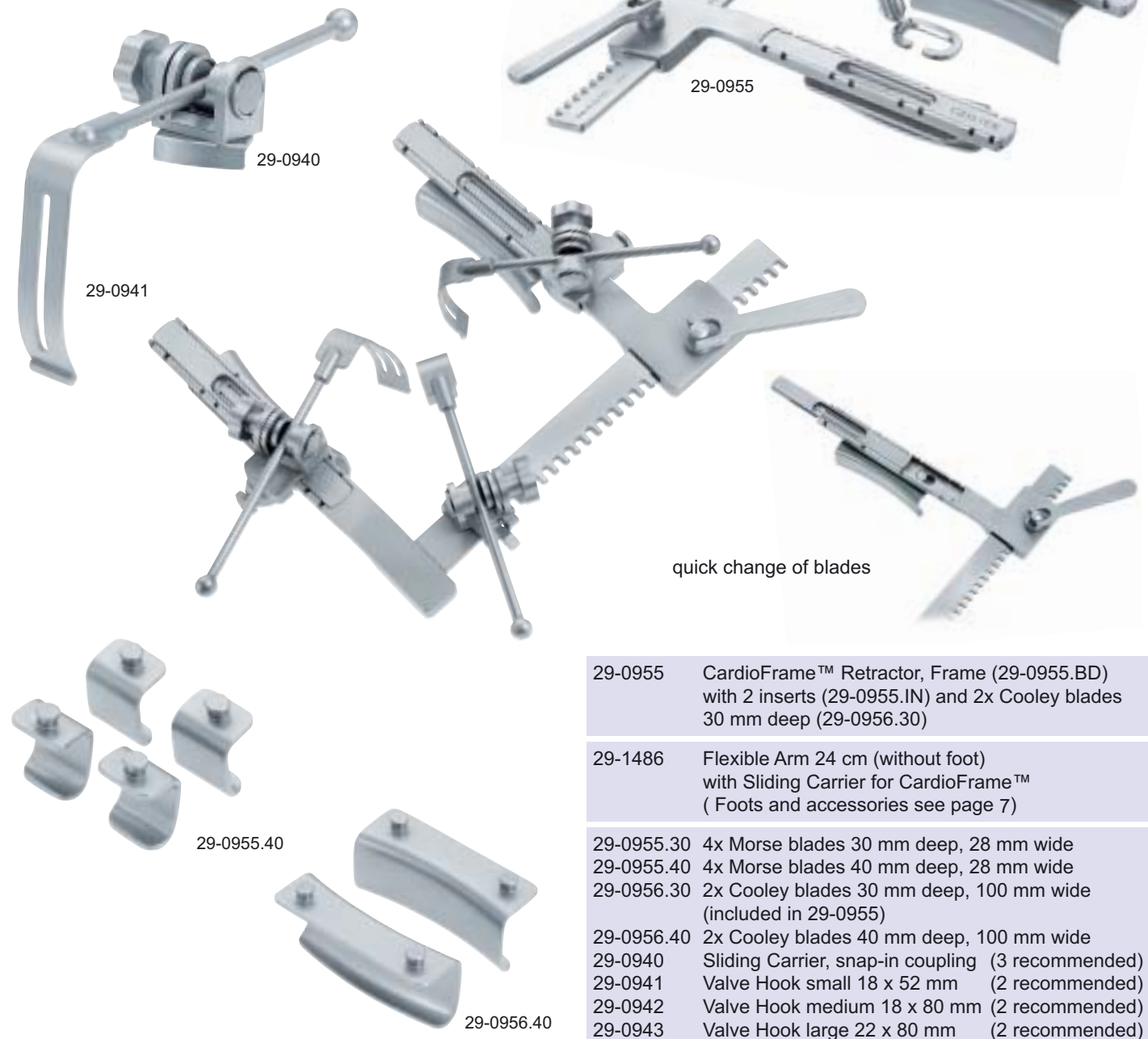


**CardioFrame™**

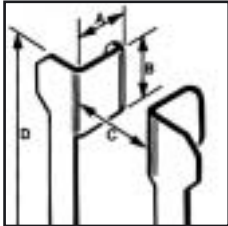
This low profile operating platform keeps operating area free for surgeon's maneuvers and combines maximum comfort through a quick snap-in coupling for accessories and hooks with stable fixation and excellent exposure. Carriers can be moved and fixed to any position on arms or spreading bar. The new deep valve hook design is also suitable for working on patients with deep chest. Additionally all Geister valve and beating heart accessories can also be used such as Cooley Atrial Hooks etc. The retractor also accommodates some of the most common disposable arms for beating heart surgery.

A	B	C	D
30 mm	28 mm	210 mm	200 mm
40 mm	28 mm		
30 mm	100 mm		
40 mm	100 mm		



- 29-0955 CardioFrame™ Retractor, Frame (29-0955.BD) with 2 inserts (29-0955.IN) and 2x Cooley blades 30 mm deep (29-0956.30)
- 29-1486 Flexible Arm 24 cm (without foot) with Sliding Carrier for CardioFrame™ ( Feet and accessories see page 7)
- 29-0955.30 4x Morse blades 30 mm deep, 28 mm wide
- 29-0955.40 4x Morse blades 40 mm deep, 28 mm wide
- 29-0956.30 2x Cooley blades 30 mm deep, 100 mm wide (included in 29-0955)
- 29-0956.40 2x Cooley blades 40 mm deep, 100 mm wide
- 29-0940 Sliding Carrier, snap-in coupling (3 recommended)
- 29-0941 Valve Hook small 18 x 52 mm (2 recommended)
- 29-0942 Valve Hook medium 18 x 80 mm (2 recommended)
- 29-0943 Valve Hook large 22 x 80 mm (2 recommended)

Cooley-Style



A	B	C	D
35 mm	115 mm	230 mm	205 mm



Self retaining valve retractor with t-bar for two atrial retractors, that fits onto the arms of many types of sternal retractors.

29-1500.US	Cooley Valve Retractor, complete consisting of 29-1501.US Attachment set and 29-1495 Retractor body
29-1501.US	Double Valve Retractor Attachment for use with multiple types of sternal retractors (consisting of 29-1005.TS, 2x 29-1500.BH, 2x 29-1500.HS, 1x 29-1500.HM, 1x 29-1500.HL, 2x 29-1500.FC)
29-1495	Cooley Sternum Retractor, extra large
29-1005.TS	Large T-bar turnable
29-1500.BH	Malleable Atrial Retractor/Spatula
29-1500.HS	Cooley Atrial Retractor small, rigid
29-1500.HM	Cooley Atrial Retractor medium, rigid
29-1500.HL	Cooley Atrial Retractor large, rigid
29-1500.HT	Cooley Atrial Retractor tricuspid, rigid
29-1500.FC	Fixation Clamp

Components are compatible and interchangeable with other GEISTER® Systems for Minimally Invasive Valve and Bypass Surgery.

