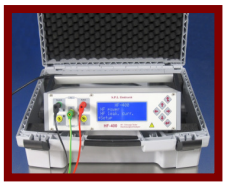
Function Tester **HF-400**

Electrosurgical Analyzer for function tests of HF Surgical Equipment in accordance to IEC 60601-2-2



- ☑ menu guided cursor operation or PC-operation
- ☑ HF - power measurement
- ☑ HF - voltage measurement
- ☑ HF - current measurement
- ☑ HF - leakage current measurement
- ☑ neutral electrode test
- ☑ test load resistances 10 Ohm, 25 – 6375 Ohm in steps of 25 Ohm
- ☑ 6 selectable pre-resistances
- ☑ user specific language setting
- ☑ option - suit case

Test and measurement technic for medicine and industry

TÜVRheinland ZERTIFIZIERT Management System ISO 9001:2015

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Technical Data

Line voltage:	83 - 264 V ac, 50 /60 Hz
Power consumption:	50 VA
Class:	1
Environmental temperature:	+ 5 - + 40°C
Storage temperature:	- 10 - + 50°C
Measuring ranges:	
HF-current RMS:	0 - 5000 mA
HF-current Peak:	0 - 5000 mA
Discrimination:	0,1 mA
HF- output power RMS: (in dependence of RL)	0 - 500 Watt
Crest Faktor: (V2)	1 - 10 (bei > 1000 mA)
HF-leakage current:	0 - 250 mA
Discrimination:	0,1 mA
Neutral electrode test:	0 - 1000 Ohm
Bandwidth	0,3 - 10 MHz
Measuring principle:	thermal electric converter
Load resistors:	10 Ohm 25 Ohm - 6375 Ohm In steps of 25 Ohm
Swing in time:	< 3 sec
Output power:	500 W: 1 min on, 5 min off permanent: max. 200 W at 25°C environmental temperature (50 – 800 Ohm)
Mechanical data:	light way metal case IP20
Dimensions:	340 x 87 x 290 mm (W x H x D)
Weight:	approx. 3,8 kg

Measurement	range	error
HF output power:	0 - 500 W	± 1 W or ± 2,5 % of value
HF leakage current:	0 - 250 mA	± 2 mA ± 5 % of value
HF-current RMS:	0 - 5000 mA	± 2 mA or ± 4 % of value
HF-current Peak:	0 - 5000 mA	± 2 mA or ± 4 % of value
Load resistors:	10 Ohm, 25 - 6375 Ohm	 ± 3 %

Keyboard:	6 key foil keyboard
Display:	4 x 20 char LCD B/W display
Interfaces:	1 x USB for PC interface 1 x RS-232 for PC interface 1 x RS-232 for additional test devices
Testing plugs:	2 x safety plugs 4 mm for HF power 2 x safety plugs 4 mm for HF leakage current 1 x safety plug 4 mm for PE 1 x potential balance
Accessories:	1 x potential balance cable 1 x USB cable
Selectable languages:	german, english, french, polish spanish, italian, portuguese, turkish

Description of functions:

HF-400 serves to test the function of HF Surgical Equipment. In accordance to the instructions of the manufacturer of such surgical devices, the user can measure the HF output power and the HF leakage current given on a load resistor. The load resistor is adjustable to 10 Ohm and from 25 – 6375 Ohm in steps of 25 Ohm. The test parameters for testing can be laid down in a test instruction and can be automatically tested with a PC. This makes it possible to reduce the time for testing. In the use as a multi-functional test device, the measured values will be directly displayed. For example:

HF output power
HF leakage current
HF current, RMS
HF voltage, RMS

HF output power:

During the measurement of power, firstly the software sets the prescribed load resistance to 10 Ohm or from 25 Ohm to 6375 Ohm in 25 Ohm steps. Than the HF output power can be send to the HF-400 and is measured. An automatic range switcher takes care of the optimal control of the RMS-converter. The RMS converter, based on a thermal conversion principle and together with the driver module, is designed for frequencies up to 10 MHz.

HF leakage current:

The high-frequency leakage current is measured through a 200 Ohm load resistor. For this test, the load resistor is adjustable.

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