



Vesalius

— QUANTUMSMART

Quantum Molecular Resonance Platform

Combining science and technology to improve health and quality of life



QMR TECHNOLOGY

QMR Technology (Quantum Molecular Resonance) (6) is at the heart of all of Telea Medical's devices. It does not use heat to interact with biological tissues and allows a working temperature below 50° C. This is possible thanks to a frequency spectrum whereby the energy transferred to the tissue interacts directly at the molecular level.

QMR is a unique and innovative technology that has been developed and patented by Telea Medical, an Italian company established in 1988.

CUT

The CUT function generates a precise cut, which is triggered by the breaking of molecular bonds. The properties of QMR allow the tissue to be preserved thanks to a low temperature and an extremely delicate incision.

COAG

Our signature bipolar coagulation is known for its precision and efficacy. By exploiting out-of-resonance frequencies, the protein denaturation of fibrinogen is activated, which transforms into fibrin, achieving blood coagulation without damage to the vessel.

The result is a precise and delicate coagulation that does not collapse the vessels and preserves the surrounding tissues.

The cut, blend and coagulation functions are available both in monopolar and bipolar modes.

PRESERVE THE TISSUE

QMR Technology provides a clear improvement in surgery compared to standard technology (both laser and electrosurgery) which allows to preserve the tissues thanks to less thermal damage (2). The cut and the coagulation are effective and precise (3,7).



Vesalius

— QUANTUMSMART

Vesalius QUANTUM SMART is the most innovative QMR technology device in the VESALIUS range and is ideal for use in ENT and Maxillofacial surgery.

The device allows surgeons to use both monopolar and bipolar accessories. It is also equipped with a monitoring system that allows the user to always have total control of the accessory system. The 4.3" LCD colored touch screen display on the control panel enables the precise commands to be selected.

The two separate outputs give maximum versatility to the device, it is possible to use it in the monopolar plus bipolar combination, or with the double bipolar, everything is designed to facilitate surgical procedures.

FIELDS OF APPLICATION

- ENT
- Maxillofacial surgery



MAIN FEATURES

S.M.A.R.T. (SELF MONITORING AND RECOGNITION TECHNOLOGY)

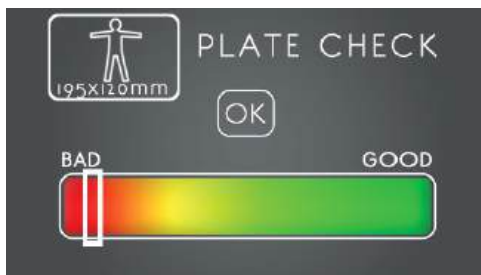
This is an innovative functionality of the VESALIUS range of products which allows communication between the device and the accessory attached. This technology allows the functions of the accessory to be automatically set and allows the operator to receive important information on the accessory itself (for example, product code, recommended output, number of uses) so as to help the OR operator to identify the product and aid in managing the life cycle, avoiding the risk of overuse. Also, the latest settings are stored to make the surgeon's life easier.

I.C. - IMPEDANCE CONTROL

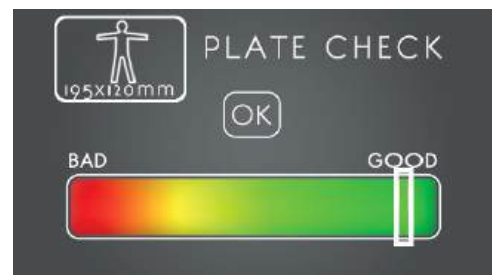
Another important function is the automatic control of the tissue impedance, which monitors and alerts with an acoustic and visual signal (intermittent warning light) when coagulation has occurred.

CQM (CONTACT QUALITY MONITORING) EVEN WITH FULLY INSULATED PLATES

Quantum Smart comes with an automatic system for assessing the contact between plate and patient, with constant monitoring of the adhesion of the plate to the skin, offering immediate visual and acoustic feedback for the operator.



