

Safe and easy manipulation with radiopharmaceuticals



Radiation protection equipment
for nuclear medicine and radiopharmacy

www.lynax.cz

A family-owned Czech company

Developing, manufacturing and supplying equipment for the safe handling of radiopharmaceuticals.

The history of Lynax reaches back to the 1990s, when its founder, Ing. Petr Králík, CSc., led the construction project of the first PET centre in the Czech Republic at Na Homolce Hospital, opened in 1999 with its own cyclotron and FDG production laboratories. Alongside his management of the project, the company supplied the shielding enclosure of the cyclotron vault, the hot cells and other shielding equipment.

This project laid the foundation for the company's focus: safe and easy handling of radiopharmaceuticals, protection of staff in nuclear medicine departments and safe transport of PET radiopharmaceuticals.

Since 2010, when Jiří Králík, the founder's son, joined the company, the emphasis has shifted towards automated systems with dedicated software for the preparation and administration of PET and therapeutic radiopharmaceutical doses.

Feedback from users is our most important source of information. We value our long-term cooperation with the PET Centre at Na Homolce Hospital and with the Department of Nuclear Medicine of the General University Hospital in Prague, which helps us respond to the rapidly evolving needs of the field.

WHAT WE OFFER

- Automatic and manual dispensing units for PET, SPECT and therapy
- Administering Unit Lyza and manual administering stands
- Syringe and vial shields, transport containers
- Quality control of radiochemical purity
- Mobile workstations, shielded laminar flow workbenches and waste containers
- Custom-designed shielding, technical support and training



Ing. Petr Králík, CSc., founder (left), and Jiří Králík, Managing Director

Application of ALARA principles

Each operational procedure is designed as a system of sequential, simple handling steps. Direct hand contact with radioactive vials and syringes is significantly minimised, thereby keeping staff radiation exposure at the lowest reasonably achievable level.

The system is based on the patented principle of dispensing from a vial in a slanted position and on shielding the radiation source as closely as possible – which also keeps the device's weight and cost low.

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CUSTOM SOLUTIONS AND SUPPORT



Custom-designed shielding

Complete services from design and production to installation of radiation protection arrangements – standard materials and custom-designed assemblies: lead bricks and castings, tungsten parts, lead glass, and plastics or acrylic glass for beta emitters.

Technical support

Consultation on radiation protection at an early stage of project design – layout of the lab, workflow of radiopharmaceuticals, shielding calculations and selection of equipment.

Lectures and presentations

Lectures, product presentations and practical training for nuclear medicine staff, radiopharmacists and radiation protection officers.



Automatic Dispensing Unit

CE-MARKED MEDICAL DEVICE

PT317R7

Safe and easy individual dose preparation.

Prepare an individual dose in just a few clicks. The built-in measuring system measures the activity in the syringe directly during dose preparation and displays it on the control PC screen; the activity remaining in the mother vial is calculated and displayed in the same way.

PET doses can be prepared in 3, 5 and 10 ml syringes.



01 PET AND THERAPY

Safe and easy personalised dose preparation – from the transport of the vial to the administration of the dose and waste handling.

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< 1 min
dose ready

±3 %
dose accuracy

68 mm Pb
vial shielding equivalent

3 min
max. set-up for the first dose

ADVANTAGES

- Highly cost effective
- Combination of W and Pb shielding materials
- Vial in a slanted position – no waste of radiopharmaceutical (patented solution)
- Only standard consumables, no special disposable kits
- Quick and easy waste handling – only two needles and a vial
- Automatic daily QC with built-in check source

TECHNICAL SPECIFICATIONS

Dose range	35–1 800 MBq
Max. activity in the vial	20 GBq
Max. vial volume	25 ml
Radiopharmaceuticals	all PET

DIMENSIONS

Height	450 mm
Width	380 mm
Depth	299 mm
Weight	84 kg

Full specifications: datasheet PT317R7

Automatic Dispensing Unit Twin Tracer

CE-MARKED MEDICAL DEVICE

PT459R5



Prepares doses of all PET radiopharmaceuticals as well as ¹⁷⁷Lu and ¹³¹I.

