127)
Power tested acc.to	UL2601-1, EN60601-1, IEC60601-1-2

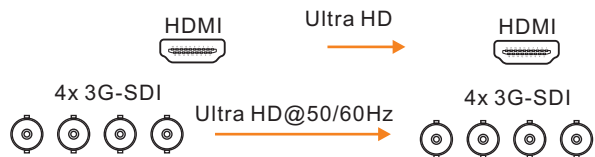
ORDERING DATA

6800.02.02	6802/6800 camera head
6802.02.01	6802 Control Unit

Specifications, design and accessories are subject to change without any notice or obligation on the part of the manufacturer.

Camera Control Unit (CCU) Outputs:

6802 CCU





Full HD 3 Chips 3D Camera

The 3182 3D camera delivers extremely clear and sharp image in full high definition standard. With modern image processing technology, the 3D camera provides significantly improved the general operative visibility and in particular the representation of spacial depth compared to 2-dimensional images.



Advanced Image Enhancement

Original Image



Clarity Enhancement



TECHNICAL DATA

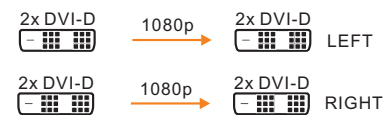
Video system	50Hz/ 60Hz Mode	CAMERA HEAD	
Image sensor	2x 1/3" HD CHIP	Dimensions (W×H×D)	33 × 35 × 83 mm
Scanning system	Progressive	Weight	100 g
Output pixels	1920(H)×1080(V)	Endoscope connection	Detachable
User settings	5	Cable length	3 meters
Frame rate	50p (EU) / 60p (US)	Sterilization	Soakable, IPX7
Keyboard Support	Yes (via USB)	Control buttons	3
Foot switch support	Optional	CONTROL UNIT	
Accessories control	Yes (via 3.5mm Jack output)	Dimensions (W×H×D)	325 × 74 × 365 mm
Output signal	2x DVI-D	Weight	6.2 kg
(SDI Optional)	2x Digital HD/3G-SDI	Protection class	IP20
		Line voltage	100-240VAC @ 50-60 Hz
		Fuse	2 × T 1.0 A E / 250V (IEC 127)
		Power tested acc.to	UL2601-1, EN60601-1, IEC60601-1-2
Advanced settings	By On Screen Display (OSD) RS232 (on request)	ORDERING DATA	
Environment	0°C - +35°C temperature less than 90% relative humidity	3180.02.02	3182 camera head
Classification	Class I / BF	3182.02.01	3182 Control Unit
		3182.02.80	3182.02.80 3D endoscope 10mm 0 degree
		3182.02.83	3182.02.80 3D endoscope 10mm 30 degree

Specifications, design and accessories are subject to change without any notice or obligation on the part of the manufacturer.

Camera Control Unit (CCU) Outputs:



USB or PS/2
Keyboard
or foot switch
To control accessories



OPTIONAL OUTPUTS:



Special Camera For Vocal-fold Vibration

Ultra High-speed Imaging for Vocal-fold Vibration



* Endoscope and optical coupler are not included.

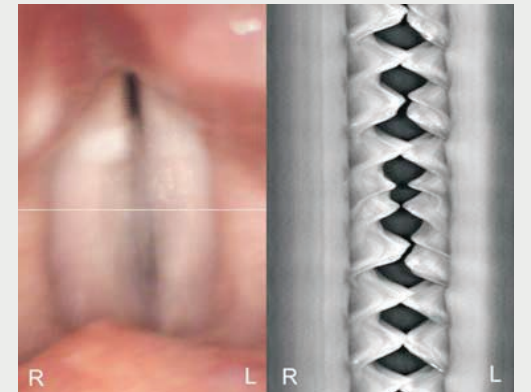
Videokymography (VKG) is a high-speed medical imaging method for revealing vocal-fold vibration in voice disorders.

With a dual-CCD construction, the system not only provides kymographic images, but also simultaneously presents images for navigating the endoscope to the desired position. With 7200 line images per second, the kymographic imaging has sufficient speed to investigate all types of regular and irregular vocal-fold vibrations.

