

Convincing Precision!



marSeal IQ and **SealSafe® IQ**

*The system for bipolar vessel sealing
for open and laparoscopic surgery*





marSeal IQ



marSeal IQ



marSeal Slim IQ



marSeal 5 IQ



marSeal IQ Instruments

The marSeal IQ instruments are a universally applicable instrument that, thanks to its modular design offering different shaft lengths, can be used for laparoscopic applications as well as open surgery.

marSeal allows you to occlude veins, arteries and tissue bundles permanently and reliably. Besides, the instrument features an integrated blade mechanism by which the sealed zone can be conveniently cut in the middle once the sealing process has been completed – without any need to exchange instruments!

The instrument can be completely taken apart and autoclaved, with the blade being the only disposable part used in its design. This offers a further benefit in the form of a significant cost reduction, compared with an entirely disposable instrument.

- ✓ Dissect
- ✓ Seal
- ✓ Cut

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

SealSafe® IQ

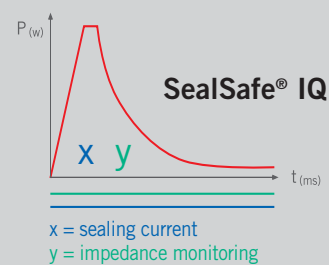
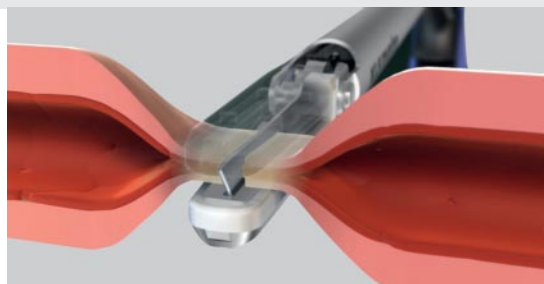
The bipolar vessel sealing system consisting of the maXium® high-frequency generator with its SealSafe® IQ current and the bipolar marSeal instruments allows you to seal vessels and tissue bundles effectively and lastingly without any need for previous dissection or detailed exposure of the tissue to be sealed.

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 power-to-voltage ratio (high output power but low voltage) that is typical of the 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.

marSeal IQ instruments and maXium® –
the bipolar sealing system for fast
and safe interventions

*The reusable sealing system – permanent occlusion of veins,
arteries and tissue bundles with subsequent transection
of the sealed tissue – no instrument exchange required!*



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

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.

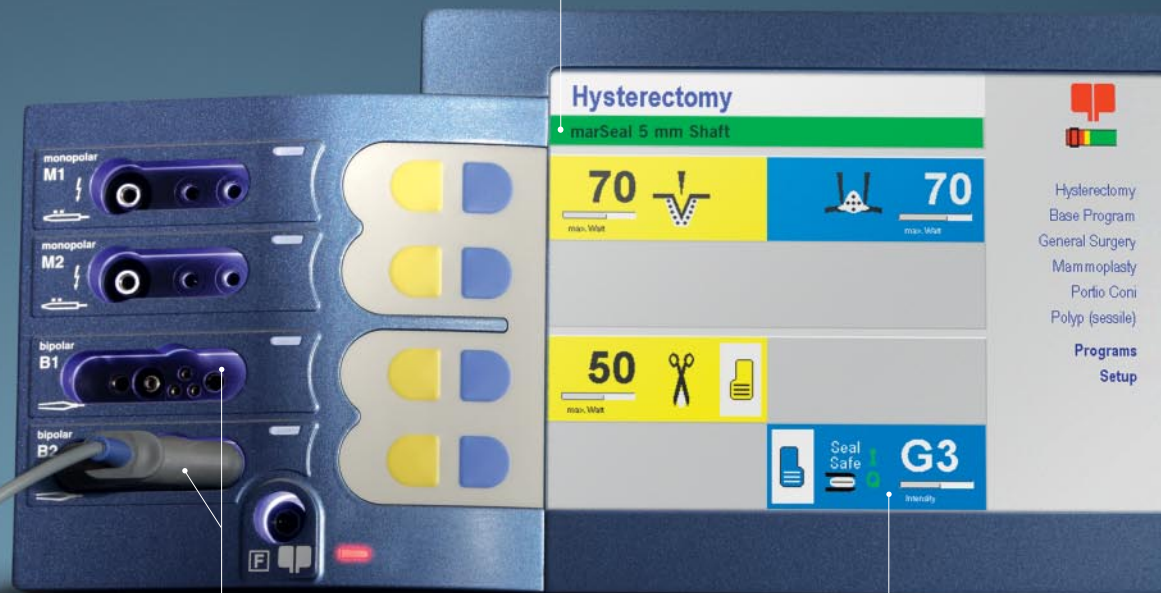
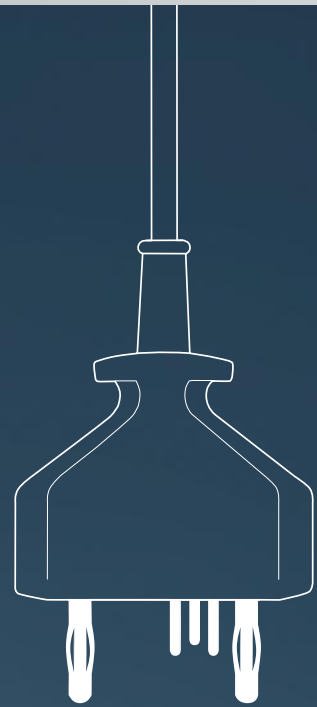
During this process, endogenous structural proteins such as collagen and elastin are transformed so that a permanently sealed zone is created as a result.

