

Mobile Filter Pack, Model 37946

Information in this article applies to

Model 35080A, 35080B, and 37946 Mobile Filter Pack.

Summary

Mobile Filter pack is required to properly follow waveform on generators with high ripple content.

Introduction

The Mobile Filter Pack, Model 37946, is a specialized filter pack that operates with the Model 35080A Non-invasive kVp Divider to measure kV on mid-to-high-frequency generators (≥ 1 kHz) with substantial kV ripple ($\geq 8\%$). The Mobile Filter Pack and Non-invasive kVp Divider provide an easier and more accurate non-invasive method for measuring kV on mid-to-high-frequency, high ripple generators than other dividers.

Procedure

1. Use this filter pack only when both of the following conditions exist simultaneously:
 - The ripple *must be greater* than 8% of the kVp.
 - The ripple frequency *must be greater* than 1 kHz.
Note: *Ripple frequency is usually twice the inverter frequency.*If either of these conditions is not present, use the wide range filter pack (50 to 150k).
2. The Model 35080A Non-invasive kVp Divider **must be used as close as possible to the x-ray tube collimator**, approximately one-inch from the collimator.
3. The Model 350580A Non-invasive kVp Divider must be used perpendicular to the tube axis.
4. If the GE AMX portable x-ray generator was initially calibrated with an invasive divider tank, you will find that, when the invasive divider tank is removed from the AMX portable, the kVp increases by about 5 to 7 kVp. The Non-invasive kVp Divider, Model 35080A, with the Mobile Filter Pack will read this higher kVp, because it is the true kVp at that time. (**Note:** *If the invasive divider tank is left in the circuit, the Model 35080A will match the divider tank, because it is the true kVp at that time.*) Because the AMX portable is clinically used without an invasive tank in the circuit, care must be used when calibrating GE AMX portables. This additional cable filtration effect on kVp may be applicable to other generators. The user can determine this by monitoring the kVp with the Model 35080A when the invasive divider tank is in the circuit and when it is removed. If the kVp changes, the user should make the appropriate adjustments.
5. If the collimator on a GE AMX4 is a Rev. H or later, 2 kVp must be subtracted from measurements made at the 50 or 52 kVp settings. No correction is made at any other kVp.
6. For generators other than the AMX-4, observe filtration and frequency corrections (see pages 37-40 of the Model 35080A Non-invasive kVp Divider manual).
7. If you are reading the kV divider on an oscilloscope, apply linearity corrections per page 39 of the Model 35080A Non-invasive kVp Divider manual. If you are reading the kV divider from a Model 35050A Dosimeter, the linearity corrections will be automatically calculated by the dosimeter.

Technical assistance

For technical assistance, please contact Fluke Biomedical, 6045 Cochran Road, Cleveland OH 44139, USA, tel 440.248.9300, fax 440.349.2307, email rmsinfo@flukebiomedical.com, or internet www.flukebiomedical.com/rms.