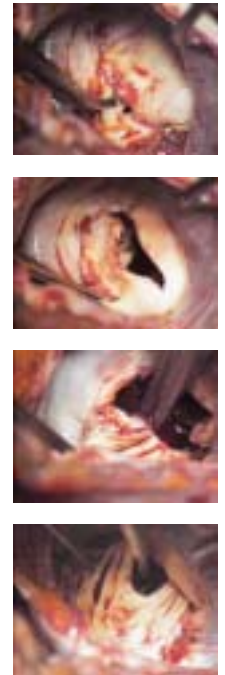
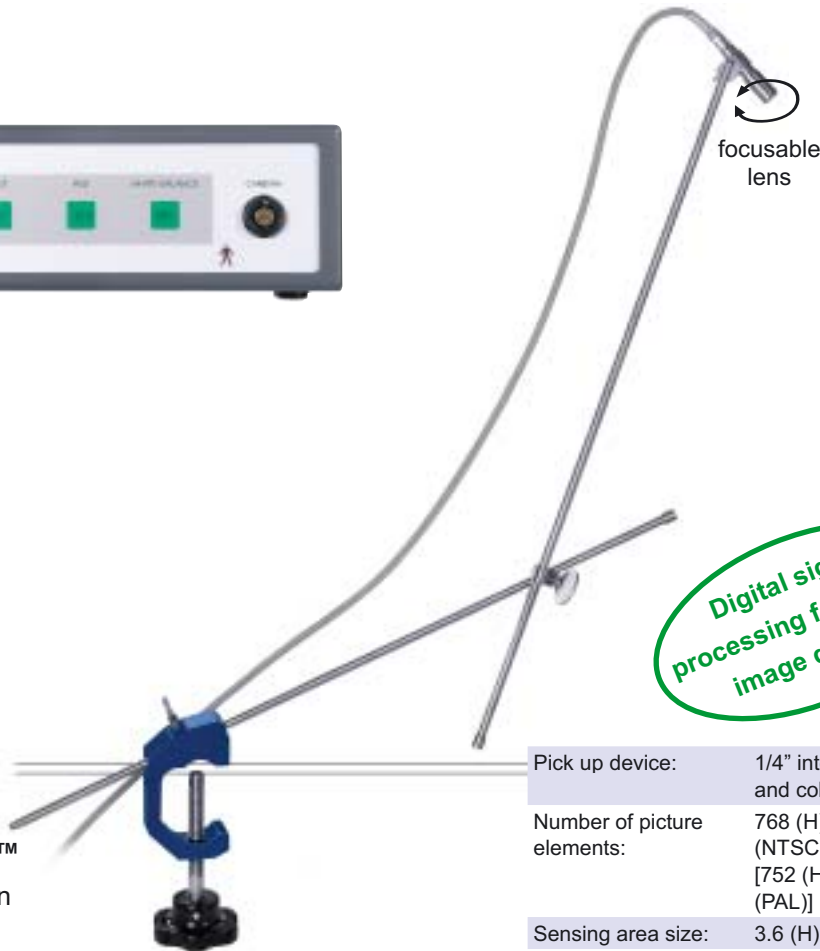
Recommended optional accessories:

29-1427	Extension piece (180 mm long) for extending t-bar or creating an L-shaped bar (1 or 2 extra fixation clamps 29-1500.FC are required)
29-1430	Cooley Atrial Retractor small, malleable
29-1431	Cooley Atrial Retractor medium, malleable
29-1432	Cooley Atrial Retractor large, malleable



Multimedia-Kit™

33-0550	Multimedia-Kit™ PAL 220 V
33-0551	Multimedia-Kit™ NTSC 110 V



Digital signal processing for superb image quality!

**Multimedia-Kit™**

- Documentation
- Visualization
- Teaching

The GEISTER® Multimedia-Kit™ allows for documentation of the surgical operation right from the operating field without the need to wear a head camera or to use a camera integrated into the OR-light. So there is always an unobstructed view and a stable picture.

The high resolution digital CCD camera provides excellent picture quality and is easy to use. The camera head is carried by a static arm and is focusable for various field sizes and working distances.

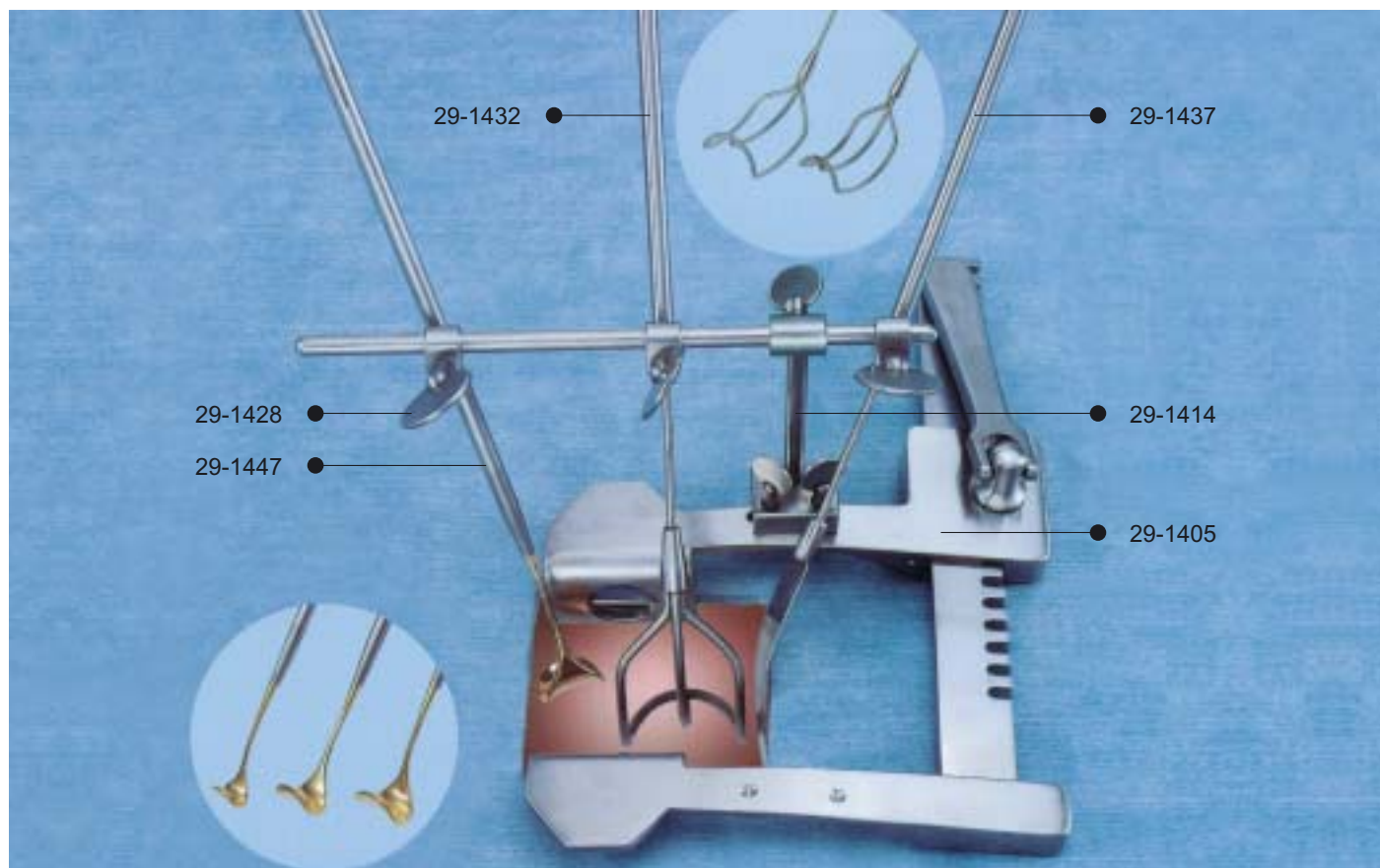
The camera head and the cable can be sterilized by soaking or EtO or plasma.

Pick up device:	1/4" interline transfer CCD with micro lenses and color mosaic filter
Number of picture elements:	768 (H) x 494 (v) effective picture elements (NTSC) 752 (H) x 582 (v) effective picture elements (PAL)]
Sensing area size:	3.6 (H) x 2.7 (V) [mm]
Resolution, horiz.:	more than 480 lines
Sensitivity:	6 lux (F 1.4) (f = 0,95)
Intergration time:	1/60 S (NTSC) [1/50 s (PAL)] up to 1/100.000 s
Signal to noise ratio:	> 50 dB
Measuring field:	spot or integral switchable
White-set:	set function
Safety standart:	VDE 0750-1/IEC 601-1
Protection class:	Controll unit IPX 1 / Camera head IPX 1
TV Standart:	NTSC [PAL]
Video output:	Y/C (S-VHS) and composite video (RGB on request)
Power supply:	100 - 240 V AC, 50/60 Hz, 25 W
Operating temp.:	-10 °C up to + 5 °C
Humidity:	< 90 %
Dimensions control unit (WxHxD):	approx. 220 x 75 x 265 [mm]
Weight control unit:	approx. 2 kg
Weight camera head:	approx. 60 g (without cable)
Standard equipment:	control unit, camera head with 4 m cable (other length on request), static arm for operating table fixation, power line, BNC cable, Y/C cable, manual

- 1/4" small sized sensor module
- S-VHS high quality video signal
- More than 480 TV-lines
- Automatic integration time and gain control
- Auto white set balance for different lightsources
- Light and high flexible camera cable
- Easy mechanical fixation

<b>Art-No.</b>	
<b>33-0550</b>	<b>Multimedia-Kit™ PAL 220 V</b>
<b>33-0551</b>	<b>Multimedia-Kit™ NTSC 110 V</b>

Minimally Invasive Cardiac Valve Surgery System



Minimally Invasive Cardiac Surgery (M.I.C.S.) through a small (approx. 10 cm long) incision for Valve Replacement is gaining acceptance after proving to provide quality outcomes. Various approaches have been used, such as parasternal, transverse sternal, partial sternotomy and small thoracotomy. Special small instruments are required for these procedures, allowing surgery through small incisions in deep areas with fewer surgical assistants.