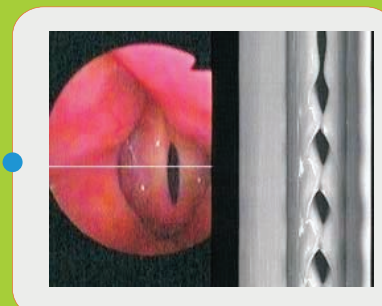
FEATURES:

Simultaneous structural and functional imaging

The image from VKG camera is vertically split into two parts. The left part shows the laryngoscopic image (structural) and the right part shows the kymographic one (functional). The white line in the laryngoscopic image indicates the scanning position of the kymogram.



High Speed imaging of vocal-fold vibration from flexible endoscope

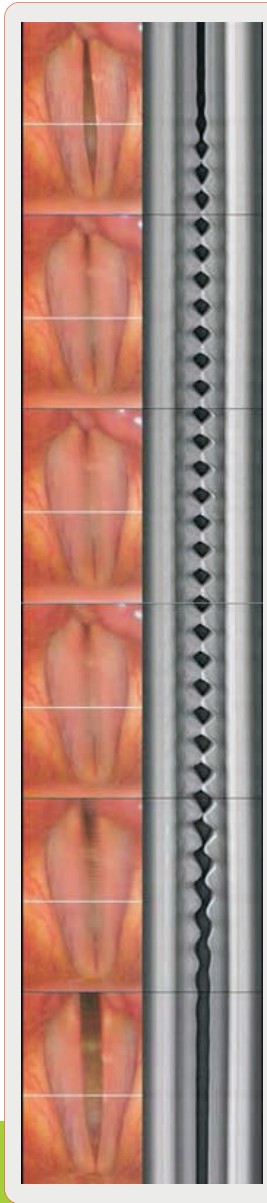


The VKG camera uses the latest high-sensitive image sensors, which significantly reduces the demand for light illumination. Thus the high-quality kymographic image can also be obtained with a flexible endoscope, even if the diameter of the flexible endoscope is as small as 3 millimeter. This is particularly important for patients who cannot tolerate a rigid endoscopic examination.

* A 300 watt Xenon light source is recommended when using VKG camera with a flexible endoscope.

Special Camera For Vocal-fold Vibration

- Ultra high-speed and high resolution**
The VKG camera can maximally provide 625 pixels at 7200 line images per second in the kymographic channel. Maximal spatial resolution of laryngoscopic image is 768 by 576 pixels with a temporal resolution of 25 frames per second.
- Uninterrupted kymogram in a standard video system**
The continuous kymogram of the vocal fold vibration can be retrieved from a sequence of kymographic images without being interrupted by the vertical blanking of a standard video system.
- Real-time imaging without waiting time**
The images can be visualized directly on a standard video monitor without any waiting time for post-processing, drastically reducing the examination time.
- Standard video interface**
Analog output has a PAL or NTSC standard signal for any standard video monitor or video recorder. This makes the VKG camera can be easily incooperated with currently existing system without extra investment on hardware and software. Digital video output (Optional) provides raw digital video data for quantitative analysis.



TECHNICAL DATA

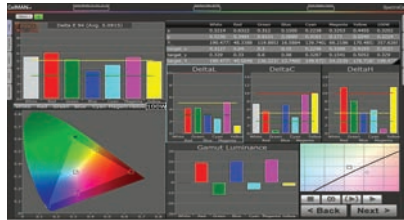
Video system	PAL / NTSC	CAMERA HEAD
Image sensor (Structural channel)	1/2" Interline CCD-chip 752 (H) × 582 (V) pixels (PAL) 768 (H) × 494 (V) pixels (NTSC)	
Image sensor (Functional channel)	625 pixel line scan (PAL) 625 pixel line scan (NTSC)	Dimensions (LxWxD)34 × 48 × 75 mm
White balance	AUTO (Pushbutton)	Weight150 g
Gain	AUTO / OFF	Lens connectionC-mount
Exposure area	A-B-C-D	Cable length3 meters
Video Outputs	2 × composite (BNC), 2 × Y/C (S-VHS), Digital Video (USB 2.0, optional)	ProtectionIPX7
Environment	+10°C - +40°C temperature 30% - 75% relative humidity	CONTROL UNIT
Classification	as per Annex VII of Directive 93/42/EEC with potential equalization	Dimensions (W×H×D)325 × 74 × 365 mm
		Weight4.5 kg
		Protection classIP20
		Line voltage100 - 240V AC @ 50-60Hz
		Power consumption26W
		ORDERING DATA
		C2156.02 Videokymographic camera (PAL)
		C2156.03 Videokymographic camera (NTSC)

Specifications, design and accessories are subject to change without any notice or obligation on the part of the manufacturer.

