Demo PHYWE

Diffusion Cloud Chamber –
invisible becomes visible

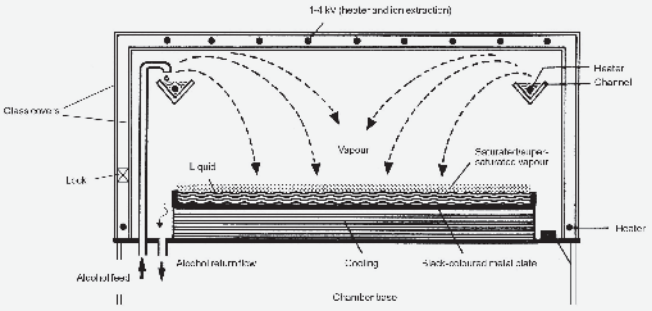
Features

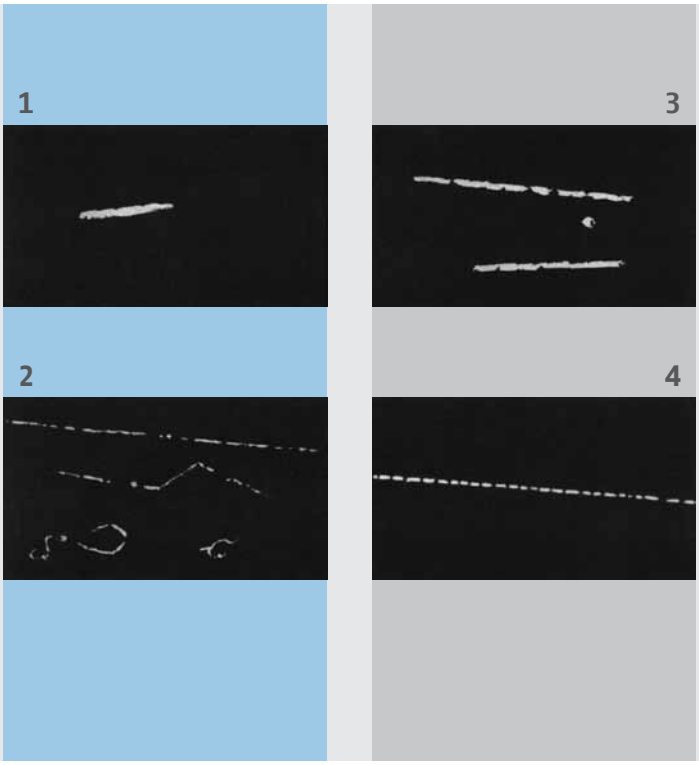
- Attractive & informative
- Unique large observation area
- Reliable & safe
- Easy to run – automatic operation
- Minimum maintenance
- Top quality – long-term experience

Invisible Becomes Visible

Visualize cosmic and natural radiation and make this phenomenon understandable! Historically the Cloud Chamber was the first particle detector for making ionizing particles visible. Its working principle is based on supersaturated vapour. This vapour shows tracks of condensated alcohol while being penetrated by ionizing particles. Vapour clouds build up along the particle tracks, which are sometimes thin and long, sometimes thick and round or bulbous. They may appear gradually or pop up all of a sudden or move very fast like a projectile splintering into all directions. The action that is constantly taking place in the Cloud Chamber is so fascinating that you simply have to see and experience it with your own eyes.

Cloud Chambers don't play a role in current research any more, but today they are used increasingly at universities and high schools for teaching radioactivity. In museums, science centers and even in art shows, for example at the exhibition for contemporary art, Documenta (it was on display at Documenta VI and Documenta X), the Cloud Chamber is a main attraction.





Observe The Natural Background Radiation

PHYWE's Diffusion Cloud Chambers are suitable for observing natural background radiation, i.e. the type of radiation which surrounds us wherever we go. There are two types of natural radiation: cosmic radiation and the natural radioactivity of the earth. The ever-changing patterns of both types of natural radiation can be observed simultaneously thanks to the large observation area. The cloud tracks gradually gravitate downwards and disintegrate before reaching the bottom plate just to be replaced by ever new cloud tracks. All electrically charged particles can be detected in the Cloud Chamber: α-particles (1), β-particles (2), protons (3), myons (4), electrons or positrons. Delve into the world of cosmic and terrestrial radiation.

The Cloud Chamber is:

Attractive & informative

Designed for universities, schools and as an educational tool in science shows and science museums as well as in nuclear power stations.

Unique large observation area

The observation area with a size of about 1 square meter is accessible from all 4 sides. The cloud tracks can be observed by conveniently looking down on them.

Reliable & safe

Designed for long life and continuous operation.