The GEISTER® M.I.C.S. system consists of a self-retaining universal mini T-bar (29-1414) and several small retractors. The necks of the retractors are flexible, so they can be bent and adjusted to the actual requirements. The tips are similar to those found on Cooley Atrial retractors, Malleable Marberger Aortic Valve Retractors, Ross Aortic Valve Retractors and flexible Spatulas.

These small retractors allow for excellent visualization and a steady surgical procedure, even through a small incision.

A small Finochietto retractor (29-1405) is supplied with the system, but the T-bar can also be mounted on almost any existing chest retractor. Use of the extension bar (29-1427) creates a L-type configuration of the T-bar.

Exposure of the mitral valve is accomplished through a vertical transeptal approach. Stay sutures retract the right atrial wall intra-atrial septum to expose the mitral valve. Exposure is enhanced

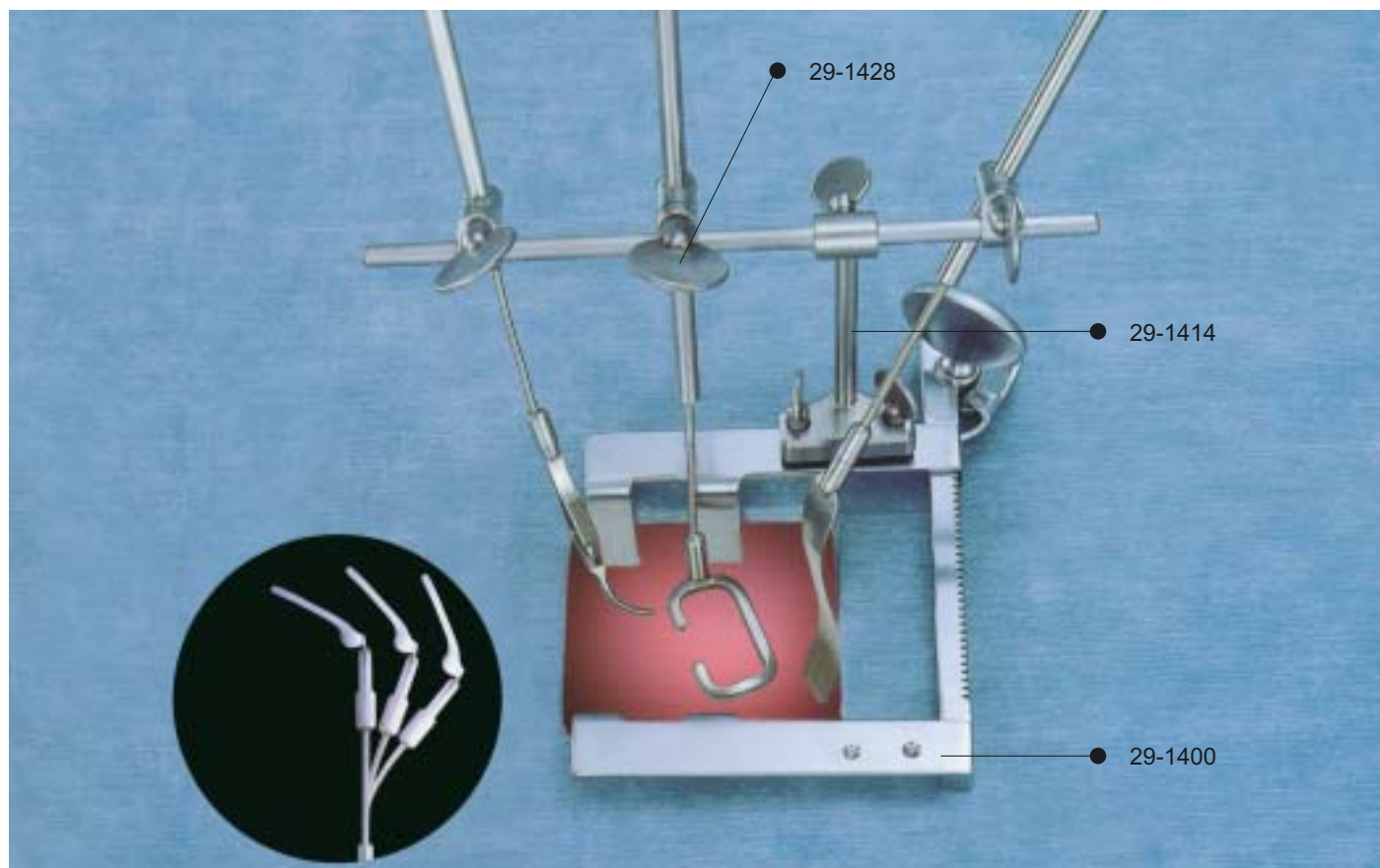
by placing two Cooley Mini Atrial Retractors in the superior and inferior portions of the septal incision to retract the left atrial wall. Now the mitral valve can be either replaced or repaired under direct vision with excellent visualization.

Developed in cooperation with: Prof. H. Matsuda and Dr. H. Satoh, Osaka University Medical School, Osaka, Japan

Order information:

29-1420	Minimally Invasive Cardiac Valve Surgery System, complete
29-1405	Mini-Finochietto Retractor
29-1414	Universal T-bar
29-1428	Fixation Clamps [4x]
29-1430	Cooley Atrial Retractor small
29-1431	Cooley Atrial Retractor medium
29-1432	Cooley Atrial Retractor large
29-1445	Marberger Retractor, 17 mm
29-1446	Marberger Retractor, 20 mm
29-1447	Marberger Retractor, 23 mm
29-1471	Ross Retractor Fig. 1, serrated
29-1472	Ross Retractor Fig. 2, serrated
29-1473	Ross Retractor Fig. 3, serrated
29-1437	Multi-Purpose Spatula
29-1427	Extension Bar

**Minimally Invasive Direct Coronary Artery Bypass System**



Minimal Invasive Direct Coronary Artery Bypass also known as “beating heart” surgery, is on the cutting edge of modern surgery and has shown to provide excellent results. The goal of this technique is to reduce the amount of trauma to the patient while maximizing the health benefit. This also includes a potentially shorter length of stay in the hospital.

Operating directly on the beating heart, it requires only a small incision, whereas a full median sternotomy is approx. 30 cm long. The small incision is cosmetically more acceptable to a number of patients. No cardiopulmonary bypass is required and recovery time for the patient is usually shorter.

Our Lectiang Coronary Stabilizer (29-1436 and 29-1438) restricts the movement of the heart during the operation and allows for coronary anastomosis.

The stabilizer is mounted onto the universal T-bar (29-1414) using fixationclamps (29-1428). Its neck is flexible and can be adjusted three-dimensionally. Through its C-shaped design and atraumatic under surface, the longitudinal part compresses the side part of the coronary target vessel, whereas the tangential part compresses the coronary artery proximally and distally. This segmental coronary occlusion provides a dry operating field during the operation and immobilizes the target vessels steadily and gently without the need of snaring and using tourniquet, which might cause endothelial damage and possible problems to the coronary artery. Occlusive sutures are required, if the GEISTER® Fork Coronary Stabilizer (29-1435) is used.

The Atraumatic Bulldog Clamp/Vessel Holder (29-1440) is used to hold and position the graft to a suitable place in the small operating field. By manipulating the heart with the Multi-Purpose-Spatula (29-1437) the anastomosis site can be pushed towards the center of the operation field for maximum visibility.

Utilizing this system, quality coronary anastomosis can be performed under excellent working conditions with fewer surgical assistants. The accessories can also be placed on and combined with a variety of common retractor systems according to the surgeons discretion.

