KLS martin GROUP



marClamp® IQ

Bipolar vessel sealing with SealSafe® IQ

www.klsmartin.com



The bipolar vessel sealing system SealSafe® IQ for open surgery

marClamp® IQ
Instruments for bipolar vessel sealing with **SealSafe®** IQ

The reusable marClamp® IQ instruments are used in combination with KLS Martin generators that provide bipolar vessel sealing currents. The combination with the maXium® generator is available starting as of hardware version 06. The instruments enable effective, permanent, and safe sealing of vessels and tissue bundles in all open surgical procedures.

“Plug and Play” –
automatic recognition of instruments with smart IQ plugs

marClamp® IQ instruments are equipped with a special plug by which the instrument is automatically assigned the required type of current, SealSafe® IQ, and an output power suitable for the instrument.

Intelligent IQ technology makes it possible to use marClamp® IQ instruments both in “Plug and Play” mode and by means of the accustomed program philosophy.

Intelligent vessel sealing with **marClamp®** IQ and **SealSafe®** IQ

Compatible
KLS Martin generator



+ marClamp® IQ

= SealSafe® IQ

... the more intelligent sealing system!



SealSafe® IQ

The bipolar vessel sealing system, which consists of a high-frequency generator with SealSafe® IQ current and the bipolar marClamp® Cut IQ instruments, allows sealing vessels and tissue bundles to be sealed effectively and lastingly without previous dissection or the need for detailed exposure.

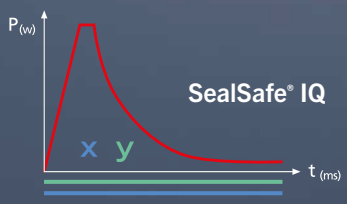
Thanks to the precise SealSafe® IQ current specially adapted to this kind of application, only the tissue located between the instrument's jaws is sealed – lateral thermal tissue damage can thus be kept to an absolute minimum. This is explained by the high current-to-voltage ratio (high current but low voltage) that is typical of SealSafe® IQ current, distinguishing it from the conventional bipolar HF technique.

Besides, the SealSafe® IQ current has been optimized to reduce tissue adhesion or instrument incrustation drastically and prevent tissue carbonization as long as the current is used as intended.
Due to the effective combination of high pressure (p) and electric current (I), a permanently sealed zone is reliably created on arteries, veins or tissue bundles. The instrument's ratchet plays a vital role here because it is important for the pressure to be maintained and kept constant throughout the sealing process.

During this process, endogenous structural proteins such as collagen and elastin are transformed so that a permanently sealed zone is created as a result.

With this sealing method there is absolutely no need for exogenous materials such as sutures or clips. The advantage of this method is the reduction in post-operative pain because no changes in tissue structures occur, e.g. constriction with suture material.





x = Sealing current
y = Impedance monitoring

Pressure (p) plus electric current (I) achieve the sealing.



marClamp® IQ applications

- General and visceral surgery
  - Gastrectomy
  - Sigmoidectomy
  - Colectomy
  - Cholecystectomy
  - Mastectomy
  - Splenectomy
- Gynecology
  - Abdominal hysterectomy
  - Vaginal hysterectomy
  - Adhesiolysis
  - Cystectomy
- Urology
  - Prostatectomy
  - Cystectomy
- ENT
  - Thyroidectomy
  - Strumectomy
  - Parotidectomy
  - Neck dissection
- Proctology
  - Hemorrhoidectomy



Advantages of the system

- Sealing of vessels up to 7 mm with an average burst pressure of over 360 mmHg.
- Minimal lateral heat spread of less than 2 mm
- Reliable sealing of vessels or tissue bundles without any previous dissection and detailed exposure
- Precise application due to limited lateral heat spread
- Reduction in encrustation and carbonization due to the special SealSafe® IQ current
- Reliable surgical results without any need to use exogenous materials such as suture or clips
- Time savings compared with suturing; a single application is usually enough → shorter operating times
- Autoclavable at 134°C, acc. to ISO 17665-1
- High efficiency with reusable instruments, no expenses for consumables
- Instruments with ratchet for constant pressure
- Ceramic pins in one jaw of the instrument ensure a defined distance between the jaws and prevent tissue slippage
- “Plug and Play” function with IQ plug

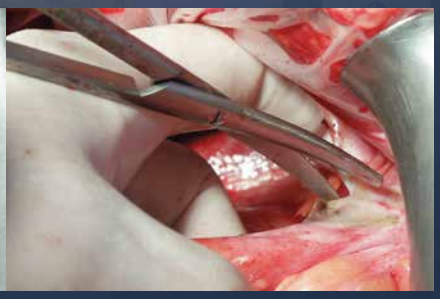




The sealing process is started by grasping the tissue with the bipolar marClamp® IQ instrument and closing the ratchet. This strongly compresses the tissue.



The HF current is now activated via the foot switch until the sealing process stops automatically. Completion is confirmed by an acoustic signal.



Finally, the sealed tissue can be safely transected with a conventional pair of scissors.



The instrument can be reused after autoclaving it at 134 °C (273.2 °F). Due to the special current flow, no insulation is needed in the joint or box lock. This makes it highly resistant to wear.