This sealing method needs no exogenous materials such as sutures and clips at all. Advantage: Less postoperative pain, since tissue structures are left completely intact (e.g. no constriction by sutures).

Plug and Play – automatic identification of instruments with intelligent IQ

As soon as an IQ instrument is connected, the maXium® automatically displays the name of the connected instrument and assigns the appropriate current type with an appropriate default value. When connecting an instrument that is actuated via the foot switch, the foot switch selection menu is automatically called up. If you choose not to use the instrument-specific default values, you can change them according to your individual needs and save them for the specific program as usual.

The advantage: When the IQ instrument is connected again, your individual values appear instead of the default values. At present, the following products are available with the IQ function in connection with the SealSafe® IQ current: marSeal IQ, marSeal Slim IQ and marSeal 5 IQ.



Displaying the name of the connected instrument

Use of the two bipolar connecting sockets

Automatic assignment of the required current type and set-up of the required performance parameters

*Instead of one-way, more ways for all,
who take responsibility*

Advantages offered by the marSeal IQ and marSeal instruments

- Dissecting, sealing, cutting – no instrument exchange required
- Reliable sealing with easy transection of the sealed tissue (for vessels up to 7 mm with a burst pressure of over 360 mm Hg)
- Supported by the maXium® HF unit and its optimally adapted SealSafe® IQ current, marSeal
 - minimizes tissue adhesion and resulting incrustation of contact surfaces
 - reduces tissue damage from lateral heat spread (< 2 mm)
 - provides an efficient, time-saving sealing process
 - offers automatically the type of current belonging to the instrument, together with a suitable default value (IQ instruments only)
- Activation of the current can be performed directly by means of the push buttons integrated into the electrode handle. There is no foot switch necessary for activation.
- The ratchet integrated into the handle ensures that a constant pressure is applied to the target tissue as required for effective sealing (IQ instruments only)
- The ergonomic design of the handle provides for ease of use, preventing fatigue in the surgeon's hand during the sealing and cutting process
- Easy application of the instrument to the target tissue as the tubular shaft can be rotated by 360°
- Cost reduction due to minimal share of disposables
- Modular system with different shaft lengths for laparoscopic applications as well as open surgery
- Easy cleaning as the instrument can be taken apart completely
- Validated cleaning process
- Autoclavable at 134°C (273.2°F), acc. to ISO 17665-1



*marSeal – occlude and dissect
without changing instrument*

It was a question of conviction, to develop these reusable instruments for the bipolar sealing of vessels. KLS Martin has succeeded in offering an alternative to the use of one-way instruments with the marSeal instruments.

By using marSeal, far less special waste is created, which needs to be disposed of at high cost and harms the environment. The marSeal instruments require a minimum amount of one-way materials. Only blades or blade holders are disposable products. In comparison: 50 blade holders for the marSeal 5 IQ create 0.5 kg of waste. 50 one-way products create nearly 15 kg of waste. The instruments are also economical: When using marSeal instruments, the costs per application (marSeal purchase price + set-up costs + one-off costs) are only around $\frac{1}{4}$ of the costs of a comparable disposable instrument.

