THERANOJET®ARA

INJECTION PUMP SHIELD FOR THERANOSTIC PRODUCTS

^{177}Lu ^{161}Tb ^{223}Ra ^{225}Ac ^{212}Pb ^{211}At

RPT

PATENTED

A COLLABORATION
LEMER PAX
&
Hôpital Beaujon AP-HP
ASSISTANCE PUBLIQUE HÔPITAUX DE PARIS

Developed in collaboration with the parisian Beaujon AP-HP (Assistance Publique - Hôpitaux de Paris) Hospital, the Theranojet® ARA is a **injection pump shield** designed for the radiation protected intravenous administration of radiopharmaceutical drugs for **RadioPharmaceutical Therapy (RPT)** labelled in particular with **^{177}Lu.**

Lightweight, mobile and versatile, the pump injection shield Theranojet® ARA allows to safely load radiopharmaceuticals, using a removable shielded container, facilitating transport and connection to the vial within the preparation hot cell.

In order to guaranteeing medical staff complete safety during administration, and to prevent any risk of injection in case of extravasation or injection of air bubbles, the Theranojet®ARA is equipped with a two way infusion pump pompe with a high pressure and air bubbles detector.

This **lightweight** unit with 4 double castors, is **easy to handle and move around**. Its two side handles allows it to be **moved effortlessly** to carry patient doses to the injection cubicles.

It is made entirely of stainless steel, and includes a removable containment tray, allowing for simple and quick microbiological radioactive decontamination, when required, without altering the injection shield components.

INTEGRATED EQUIPMENTS

- Injection pump
- Patient injection kit
- Shielded vial shield
- Shielded installation system of vial shield connection
- Removal tongs of vial shield connection
- Shielded cover for decay

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FOCUS

Bag holders [1] are designed to received solute bags and facilitate dose dilution as well as tube rinsing.

The support [2] and its shielded vial shield [3] enable the vial to be turned over, ensuring that all the content is fully administered. This system, secured by a sterile and needle-less transfer device, reduces the risk of contamination and needle-stick injuries by facilitating the set up and the decay of the vial at the end of the injection unlike the use of needles which requires risky handling.

The removable containment tray [4] makes it possible to contain the radiopharmaceutical in the event of a possible connection problem. Since the tray is smooth and can be removed, this makes microbiological and radioactive decontamination easier.

The two way pump [5] with its adjustable screen, ensures that the drug is injected in a configurable, secure way and also allows the complete rinsing of the vial. Rinsing also makes it possible to inject the entire radiopharmaceutical dose, recovering all the residual activity and transferring it to the patient. It self-manages the detection of occlusions and air bubbles. The two channels of the pump enable the progressive injection of the radiopharmaceutical with optimal operator radiation protection while improving the patient comfort. The use of the two-way pump also enables the product volume concentration check by controlling the injection rate.

The side handles [6] make it easy to guide the device. It has a large gripping area that can be adjusted to the height of the healthcare personnel.

The 4 castor wheels [7] make it easy to move the device. It is possible to lock the wheels to ensure that the device cannot be moved.

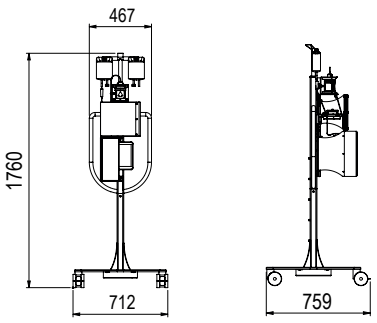
The upper protection [8] protects the user during the injection. The transparency of shielded organic glass makes the tubing and the retention area visible throughout the operation. It allows the operator to safely access to the pump for rinsing the connection to the vial.

The low protection [9] made of lead protects the user during the injection.

CHARACTERISTICS

General	
External dimensions (with serum rod): L 712 x D 759 x H 1 760 mm	
Shielding thickness: - Transparent organic screen: 0.5 mm lead eq. - Lower housing made of lead: eq. 2mm	
Component parts: - Dual-pouch serum rod - Rotating vial shield support with safety features - Mobile frame - Protective screen (Shielded organic screen dim.: L 220 x H 170 mm) - Lead protective housing - Document holder - 2 castor wheels and 2 castor wheels with brakes - Injection kit support	
Material: 304L stainless steel frame and serum rod	
Weight: 86 kg	
Radiation protection	
Maximum radioactivity that can be handled to obtain a dose rate less than 100µSv/h at 5 cm from the walls*	
Radionuclides	**Activity**
^{177}Lu	7400 MBq
Integrated equipments	
Injection pump	
Patient injection kit (ref. 00055414)	
Shielded vial shield (ref. 00050036): - Shielding thickness: 16 mm lead glass and 7 mm of lead - Vial volume: 30 mL - Weight with its cap: 3.1 kg	
Shielded installation system of vial shield connection (ref. 00051943)	
Removal tongs of vial shield connection (ref. 00055988)	
Shielded cover for decay (ref. 00054547)	
Options	
Shielded container for vial shield transportation	
Package	
Package dim.: L 1250 x D 800 x H 650 mm	
Package weight: 200 kg	
Ref. : 00051923	

EFFECTIVE DIMENSIONS (mm)



* Regulations in ASN Guide No.°32 "In vivo nuclear medicine facilities: minimum technical rules for design, operation and maintenance"