

# TECHNICAL INFORMATION

HF ELECTROSURGICAL UNIT

## SURTRON® TOUCH HP 300 / 400



### General Description

**SURTRON® TOUCH HP 300** and **SURTRON TOUCH HP 400** are high frequency electro-surgical equipment suited to deliver current for monopolar cut, coagulated cut, in monopolar modality and cut and coagulation in bipolar modality.

In the bipolar coagulation modality can be activated a detection system of the tissues impedance with automatic activation and automatic stop when the coagulation is achieved (AUTOSTART – AUTOSTOP).

Moreover, using the specific function is possible to execute the synthesis and the vascular and venous coagulation through radiofrequency clamping (vessel sealing).

A total of eighteen different modes of use and levels of power, can be stored and recalled for the use simply. (Pre-set Programs). It is possible to modify them, and it is possible to create over 50 programs.

It is possible to use either single plate neutral reference electrodes or electrodes with split conductive zone so to watch the stability of the plate to patient impedance during the surgical intervention.

Control of the units is via front panel touch keys and display; mains inlet is located on the rear panel.

The operational parameters that are used are constantly stored so that, every time the unit is switched on or the operative method is changed, the last selected parameters are recalled.

The level of the emission sound can vary; every operator can choose his own level according to the environmental conditions of working.

The units can work either through holder-handles with or without pushbuttons with double foot switch command. It's possible to connect bipolar forceps to the unit for the bipolar functions.

Some versions (10400.T902 / 10400.T802) are equipped with the Argon integrated module to perform no-contact coagulation, through optional compatible applicators, such as rigid electrodes or flexible probes, therefore specific electrosurgical procedures for coagulation with Argon gas are possible for both surgery in the open air than in endoscopy. Argon is an inert gas that used in conjunction with specific currents for high frequency coagulation generated by the unit, allows to obtain a non-contact surface coagulation thanks to the ionization of the gas through the high frequency current.

## Destination of Use / Sectors of Application

The use of HF electro surgical equipment **SURTRON® TOUCH HP 300** and **SURTRON® TOUCH HP 400** has reserved to specialized medical personnel. The equipment has destined to a temporary use, for surgical operations in emergency room or hospital. It has foreseen its use in the monopolar cut, cut coagulated or coagulation mode or in bipolar cut or coagulation mode.

The equipment is conceived for being used in the following sectors:

Description	SURTRON® TOUCH	
	HP 300	HP 400
Electrosurgical unit code	10400.T802	10400.T902
Dermatology	●	○
Endoscopy	●	○
Gastroenterology	●	●
General Surgery	●	●
Gynecology	●	○
Neurosurgery	●	●
Orthopaedics	○	●
Otorhinolaryngology	●	○
Paediatric Surgery	●	●
Plastic Surgery	●	●
Pneumology	●	○
Thorax Surgery	○	●
Trans Urethral Resection (TUR)	○	●
Urology	●	●
Vascular Surgery	○	○
Veterinary	●	○

