KOROLAN

production company

EQUIPMENT FOR FOOD AND AGRICULTURE INDUSTRY

CATALOGUE

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CONTENT:

INTRODUCTION

KOROLAN Production Company is a modern, dynamically developing domestic enterprise that has been successfully operating for more than twenty years both in the Russian Federation and abroad.

Over the long period of its operation, KOROLAN PC has taken one of the leading positions among enterprises manufacturing technological equipment from stainless and carbon steels, as well as technological lines for the food, agricultural, alcohol and chemical industries.

The equipment manufactured by KOROLAN PC meets the high domestic and international standards, the requirements of all the technical regulations of the Customs Union and the Eurasian Economic Union that apply to these products, during operation it shows itself as an effective, reliable and multi-functional solution.

The company's specialists carry out a full cycle of work - from the development of design documentation to the manufacture, installation, commissioning, warranty and post-warranty service.

In addition, the company is constantly upgrading its equipment, giving customers the opportunity, if necessary, to re-equip the technology site.

Today, the company has dozens of nomenclature items of products successfully operating in many Russian and foreign enterprises.

When designing and manufacturing technological lines, KOROLAN PC uses high-quality equipment and tries to fulfill all the customer's wishes as much as possible. This allows you to get the company's customers a guarantee of reliability and efficiency in service.

To date, the company has developed a unique range of equipment and processing lines for enterprises and factories in the agricultural sector, which is a direct competitor to equipment manufactured abroad (EU countries, China), in particular for:

- processing waste from animal husbandry, pig breeding, poultry farming, production of feed components: bone, meat and bone, feather, blood flour, etc. (equipment for heat treatment);
- evaporation and drying of raw materials in the agricultural, fish processing, meat processing, alcohol industries: obtaining juice, wine concentrates, glue broth concentrate, tomato paste production, evaporation of distillery stillage filtrates (vacuum evaporation multi-unit plants, bardo-dewatering plants);
- processing waste from the fishing industry (fish processing plants).

Enterprise is always open for cooperation, ready for long-term.

KOROLAN Production Company presents to your attention a complete catalog of manufactured products and guarantees prompt consideration of any orders and their timely and quality execution.

Вид А
ВидЕ (М1:20)
В–В (М1:20)
Б–Б (М1:20)
Г–Г (М1:10)
ТЗ ИП 50/50
(12мест)
ТЗ ИНп
(12мест)
Е (Ду80)
В1 Ду600
А Ду200
Б Ду80
Д1
Д2
Г
В2
45° (2362мм. по дуге)
20° (1050мм. по дуге)
10° (525мм)
2320
1080
900
ø608
ø600*
ø200

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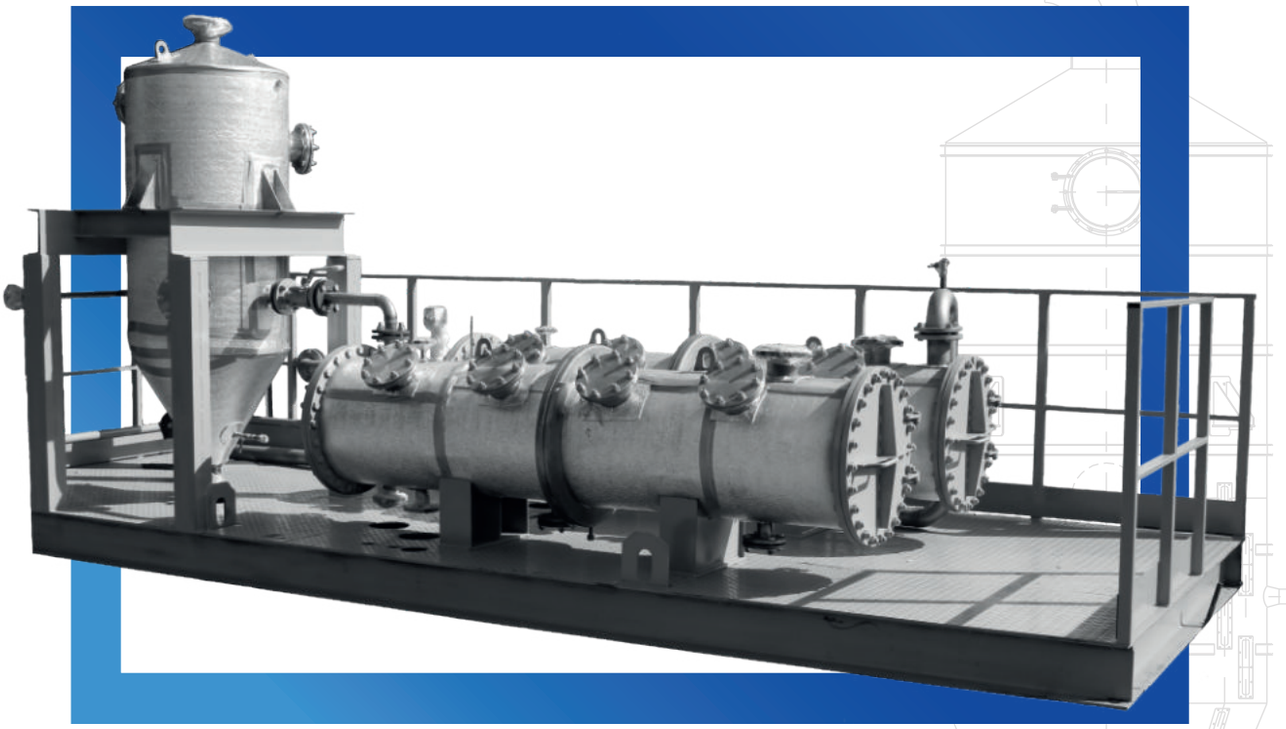
Section 1.

EVAPORATION EQUIPMENT

VACUUM-EVAPORATOR MULTI-UNIT PLANTS



PURPOSE OF EQUIPMENT

PC «KOROLAN» carries out the design, manufacture, installation and launch of vacuum-evaporator multi-unit plants with a capacity of up to 50 tons per hour on evaporated moisture.

This technological equipment is part of the product dehydration lines, allows you to solve the problem of waste disposal of food and agricultural industries, as well as housing and communal services and to get the product at the output without impurities of harmful substances present during gas combustion.

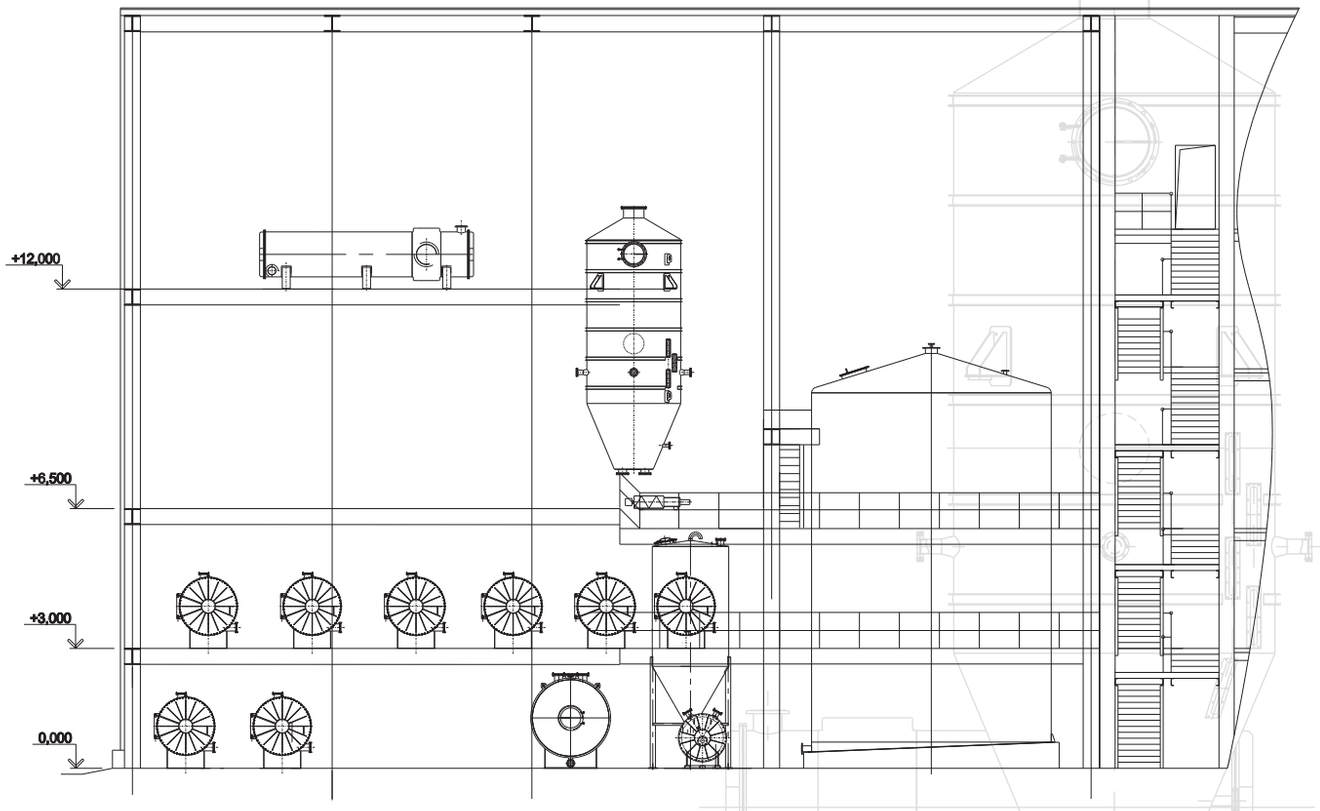
A multi-unit vacuum-evaporation plant can be part of a dewatering plant and can be used to evaporate the filtrate of post-alcohol stillage, as well as similar products.

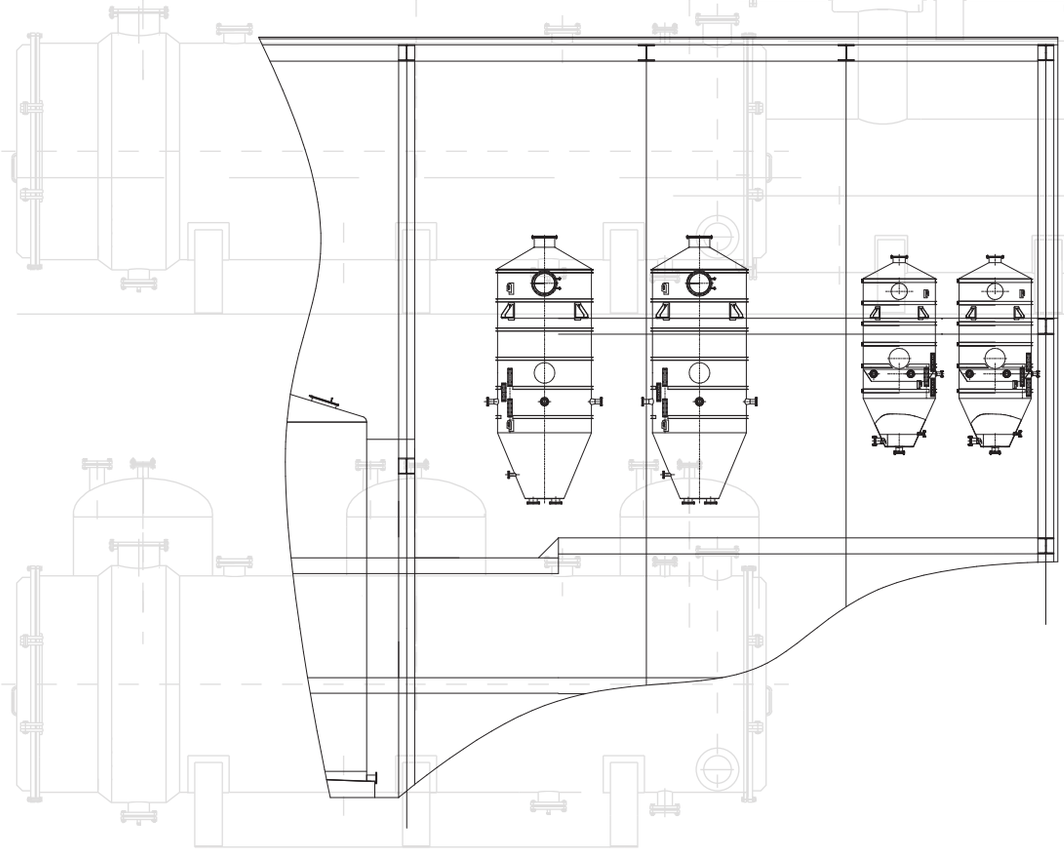
Technical solutions implemented during the design of VEMUP allow minimizing the number of technological wash to one per month. The installation consists of only 4 successive stages of evaporation. Heating steam is supplied only to the first stage of the evaporation unit, each subsequent stage is heated by the secondary pairs of the previous stages. The boiling point decreases sequentially from stage to stage by reducing the pressure in them.

Through the use of a secondary condensate heat recovery system, its heat is directed to heating and evaporating the filtrate of steps with a lower boiling point.

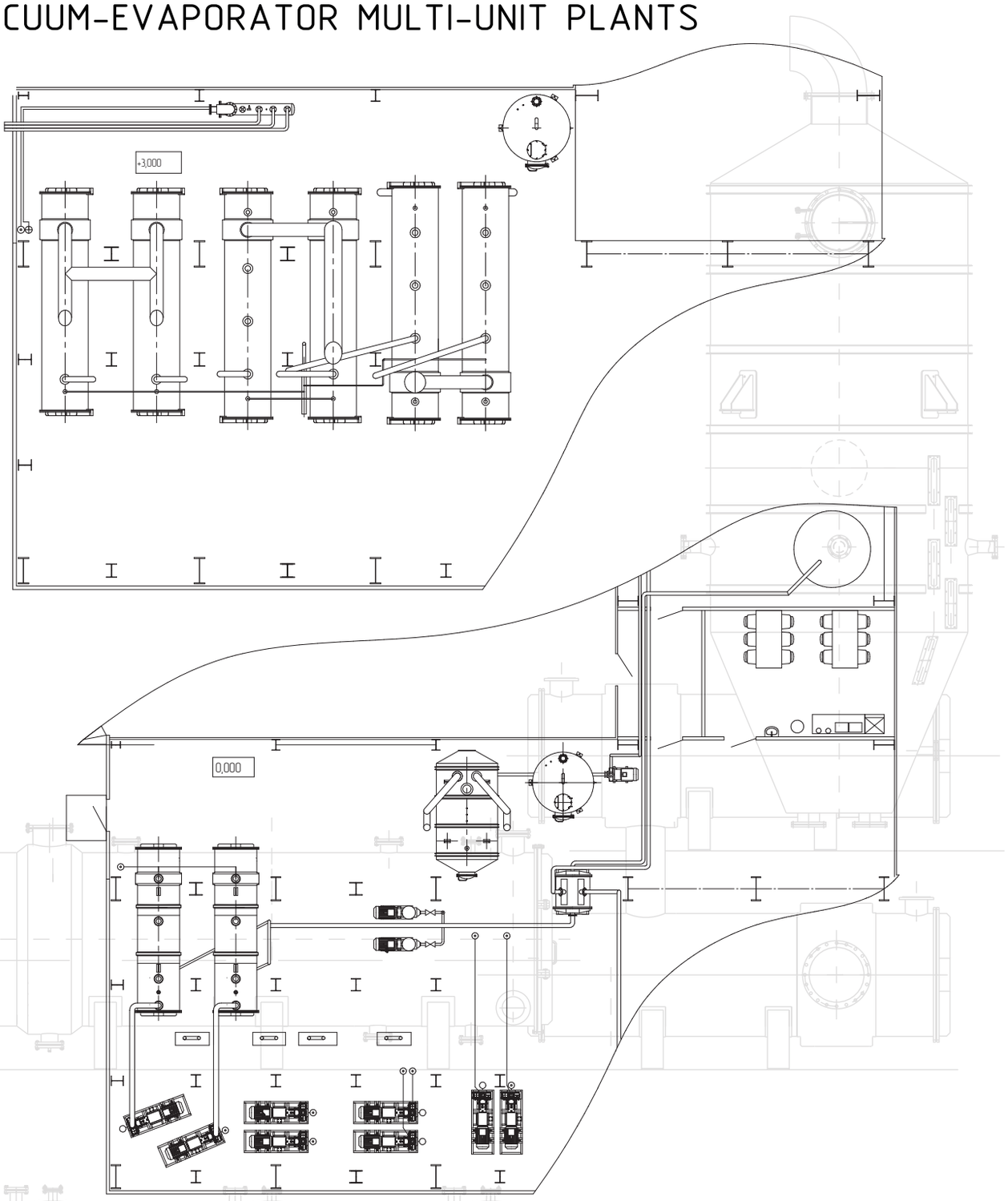
Water in the form of dirty condensate formed during the evaporation process meets all the requirements of the sanitary and epidemiological station and is suitable for discharge without additional cooling into the treatment plant system.

VACUUM-EVAPORATOR MULTI-UNIT PLANTS





VACUUM-EVAPORATOR MULTI-UNIT PLANTS



BASIC TECHNICAL DATA

Technical Data	Productivity by evaporated moisture, tons/hour*				
	1,6	9	12,4	22	45
The dry content at the inlet,%	5-6	4	4	4	4
The dry content at the output, not less than,%	30	25	25	30	30
Supply steam pressure, MPa (kg/cm^2)	0,4 (4)	0,3 (3)	0,3 (3)	0,3 (3)	0,3 (3)
Steam consumption, tons/h	0,7	3,4	4,34	7,1	14,0
Water consumption for condensers, m^3/hour	20	100	100	200	350
Electric power consumption, kW	40,7	148	183	370	420

* - evaporated moisture productivity according to customer specifications

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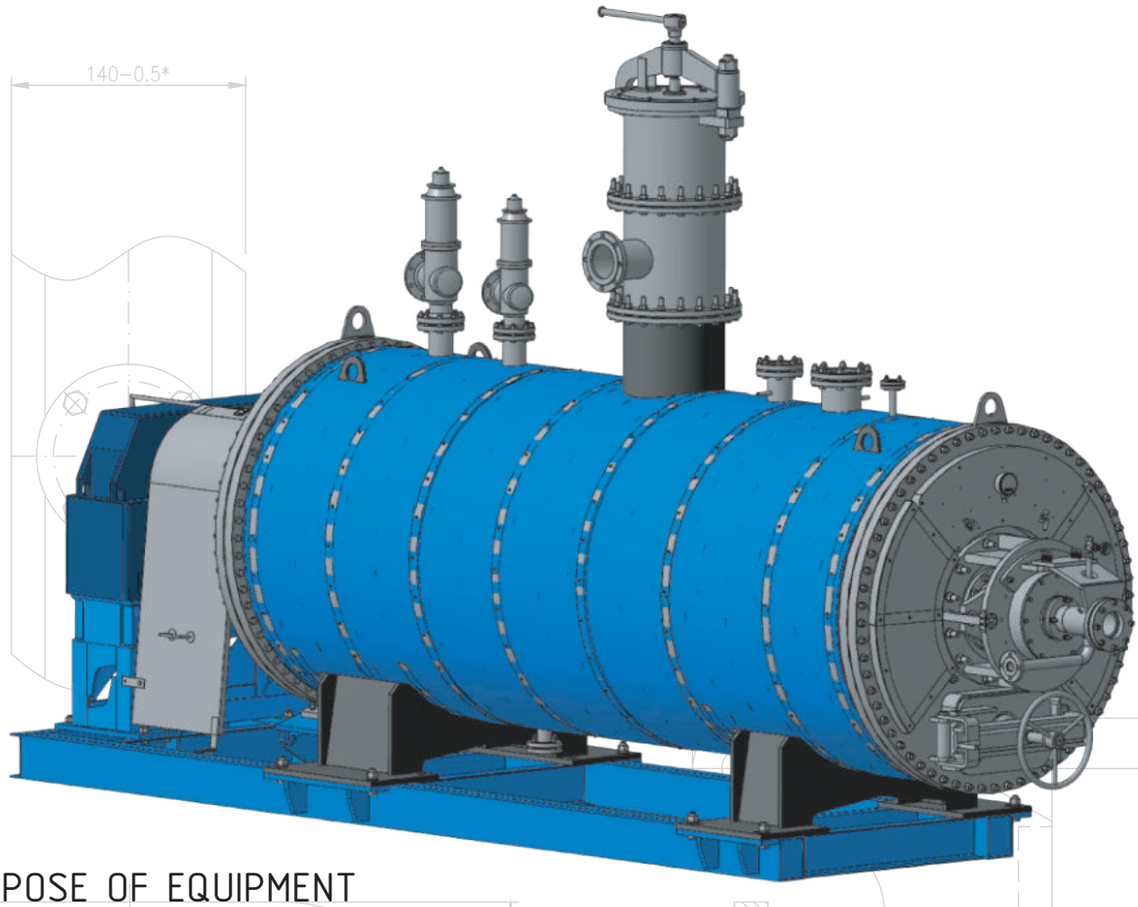
Section 2.

EQUIPMENT FOR HEAT TREATMENT

COOKING BOILER OF FEED GRADE «KVK»



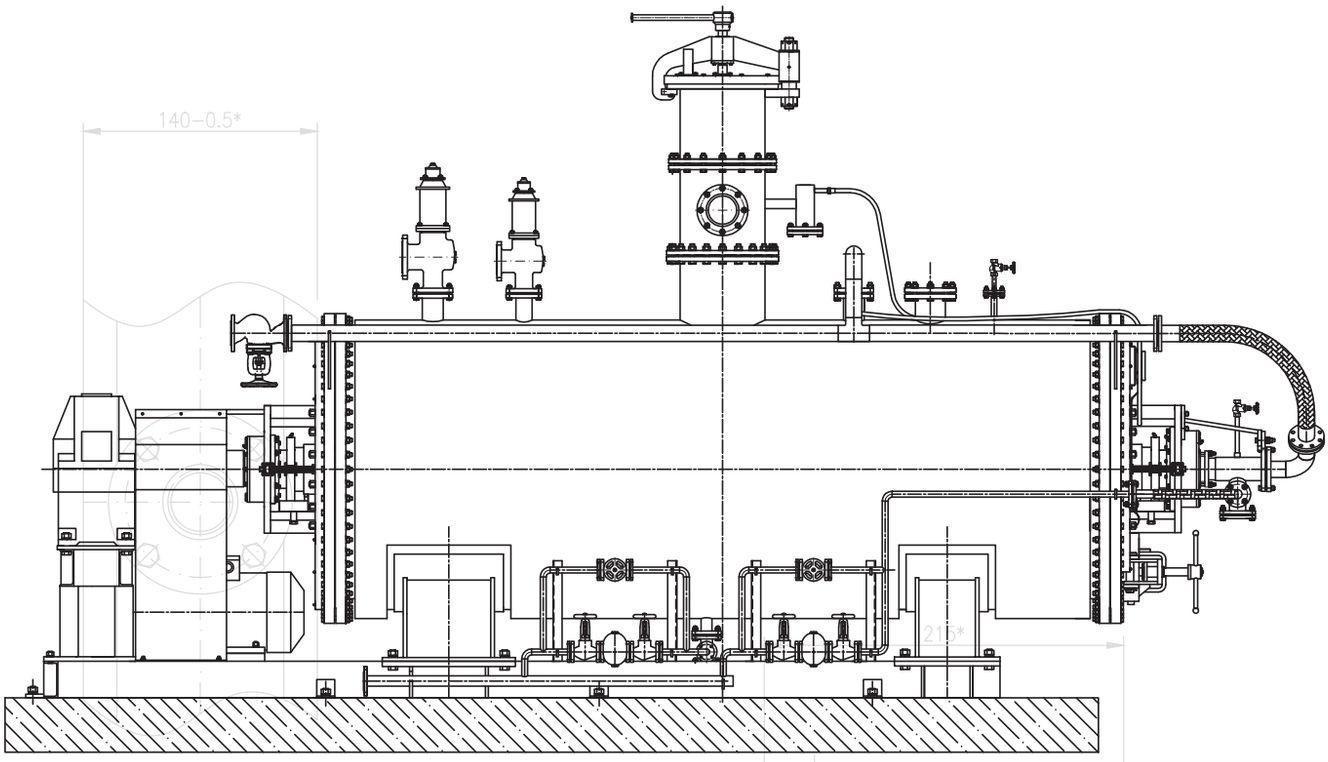
PURPOSE OF EQUIPMENT

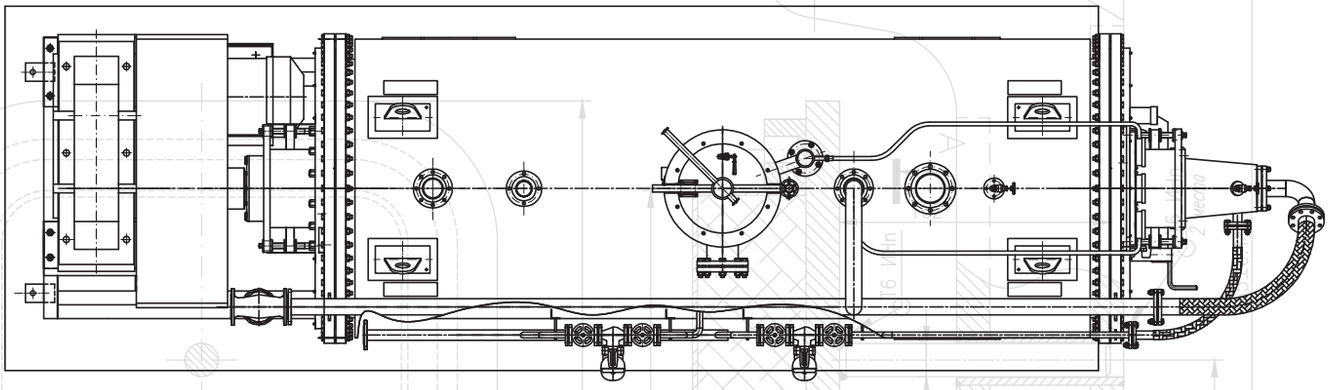
PC «KOROLAN» carries out the design, manufacture, installation and launch of boilers for cooking feed grade «KVK» up to 10 cubic meters and cooking lines in a turnkey automatic cycle.

This technological equipment is intended for industrial use with the aim of processing livestock products, slaughterhouse waste, case and other resources that require high-temperature processing, for technological purposes for the production of compound feed (bone, meat and bone, feather, blood flour, etc.).

KVK-5.5M is designed and manufactured as a replacement for technologically obsolete horizontal vacuum boiler KV-4.6M and has the following unique technical solutions that can effectively implement the enterprise's technological tasks, compliance with environmental standards, and reduce production costs:

- for the first time in Russia, a heated shaft technology was used in the design;
- significantly increased evaporation surface during drying of raw materials;
- reduced cooking cycle of raw materials from 8 to 4.5 hours;
- electricity costs reduced by 36%;
- high maintainability at the installation site under the conditions of the existing production cycle (replacement of blades, bearings, shaft, seals);
- the service life of the equipment is increased to 10 years due to an increase in the thickness of the wall of the body and the steam shell;
- the boiler is replaced without making structural changes to the steam and electric piping, as well as the supply pipelines;
- the overall dimensions of the loading and unloading zones are preserved by maintaining the overall dimensions of the product.

