

DUAL-K25**Quartz Glass Cuvette for Suspensions**

DUAL-PAM-100 Accessory for Low-Drift Absorbance Measurements



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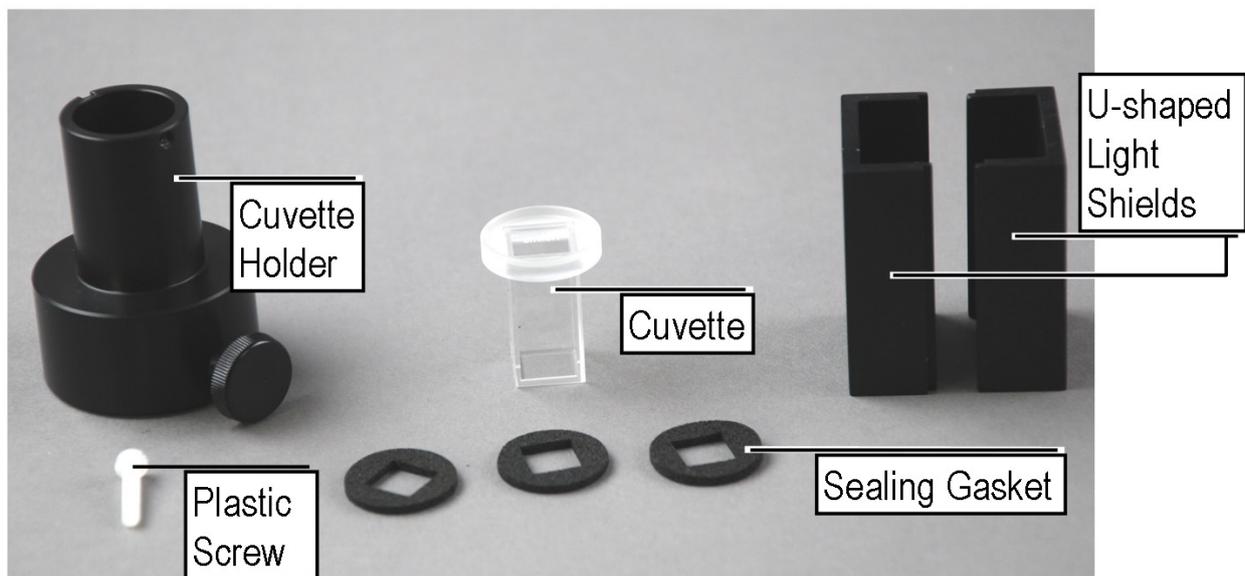
I The DUAL-K25: General Description

The DUAL-K25 quartz glass cuvette has been developed to reduce baseline drifts caused by particle settling in suspensions of isolated chloroplasts, unicellular algae and cyanobacteria.

Attention!

Employing the DUAL-K25 cuvette requires a vertical optical pathway, that is, the emitter is situated above the detector unit. The vertical arrangement of measuring heads brings the risk that liquids enter the detector unit *via* its upward-directed opening. Entering liquids can severely damage or completely destroy the detector unit. To reduce the risk of damage by liquids, sealing gaskets are provided to tighten the detector. Note that the sealing gasket does not watertightly seal the measuring head. If liquids are spilled, the DUAL-K25 assembly immediately needs to be dried carefully using absorbent cloth or paper.

Fig. 1 – Vertical Cuvette Assembly: Parts



II Extent of Delivery (Fig. 1)

1. Cuvette

Low-fluorescing, UV-transparent quartz cuvette with top container for spilled liquids.

2. Sealing gasket

Cellular rubber gasket (including two spare gaskets) to prevent liquids from entering the detector unit.

3. Cuvette holder

Aluminum cylinder and plastic screw to mount the cuvette between emitter and detector units.

4. Light shields

Two U-shaped aluminum shields to screen out light from external sources.