In addition to the economic benefits, the instrument also has many medical benefits. The combination of instrument and special sealing current allows for a shorter operating time, less blood loss and thus less physical strain for the patient.

Modular system

Instruments for laparoscopic applications and open surgery



Sigmoidectomy with marSeal Slim



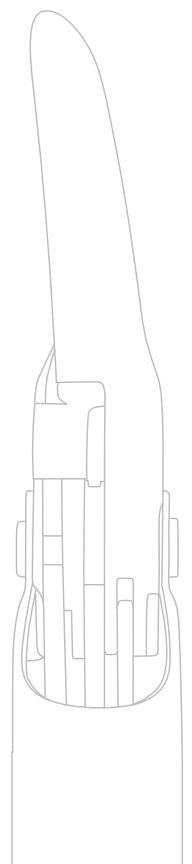
Nissen fundoplication with marSeal Slim

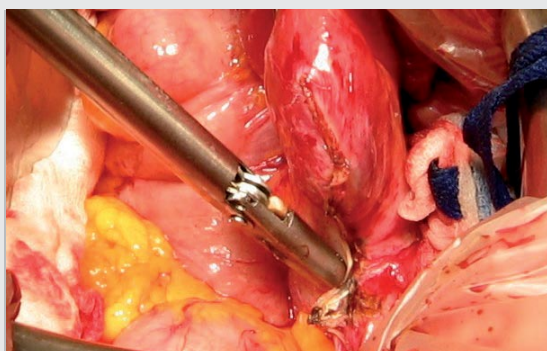
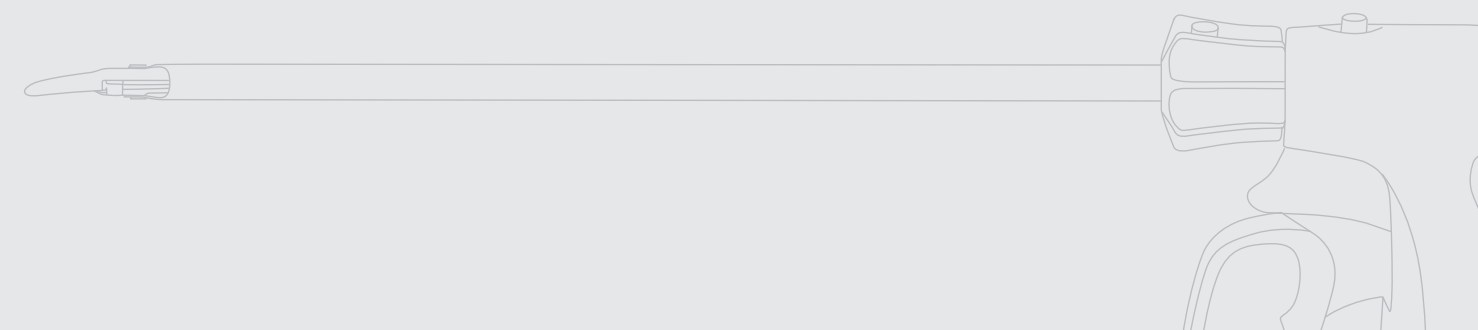
Application of marSeal IQ and marSeal in gynecology:

- Laparoscopic Supracervical Hysterectomy (LASH)
- Laparoscopically Assisted Vaginal Hysterectomy (LAVH)
- Total Laparoscopic Hysterectomy (TLH)
- Vaginal hysterectomy
- Abdominal hysterectomy
- Ovariectomy and salpingectomy
- Adhesiolysis
- Cystectomy

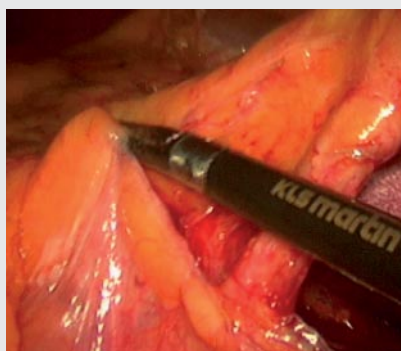
Application of marSeal IQ and marSeal in general surgery:

- Colectomy
- Nissen fundoplication
- Gastrectomy
- Splenectomy
- Adrenalectomy
- Nephrectomy
- Cholecystectomy

