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Yearly control procedure for TC3000 - VeinXpert

Revision – Revisie

Indice Index	Date - Datum	Nature de la modification - Aard van de wijziging
00	29/09/2015	Creation

Diffusion – Verspreiding

Destinataire Ontvangen	Type de diffusion Verspreidingssoort	Fonction/Nom Functie/Naam	Quantité Hoeveelheid
Fabrication <i>Fabricatie</i>	Diffusion contrôlée <i>gecontroleerde verspreiding</i>	Direction BE	1

Validation – Validatie

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00	Steven MERTENS	Rudi DEVERS	Bruno DE LAET

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1 Visual inspection of the outer casing

- **TC3000 Casing**

Check if the machine casing is intact and if shows no dents or holes.

- **Infrared eye visible from the outside**

Check if you can see the infrared receiver through the hole.



2 Checking of the mechanical fixations

- **Bolts**

Check if all the bolts on the bottom of the machine are still firmly screwed on.

- **Control of the pedal connector**

Check if the pedal connector is firmly fastened.

- **Control of the input filter**

Check if the input filter is firmly fixated and that it cannot be pulled out together with the power cord.

3 Check the accessories

- **Check the foot switch**

Check if the foot switch works with the machine. This can be done by connecting the pedal to the machine and activating the output.

- **Check the output cables**

Use a multi-meter to check the continuity of the cable. The total resistance should be less than 10 Ohm.

- **Check the remote control**

Check if the remote control works with the machine. Test the remote control by navigating through the different menu's and change the power and impulsion setting.

- **Check the pen holder**

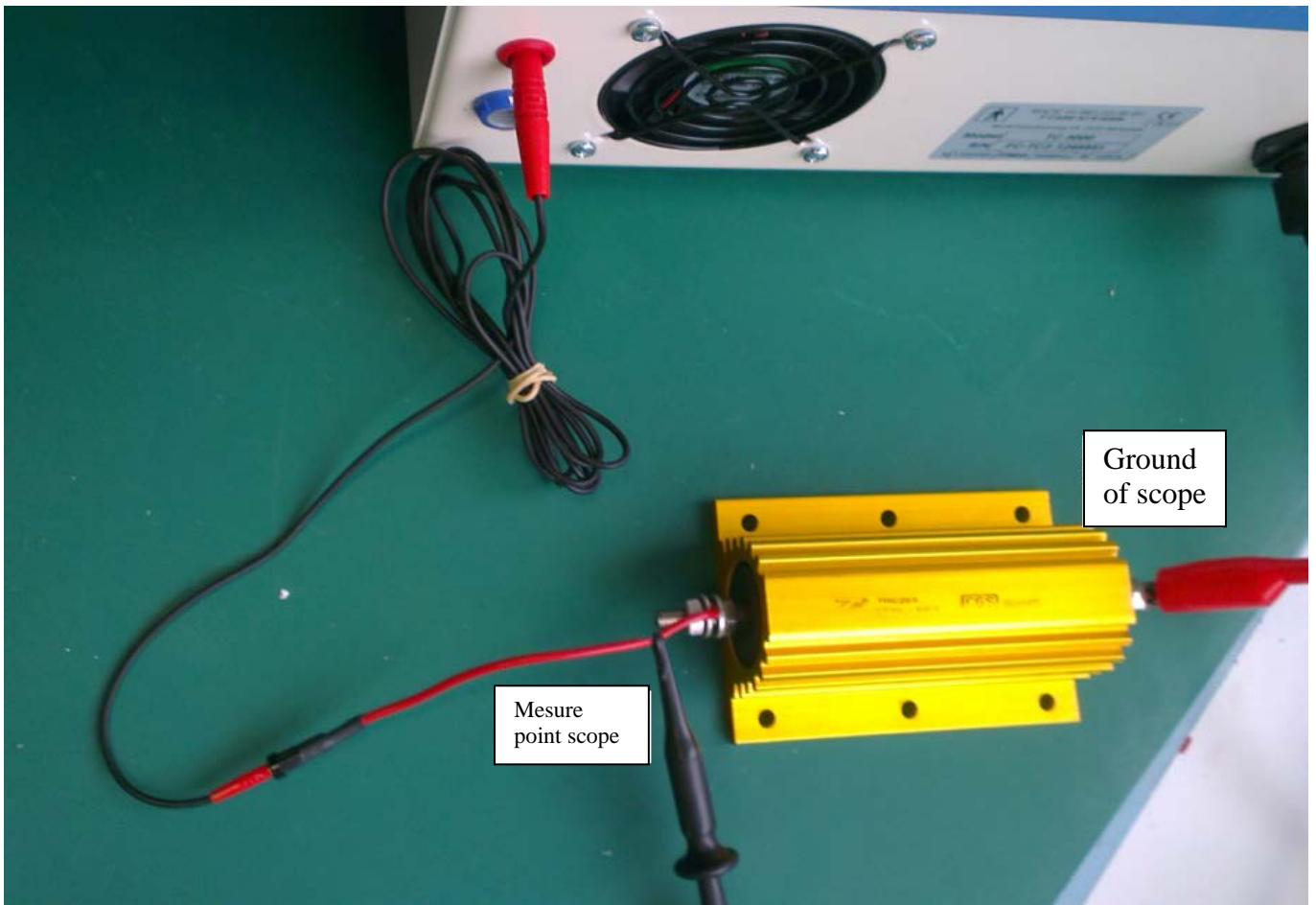
Check the continuity of the needle pen holder with a multi-meter.