Developed in cooperation with: Prof. H. Matsuda and Dr. H. Satoh, Osaka University Medical School, Osaka, Japan

**Order Information:**

29-1410	Minimally Invasive Direct Coronary Artery Bypass System, complete
consisting of:	
29-1400	Mini-Thoracotomy Retractor
29-1414	Universal T-bar
29-1428	Fixation Clamps [4x]
29-1436	Stabilizer, Lectiang large
29-1438	Stabilizer, Lectiang small
29-1435	Stabilizer, Fork
29-1440	Bulldog Clamp / Vessel Holder
29-1437	Multi Purpose Spatula

**Flexible Arm**

for beating heart surgery

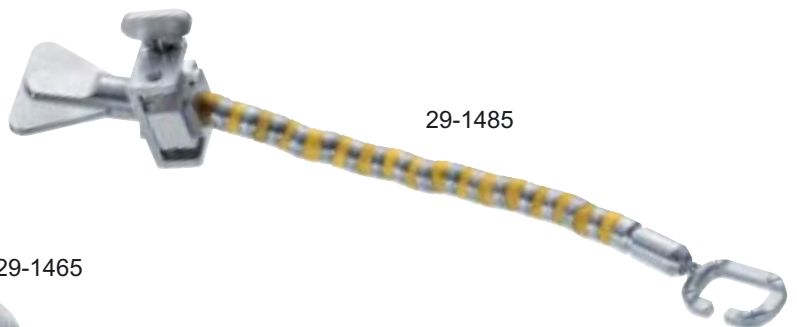
- strong reusable design
- superior positioning and articulation
- attachable to any sternal retractor system
- special interlock-joints for ultimate strength
- maximum versatility with interchangeable optional attachments for stabilization, manipulation or retraction
- ball-joint connection of attachments provides additional degrees of freedom
- partially detachable for ease of cleaning



29-1443V



29-1467



29-1485



29-1465

29-1466



29-1465



29-1466



29-1441V



29-1444V



29-1443V



29-1432V



29-1433V

- 29-1485 Flexible Arm 24 cm (without foot)
- 29-1486 Flexible Arm 24 cm (without foot) with Sliding Carrier for CardioFrame™ (see page 2)

**Stabilizing Feet:**

- 29-1433V Massetti Stabilizer Foot, curved, with snare holders
- 29-1434V Massetti Stabilizer Foot, flat, with snare holders
- 29-1441V Riess Stabilizer Foot, extra flat, with snare holders
- 29-1443V Satoh II Suction Stabilizer Foot, with snare holders
- 29-1444V Lectiang Compact Suction Stabilizer Foot with suction
- 29-1467 Tube Set for Suction Stabilizers, Purge-line with 1/4" connector, single use, sterile

**Retraction and Manipulation Feet:**

- 29-1430V Cooley Atrial Rake Blade small 20 mm
- 29-1431V Cooley Atrial Rake Blade medium 35 mm
- 29-1432V Cooley Atrial Rake Blade large 45 mm
- 29-1472V Ross Aortic Hook Blade medium serrated
- 29-1437V Flexible Spatula Blade
- 29-1465 Suction Apex Manipulator Holder
- 29-1466 Suction Lip for 29-1465, single use, sterile (pack)
- 29-1467 Tube Set for Apex Manipulator, Purge-line with 1/4" connector, single use, sterile

Patents pending

**Tulip**  
Suction Stabilizer Foot



29-1464



29-1464 Suction Inserts for Tulip Stabilizer 29-1463M and 29-1463V, single use, sterile (pack)



29-1463V Tulip Suction Stabilizer Foot Holder 17.5 mm wide (without inserts, can be used in opened or closed position)



29-1463M Mini Tulip Suction Stabilizer Foot Holder 10 mm wide (without inserts, can be used in opened or closed position)

Patents pending

IMA Blade

29-1000



Sternum Blades



Lateral Thoracic Blades



This new universal retractor system perfectly covers all requirements of modern cardiothoracic surgery. It comes with one I.M.A. blade with stabilizing screw – converting it into a stable threepoint I.M.A. retractor – as well as with 2 sternum blades and 2 lateral thoracic blades. Optionally available are smaller mini-thoracotomy blades and a t-bar for a minimally invasive cardiac surgery together with a wide variety of accessories for both valve and bypass procedures making it truly...

## One for All

Developed in cooperation with Dr. Fabio Speroni, German Heart Institute Berlin.

Left I.M.A.



Right I.M.A.



Mini I.M.A. Blades



**Speroni™**

Retractor Accesories for M.I.C.S.

A wide range of accessories is available for the Speroni™ One For All Retractor for Valve and Minimally Invasive Cardiac Surgery (e.g. MIDCAB, OPCAB, Mini-Sternotomy procedures)

Mini Sternotomy Blades



T-bar

- 29-1005.IM (1) Speroni™ Mini I.M.A. blade, short w/teeth
- 29-1005.IL (2) Speroni™ Mini I.M.A. blade, long
- 29-1005.MV (3) Speroni™ Mini-Thoracotomy Blades
- 29-1005.TB (4) Speroni™ T-bar for M.I.C.S. and Valve Procedures

Lectiang Stabilizer, large



29-1436

Lectiang Stabilizer, small



29-1438

Fork Stabilizer



29-1435

Multi-Purpose Spatula



29-1437

Bulldog Clamp / Vessel Holder



29-1440

**Massetti™ Coronary Stabilizer**  
curved, 44 x 34 mm, window 18 mm



29-1433

**Massetti™ Coronary Stabilizer**  
flat, 44 x 34 mm, window 18 mm



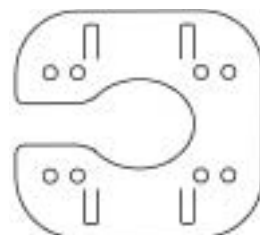
29-1434

**Massetti™ Y-Graft**  
Anastomosis Platform



29-1439

**Riess Coronary Stabilizer**  
36 x 36 mm, window 13 mm



29-1441

**Ross Retractor**

serrated



29-1471 16 x 16 mm small

29-1472 24 x 14 mm medium

29-1473 24 x 17 mm large

**Marberger Retractor**



29-1445 17 mm small

29-1446 20 mm medium

29-1447 23 mm large

**Cooley Atrial Retractor**

malleable



29-1430 20 mm small

29-1431 35 mm medium

29-1432 45 mm large

**Cooley Atrial Retractor**

rigid



29-1500.HS 20 mm small

29-1500.HM 35 mm medium

29-1500.HT 45 mm tricuspid

29-1500.HL 45 mm large

**Malleable Atrial Retractor**



29-1500.BH

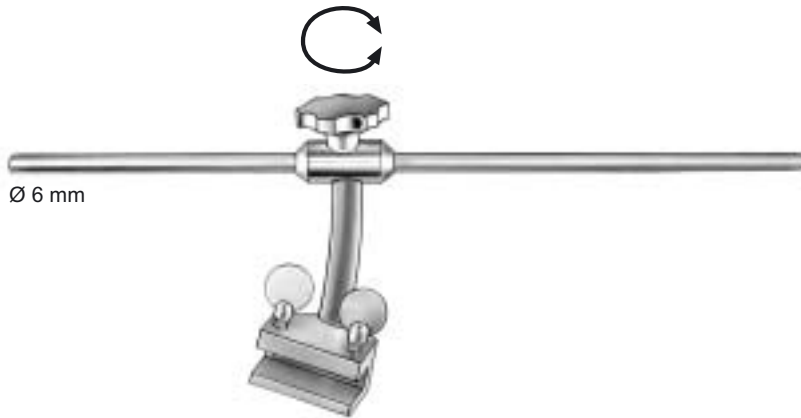
**Malleable Illumination Arm**



fits onto almost all available rib spreaders. Especially usefull for M.I.C.S. operations and I.M.A. dissection.