Easy to run – automatic operation

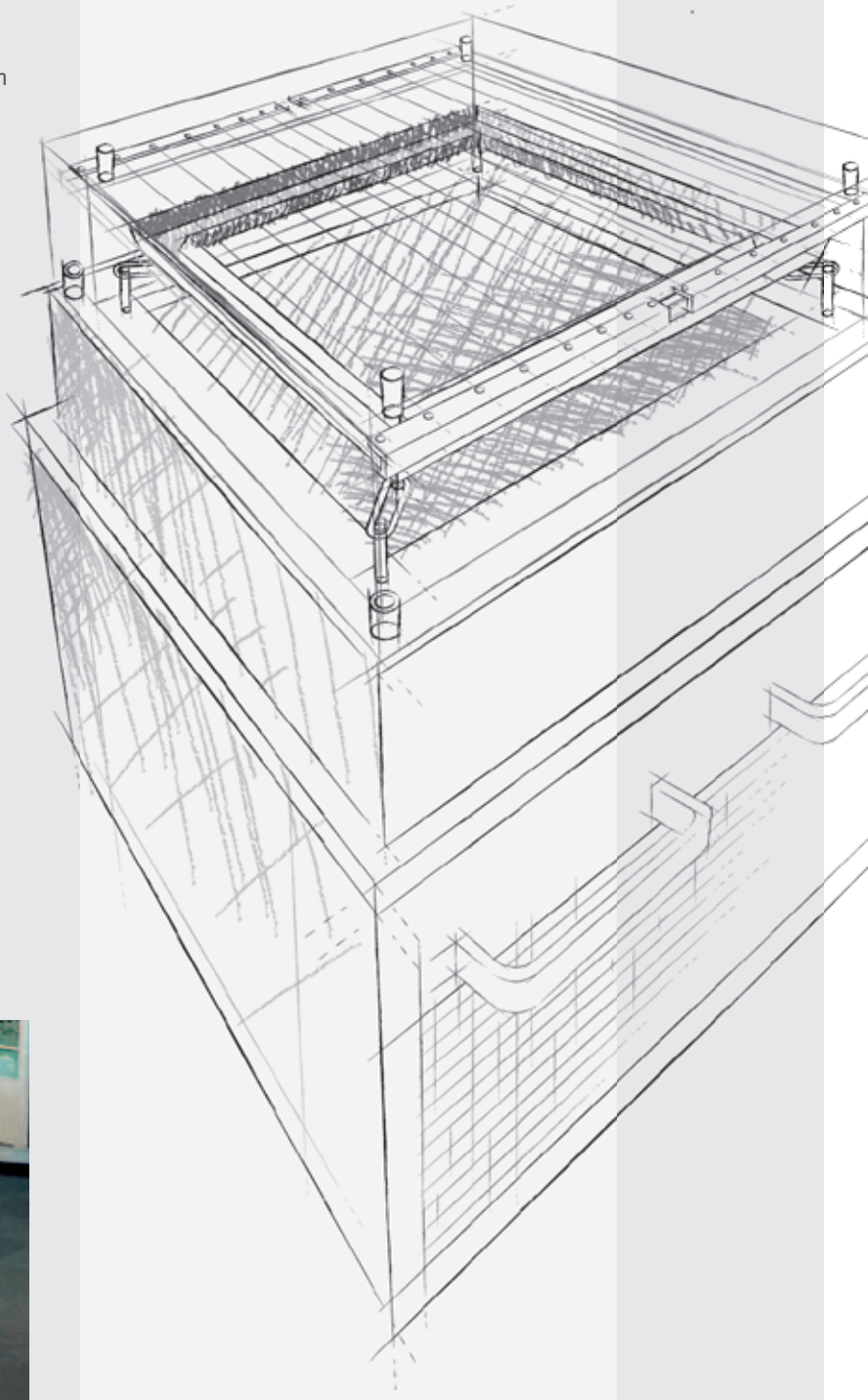
Fill up and switch on. Within a few minutes the Cloud Chamber is running fully automatically. Timer control for automatic switch-off after closing hours.

Minimum maintenance

The only maintenance procedure is a refill of the alcohol tank once a month.

Top quality – long-term experience

PHYWE has been building Large Diffusion Cloud Chambers for more than 25 years.



Specifications

	Diffusion Cloud Chamber PJ 80 (Item-No. 09043-93)	Diffusion Cloud Chamber PJ 45 (Item-No. 09046-93)
Dimension of active area	800 x 800 mm	450 x 450 mm
Base (H x B x T)	1280 x 1280 x 1280 mm	600 x 640 x 640 mm
Working Fluid	2-Propanol (iso-Propyl Alcohol) (Item-No. 30092.70)	2-Propanol (iso-Propyl Alcohol) (Item-No. 30092.70)
Tankvolumen	10 litre	2 litre
Temperature Gradient	50 ...-35°C	50 ...-35°C
Temperature of Outer Surface	under 27°C	under 27°C
Illumination	4 built-in fluorescent tubes (80 cm long, 30 W, Lifetime app. 10,000 hrs)	2 built-in fluorescent tubes (38 cm long, 36 W, Lifetime app. 10,000 hrs)
Timer	7 x 24 hours	7 x 24 hours
Electric supply	115/230 Volt, 50/60 Hz	115/230 Volt, 50/60 Hz
Current Consumption	1,9 kVA	0,9 kVA
Weight	450 kg	80 kg

Products

PHYWE Diffusion Cloud Chamber PJ 80

Perfectly suitable for science centers, museums, entrance halls. A unique and impressive possibility to show natural radiation on a big scale.

Diffusion Cloud Chamber PJ 80	**09043-93**

PHYWE Diffusion Cloud Chamber PJ 45

For use in universities, high schools and colleges to perform experiments and show the behaviour of radioactive and high energetic particles.

Diffusion Cloud Chamber PJ 45	**09046-93**

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