4 Control the output power

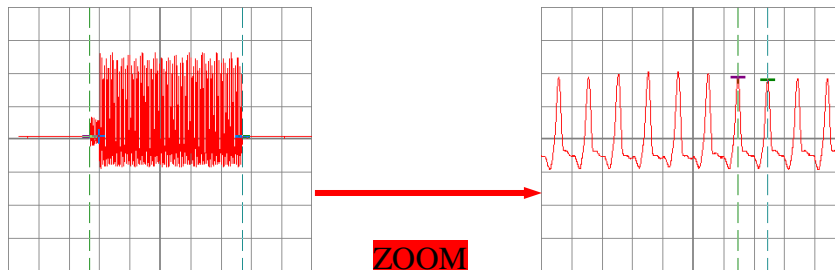
- **Control of output power**

☞ - Connect a measurement resistor (470Ω / 25W) on the output.

☞ - Connect the oscilloscope to it.



☞ - Adjust the oscilloscope in order to see the wave correctly.



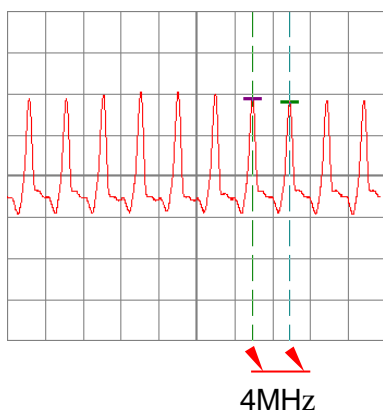
Measure the peak to peak values:

	Minimum	Current	Maximum
Power 25%	150 V pp.		230 V pp.
Power 50%	360 V pp.		450 V pp.
Power 65%	470 V pp.		580 V pp.
Power 80%	530 V pp.		660 V pp.

Check if the current values are correct

- **Control the frequency**

Use the same method as above to measure the frequency. The frequency should be 4MHz.

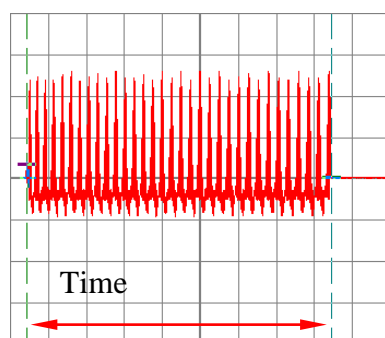


	Minimum (MHz)	Measured	Maximum (MHz)
f = 4MHz	3,5		4,4

- **Check the pulse width**

Change the pulse width of the output signal on the EVRF and measure the high time of the output.

Check the values :0,8s, 0,4s 0.1s (+/- 0.05ms)



	Measured
t = 0,1s	
t = 0,4s	
t = 0,8s	

5 Check the earth continuity

Check the earth continuity off all metal parts with the ground pin of the power cord on the back of the machine with a multi-meter.

6 Leakage current

Check the leakage currents with an appropriate tester.

- Connect the AP/R – AP/RA with the TC3000 output, the output is a type BF connection.
- Connect the ground of the Fluke with a metallic part of the TC3000

All leakage currents should be below maximum limitations of a class I electrical device.

7 Result

If all tests were passed successful then the machine can be used safely. In case of problems contact F Care Systems to discuss the test results.