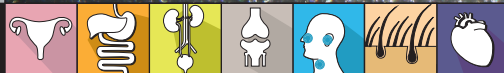


TONTARRA

ENDOSCOPY



PLASMA WAVE HF GENERATOR PWT-400

CLEVER. SAFE. POWERFUL



PLASMA WAVE HF GENERATOR

Many options – one device.

Easy handling.

SMART

- ▶ Multidisziplinär einsetzbar
- ▶ Optimierte Modi für eine Vielzahl von Fachbereichen
- ▶ 99 Speicherplätze für anwendungsspezifische Programme/Profile
 - Alle Voreinstellungen können individuell angepasst werden
 - Frei definierbare Programmbezeichnungen
- ▶ Multi disciplinary use
- ▶ Optimized modes for various clinical applications
- ▶ 99 storage positions for application-specific programs/profiles
 - All presets can be adapted individually
 - Customizable program settings and descriptions

SAFE

- ▶ Selbsttest beim Systemstart und permanenter System-Auto-Check während der Anwendung
- ▶ Leckstromüberwachung
- ▶ Überwachungssystem für Neutralelektroden:
 - Anwendung von kleinen Neutralelektroden für die Pädiatrie/Neugeborene möglich
 - Anwendung von geteilten Neutralelektroden möglich
- ▶ Self-test during system start and permanent auto check during use
- ▶ Current leakage monitoring
- ▶ Neutral electrode monitoring:
 - use of small neutral electrodes for pediatrics or neonates possible
 - use of split neutral electrodes possible

POWERFUL

- ▶ Präzise, glatte Schnitte und effektive Koagulation dank optimierter Einstellungen
- ▶ 14 Mono- und bipolare Schneidmodi und 10 Koagulationsmodi
- ▶ Accurate, smooth incisions and effective coagulation due to optimized presets
- ▶ 14 monopolar and bipolar cutting modes and 10 coagulation modes self-adjusting of output power

▶ SMART

▶ SAFE

▶ POWERFUL

HF Generator für PWT-400

HF generator for PWT-400

Art. No. 540-280-50(PWT-400)

Doppel-Fußpedal

Twin foot-switch

(Art. No. 540-284-50)



HF Verbindungskabel PWT-400

HF connection cables for PWT-400

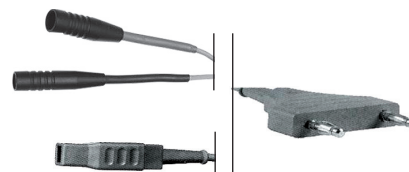
Monopolar

3 m: Art.No. 582-533-04



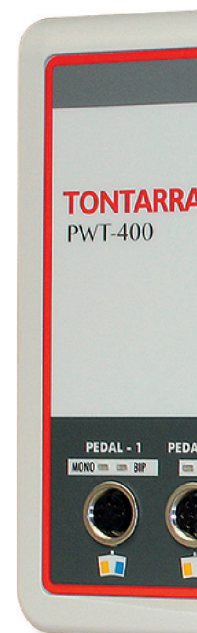
Bipolar, to connect:

- Arbeitselement für HF Generator
 - working element to HF generator
- 3 m: Art.No. 287-215-30BR



- Bipolare Elektroden für HF Generator
- bipolar electrodes to HF generator

3 m: Art.No. 287-215-30 / 5 m: Art.No. 287-215-50



- ▶ Das Gerät kann mit ein oder zwei Zweipedal-Fußschaltern genutzt werden
- ▶ Compatible with one or two twin foot-switches
- ▶ Intuitive Menüführung via Touchdisplay
- ▶ Intuitive menu navigation via touch display



- ▶ Geeignet für monopolare und bipolare Anwendungen
- ▶ Suitable for monopolar and bipolar applications
- ▶ Das Gerät erlaubt die simultane Anwendung von zwei monopolaren Handgriffen
- ▶ The unit features the simultaneous use of two monopolar handles
- ▶ Abgestimmtes bipolares Resektoskopie Programm für unser Gubbini Mini-Resektoskope
- ▶ Pre set-up program for bipolar resectoscopy for use with our Gubbini Mini-Resectoscope

- ▶ Abgestimmtes bipolares Resektoskopie Programm für unsere Classic Resektoskope
- ▶ Pre set-up program for bipolar resectoscopy for use with our Classic-Resectoscope

Für weiteres Zubehör schauen Sie bitte in unserem HF-Zubehör Katalog nach.

For further accessories please have a look into our HF-accessories catalogue.