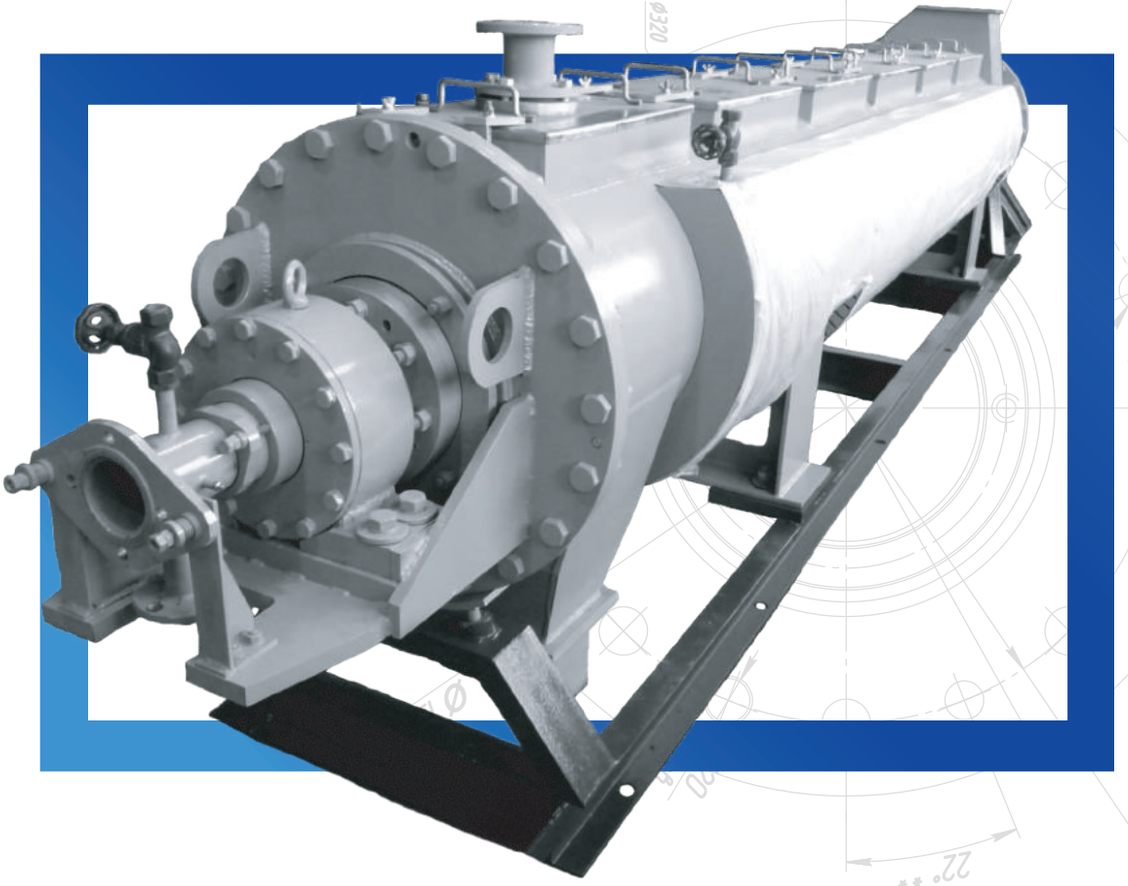




BASIC TECHNICAL DATA

Technical Data	Capacity (body volume), m^3	
	5,5	8,5
HEATING AREA, $sqr.m^2$	30,9	40,7
CYCLE TIME, hours	4,5	4,5
MAXIMUM NUMBER OF CYCLES PER DAY	5	5
MAXIMUM DAILY PRODUCTIVITY, kg	16 000	25 000
MAXIMUM (PEAK) STEAM CONSUMPTION, kg/h	1 500	2 100
THE RATIO OF STEAM CONSUMPTION TO RAW MATERIALS WITH AN AVERAGE HUMIDITY OF 70%	1,25	1,25
DRIVE POWER, kW	37	55
ELECTRIC POWER CONSUMPTION FOR THE PRODUCED FINISHED PRODUCT, kW* h/kg	0,152	0,152
MASS OF EMPTY BOILER, kg	17 800	22 800
OVERALL DIMENSIONS, LxWxH, mm	6255x1600x3200	7175x1800x3400

STEAM VARILNIK BRAND VP (COOKER)



PURPOSE OF EQUIPMENT

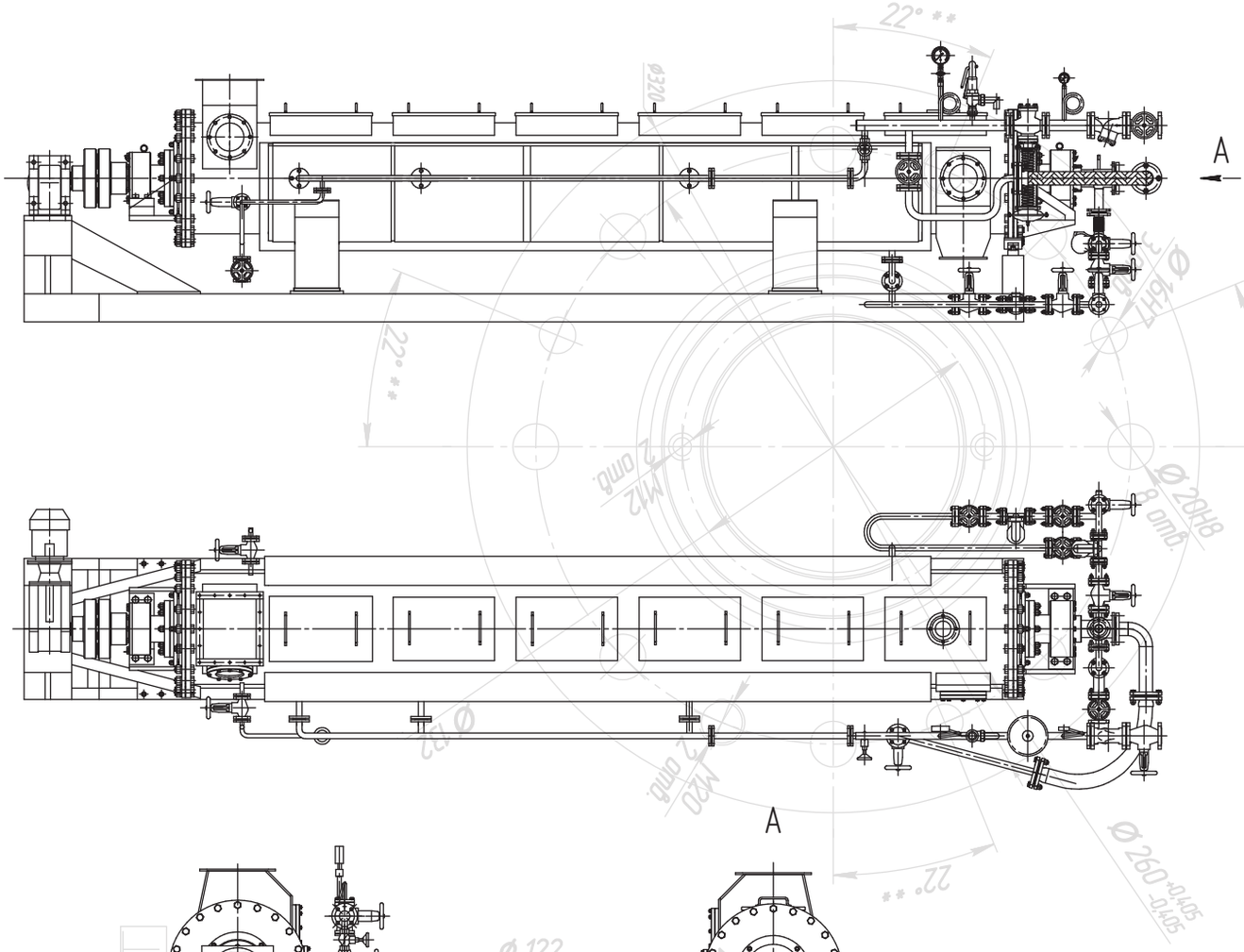
This technological equipment is intended for industrial use with the purpose of processing waste from the fishing, meat industry and other resources requiring high-temperature processing, for the production of compound feed from crushed raw materials (fish meal, meat and bone meal, blood meal, etc.).

The raw material enters through the loading window into the equipment enclosure, where it is digested. The raw materials are heated through the wall of the enclosure and the shaft with steam supplied to the shaft and steam varilnik shell.

The movement of raw materials in the steam varilnik is due to the screw mounted on the shaft. The shaft rotation frequency determines the speed of movement of the raw materials in the steam varilnik and thereby regulates the residence time of the product in it.

During cooking, fat is released from bone tissue and pulp. In the case of using raw materials with high fat content, water may be added to the raw materials or the use of hot steam. The raw materials in the steam varilnik are heated to a temperature of 86-96 °C.

After passing through the entire body, the product falls into the discharge window, from where it is removed to the next processing stage.



BASIC TECHNICAL DATA

Technical Data	Productivity, tons/hour		
	1,5	2,5	4,2
STEAM CONSUMPTION, kg/hour	240,0	450,0	740,0
MAXIMUM DAILY PRODUCTIVITY, tons	36,0	60,0	100,0
DRIVE SHAFT ROTATION FREQUENCY, rpm	1,5–7,5	1,5–7,5	1,5–7,5
INSTALLED DRIVE POWER, kW	3,0	3,0	4,5
MASS, kg, not more than	–	3 300	–
OVERALL DIMENSIONS, LxWxH, mm	–	7085x1690x1381	–

22°**
ø320
Ø 64H7
3 отв.
22°**
22°**
M12
2 отв.
Ø 20H8
8 отв.
Ø 132
M20
2 отв.
22°**
Ø 260 +0,405 +0,085
0,05 A
ø 122
M6H7
2 отв.
Ø 110
A
20
2,8H13
2,5
50
R3
30
Ø 160h11
Ø 114
Ø 110
ГОСТ14771-76-Т6-ИНп
4,5
Ø 114
Полировать
285
Ø 150k6
2,8H13
2,5
Ø 110H10
151 +0,5 -0,5
110
6,3
6,3
6,3
2 фаски
2x45°
62
20
Ø 114H14
Ø 150h11**

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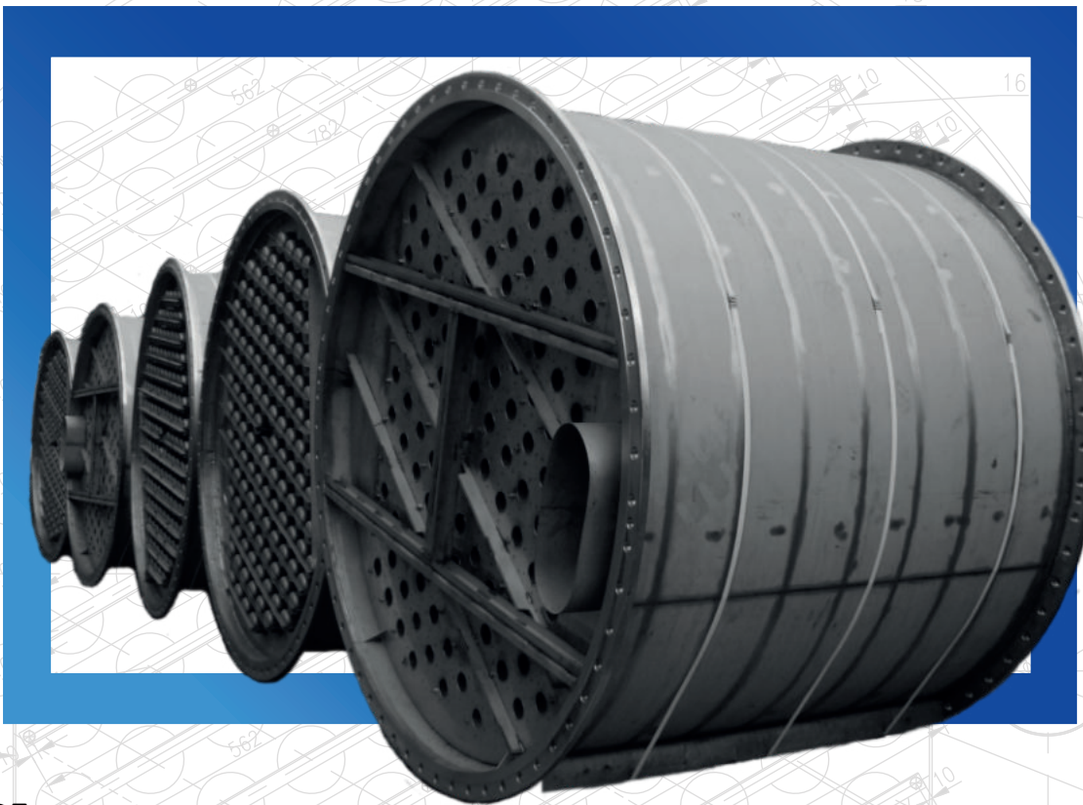
Section 3.

COLUMN EQUIPMENT

COLUMN EQUIPMENT

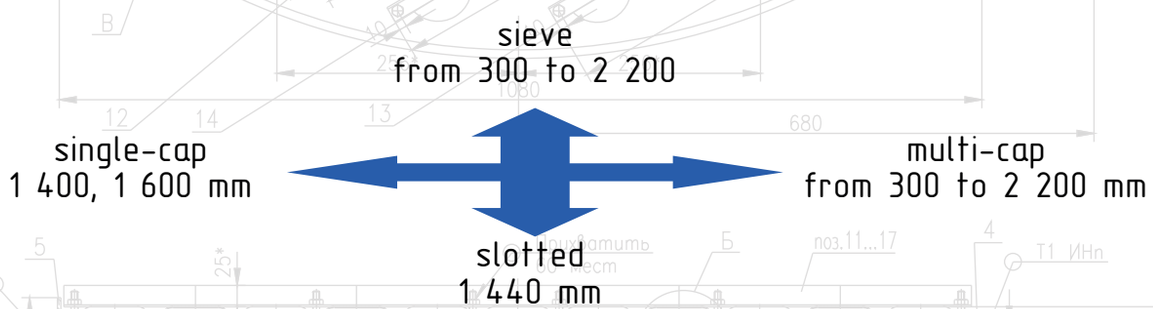


PURPOSE

PC «KOROLAN» produces stainless steel and carbon steel column equipment with sieve, single-cap, multi-cap and slotted types of plates with a diameter of up to 2,200 mm for alcohol, chemical, oil and gas and other industries.

The use of stainless steel in the construction of the column makes it possible to almost completely eliminate column repairs associated with corrosion.

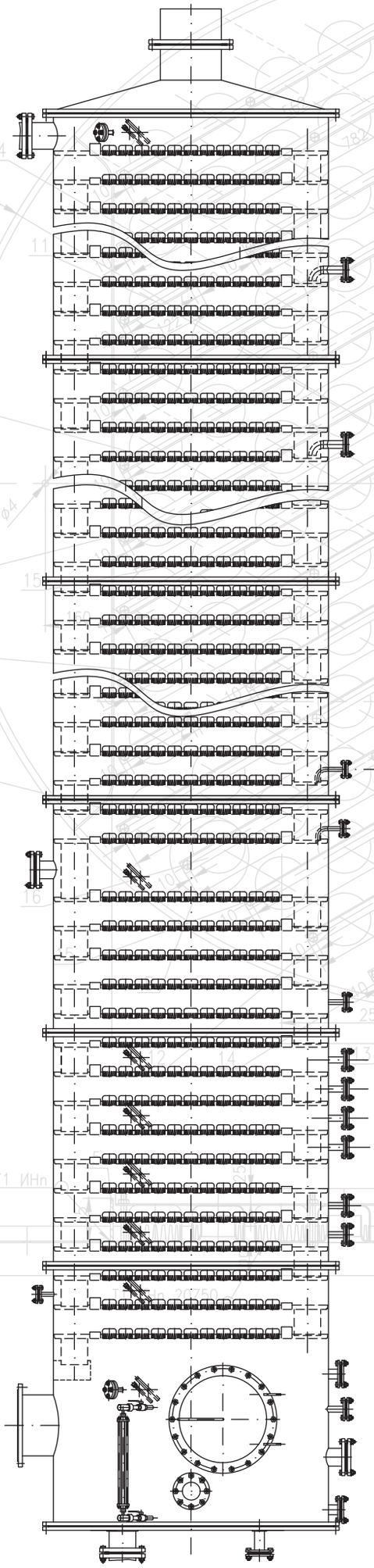
The high quality of the products obtained on our equipment is the best confirmation of this.

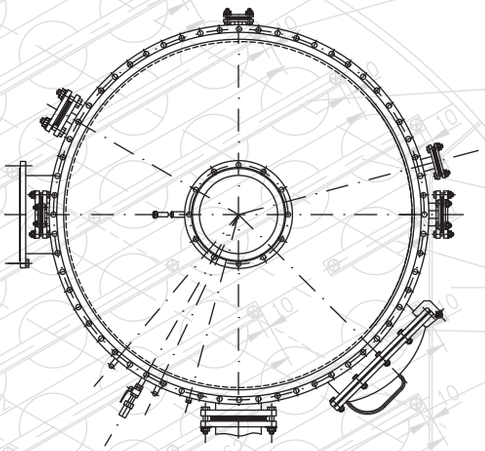


Columns with these types of plates allow you to use them as:

- mash columns
- epuration columns,
- rectification columns,
- final cleaning columns,
- extractive distillation columns,
- fusel columns,
- distillation columns,
- ether columns,
- demethanol columns,
- booster columns.

COLUMN EQUIPMENT WITH MULTI-CAP PLATES

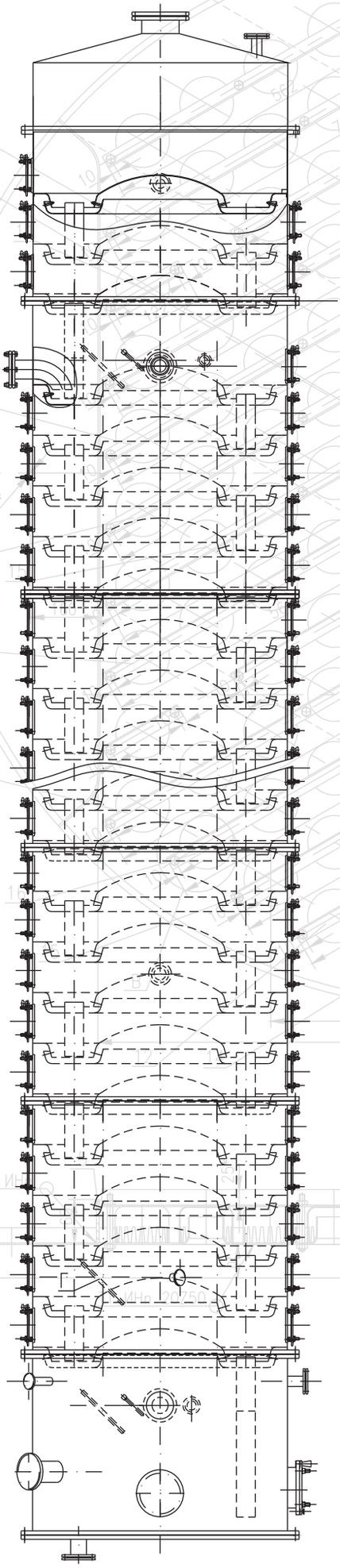


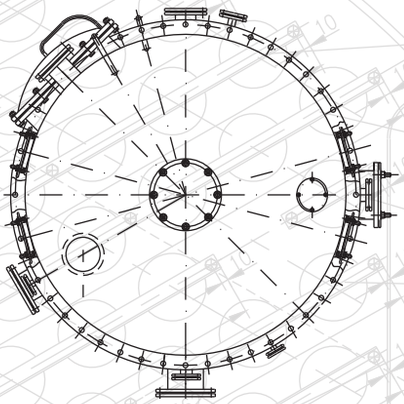


BASIC TECHNICAL DATA

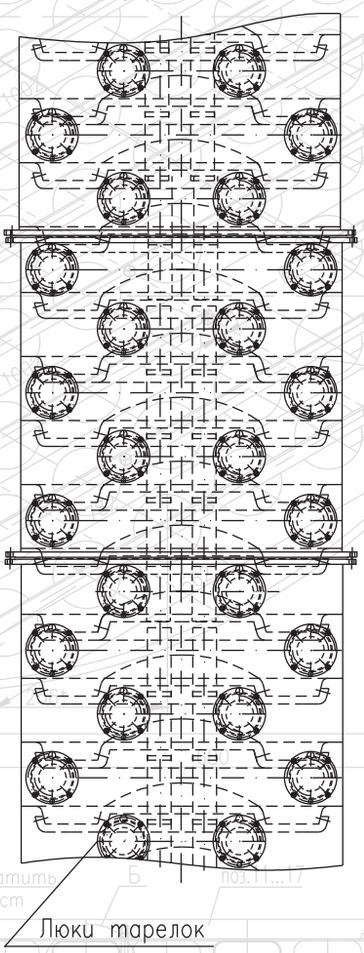
Types of plate.....multi-cap
Plate diameter.....from 300 to 2 200 mm
Operating pressure.....to 0,05 MPa (0,5 kgf/cm^2)
Ambient temperature.....to 110°C
Minimum permissible wall temperature.....0°C
Established service life.....10 years

COLUMN EQUIPMENT WITH SINGLE-CAP PLATES





Bug A

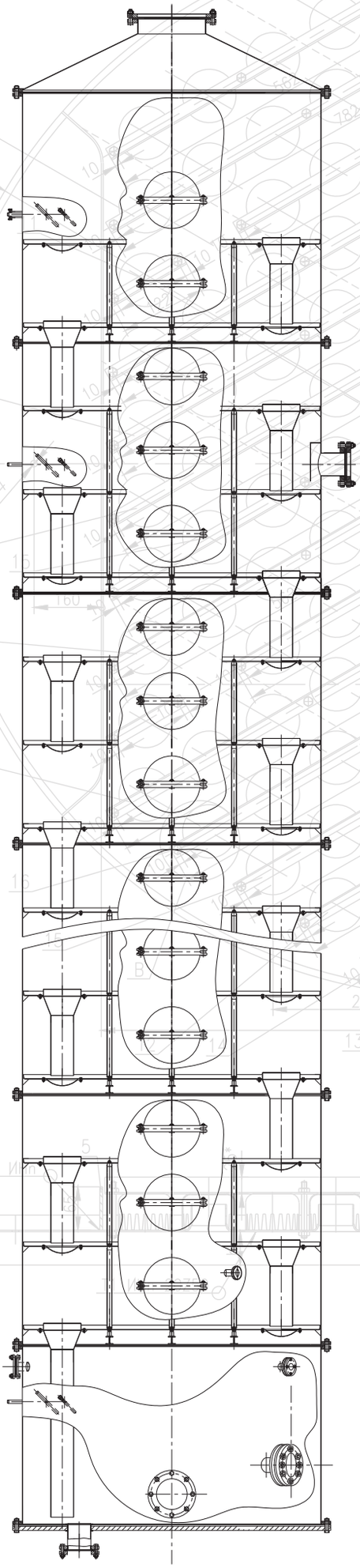


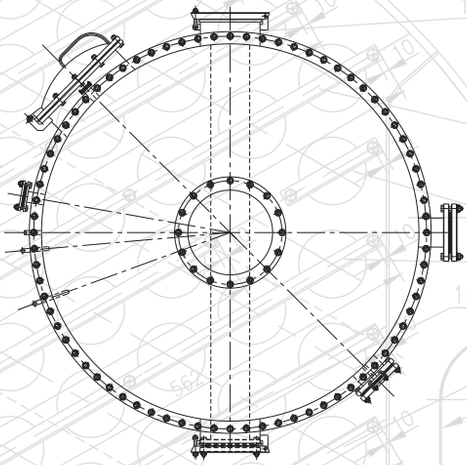
A

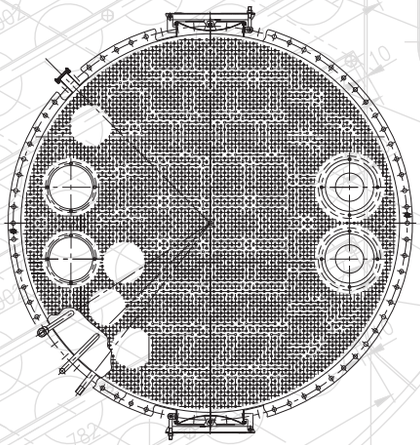
BASIC TECHNICAL DATA

Types of plate.....single-cap
Plate diameter.....1 400, 1 600 mm
Operating pressure.....to 0,05 MPa (0,5 kgf/cm^2)
Ambient temperature.....to 110°C
Minimum permissible wall temperature.....0°C
Established service life.....10 years

COLUMN EQUIPMENT WITH SIEVE PLATES



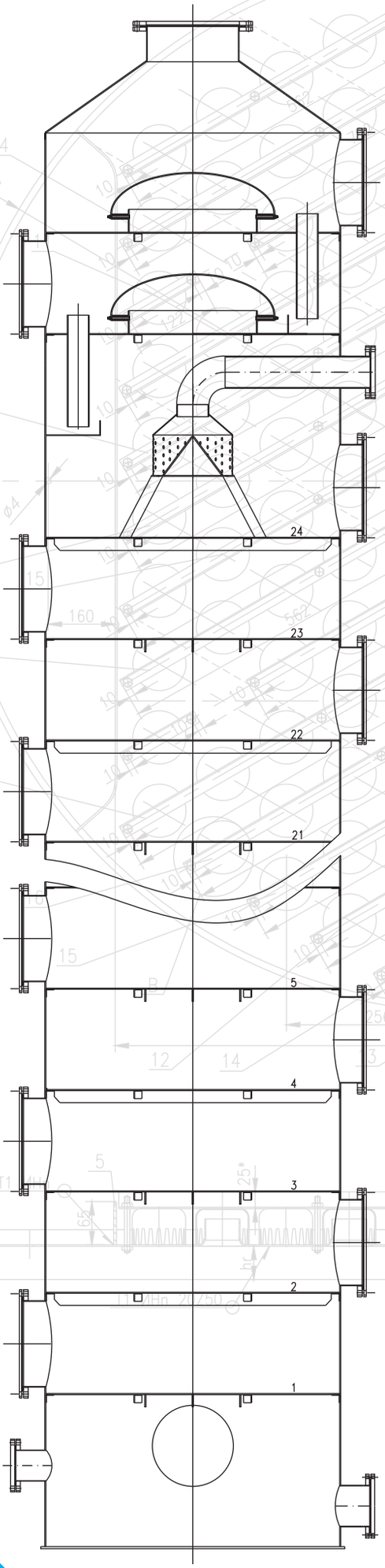


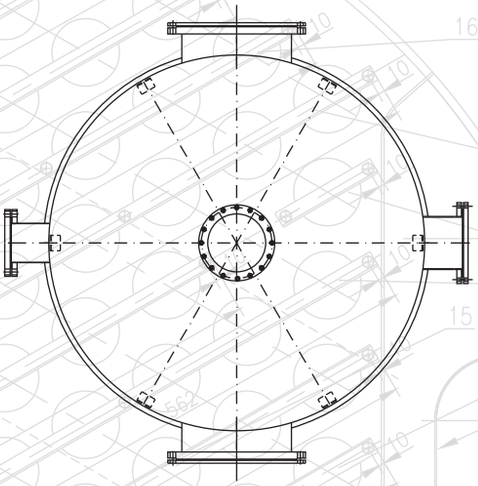


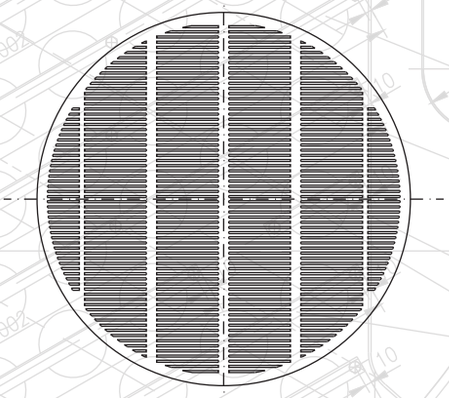
BASIC TECHNICAL DATA

Types of plate.....sieve
Plate diameter.....from 300 to 2 200 mm
Operating pressure.....to 0,05 MPa (0,5 kgf/cm^2)
Ambient temperature.....to 110°C
Minimum permissible wall temperature.....0°C
Established service life.....10 years

COLUMN EQUIPMENT WITH SLOTTED PLATES







BASIC TECHNICAL DATA

Types of plate.....slot
Plate diameter.....1 440 mm
Operating pressure.....to 0,05 MPa (0,5 kgf/cm^2)
Ambient temperature.....to 100°C
Minimum permissible wall temperature.....0°C
Established service life.....10 years

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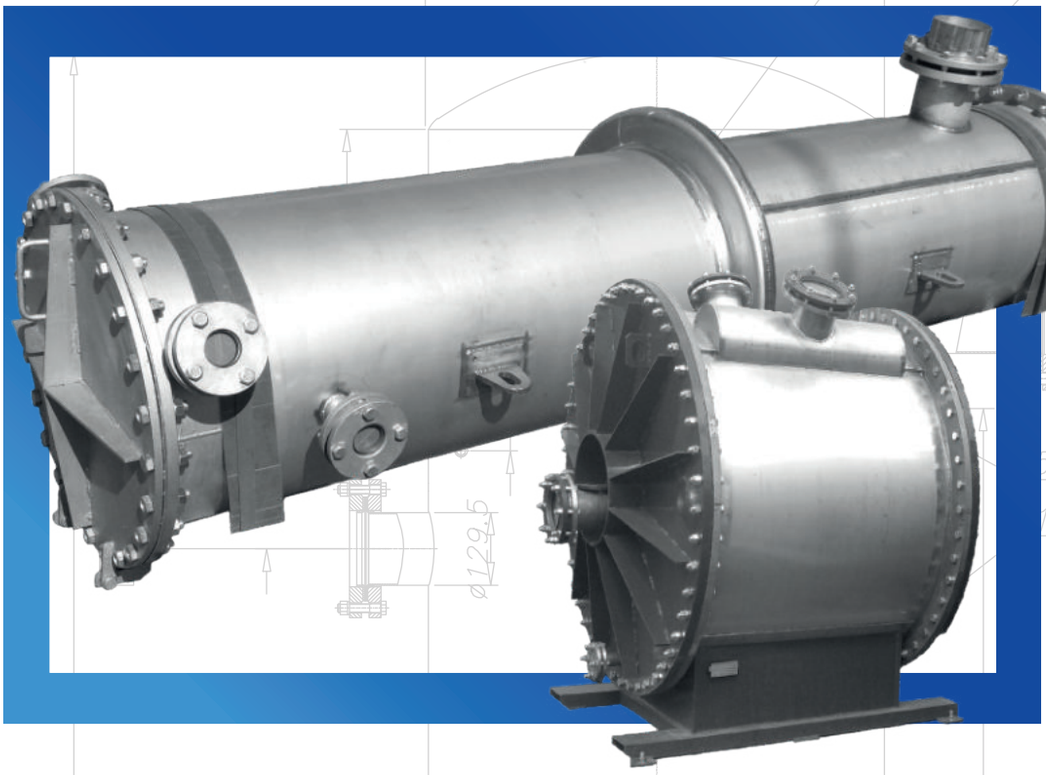
Section 4.