NO CONTACT



OPTIMUM CONTACT

PRECISE BIPOLAR COAGULATION

By applying Vesalius forceps we can achieve coagulation without causing tissue adhesion. Forceps tips do not require any cleaning despite repeated dissections and haemostasis procedures throughout the surgery.



STANDARD SURGICAL FORCEPS



Vesalius BIPOLAR FORCEPS

AUTO-START & AUTO-STOP

The QUANTUM SMART is equipped with SMART technology that activates the function quickly and precisely once the tissue is touched and deactivates it by moving the instrument away from the tissue.

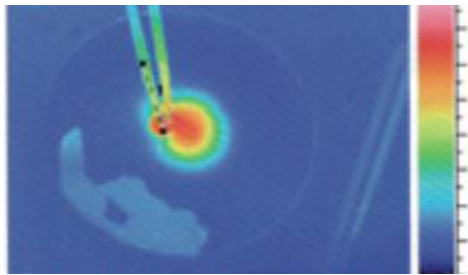
BENEFITS

- Equipped with minimally invasive accessories
- Monopolar and bipolar outputs
- Milder post-operative pain (1)
- No necrotic tissue or thermal damage (2)
- Very low working temperature (4,5)
- Precise removal of tissue in a practically bloodless field (2)
- Reduced intra-operative blood loss (3)
- Reduce duration of surgery (3,7)
- Acoustic and visual feedback alert for coagulation

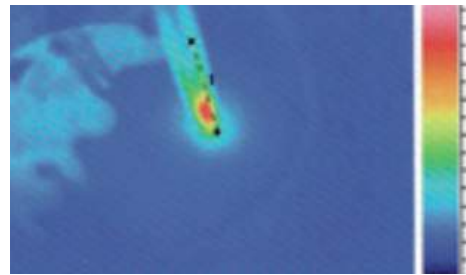
NO THERMAL DISPERSION

QMR Technology allows precise and effective bipolar coagulation.

While the standard technology shows a scattered temperature profile around the surgical site, QMR technology is precise and effective in respecting surrounding tissues (8).



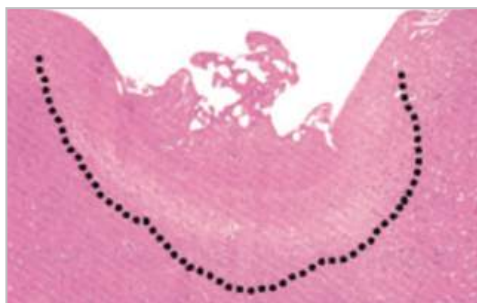
STANDARD TECHNOLOGY



QMR TECHNOLOGY

MINIMUM NECROTIC TISSUE

The histologic analysis shows how in the case of QMR use there is reduced necrosis and a limited area of oedema, which with standard technology appears much more extensive and exhibits necrosis (8).



STANDARD TECHNOLOGY



QMR TECHNOLOGY

Clinical studies have shown that thermal damage is reduced by one fifth compared to traditional electrosurgical surgery (1).

SINGLE-USE BIPOLAR ACCESSORIES FOR VOLUMETRIC REDUCTION

Vesalius QUANTUM SMART offers a wide range of accessories for effective use of the device in numerous surgical procedures, such as parotid gland, neck, larynx, tonsils, adenoids or OSAS (obstructive sleep apnoea syndrome).

All accessories have been designed for comfortable use and effective performance.