Two vial positions enable doses of two different radiopharmaceuticals to be prepared one after another. The built-in measuring system measures the activity in the syringe directly during dose preparation; the activity remaining in the mother vial is calculated and displayed in the same way.

PET doses in 3, 5 and 10 ml syringes; ¹⁷⁷Lu doses in 3, 5, 10, 20 and 30 ml syringes.

< 1 min	±3 %	68 mm Pb	2
dose ready	dose accuracy	vial shielding equivalent	shielded vial positions

ADVANTAGES

- Individual dose prepared in just a few clicks
- Vial in a slanted position – no waste of radiopharmaceutical (patented solution)
- Only standard consumables, no special disposable kits
- Quick and easy waste handling – only two needles and a vial
- Automatic daily QC with built-in check source
- Minimum set-up time for the first dose (max. 3 min)

TECHNICAL SPECIFICATIONS

Dose range (PET)	35–1 800 MBq
Max. activity in the vial (PET)	20 GBq
Max. vial volume	25 ml
Radiopharmaceuticals	all PET, ¹⁷⁷ Lu, ¹³¹ I

DIMENSIONS

Height	455 mm
Width	620 mm
Depth	375 mm
Weight	127 kg

Full specifications: datasheet PT459R5



Syringe shields for PET

Tungsten syringe shields for PET radiopharmaceuticals, suitable for use with the Automatic Dispensing Units PT317R7 and PT459R5 and the Administering Unit Lyza PT353R9.

Syringe	2/3 ml	5 ml	10 ml	20 ml	30 ml
B. Braun	PT359R5	PT358R6	PT634R2	PT679R0	PT680R0
Chirana	PT661R0	PT358R6	PT634R3	PT679R2	PT680R1
BD Plastic	PT541R0	PT540R1	PT684R0	PT679R1	on request
Terumo	PT359R8	PT358R8	PT634R2	on request	on request

Syringe shields for ¹⁷⁷Lu

Syringe shields combining plexiglass and tungsten for therapeutic doses of ¹⁷⁷Lu, suitable for use with the Automatic Dispensing Unit Twin Tracer PT459R5 and the Administering Unit Lyza PT353R9.



Syringe	2/3 ml	5 ml	10 ml	20 ml	30 ml
B. Braun	PT664R0	PT665R0	PT653R0	PT671R3	PT672R2
Chirana	PT662R0	PT665R0	PT653R1	PT671R0	PT672R3
BD Plastic	PT674R0	PT658R0	PT670R0	PT671R0	on request
Terumo	PT664R1	PT665R0	PT653R0	on request	on request

Shields for other syringe types are available on request.



Packaging set Type A

PT314R2

Safe transport and storage of radiopharmaceuticals without taking the vial out of its tungsten shield. The inner part is the container PT318, which also fits the dispensing units. The case has a strap and a lock that can be sealed, and carries the prescribed labelling.

H × W × D	360 × 300 × 300 mm
Weight incl. PT318	17.4 kg



Tungsten vial container

PT318

Portable tungsten shield for safe and simple handling of a vial with a radioactive solution. It fits the Automatic Dispensing Units PT317R7 and PT459R5 and forms the inner part of the Type A packaging set PT314R2 – the vial does not have to be handled unshielded. Three types for different vial sizes.

Type	Max. vial Ø	Max. vial height	Shielding	Weight
PT318R2	27 mm	60 mm	27.7 mm W	10.0 kg
PT318R4	31.4 mm	64.6 mm	25.5 mm W	9.7 kg
PT318R6	36 mm	72 mm	21 mm W + 2.5 mm plastic	8.8 kg

Shielding screen

PT205

Shields the operator when working with radioactive materials. Work is carried out on a shielded work plate behind a shielding wall and observed through a lead-glass window inclined at 45°.