HEAT EXCHANGE EQUIPMENT

HEAT EXCHANGE EQUIPMENT



PURPOSE

Heat exchange equipment is used in production processes for heating, cooling, evaporation or condensation of various environment.

Different heat-exchange equipment is distinguished both in its purpose and in design features: shell-and-tube heat exchangers, spiral heat exchangers, pipe in the pipe, plate-type, coil-type heat exchangers.

Tubular heat exchangers are available with various copper or stainless steel tube bundles, depending on the technological purpose of the apparatus. The use of stainless tubes allows to increase the service life of the equipment due to its corrosion resistance. By appointment, it can be both heaters, condensers and boilers.

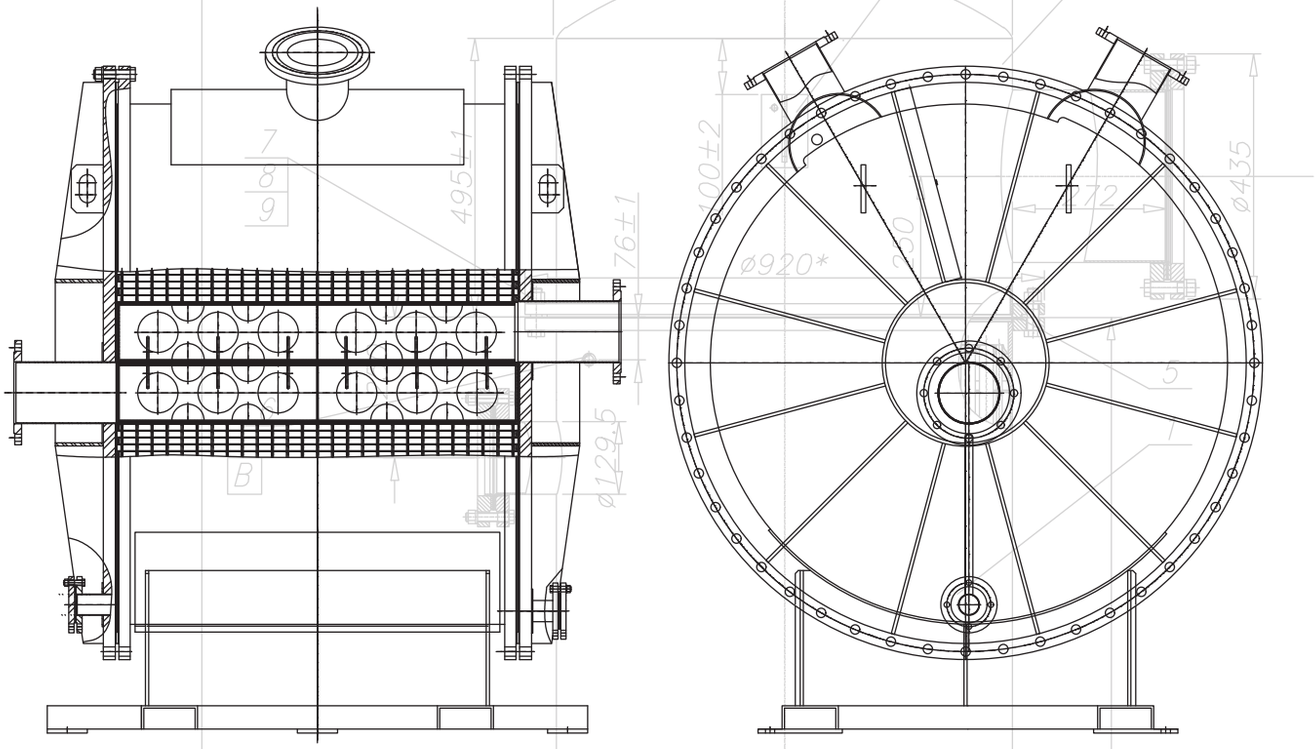
Spiral heat exchangers are made with a stainless steel working chamber, which allows to reduce the corrosion wear of the apparatus.

Due to their design, they are much more compact and do not require large areas for their installation.

The process of servicing heat exchange equipment is also greatly simplified due to the absence of long pipe sections.

By their purpose, heat exchangers are divided into refrigerators, boilers, condensers, heaters.

SPIRAL HEAT EXCHANGERS



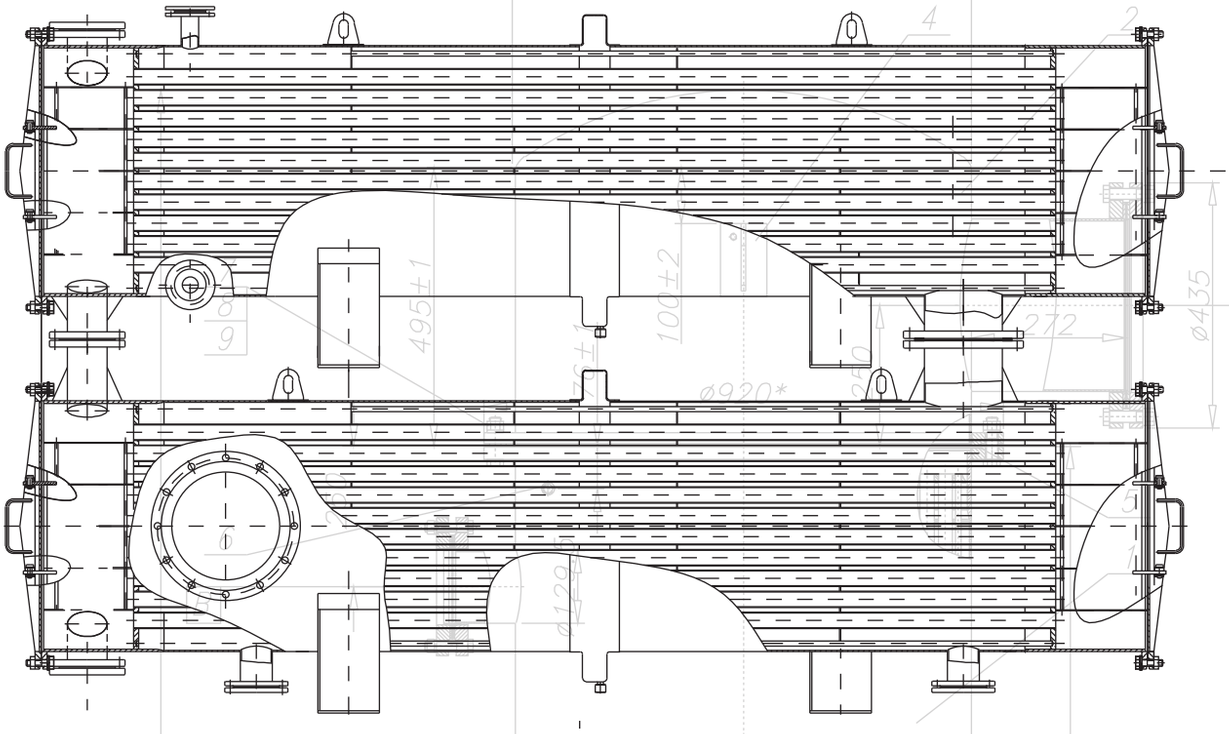
BASIC TECHNICAL DATA

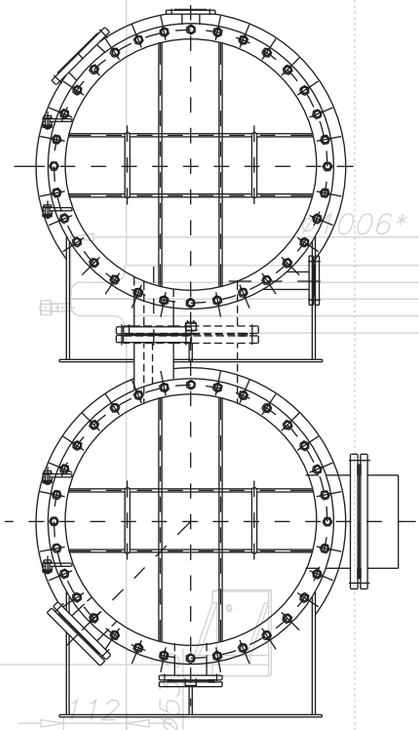
Designed to work with working environments: liquid-liquid, gas-liquid, gas-gas, liquid-vapor, gas-vapor.

All elements of heat exchangers in contact with the working environment are made of stainless steel.

Heat transfer area.....from 2 m^2 to 75 m^2
Material.....stainless / carbon steel
Spiral material thickness.....to 2 mm
Operating pressure.....to 0,6 MPa
Pressure drop between chambers.....to 0,2 MPa

SHELL-AND-TUBE HEAT EXCHANGERS





BASIC TECHNICAL DATA

They are used at the enterprises of the alcohol industry and are necessary elements of the BRU rectification installation.

The main purpose is heating, cooling.

Heat exchangers work complete with columns for various purposes (epure, distillation, etc.).

Heat exchanger housings are made of stainless or carbon steel.

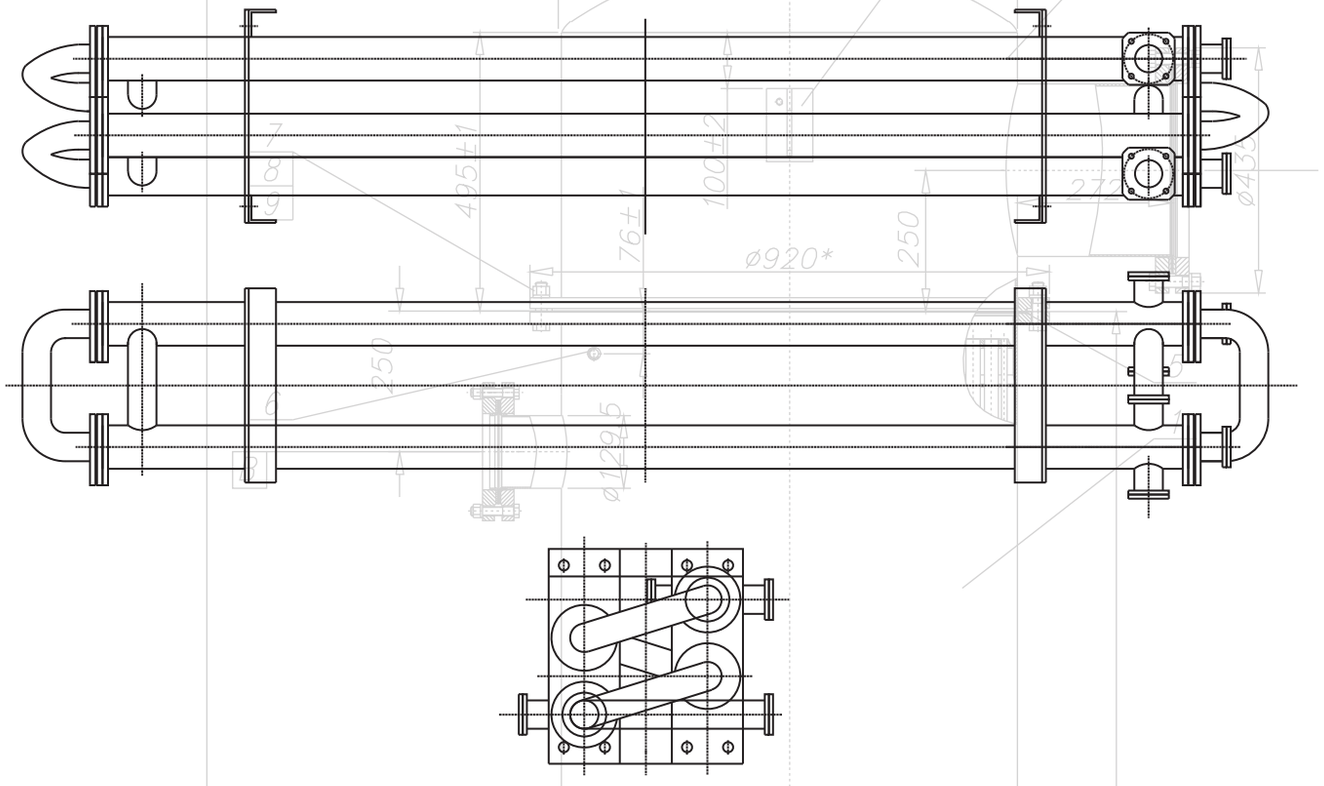
Tubular bundles can be made of stainless or copper pipes.

Heat transfer area.....from 0,5 m^2 to 400 m^2

Pipe pressure.....to 0,5 MPa

Operating pressure between pipe space.....to 0,5 MPa

PIPE IN THE PIPE HEAT EXCHANGERS

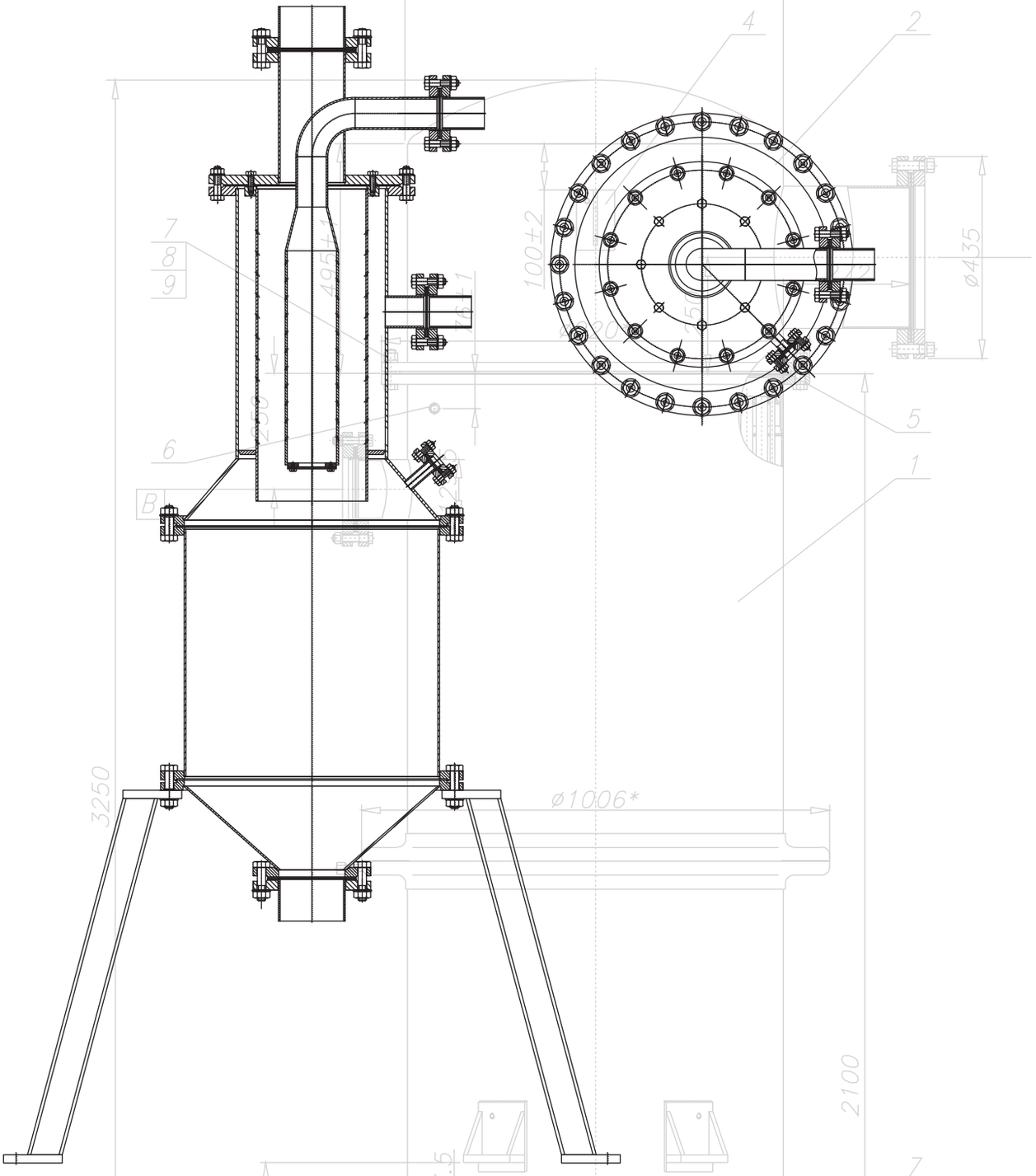


BASIC TECHNICAL DATA

Heat exchanger body are made of stainless or carbon steel.

The environment in the pipe space .....acidic (congestion or mash)
The medium in the annulus.....water
Heat transfer area.....from 5 m^2
Heat exchanger pressure.....to 0,3 MPa
Pipe space temperature.....to 150C°
The temperature between pipe space.....to 110C°

HOT STEAM CONTACT HEADS



BASIC TECHNICAL DATA

Equipment is a necessary element of the BRU rectification installation. Designed for steaming the mass, thermo-hydraulic processing of the batch.

The perforated pipe serves heating steam. Kneading passes through the annular space and is steamed on both sides. The heated mass enters the cooking column.

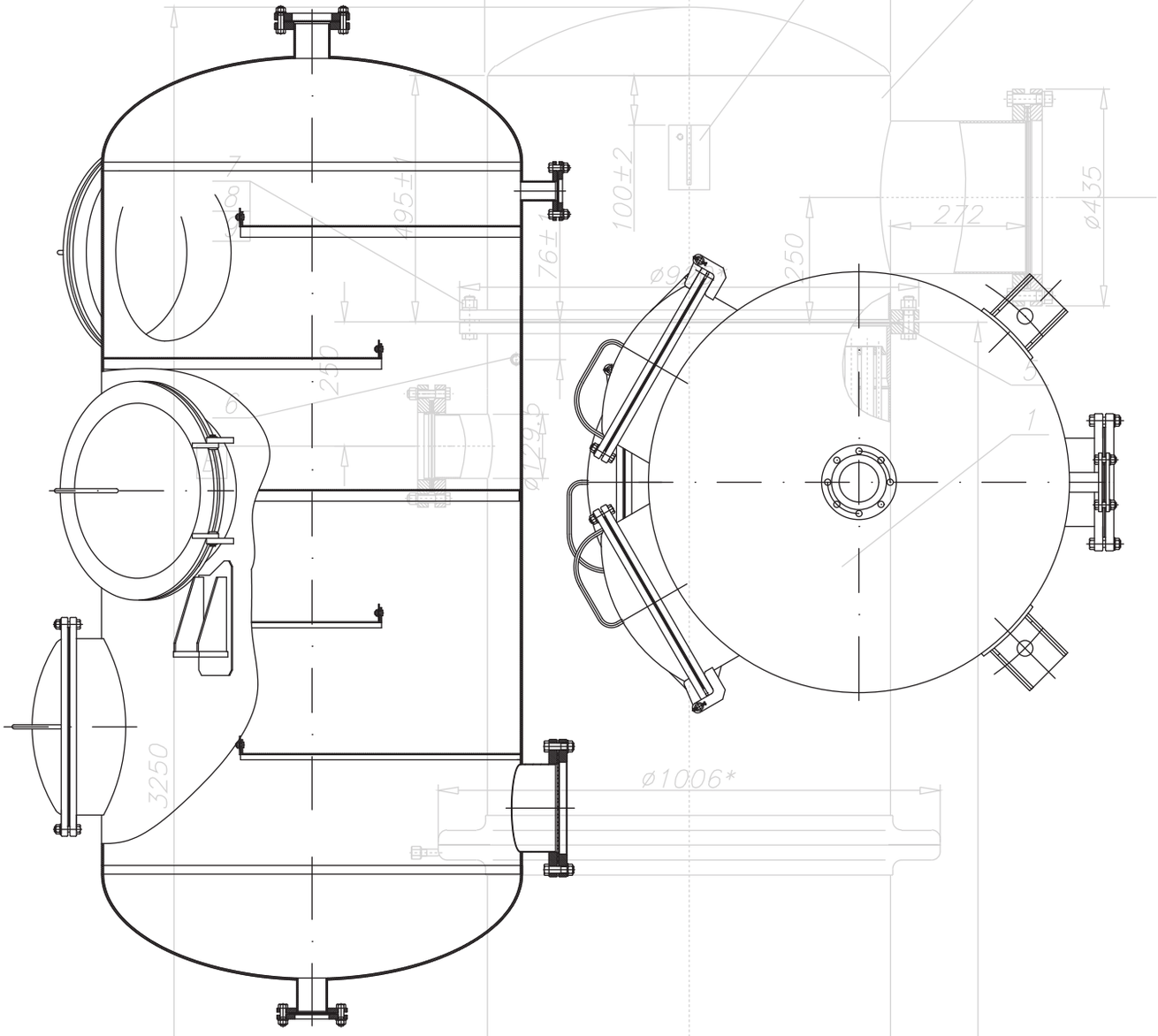
Body of a hot steam contact heads are made of stainless or carbon steel.

Medium: water + grain or potatoes + steam with the inclusion of mineral impurities that contribute to accelerated abrasive wear; the content of mineral impurities should not exceed 0.3% by weight of raw materials.

Operating pressure, MPa (kgf/cm^2).....to 0,6 (6,0)

Operating temperature in K (C°), no more than.....438 (165°)

PLATE-TYPE HEAT EXCHANGERS



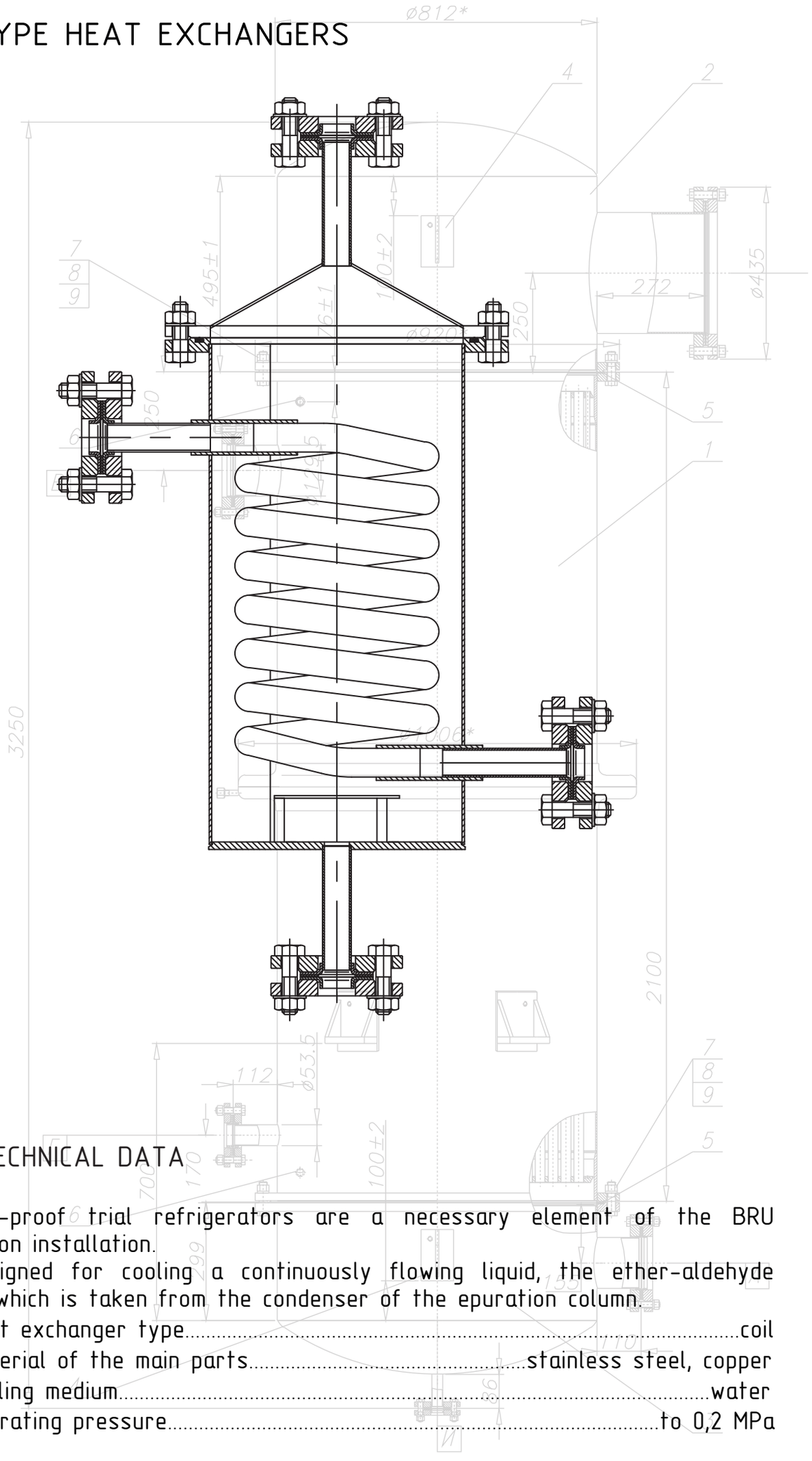
BASIC TECHNICAL DATA

These types of heat exchangers include, in particular, a barometric plate-shaped condenser designed to condense steam by direct contact with cooling water.

It is used at the enterprises of the alcohol industry and is an element of the brewing department.

Type of heat exchanger.....plate
Plate material.....stainless steel
Body material.....carbon steel
Working environment.....gas-vapor mixture, water, non-corrosive, non-toxic, fireproof
Operating pressure, MPa.....0,02
Product temperature.....to 60°C

COIL-TYPE HEAT EXCHANGERS



BASIC TECHNICAL DATA

Coil-proof trial refrigerators are a necessary element of the BRU rectification installation.

Designed for cooling a continuously flowing liquid, the ether-aldehyde fraction, which is taken from the condenser of the epuration column.

Heat exchanger type.....coil

Material of the main parts.....stainless steel, copper

Cooling medium.....water

Operating pressure.....to 0,2 MPa

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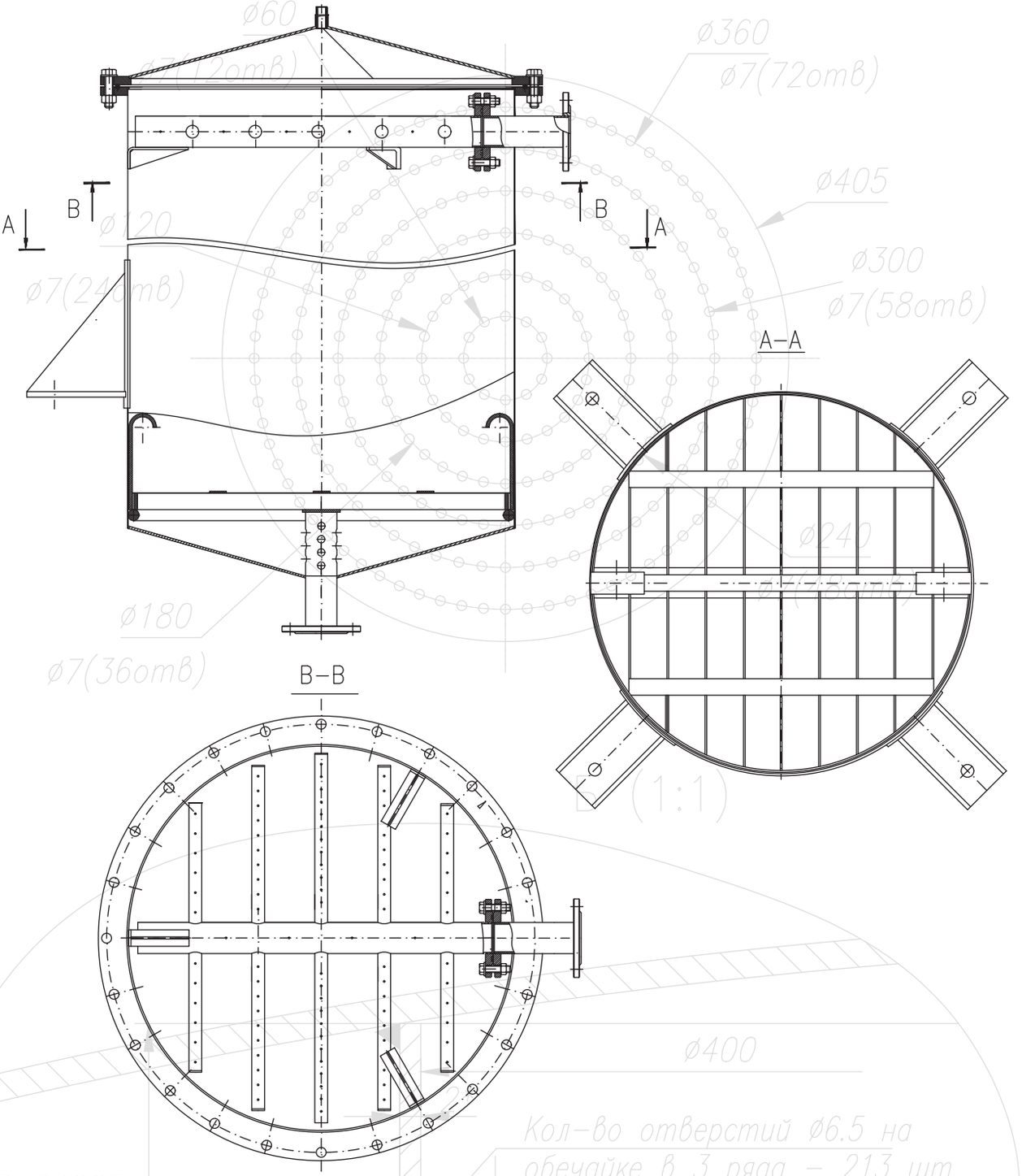
Section 5.