● = Recommended

○ = Usable

## TECHNICAL CHARACTERISTICS

Toll.	Description	SURTRON TOUCH	
		HP 300 10400.T802	HP 400 10400.T902
± 20%	Maximum output power CUT (W)	300W on 300Ω	400W on 300Ω
± 20%	Maximum output power ENHANCED (W)	200W on 300Ω	250W on 300Ω
± 20%	Maximum output power BLEND (W)	200W on 300Ω	250W on 300Ω
± 20%	Maximum output power DUO CUT (W)	150W on 300Ω	200W on 300Ω
± 20%	Maximum output power TUR CUT (W)	250W on 300Ω	300W on 300Ω
± 20%	Maximum output power FORCED COAG (W)	120W on 150Ω	150W on 150Ω
± 20%	Maximum output power SOFT COAG (W)	120W on 150Ω	150W on 150Ω
± 20%	Maximum output power FULGURATION (W)	80W on 500Ω	100W on 500Ω
± 20%	Maximum output power DUO COAG (W)	80W on 500Ω	100W on 500Ω
± 20%	Maximum output power SPRAY COAG (W)	100W on 1000Ω	120W on 1000Ω
± 20%	Maximum output power SPRAY COAG ARGON (W)	100W on 1000Ω	120W on 1000Ω
± 20%	Maximum output power BIPOLAR CUT (W)	150W on 100Ω	150W on 100Ω
± 20%	Maximum output power BIPOLAR MICRO CUT (W)	50W on 100Ω	50W on 100Ω
± 20%	Maximum output power BIPOLAR TUR (W)	300W on 300Ω	300W on 300Ω
± 20%	Maximum output power BIPOLAR COAG (W)	150W on 50Ω	150W on 50Ω
± 20%	Maximum output power BIPOLAR MICRO COAG (W)	50W on 50Ω	50W on 50Ω
± 20%	Maximum output power BIPOLAR TUR COAG (W)	250W on 50Ω	250W on 50Ω
± 20%	Maximum output power VESSEL SEALING (W)	250W on 50Ω	250W on 50Ω
± 10%	Working frequency MONOPOLAR	360 kHz	360 kHz
± 15%	Working frequency BIPOLAR	360 kHz	360 kHz
± 5%	Modulation factor ENHANCED (Hz)	1.5/1.5/2.5/2.5/3.5/3.5	1.5/1.5/2.5/2.5/3.5/3.5
± 5%	Modulation factor BLEND (Hz)	50	50
± 5%	Modulation factor FULGURATION (kHz)	30	30
± 5%	Modulation factor TUR CUT (kHz)	50	50
± 5%	Modulation factor FORCED COAG (kHz)	30	30
± 5%	Modulation factor DUO COAG (kHz)	30	30
± 5%	Modulation factor SPRAY COAG (kHz)	30	30
± 5%	Modulation factor SPRAY COAG ARGON (kHz)	30	30
± 5%	Modulation factor BIPOLAR TUR CUT (Hz)	200	200
± 0.2	Crest Factor CUT	1.6	1.6
± 0.3	Crest Factor ENHANCED CUT	3.3/3.2/3.1/3.0/2.8/2.6	3.3/3.2/3.1/3.0/2.8/2.6
± 0.3	Crest Factor BLEND	2.4/2.8/2.7/2.6/2.5/2.4	2.4/2.8/2.7/2.6/2.5/2.4
± 0.3	Crest Factor FULGURATION	3.8	3.8
± 0.3	Crest Factor DUO CUT	1.6	1.6
± 0.3	Crest Factor TUR CUT	2.4	2.4
± 0.3	Crest Factor FORCED COAG	3.4	3.4
± 0.3	Crest Factor SOFT COAG	1.6	1.6
± 0.3	Crest Factor COAG	3.8	3.8
± 0.3	Crest Factor SPRAY COAG	4.3	4.3
± 0.3	Crest Factor SPRAY COAG ARGON	4.3	4.3
± 0.2	Crest Factor BIPOLAR CUT / MICRO CUT	1.6	1.6
± 0.2	Crest Factor BIPOLAR COAG / MICRO COAG	1.6	1.6
± 0.2	Crest Factor BIPOLAR TUR CUT	1.6	1.6
± 0.2	Crest Factor BIPOLAR TUR COAG	1.6	1.6
± 0.2	Crest Factor VESSEL SEALING	1.6	1.6
± 15%	Maximum output voltage CUT (Vpp)	2800	2800
± 15%	Maximum output voltage ENHANCED CUT (Vpp)	2500	2500
± 15%	Maximum output voltage BLEND (Vpp)	2400	2400
± 15%	Maximum output voltage DUO CUT (Vpp)	1900	1900
± 15%	Maximum output voltage TUR CUT (Vpp)	2500	2500