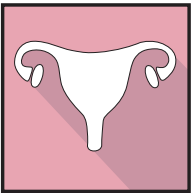
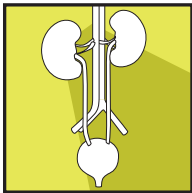
FACHBEREICHE MEDICAL DISCIPLINES



Gynäkologie, Urologie, Allgemein- und Thoraxchirurgie, Orthopädie, Mund-Kiefer-Chirurgie, Dermatologie, Plastische Chirurgie, Gefäßchirurgie, Pädiatrische Chirurgie, Notfallchirurgie, Gastroenterologie, Veterinärmedizin...und weitere.

Gynecology, urology, general and thoracoscopic surgery, orthopaedics, maxillofacial surgery, dermatology, plastic surgery, vascular surgery, paediatric surgery, emergency surgery, gastroenterology, veterinary... and other.

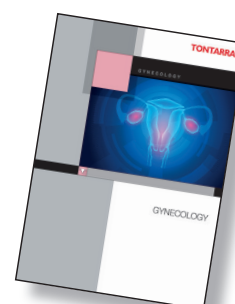
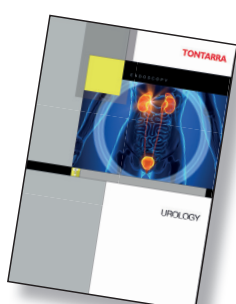
INDIKATIONEN / INDICATIONS

		
▶ Laparoskopische suprazervikale Hysterektomie (LASH) ▶ Laparoskopisch assistierte vaginale Hysterektomie (LAVH) ▶ Totale laparoskopische Hysterektomie (TLH) ▶ Vaginale Hysterektomie ▶ Laparoscopic supracervical hysterectomy (LASH) ▶ Laparoscopically assisted vaginal hysterectomy (LAVH) ▶ Total laparoscopic hysterectomy (TLH) ▶ Vaginal hysterectomy	▶ Transurethrale Resektion (TUR-B, TUR-P) ▶ Zystektomie ▶ Nephrektomie ▶ Transurethral resection (TUR-B, TUR-P) ▶ Cystectomy ▶ Nephrectomy	▶ Kolektomie ▶ Fundoplikatio ▶ Gastrektomie ▶ Splenektomie ▶ Cholezystektomie ▶ Leberresektion ▶ Colectomy ▶ Fundoplication ▶ Gastrectomy ▶ Splenectomy ▶ Cholecystectomy ▶ Liver resection

Our own instrument systems match a wide range of options for diagnostics and therapy in endoscopic-urology (cystoscopy and laser-cystoscopy, resectoscopy, urethrotomy, uretero-rensoscopy, nephroscopy and instruments for pediatric urology).

Contact us for further information about

- the compatability of your imaging system and your instruments to our telescopes
- the imaging solutions and devices we can provide for urology
- our innovative endoscopic instruments and accessories
- ... and our „uro portfolio“ in general: info@tontarra.de



EIN GERÄT. VIELE MÖGLICHKEITEN.
MANY OPTIONS. ONE DEVICE.

- ▶ Für jede Indikation der richtige Modus.
- ▶ The right modes for all indications.



TONTARRA'S PORTFOLIO INCLUDES

GUBBINI – A NEW DIMENSION IN HYSTERO-RESECTOSCOPY

- ▶ Minimal invasives Operieren war noch nie einfacher. Dank optimierter Voreinstellungen und speziell entwickelter Modi können Eingriffe in der Gynäkologie sicher und einfach durchgeführt werden.
- ▶ Minimal invasive surgery has never been more convenient. Safe and easy performance of medical intervention in gynecology due to optimized presetting and specially developed modes.



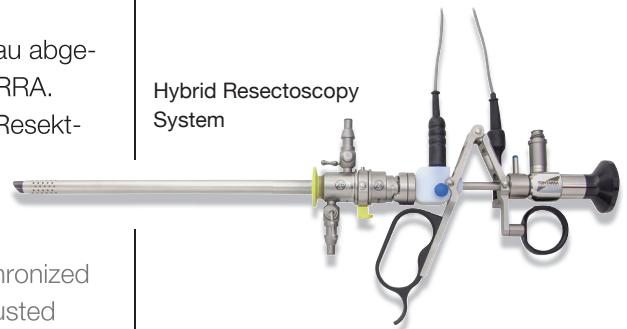
GUBBINI original

The original GUBBINI System features a 16 Fr. round distal tip/sheath form, the introduction into the cervical canal does not require dilation.