III Assembly

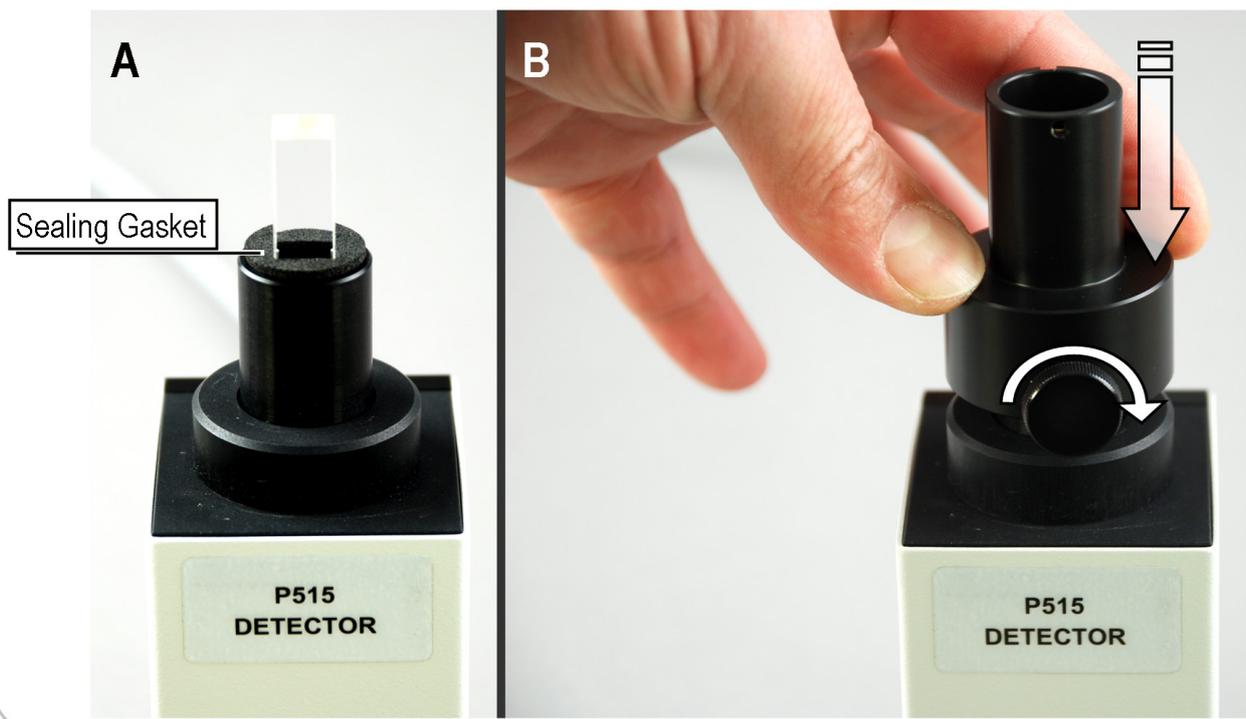
1. Remark

Subsequently, instructions for assembly of the DUAL-K25 and the P515 emitter and detector units are given. In principle, the P515 units can be replaced by the other emitter-detector pairs available within the DUAL-PAM-100 accessory program (see <http://www.walz.com/>).

2. Sealing Gasket

Place gasket on Perspex rod of the detector unit and slip gasket down. Make sure that gasket is in tight contact with the cylinder holding the Perspex rod (Fig. 2A).

Fig. 2 – Position of Sealing Gasket and Connection of Detector and Cuvette Holder