Toll.	Description	SURTRON TOUCH	
		HP 300 10400.T802	HP 400 10400.T902
± 15%	Maximum output voltage FORCED COAG (Vpp)	2800	2800
± 15%	Maximum output voltage SOFT COAG (Vpp)	1200	1200
± 15%	Maximum output voltage FULGURATION (Vpp)	3500	3500
± 15%	Maximum output voltage DUO COAG (Vpp)	3500	3500
± 15%	Maximum output voltage SPRAY COAG (Vpp)	5000	5000
± 15%	Maximum output voltage SPRAY COAG ARGON (Vpp)	5000	5000
± 15%	Maximum output voltage BIPOLAR CUT (Vpp)	1100	1100
± 15%	Maximum output voltage BIPOLAR COAG (Vpp)	1100	1100
± 15%	Maximum output voltage BIPOLAR TUR CUT (Vpp)	1900	1900
± 15%	Maximum output voltage BIPOLAR TUR COAG (Vpp)	1000	1000
± 15%	Maximum output voltage VESSEL SEALING (Vpp)	1000	1000
–	Touch Screen (Size (inch) “)	● (9”)	● (9”)
–	Applicable split neutral electrode I	●	●
–	Bipolar with the possibility of AUTOSTART / AUTOSTOP	●	●
–	Automatic impedance control	●	●
–	Integrated Argon Module	● opt	● opt
–	Connectable Argon cylinders *	2	2
–	Minimum Level selectable	1	1
–	Work condition memorization	●	●
–	Step power unitary for powers from 0W to 50W	●	●
–	Step power 10 for powers higher than 50W	●	●
± 0.5	Size LxAxP mm	450x170x400	450x170x400
± 10	Weight (kg)	16	16
± 5%	supply voltage (Vac)	100-240	100-240
± 1%	Main frequency (Hz)	50-60	50-60
–	Fuses 5x20 type TIMED	2 x T10AL, 250V	2 x T10AL, 250V
± 10%	Electrical input power (VA)	1000	1000
± 10%	Electrical input current (240Vac) (A)	5	5
± 10%	Electrical input current (100Vac) (A)	10	10
–	Adjustable sound level	●	●
–	Power accuracy output warning	●	●
–	Last setting storing	●	●
–	Working (CUSTOM) condition storing	50	50
–	Self-check	●	●
–	Electric Class (EN60601-1)	I CF	I CF
–	MDD 93/42/EC Class	II b	II b
–	EN55011 (CISPR 11) Class (Class/Group)	2 / A	2 / A
–	Patient circuit	<b>F</b>	<b>F</b>
–	Duty Cycle (action / pause) in seconds	10 / 30	10 / 30
–	Monopolar output can be activated (pedal or handpiece buttons)	Foot/Finger	Foot/Finger
–	Bipolar output can be activated	Pedal or automatism	Pedal or automatism
–	Defibrillation-proof	●	●
–	Equipotential binding	●	●
–	ABS and metallic cabinet	●	●
–	Maximum Input Pressure Argon *	3,5 Bar	3,5 Bar
–	Pressure Input Argon *	3,0 Bar	3,0 Bar
–	Maximum output pressure Argon *	2.0 Bar	2.0 Bar
–	Argon exit flow *	0,5 – 10 LPM	0,5 – 10 LPM

● = PRESENT

\* only versions with integrated Argon module

<sup>1</sup> Patient to plate contact monitoring system

## Standard and Optional Composition

Code	Description	SURTRON® TOUCH	
		HP 300	HP 400
-	Electrosurgical unit code	10400.T802A	10400.T902A
00100.01	Power supply cable 5m SIE-IEC	●/1	●/1
00205.00	PENCILS S – Handle with switch	●/1	●/1
00305.06	Double water-proof foot switch TOUCH / TOUCH HP	●/1	●/1
00306.06 <sup>1</sup>	Double water-proof foot switch TOUCH HP with selector	●/1	●/1
00404.08	CONNECTION - Cable for neutral electrode disposable type 5365/6429/FLEX	●/1	●/1
152-110	ELECTRODE - Blade electrode 7 cm	●/3	●/3
152-115	ELECTRODE - Blade electrode 16 cm	●/3	●/3
152-120	ELECTRODE - Needle electrode 7 cm	●/3	●/3
152-150	ELECTRODE - Ball electrode Ø 4mm 6 cm	●/3	●/3
755VL	Disposable handle with finger switches (F4797)	●/5	●/5
F7520	Electrode cleaning sponge 47x50mm	●/1	●/1
F7920	Disposable Split Neutral electrode (F7820)	●/5	●/5
00100.00	Power supply cable 2m IT-IEC	○	○
00100.03	Power supply cable 2m SIE-IEC	○	○
00100.04	Power supply cable 2m USA-IEC	○	○
00100.05	Power supply cable 2m GB-IEC	○	○
00100.07	Power supply cable 2m BR-IEC	○	○
00100.09	Power supply cable 2m AU-IEC	○	○
00100.10	Power supply cable 5m JP-IEC	○	○
00205.40	PENCILS S – Handle with switch (for electrode 4mm)	○	○
00206.00	PENCIL - Handle without switch	○	○
00206.40	PENCIL - Handle without switch (for electrode 4mm)	○	○
00306.06 <sup>1</sup>	Double water-proof foot switch TOUCH HP with selector	○	○
00401.01	NEUTRAL - Steel Neutral Electrode 24x16 cm with cable	○	○
00401.03	NEUTRAL - Steel Neutral Electrode 24x16 cm with cable autoclavable	○	○
00401.10	NEUTRAL - Steel Neutral Electrode FLEX 120x210mm	○	○
00401.11	NEUTRAL - Steel Neutral Electrode FLEX 120x210mm with cable	○	○
00401.12	NEUTRAL - Steel Neutral Electrode FLEX 120x210mm with cable autoclavable	○	○
00401.20	NEUTRAL - Steel Neutral Split Electrode FLEX S 120x210mm	○	○
00401.21	NEUTRAL - Steel Neutral Split Electrode FLEX S 120x210mm with cable	○	○
00401.22	NEUTRAL - Steel Neutral Split Electrode FLEX S 120x210mm with cable autoclavable	○	○
00402.00	CONNECTION - Monopolar cable M4-F4 3mt	○	○
00402.01	CONNECTION - Monopolar cable M4-F2.8 3mt	○	○
00402.02	CONNECTION - Monopolar cable M4-MP4 3mt	○	○
00402.03	CONNECTION - Monopolar cable M4-EU 3mt	○	○
00402.04	CONNECTION - Monopolar cable M4-F2.M 3mt	○	○
00404.07	Cable for connection neutral electrode F7915/F7930	○	○
00404.09	CONNECTION - Cable for neutral electrode disposable type 5365/6429/FLEX autocl.	○	○
00411.00	CONNECTION - Bipolar cable EUR	○	○
00413.00	CONNECTION - Bipolar cable 3mt Artery Sealer EUR	○	○
00414.00	CONNECTION - Bipolar cable 3mt US	○	○
00415.00	CONNECTION - Bipolar cable 3mt ENDO1 (F4-F2)	○	○
00416.00	CONNECTION - Bipolar cable 3mt ENDO2 (MP2-F2)	○	○
00417.00	CONNECTION - Bipolar cable 3mt ENDO3 (MP2-F4)	○	○
00418.00	CONNECTION - Bipolar cable 3mt SCISS (F2.4-F2.4)	○	○
00420.00	Reusable handle with finger switch for Argon	○*	○*
00420.12	Argon coagulation electrode 150mm	○*	○*
00420.10	Argon coagulation electrode 75mm	○*	○*
00420.14	Argon coagulation electrode 370mm	○*	○*
00430.00	Connection cable for flexible Argon probes, 2.5mt	○*	○*
00430.10	Monopolar flexible Argon probe 1.5mm, 1.5mt	○*	○*