HYBRID RESECTOSCOPY SYSTEMS

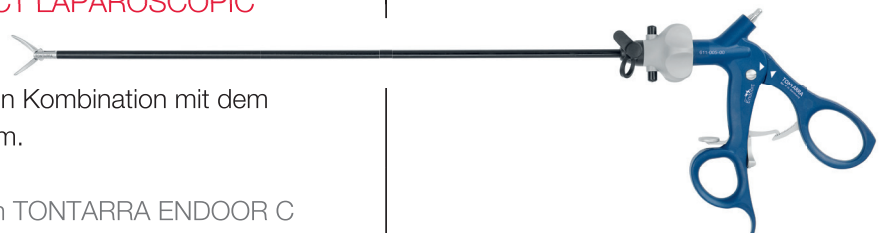
- ▶ **Das perfekte Team!** Der Plasma Wave HF-Generator ist genau abgestimmt auf das Bipolare Resektoskopie-System von TONTARRA. Exakt eingestellte Parameter sorgen für ein hervorragendes Resektionsergebnis.
- ▶ **A perfect match!** The Plasma Wave HF generator and the TONTARRA bipolar resectoscopy system are perfectly synchronized to each other. Excellent resection effect due to precisely adjusted parameters.

Hybrid Resectoscopy System



ENDOOR C – YOUR KEY TO PERFECT LAPAROSCOPIC PERFORMANCE

- ▶ Vielseitige Anwendungsmöglichkeiten in Kombination mit dem TONTARRA ENDOOR C Zangensystem.
- ▶ Supreme versatility in combination with TONTARRA ENDOOR C system forceps.



PLASMA WAVE HF GENERATOR

- Übersicht Modi
- Overview modes



MONOPOLAR SCHNITTMODI / MONOPOLAR CUTTING MODES

PURE CUT	BLEND CUT 1	BLEND CUT 2
Reiner Schneidmodus, ohne Koagulation. Für die offene Chirurgie/Laparoskopie/monopolare Resektion unter nicht leitender Spülflüssigkeit. Pure cutting mode, without coagulation effect. For open surgery/laparoscopy/monopolar resection using non-conductive irrigation liquids.	Schneidmodus, mittlere Koagulation. Für die offene Chirurgie/Laparoskopie/monopolare Resektion unter nicht leitender Spülflüssigkeit. Cutting mode, medium coagulation effect. For open surgery/laparoscopy/monopolar resection using non-conductive irrigation liquids.	Schneidmodus, intensive Koagulation. Für die offene Chirurgie/Laparoskopie. Cutting mode, intense coagulation effect. For open surgery/laparoscopy.
PURE CUT PULSED	BLEND CUT PULSED	AUTO PURE CUT MICRO
Gepulster Schneidmodus, ohne Koagulation. Für die offene Chirurgie/Laparoskopie. Pulsed cutting mode, without coagulation effect. For open surgery/laparoscopy.	Gepulster Schneidmodus, mittlere Koagulation. Für die offene Chirurgie/Laparoskopie. Pulsed cutting mode, with mediumcoagulation effect. For open surgery/laparoscopy.	Präziser Schneidmodus, ohne Koagulation. Für die offene Chirurgie/Laparoskopie/monopolare Resektion unter nicht leitender Spülflüssigkeit. Precise cutting mode, without coagulation effect. For open surgery/laparoscopy/monopolar resection using non-conductive irrigation liquids.
AUTO BLEND CUT MICRO	AUTO PAPILO PURE CUT	AUTO POLIPO BLEND CUT
Präziser Schnittmodus, mittlere Koagulation. Für die monopolare Resektion unter nicht leitender Spülflüssigkeit. Precise cutting mode, with medium coagulation effect. For open surgery/laparoscopy or for monopolar resection using non-conductive irrigation liquids.	Reiner Schnittmodus, ohne Koagulation. Für die flexible Endoskopie. Pure cutting mode, without coagulation effect. For flexible endoscopy.	Schnittmodus, mittlere Koagulation. Für die flexible Endoskopie. Pure cutting mode, with medium coagulation effect. For flexible endoscopy.
AUTO ENDO CUT		
Fraktionierter Schneidmodus mit unterschiedlichen Intervallen für die flexible Endoskopie./Fractionated cutting mode with variable intervals for flexible endoscopy.		