Type	Shielding	H × W × D	Lead-glass window	Weight
PT205	10 mm Pb	562 × 450 × 520 mm	320 × 320 mm, 10 mm Pb eq.	63.5 kg
PT205	5 / 10 / 20 mm Pb	530 × 300 × 350 mm	300 × 350 mm, 5–20 mm Pb eq.	on request

Parameters can be modified on customer request.



Stand for connecting a needle or a stopper

PT514

Safe and simple connecting and disconnecting of a needle or a stopper to and from a syringe with a radioactive dose, for example before the syringe is placed into the Administering Unit Lyza PT353R9.

Variant	Max. diameter	Height	Weight
PT514R1 – for a needle	50 mm	82 mm	0.50 kg
PT514R2 – for a stopper	50 mm	55 mm	0.39 kg



Portable syringe shield

PT450

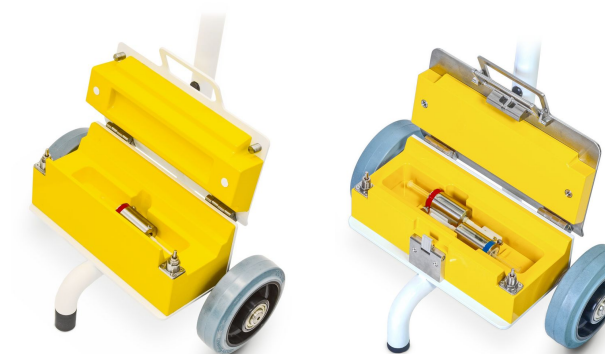
Portable secondary shielding for a syringe with a patient dose placed in its primary syringe shield; also for short-term storage. An additional 22 mm lead plate on the handle reduces the dose to the fingers.

Shielding around / downwards	20 / 12 mm Pb
Outer diameter × height	82 × 197 mm
Weight	3.65 kg

PETomobil

PT151

Safe and simple transport of a radiopharmaceutical dose to the patient. The syringe in its tungsten shield is inserted into a lead container with up to 40 mm Pb, for one or two syringes; the lid stays open or closed under its own weight.



PT151R12

PT151R13

Variant	Syringes	Shielding	H × W × D	Weight
PT151R12	1	40 mm Pb	1 090 × 435 × 277 mm	58 kg
PT151R13	2	20–40 mm Pb	1 090 × 454 × 295 mm	40 kg



Mobile table with shielded waste container

PT275

For carrying primary shields, holding administering equipment or simply placing other medical materials. Equipped with a 20 mm Pb waste container and a shielding screen, it can be moved right up to the patient, with its top positioned over the bed.

Container shielding	20 mm Pb
W × L	630 × 900 mm
Load capacity	65 kg

Administering Unit Lyza

PT353R9



Automated administration without handling the active syringe.

Computer-controlled, automated administration of a pre-prepared dose from a syringe, followed by an automatic saline flush. The syringe stays in its shield when located in the device; the operator controls the whole process from the control computer at a distance.

Only standard, commonly available consumables are used.

0.01–6.94 ml/s
adjustable flow rate

20 mm Pb
shielding plate

3 h
min. battery operation

3–30 ml
syringe sizes

ADVANTAGES

- No manual handling of the active syringe during administration
- Automatic flush of the active syringe and the connected tubing
- Delayed start – time to step away
- Manual control wheels – administration can always be completed
- Emergency STOP button on the device
- Standard consumables only – no special disposable kits

TECHNICAL SPECIFICATIONS

Syringes (Luer-Lock)	3, 5, 10, 20, 30 ml
Saline syringe	20 ml
Deviation from set flow rate	max. ±10 %
Battery	Li-Ion 14.4 V DC / 9.3 Ah

DIMENSIONS

Height	275 mm
Width	246 mm
Depth	261 mm
Weight	18 kg

Compatible PET and ¹⁷⁷Lu syringe shields – see page 7.

Full specifications: datasheet PT353R9

Mobile Table VILY

MOBILE LAMINAR FLOW WORKSTATION

PT565



Clean-air environment for dose preparation wherever you need it.