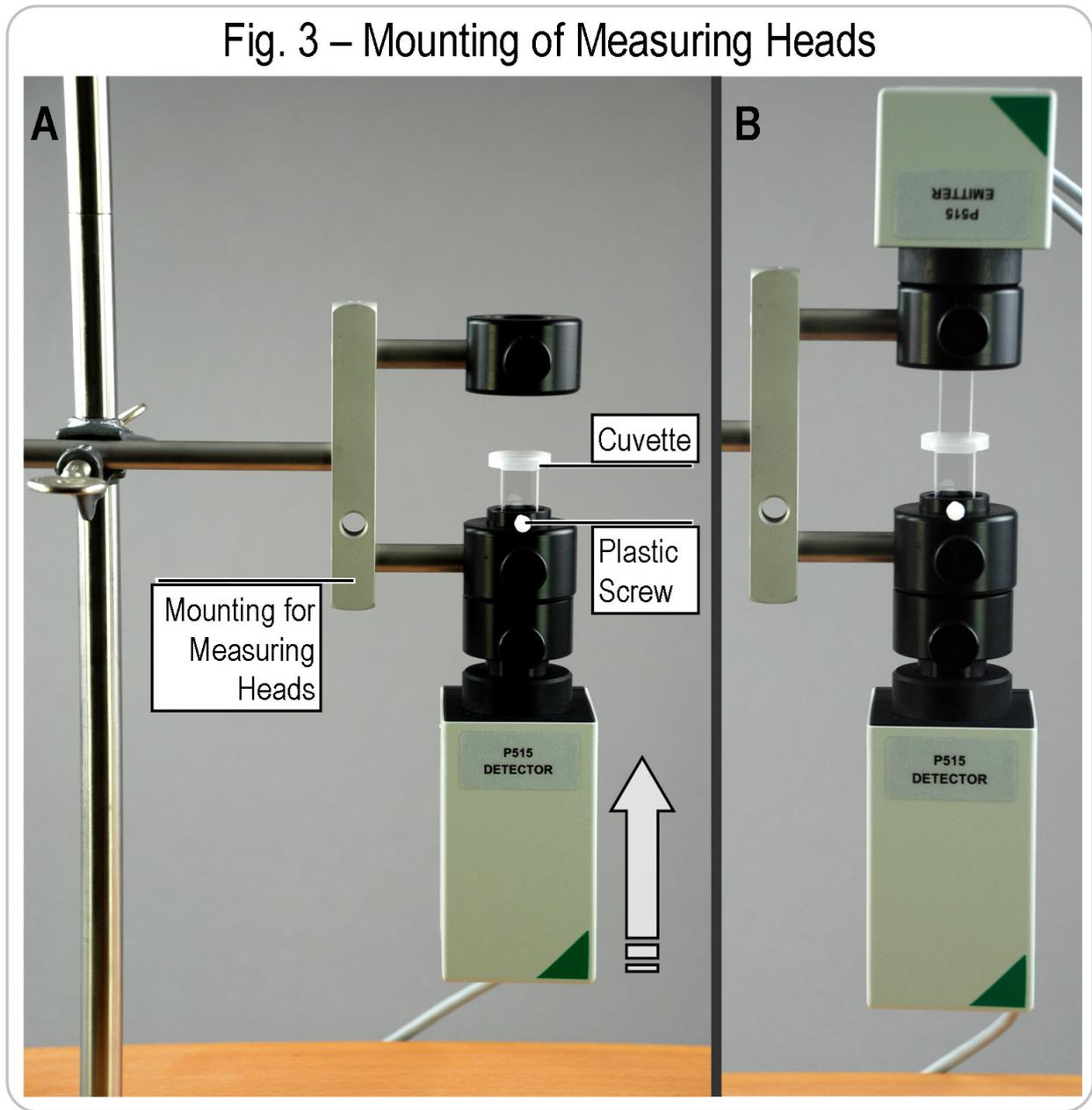
3. Cuvette Holder

Place cuvette holder on Perspex rod of the detector unit, press cuvette holder gently against the gasket and, while sustaining pressure, fasten knurled-head screw (Fig. 2B).

4. Mounting of Measuring Heads

- Vertically arrange mounting for measuring heads (Fig. 3A).
- From the bottom up, insert cuvette holder with detector into lower ring of the mounting. Slide in as far as possible and secure by fastening the knurled-head screw of the mounting ring.
- Place empty cuvette into cuvette holder. Screw in plastic screw until the cuvette is fixed (do not apply force). Turn back plastic screw by 90°.
- Insert emitter unit from the top. With the emitter completely inserted, the face of the emitter's Perspex rod should be just above the brim of the cuvette (Figs. 3B and 4A). If required, fine-adjust distance by unfastening and moving the detector.

Fig. 3 – Mounting of Measuring Heads



5. Measurements

- Remove emitter head and cuvette.
- Fill cuvette with sample to the brim such that the meniscus is flat.
- Insert cuvette into cuvette holder. Carefully insert and lower emitter. Ideally, the face of the Perspex rod touches the liquid surface so that the Perspex/liquid interface is free of bubbles.
- Exclude external light by U-shaped light shields (Fig. 4B).

Fig. 4 – Complete Assembly

