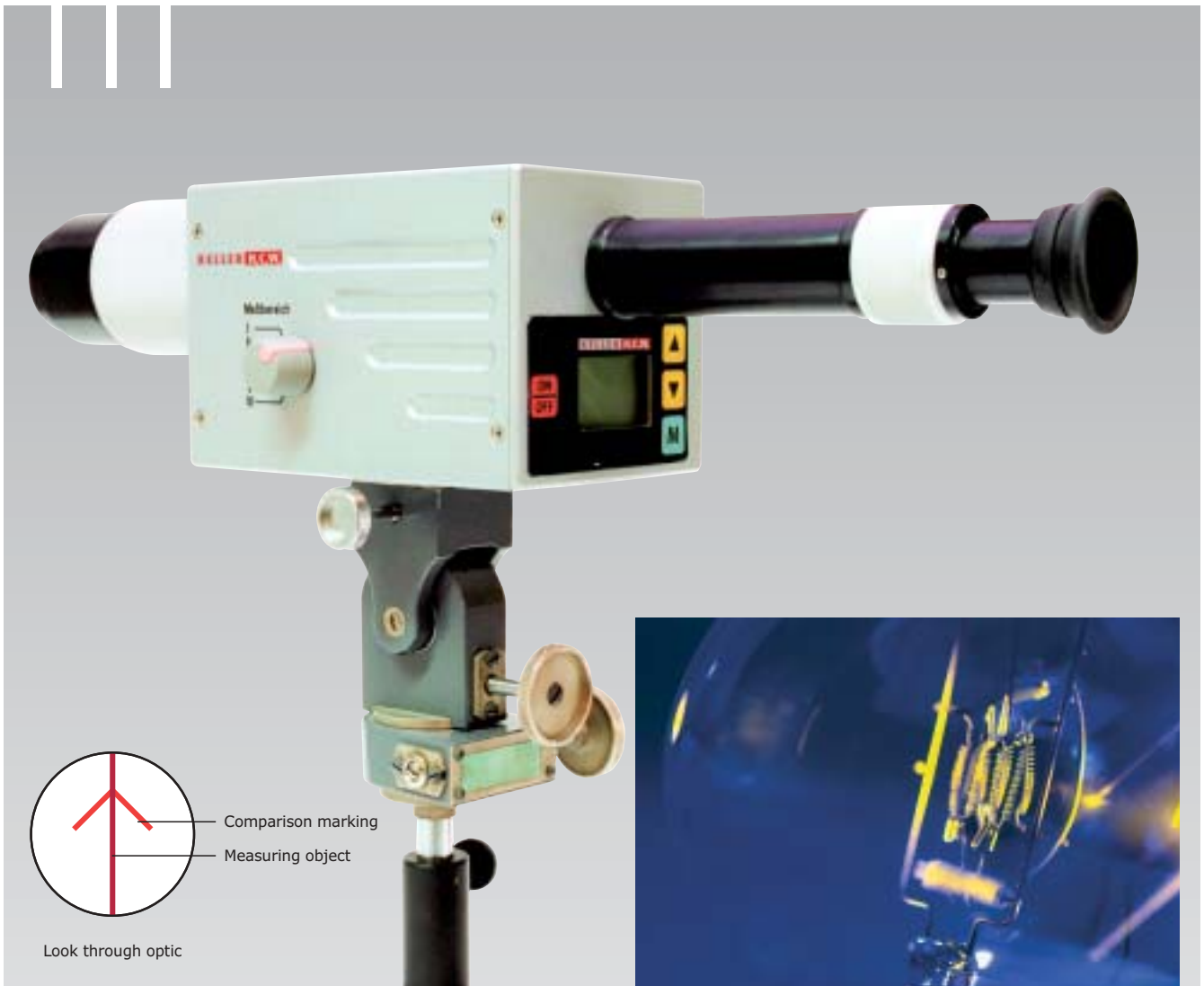


Intensity Comparison Pyrometer Mikro Type PV 11



Pyrometer for very precise temperature measurement from +700 °C to +3500 °C of objects starting at 0.1 mm diameter.



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MEASURING · CONTROL · SYSTEMS

The principle of measurement

The intensity comparison pyrometer is based on the visual intensity comparison of the measuring object with a calibrated reference lamp situated in the instrument.

The measuring object is observed through the optic.

A comparison marking is reflected into the picture of the measuring object.

By manual alteration of the radiation intensity of the reference lamp the brightness of the comparison marking

is harmonized with that of the measuring object until both are identical. Then the temperature value can be read off from an integrated digital display.

Features

- Large field of view for the recognition of the measuring object
- Sharply defined picture of the measuring object
- Very high accuracy
- Easy adjustment in case of variable measuring distances

Advantages

- Very small influence of the emissivity factor
- Measurement of very small objects starting at 0,1 mm
- Very large distance ratio (objects of 1 mm diameter measurable from a distance of 5 m)

Examples of application

- **Laboratory instrument manufacturers – atomic absorption spectrometers**
Exact temperature determination on graphite cells
- **Vacuum furnaces – metal samples**
Temperature determination on small metal samples
- **Nuclear research – metal and ceramic samples**
Temperature determination during the sintering of uranium tablets
- **Manufacturers of incandescent bulbs**
For the determination of the temperature limit of filaments out of different metal alloys
- **Universities**
Many institutes of physics, chemistry and material science use the Mikro as reference pyrometer

Technical Data

PV 11	
Measuring range	+700 to +3000 °C, subdivided into 6 partial ranges up to +3500 °C with attachable filter
Resolution of display	1 K
Accuracy	1.5 % of reading (+700 °C to +800 °C) 0.6 % of reading (+800 °C to +2000 °C) 2.0 % of reading (+2000 °C to +3500 °C)
Accuracy of adjustment (at $\epsilon=1$ and $T_u=23$ °C)	The accuracy depends on the sensitivity of the eye of the measuring person. On average it is at +1000 °C: ± 1.5 °C at +2000 °C: ± 5.0 °C at +3000 °C: ± 10.0 °C
Repeatability	3 K
Measuring distances	Without supplementary lens: 1 m to ∞ , With supplementary lenses: 0.2 m to 1 m
Min. target diameter	0.3 mm at a distance of 1 m 0.1 mm at a distance of 0.2 m (with supplementary lens)
Sighting device	True sided through-the-lens sighting with dioptric compensation, faded-in comparison marking, focussable optic
Aiming support	cross head: horizontally: 360°, vertically 90°
Display	4-digit digital, LCD
Interface	RS 232 to transfer the readings to the PC PC software included in the scope of delivery
Adjustable parameter	Emissivity 10 to 100 %
Power supply	15 V DC or 230 V AC via plug power supply unit (included in the scope of delivery)
Spectral sensitivity	partial range I: 500–670 nm partial range II: 620–670 nm partial ranges III–VI: 650–670 nm
Max. ambient temperature	+10 °C to +45 °C
Storage temperature	0 °C to +55 °C
Housing	Aluminium
Dimensions	(100 x 100 x 450) mm

Scope of Delivery

Pyrometer, cross head, power pack, carrying case, PC connection cable, spare lamp, PC software

Accessories

Close lens set, grey filter, mirror attachment 90°, floor stand, table stand



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