27" HD LED Medical Display

The screen size is large enough for viewing side-by-side images simultaneously, yet small enough to mount on moveable arm or boom if required. Compatible input signals include DVI-D, 3G SDI,C-Video, S-Video, Component, and VGA.

Accurate Color Reproduction



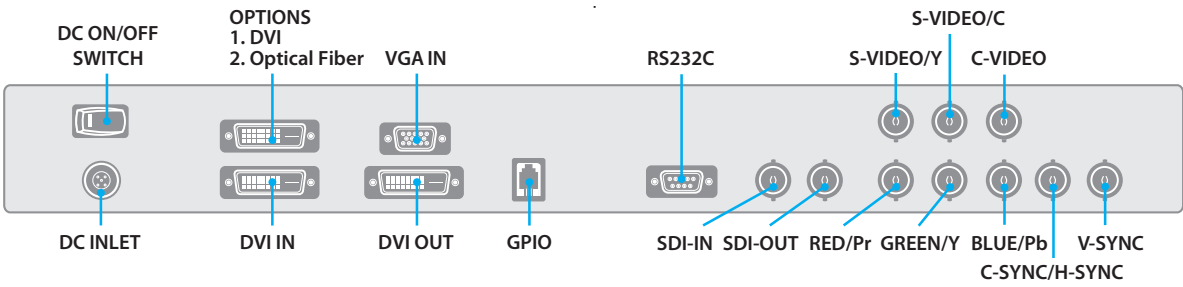
Med15 has implemented methods to fine-tune the properties of our displays. Distinct color space settings have been calibrated to well-known surgical color preferences.



Specifications

General Features	
Item	Description
Panel	27 inch LED (IPS)
Resolution	1920 x 1080 pixel
Aspect Ratio	16 : 9
Active Area	597.89(H) x 336.31(V) mm
Input Signal	1 x DVI-D 1 1 x DVI-D 2 (optical fiber optional) 1 x VGA (D-sub) 1 x SD/HD/3G-SDI (BNC) 1 x C-Video (BNC) 1 x S-Video (Y/C) (BNC) 1 x Component (RGBS, YPbPr) (5 x BNC)
GPIO port	Swap, PIP / PBP1 / PBP2 Select, Record indicator
Output Signal	1 x DVI-D 1 x SD/HD/3G-SDI (BNC)
Power Supply	AC/DC Adaptor (AC 100~240V, DC 24V 6.25A)
Control Key	Power, Menu, PIP, Up, Down, Plus, Minus, Input
Unit Dimension	648 (W) x 397 (H) x 72 (D) mm 25.51 (W) X 15.63 (H) x 2.83 (D) inch
Average Brightness	650 cd/ m2
Response Time (G-to-G)	14 ms
Viewing Angle (CR>10)	R/L 178, U/D 178
Weight	8.2 kg, 18.08 lbs
Contrast Ratio	1000 : 1 Typical
Pixel Pitch	0.3114(W)mm x 0.3114(H)mm

Signal Timing		
Input Signal	Type	Description
VGA Video	Type	Analog RGB
	Connector	DSUB-15
	Level	0.7Vp-p ±5%
	Polarity	Positive
	Impedance	75 ohm ±5%
	Horizontal frequency	30 ~ 93KHz
	Vertical frequency	50 ~ 85Hz
	Applicable maximum pixel frequency	170MHz
DVI	Type	Separate H/V sync, Composite H/V sync, Sync On Green Automatic synchronization without external switch
	Terminal resistance	more than 2KΩ
	Type	Digital RGB
	Signal Format	TMDS single link
CVBS	Connector	DVI-D
	Type	C-Video
SVHS Y/C	Color system	NTSC, PAL
	Signal Format	Composite Video Signal
	Type	S-Video
SDI	Color system	NTSC, PAL
	Signal Format	Y/C Separated Video Signal
	SMPTE-424M	1080p (3G)
	SMPTE-292M	720p, 1080i (HD)
	SMPTE-259M	480i, 576i (SD)



