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(57) Abstract :

Abstract The aim of the project was to construct and design a pump that practically no running cost and needs minimum maintenance, was simple in construction and fulfilled the required specifications. This was to provide isolation village with water and as a replacement to generator driven pumps that are used by farmers to water their lands. So, primary objective of Hydraulic ram pump is to pump water with no running cost. This paper represents the analytical calculation of homemade hydraulic ram pump with design calculation. These are based on a study of hydraulic ram pump and testing of on hydraulic ram pump model. For which we consider literatures reviews & some of them are used for the analytical calculations. After elaborating the design, dimensioning and calculations were done and the final design was constructed. The model was tested and checked thoroughly for its working. All aspects were kept in view, efficiencies plotted and optimization was done, & analysis of this result to conclude the relation between efficiency, head & discharge which is modify this hydraulic ram pump. It is observed that with the increase of delivery head, delivery discharge is decreases and the efficiency of the pump is decreases. It is also found that when the delivery pipe diameter is decreased compare to supply pipe diameter, the supply head is increases and the efficiency of the Hydrant is increases. It is also observed that with the increase of supply head the delivery head is increased and the performance of the pump is increased.

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