FILTRATION AND GAS PURIFICATION EQUIPMENT

SAND FILTERS



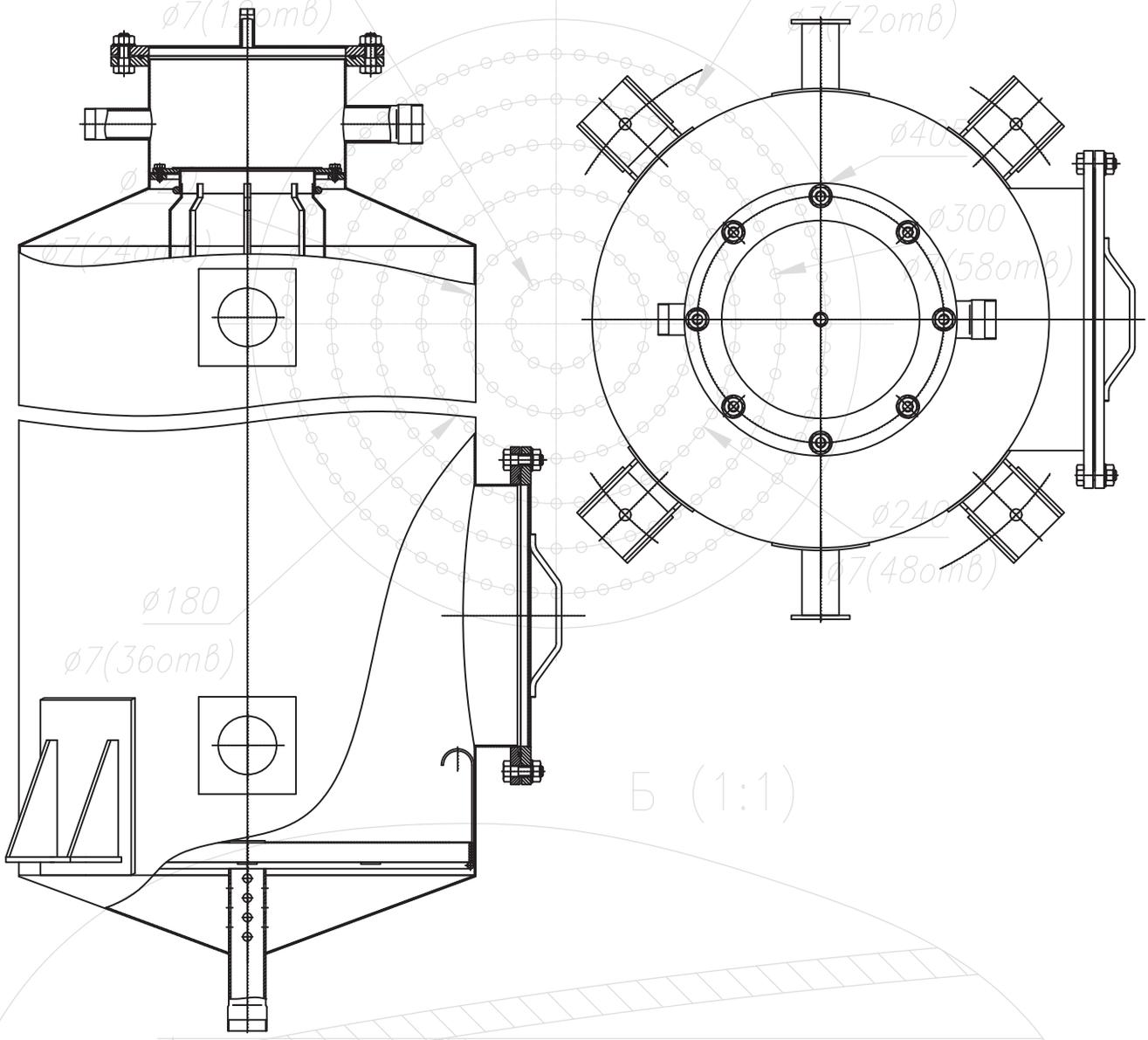
PURPOSE

The equipment is intended for filtering water-alcohol and other solutions, cleaning the vapor-air mixture from inclusions after removing the juice vapors without condensation from the dryer into the aspiration system. Filters are used at the enterprises of the alcohol and wine-vodka industry and are installed in rooms that have category D in terms of explosion hazard.

BASIC TECHNICAL DATA

Vessel pressure.....to 0,07 MPa (0,7 kgf/cm^2)
The main structural material.....stainless steel
Environment.....vodka and other liquids not aggressive to filter material
Permissible wall temperature during operation, °C.....100

CHARCOAL FILTERS



PURPOSE

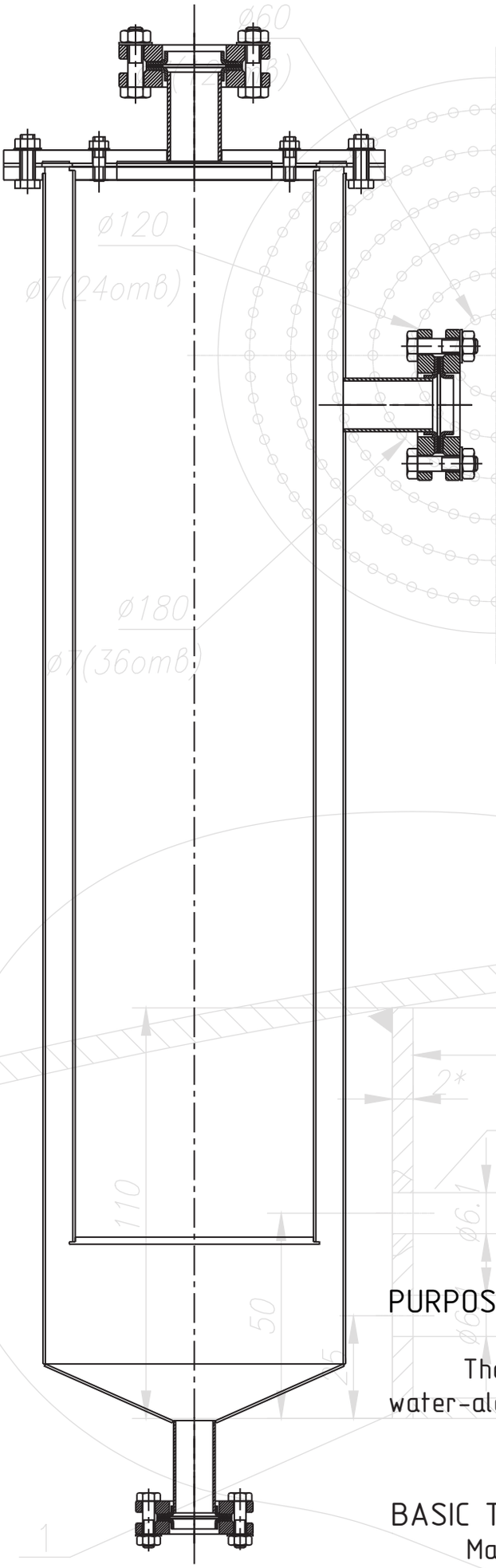
Charcoal filters are designed for filtering water-alcohol and other solutions, including for purifying vodka from ethers and aldehydes, to give vodka high taste.

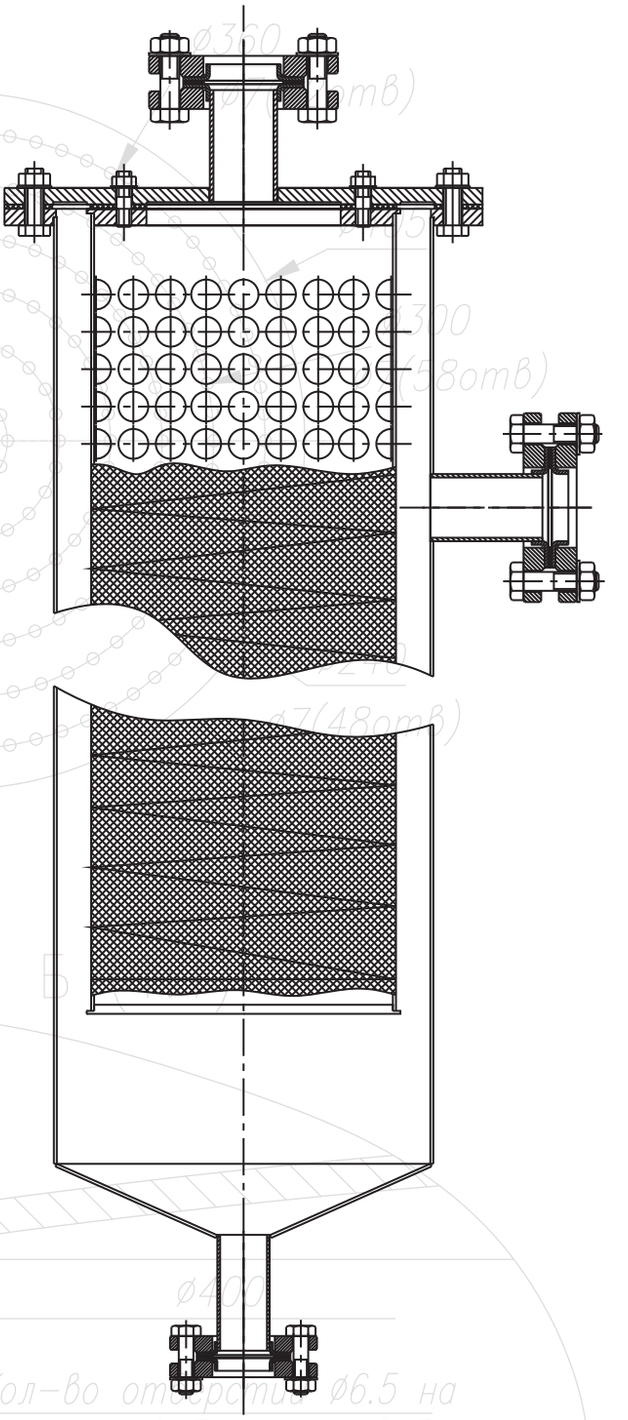
The column is filled with BAU-L activated carbon.

BASIC TECHNICAL DATA

Vessel pressure.....to 0,07 MPa (0,7 kgf/cm^2)
The main structural material.....stainless steel
Temperature of environment, °C.....to 30
Environment.....water-alcohol mixture
corrosive, toxic, hazard class 4
GOST 12.1.007-76, fire and explosion proof
(category II A- T2 GOST 12.1.011-78)
Minimum permissible negative wall temperature, °C.....0

LUTHER WATER FILTERS





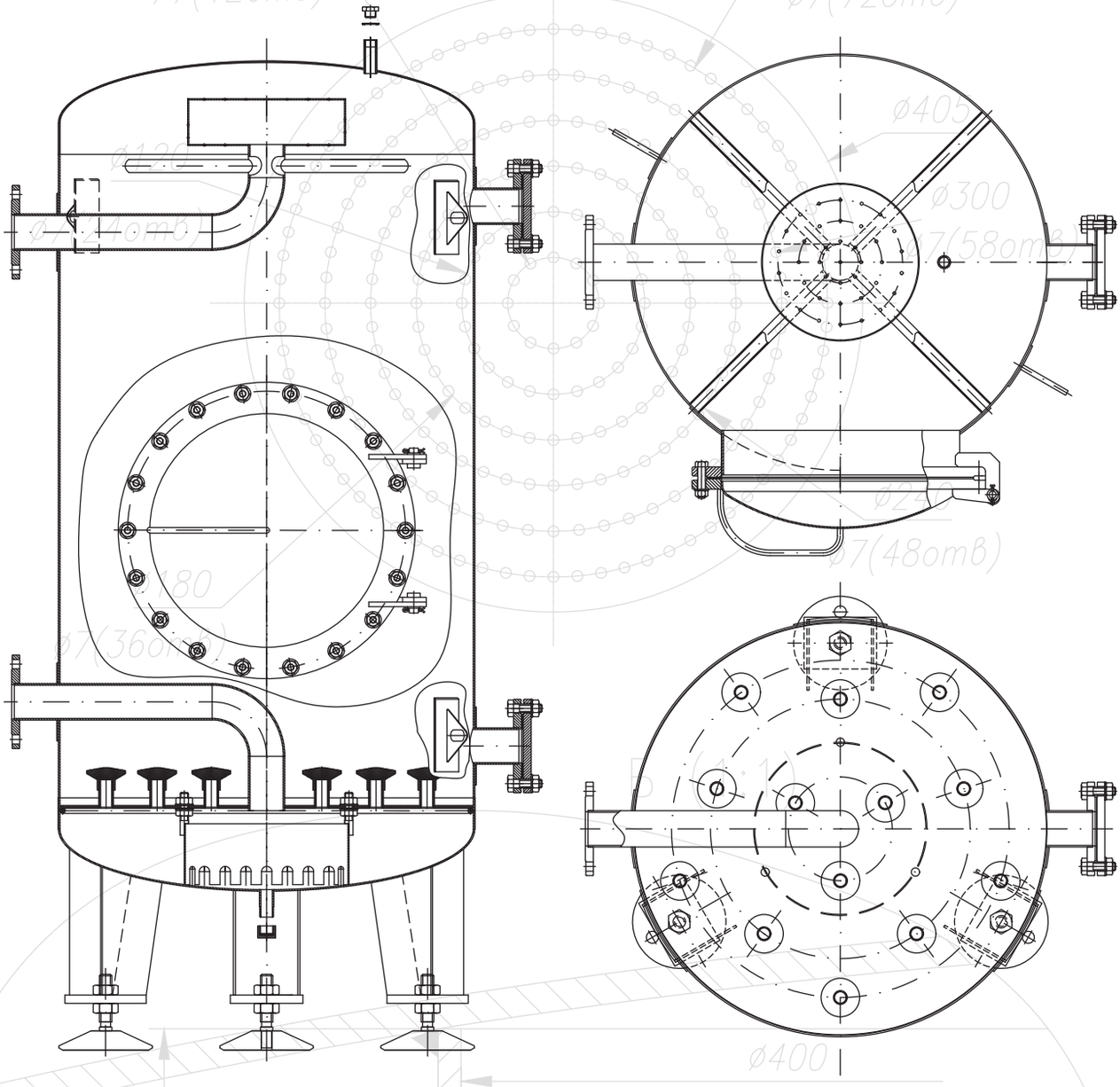
PURPOSE

The equipment is designed to filter water-alcohol and other solutions.

BASIC TECHNICAL DATA

Material.....stainless steel

SAND QUICK FILTERS (FRPS)



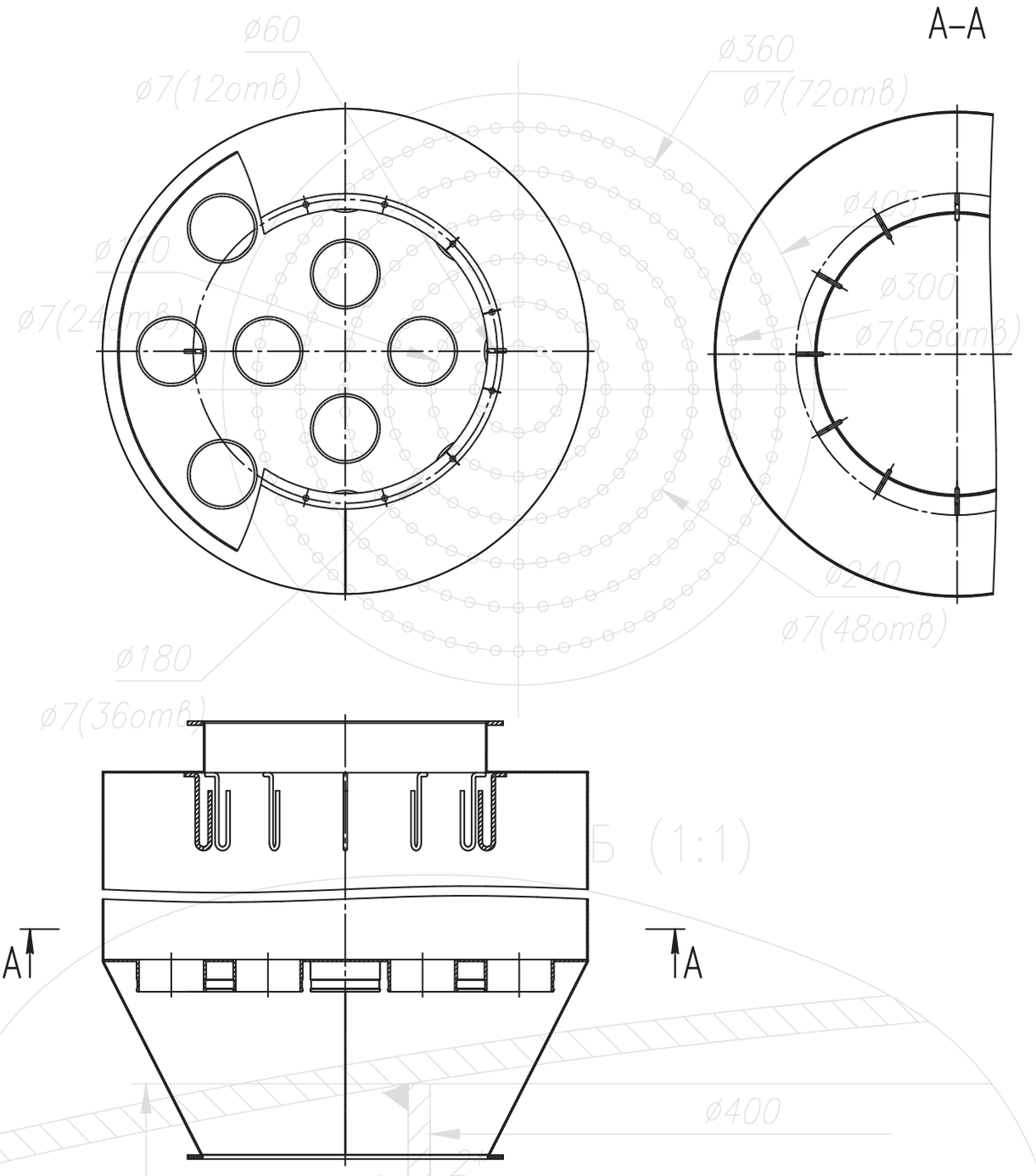
PURPOSE

FRPS quick sand filters are designed for the purification of drinking water. They are also used in water treatment systems and are installed at drinking water treatment plants.

BASIC TECHNICAL DATA

Vessel pressure.....to 0,25 MPa (2,5 kgf/cm^2)
The main structural material.....stainless steel
Environment.....water
Permissible wall temperature during operation, °C.....100

BLOCK FILTER



PURPOSE

Block filters are designed to clean the vapor-air mixture from inclusions after the output of juice vapors without condensation from the dryer into the aspiration system.

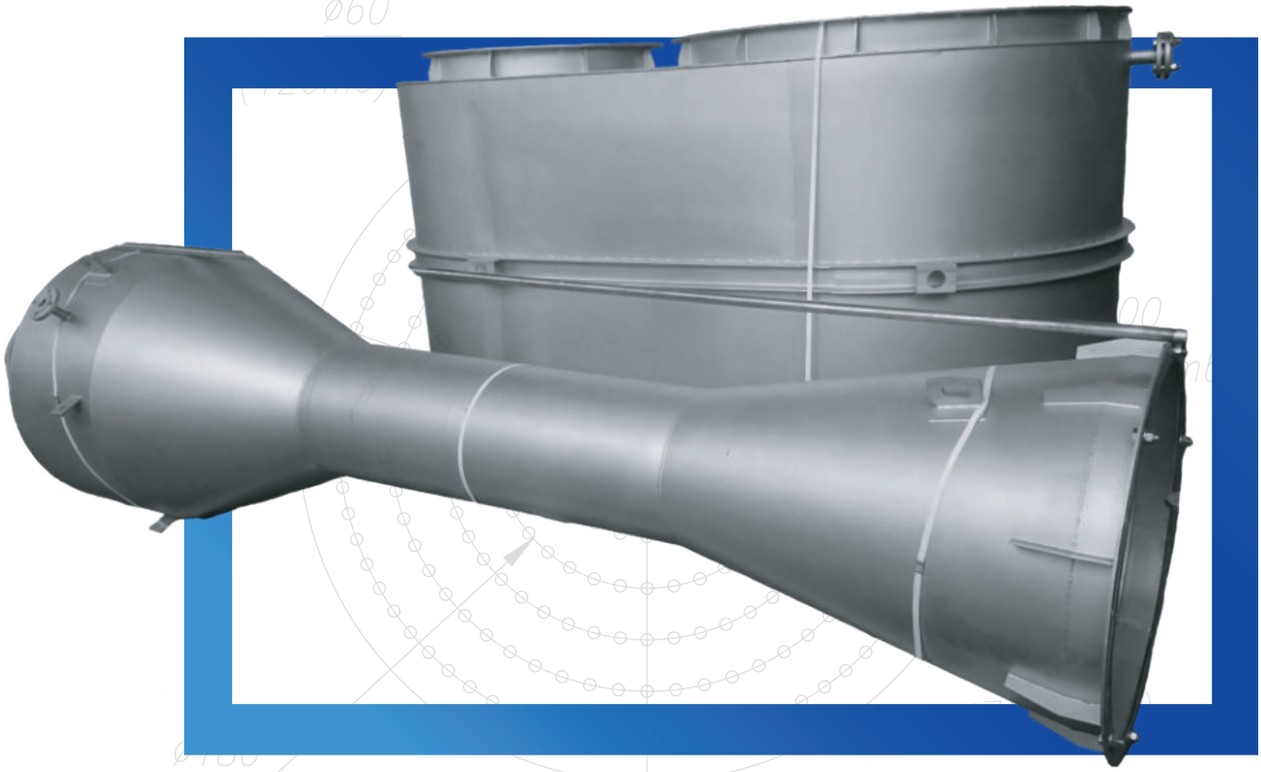
They are included in the pneumatic transport equipment set.

BASIC TECHNICAL DATA

1 The main structural material.....stainless steel

Environment temperature, °C.....to 30

SCRUBBERS



PURPOSE

This technological equipment is designed to clean the air-steam mixture passing through the dryer from small inclusions, as well as vapor deposition.

Thanks to the choking of the vapor-air mixture, it is possible to reduce the unpleasant odor and the possibility of entrainment of small particles.

As a circulating environment, chlorine water can be used to disinfect the precipitated particles.

The scrubber body is filled with irrigation liquid (water, chlorine 2% water with a temperature of up to 60 °C), turning on the pump helps to supply water to the irrigation nozzle located in the upper part of the inlet pipe.

Spraying the irrigation fluid is organized by the movement of gases through the inlet pipe.

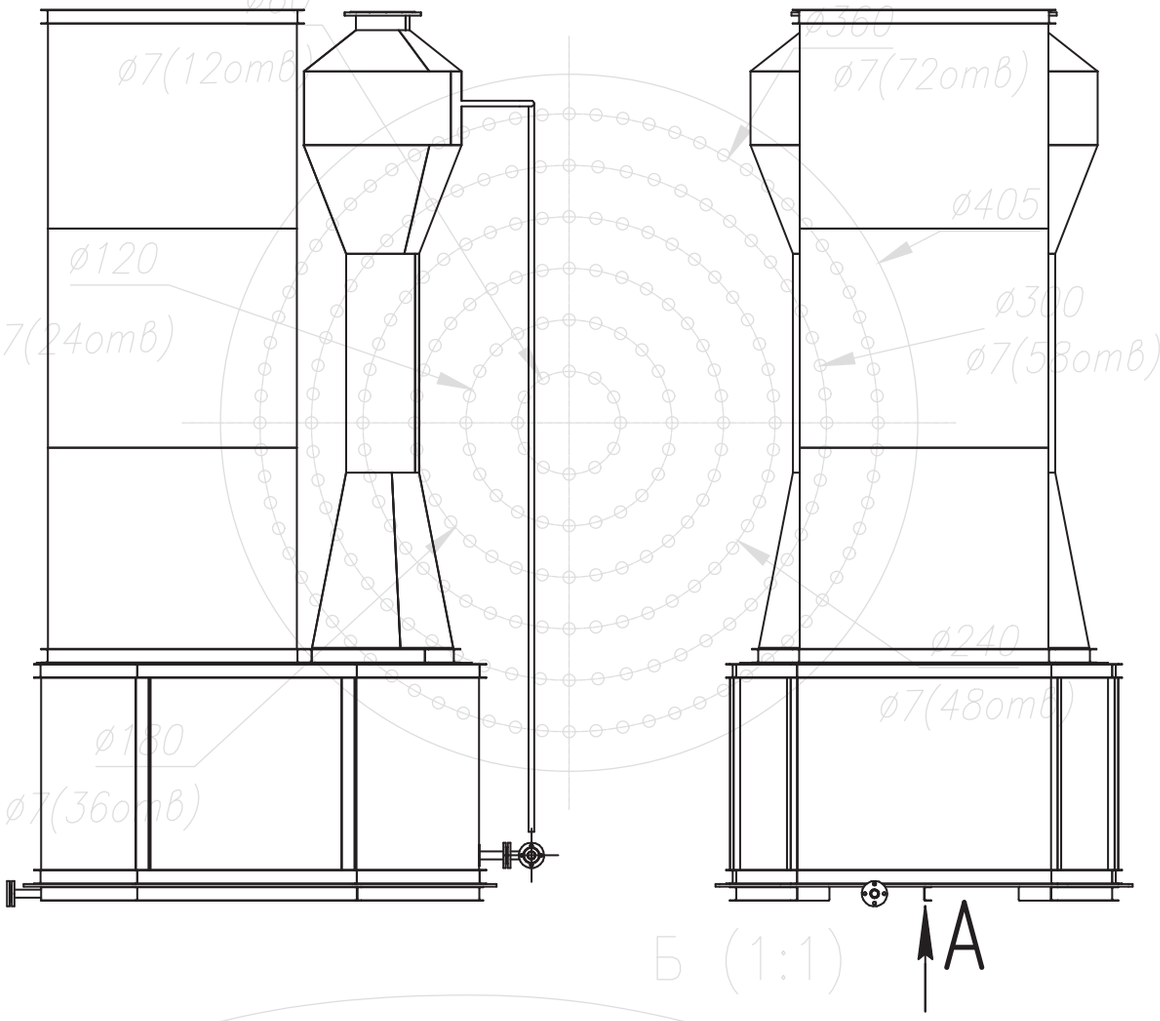
Gases pass through a curtain of sprayed liquid, while dust particles are captured by liquid droplets and precipitate, and purified gases are removed from the apparatus through a breathing tube. Next, the scrubber runs on recycled water.