A mobile workstation with a stable base for Lynax dispensing units and all accessories needed for individual dose preparation. A laminar flow module with an H14 HEPA filter provides clean air in the working area.

With the computer mounted at the top, the table is only 750 mm wide and passes through standard doors.

H14
HEPA filter

10 mm Pb eq.
movable lead glass

20 mm Pb
waste container shielding

750 mm
width

ADVANTAGES

- Designed for all types of Lynax dispensing units
- Working area illuminated by LED light
- Syringe shield holders for safe transport
- Two of the four wheels lockable
- All components except the computer powered by the internal battery
- Easy cleaning – stainless steel and powder coating

TECHNICAL SPECIFICATIONS

HEPA filter	H14
Lead glass	10 mm Pb eq.
Waste container	0.8 l, 20 mm Pb
Automatic waste lid	on request

DIMENSIONS

Height	1 530 mm
Width	750 mm
Depth	680 mm
Weight (without dispensing unit)	110 kg

Full specifications: datasheet PT565



Manual Dispensing Unit

CE-MARKED MEDICAL DEVICE

PT468R4

Completely eliminates hand contact with the syringe during activity preparation.

The built-in measuring system measures the activity in the syringe directly during dose preparation and displays it on the PC screen; the activity remaining in the mother vial is calculated and displayed in the same way.

The position of the syringe piston is controlled mechanically (manually).



02 SPECT

Labelling of radiopharmaceuticals with ^{99m}Tc – vertical and horizontal system for safe single-dose manipulation, transport and administration.

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15 GBq

max. dose (^{99m}Tc), from 25 MBq

±3 %

accuracy (^{99m}Tc)

80–400 keV

other gamma emitters

3–10 ml

syringe sizes

ADVANTAGES

- Intuitive and user-friendly software
- Activity remaining in the vial displayed continuously
- Stability test with built-in check source
- Reliable identification of different radiopharmaceuticals

TECHNICAL SPECIFICATIONS

Dose range (^{99m} Tc)	25 MBq–15 GBq
Accuracy (^{99m} Tc)	±3 %
Other gamma emitters	80–400 keV

DIMENSIONS

Height	345 mm
Width	235 mm
Depth	264 mm
Weight	22 kg

Full specifications: datasheet PT468R4



VERTICAL SYSTEM

Syringe shields for SPECT

Syringe shields with a 2 mm tungsten wall reduce hand exposure when handling a syringe with an individual dose of radiopharmaceutical. They also fit the corresponding administering stands (PT344 / PT345) and transport containers (PT197 / PT169).

Syringe	2/3 ml	5 ml	10 ml
B. Braun	PT644R0	PT645R0	PT646R0
Chirana	PT663R0	PT645R0	PT646R2
BD Plastic	PT644R1	PT645R1	PT646R1
Terumo	PT644R2	PT645R0	PT646R0

Shields for other syringe types are available on request.

Administering stand for SPECT PT344 / PT345

Safe and simple handling of a radioactive solution while it is administered to a patient. The syringe in the shield with the needle in its cover is placed into the stand before the administration; the stand helps to maintain aseptic conditions before the administration and reduces the risks of handling the needle after it.

Baseplate	90 × 90 mm
Syringe socket height	120 / 125 mm
Weight	400 / 485 g



Portable container

PT197

Manual transport of a syringe with the plunger fully drawn and the needle on (also with the protective sheath) or with a stopper. The syringe can be placed in its tungsten syringe shield for SPECT (2 mm W).



Syringe transport container

PT169

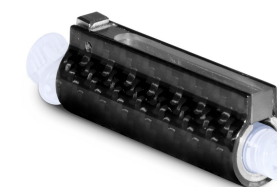
Safe manual carrying of several prepared syringes, also in their syringe shields. The basic version holds four 2 ml syringes; versions for 5 ml syringes, for a combination of 2 ml and 5 ml, or for syringes with needles attached are available.

