

The present invention relates to the metrology, specifically to the reference facilities for verifying and graduating working standards or reference facilities of the lower category, for example critical gas flow meters.

The proposed device for graduating critical gas flow meters contains gas feeding elements, a bell reference gas flow meter, and testing equipment. For the purpose of stabilization of gas mass flow during the verification period as well as for the purpose to transmit, with required accuracy, measurement units from the reference gas flow meter to the working standard designed for certifying gas flow and volume meters under high operation pressures and when using real process gases, the proposed device contains a system for stabilizing the temperature conditions of graduation and a process gas source, and in the test equipment, a critical gas flow meter and a system for generating critical gas flow. The system for generating critical gas flow contains a gas compression device, a pressure ripple damper, an electric drive for the gas compression device, and the gas compression device rotation frequency set-point unit and rotation frequency regulator.