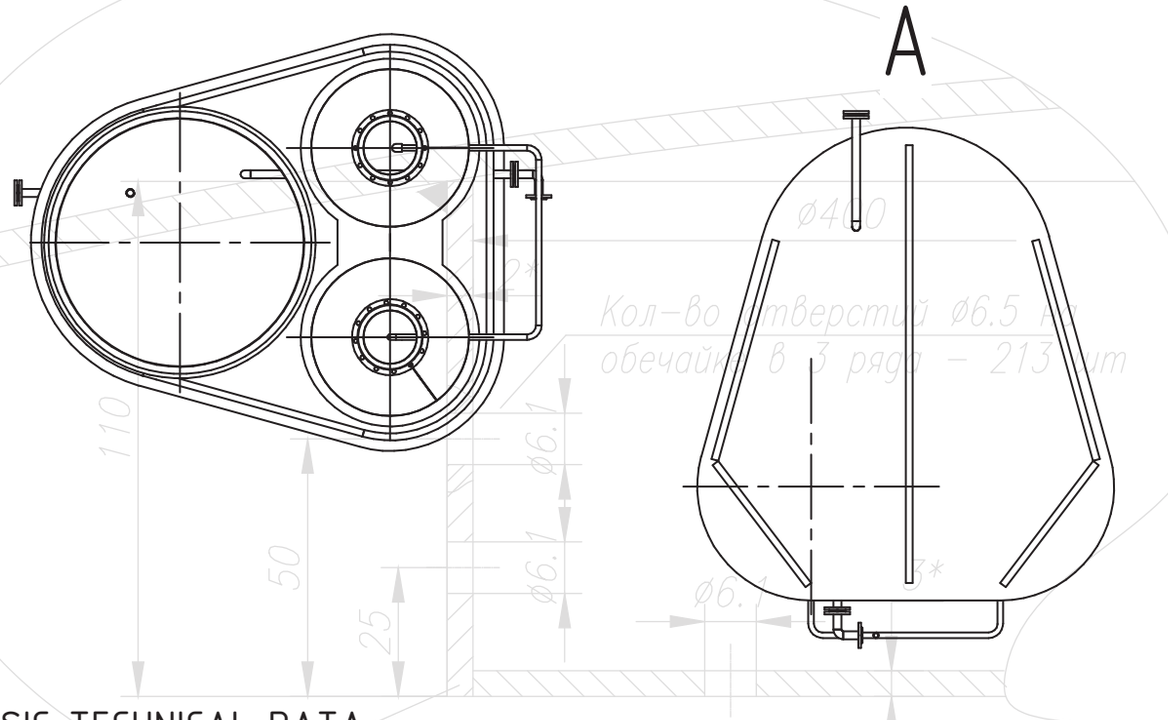
As the enrichment of water with sludge, it is necessary to rinse the scrubber body; for this, drain and flush nozzles are provided.

A service hatch is provided in the inlet pipe for flushing and changing the nozzle.

On the case of the device there is an indicator of the level of the irrigating liquid. It is recommended that the machine be filled no more than 2/3.

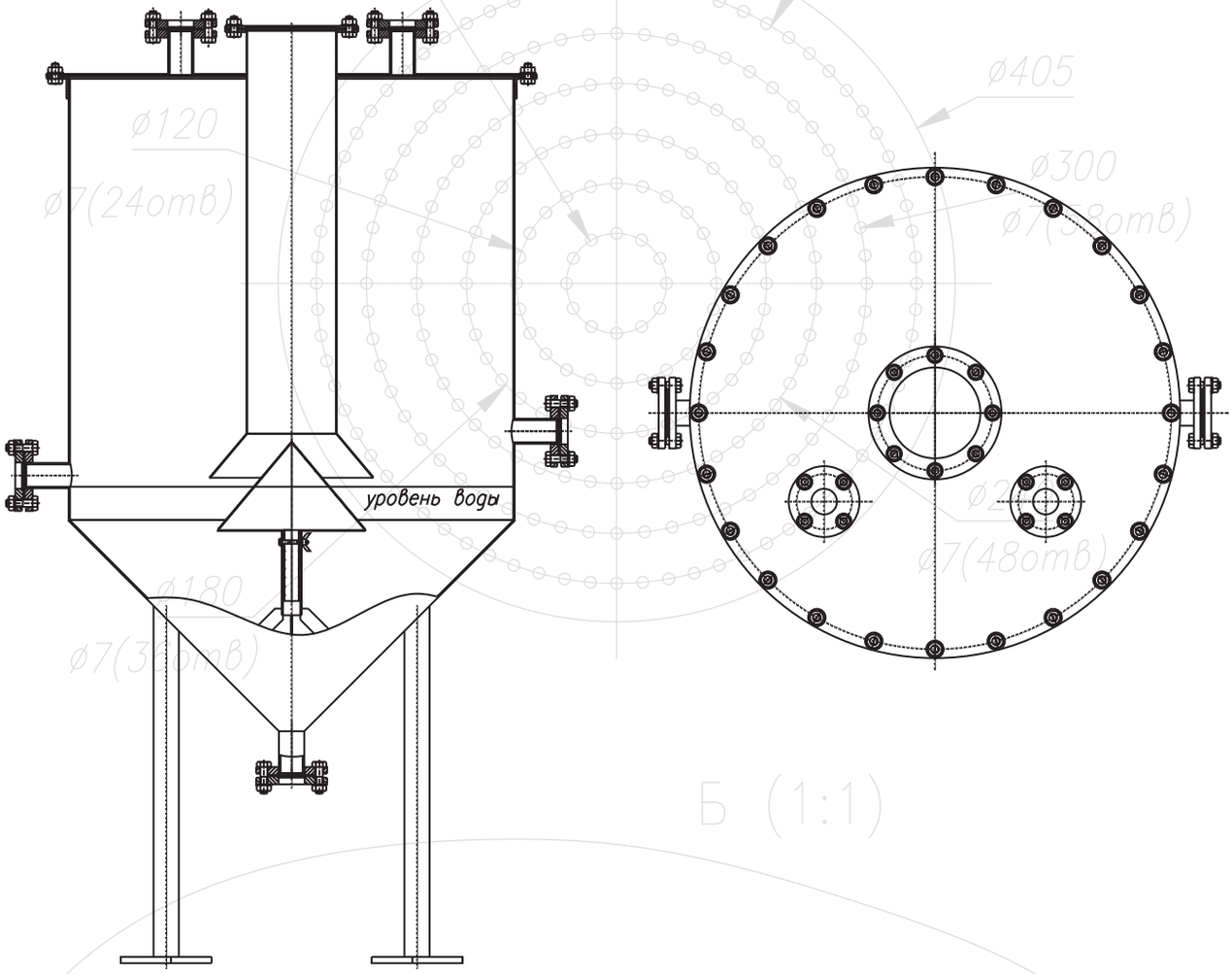
SCRUBBERS





BASIC TECHNICAL DATA

The main structural material	stainless steel
Working pressure in the body	atmospheric
Maximum wall temperature	60°C



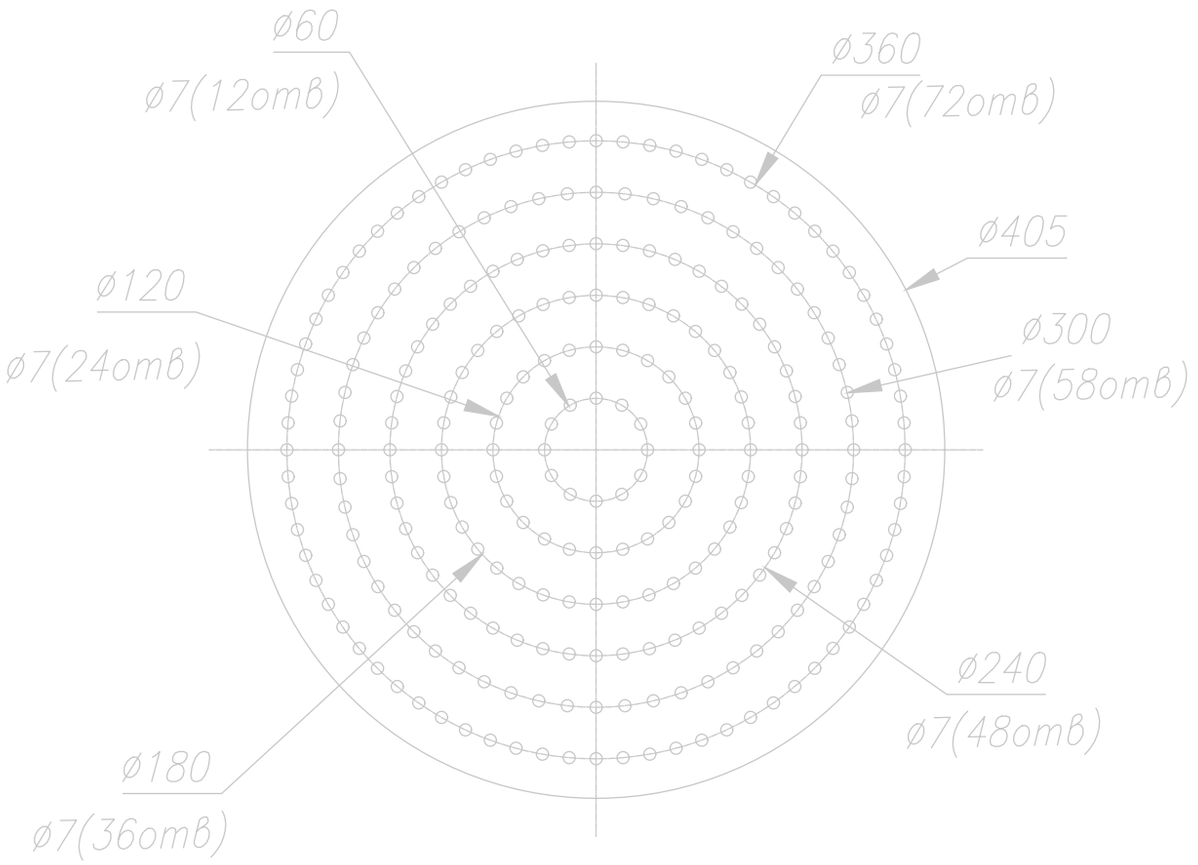
PURPOSE

The equipment is designed to catch flour.

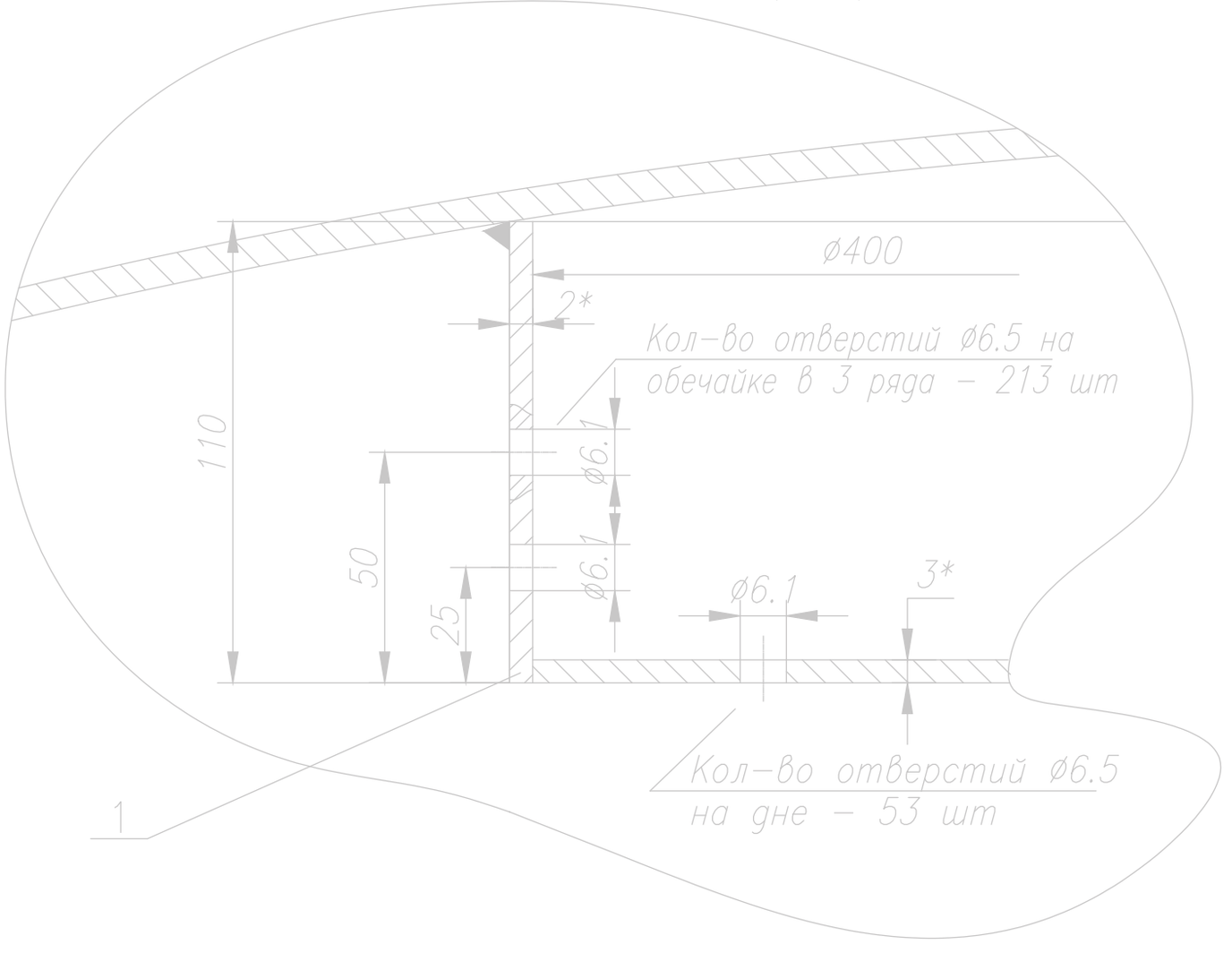
BASIC TECHNICAL DATA

Vessel pressure	to 0,1 MPa
The main structural material	carbon steel
Environment temperature, °C	to 20
Environment	water with flour
Environment density, t/m^3	1,0
Explosion and fire hazard of the environment	yes

Вид Г (1:4)


ø60
ø7(12отв)
ø360
ø7(72отв)
ø405
ø120
ø7(24отв)
ø300
ø7(58отв)
ø240
ø7(48отв)
ø180
ø7(36отв)

Б (1:1)


ø400
2*
Кол-во отверстий ø6.5 на обечайке в 3 ряда - 213 шт
110
ø6.1
ø6.1
50
25
ø6.1
3*
Кол-во отверстий ø6.5 на дне - 53 шт
1

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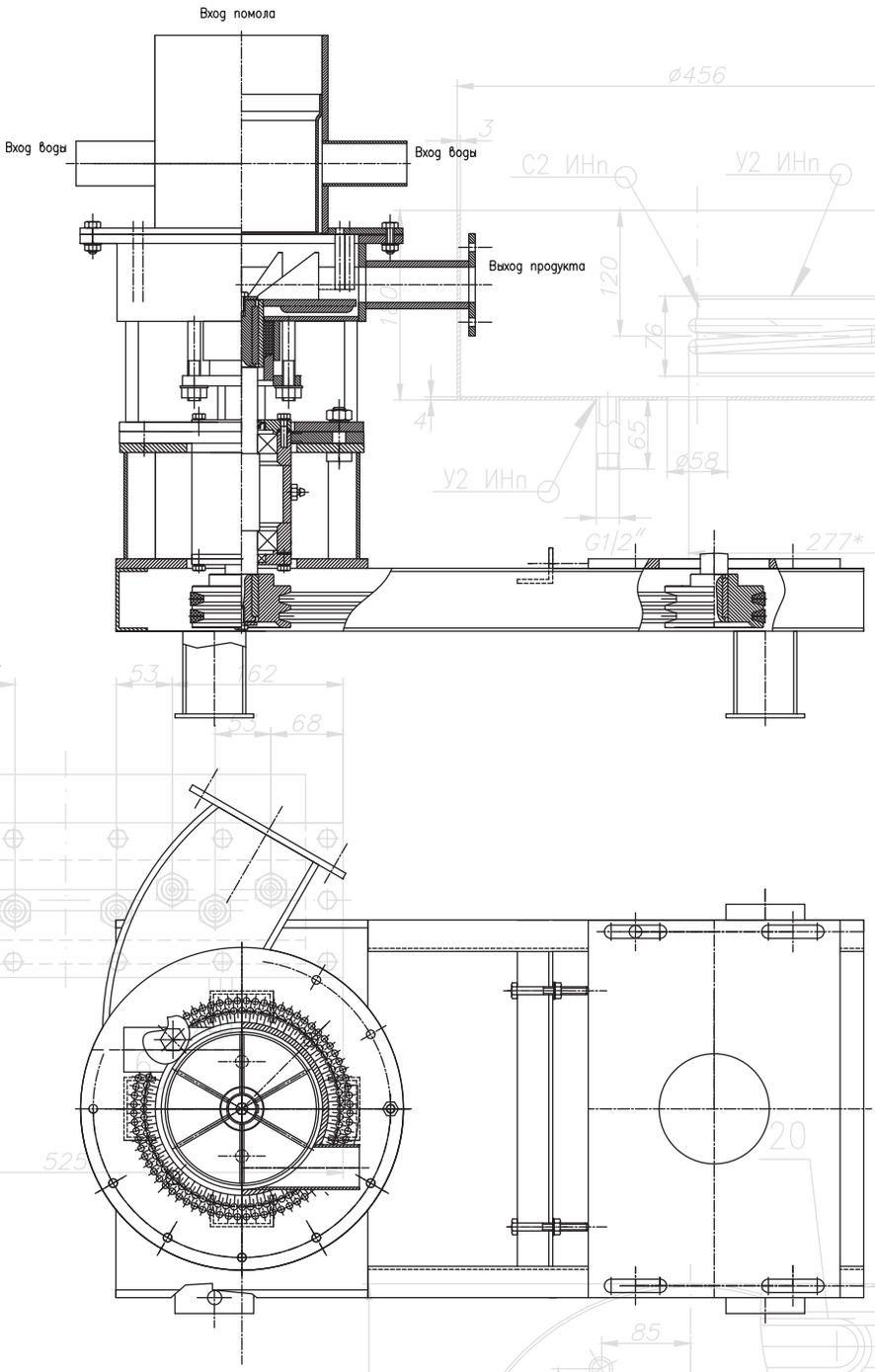
Section 6.
MIXING EQUIPMENT

FORE-MIXERS



PURPOSE

The mixing equipment is designed to mix the grinding product with a liquid, to prepare wort with a solids content of up to 22%, in particular for preliminary mixing of crushed grain with water.

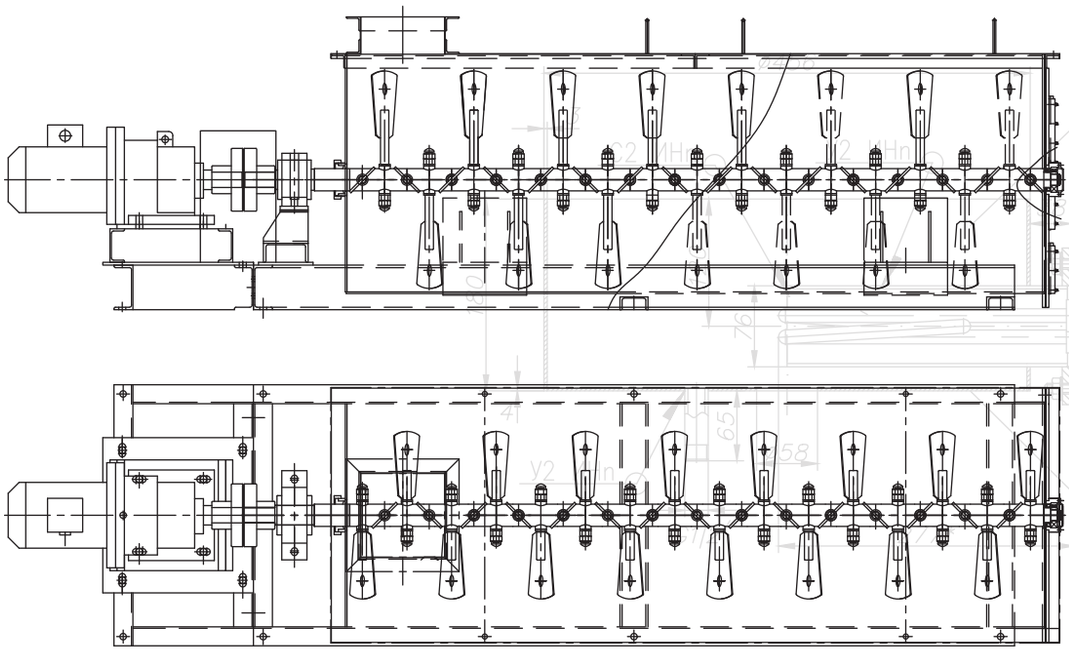
The fore-mixer is an apparatus mounted on a support frame. The product entering the mixer through the receiving nozzles, due to the rotation of the rotor, is mixed into a homogeneous fraction.

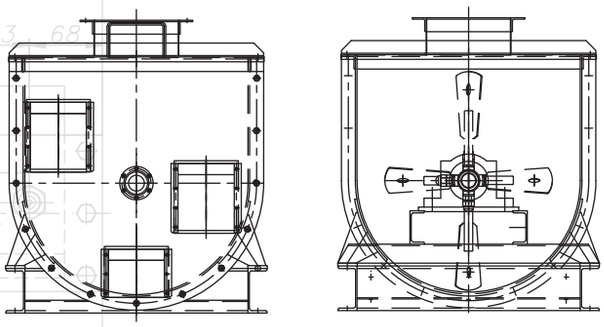
It is used at the enterprises of the alcohol industry and is installed in rooms that have category D in terms of explosion hazard (according to PUE).

BASIC TECHNICAL EQUIPMENT

Productivity	to 15 tonn/hour mash
The main material of the mixing chamber	stainless steel
The rest of the material	carbon steel
Environment	water, grain (meal)

CONTINIOUS ACTION MIXERS





PURPOSE

Continuous mixers are designed for mixing various dry and wet products, in particular mixing dry product with one stripped vinasse.

They are used in the alcohol, oil refining and pharmaceutical industries.

The mixer consists of a cylindrical body, a shaft with blades, inlet and outlet pipes and hinged covers. The mixer body is welded to the bed. The shaft is mounted in bearing, mounted in cups at the ends of the housing. On the shaft are blades with different angles of rotation relative to the plane perpendicular to the axis of the shaft. The shaft is driven by an electric motor through a belt drive.

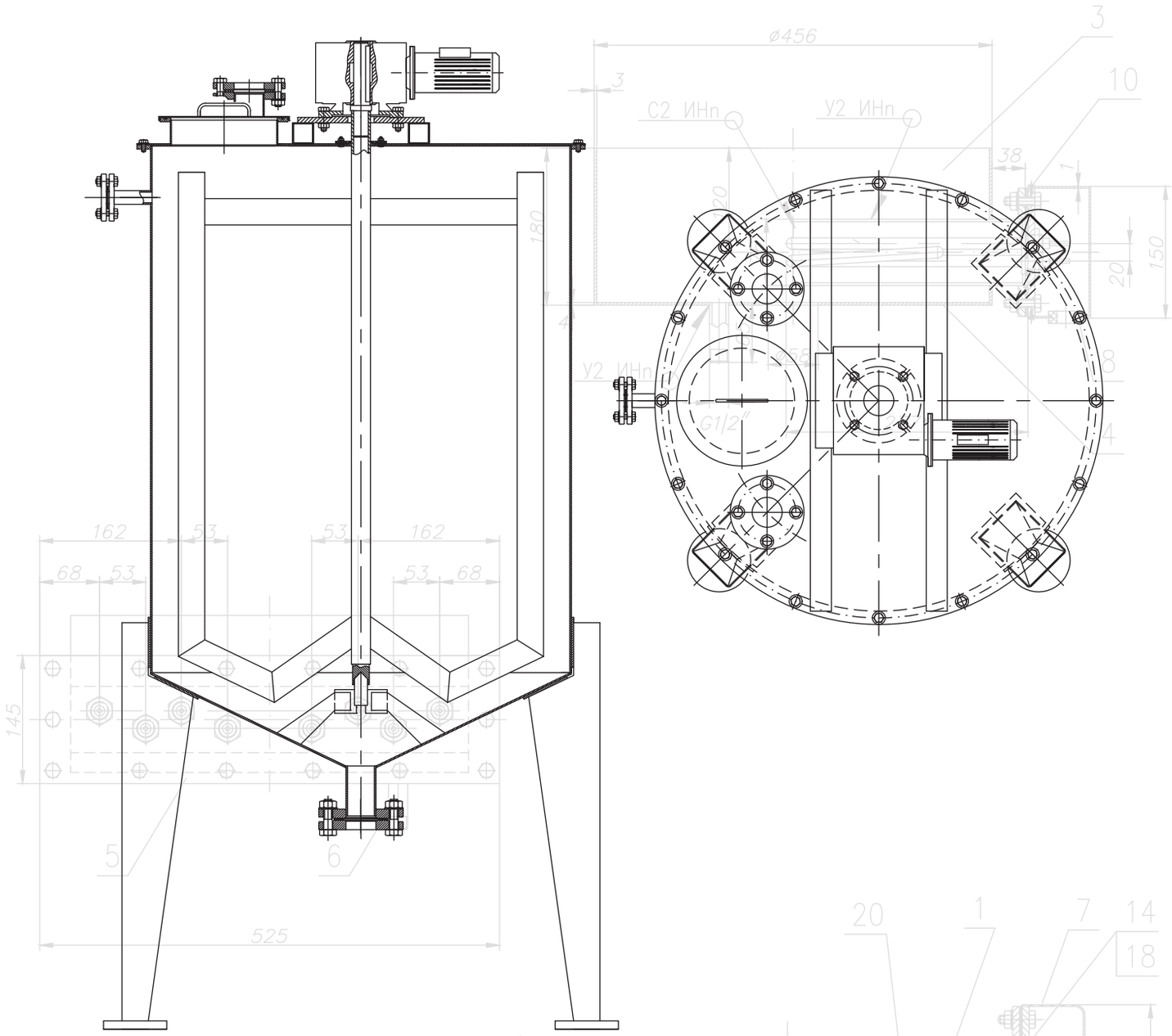
The product entering the mixer through the inlet, due to the high speed of the blades, is intensively mixed, forming a homogeneous mixture.

The liquid component entering the nozzle into the inlet pipe enters the vortex stream of the product, and due to the high speed of the blades, it is evenly distributed in it.

BASIC TECHNICAL DATA

Productivity	no less than 3; 5; 10 tons/hour
Working volume	1,25; 5; 10 m^3
Type of mixer	paddle mixer
The degree of mixing uniformity	0,9
The main structural material	carbon steel

FRAME MIXERS



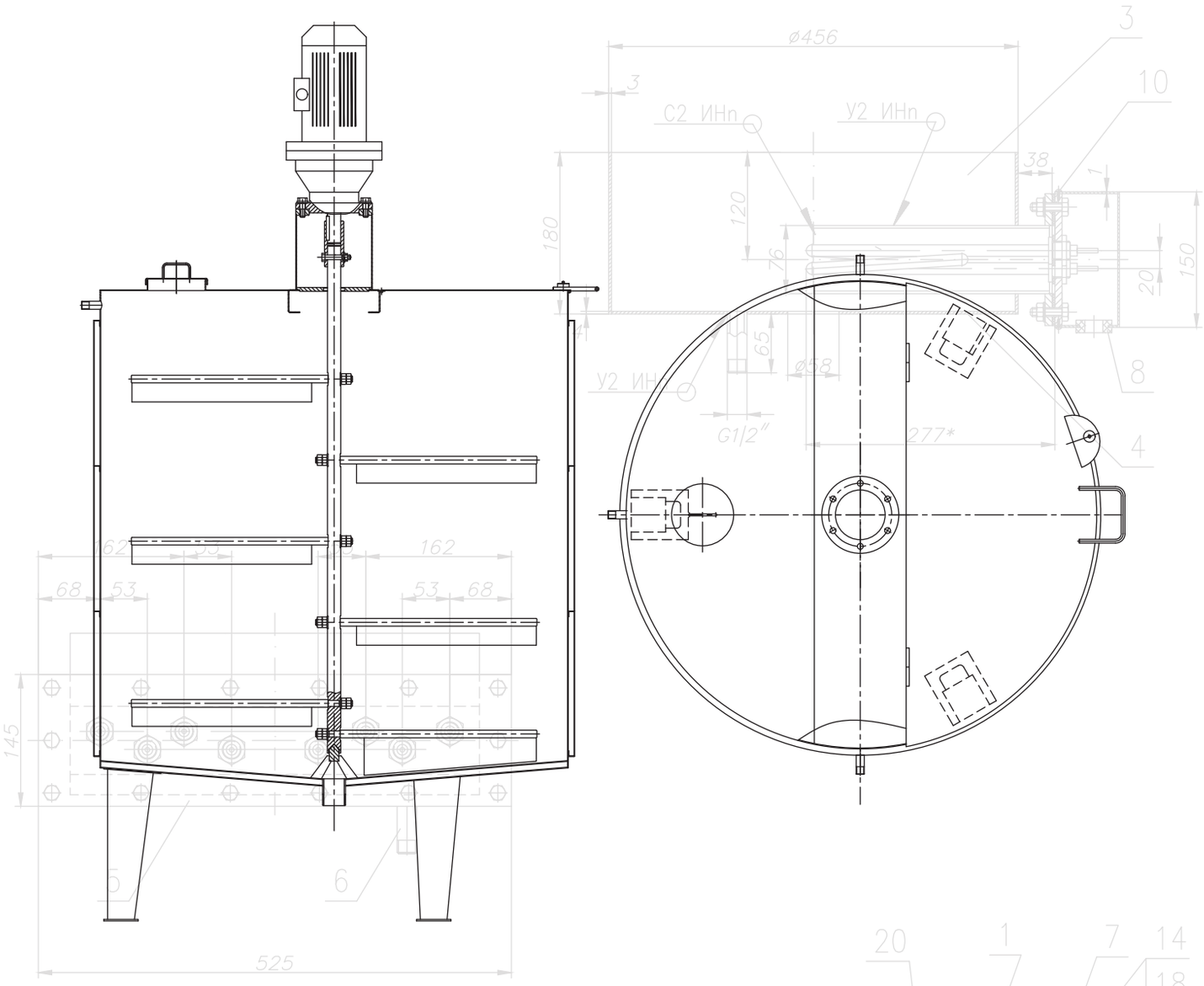
PURPOSE

Tanks with a frame mixing device are designed for the preparation and mixing of various basic and auxiliary products of enterprise, in particular chlorine aqueous solution, sugar syrup, water with flour (wort).