Shielding	5 mm Pb
Outer diameter × height	133 × 225 mm
Weight	7.4 kg

HORIZONTAL SYSTEM

Carbon-tungsten syringe shields

A 2 mm tungsten body, a lead-glass window with equivalent shielding and a blade lock holding the syringe firmly in place. All this is protected by a carbon fibre cover finished with a chemically resistant clear coat – a combination offering excellent usability and durability with reliable radiation protection during manual administration.



Syringe	2/3 ml	5 ml	10 ml
B. Braun	PT567R0	PT568R0	PT569R0
Chirana	PT567R0	PT568R0	PT569R0
BD Plastic	PT567R1	PT568R1	PT569R1
Terumo	PT567R2	PT568R2	PT569R2



Transport container

PT750

A compact shielded box for carrying several SPECT doses between the hot lab and the administration room. The syringes lie flat, shielded on all sides; the foldable handle allows comfortable carrying.

Shielding	5 mm Pb (variants 3–10 mm Pb)
H × W × D	55 × 250 × 130 mm
Weight	6 kg

SMALL ACCESSORIES



Modified hemostat PT172

Clamps the needle head – safe needle handling in aseptic conditions.



Handling tweezers PT206

Secure remote grip of vials, vertical (MP-1V) or horizontal (MP-1H).



Pincers PT352

Release the needle from its cover without touching it by hand.



Mobile administering table

PT149

Mobile table for medical materials with an integrated shielded container for contaminated waste. Two wheels with brakes stop the table reliably; the raised edges of the table top capture accidentally spilled liquids.

Container shielding	5 or 20 mm Pb
H × W × L	907 × 630 × 920 mm
Weight	50.5 / 87.6 kg

Shielding screen

PT205

Shields the operator when working with radioactive materials. Work is carried out on a shielded work plate behind a shielding wall and observed through a lead-glass window inclined at 45°.



Type	Shielding	H × W × D	Lead-glass window	Weight
PT205	10 mm Pb	562 × 450 × 520 mm	320 × 320 mm, 10 mm Pb eq.	63.5 kg
PT205	5 / 10 / 20 mm Pb	530 × 300 × 350 mm	300 × 350 mm, 5–20 mm Pb eq.	on request

Parameters can be modified on customer request.

Thermostatic unit

PT442

Two shielded vial positions provide reliable shielding during heat treatment of radiopharmaceuticals. The unit can be placed in the open space or, preferably, inside the shielded workbench LWB12 / LWB18.

Temperature	+25 to +150 °C
Accuracy	±0.2 °C
Vial shielding	5 mm W
W × H × D	285 × 200 × 110 mm



TLC Wizard

CHROMATOGRAPHY STRIP SCANNER

PT444R5

Measures the relative activity distribution along a chromatography strip.

The result is displayed as a percentage in the regions of interest (ROI) and as a graph. Measurement procedures can be pre-defined for each kit and saved as presets for routine use.

A tungsten collimator of adjustable height (basic setup plus two additional inserts) covers a wide range of activities and energies – from very low activities of ^{99m}Tc up to high activities of ⁶⁸Ga.



2 mm

typical resolution

150 mm

scan length (200 mm optional)

2 × 20 mm

collimation slot

230 × 230 mm

footprint

ADVANTAGES

- Excellent cleanability – simple shape, durable materials
- Glass working surface – wet strips can be measured directly
- Results as a graph with the percentage of activity in the ROI
- Database of products, nuclides and solvents; presets
- Built-in check source for automatic daily QC
- Compact design 230 × 230 × 215 mm

Full specifications: datasheet PT444R5

TECHNICAL SPECIFICATIONS

Detector	scintillation, Ø 25 mm
Linearity (100–1.5 × 10 ⁶ cps)	3 %
Short-term stability	3 %
Power supply	12 V, 5 A

DIMENSIONS

Width	230 mm
Depth	230 mm
Height	215 mm
Weight	11 kg

Shielded Workbench

LAMINAR FLOW · GRADE A / ISO 5



Clean environment and radiation protection for radiopharmaceutical preparation.

LWB shielded workbenches protect the product from particulate and bacterial contamination and, at the same time, protect the operator and the surroundings from ionising radiation and radioactive substances.

