Schicht verwendet. Die sortierte Kohle liefert man in den Vergaser durch die Schleuse. Dieser Prozess ist beständig, weil die Kohlereserve über dem Verteiler zu groß ist. Die Kohle läuft aus dem Spender durch Entladungsluke nach unten. Die Dampf-Sauerstoff-Mischung hat einen Druck von 3 MPa. Diese Mischung läuft in den Reaktor durch rotierenden Feuerungsrost. Die Ascheschicht, die auf dem Feuerungsrost sich befindet, dient für die Verteilung und Aufheizung. Das Gas, das aus dem Vergaser oben freigesetzt wird, trocknet die Kohle, die hinunterrückt. In der Verbrennungszone wird zu viel Wärme erzeugt, die für thermische Kohlezersetzung benötigt wird. Man nimmt die Asche aus dem Reaktor durch einen Verschluss heraus. Die Kohlestoffpartikeln, die die Vergasung im stabilen Zustand passieren, durchlaufen 4 Stadien: die Abtrocknung, die Wärmeausdehnung, die Vergasung und das Verbrennen.

Der Prozess der Lurgi-Vergasung hat sowie Nachteile als auch Vorteile. Die Vorteile sind: 1) das so genannte Gegenstromprinzip: gute Wärmeübertragung bei geringem Sauerstoffverbrauch; 2) die Vergasung läuft unter Druck, was die Kosteneinsparung bei der Kompression bedeutet. Die Nachteile sind: 1) die Partikeln können nur in einer bestimmten Größe verarbeitet werden, weil kleine Partikeln den Leistungsumfang reduzieren; 2) mit der Vergasung passiert die Wärmeausdehnung der Brennung mit Produkten des Semicokings, die anschließend verarbeitet werden müssen.

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New installation using centrifugal way of the water deaeration

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Corrosion Control is one of the most important technological and economic challenges of the industrial era. In the first half of the last century corrosion destroyed up to 40% of the total volume of steel produced. For more than 100 years, the efforts of many scientists around the world are directed to methods and technologies to protect structures from corrosion. However, even now, this value is about 20% of the total production of the main structural material – carbon steel.

The Corrosion protection of power equipment and pipelines – one of the priorities in the development of processes for corrosion protection. The importance of this trend explained by the increased importance of energy supply for all industrial enterprises and settlements . The main preventive measure to prevent the corrosion of pipelines and power equipment is deaerated.

Existing equipment for deaeration was developed in the first half of the last century, and practically unchanged continues to be put into projects, installed and operated at thermal power facilities . These bleeders obsolete and contain technical inconsistencies that fail to achieve sustainable gas removal to the required standards in the required range of conditions and loads.

The major corrosive gases include oxygen O2 and carbon dioxide CO2, dissolved in water when it is in contact with atmospheric air.

The traditional way of deaeration.

As you know, deaerator is a thermal power important element. It is an air removing device. Because too mach corrosion is very dangerous for metal. The gases will increase corrosion of the metal.

Degasser usually domed section includes a vertical deaerating, mounted on top of horizontal cylindrical vessel which serves as a boiler feed water tank from which the air is removed.

Deaerator types.

There are many different horizontal and vertical deaerators available from a number of manufacturers, and the actual construction details will vary from one manufacturer to another one. Figures 1 and 2 schematically illustrate two types of unit elements deearatorov.

Tray-type deaerator.

The typical horizontal tray-type deaerator has a vertical domed deaeration section mounted above a horizontal boiler feedwater storage vessel. A boiler feedwater enters the vertical deaeration section above the perforated trays and flows downward through the perforations. Low-pressure deaeration steam enters below the perforated trays and flows upward through the perforations. Some designs use various types of packing material, rather than perforated trays, to provide good contact and mixing between the steam and the boiler feed water.

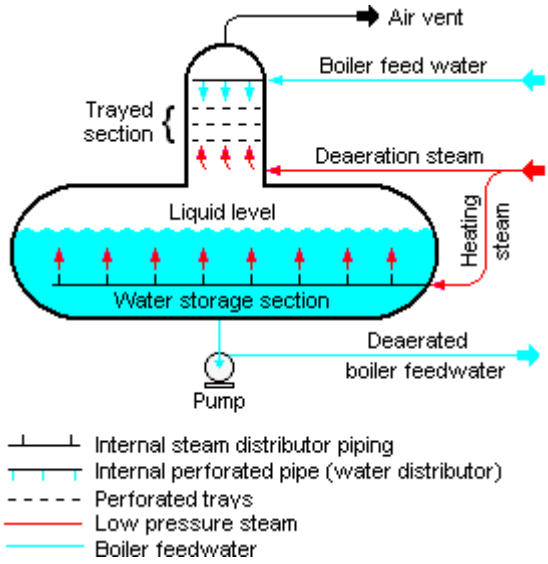

Figure 1: A schematic diagram of a typical tray-type deaerator.

The steam strips the dissolved gas from the boiler feedwater and exits via the vent at the top of the domed section. Some designs may include a vent condenser to trap and recover any water entrained in the vented gas. The vent line usually includes a valve and just enough steam is allowed to escape with the vented gases to provide a small and visible telltale plume of steam.