One of the instrument's jaws features ceramic pins that ensure a defined distance between the jaws over their entire length, thus preventing a short. Besides, the pins prevent tissue slippage as well.



To apply the necessary pressure to the tissue and maintain it throughout the sealing process, the marClamp® instruments feature a ratchet.

Overview of **marClamp®** IQ models

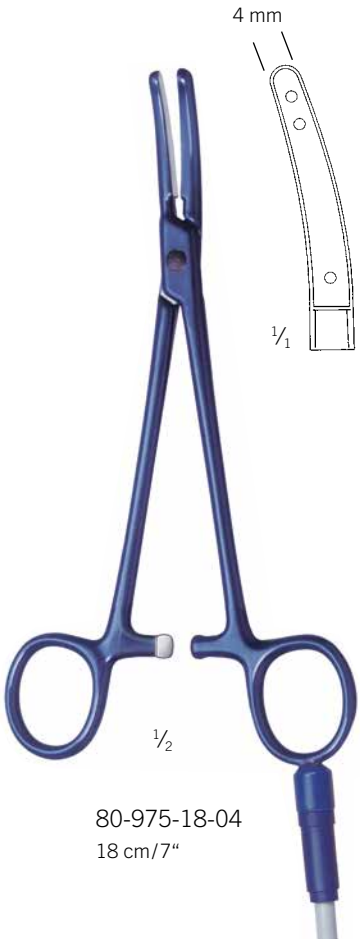
Different instrument geometries give each user the right instrument for the task at hand.

marClamp® IQ

Please note that the marClamp®-IQ models may only be used exclusively with KLS Martin HF generators and the SealSafe® IQ current mode.



80-975-16-04
16 cm/6“



80-975-18-04
18 cm/7“

marClamp® IQ

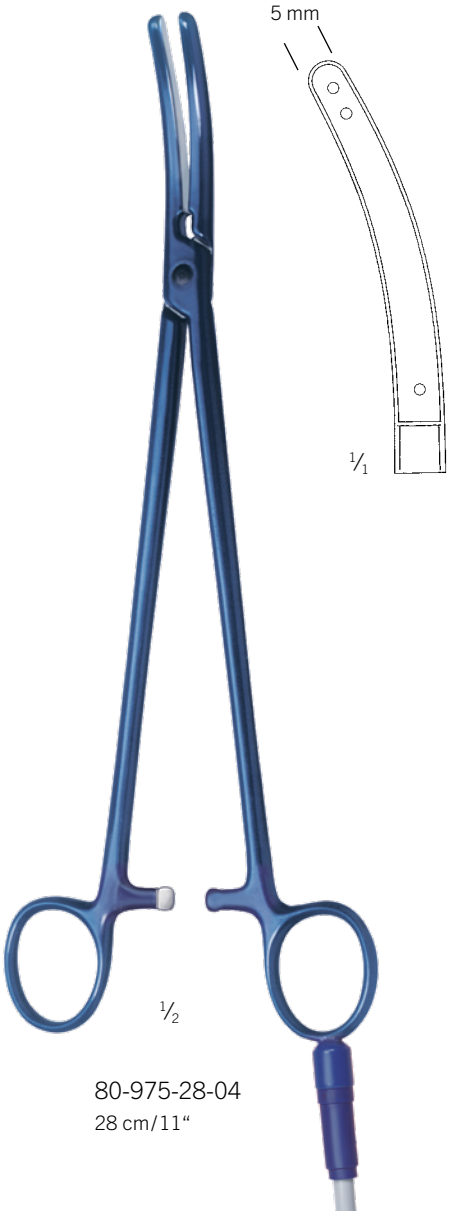
- ☑ Plug & Play – smart bipolar vessel sealing forceps with instrument identification function
- ☑ Automatic parameterization on the HF generator







80-975-23-04
23 cm/9“



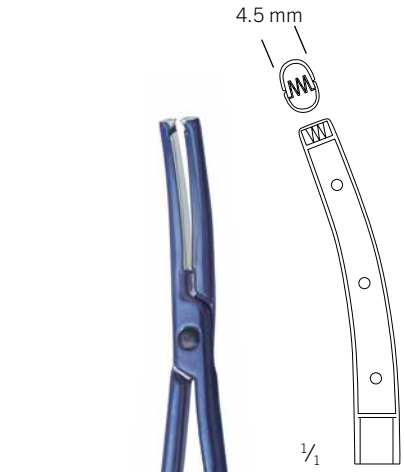
80-975-28-04
28 cm/11“

Overview of **marClamp®** IQ models

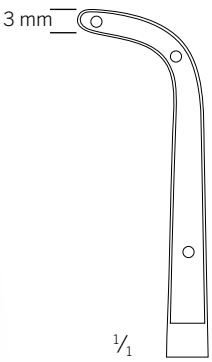
Different instrument geometries give each user the right instrument for the task at hand.

marClamp® IQ

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„Shark"
80-976-23-04
23 cm/9"
marClamp®



Gemini
80-978-23-04
23 cm/9"
marClamp®

marClamp® IQ

- ☑ Plug & Play – smart bipolar vessel sealing forceps with instrument identification function
- ☑ Automatic parameterization on the HF generator







Kalem
80-977-23-04
25 cm/9 7/8“
marClamp® Uro

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