

Investigation of Flow Characteristics on Upstream and Downstream of Orifice Using Computational Fluid Dynamics

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Abstract : The main parameter of the orifice hole diameter was designed according to the range of throttle diameter ratio which gave the required discharge coefficient. The discharge coefficient is determined by difference diameter ratios. The value of discharge coefficient is 0.958 occurred at throttle diameter ratio 0.5. The throttle hole diameter is 80 mm. The flow analysis is done numerically using ANSYS 17.0, computational fluid dynamics. The flow velocity was analyzed in the upstream and downstream of the orifice meter. The downstream velocity of non-standard orifice meter is 2.5% greater than that of standard orifice meter. The differential pressure is 515.379 Pa in standard orifice.

Keywords : CFD-CFX, discharge coefficients, flow characteristics, inclined

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