The deaerated water flows down into the horizontal storage vessel from where it is pumped to the steam generating boiler system. The low-pressure heating steam, which enters the horizontal vessel through a sparger pipe in the bottom of the vessel, is provided to keep the stored boiler feedwater warm. The external insulation of the vessel is typically provided to minimize heat loss.

Installation using centrifugal way of deaerationg of water.

An lnstalling using centrifugal method of water deaeration (Fig. 2) consists of housing 1, built in centrifugal separator 2 . Through a central opening in the upper lid 3 of housing 1 extends drain conduit 4

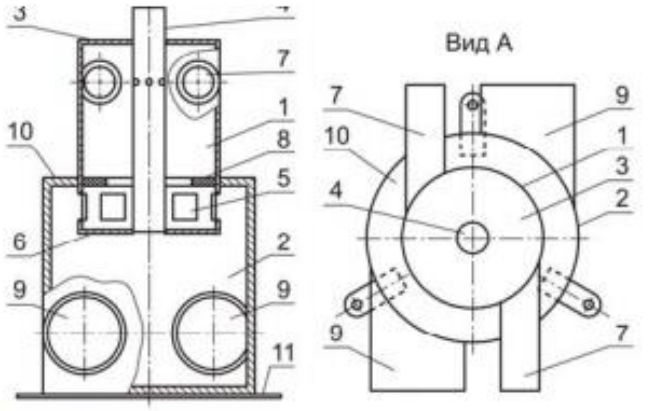

Рис. 2. Конструктивная схема деаэратора ДЦВ-670: 1 – корпус; 2 – центробежный сепаратор; 3, 6 – верхняя и нижняя торцевые крышки корпуса соответственно; 4 – трубопровод отвода выпара; 5 – окна для отвода воды из корпуса; 7, 9 – подводящие и отводящие тангенциальные патрубки соответственно; 8 – кольцевая перегородка (шайба); 10, 11 – верхняя и нижняя торцевые крышки центробежного сепаратора соответственно

vapors . In the housing 1 built into the centrifugal separator 2, windows 5 are located above the bottom end cap of housing 6. Earmarked for the deaeration water, hot relative saturation temperature at the pressure in the vapor space of the deaerator is fed through the tangential Inlets 7. Thanks to the tangential supply, the water flow becomes a rotational movement within the housing. The rotational motion ensures boiling water deaerated part of the rotating flow.

In my diploma work I have calculate the traditional deaerating installation and new, advertized installation using the centrifugal method of the water deaeration. As for my diploma work in future I'd like to find out different deaerating installating economic work. And I hope that my work is progressive and in future it will help people work in this field.

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Synthesis of ultradisperse carbon dioxide powder with plasma-dynamic method in the coaxial magneto-plasma accelerator

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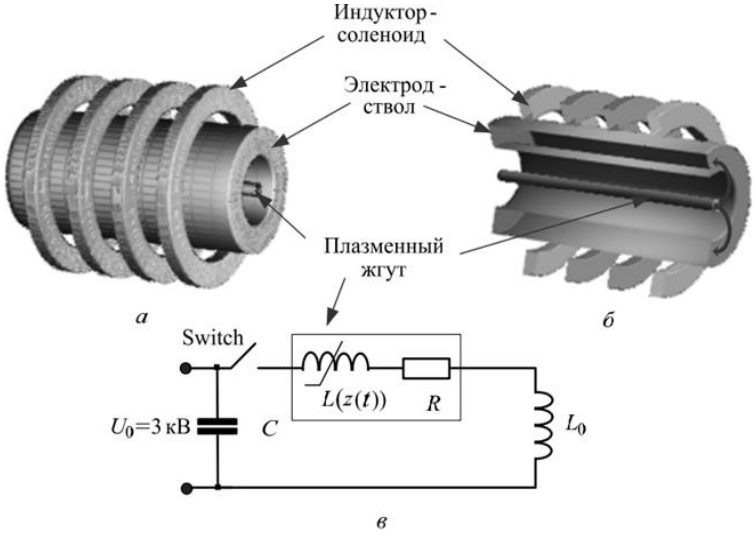
Introduction

Today superconductivity is one of the most promising areas of physics which generates interest of many scientists. However, practical application of high-temperature superconductors is largely limited by the technology.

Literature review shows that currently superconductivity in cuprates results from the copper-oxygen layer where copper atoms form a square grid. Copper atoms are located at grid points, while oxygen atoms are on the lines connecting these points [1][2].



Historical Background

The history of superconductivity is a succeeding discovery of more and more complex structures. It all began with the synthesis of liquid helium, thereby opening the way to the systematic study of the material properties at temperatures close to absolute zero, when the material lose electrical resistance [3] High-temperature superconductors were discovered more than 20 years ago, but still remain a mystery [4].

Figure 1. Simplified model of coaxial magneto-plasma accelerator: a) conductive part; b) cross-section; c) electrical circuit [6].