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Operating instructions



Fig. 1: XR 4.0 X-ray Blood vessel model for contrast fluid 09058-06

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1 SAEFTY PRECAUTIONS



Caution!

- Carefully read these operating instructions completely before operating this instrument. This is necessary to avoid damage to it, as well as for user-safety.
- Check that your mains supply voltage corresponds to that given on the type plate fixed to the instrument.
- Only use the instrument in dry rooms in which there is no risk of explosion.
- Do not start up this instrument in case of visible signs of damage to it or to the line cord.
- Only use the instrument for the purpose for which it was designed.

2 PURPOSE AND CHARACTERISTICS

This model (see Fig. 1) serves, together with XR 4.0 expert unit 09057-99, for the demonstrative observation of the mode of action of a contrast medium. It holds inside, hidden from sight, a model blood vessel into which a liquid contrast medium can be injected. On subsequently exposing the model to a bundle of X-rays, the course taken by the medium can be observed on the fluorescent screen.

The model is fitted with magnetic standing strips and fixed connection tubes. It is supplied complete with a safety trough, for holding it during experiments, two tube stoppers and two 20 ml plastic syringes.

3 HANDLING

A 50% potassium iodide solution is to be used as injection liquid. Prepare this by dissolving 50 g of potassium iodide in 100 ml of water.

With the goniometer removed, first place the blood vessel in the small safety trough provided, then position the trough directly in front of the fluorescent screen in the experimenting area. Lead the connecting tubes, closed with stoppers, through the working channel to the outside. Fill one of the two syringes with contrast medium, then connect the two syringes to the ends of the tubes, with the filled syringe connected to the lower inlet of the model. Operate the X-ray tube with maximum operating values. No diaphragm tube is to be used, as the model is to be completely irradiated by a bundle of X-rays. Darken the room so that the course of the contrast medium can be observed on the fluorescent screen. Now carefully, and with feeling, press the contrast medium out of the filled syringe into the blood vessel model.

The contrast medium must be removed from the model before the model is taken out of the experimenting area. To do this, remove only the syringe which was fitted on empty from the end of the one connecting tube, then lead the end of this tube into the storage container. Press the liquid out of the filled syringe. Subsequent to this, be sure to re-plug the free tube ends with stoppers! After dismantling, rinse the model, connecting tubes and syringes several times with water. The model is also to be emptied of water as far as possible.

Caution! Take great care to ensure that no liquid can run out and into the experimenting area. Also carefully check that the connecting tubes are always securely closed with stoppers before the tubes are drawn through the working channel.

4 LIST OF EQUIPMENT

XR 4.0 expert unit	09057-99
XR4 X-ray Plug-in Cu tube	09057-51
Blood vessel model for contrast fluid	09058-06
Potassium iodide, 50 g	30104-05
Glass beaker, short, 250 ml	36013-00
Reagent bottle, brown, 250 ml	46204-00
Glass rod, l = 200 mm, d = 6 mm	40485-04

5 TECHNICAL DATA

- Magnetic base
- incl. safety tray
- Plate area (11.5 x 14) cm
- Length of tubes 70 cm
- Incl. two 20 ml syringes
- Weight 0.3 kg

6 WARRANTY

We give a warranty of 24 months for units that we have supplied inside the EU, and a warranty of 12 months outside the EU. The following is excluded from the warranty: damage that is due to non-compliance with the operating instructions, improper use or natural wear.

The manufacturer can only be held liable for the function and safety-relevant properties of the unit if the maintenance, service and modifications of the unit are performed by the manufacturer or by an institution that is expressly authorised by the manufacturer.

7 WASTE DISPOSAL

The packaging mainly consists of environmentally-friendly materials that should be returned to the local recycling stations.



Do not dispose of this product with normal household waste. If this unit needs to be disposed of, please return it to the address that is stated below for proper disposal.

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