

IDENTIFICATION

The Vet Tech X-ray unit is available with 3 powers: see the box below

Denomination	200HF	250HF	300 HF
Usual name	Vet Tech 200HF	Vet Tech 250HF	Vet Tech 300HF
Power	12 kW	20 kW	30 kW
Milli Amperes (mA) maximum	200	300	300
mA incremental steps	25	25	25
Kilo Volts (kV) maximum	120	120	120
kV incremental steps	1	1	1
Tube type	CEI OX 125 M5	IAE X 22	IAE X 22
Max mA value at 120kV	100	150	250
Max kV value at mA max	60	60	100
KV / mA values at max power	60KV/200mA	100KV/200mA	100KV/300mA
Max power at 100kV for 0.1s	100KV/100mA (10KW)	100KV/200mA (10KW)	100KV/250mA (25KW)
Smallest mA(s) values	25mA / 16ms	25mA / 16ms	25mA / 16ms

An identification label at the back of the system will provide a formal and precise identification of the unit with the following information :

- Denomination
- Serial number
- Date of manufacturing
- Tube type
- Filament
- Mains supply
- Mains supply line resistance
- Aluminium filtration



- The Symbol means that the Vet-Tech (200, 250 or 300HF) system intentionally applies some radioelectric energy for diagnostic or treatment purposes.

DECLARATION of CE CONFORMITY

The company GeR-International declares under its own responsibility that its radiological system for veterinary applications namely, the Vet-Tech (200, 250 or 300HF) complies to the conditions of the 93/42/CEE directive applicable to electromedical pieces of equipment and particularly to the essential requirements of such directive as described in its ANNEX 1.

The Vet-Tech (200, 250 or 300HF) system is particularly compliant to the essential requirements of the following norms/standards :

- **CEI 60601 Sécurité Electrique – electrical safety**
- **EN 60601-1-2 Compatibilités Electromagnétiques (EMC) Electro Magnetic compatibility**

A more precised list of articles of the articles of these norms/standards to which the Vet-Tech (200, 250 or 300HF) system complies is available in following pages.

The conformity to the requirements of these norms/standards have been checked by the following regulatory body : LNE (Laboratoire National d'Essais -1, rue Gaston Boissier -75724 Paris cedex 15 - France).

A complete technical file comprising the tests that have been performed on the Vet-Tech system, the results to these tests as well as the declaration of CE conformity of the main suppliers of GeR-International can be consulted in our premises upon request.

CEI 60601 Electric safety

The Vet Tech system complies with the essential requirements of the following articles :

- CEI 60601-1-1 article 19 (leaking current).
- CEI 60601-2-32 article 10 (environment), article 16 (protection covers), article 18 (earth protection), article 21 (mechanical resistance).
- CEI 60601-2-7 article 6.1 (external equipment identification), article 6.8 (partially, accompanying documents) article 19 (leaking current), article 20 with the exception of the monobloc (iélectric), article 50.103 (loading parameters precision)
- CEI 60601-2-28 : measure of the focus dimensions according to the CEI 60336 norm and following the method of the slot camera.
- CEI 60601-1-3, article 2.201.2 (half-transmission layers), article 29.203.4 (correspondance between X rays radiation field and image receiving field), article 29.204 (leaking radiation), article 29.207 (field protection barrier).

- This X ray unit is classified under Class 1, B type.
- Equivalent filtration: 2.5mm of aluminium under 75kV
- Used parameters for the control of the radiation test: 120kV – 10 mAs at 1 metre.

EN 60601-1-2 Electromagnetic Compatibility (EMC)

The Vet-Tech system complies to the requirements of the electro-magnetic compatibility (EMC) when used with the following cables :

- Mains electrical supply cord : 1,3m (visible part)
- Footswitch cord : 2,6m (visible part)

The use of accessories, of captors and cables other than those that are specified, with the exception of captors and cables supplied by GeR-International as spare parts of internal components can generate an increase of emission levels or a decrease of the immunity level of the system.

The Vet-Tech system must not be used immediately next to or stacked with other pieces of equipment. In case such use is necessary, the proper functioning of the equipment with such configuration must be performed.


Guide and declaration of the maker – electromagnetic emissions		
The VET-Tech (200, 250 or 300HF) is designed to be used in the specified electromagnetic environment herebelow. The operator must ensure that the unit is used in this specific environment.		
Emission trials	Conformity	Electromagnetic Environment - Guide
RF emissions CISPR 11	Group 2	The VET-Tech does emit electromagnetic energy during its use. Neighbouring electronic peices of equipment may be affected by those emissions.
RF emissions CISPR 11	Classe A	The VET-Tech may be used in all household type premises, including those directly connected to public networks of low tension energy commodity supplied to household premises.
Harmonic emissions EN 61000-3-2	Classe A	
Voltage variations / Flicker EN 61000-3-3	Applicable	
RF emissions CISPR 14-1	Conforme	The VET-Tech is not designed to be connecetd with another piece of equipment.

Attention : The VET-Tech (200, 250 or 300HF) is designed to be used by health professionals only. The VET-Tech (200, 250 or 300HF) may cause radio interferences or may impact the fonctionning of a nearby piece of equipment. It may be required to take measures as of to reduce those interferences like re-orientate or move away The Vet-tech (200, 250 or 300HF) or shield the whole room from those interferences.