TURB BI-PROBE
code: 2615001E - box of 5 pcs
Bipolar probe for turbinate reduction



TUR BI-PROBE SHORT DRB
code: 2615006E - box of 5 pcs
Bipolar probe for turbinate reduction



UVO BI-PROBE
code: 2615002E - box of 5 pcs
Bipolar probe for Uvulopalatoplasty



MITTO TUBA BI-PROBE DRB
code: 2615017E - box of 5 pcs
Bipolar electrode for the reduction of
the tubal ostia and middle turbinates



TONGUE BI-PROBE
code: 2615005E - box of 5 pcs
Bipolar probe for tongue base reduction



TONX BI-PROBE
code: 2602046E - box of 5 pcs
Bipolar probe for tonsil reduction



REUSABLE BIPOLAR ACCESSORIES FOR SURGERY



Tips type: Angled 45° IN
Length: 180 mm
Tip's width: 1,00 mm
Cable length: 3 m

NON STICK 45° ANGLED BIPOLAR FORCEPS for tonsillectomy
(with connection cable)
code: 2601026



Tips type: Angled 45° IN
Length: 200 mm
Tip's width: 1,00 mm
Cable length: 3 m

NON STICK 45° ANGLED BAYONET BIPOLAR FORCEPS for tonsillectomy
(with connection cable)
code: 2601028



Length: 180 mm
Tip's width: 1,00 mm
Cable length: 3 m

NON STICK BAYONET BIPOLAR FORCEPS for tonsillectomy
(with connection cable)
code: 2601015



Thin and sharp tips - Cable length: 3 m
Length: 140 mm: code: 2601018
Length: 175 mm: code: 2601027

GALILEO SCISSORS for parotid gland and neck
(with connection cable)



MINI-INVASIVE BIPOLAR INSTRUMENT FOR LARYNX



3mm SCISSORS
code: 2617004
Length: 200 mm

SHAFT
code: 2617002L
Length: 200 mm
Insert diameter: 3 mm



3mm MARYLAND DISSECTOR, CURVED
code: 2617009
Length: 200 mm

RING HANDLE WITH CABLE
code: 2617007
Cable length: 3 m

FINGER SWITCH HANDLES



REUSABLE FINGER SWITCH HANDLE

Cable length: 5 m
code: 2502013



SINGLE-USE FINGER SWITCH HANDLE

Cable length: 3 m
Code: 2502006 - box of 5 pcs

“GLADIO” SINGLE-USE MONOPOLAR ELECTRODES FOR MICROSURGERY



ROUND LOOPS ELECTRODES Ø 2.5 mm

Length: 25 mm - code: 2603083 - box of 10 pcs
Length: 50 mm - code: 2603084 - box of 10 pcs
Length: 100 mm - code: 2603085 - box of 10 pcs



BLADE ELECTRODES

Length: 40 mm - code: 2605018 - box of 10 pcs
Length: 50 mm - code: 2605021 - box of 10 pcs
Length: 100 mm - code: 2605022 - box of 10 pcs



NEEDLE ELECTRODES Ø 0.80 mm

Length: 25 mm - code: 2602054 - box of 10 pcs
Length: 50 mm - code: 2602055 - box of 10 pcs
Length: 100 mm - code: 2602056 - box of 10 pcs



WIRE ELECTRODES Ø 0.18 mm

Length: 25 mm - code: 2602057 - box of 10 pcs
Length: 50 mm - code: 2602058 - box of 10 pcs
Length: 100 mm - code: 2602059 - box of 10 pcs



SINGLE-USE MONOPOLAR ELECTRODES



SPHERE FOR LARYNX

Sphere diameter: 0,5 mm - Electrode length: 200 mm
code: 2604035 - box of 5 pcs



BLADE FOR LARYNX INCISION

Blade dimensions: 2,5x15 mm - Electrode length: 200 mm
code: 2605020 - box of 5 pcs



