

## Abstrac

One of the main resources used by humans for life support and production activities is water and other liquids. For their transportation through pipelines, pumping units and installations are used, driven by three-phase asynchronous electric motors. Only for the transportation of clean and waste water in Kazakhstan annually spent at least 120-130 billion kW-hours of electricity, the cost of which is estimated at 215-235 billion tenge. From 30-40 % of electricity is lost due to the relatively low energy efficiency of electric drives of pumping units and their operation with excess head. This is one of the reasons for increasing the cost of life support for people and products. The trend of the world community is to reduce electricity consumption in order to effectively use resources and increase the competitiveness of products.

The thesis deals with the problem of improving the energy efficiency of liquid transportation by pumping units.