BASIC TECHNICAL DATA

Working volume	from 0,4 m^3
Type of mixing device	frame
Workspace pressure	atmospheric
Fluid temperature	20 °C
Material of construction	stainless or carbon steel

PADDLE MIXERS



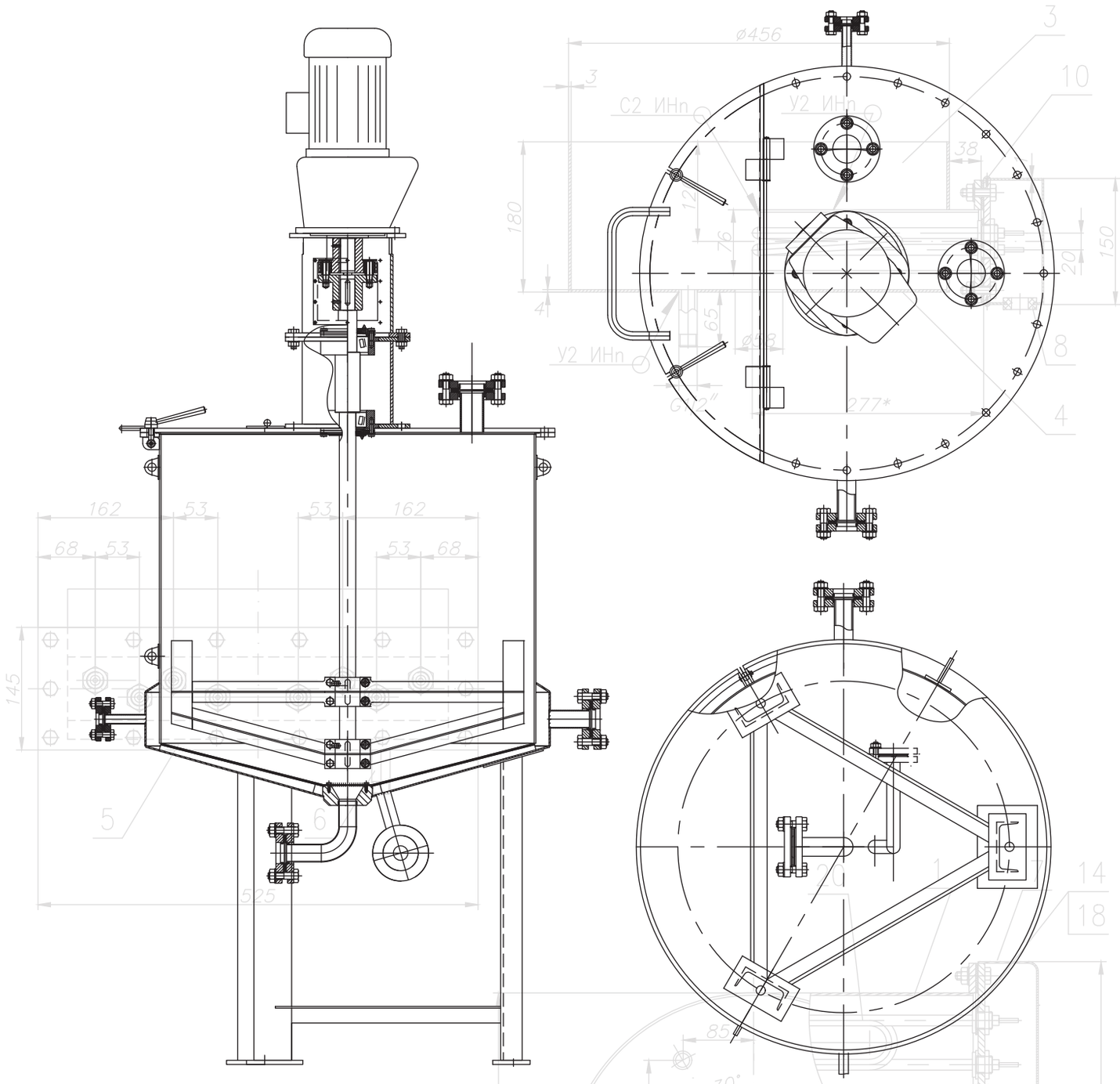
PURPOSE

Tanks with a paddle mixing device are designed to collect, prepare and mix various main and auxiliary products of production: nutrient environment, antifoam, enzymes, ingredients of the cosmetic industry, salt solution, washing solution, for collecting and storing products used for the production of alcohol (for example, urea, formalin, sulfuric acid, etc.) and released during its production (for example, luther water, hydroalcoholic liquid, vinasse, etc.).

BASIC TECHNICAL DATA

Working volume	from 0,19 m^3
Type of mixing device	paddle
Workspace pressure	atmospheric
Fluid temperature	20 °C
Material of construction	stainless steel

ANCHOR MIXERS



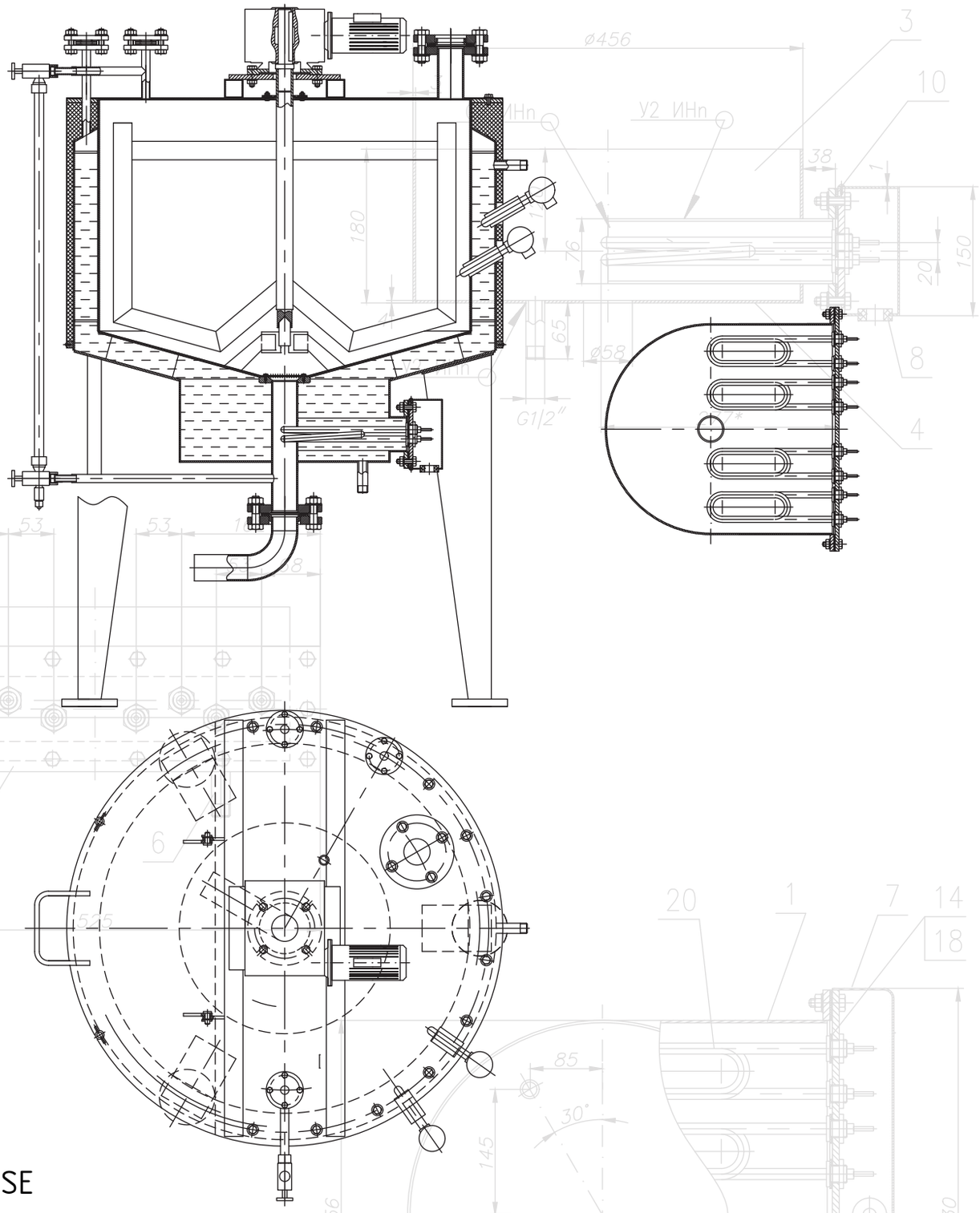
PURPOSE

Tanks with an anchor mixing device are designed to collect, prepare and mix various main and auxiliary products of production: urea, enzymes, ingredients of the cosmetic industry, salt solution, washing solution.

BASIC TECHNICAL DATA

Working volume	to 0,25 m^3
Type of mixing device	anchor
Workspace pressure	atmospheric
Fluid temperature	20 °C
Material of construction	stainless steel

SYRUP BOILERS



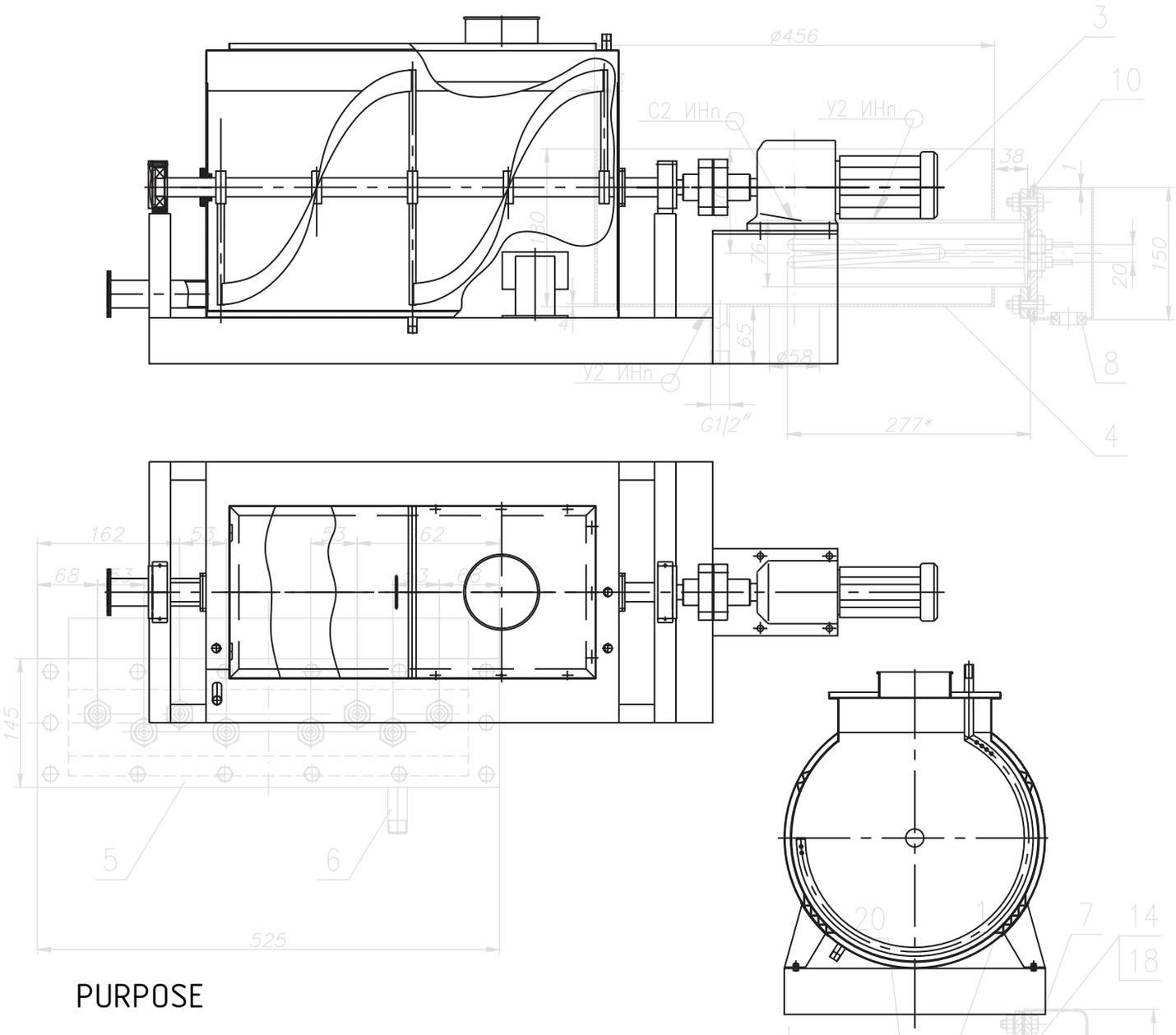
PURPOSE

Tanks of this type are designed for the preparation of syrup in a hot way. As a mixing device, both paddle, frame and paddle mixers are used.

BASIC TECHNICAL DATA

Working volume	to 0,2 m^3
Type of mixing device	anchor / framework / paddle
Workspace pressure	atmospheric
Steam jacket pressure	to 0,3 MPa
Fluid temperature	100°C
Material of construction	stainless steel

BREWING MACHINES



PURPOSE

Designed for making brewed bread in the production of custard varieties of bread, can also be used for dough, syrups, glazes and solutions in the baking and confectionery industry.

The machines mix the loaded components with rotating helical blades to obtain a uniform consistency of the mixture.

For loading bulk materials, a loading window is provided, as well as a nozzle for filling the water.

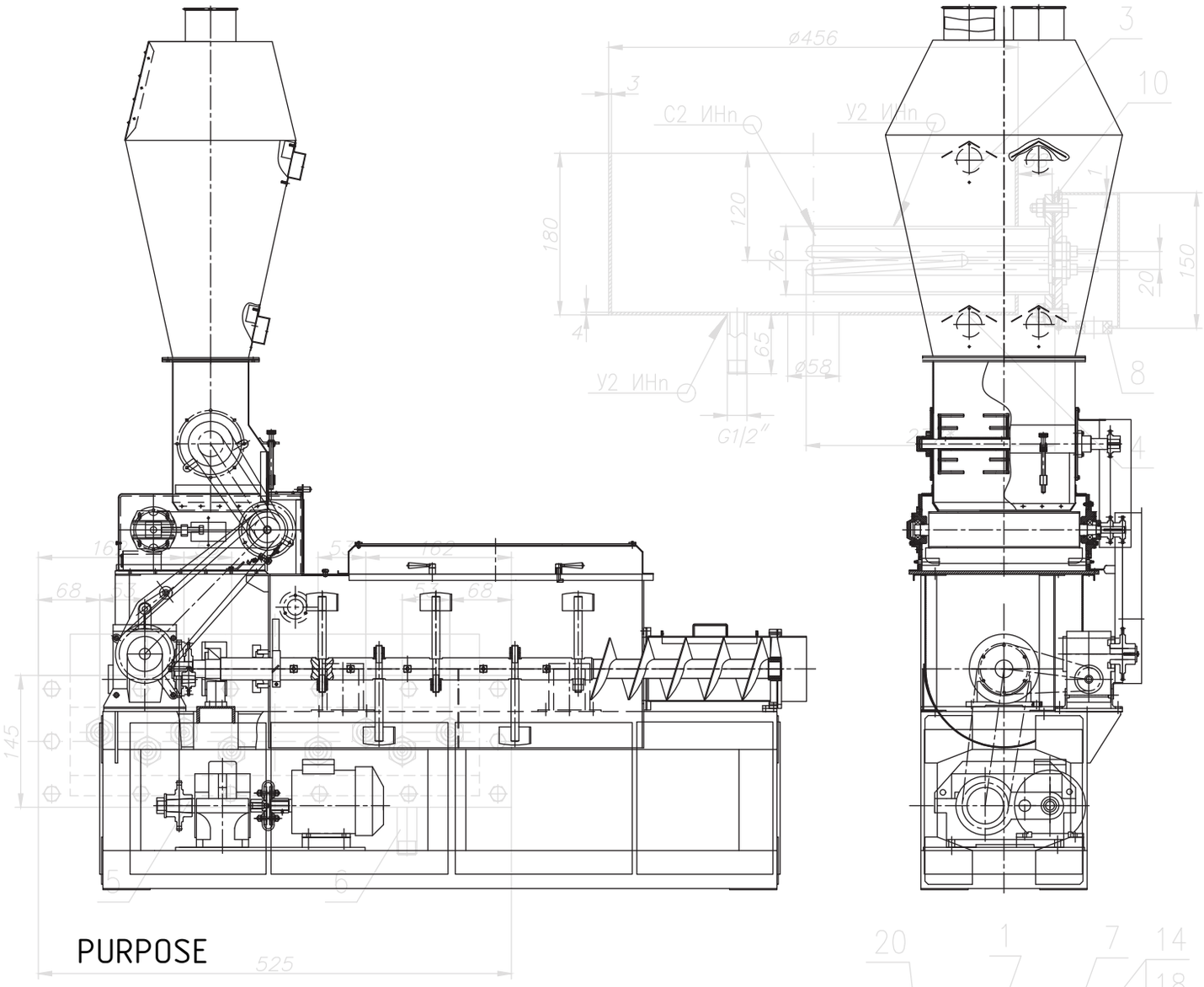
The machines are equipped with a jacket into which coolant is fed through one of the upper pipes. When using hot water (over 70 ° C) or steam as a heat carrier, the shirt is provided with thermal insulation.

A bubbler tube is installed in the working area of the body for supplying steam during mixing.

BASIC TECHNICAL DATA

Working volume, litre	300, 450, 600
Type of mixing device	paddle
Workspace pressure	atmospheric
Steam jacket pressure	to 0,07 MPa
Material of construction	stainless steel

DOUGH MIXING PLANTS



PURPOSE

Continuous dough mixing plants with a one- or two-component receiving hopper have a stationary cylindrical horizontal kneading tank and a kneading shaft located in it with a blade mixing device passing into the unloading auger.

Designed for kneading wheat and rye dough and are classified as low-speed dough mixing machines.

The kneading intensity in them can be increased due to the use of brake blades or protrusions on the walls of the kneading chamber.

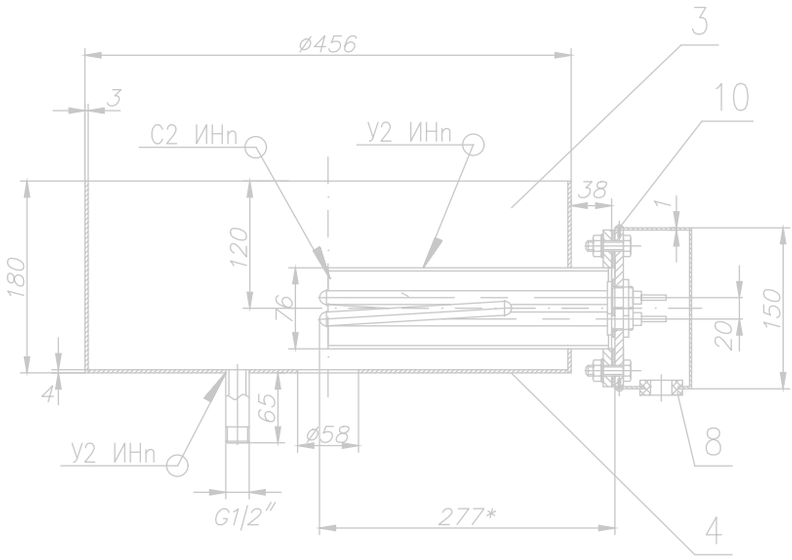
Flour or kneading ingredients are fed through a hopper and liquid dispenser.

Dough unloading is carried out through the unloading auger.

The machine is driven by an electric motor through a worm gear and a chain drive.

BASIC TECHNICAL DATA

Productivity, kg/hour	1 250
Type of receiving hopper	one-/two-component
Type of mixing device	paddle
The number of revolutions of the main shaft, rpm	56
The main structural material	stainless steel


ø456
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3
10
С2 ИНп
У2 ИНп
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120
180
76
150
20
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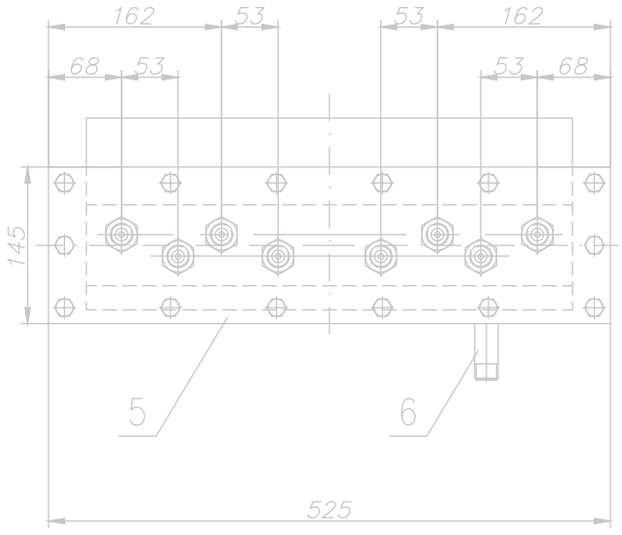
8
У2 ИНп
G1/2"
277*
4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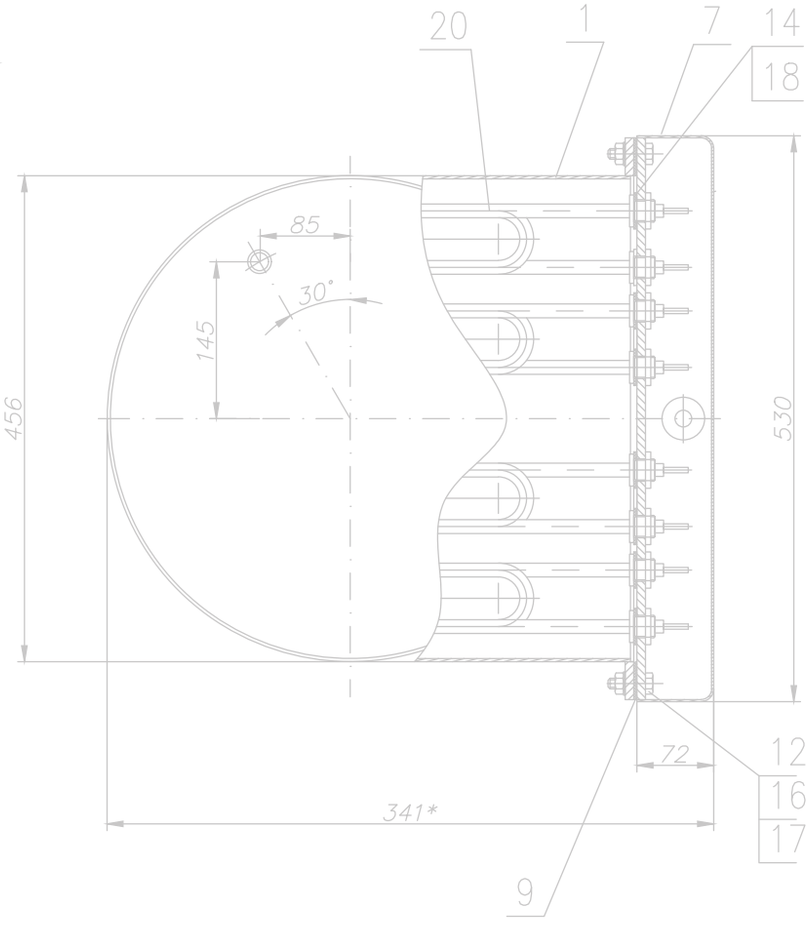
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17
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Section 7.
MEASURING EQUIPMENT

TECHNICAL MEASURING DEVICES

PURPOSE

Measuring equipment (merniki) metal technical designed to measure the volume of alcohol and water-alcohol solutions with temperatures from -25 °C to + 35 °C.

Are applied at the enterprises of the spirit and other branches of the food industry.

For storage of the above liquids, measuring tanks are not allowed.

The principle of the measuring device is based on filling it with measured liquid through the filler pipe to a level corresponding to the mark of the rated capacity of the measuring device. The level of the measured liquid is automatically set using an overflow pipe installed inside the body.

After filling the measuring device and establishing the liquid level at the mark of nominal capacity, the liquid is drained using a tap mounted on the nozzle.

When measuring the volume of liquid, it is necessary to check the condition of the taps of the measuring device, the taps must be closed.

Merniki must be operated in a category A hazardous area class B-Ia premises according to ONTP 24 in areas with seismicity of not more than 6 points on a 12-point scale.

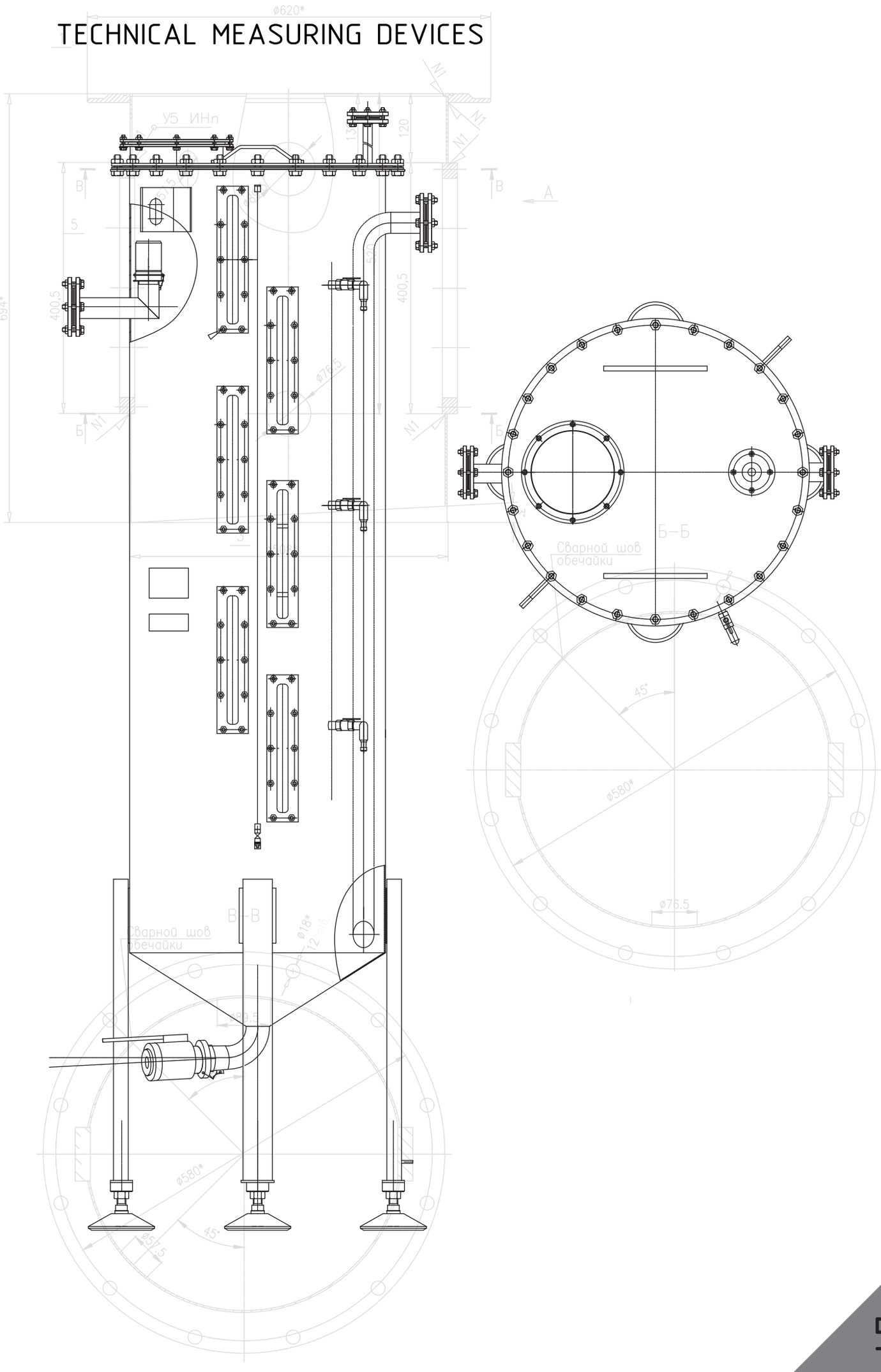
To exclude the possibility of changing the volume of the measuring device, the mark (seals) should be put:

-on the overflow pipe coupling;

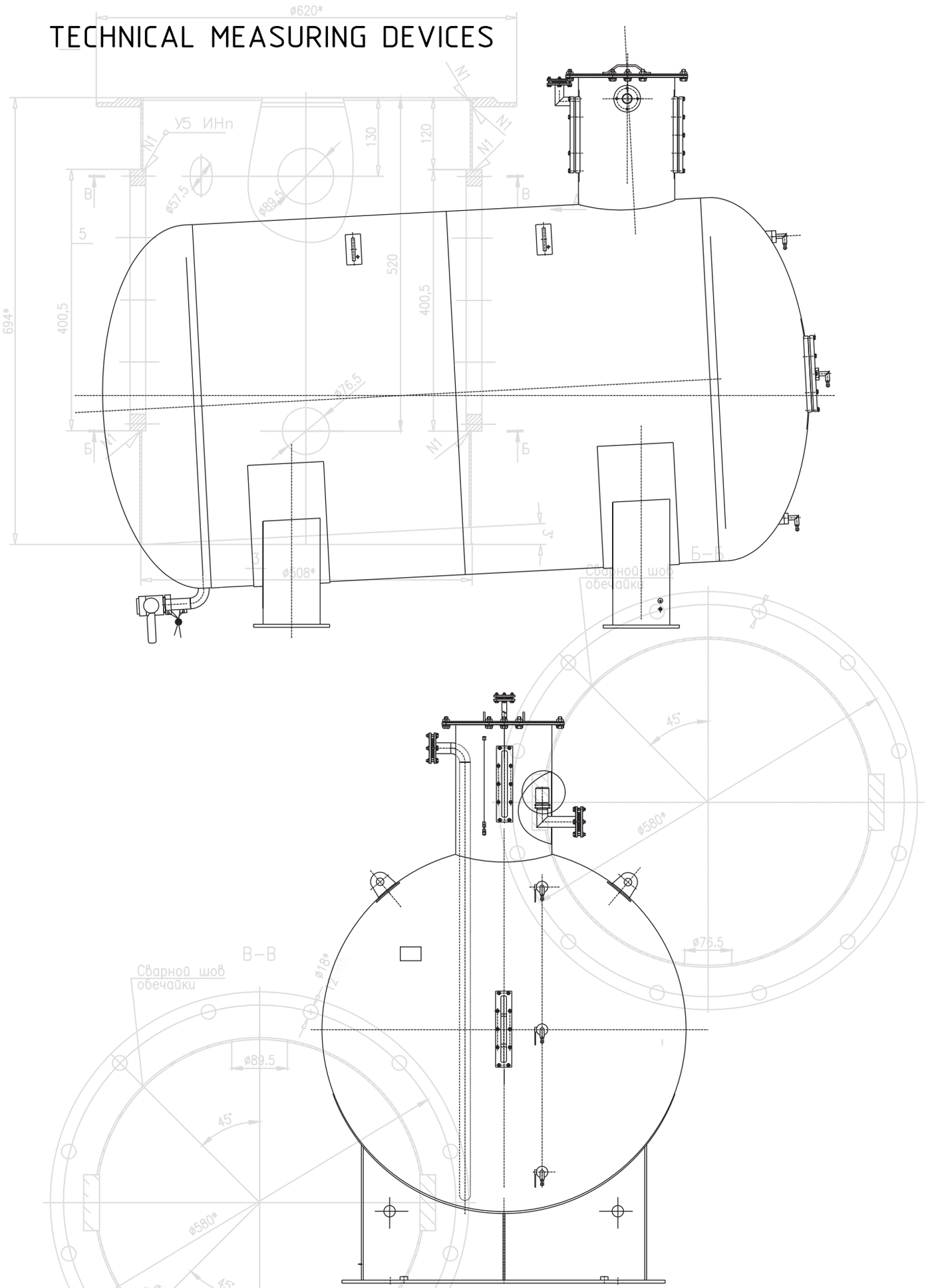
-on scale plates;

- at the junction of the drain valve with the pipeline flange.

