

TECHNOLOGY AND DEVICES FOR LIQUID PRESSURE PIPELINE INTERVENTIONS IN LIVESTOCK FARMS

Gheorghe ȘOVĂIALĂ¹, Gabriela MATACHE¹,
Ștefan ALEXANDRESCU¹, Roxana Dana BUCUR²

E-mail: sovaiala.ihp@fluidas.ro

¹ National Institute of Research & Development for Optoelectronics 2000 – Hydraulics & Pneumatics Research
Institute Bucharest

² University of Agricultural Sciences and Veterinary Medicine, Iași

Abstract This technology is used when performing interventions on pipelines through which fluid under pressure is conveyed, in order to extend new networks, or branches, repair damage to pipes, install heat measuring systems, meter water consumption for billing, without interruption of utilities to consumers connected upstream of the point of intervention. Implementing the new technology is based on two devices: tight drilling-cutting device for the pressure pipeline and clogging device of the pressure pipeline. Both devices are successively mounted on a base block, whose boss is welded on the top generator of the pressure pipes, at the point of intervention. Currently, interventions on liquid pressure pipes, regardless their purpose, involve closure of the tower at the nearest point where there are isolation gates, hard to handle or broken, sometimes located in inaccessible places. The technology of intervention presented may be applied on under pressure pipe networks being in static or dynamic operational mode for operational pressures of max. 6 bar and standard nominal diameters of 65, 80, 100, 125, 150 and 200 mm. After performing tests was chosen the obturator with constant thickness of the wall for its constructive simplicity in the conditions in which the operational requirements are fulfilled. The tests demonstrated that the obturator accomplishes its role of interrupting water flow through the pipe in dynamic operational mode at 6 bar, if the pressure from inside it has a value of 10 bar. Application of this new technology has a direct effect on quality of life, allowing elimination of interruptions in drinking water supply utilities, domestic hot water or heat.

Key words : pipeline, damage, interventions, pressure networks, livestock