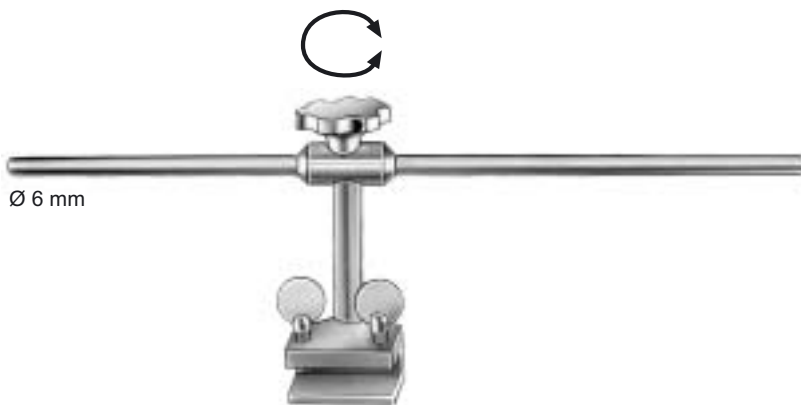
29-1215 Storz-type connector

T-bars and Fixation Clamps



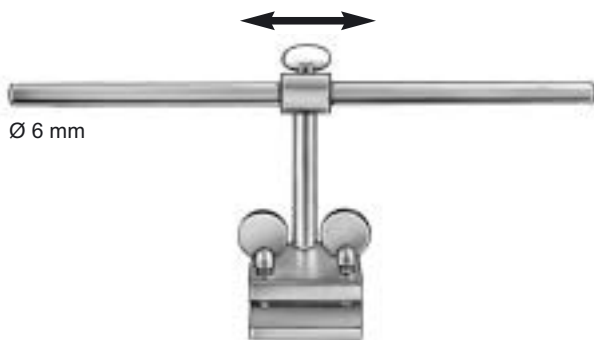
Ø 6 mm

29-1005.TB 250 mm / 10"



Ø 6 mm

29-1005.TS 250 mm / 10"



Ø 6 mm

29-1414 180 mm / 7"



29-1428 Ø 6 mm



29-1429 Ø 6 mm / splitted



29-1511 Ø 6 mm



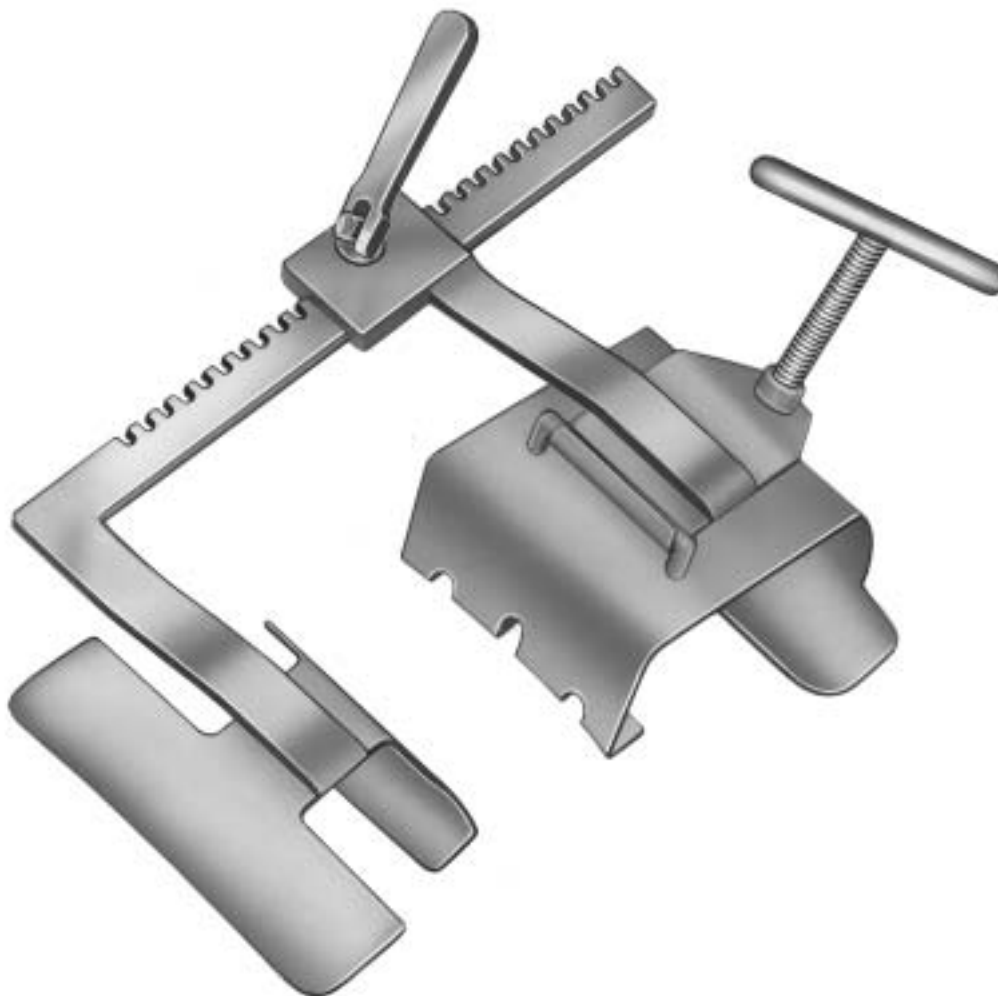
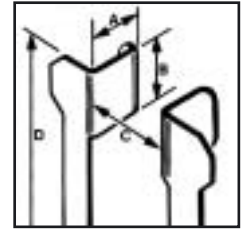
29-1500.FC Ø 6 mm

**Bugge**

I.M.A. Retractor

This highly efficient and easy to use I.M.A. dissection retractor is placed in the patient after median sternotomy with the larger blade at the chosen donor side to be lifted for I.M.A. harvesting. Once the blades are opened sufficiently by turning the wheel of the bar, the reinforcing screw can be turned in order to tilt the instrument for lifting the sternum at the side of the larger blade. The I.M.A. dissection can be performed under excellent exposure. Once the I.M.A. dissection is finished the retractor can be removed and a standard sternum retractor can be used for the rest of the operation.

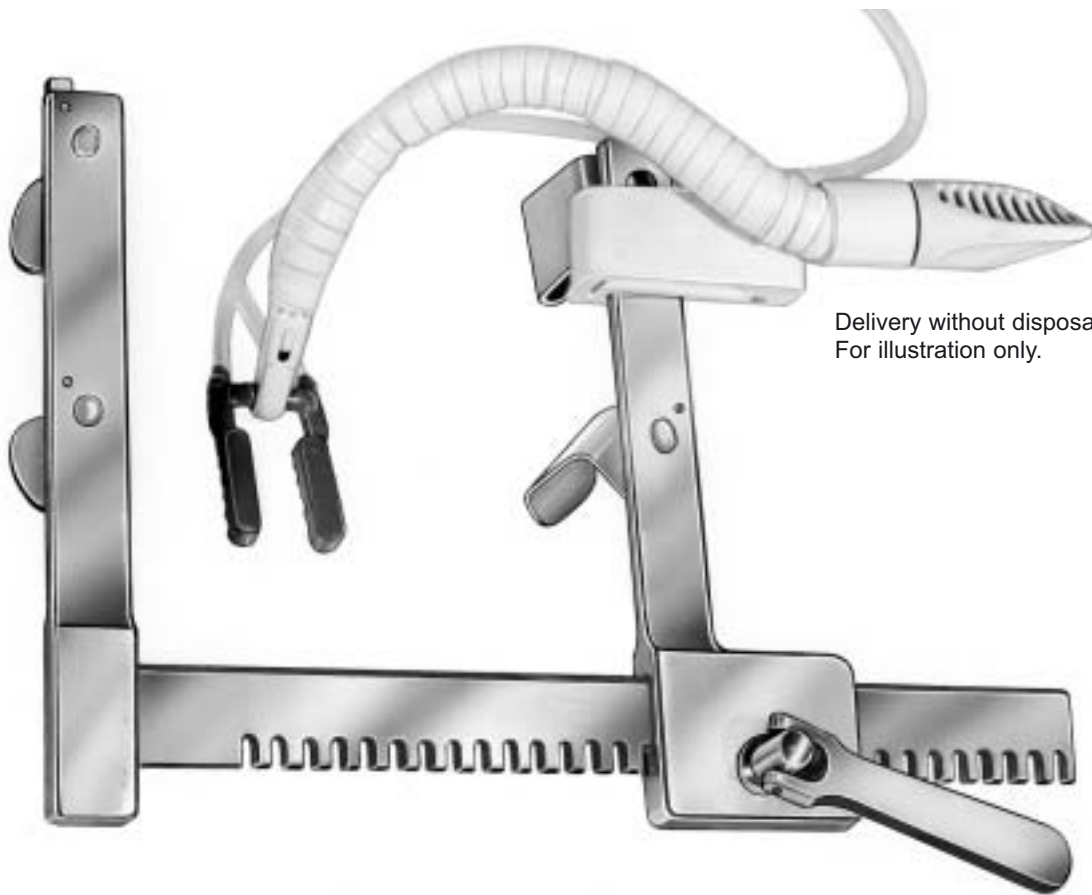
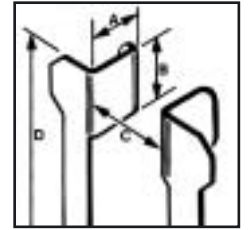
The retractor also offers the option to accept a platform with stabilizer for off-pump CABG.