The workbenches are modular: both the shielding and the equipment of the working area are configured according to the radionuclides, activities and procedures of the particular facility.

A

cleanliness grade · ISO 5

0.40 m/s

vertical laminar flow

5–50 mm Pb

modular lead shielding

2 × H14

HEPA filters, main and exhaust

ADVANTAGES

- Modular lead shielding – thickness chosen according to the radionuclides and activities handled
- Modular compartments under the work surface – can be rebuilt when the technology changes
- Shielded compartments for ^{99m}Tc and ⁶⁸Ga generators, radioactive waste and a well-type dose calibrator
- Motorised ^{99m}Tc generator drawer with manual override capability
- CR2000 control system with touch screen and remote monitoring
- Energy-saving EC fan and standby mode

Versions, design, shielded modules and technical specifications on the following pages · Full specifications: datasheet LWB12 / LWB18

LWB12 / LWB18



LWB12 in basic configuration

Versions and design

AIR HANDLING

- **Airflow** – vertical laminar flow in the working area, velocity 0.40 ± 0.05 m/s
- **Operator protection** – average inflow through the working opening of 0.6 m/s (min. 0.4 m/s) prevents air escaping from the working area towards the operator; working opening height 180 mm, 470 mm with the front window open
- **Filters** – main and exhaust HEPA H14 filters according to EN 1822 (efficiency ≥ 99.995 % at MPPS) – both the air in the working area and the air exhausted from the workbench are filtered; the control system monitors the pressure drop and signals warning and alarm limits
- **Exhaust** – connection to the building ventilation via a Ø 250 mm duct; exhaust air volume 400 m³/h (LWB12) and 700 m³/h (LWB18); the workbench can also operate without connection to the building ventilation
- **Standby mode** – when work is interrupted, the front window closes partially and the airflow velocity is reduced; inflow through the front opening stays at a safe value and no sanitisation is needed before resuming work
- **Working area equipment** – germicidal UV-C lamp that does not disturb the airflow, LED lighting dimmable 0–100 % (max. 1 300 lx), temperature sensor

VERSIONS

← **LWB12** – Working area width 1 230 mm. Suitable, for example, for Lynax dispensing units for PET.

LWB18 → Working area width 1 840 mm. Typical configurations:

- **LWB18 PET/Ga** – installation of ⁶⁸Ga technology (e.g. GalliaPharm – Eckert & Ziegler or Galli Eo – IRE ELiT) and the Lynax PT459R5 automatic dispensing unit for PET radiopharmaceuticals and ¹⁷⁷Lu
- **LWB18 SPECT** – space for two ^{99m}Tc generators with motorised drawer

MECHANICAL DESIGN

- **Frame and outer panels** – powder-coated carbon steel resistant to abrasion and disinfectants
- **Working area** – AISI 316L stainless steel; removable work tray with a watertight tub underneath for spilled liquids; high load capacity
- **Front window** – sliding front window of safety glass, slightly inclined to prevent reflections, frameless for a clear view; motorised movement with linear actuators and position monitoring
- **Front intake grille** – the inclined edge prevents it from being covered by the hands and reduces turbulence
- **Work surface height** – for seated work, on request for standing work; the whole work surface is within comfortable reach
- **Lead glass shield** – in a stainless steel frame; the holder contains additional lead shielding
- **Materials** – all materials in the working area are non-absorbent, easy to decontaminate and sterilisable

CONNECTIONS AND CONTROLS

- **Technical gases** – up to three technical gas outlets can be provided in the working area, each with a shut-off valve and pressure indicator
- **Electrical and data connections** – up to four 230 V sockets, switched centrally from the control panel on the front, and up to four USB or RJ45 (Ethernet) data connections can be provided in the working area
- **Adjustable holder** – the workbench is usually supplied with an adjustable arm for the controls of equipment inside the workbench, such as the display of the dose calibrator or the control computer of a Lynax dispensing unit



LWB18 PET/Ga with the PT459R5 dispensing unit

Shielding and shielded modules

Lead shielding of the walls and of the space under the work surface is complemented by shielded modules built into the work surface and the base cabinet. The thickness of all shielding layers can be adapted to customer requirements.