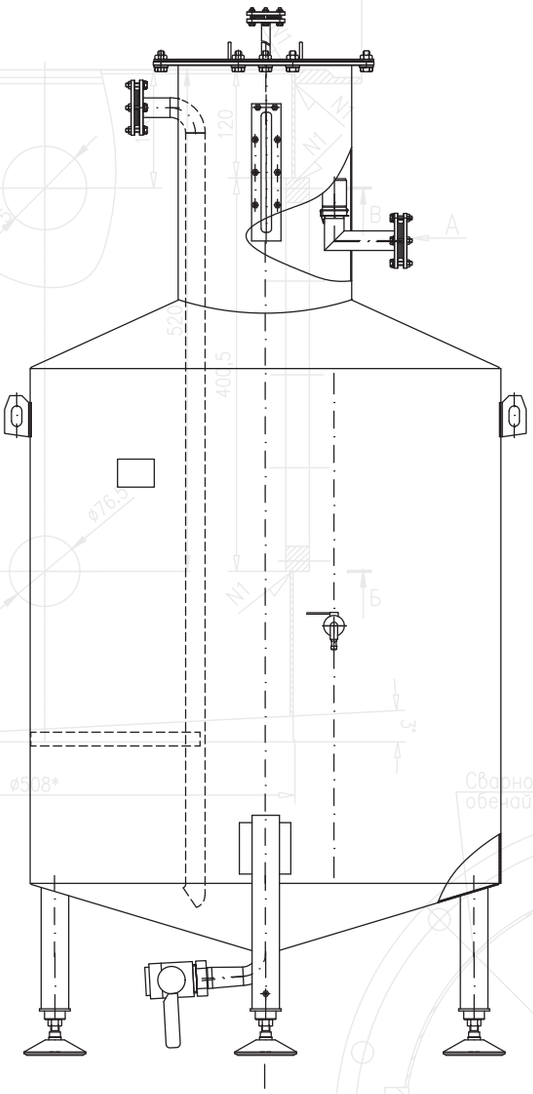
TECHNICAL MEASURING DEVICES



TECHNICAL MEASURING DEVICES



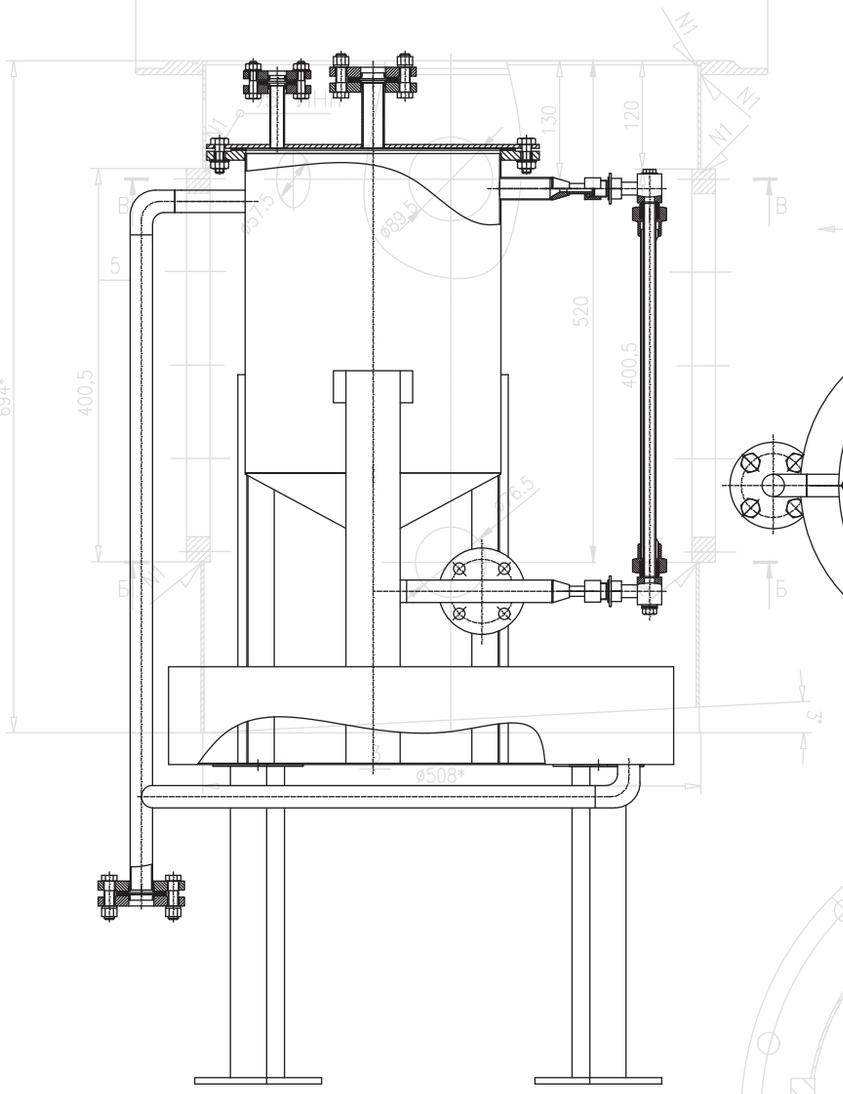
TECHNICAL MEASURING DEVICES

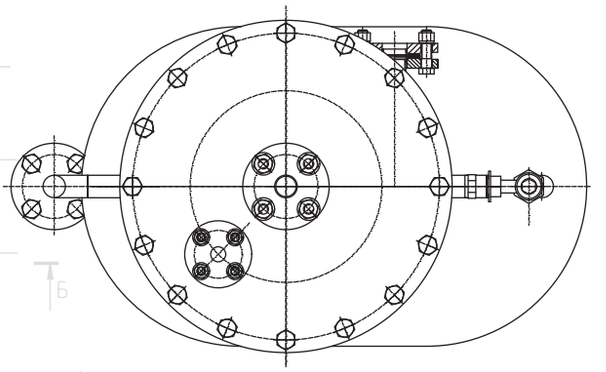


BASIC TECHNICAL DATA

Type of vessel	horizontal/vertical
Operating pressure	atmospheric
Main structural material	stainless/carbon steel
Working volume	0,75/2,5/3,0/10 m^3
Average life	no less than 6 years

SULFURIC ACID MEASURING DEVICES





PURPOSE

Sulfuric acid measuring tanks - technological tanks for storing production products, are a necessary element of the fermentation department of distilleries.

Merniki is a container with a diameter of 400 mm from stainless steel.

To measure the dosed acid, a level indicator is installed, to which, when the apparatus is installed, a rail with divisions is attached.

The body is mounted on three racks to a special pallet provided for collecting acid in case of leakage.

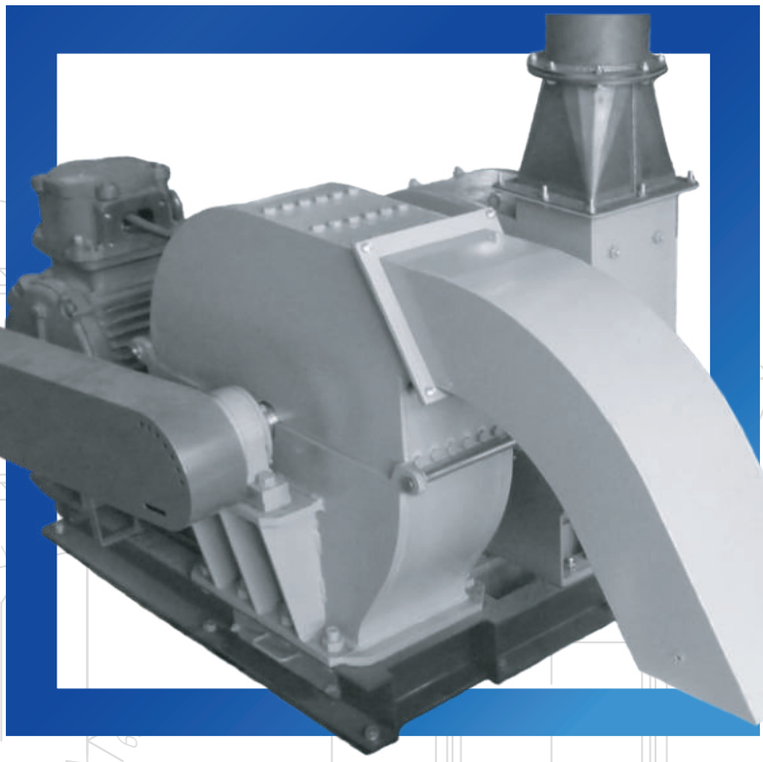
From the pallet, sulfuric acid is discharged through a pipe into a collection tank for storage.

BASIC TECHNICAL DATA

Vessel type	vertical
Working pressure in the interior	0,1 MPa
Main structural material	stainless steel
Working volume	0,006-0,0625 m^3
Environment	concentrated sulfuric acid, aggressive, corrosive
Fluid temperature	to 20 °C

Section 8.
EQUIPMENT FOR GRINDING

MILL INSTALLATION



PURPOSE

Mill installations are designed for grinding plant and animal raw materials with a moisture content of 6 to 14%, for grinding the dryer and transporting flour to pneumatic transport.

They consist of two units: a mill and a fan, interconnected by a shaft and mounted on a common frame.

In the mill there is a rotor mounted on a shaft, which is a welded structure of disks and holders, holes are made under the axes on the disks, on which hammers are installed, installed through the bushings.

The fan is a welded case, with diameter holes for mounting armored plates. On the outer wall, on the side of the bearing support, a stuffing box housing is welded to prevent product from escaping outward.

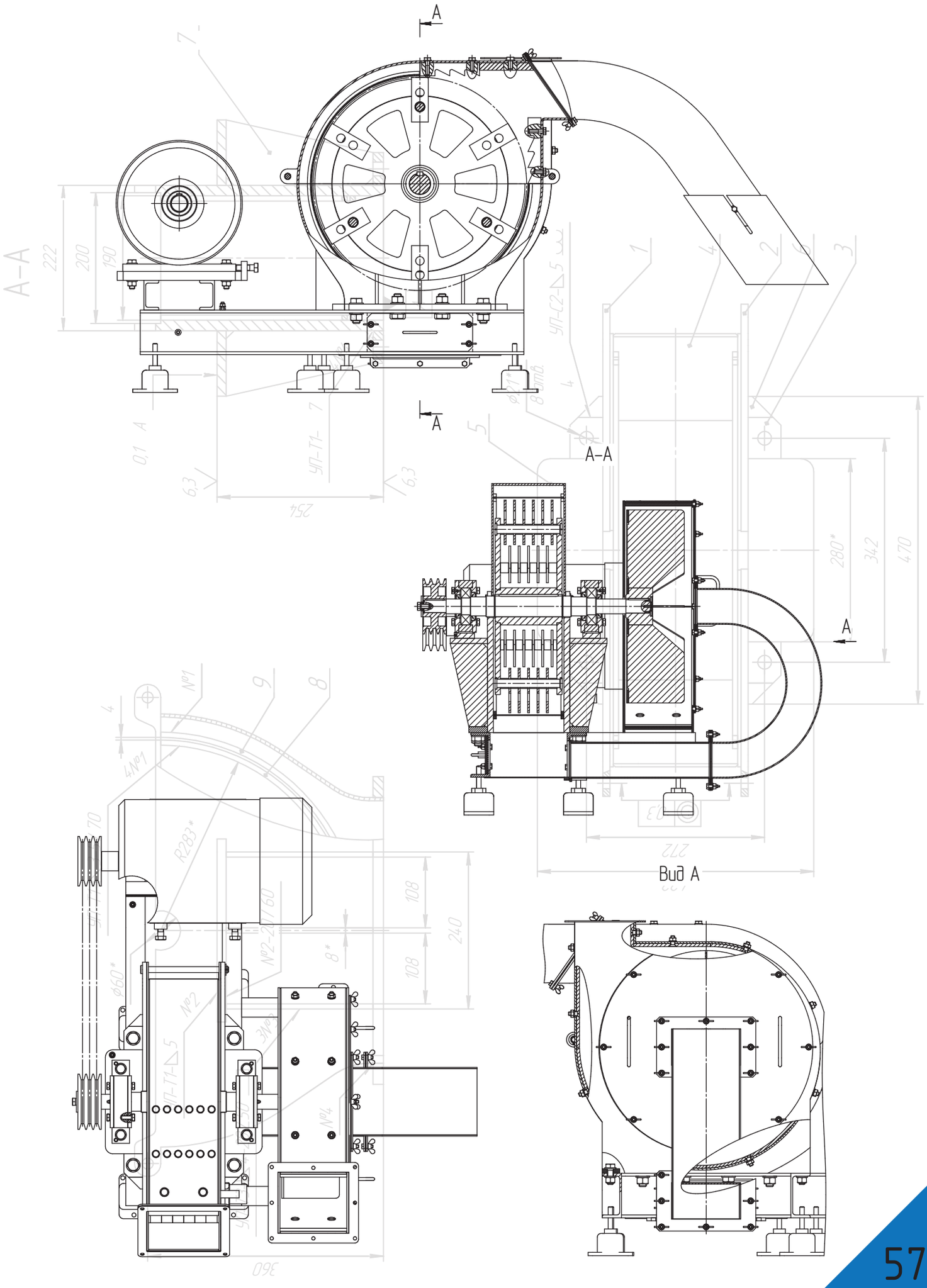
The frame is a welded construction of channels, a window for cleaning is made on the side of the mill, a window for installing an air duct connecting the fan and the mill, which form a closed cavity, is made on the fan side.

The fan sucks the product through the loading window installed on the mill, passing through the mill, the product is crushed on rotating hammers installed on the deck body and perforated sheets, falling into the fan, is thrown further into the pneumatic conveying system.

BASIC TECHNICAL DATA

Technical productivity in flour, kg/h, not less than	750
The frequency of rotation of the shaft of the mill and fan, rpm	3 000
The outer diameter of the rotor with hammers, mm	574
The inner diameter of the mesh drum, mm	584
Drive power, kW	18,5
Weight, kg, no more than	590

MILL INSTALLATION



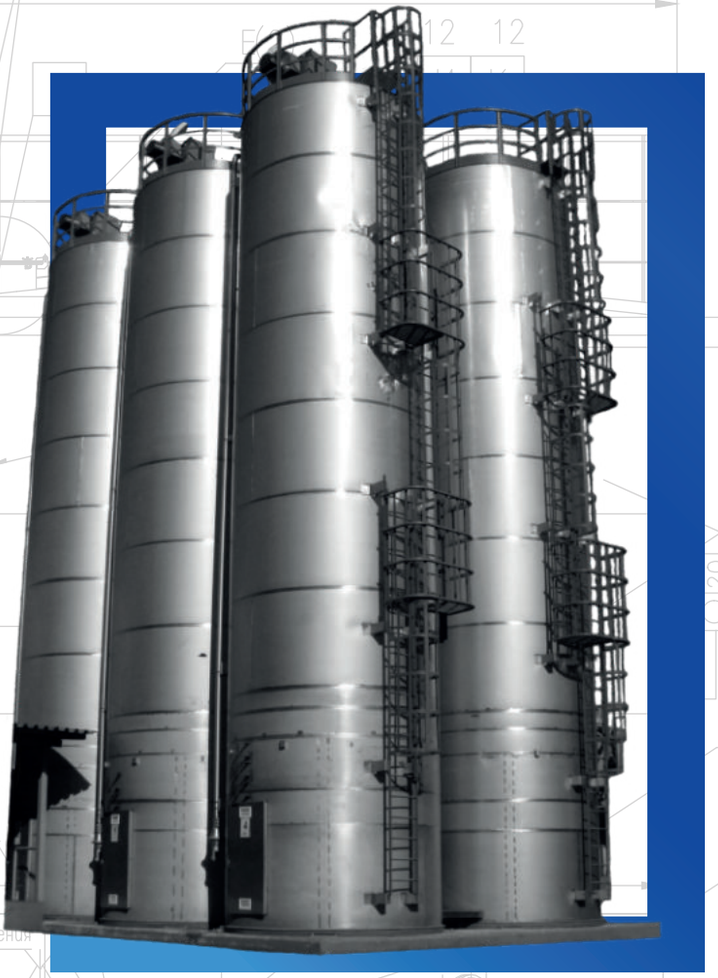
УП-Т1-△ 3-5 / 70
4
ϕ60*
4№1
УП-Т1-△ 5
№2
R283*
№1
УП-Т3-△ 4-20Z 50
3№3
№2-20 / 60
9
8
360
№4
8*
108
108
240

А–А
222
200
190
0,1 А
6,3
7
254
УП-Т1- 7
4№4
6,3
А

5
ϕ21*
8 отв.
4
УП-С2-△ 5
1
4
2
6
3
0,3
422
272
280*
342
470

Section 9.
CAPACITIVE EQUIPMENT

CAPACITIVE EQUIPMENT. PURPOSE



PURPOSE

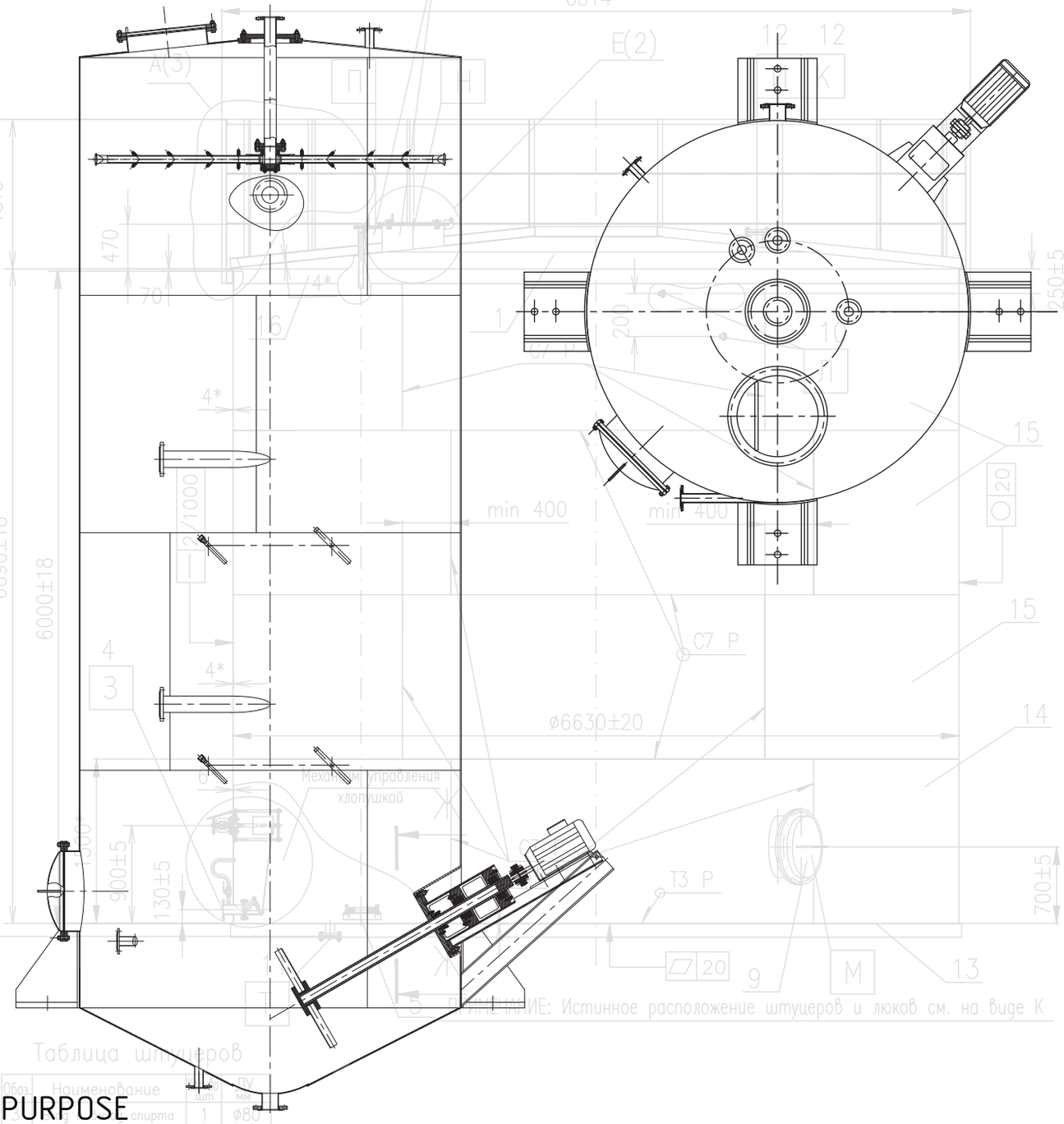
PC «KOROLAN» has been designing and manufacturing stainless steel and carbon steel tank equipment with capacities from 0.5 to 730 cubic meters for more than 20 years different in type and purpose for food, agricultural, chemical, oil and gas and other industries.

The produced capacitive equipment allows to completely cover any technological needs of the customer.

Such equipment, in particular, includes tea-weighing bins, silos for flour for bakeries, bulk containers with shells and without them, containers with mixing devices of various types.

Capacity material	low alloy steels stainless steel
The orientation of the containers	upright horizontally
The presence of insulation	without insulation with insulation
Heating jacket availability	shirtless with a heating jacket (cooling)
Mounting design	with supports on paws
The presence of a mixing device	without mixing devices with mechanical stirrer environment circulation system

DEVICES OF WATER-THERMAL AND ENZYMATIC PROCESSING



PURPOSE

VTFO devices are designed for water-thermal and enzymatic processing of kneading. In the performance of OSAX they are used for saccharification of boiled mass and BOSM - keeping of saccharified mass.

They are used at the enterprises of the alcohol industry and are installed in rooms that have category D in terms of explosion hazard according to PUE.