Developed in cooperation with:  
 Mogens Bugge, M.D., Ph.D., Dept. of Cardiothoracic Surgery,  
 Sahlgrenska Hospital, Gothenburg, Sweden  
 Patent pending

Art.-No.	A	B	C	D
29-1010	55 mm	100 mm	170 mm	130 mm
29-1010.JP	50 mm	80 mm	160 mm	130 mm
29-1010	Bugge I.M.A. Retractor			
29-1010.JP	Bugge I.M.A. Retractor, small version			

This new compact and fully modular retractor system features a unique quick release system for the blades by simply pulling on the knob at the top of the arms. The valve change is quick and easy. A distance holder between arm and blades allows for easy adaption and free movement of disposable arms, for beating heart surgery procedures. Due to its flat design the retractor can be used from both sides in caudal or cranial position. The retractor comes in its standard version with 4 movable swivel blades, 40 mm deep. Optionally available are shorter 30 mm swivel blades or pairs of large sternum blades.



Delivery without disposable arm.  
For illustration only.

Art.-No.	A	B	C	D
29-0950	40 mm	28 mm	200 mm	150 mm

29-0950 includes

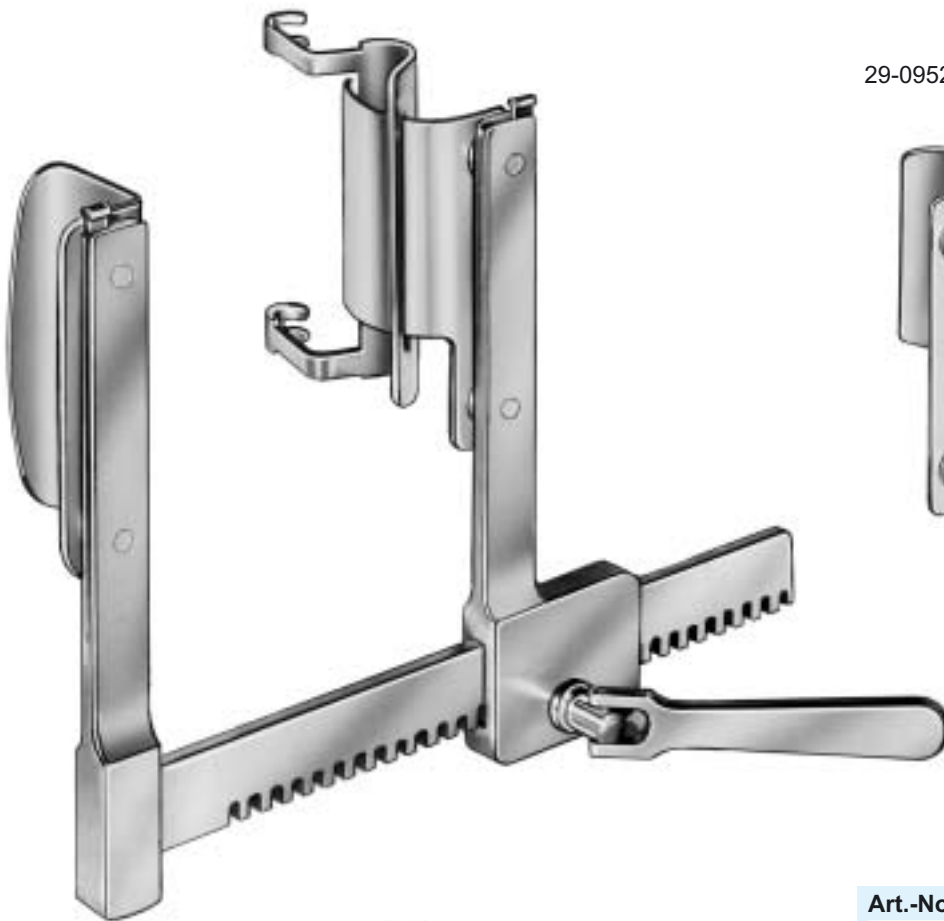
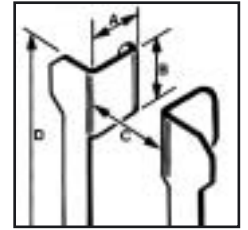
- 29-0950.BD Body only
- 29-0950.40 Swivel blades (4)

Optional extra blades for 29-0950

29-0950.30	30 mm	28 mm	(4)
29-0951.30	30 mm	100 mm	(2)
29-0951.40	40 mm	100 mm	(2)

Upgrade Kit for I.M.A. see 29-1326

Also available is the I.M.A. retractor version utilizing a detachable rake blade for I.M.A. take-down providing for a cost effective and easy to use universal retractor system for cardiac surgery. The I.M.A. rake blade is attached to the small I.M.A. rake holder blades (can also be used as small sternum blades or lateral thoracic blades) either on the left or right side. While spreading, the chest wall is lifted up automatically and allows easy preparation of the I.M.A. under excellent visualization. Due to its flat design the retractor can be used from both sides in caudal or cranial position.



29-0952.LI



29-1321



29-0952.RE

29-0951.30



29-0951.40

Art.-No.	A	B	C	D
29-1325			200 mm	150 mm

29-1325 includes

29-0950.BD	Body only			
29-1326	I.M.A. Upgrade Kit for 29-0950			

29-1326 includes

29-0951.30	30 mm	100 mm	(2)	
29-0951.40	40 mm	100 mm	(2)	
29-0952.LI	40 mm	60 mm	(1)	
29-0952.RE	40 mm	60 mm	(1)	
29-1321		100 mm	(1)	

Optional extra blades for 29-1325

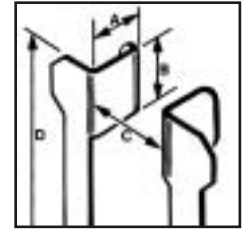
29-0950.30	30 mm	20 mm	(4)	
29-0950.40	40 mm	20 mm	(4)	

**STEEL**

Some Aluminum Rib Spreaders are also available in stainless steel alternatively with no extra charge.

For ordering a stainless steel retractor instead of Aluminium add ".RS" behind article number of the Aluminum instrument.

**Finochietto-Infant / Weinberg**  
ALUMINIUM



**Mini-Finochietto**



Art.-No.	Fig.	A	B	C	D
29-0090	XXS	6 mm	7 mm	37 mm	25 mm



Art.-No.	Fig.	A	B	C	D
29-0100	XS	12 mm	15 mm	70 mm	55 mm
29-0102	S	12 mm	20 mm	95 mm	75 mm

**Finochietto-Baby-Haight**  
ALUMINIUM



Art.-No.	Fig.	A	B	C	D
29-0105	M	28 mm	30 mm	100 mm	75 mm

**Finochietto**  
ALUMINIUM

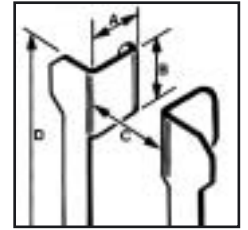


Art.-No.	Fig.	A	B	C	D
29-0110	ML	30 mm	45 mm	140 mm	110 mm
29-0112	L	42 mm	62 mm	175 mm	140 mm
29-0114	XL	75 mm	65 mm	175 mm	140 mm

**STEEL**

Some Aluminum Rib Spreaders are also available in stainless steel alternatively with no extra charge.  
For ordering a stainless steel retractor instead of Aluminium add ".RS" behind article number of the Aluminium instrument.

**Cooley  
ALUMINIUM**



**Cooley  
ALUMINIUM**



Art.-No.	Fig.	A	B	C	D
29-0130	XS	12 mm	15 mm	70 mm	55 mm
29-0129	S	14 mm	16 mm	85 mm	55 mm
29-0128*	SM	15 mm	20 mm	100 mm	80 mm
29-0131	M	15 mm	30 mm	115 mm	80 mm

\* with stabilizing pins in blade



Art.-No.	Fig.	A	B	C	D
29-0132	ML	20 mm	45 mm	140 mm	110 mm
29-0133	L	30 mm	50 mm	135 mm	145 mm
29-0134	L	30 mm	50 mm	185 mm	145 mm

**Cooley  
ALUMINIUM**



Art.-No.	Fig.	A	B	C	D
29-1494	XL	35 mm	100 mm	180 mm	180 mm
29-1496	XXL	35 mm	115 mm	230 mm	205 mm

**Cooley  
ALUMINIUM**



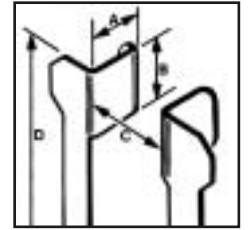
with suture holder

Art.-No.	Fig.	A	B	C	D
29-1490	XL	35 mm	100 mm	180 mm	180 mm

**STEEL**

Some Aluminum Rib Spreaders are also available in stainless steel alternatively with no extra charge.  
For ordering a stainless steel retractor instead of Aluminium add ".RS" behind article number of the Aluminium instrument.