C-Mount

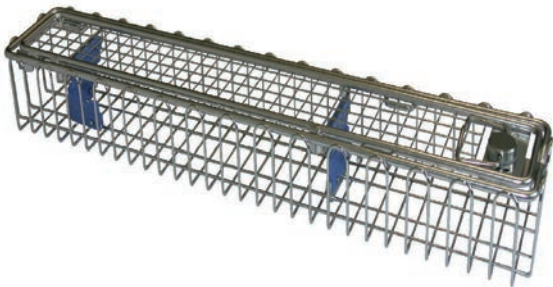


The monitors may vary between 19" and 52" in accordance with the demand of the buyer

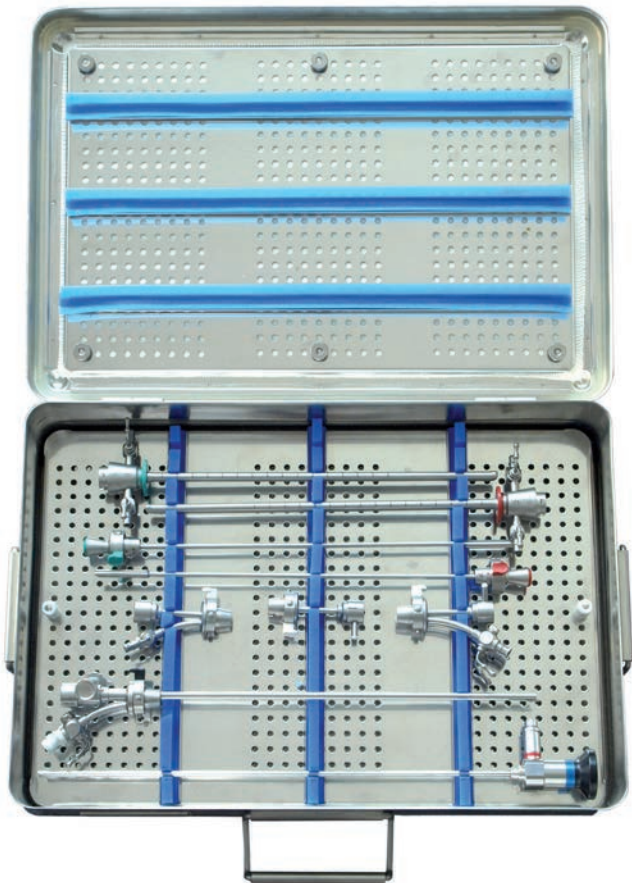
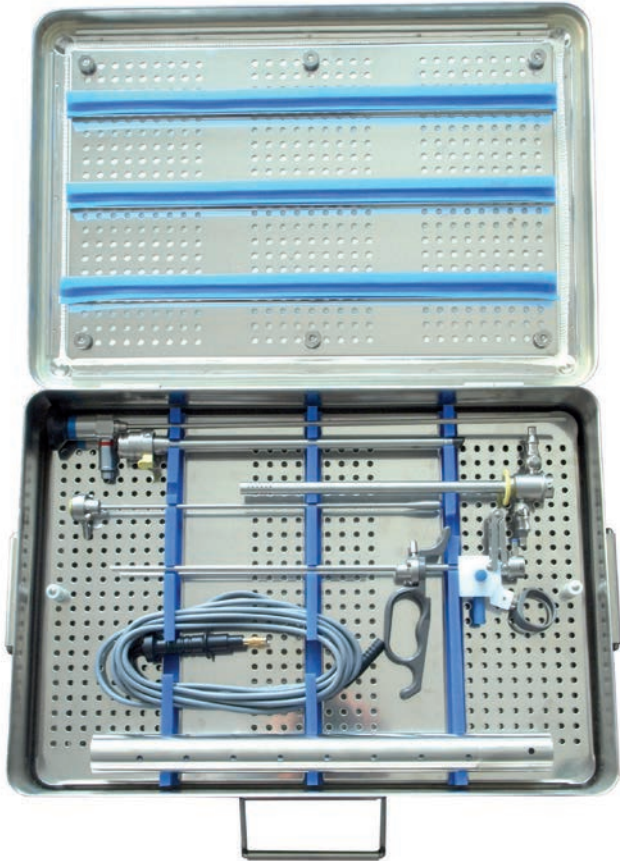


