

remote control by work to stations. This enables to reduce the cost mHPP (due to simplification managerial system), reduce the number servicing personnel and allows to spare on home and production premises. Thereby, use the optimum systems of the autocontrol HPP small power will give the Ukraine significant economic advantage and will provide broad spreading HPP small power for the reason more efficient use the renewed sources to energy.

The main technical idea are transition HPP on work without servicing operative personnel, simplification of the systems of the autocontrol and technological automation without loss of their accuracy and reliability and control state of working stations on channel non-wire relationship.

The main hypothesis are a positions about possibility of the work HPP small power with simplified regulator without reduction of reliability and economy, including in mode of their work on water-wire.

Use on mHPP simplified systems an autocontrol reduces the cost to stations, not worsenning reliability of its work, but introducing the new digital systems of the autocontrol on existing mHPP and full automation mHPP will provide the possibility of the use to stations without servicing personnel that promotes the essential reduction to prime cost made to electric powers.

## **INFORMATION-METROLOGICAL BASES OF THE CALCULATION WORKER TRAVELL ABOUT CENTRIFUGAL PUMP**

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The pump presents itself hydraulic machine, transforming mechanical energy of the drive engine in energy of the liquids, providing its motion.

Coming from functionality of the pump, defining technical parameter are a presenting and pressure.

Presenting - a volume to liquids, given by pump in unit of time, expressed in  $m^3/h$  (the crew's quarters at hour) or  $l/s$ , (the litre at second).

The pressure - a difference specific energy to liquids in sections after and before the pump, expressed in metre of the water pole.

The notion "pressure" use in pump of the three-dementional type, expressed in atmosphere (kgs/sm<sup>2</sup>) or megaPascal (MPa) (one megaPascal is 10 atmosphere).

Thence follows classical "pressure" feature of the pump, in which on axis of the abscissas is postponed presenting, but on axis of the ordinates - a pressure for dynamic pump for pump of the three-dementional type conversely.

Functioning the pump is founded on interaction of the blades revolving worker travell about and liquids. Telling lies, worker wheel reports circular motion being half way between blade to liquids. In consequence of appearing centrifugal power liquid from the centre travell about moves to external output, but freed space is newly filled by liquid, enterring from soaking up pipes under the action of created unset.

Leaving out of worker travell about first section, liquid enters in channels directing device and then in the second worker wheel with pressure, created in the first section, whence - in the third worker wheel with increased by pressure, created in the second section.

Out from the last worker travell about liquid through directional device enters in lid pump and from it in pressure pipe line.

When functioning the pump in consequence of pressure of water on uneven on area to lateral surfaces worker travell about appears the axial effort, which tries to displace the rotor of the pump aside suction. For balance axial force in pump is provided discharge device, consisting of disk of the unload, ring and discharge bushing and remote bushing.

Two principles use for building of the models: deductive (from the general to concrete) and inductive (from quotient to the general). Under the first approach is considered private event to well-known fundamental model, which adapts to condition of the prototyped object with provision for concrete circumstance. The second way expects propulsion hypothesises, decomposition of the complex object, analysis, then syntheses. It here is broadly used resemblance, searching for analogy, conclusion for the reason shaping of any regularities by means of suggestions about behaviour of the system.

As a result done work have got the simplified model mathematical calculation that vastly shortens the expenses of time for calculation. By means of electronic modeling have got the more exact calculations, as well as reporting in the manner of graph, on which immediately possible define the place to designs, where will occur most and least loading power and do the findings about designs given device.

On report inventor has got the small difference in load on full tilt between formulating by calculation and calculation in generator component gross that once again confirms the field exact accounting actions program. She takes into account all that required for accuracy of the output ready, correct answer. In report possible to notice that is there specified the most necessary got importances.

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**INCREASING TO TECHNICAL-ECONOMIC EFFICIENCY OF THE  
PUMPING INSTALLATION TPP AND APP**

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The much of the consumption to energy on own necessities power station (before 20-30%) goes on drive pumping and ventilator installation. So exactly in this direction follows to search for the significant reserves energy-saved on TPP and APP. Energy-capacity pumping installation is defined by feature to hydraulic network, on which they work.

In turn, feature to network is defined by necessary consumption worker ambiances, as well as geometric parameter to network, factor local and linear losses.

As a rule, consumption worker ambiances on pipe line is defined by power of the consumer (turbine installation, capacitor) or need of support current technological processes (condensate-wire, oil-wire, drainage pipe lines). The linear sizes pipe line are