**Morse-Favaloro**  
ALUMINIUM



**Mod. Finochietto**  
ALUMINIUM



Art.-No.	Fig.	A	B	C	D
29-0120	S	10 mm	15 mm	120 mm	105 mm



Art.-No.	Fig.	A	B	C	D
29-0170	M	12 mm	20 mm	155 mm	120 mm
29-0172	L	40 mm	20 mm	155 mm	175 mm

**Morse Mod. USA**  
ALUMINIUM



Art.-No.	Fig.	A	B	C	D
29-0181	M	20 mm	20 mm	155 mm	120 mm
29-0183	L	20 mm	28 mm	210 mm	155 mm

**Morse**  
ALUMINIUM

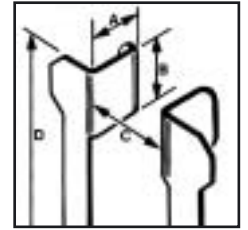


Art.-No.	Fig.	A	B	C	D
29-0180	M	20 mm	20 mm	155 mm	120 mm
29-0182	L	20 mm	28 mm	210 mm	155 mm
29-0185	L	42 mm	28 mm	210 mm	155 mm

**STEEL**

Some Aluminum Rib Spreaders are also available in stainless steel alternatively with no extra charge.

For ordering a stainless steel retractor instead of Aluminium add ".RS" behind article number of the Aluminium instrument.



**Burford-Finochietto**  
ALUMINIUM



with 2 pairs of blades

Art.-No.	Fig.	A	B	C	D
29-0150	ML	41 mm 30 mm	42 mm 42 mm	130 mm	117 mm

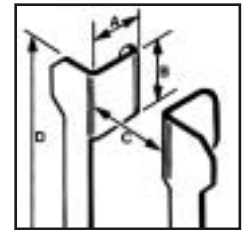
**Burford-Finochietto**  
ALUMINIUM



with 2 pairs of blades

Art.-No.	Fig.	A	B	C	D
29-0152	L	45 mm	62 mm	165 mm	200 mm
	XL	65 mm	62 mm		
29-0154	L	45 mm	62 mm	250 mm	200 mm
	XL	65 mm	62 mm		
29-0156	L	45 mm	62 mm	290 mm	200 mm
	XL	65 mm	62 mm		

Dubost



Art.-No.	Fig.	A	B	C	D
29-1050	L	30 mm	100 mm	200 mm	195 mm
	XL	40 mm			
	XXL	50 mm			

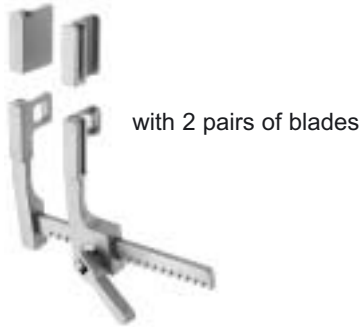
Eufrate-Pasqué



flip-over style

Art.-No.		A	B	C	D
29-0195	XS	16 mm	30 mm	65 mm	75 mm
29-0197	M	18 mm	50 mm	90 mm	100 mm

**Premie**  
TITANIUM



Art.-No.	Fig.	A	B	C	D
29-0095	XS	15 mm	10 mm	52 mm	40 mm
		15 mm	20 mm		

**Castaneda**  
ALUMINIUM



Art.-No.	Fig.	A	B	C	D
29-0190	XS	16 mm	30 mm	65 mm	55 mm
29-0192	S	12 mm	45 mm	73 mm	80 mm
29-0194	M	15 mm	60 mm	100 mm	125 mm

model not available in steel

**Ankeney**  
ALUMINIUM



Art.-No.	Fig.	A	B	C	D
29-1299	M	20 mm	20 mm	160 mm	115 mm

model not available in steel

**Mod. Morse**  
ALUMINIUM



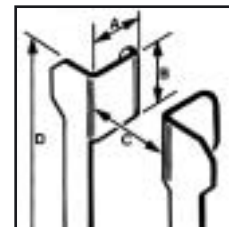
Art.-No.	Fig.	A	B	C	D
29-0186	L	30 mm	35 mm	200 mm	195 mm

DeBoer



Art.-No.	Fig.	A	B	C	D
29-0210	XL	30 mm	100 mm	210 mm	185 mm

Baby-Haight



Art.-No.	Fig.	A	B	C	D
29-0240	S	30 mm	30 mm	85 mm	70 mm
29-0242	M	30 mm	30 mm	120 mm	90 mm

Rienhoff-Finochietto



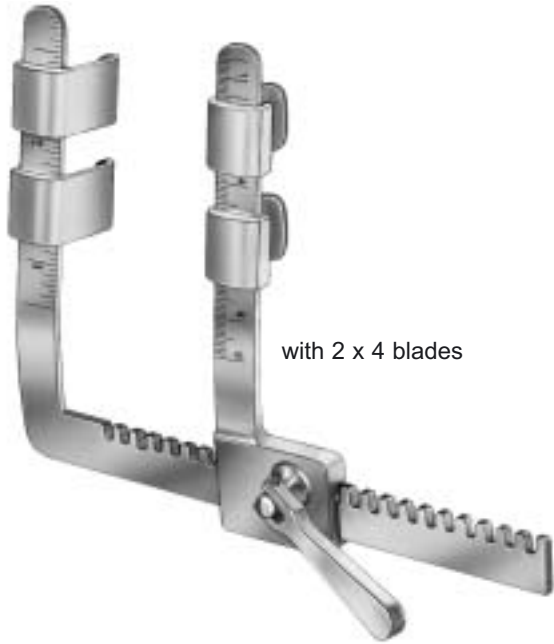
Art.-No.	Fig.	A	B	C	D
29-0230	M	20 mm	25 mm	150 mm	110 mm

Tuffier



Art.-No.	Fig.	A	B	C	D
29-0220	ML	42 mm	45 mm	170 mm	110 mm

Speroni – Alexi Infant

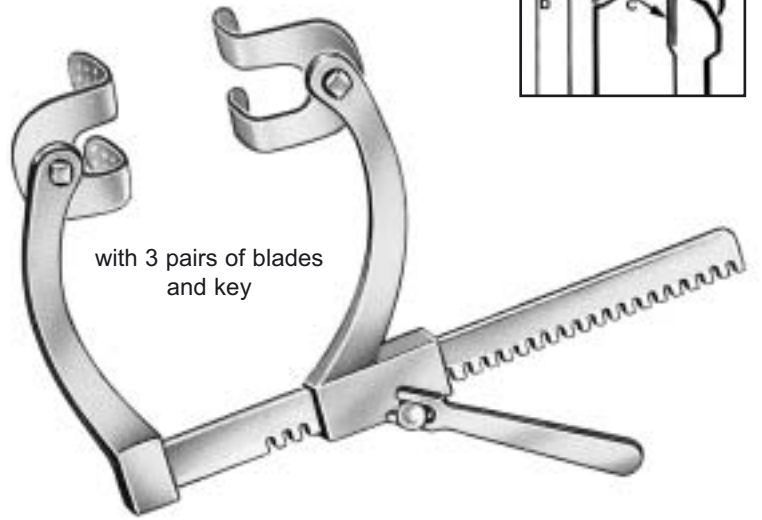


with 2 x 4 blades

Art.-No.	Fig.	A	B	C	D
29-0990	SM	20 mm	20 mm	135 mm	120 mm
	M	30 mm	20 mm		

Size adjustable with free positionable blades. Usable with 2, 3 or 4 blades. Gently rounded for suture protection.

