

The proposed bell unit for the correct reproduction and measurement of discrete volumes and flow rates of gas contains a bell chamber with a counterweight, a working gas source with pipes, and a unit for measuring the displacement of the bell chamber. The unit for measuring displacement of the bell chamber is designed as a displacement transducer providing conversion of the chamber displacement into the code of M-sequence with quasi-ternary manipulation and contains a measuring rule, an illumination source, and a photodetector. The measuring rule is made of opaque material and contains horizontal slots that are arranged according to the code of M-sequence with quasi-ternary manipulation. The output of the photodetector is connected to a computer.