Discover the fundamental principles of Computed Tomography (CT)

PHYWE XR4 X-ray Computed Tomography upgrade setgrade set

Upgrade set as an extension of the XR4 expert unit. Shows the fundamental principles of computed tomography (CT) used in medical and industrial applications. Ease of use and speed make the Computed Tomography set particularly suitable for laboratory experiments and lectures in physics, medicine and material sciences.

Software included. Computer not provided.

The set covers the following experiments and topics:
- X-ray imaging of biological and technical samples
- Non-destructive testing (NDT)
- Digital image processing for the generation of three-dimensional images of an object
- Digital images of Laue patterns
- Complete CT scan and recontraction in less than 10 min

XR4 X-ray Computed Tomography upgrade set
Item no. 09185-88

Scope of supply

YouTube

PHYWE XR4 CT accessories pro

9 experiments related to physical aspects, i.e.:
- Resolution and detail detectability
- X-ray attenuation and contrast
- Optimization of CT scan
- Beam hardening and measuring artefacts
- Hounsfield units and Laue diffraction

XR4 CT accessories pro
Item no. 09057-44

Scope of supply

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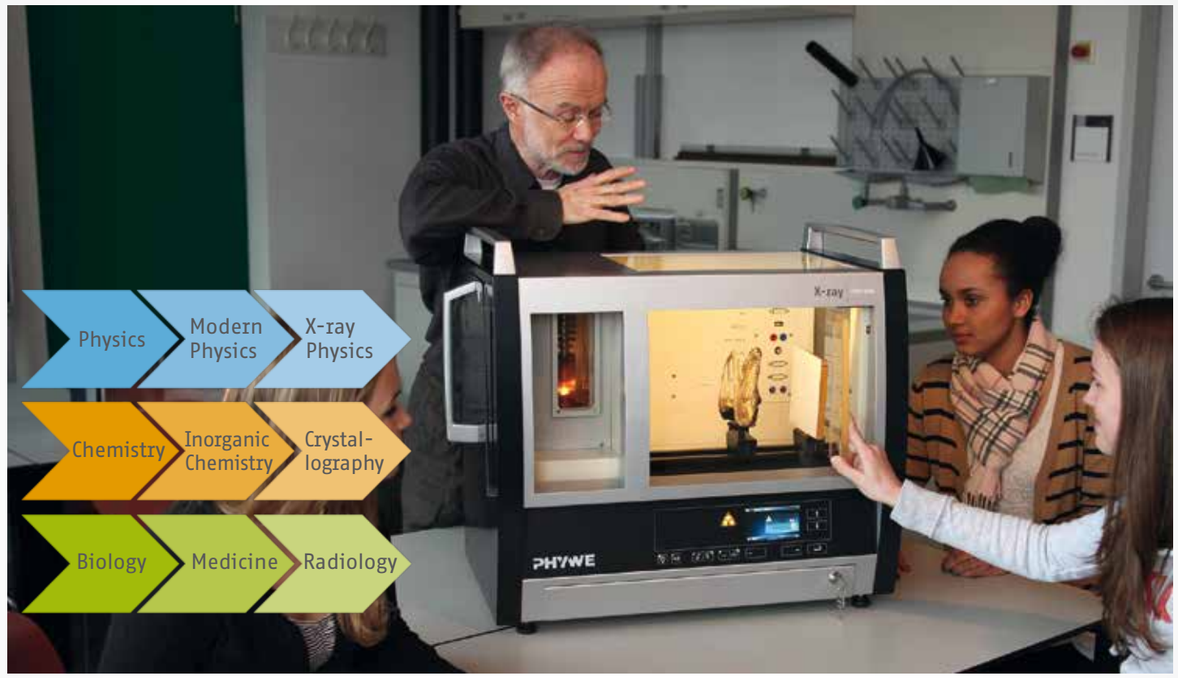
X-ray XR4 PHYWE

PHYWE excellence in science

XR4 X-ray system –
The smart solution for X-ray experiments



Fascinating X-ray experiments with unique solutions

Discover the perfect combination of innovative technology and highest safety standards with approved PHYWE quality and a modern design.

The PHYWE XR4 X-ray system can be used in all fields of education: schools, colleges and universities by using the solution that fits to your experiment in natural sciences, medicine, material sciences or geo sciences.

Leading in quality, technology, innovation and design ... all from a single partner!