Sellors (UK)



with 3 pairs of blades and key

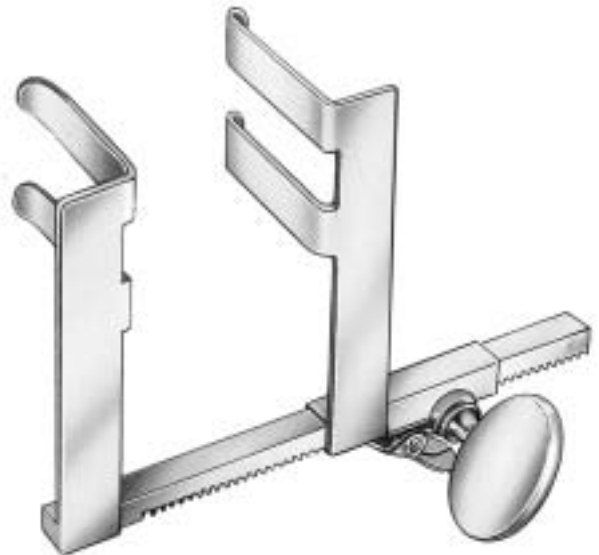
Art.-No.	Fig.	A	B	C	D
29-1600	L	38 mm	50 mm	200 mm	195 mm
		45 mm			
		65 mm			

Ankeney



Art.-No.	Fig.	A	B	C	D
29-1300	XXL	33 mm	35 mm	180 mm	300 mm

Mini Thoracotomy

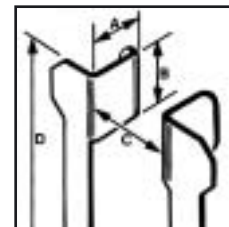


Art.-No.	Fig.	A	B	C	D
29-1400		38 mm	12 mm	70 mm	90 mm

Mercedes

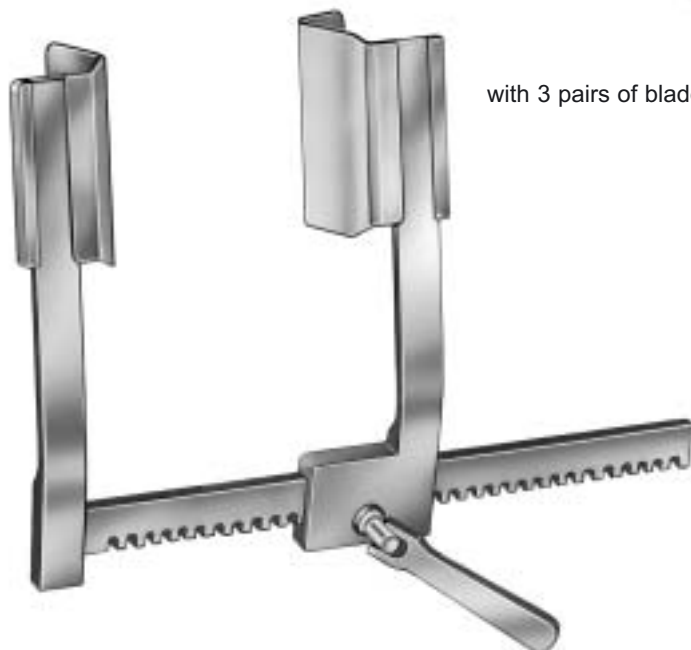


with 2 pairs of blades



Art.-No.	Fig.	A	B	C	D
29-1350	XL	45 mm	78 mm	285 mm	185 mm
	XXL	68 mm	78 mm		

DeBakey



with 3 pairs of blades

Art.-No.	Fig.	A	B	C	D
29-1360	XL	40 mm	100 mm	200 mm	225 mm
		50 mm	80 mm		
		60 mm	60 mm		
29-1370	ML	50 mm	50 mm	150 mm	180 mm
		40 mm	40 mm		
		30 mm	30 mm		

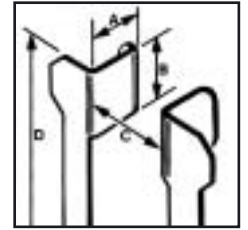
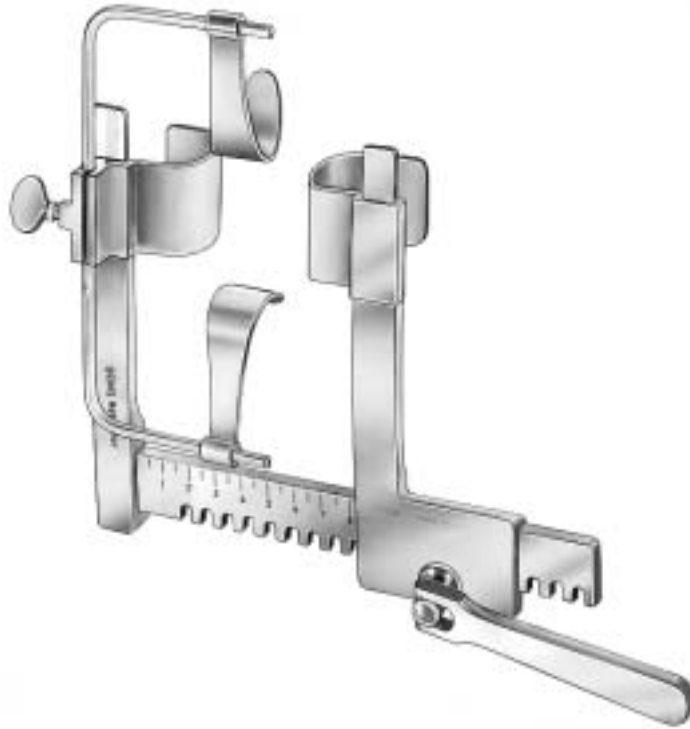
Optional extra blades for 29-1360

29-1361	80 mm	60 mm
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Cooley-style round Sternotomy blades for 29-1360

29-1362	50 mm	66 mm
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**Massetti Mini-Sternotomy**

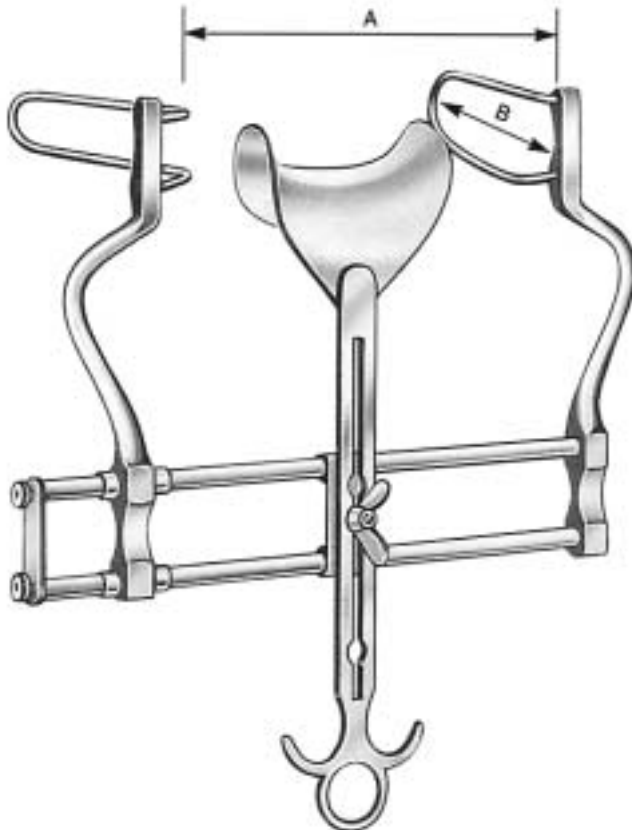


The skin and the subcutaneous tissue are dissected and a median sternotomy is carried out with a sagittal saw. The portion of the sternum under the skin flap is easily divided with the help of an illuminated retractor. Once the retractor is inserted, spreading is limited to 5 – 6 cm. The pericardial incision exposes, in the aortic procedures (picture A), the entire ascending aorta and the tip of the right atrial appendage. In atrioventricular valve operations, all of the right atrium and the proximal ascending aorta are exposed. The pericardial edges are hung up from the chest wall to elevate the heart toward the surface for better exposure.

29-0960 Mini Sternotomy with 30 and 40 mm blades and 2 C-bars 6 mm and 2 Soft Tissue Retractors with 240 mm spreading bar.

Developed in cooperation with Massimo Massetti, MD, University Hospital Caen, France

**Balfour**



Art.-No.	A	B
30-2330	160 mm	70 mm
30-2335	250 mm	100 mm