Code	Description	SURTRON® TOUCH	
		HP 300	HP 400
00430.12	Monopolar flexible Argon probe 1.5mm, 3mt	○*	○*
00430.20	Monopolar flexible Argon probe 2.3mm, 1mt	○*	○*
00430.22	Monopolar flexible Argon probe 2.3mm, 2.2mt	○*	○*
00430.24	Monopolar flexible Argon probe 2.3mm, 3mt	○*	○*
00430.30	Monopolar flexible Argon probe 3.2mm, 2.2mt	○*	○*
0350	Disposable Neutral electrode (F7805)	○	○
10500.30	SURTRON ABC Pressure reducer UNI11144 Gruppo VIII	○*	○*
110-750NS	BIPOLAR - Bipolar Artery Sealer 27cm TIP 3mm	○	○
110-755NS	BIPOLAR - Bipolar Artery Sealer 25,5cm TIP 3mm	○	○
110-760NS	BIPOLAR - Bipolar Artery Sealer 17cm TIP 2mm	○	○
152-112	ELECTRODE - Blade curved electrode 7 cm	○	○
152-122	ELECTRODE - Needle curved electrode 7 cm	○	○
152-125	ELECTRODE - Needle electrode 13 cm	○	○
152-130	ELECTRODE - Ball electrode Ø 2mm 6 cm	○	○
152-132	ELECTRODE - Ball curved electrode Ø 2mm 6 cm	○	○
152-140	ELECTRODE - Ball electrode Ø 3mm 6 cm	○	○
152-142	ELECTRODE - Ball curved electrode Ø 3mm 5 cm	○	○
152-145	ELECTRODE - Ball electrode Ø 3mm 14 cm	○	○
152-152	ELECTRODE - Ball curved electrode Ø 4mm 6 cm	○	○
152-160	ELECTRODE - Ball electrode Ø 5mm 6 cm	○	○
152-162	ELECTRODE - Ball curved electrode Ø 5mm 6 cm	○	○
152-165	ELECTRODE - Ball electrode Ø 5mm 14 cm	○	○
152-175-10	ELECTRODE - Loop electrode 10x10 l.15 cm	○	○
152-190-13	ELECTRODE - Loop electrode 20x13 l.15 cm	○	○
152-190-20	ELECTRODE - Loop electrode 20x20 l.15 cm	○	○
152-195	ELECTRODE - Conization electrode 13 cm	○	○
310-110-05	BIPOLAR - Bipolar Forceps 11,5cm TIP0.5mm	○	○
310-112-05	BIPOLAR - Bipolar Forceps Curved 11,5cm TIP0.5mm	○	○
310-140-10	BIPOLAR - Bipolar Forceps 20cm TIP 1mm	○	○
310-140-20	BIPOLAR - Bipolar Forceps 20cm TIP 2mm	○	○
310-142-10	BIPOLAR - Bipolar Forceps Curved 20cm TIP 1mm	○	○
310-142-20	BIPOLAR - Bipolar Forceps Curved 20cm TIP 2mm	○	○
310-180-10	BIPOLAR - Bipolar Forceps Angled 20cm TIP 1mm	○	○
310-180-20	BIPOLAR - Bipolar Forceps Angled 20cm TIP 2mm	○	○
310-182-10	BIPOLAR - Bipolar Forceps Angled Curved 20cm TIP 1mm	○	○
310-185-10	BIPOLAR - Bipolar Forceps Angled Curved 20cm TIP 1mm	○	○
310-510	BIPOLAR - Bipolar electrode 20cm – direct	○	○
310-550	BIPOLAR - Bipolar electrode 20cm – curved 1	○	○
310-590	BIPOLAR - Bipolar electrode 20cm – curved 2	○	○
330-134-20	MONOPOLAR - Monopolar Forceps 20cm TIP2mm	○	○
330-160	MONOPOLAR - Monopolar Surgical Scissors 18cm	○	○
410-100-15	BIPOLAR – Bipolar Forceps Clamp Scissors 15cm	○	○
410-100-19	BIPOLAR – Bipolar Forceps Clamp Scissors 19cm	○	○
410-200-18	BIPOLAR – Bipolar Forceps Scissors 18cm	○	○
410-200-21	BIPOLAR – Bipolar Forceps Scissors 21cm	○	○
410-200-23	BIPOLAR – Bipolar Forceps Scissors 23cm	○	○
6429A	NEUTRAL - Steel Neutral Electrode 24x16 cm	○	○
F7915	Conductive rubber neutral electrode without cable	○	○
F7930	Conductive rubber split neutral electrode without cable	○	○
TRST001	Trolley for SURTRON TOUCH HP	○	○
TRCYLSUP01	Support for Cylinder	○*	○*