Modular compartments under the work surface

The side compartments under the work surface are designed as a modular system from the outset. When the technology in the workbench changes, they can be rebuilt without altering the overall structure of the workbench, so the equipment does not have to be moved out of the clean area.

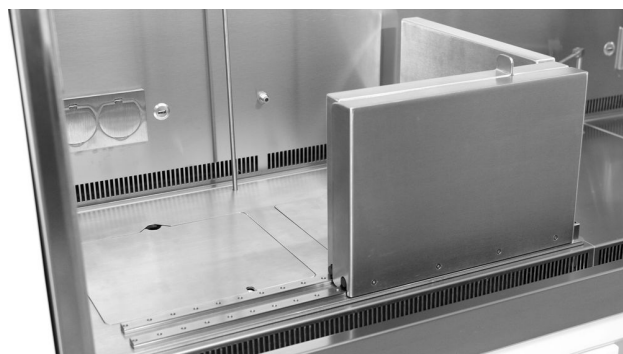
Compartment for ^{99m}Tc generators

One or two ^{99m}Tc generators are housed in a shielded well under the work surface. A motorised drawer moves them into the working position and back after elution. The generators can also be positioned mechanically, so a technical fault does not stop the work of the department.

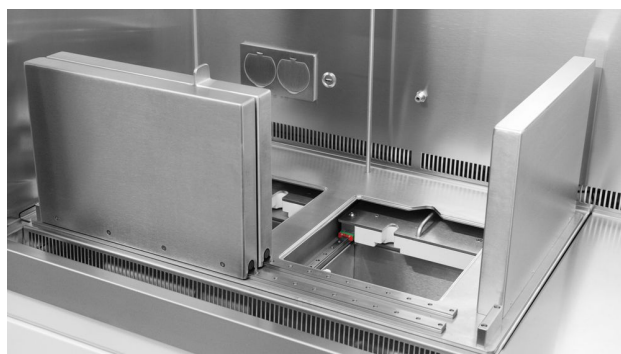
Compartment for ^{68}Ga generators

Shielded space for ^{68}Ga generators and the associated synthesis technology (e.g. GalliaPharm – Eckert & Ziegler or Galli Eo – IRE ELiT).

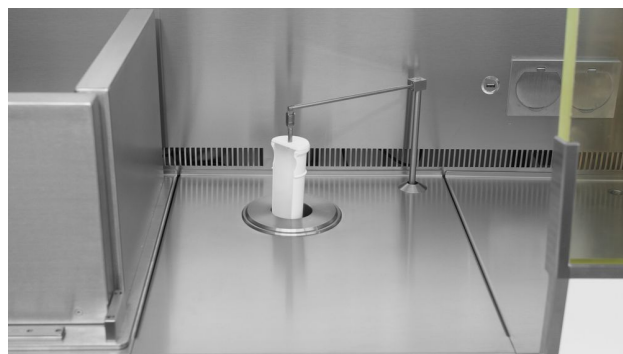
The workbench can be further equipped with an additional lead screen, a Lynax dispensing unit and other shielding and handling aids, such as tungsten containers or tweezers.



^{68}Ga generators – sliding shielding modules



^{68}Ga generators – open compartment



Sample transfer arm of the dose calibrator



Disposal openings of the waste compartment

Well-type dose calibrator

The ionisation chamber of the well-type dose calibrator is built into shielding under the work surface. The sample is placed into the chamber manually or by an automatic transfer arm. On request, the cabinet can be adapted for a dose calibrator the facility already owns.

Waste compartment

The shielded compartment for radioactive waste holds two plastic containers. They stand in a holder on a pull-out drawer that positions them exactly under the disposal openings, so replacement is easy and new containers are always in the right position.

Sliding lead glass

The lead glass with a shielding equivalent of 5–30 mm Pb (as chosen by the customer) is positioned to provide adequate protection while keeping the work surface easily accessible. It slides manually and, thanks to precise roller bearings, very lightly.