MONOPOLAR KOAGULATIONSMODI / MONOPOLAR COAGULATION MODES

FULG FORCED COAG	SPRAY COAG/ PULSED SPRAY COAG	PIN POINT CONTACT COAG
Kontaktlose Koagulation. Für die offene Chirurgie/Laparoskopie, für die monopolare Resektion unter nicht leitender Spülflüssigkeit, für die flexible Endoskopie. Contact-free coagulation. For open surgery/laparoscopy or for monopolar resection using non-conductive irrigation liquids.	Kontaktlose, intensive Koagulation. Für die offene Chirurgie/Laparoskopie, für die monopolare Resektion unter nicht leitender Spülflüssigkeit, für die flexible Endoskopie./Gepulst Contact-free , intensive coagulation. For open surgery/laparoscopy or for monopolar resection using non-conductive irrigation liquids, for flexible endoscopy./Pulsed	Koagulationsmodus. Für die offene Chirurgie/Laparoskopie, für die monopolare Resektion unter nicht leitender Spülflüssigkeit, für die flexible Endoskopie. Coagulation mode. For open surgery/ laparoscopy or for monopolar resection using non-conductive irrigation liquids, for flexible endoscopy.
SOFT MICRO COAG		
Soft Koagulation. Für die offene Chirurgie/Laparoskopie./Soft coagulation mode. For open surgery/laparoscopy.		

BIPOLARE SCHNITTMODI / BIPOLAR CUTTING MODES

STANDARD BICUT	BLEND BICUT	SALINE URO-GYN CUT/ARTHROSCOPY
Schneidmodus für die Laparoskopie/offene Chirurgie. Cutting mode for open surgery/laparoscopy.	Schneidmodus mit intensiver Koagulation. Für die Laparoskopie/offene Chirurgie. Cutting mode with signifikant coagulation effect. For laparoscopy/open surgery.	Schneidmodus für die bipolare Resektion unter Saline. Konstanter/gepulster Modi. Für die Gynäkologie/Urologie/Arthroskopie. Der „Continuous“-Modi eignet sich für die Vaporisation. Cutting mode for bipolar resection in saline solution. Continuous/ pulsed modes. For Gynecology/Urology/Arthoscopy. The continuous delivery is suitable to perform the vaporization.
SALINE ARTHRO CUT		
Schneidmodus für die bipolare Resektion unter Saline (leitende Spülflüssigkeit). Konstanter/gepulster Modi. Für die Arthroskopie. Der „Continuous“-Modi eignet sich für die Vaporisation. Cutting mode for bipolar resection in saline solution. Continuous/pulsed modes. For arthroscopy. The continuous delivery is suitable to perform the vaporization.		

BIPOLARE KOAGULATION / BIPOLAR CUTTING MODES

SOFT MICRO BICOAG	FORCED MACRO BICOAG	Auto Soft Micro Bicoag
Sehr präzise und feine Koagulation. Für die Laparoskopie, für die Endoskopie unter Saline und die flexible Endoskopie. Very precise and delicate coagulation. For laparoscopy, for endoscopy in saline solution. For laparoscopy, endoscopy in saline solution, for flexible endoscopy.	Schnelle Koagulation. Für die Laparoskopie und offene Chirurgie. Fast coagulation. For laparoscopy/open surgery.	Sehr präzise und feine Koagulation. Nicht geeignet für die Resektion unter Saline. Very precise und delicate coagulation. Not suitable for resection in saline solution.
SEALING/ AUTO SEALING		
Modi für die Versiegelung von Gefäßen bis zu 8 mm. Für die offene Chirurgie/Laparoskopie. Mode to coagulate/seal vessels up to 8 mm in open and laparoscopic surgery.		

PLASMA WAVE HF GENERATOR

► The currents



MONOPOLAR CUTTING

	Pure cut	Blend cut 1	Blend cut 2	Pure cut pulsed	Blend cut pulsed	Auto pure cut micro	Auto blend cut micro	Auto papillo pure cut	Auto polipo blend cut	Auto endocut
Max. output power	400 W	300 W	250 W	250 W	125 W	300 W	300 W	300 W	300 W	300 W
Rated load	400 Ω	400 Ω	400 Ω	400 Ω	400 Ω	300 Ω	300 Ω	300 Ω	300 Ω	300 Ω
Vpp	2550	3390	3330	2640	3330	1137	1500	1140	1490	1670
Crest factor	1.46	1.94	2.29	2.00	3.20	1.50	1.98	1.50	1.98	–
Modulation	0	17 kHz	17 kHz	3 Hz	50 Hz	0	17 kHz	0 kHz	17 kHz	–
Duty Cycle	100%	95%	65%	50%	50%	100%	900%	100%	95%	–
Power setting	Progressive with steps from 1 to 10 W						10 effects			
Power control	ADC System – dynamic self-adjusting with constant voltage						APC System – totally self-adjusting with constant voltage			