●/ Pcs= STANDARD      ○= OPTIONAL

\* not compatible with versions without integrated Argon module (10400.T802 / 10 - 10400.T902 / 10)

**TWIN OPERATIVE ACTIVITY**

- Two output channels for monopolar and two output channels for bipolar
- CUT DUO and COAG DUO functions, possibility to work simultaneously for two surgeons

**CONTROLLED CUTTING PROCEDURES**

- Enhanced cutting current for eschar free incision
- Cutting current with selectable coagulating property for bleeding controlled dissection
- Accoppiamento a bassa capacità nei processi endoscopici attraverso la corrente BLEND con 6 fattori di modulazione Low capacitive coupling by slow BLEND current with 6 modulation factors for endoscopic procedures
- Cut suitable for ENHANCED adipose tissues with 6 different effects
- Cutting with fluidsTUR

**CONTROLLED COAGULATIVE PROCEDURES**

- FORCED and SOFT coagulation available to two operators
- SPRAY coagulation available by hand switch or foot switch controls
- Integrated Argon Module \*

**WIDE BIPOLAR FEATURES**

- Coagulation and cutting with fluidsTUR
- Separately activable Automatic Start/Stop coagulation
- Vessel Sealing up to 7mm

**SURGEON AND PATIENT TOTAL SAFETY**

- Monitoraggio dell'impedenza di contatto tra il corpo del paziente e la piastra neutra continuamente verificata dal controllo elettronico
- Mains fluctuation automatically compensated before to start the delivery of HF power
- Water-proof and explosion-proof double pedals

**PERSONALIZED PROCEDURES**

- Independent choice of coagulative currents and power levels by each of two operators
- Storing customized programs

**ACCESSORIES CONNECTION**

- Use of standard connectors for accessory connections. Possibility to connect accessories of the most common brands

**AUTOMATIC SELF DIAGNOSIS**

- Automatic diagnostic control of the complete functionality of the electronic unit and of the connected accessories and coded indication of the malfunctions found with visual and / or acoustic alarms

\* not present in versions without integrated Argon module (10400.T802 / 10 - 10400.T902 / 10)

*The characteristics and the technical data can suffer variations without warning, for a continuous amelioration of the product.*