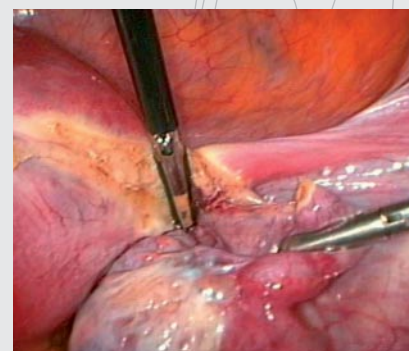




Abdominal hysterectomy with marSeal



Lap. sigmoidectomy with marSeal 5



LASH with marSeal 5

Product feature comparison

	marSeal 5	marSeal 5 IQ short	marSeal marSeal Slim
Shaft, rotatable	5 mm	5 mm	10 mm
Shaft length	370 mm	200 mm	200 mm 370 mm
IQ connector (requires maXium® with HW 06 or higher and software V3.400 or higher)	✓	✓	✓
“Plug and Play” – smart bipolar vessel sealing forceps with instrument identification feature	✓	✓	✓
Current and output power automatically set on maXium® HF generator	✓	✓	✓
Retention of the maXium®’s proven program philosophy	✓	✓	✓
Instruments compatible with the KLS Martin maXium® HF generator from hardware 00-06	✓		✓
Manual and foot activation when using IQ connector	✓	✓	✓
Connectors for all “m”-, “i”- and “e”- versions of the maXium®	✓	✓	✓
Foot activation with “m”- and “i”- connectors	✓	✓	✓
Integrated cutting blade	✓	✓	✓
Blade as a non-sterile disposable product	✓	✓	✓
Blade shaft as a sterile disposable product	✓		



Convincing Precision!

The *marSeal* instrument set
at a glance

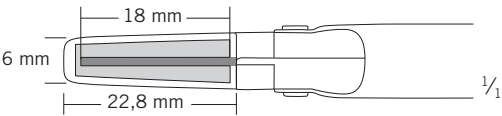
marSeal
marSeal IQ

marSeal system

	Instrument, complete
80-630-41-04	"IQ"-version
80-630-01-04	"m"-version
80-630-03-04	"i"-/"e"-version
	Components
80-630-45-04	"IQ"-handle
80-630-08-04	Handle "m"-version
80-630-09-04	Handle "i"-/"e"-version
80-630-12-04	Tubular shaft, incl. blade shaft, cleaning tool and rinsing adapter
80-630-15-04	Disposable blade, SU = 6/pack
80-630-17-04	Cleaning tool
80-630-18-04	Flushing adapter



80-630-15-04





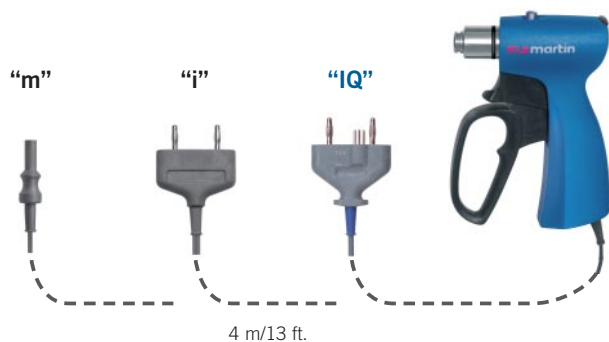
maxium®



marSeal instrument components

	Handle, KLS Martin connector 80-630-08-04	Handle, international connector 80-630-09-04	Handle, IQ-connector (HW 06) 80-630-45-04	Tubular shaft* 200 mm 80-630-12-04	Blade 80-630-15-04
marSeal cpl. 200 mm, KLS Martin connector, 80-630-01-04	X			X	X
marSeal cpl. 200 mm, international connector, 80-630-03-04		X		X	X
marSeal cpl. 200 mm, IQ-connector (HW 06), 80-630-41-04			X	X	X

