

reliability, transportability, long length, extensions of the period to usages, necessary using the perspective methods of management their heat condition, forecasting and maintenance to density of the horizontal opening external, internal body cylinder.

The perspective method of management heat condition body cylinder steam turbines is an using the method inverse form to warm-up unevenness (ZFTN) connected body cylinder, since is herewith reached accounting economy of the running part of turbine, maneuverability, reliability, activate transportability on row of the nodes of the turbine.

For ensuring the using ZFTN at condition of the development of the program ZFTN for starting the turbine from different heat conditions known ways shaping to inverse warm-up unevenness internal connector body of the cylinder of the high pressure of the steam turbine by regulations warm-up swing between degree, tangential voltages between degree, the temperature.

To reach greatly possible coefficient of efficiency CVD steam turbine in said mode necessary simultaneously [1] adjust the warm-up swing between degree, tangential voltages between degree, warm-up tangential voltages between degree on program of the adjustment of the condition of the body of the cylinder of the high pressure of the steam turbine.

Reference

1. Спосіб формування оберненої температурної нерівномірності внутрішніх роз'ємних корпусів циліндра високого тиску парової турбіни: [Текст]: патент 146171 Україна, МПК F01D 19/02 , F01D 1/00 / М. М. Нечуйвітер – № и 2020 06207; заявл. 25.09.2020; опубл. 20.01.2021, Бюл. № 3. – 4 с.

STUDY AND CALCULATION CAPACITOR MIXED TYPE

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Graph-analytic method of the calculation head-hydraulic and aerodynamic features "dry" water-tower is stated in work. This method allows to optimize the fe

atures of the trumpet bunch and row of the features extraction to towers, define the most efficient type, arrangement and material heat-exchange element. The results of the calculation equitable only under vertical location cooling pillars determined type-size in relatively narrow interval of the temperature and consupcion heat-carrier. In base of the mathematical model "dry" water-tower with natural pulling prescribed system accounting equations of the change parameter heat-carrier, as well as equations relationship with external complex object. Herewith following conditions and admissions are accepted:

- a current of the air in extraction tower univariate, settle and described law gas speakers for nonviscous of the liquids;
- a change the pressure of the air law hydrostatics will comply with on height;
- is allowed differring design and location heat-exchange surfaces in extraction tower.

The accounting temperature medicine to be taken externally air defines length of the period, during which actual temperature cooled circulation water exceeds accounting. At choice of the accounting temperature medicine to be taken externally air was taken into account change the temperature circulation water at the input and leaving the

capacitor and water-tower, change to powers of the turbine and underproduction to electric powers. The most influence upon efficiency of the using "dry" water-tower renders the temperature circulation water on output from water-tower. The reduction of the warm-up pressure brings about increase the sizes water-tower and capital expenditures on its building.

However in this case underproduction to electric powers at hot length of time falls. The sizes water-tower fall when increase the warm-up pressure and capital investments in it, as well as cooling water-tower ability at hot length of time that brings about increase underproduction to electric powers.

Work is directed on increasing of reliability and economy condensation systems TES and AES, determination and research motivation of the cardinal principles of the choice condensation systems, development of the methods of the calculation heat, hydra- and aerodynamic features system element "dry" cooling power station. Following results are received in process of the study.

METROLOGICAL BASE OF THE RECALCULATION OF THE FEATURES CENTRIFUGAL PUMP ON VISCOUS LIQUID

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Efficient use centrifugal pump in different branch of industry, dealing with workers liquid, viscosity which greatly more (sometimes in reek), than viscosity liquids - an actual problem: in the world work the hundreds of a thousands such pump.

Since test centrifugal pump is realized on cool water (the GOST 6134-2007, ISO 5138-1987), got operating line it is impossible use for viscous liquids.

In base of the methods of the recalculation of the features centrifugal pump on viscous liquids prescribed methods designed "Giproneftomashem" on the base of the studies Ayzenshtayna, Zimina and others soviet scientist as far back as 1960. This methods has born the decennial event of its use so in acting international standard ISO, GOST she is completely used without essential change. However, specified standards limit use provided in them methodses calculation model beside pump, on which were executed studies mortgaged in these standards. The broughted methodses calculation have a reference status and are limited also it is enough narrow range parameter test.

It is recommended renew the methods an calculation accounting and experienced given for reception of the features under different frequency of the rotation worker travell about centrifugal pump. This allows to increase the range to validity of the got features, provides the possibility to automations of the technological processes, where are used centrifugal pumps.

The corresponding to equipment of control frequency rotations pump is conditioned by issue by industry of the Ukraine of the converters of the frequency of the electric current by power before 200 kW, which are intended for power supply anisochronous and synchronous electric motors, being main drive centrifugal pump. Methods of the presentation of the features centrifugal pump is brought also in corresponding to modern requirements to analytical form on development CAD technological process.