SINGLE-USE MONOPOLAR ELECTRODES FOR MICROSURGERY OF MIDDLE EAR



SPOON-SHAPE SCALPEL *

Dimension: $\varnothing=1,50\text{mm}$
code: 2605010 - box of 5 pcs



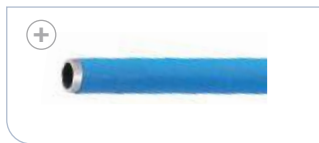
ELECTRODE FOR INCISION *

Dimension: $\varnothing=0,40\text{mm}$ - Lf=2mm
code: 2602051 - box of 5 pcs

* Use adapter, code 2505001, for connection to the Vesalius QUANTUM SMART



SINGLE-USE MONOPOLAR ACCESSORIES FOR ADENOIDS



NON-STICK ELECTRODE WITH SUCTION

Diameter: 4 mm
code: 2614003 - box of 5 pcs



NON-STICK DRB ELECTRODE WITH SUCTION

Diameter: 4 mm
code: 2614004 - box of 5 pcs



SINGLE-USE BIPOLAR ELECTRODES



SINGLE-USE BIPOLAR ENT ELECTRODE

Diameter: 3 mm | Electrode length: 220 mm | Cable length: 3 m
code: 2615015E - box of 5 pcs



SINGLE-USE BIPOLAR ELECTRODE FOR EPISTAXIS

Diameter: 3 mm | Electrode length: 100 mm | Cable length: 3 m
code: 2615011E - box of 5 pcs





Vesalius QUANTUM SMART Code: 2501034

Supply Connection: 100-230V ~ 50/60Hz
Quantized High Frequencies Spectrum:
4 MHz with harmonics
4,3" LCD colored touch screen display

MONOPOLAR output powers:

- CUT 120W / 330 Ω
- BLEND 100W / 330 Ω
- COAG 70W / 330 Ω

BIPOLAR output powers:

- CUT 120W / 100 Ω
- BLEND 100W / 100 Ω
- COAG 70W / 100 Ω

Accessories included in the box of Vesalius QUANTUM SMART:

1x power cord, 20x 2503003Q - single-use split neutral plates for adults, 1x 2505006A - adapter for single-use plates, 1x 2504018 - double electric pedal with ball, 1x user manual.



WIRED TROLLEY

Dimensions: 500x400x930 mm
code: 2507002



SINGLE-USE SPLIT NEUTRAL PLATES

for patients with weight:	pcs per box:	code:
• >30kg (adults)	20	2503003Q
• 7-30kg (pediatrics)	20	2503004Q
• 0-7kg (neonatal)	20	2503014Q



ADAPTER FOR SINGLE-USE PLATES

Cable's length: 4,5 m
code: 2505006A



DOUBLE ELECTRIC PEDAL WITH BALL

Cable's length: 4 m
code: 2504018

Reference List

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- 3 D'Agostino R., Tarantino V., Grazia Calevo M, Blunt dissection versus electronic molecular resonance bipolar dissection for tonsillectomy: Operative time and intraoperative and postoperative bleeding and pain International Journal of Pediatric Otorhinolaryngology(2008) 72, 1077-1084
- 4 Kaku S., Ishii T., Hasegawa Y., et al Usefulness of Bipolar Forceps and Generator with High Frequency Technology for Point Coagulation and Tissue Adhesion. Currently Practical Neurosurgery vol 18, no.5, 2008.5:617-624
- 5 Schiavon M., Calabrese F., Nicotra S., et al: Favorable Tissue Effects of Quantum Molecular Resonance Device (Vesalius) Compared with Standard Electrocautery Eur Surg Res 2007; 39:222-228
- 6 Pozzato G., Vignato G.: Teoria della risonanza quantica molecolare nella realizzazione del bisturi elettronico "Vesalius". Quintessence Int 2003;5/6:153-155
- 7 Cherekaev VA, Bekiashev AKh, et al. Experience in using a molecular coagulator in neurooncology; Zhurnal Voprosy Neirokhirurgii Imeni N. N. Burdenko 2005(3):33-36
- 8 "Currently Practical Neurosurgery", Department of Neurosurgery, Atsugi Municipal Hospital, vol 18, no.5, 2008.5

Vesalius

— QUANTUMSMART

DEVELOPED AND MANUFACTURED BY



Telea Electronic Engineering srl

Via Leonardo Da Vinci, 13
36066 Sandrigo (Vicenza) ITALY

www.teleamedical.com | info@teleamedical.com

tel. +39 0444 239519



PATENTED
U.S. - E.P.