MONOPOLAR COAGULATION

	Fulg forced coag	Spray coag	Pin point contact coag	pulsed spray coag	Soft micro coag
Max. output power	150 W	200 W	300 W	100 W	280 W
Rated load	300 Ω	700 Ω	400 Ω	700 Ω	300 Ω
Vpp	4500	7750	3700	7850	3300
Crest factor	6.45	7.75	2.2	11.5	2.16
Modulation	60 kHz	30 kHz	17 kHz	3 Hz	17 kHz
Duty Cycle	18%	7%	85%	50%	75%
Power setting	Progressive with steps from 1 to 10 W				10 effects
Power control	ADC System – dynamic self-adjusting with constant voltage				APC System – totally self-adjusting with constant voltage

BIPOLAR CUTTING

	Saline Uro-Gyn cut	Saline Arthro cut	Standard bicut	Blend bicut
Max. output power	320 W	240 W	200 W	160 W
Rated load	350/400 Ω	350/400 Ω	150/300 Ω	100/200 Ω
Vpp	1070	1070	1070	740
Crest factor	1.5	1.5	1.5	1.6
Modulation	0	0	0	17 kHz
Duty Cycle	100%	100%	100%	95%
Power setting	10 effects		Progressive with steps from 0.1 to 5 W	
Power control	ADC System – dynamic self-adjusting with constant voltage			

BIPOLAR COAGULATION AND VESSEL SEALING

	Soft micro bicoag	Auto soft micro bicoag	Sealing	Auto sealing	Forced macro bicoag
Max. output power	140 W	140 W	320 W	320 W	200 W
Rated load	100/150 Ω	100/150 Ω	50/100 Ω	50/100 Ω	100/150 Ω
Vpp	460	460	320	320	550
Crest factor	1.6	1.6	1.46	1.46	1.6
Modulation	0	0	0	0	0
Duty Cycle	100%	100%	100%	100%	100%
Power setting	Progressive with steps from 0.1 to 5 W		10 effects		Progressive with steps from 0.1 to 5 W
Power control	APC System – totally self-adjusting with constant voltage		ADC System – dynamic self-adjusting with constant voltage		

TECHNISCHE DATEN/TECHNICAL DATA

Mains supply and consumption, Mains switch, Fuses and Standby	100 / 230V ± 10% ~ 50/60Hz (Consumption: Max. 3.6 A = 828 VA, Standby 0.4 A = 92 VA). Bipolar switch (green), Two fuses 8 A, Standby mode selectable on the touch-screen.
Equipotential connection	Standard DIN 42801 plug.
Enclosure, Cooling	Metal painted case, protected against the spilling of liquids according to IEC 60601-2-2. Cooling by convection (No fan).
Software updating and calibration	Updating by a serial port connected to a PC, calibration on-site.
Dimensions and weight	38 x 35 x 19 cm (10 kg)
HF generator	Meets IEC 60601-1 and IEC 60601-2-2
EMC compatibility	Meets IEC 60601-1-2
EC Classification and approval	Class IIB according to 93/42/CEE
Classification according to IEC 60601-1	Class I, CF type with the following typical low frequency leakage currents (all cables tied together): on the patient: 4 µA = 0,004 mA/into the enclosure: 1 µA = 0,001 mA /to earth: 30 µA = 0,03 mA
Output circuit according to IEC 60601-2-2	FLOATING (Isolated at high and low frequencies) and protected against the use of the defibrillator. Typical HF leakage currents measured at the unit: monopolar currents = 90 mA, bipolar currents = 60 mA.
Working frequency	Monopolar and bipolar currents: 440kHz ± 5 w%.

ART. NO.

540-280-50(PWT-400)	HF-Gerät für Elektrochirurgie PWT-400/HF generator for electrical surgery PWT-400
540-284-50	Doppelfußpedal/Twin foot pedal

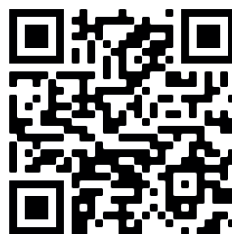


· WORLD WIDE DISTRIBUTION NETWORK ·



TONTARRA Medizintechnik GmbH
Daimlerstr. 15 · 78573 Wurmlingen/Germany
Tel: +49(0) 74 61/9 65 76 -0
Fax: +49(0) 74 61/9 65 76 -26
info@tontarra.de

www.tontarra.de



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