* incl. blade shaft, cleaning tool and flushing adapter





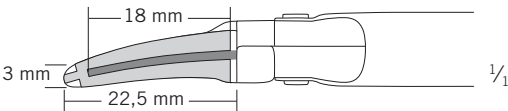
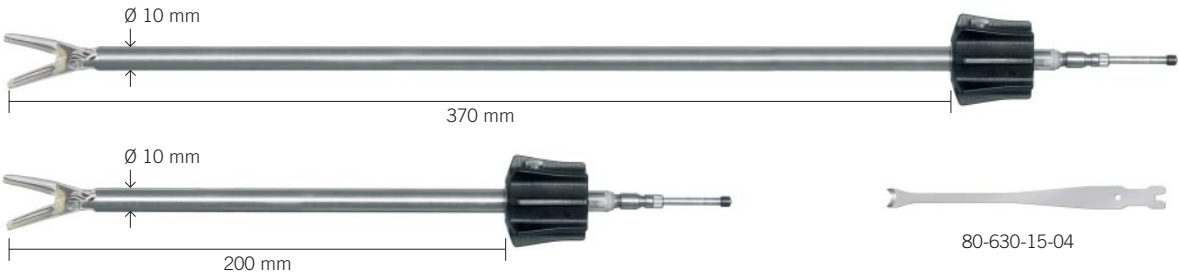
Convincing Precision!

*The marSeal Slim instrument set
at a glance*

marSeal Slim
marSeal Slim IQ

marSeal Slim system

	Instrument, complete
80-630-42-04	"IQ"-version, shaft length 370 mm
80-630-43-04	"IQ"-version, shaft length 200 mm
80-630-30-04	"m"-version, shaft length 370 mm
80-630-32-04	"m"-version, shaft length 200 mm
80-630-31-04	"i"-/"e"-version, shaft length 370 mm
80-630-33-04	"i"-/"e"-version, shaft length 200 mm
	Components
80-630-45-04	"IQ"-handle
80-630-08-04	Handle "m"-version
80-630-09-04	Handle "i"-/"e"-version
80-630-34-04	Tubular shaft, 370 mm long, incl. blade shaft, cleaning tool and rinsing adapter
80-630-35-04	Tubular shaft, 200 mm long, incl. blade shaft, cleaning tool and rinsing adapter
80-630-15-04	Disposable blade, SU = 6/pack
80-630-17-04	Cleaning tool
80-630-18-04	Flushing adapter





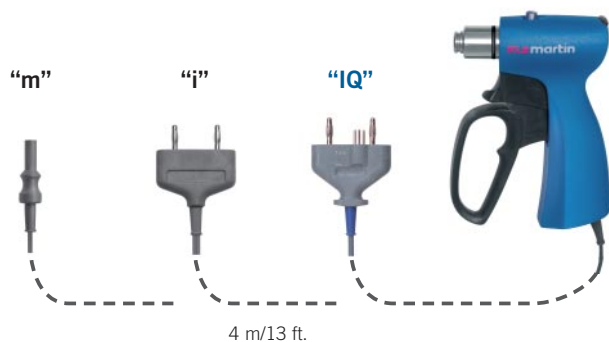
maXium®



marSeal Slim instrument components

	Handle, KLS Martin connector 80-630-08-04	Handle, international connector 80-630-09-04	Handle, IQ-connector (HW 06) 80-630-45-04	Tubular shaft Slim * 370 mm 80-630-34-04	Tubular shaft Slim * 200 mm 80-630-35-04	Blade 80-630-15-04
marSeal Slim cpl. 370 mm, KLS Martin connector, 80-630-30-04	X			X		X
marSeal Slim cpl. 200 mm, KLS Martin connector, 80-630-32-04	X				X	X
marSeal Slim cpl. 370 mm, international connector, 80-630-31-04		X		X		X
marSeal Slim cpl. 200 mm, international connector, 80-630-33-04		X			X	X
marSeal Slim cpl. 370 mm, IQ-connector (HW 06), 80-630-42-04			X	X		X
marSeal Slim cpl. 200 mm, IQ-connector (HW 06), 80-630-43-04			X		X	X

* incl. blade shaft, cleaning tool and flushing adapter





Convincing Precision!

