

Analysis of Gears Profile Planning on Transmission Counter Type Multi Jet Water Meter

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ABSTRACT

Water is one of the natural components that are needed by all living things in the world, especially in daily activity, we are impossible to pass from necessary to consume clean water, healthy and fit for the consumption. To obtain it we can take directly from nature or another way is purchasing it. In urban environments such as Surabaya, it was already difficult to obtain clean water from nature because it was contaminated. So the alternative is subscribing taken at the PDAM. PDAM in distributing water to its customers is installing a water meter equipment.

Water from the PDAM flow to the water meter so that the flow is moving the blade (fanwheel) that makes fanwheel spins. This round is transmitted to the other axis (Ancre) by utilizing the magnetic force in the end point of fanwheel and Ancre. Round that produced Ancre is forwarded by a transmission gear wand next it turn numberwheel which is construction on a shaft which serves to show the value of the volume of water passing through meters of water in the form of numbers. But the job description of water meters above, the accuracy of water meters still have problems, when the water flow (Q_s) is very small, fanwhell is unable to rotate so it make water meters can not function properly.

From this research, we got the right gear geometry, with teeth 0.55 mm thick, width 2 mm and the type of gear tooth involute profile and the interference does not occur so a minimum level of losses that produces water meters with high accuracy.

Keywords : clean water requirements, transmission of gears, gear profile.