



## No. 213 - Parallelograph (Martin type)

These instruments are intended for the measurement of the angles of the joint axes (e.g., determining the torsion angle of the humerus) and for fixing postcranial bones - especially long bones.

The parallelograph consist of vertical bars linked together – a main bar and a guide bar. Both are fixed exactly vertically to the base. Two horizontally movable transverse bars are fixed to the main bar. The lower of the two carries a small vertical pin tapering to a point at both ends. The upper transverse bar tapers to a point.

**Application:** For centering purposes, the lower transverse bar is pulled out by about 10 cm while the upper bar is extended and brought so close to the lower bar that the tip corresponds with the upper tip of the vertical pin. It is essential that both transverse bars lie along the guide bar. For example, if the angle of the axes of the humerus is to be determined, this joint is tensed vertically in the bone holder (No. 214) after the joint axes have been marked by sticking on pins with adhesive. If the bone holder is now placed on a smooth surface with a sheet of paper it is possible, using the parallelograph, to mark off two points of the axes on the paper. It is now a simple matter of joining the points on the paper by pencil lines, and by using the protractor you have the required angle.

**Caution:** For cleaning please do not use acetone or acetone-containing cleaning agents.