The *marSeal5* instrument set
at a glance

marSeal5
marSeal5 IQ
marSeal5 IQ short

marSeal 5 system

	Instrument, complete
80-630-50-04	Version "IQ", shaft length 370 mm
80-630-90-04	Version "IQ" short, shaft length 200 mm
80-630-54-04	Version "m", shaft length 370 mm
80-630-55-04	Version "i"/"e", shaft length 370 mm
	Components
80-630-52-04	Handle "IQ"
80-630-56-04	Handle "m" version
80-630-57-04	Handle "i"/"e" version
80-630-51-04	Tubular shaft, 370 mm long, cleaning tool and flushing adapter
80-630-92-04	Tubular shaft for marSeal 5 IQ short, 200 mm long, cleaning tool and flushing adapter
80-630-53-04	Disposable blade insert, 370 mm long, SU = 6/pack
80-630-91-04	Disposable blade insert for marSeal 5 IQ short, 200 mm long, SU = 6/pack
80-630-83-04	Disposable blade insert, 370 mm long, sterile, SU = 10/pack
80-630-58-04	Cleaning tool
80-630-59-04	Flushing adapter





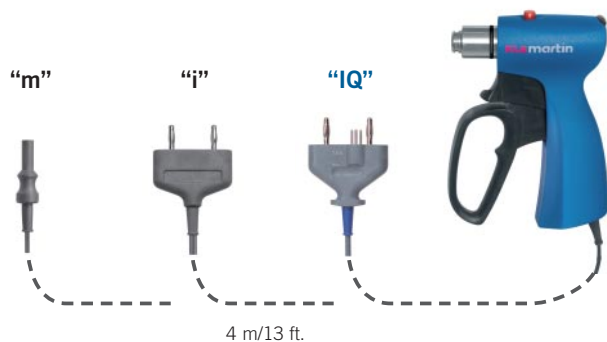
maxium®



marSeal 5 instrument components

	Handle, IQ-connector (HW 06) 80-630-52-04	Handle, KLS Martin connector 80-630-56-04	Handle, international connector 80-630-57-04	Tubular shaft* 370 mm 80-630-51-04	Tubular shaft* 200 mm 80-630-92-04	Blade shaft with blade 370 mm 80-630-53-04	Blade shaft with blade 200 mm 80-630-91-04
marSeal 5 cpl., 370 mm, IQ-connector (HW 06), 80-630-50-04	X			X		X	
marSeal 5 short cpl., 200 mm IQ-connector (HW 06), 80-630-90-04	X				X		X
marSeal 5 cpl., 370 mm, KLS Martin connector, 80-630-54-04		X		X		X	
marSeal 5 cpl., 370 mm, international connector, 80-630-55-04			X	X		X	

* incl. blade shaft, cleaning tool and flushing adapter



KLS Martin Group

KLS Martin France SARL
68200 Mulhouse · France
Tel. +33 3 89 51 31 50
france@klsmartin.com

KLS Martin UK Ltd.
Reading RG1 3EU · United Kingdom
Tel. +44 1189 000 570
uk@klsmartin.com

KLS Martin do Brasil Ltda.
CEP 04.531-011 São Paulo · Brazil
Tel.: +55 11 3554 2299
brazil@klsmartin.com

Gebrüder Martin GmbH & Co. KG
Representative Office
121471 Moscow · Russia
Tel. +7 499 792-76-19
russia@klsmartin.com

Martin Italia S.r.l.
20864 Agrate Brianza (MB) · Italy
Tel. +39 039 605 6731
italia@klsmartin.com

Nippon Martin K.K.
Tokyo 113-0024 · Japan
Tel. +81 3 3814 1431
nippon@klsmartin.com

KLS Martin Australia Pty Limited
Artarmon NSW 2064 · Australia
Tel.: +61 2 9439 5316
australia@klsmartin.com

Gebrüder Martin GmbH & Co. KG
Representative Office
201203 Shanghai · China
Tel. +86 21 5820 6251
china@klsmartin.com

Martin Nederland/Marned B.V.
1271 AG Huizen · The Netherlands
Tel. +31 35 523 4538
nederland@klsmartin.com

KLS Martin L.P.
Jacksonville, FL 32246 · USA
Tel. +1 904 641 77 46
usa@klsmartin.com

KLS Martin SE Asia Sdn. Bhd.
14100 Simpang Ampat, Penang · Malaysia
Tel.: +604 505 7838
malaysia@klsmartin.com

Gebrüder Martin GmbH & Co. KG
Representative Office
Dubai · United Arab Emirates
Tel. +971 4 454 16 55
middleeast@klsmartin.com

Gebrüder Martin GmbH & Co. KG
A company of the KLS Martin Group
KLS Martin Platz 1 · 78532 Tuttlingen · Germany
Postfach 60 · 78501 Tuttlingen · Germany
Tel. +49 7461 706-0 · Fax +49 7461 706-193
info@klsmartin.com · www.klsmartin.com