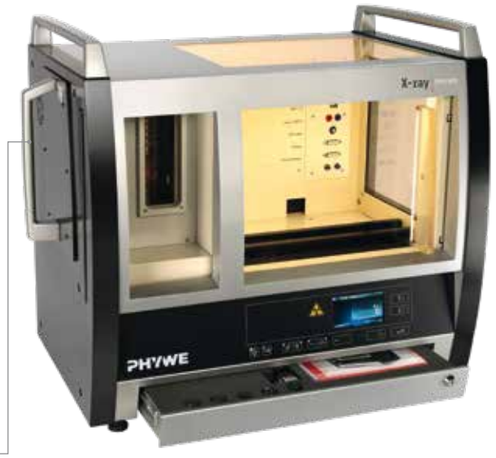
Benefits:

- Modular system of your choice
- Fitting to your needs
- Hands-on equipment
- Applicable for all fields of natural science

Physics Phy | Chemistry Che | Biology Bio

This is your individual X-ray solution!

Choose your desired X-ray unit, select at least one x-ray tube and any extension set to perform up to 59 experiments.



XR4 LI unit

Item no. 09056-99

Features:

- Unique tube Xchange technology
- XXL chamber
- Touch panel
- TFT Display

Tube XChange Technology

- Self-adjusting X-ray tubes with quick-change technology
- Contact protection against hot parts
- 4 anode materials for specific experiments (W, Mo, Cu, Fe)

XR4 expert unit

Item no. 09057-99

Additional benefits:

- 3 view optical access
- Storage drawer
- Applicable for research experiments

select at least one x-ray tube

XR4 X-ray
Plug-in Cu tube

Item no. 09057-51

Default tube for most x-ray experiments

XR4 X-ray
Plug-in Mo tube

Item no. 09057-61

Used for x-ray characterisation and material analysis

XR4 X-ray
Plug-in Fe tube

Item no. 09057-71

Used for experiments with high energy x-rays

XR4 X-ray
Plug-in W tube

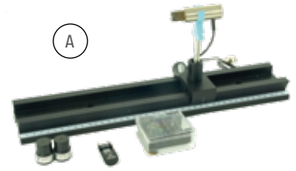
Item no. 09057-81

Used for x-ray characterisation, radiography, and dosimetry

Extension sets

for all fields of X-ray sciences

select any desired application



	Extension sets	Necessary accessories	Core components	Application examples	Experiments
(A)	**XR4 X-ray solid-state physics** Item no. 09125-88	• Goniometer (H)	• GM counter tube • LiF / KBr single crystals • Absorption set	• Diffractometry • X-ray spectroscopy • Bragg reflection / bremsstrahlung • Characteristic lines	5 experiments
(B)	**XR4 X-ray characteristics** Item no. 09135-88	• Goniometer (H)	• 3 X-ray tubes (Cu, Fe, Mo) • GM counter tube, • LiF / KBr single crystals	• Radiation spectra of the anode • Moseley law • Rydberg constant • Duane-Hunt law	14 experiments
(C)	**XR4 X-ray structural analysis** Item no. 09145-88	• Goniometer (H)	• GM counter tube, • LiF / KBr / NaCl single crystals • Crystal holder • Powder samples	• Structure investigations • Laue patterns • Debye-Scherrer images • Powder diffractometry	17 experiments
(D)	**XR4 X-ray material** Item no. 09165-88	• Goniometer (H)	• X-ray energy detector • Multi-channel analyzer • Sample sets	• X-ray fluorescence spectroscopy • Non-destructive testing (NDT) • Compton effect • Energy-dispersive experiments	13 experiments
(E)	**XR4 X-ray imaging** Item no. 09155-88		• Digital SLR camera • Radiographic object • Model loader • Implant model	• X-ray imaging • Radiography • Radiology	4 experiments
(F)	**XR4 X-ray dosimetry** Item no. 09175-88		• Parallel-plate capacitor • Power supply unit 600 V • DC current amplifier • Camera	• Dosimetry • Degradation • Damage • Ionization of air	3 experiments
(G)	**XR4 X-ray computed tomography** Item no. 09185-88		• Direct, digital X-ray image sensor • Rotation unit, vertical rotation • Measure Tomography software package	• 3-dimensional reconstruction • Cross sections • Direct, digital image capture	3 experiments