Couplers

Focal Length	Speciality	Order Number
f=13-32 mm	Parfocal zoom, no refocusing necessary	05.0065s
f=25 mm	Incl. Focusing, quick coupling and locking screw for eye piece	95.2010s
f=30 mm	Incl. Focusing, quick coupling and locking screw for eye piece	95.2011s
f=25 mm	Incl. Focusing, quick coupling and locking screw for eye piece	05.0067s.m2
f=30 mm	Incl. Focusing, quick coupling and locking screw for eye piece	05.0064s.m2
f=40 mm	Incl. Focusing, quick coupling and locking screw for eye piece	05.0066s.m2
f=30 mm	This adapter grants an always upright picture	95.2014s
f=35 mm	Picture dividing TV-adapter	05.9051v



Dimension	For
290x80x52	Small Scopes
460x80x52	Big Scopes
290x80x52	Small Scopes
460x80x52	Big Scopes



Light Guide Cables



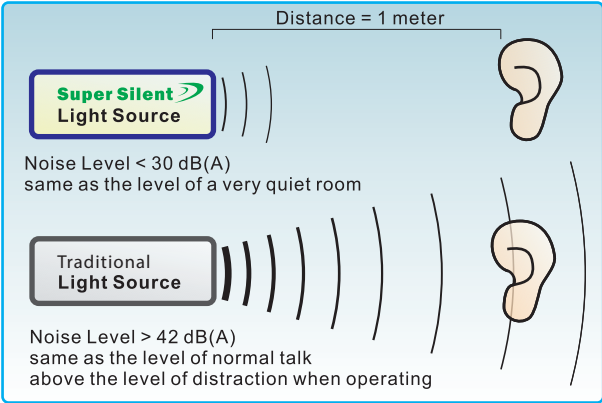
Fiber Diameter Ø	Length	Order Number
3,5	180 cm	05.0084I
3,5	230 cm	05.0088I
3,5	300 cm	05.0085I
4,8	180 cm	05.0086I
4,8	230 cm	05.0090I
4,8	300 cm	05.0087I
4,8	230 cm	05.0090I ht
4,8	300 cm	MED15
4,8	250 cm	MED15
4,8	200 cm	MED15

Xenon Cool Light Source 7300



Xenon Light
250 W
>500 hours lamp life
6000 K
Work Time Continuosly 6 hours
130x355x350 Dimension
Lamp Life Indicator

LED Cool Light Source



Trolley



The trolley consists of 3 shelves and 1 drawer
The trolley has 4 wheels and the front wheels can be locked
There is a handle in front of it to pull the trolley
Equipped with special paint system
The trolley has a place to hold the CO2 tube
There is an extra arm to mount the assistant monitor on the trolley
There is a special shelf for the keyboard to be placed on the trolley
Electrical cables are not visible with the helping of the cable channels
The trolley is customizable

TECHNICAL DATA

Color temperature	6000K	Dimensions (W×H×D)	325 × 74 × 365 mm
Lamp Life time	> 50,000 hours	Weight	6.5 kg
Dimming method	Auto or Manual	Power consumption	100W max.
Video input	Via BNC Connector	Line voltage	100 -240VAC @ 50-60 Hz
Video format	Composite Video (SD) Y Component (SD or HD)	Fuse	2 × T 1.6 A E / 250V (IEC 127)
Light guide connector	Storz type (standard) ACMI, Olympus, and Wolf (optional)	Tested according to	EN60601, IEC60601-1 Directive 93/42/EEC
Advanced settings	External Triggering (optional)	ORDERING DATA	
Environment	0°C - +40°C temperature less than 75% relative humidity	7100.01	LED Light source 7100 (with Storz compatible light guide connector)
Classification	CE Class I / BF	7191.01	ACMI compatible light guide connector
		7191.02	Olympus compatible light guide connector
		7191.03	Storz compatible light guide connector
		7191.04	Wolf compatible light guide connector



med15



Wasaweg 9
9723JD, Groningen
The Netherlands
+31 6 39 85 86 03
www.med15.nl - info@med15.nl