Technical specifications and controls

Parameter	LWB12	LWB18
Working area (W × H × D)	1 230 × 690 × 560 mm	1 840 × 690 × 560 mm
Outer width*	1 240–1 448 mm	1 850–2 058 mm
Outer height*	2 200–2 680 mm	2 200–2 680 mm
Outer depth*	780–885 mm	780–885 mm
Power supply	230 V / 50 Hz	230 V / 50 Hz
Power consumption	500 W	900 W
Airflow velocity	0.40 ± 0.05 m/s	0.40 ± 0.05 m/s
Noise level	max. 57 dB(A)	max. 57 dB(A)
Illumination	max. 1 300 lx	max. 1 300 lx
Inflow through working opening	avg. 0.6 m/s, min. 0.4 m/s	avg. 0.6 m/s, min. 0.4 m/s
Exhaust air volume	400 m³/h	700 m³/h
Exhaust duct	Ø 250 mm	Ø 250 mm
Filters (main and exhaust)	2 × HEPA H14	2 × HEPA H14

* Depending on the shielding and version.

SHIELDING PARAMETERS

Shielded part	Shielding
Walls and work surface	5–50 mm Pb
^{99m}Tc generators	30–50 mm Pb
^{68}Ga generators	40–50 mm Pb
Well-type dose calibrator	20–50 mm Pb
Radioactive waste compartment	20–50 mm Pb
Sliding lead glass	5–30 mm Pb equivalent

STANDARDS AND CLASSES

- Cleanliness grade A according to EU GMP, Volume 4, Annex 1
- ISO class 5 according to EN ISO 14644-1
- Class II microbiological safety cabinet according to EN 12469: tightness Li-C, cleanability Cl-C, sterilisability Sl-C – the highest ratings on the scale of the standard
- HEPA H14 filters according to EN 1822

CR2000 CONTROL SYSTEM

Large touch screen and fully automatic operation: once a mode is selected (idle, operation, standby, cleaning, sterilisation), the system sets the target parameters itself. Access rights management, UV-C timers, alarm limit settings (airflow, pressure, temperatures) and lighting intensity. Remote control and service support via Android, iOS and Windows; deviations from safe values are signalled acoustically and optically and sent by e-mail or to a mobile phone.



Shielded waste containers

PT698

Freestanding rectangular stainless steel containers with lead shielding in the walls and in the lid. An integrated sliding lid allows waste to be deposited without opening the main lid; in the automatic version it is opened by a foot switch.

- Shielding 5, 10 or 20 mm Pb
- Manual (M) or automatic (A) sliding lid
- Optional platform with 4 wheels

Size	Type	Volume	Inner dimensions	Outer dimensions
Small*	PT698R4	13 l	230 × 230 × 250 mm	280 × 280 × 274 mm
Medium	PT698R1	24 l	230 × 230 × 460 mm	280 × 280 × 484 mm
Large	PT698R2	31 l	275 × 275 × 460 mm	325 × 325 × 484 mm

Dimensions: width × depth × height. * For plastic sharps containers of 3 or 5 l. Type designation, e.g. PT698R2 20A = large container, 20 mm Pb, automatic opening.

List of products

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PT149	Mobile administering table	16
PT151	PETomobil – shielded syringe transport trolley	9
PT169	Syringe transport container	15
PT172	Modified hemostat	15
PT197	Portable container	14
PT205	Shielding screen	8, 16
PT206	Handling tweezers	15
PT275	Mobile table with shielded waste container	9
PT314R2	Packaging set Type A	7
PT317R7	Automatic Dispensing Unit	5
PT318	Tungsten vial container	8
PT344 / PT345	Administering stand for SPECT	14
PT352	Pincers	15
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PT442	Thermostatic unit	16
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–	Carbon-tungsten syringe shields	15

Codes of individual syringe shields are listed in the tables on the respective pages.



Safe and easy manipulation with radiopharmaceuticals

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Specifications subject to change without notice.