Guide and declaration of the maker – electromagnetic immunity			
The VET-Tech (200, 250 or 300HF) is designed to be used in the specified electromagnetic environment herebelow. The operator must ensure that the unit is used in this specific environment.			
Immunity trials	CEI 60601 Severity level	Level of conformity	Electromagnetic Environnement - Guide
Electrostatic discharges EN 61000-4-2	± 6 kV on contact ± 8 kV in air	± 6 kV on contact ± 8 kV in air	The floor must be made of wood, of concrete or ceramics. In case the floor is covered by a synthetic material, the relative humidity must be at least 30%.
Fast transitory in salves EN 61000-4-4	± 2 kV for electric feeding cords. ± 1 kV for input / output cords.	± 2 kV for electric feeding cords. ± 1 kV for input / output cords.	The quality of the mains electrical feeding line must be of a commercial or hospital type.
Voltage shocks EN 61000-4-5	Differential mode ± 1 kV Common mode ± 2 kV	Differential mode ± 1 kV Common mode ± 2 kV	The quality of the mains electrical feeding line must be of a commercial or hospital type.
Shortages, brief shut down and voltage supply variation. EN 61000-4-11	<ul style="list-style-type: none"> • <5% U_T - during 10 ms • 40% U_T - during 100 ms • 70% U_T - during 500 ms • <5% U_T - during 5 s 	<ul style="list-style-type: none"> • <5% U_T - during 10 ms • 40% U_T - during 100 ms • 70% U_T - during 500 ms • <5% U_T - during 5 s 	The quality of the mains electrical feeding line must be of a commercial or hospital type. In case the use of the VET-Tech (200, 250 or 300HF) commands that it should continue functioning during electrical supply shortage, it is recommended that the Vet-Tech(200, 250 or 300HF) be feeded by an inverter or by batteries.
<i>Nota : U_T is the nominal value of the mains electrical supply applied during the test.</i>			

Guide and declaration of the maker – electromagnetic immunity

The VET-Tech (200, 250 or 300HF) is designed to be used in the specified electromagnetic environment herebelow. The operator must ensure that the unit is used in this specific environment.

Immunity trial	CEI 60601 Severity level	Level of conformity	Electromagnetic Environnement - Guide
RF conducted EN 61000-4-6 RF ray emissions EN 61000-4-3	3 Vrms 150 kHz at 80 MHz 3 V/m 80 MHz at 2,5 GHz	3 V 3 V/m	Portable or mobile RF communication pieces of equipment must not be used at a distance from the Vet-Tech unit including its cables shorter than the recommended separation distance, distance computed according to formulaes that take into consideration the frequency of the emettor as follows: Recommeded Separation Distance $d = 1,167\sqrt{P}$ $d = 1,167\sqrt{P}$ 80 MHz à 800 MHz $d = 2,333\sqrt{P}$ 800 MHz à 2,5 GHz where P is the maximal output power of the emettor in watt (W) as specified by the maker of the emettor and where d is the recommended separation distance in metres (m). The emission field levels of stationary RF emettors, determined by a site electro magnetic inspection ² , must be below the level of conformity in every frequency band ^b . Equipment may malfunction if and when used close to units labelled with the following symbol : 

Nota 1 At 80 MHz and at 800 MHz, the superior frequency band applies.

Note 2 These recommendations may not apply to every situation. Electromagnetic wave propagation is modified by the absorption and reflexion properties of premises, objects and persons.

a The emission field levels of the stationary emettors such as docking stations of radio-telephones (cellular / cordless) and terrestrial mobile radio stations, AM, FM and TV radio communication systems cannot be theoretically estimated with precision. In order to obtain the electromagnetic environmental level generated by the emettors, a site inspection must be performed. In case the recorded measure of the electromagnetic field level within the environment of the Vet-Tech (200, 250 or 300HF) unit exceeds the recommended levels of conformity as above, the proper fonctionning of the Vet-Tech (200, 250 or 300HF) must be checked. In case the Vet-Tech (200, 250 or 300HF) does not function correctly, additional measures must be made, such as the re-orientation or the re-location of the unit.

b Above the 150 kHz - 80 MHz ferquency band, the field level must be below 3V/m.

Recommended Separation Distance between portable / mobile RF communication equipments and the VET-Tech (200, 250 or 300HF)

The VET-Tech (200, 250 or 300HF) is designed to be used in an electromagnetic environment in which the RF radiations are under control. The user/operator of the VET-Tech (200, 250 or 300HF) can help prevent electromagnetic interferences by maintaining a minimal distance between RF portable / mobile communication equipments (emitters) and the VET-Tech (200, 250 or 300HF) as recommended here below, within a distance that depends on the maximal output power of the communication piece of equipment.

Maximal output power of the emitter. W	Separation Distance, function of the emitter frequency m		
	150 kHz to 80 MHz	80 MHz to 800 MHz	800 MHz to 2,5 GHz
	$d = 1,167\sqrt{P}$	$d = 1,167\sqrt{P}$	$d = 2,333\sqrt{P}$
0,01	0,1167	0,1167	0,233
0,1	0,369	0,369	0,738
1	1,167	1,167	2,333
10	3,690	3,690	7,378
100	11,667	11,667	23,33

For emitters which maximal power output is not listed above, the recommended distance of separation d in metres (m) can be determined by using the equation applicable to the emitters' frequency, where P is the maximal power output of the emitter in watts (W) as specified by the maker of the emitter.

Note 1 At 80 MHz and at 800 MHz, the separation distance to be applied is the one recommended in the superior frequency band.

Note 2 These recommendations may not apply to every situation. Electromagnetic wave propagation is modified by the absorption and reflexion properties of premises, objects and persons.