I'm not robot

Hilger watts theodolite manual

Hilger & watts catalogue. Hilger watts level. Theodolite readings.

The Watts Meteorological Office pattern theodolite, introduced in 1937, was a significant improvement over its predecessors, the Cary Porter Model D and the Watts Mark B theodolite. The Met. Office Pattern Theodolites retained features from these earlier models, such as verniers and micrometer drums, while incorporating new innovations like a closed frame design. The five theodolite models in the series were produced sequentially and reflected refinements of previous designs. These instruments are still in use today in the United Kingdom and other countries closely allied with it, including Australia and Canada. The Watts Meteorological Office pattern theodolite features a unique arrangement of circles and telescope movements operated by hand cranked 10 part micrometer drums attached to tangent screws. The azimuth and elevation are read from two horizontally arranged circles viewed through a window with an engraved reference line. The instrument's design allows for rapid movement and illumination, provided by electric bulbs housed in the upper part of the body. The key features of the Watts Meteorological Office pattern theodolite include a right-angled telescope, bearings for the telescope, tangent screws, micrometer drums, and a clamp adjusting screw. Other notable components include the telescope focus knob, eye-piece tube, open sight, verniers, window for reading the horizontal circle, cover for gradicule adjustment screws, and leveling feet. The Watts family of theodolites underwent significant improvements over time, each model building upon the previous one to enhance performance and functionality. The MK I (1937) featured a main telescope with a 20x magnification and a 2-degree field of view, while also incorporating a pentagonal prism. The introduction of the finder scope allowed for use with a separate eyepiece, increasing accessibility. MK II introduced several key changes, including direct drive screws for the elevation circle, reducing load on the bevel gear and improving long-term accuracy. This design change reversed the direction of rotation of the elevation drum and tangent screw. Open sites were relocated to the top of the mirror housing of the auxiliary telescope. The MK III (1943), a transitional design between MK II and MK IV, featured a fixed focus for the main telescope, a detachable battery box, and more durable materials in the gearing system. The mirror switch was also made more adjustable. MK IV introduced an improved optical system with a larger objective lens and pentagonal prism, resulting in a brighter and more uniform field of view. A set of four color filters and a rubber eye shield were included, along with a graduated rim on the rotating eyepiece for user-adjustable focus. The company name was changed to Hilger and Watts during production. MK V SM1 built upon MK IV's design, incorporating a relocated spirit bubble, updated tribrach shape and fitting, and upgraded interior mechanisms using more durable materials. The paint finish was also updated from black to green heat-treated. Terms and permissions for using images from our collection, and guidelines for accessing them. Also, conditions and procedures for reproducing or copying these images. Please get in touch with us to learn more.