BASIC TECHNICAL DATA

Name of the working environment.....kneading (suspension), the ratio of crushed grain to water 1:3

Ambient temperature in the apparatus, C°.....+80-95

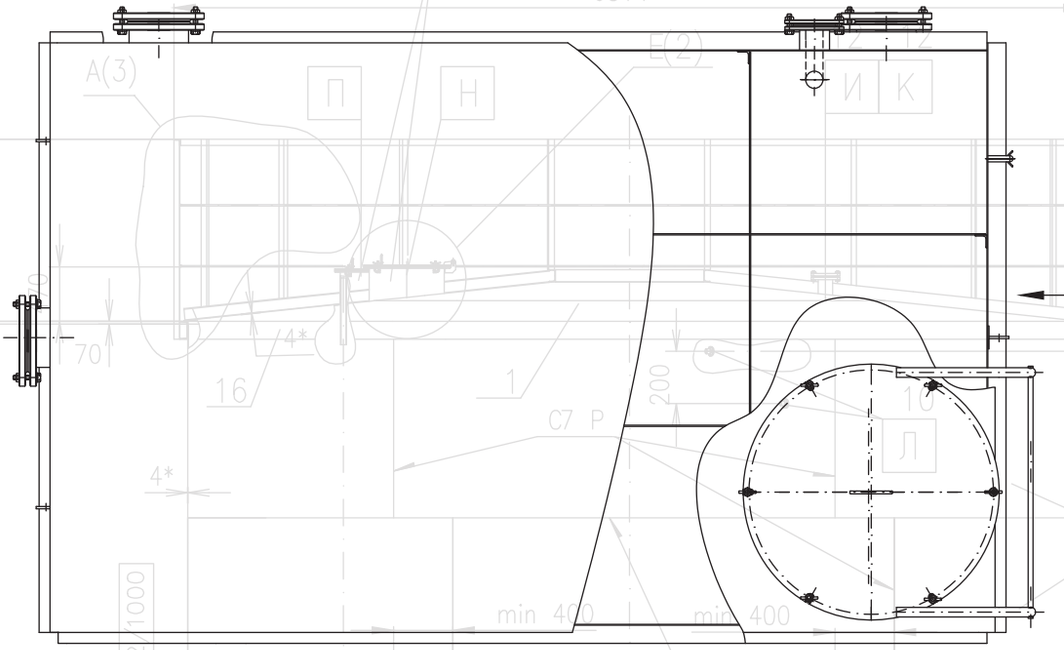
Operating pressure, MPa.....0,01

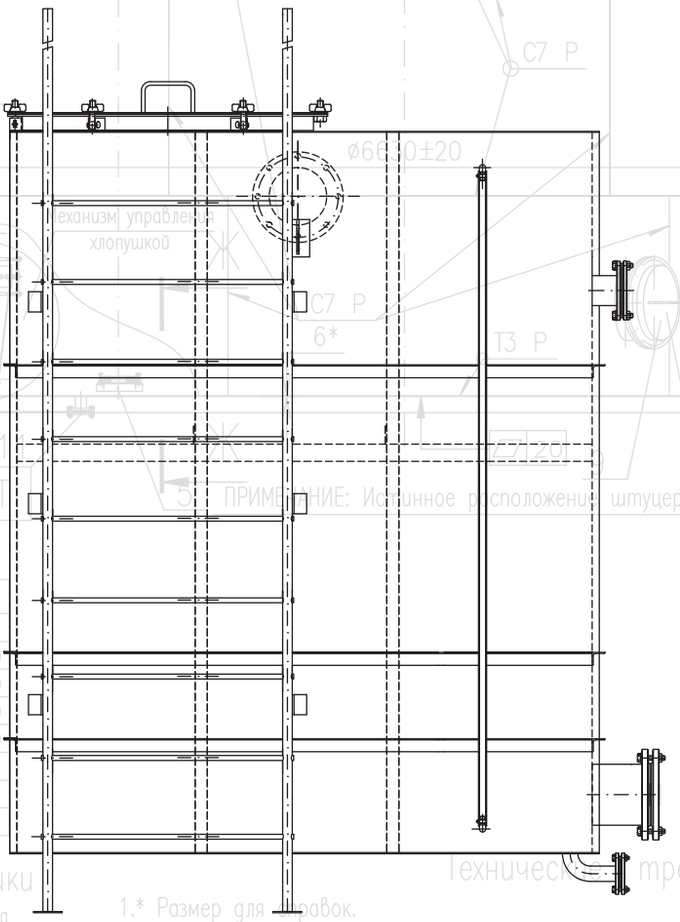
Mixer type.....pump/mixer

The volume of the device, m^3.....11,5/20/30

Construction material.....carbon steel

TANKS COLLECTING FLUID





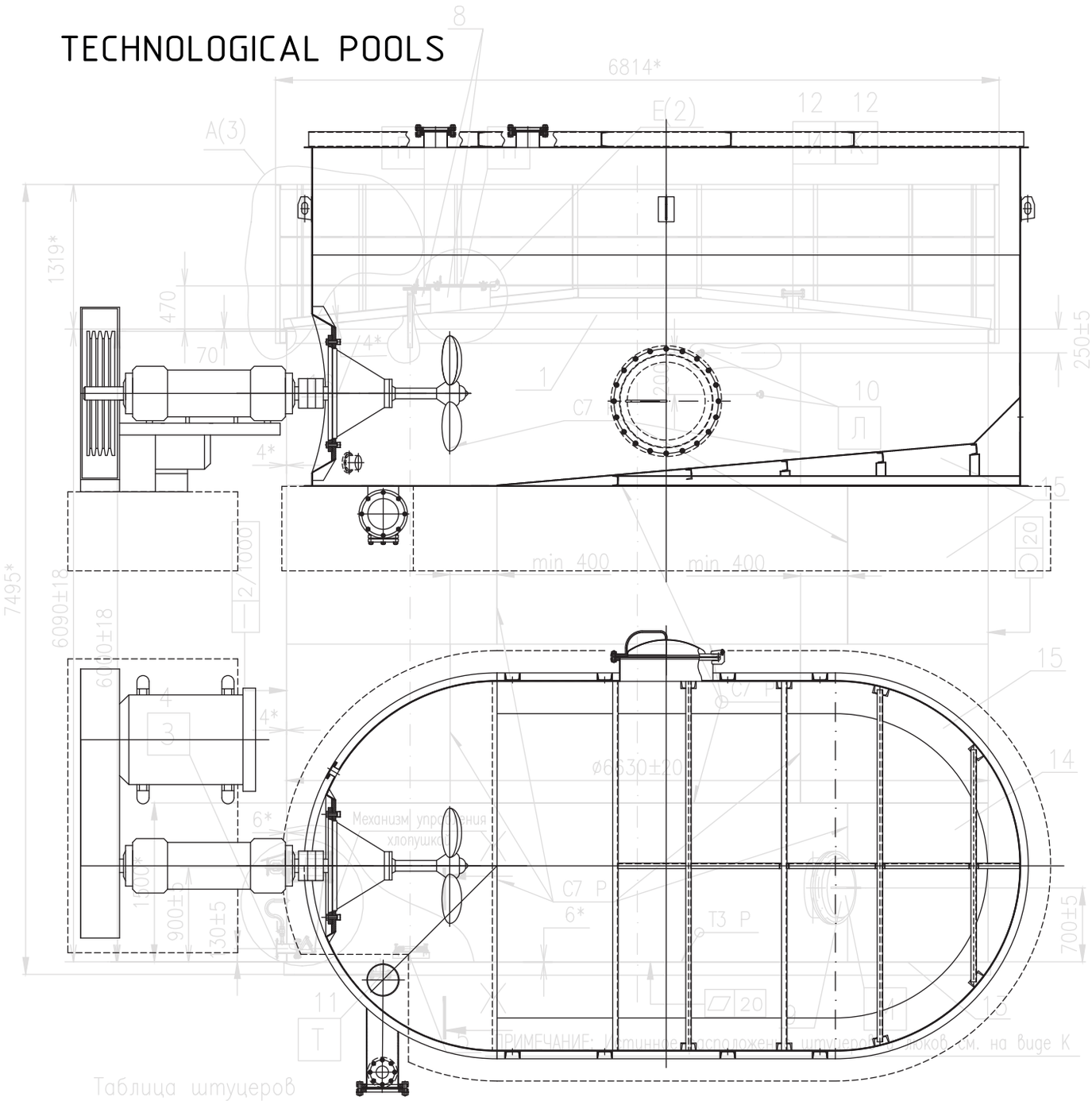
PURPOSE

Liquid collection tanks are designed to collect water, reflux water, raw alcohol.

BASIC TECHNICAL DATA

Apparatus volume, m^3.....15,0/20,0/25,0
Temperature of environment, C°.....20-70
Operating pressure, MPa.....atmospheric
Construction material.....carbon steel

TECHNOLOGICAL POOLS



Обоз.	Наименование	Кол-во шт	ДУ мм
З	Вход и выход спирта	1	ø80
И	Для дыхательного клапана	1	ø100
К	Для предохранительного клапана	1	ø100
М	Люк боковой	1	ø500
[illegible]	[illegible]ой	2	ø500
П	Для уровнемера	1	ø32
Л	Для датчика уровня	2	ø20
Т	Грязевой	1	[illegible]

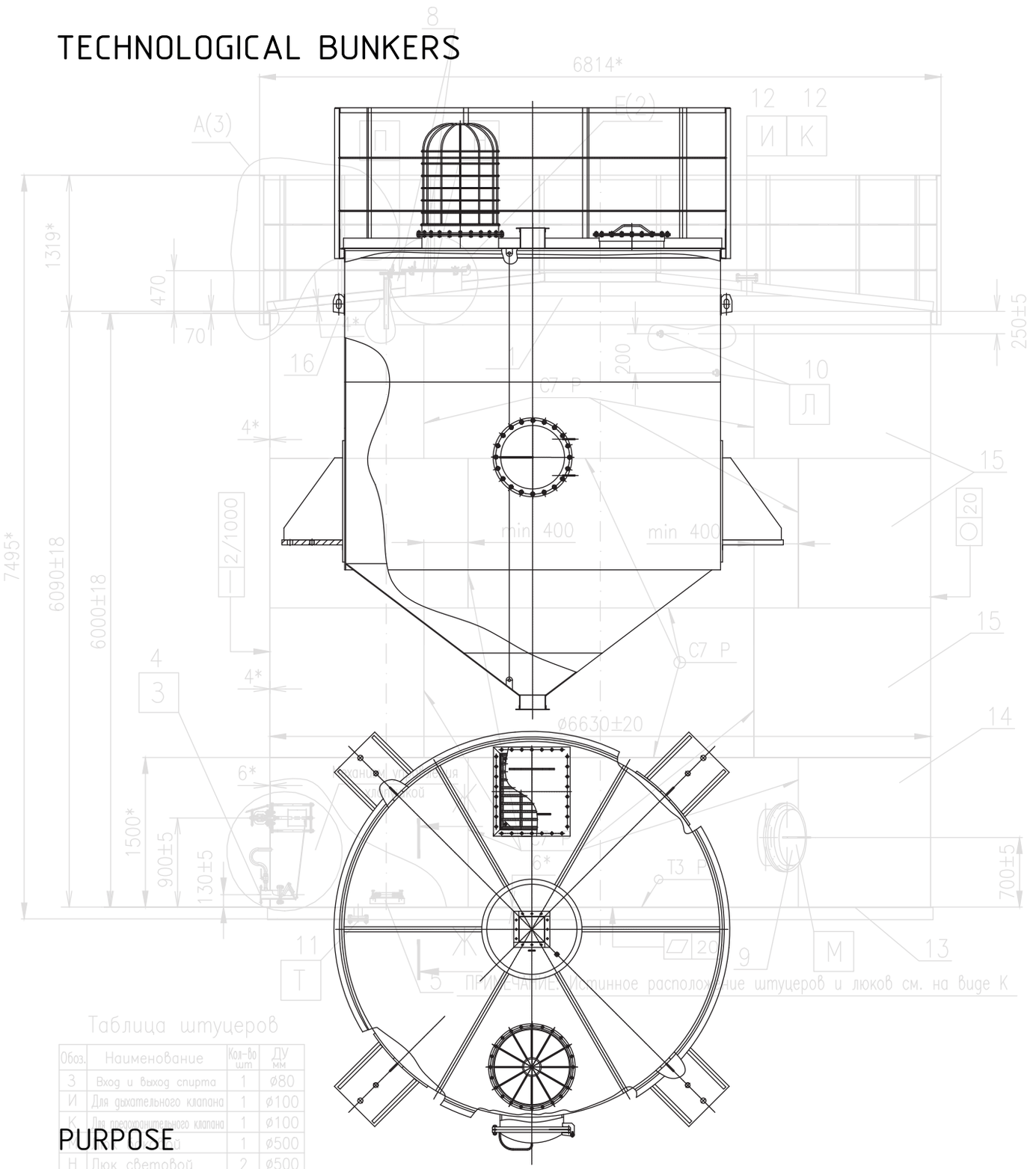
PURPOSE

Recycled technological pools, osprey are used in the pulp and paper industry and are designed to collect dry, after additional grinding, and wet scrap paper sheets with a view to its further use in the manufacturing process.

BASIC TECHNICAL DATA

Nominal volume of the device, м^3.....19,0/25,0/200,0
The working volume of the device, м^3.....16,0/22,0/170,0
The presence of a mixing device.....yes
Operating pressure, MPa.....atmospheric
Construction material.....stainless steel

TECHNOLOGICAL BUNKERS



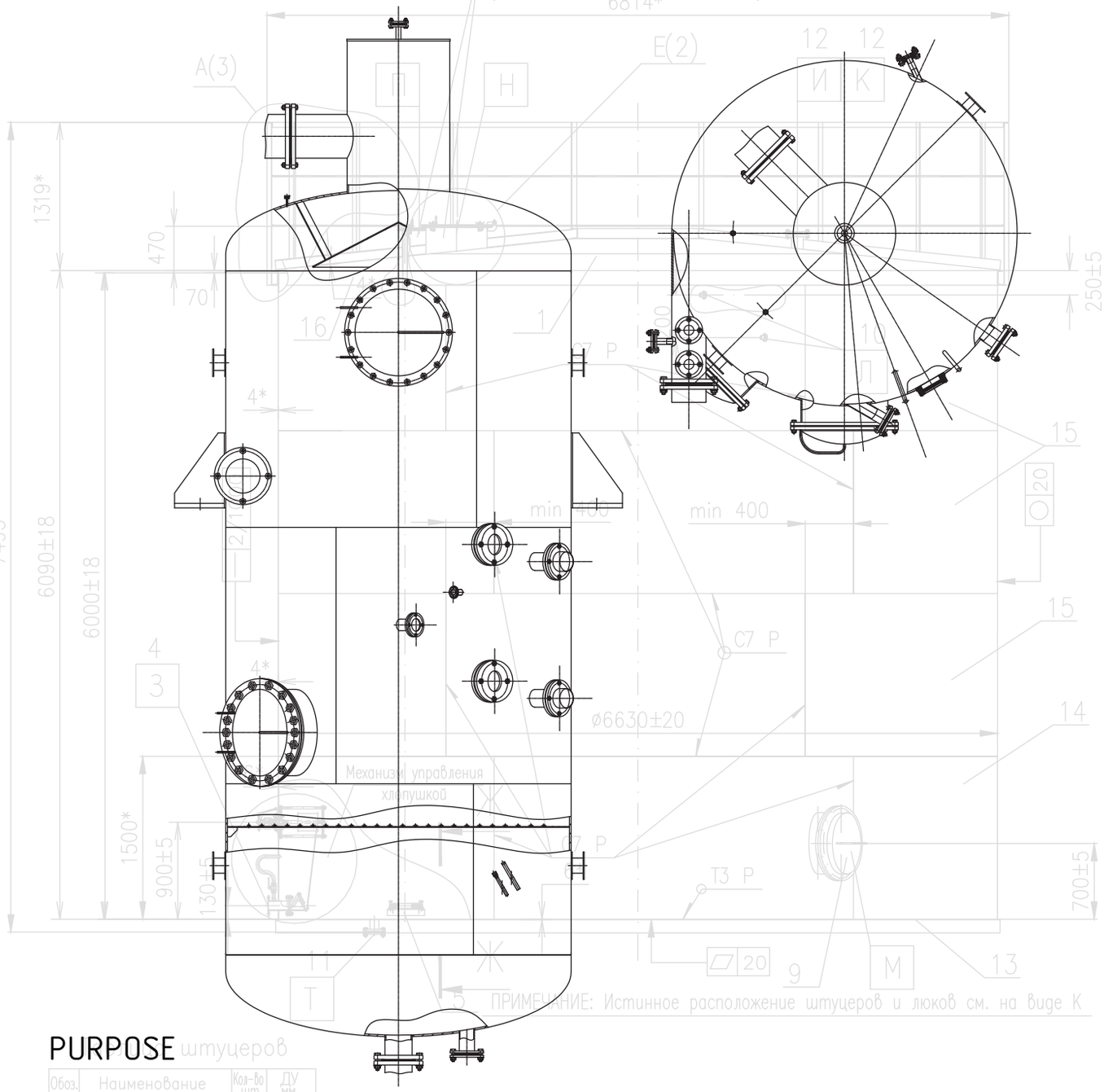
PURPOSE

BTEX technological bunkers are an element of the preparatory department. They are used for storage, collection and accumulation of grain, crushed granules, suction dust, dry vinasse, tea, as a dust collector at the enterprises of the alcohol and food industries and are installed in rooms that have category D in terms of explosion hazard (according to PUE).

BASIC TECHNICAL DATA

Working volume, m³.....0,2/1,0/2,0/2,5/3,0/7,0/8,0/45,0/87,0
Environment temperature, C°.....20
Operating pressure, MPa.....atmospheric
Construction material.....stainless/carbon steel
Estimated Life.....10 years

VACUUM SACCHARIFIERS (EVAPORATORS)



PURPOSE

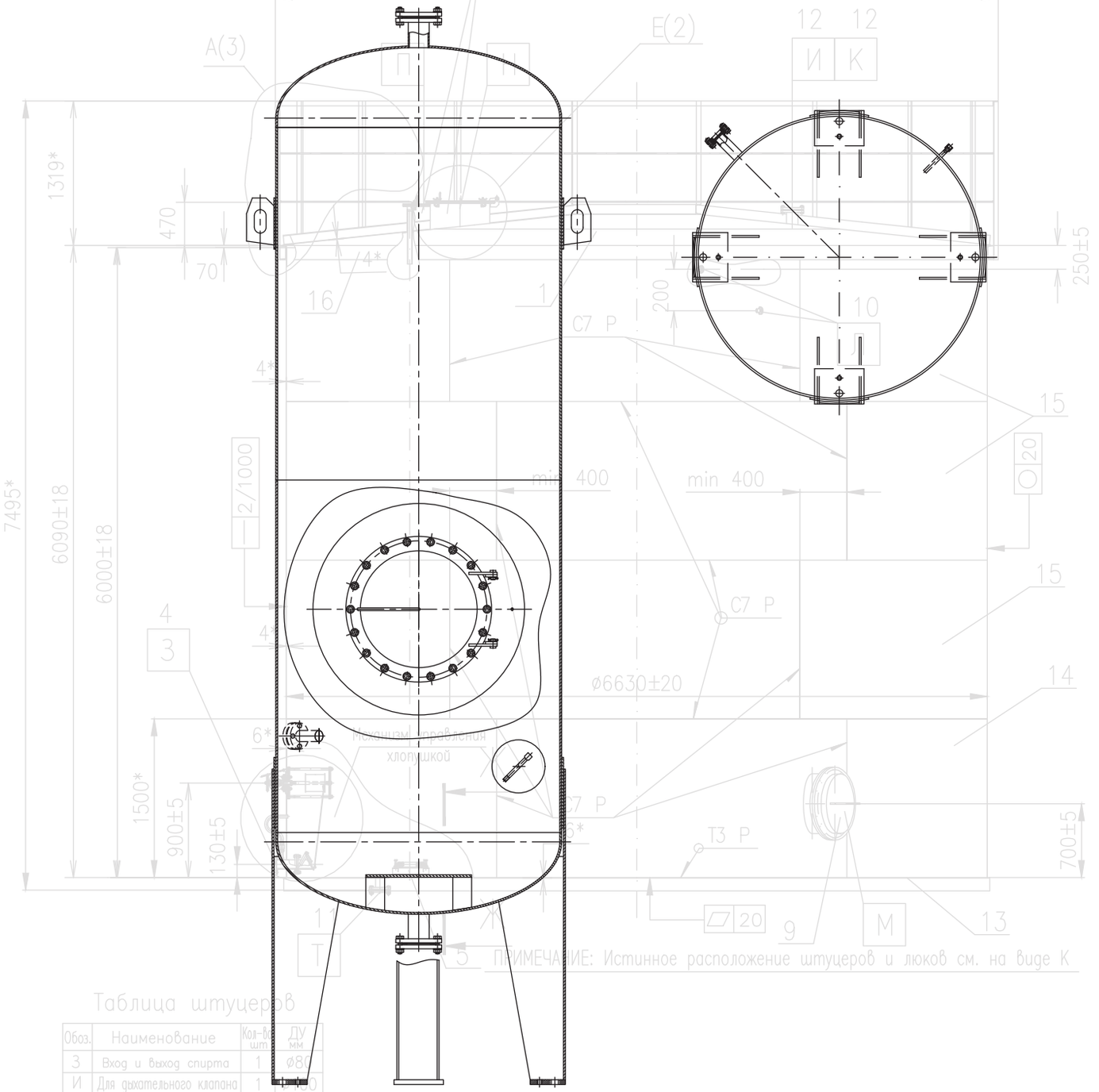
Vacuum saccharifiers (evaporators) are intended for saccharification of boiled mass, which is a crushed grain with water, with a content of mineral impurities up to 0.3%.

They are used at the enterprises of the alcohol industry and are installed in rooms that have category D in terms of explosion hazard according to PUE.

BASIC TECHNICAL DATA

Name of the working environment	boiled batch chopped grain or potatoes with water
Environment temperature, C°:	
initial	+95–102
on exit	+58–60
Residual working pressure, MPa	0,02
Apparatus volume, m^3	10/15/24/35
Construction material	stainless/carbon steel
Estimated Life	6 years

EQUIPMENT TO WITHSTAND



PURPOSE

Equiupment to withstand are designed for cooking kneading, adding raw materials.

The working medium is a mixture of crushed grain with water.

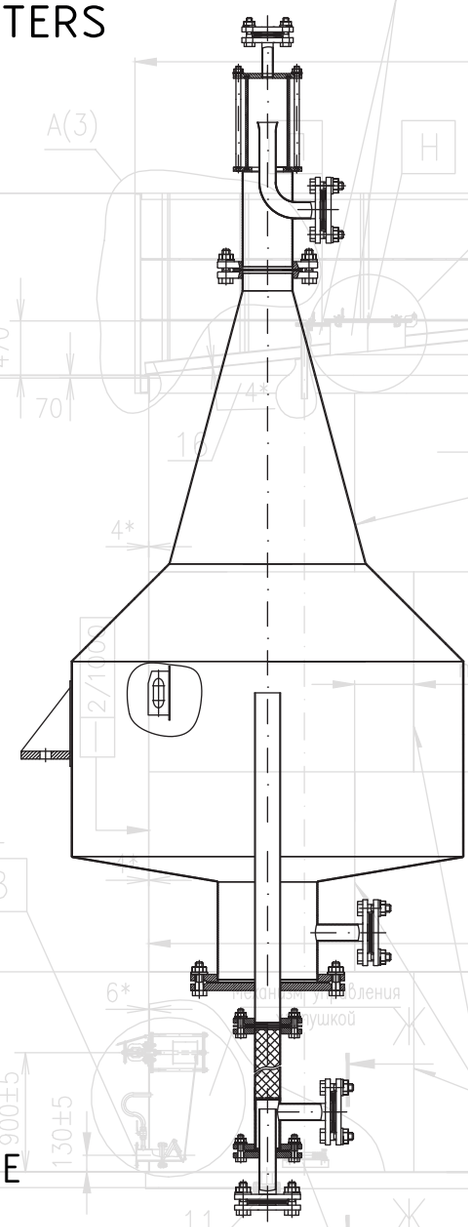
The environment is non-corrosive, non-toxic, fire and explosion proof.

Are applied at the enterprises of the alcohol and meat and dairy industry.

BASIC TECHNICAL DATA

Name of the working environment.....kneading crushed grain with water
Environment temperature, C°.....to 150
Operating pressure, MPa.....to 0,65
The volume of the device, m^3.....from 3
Construction material.....carbon steel
Estimated Life.....10 years

DECANTERS



PURPOSE

Decanters - technological tanks for storing products of production, are a necessary element of the BRU rectification plant.

Designed to separate the condensate into two layers - fusel oil and water-alcohol fraction.

The steam condensate from the fusel oil vapor condenser is sent to a decanter, where the oil is mixed with luther water supplied from the collection tank.

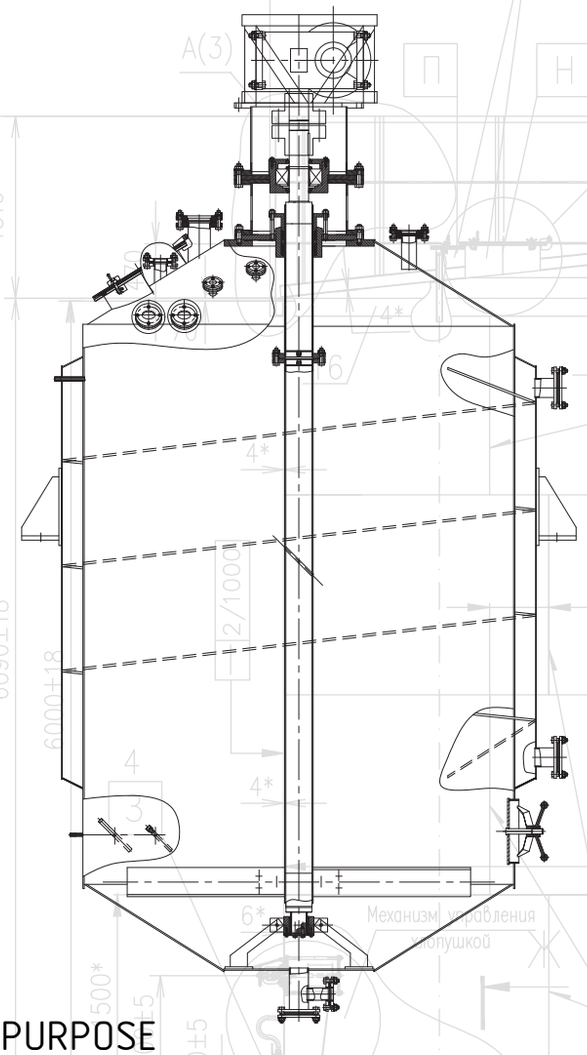
The dispersed mixture of fusel oil and water that has passed through the decanter's contact column goes from bottom to top to the decanter, from which the upper oil layer (fusel oil) is discharged to the collector, and then it is fed to the alcohol-receiving compartment.

The water-alcohol fraction from the decanter is sent through the alcohol cooler to the water-alcohol liquid collector.

BASIC TECHNICAL DATA

Name of the working environment.....fusel-water-alcohol mixture
Environment temperature, C°.....to 100
Operating pressure, MPa.....atmospheric
Working volume, m^3.....0,24/0,54
Construction material.....stainless steel
Estimated Life.....5 years

DROZHZHANKI



PURPOSE

Drozhzhanki are designed for growing yeast and are a cylindrical apparatus with a conical lid and bottom, equipped with a paddle mixer.

Inside the apparatus there is a coil, which is used for sterilization of yeast wort and its subsequent cooling.

The device is equipped with a hatch and fittings for introducing wort, yeast, water, for the exit of fermentation gases, water from the coil, the exit of the finished product and wash water.

The outer surface of the body is coated with thermal insulation.

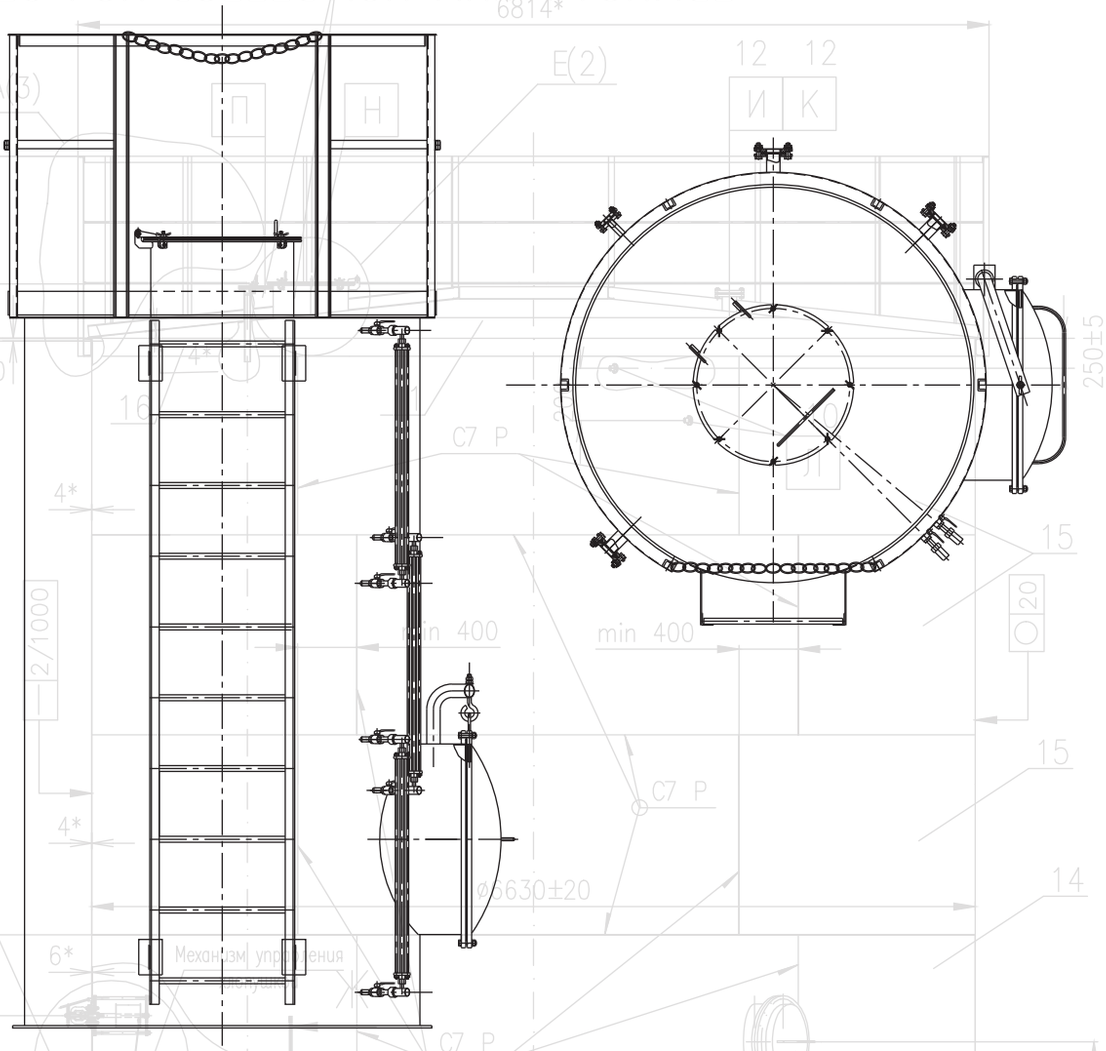
Drozhzhanki are used in enterprises of the alcohol, food and livestock industries and are an element of the yeast growth department.

They are installed in rooms having category D in terms of explosion hazard (in accordance with PUE).

BASIC TECHNICAL DATA

Name of the working environment	mash
Environment temperature, C°	to 100
Operating pressure, MPa	atmospheric
Working pressure in the coil, MPa	0,3
Working volume, m^3	10,0/12,5
Construction material	stainless steel
Estimated Life	10 years

CAPACITIES FOR COLLECTION AND STORAGE



PURPOSE

Vertical and horizontal containers of corrosion-resistant and carbon steels for collecting and storing production products: stillage, glucose, process water, necessary to ensure the operability of the heat-exchange equipment of BRU, oil, alcohol, epureate, urea, antifoam, sulfuric acid, luther water, filtrate, yeast suspension, fusel oil, EAF, VSL, water, formalin, steam condensate, wine products, diesel fuel, etc.

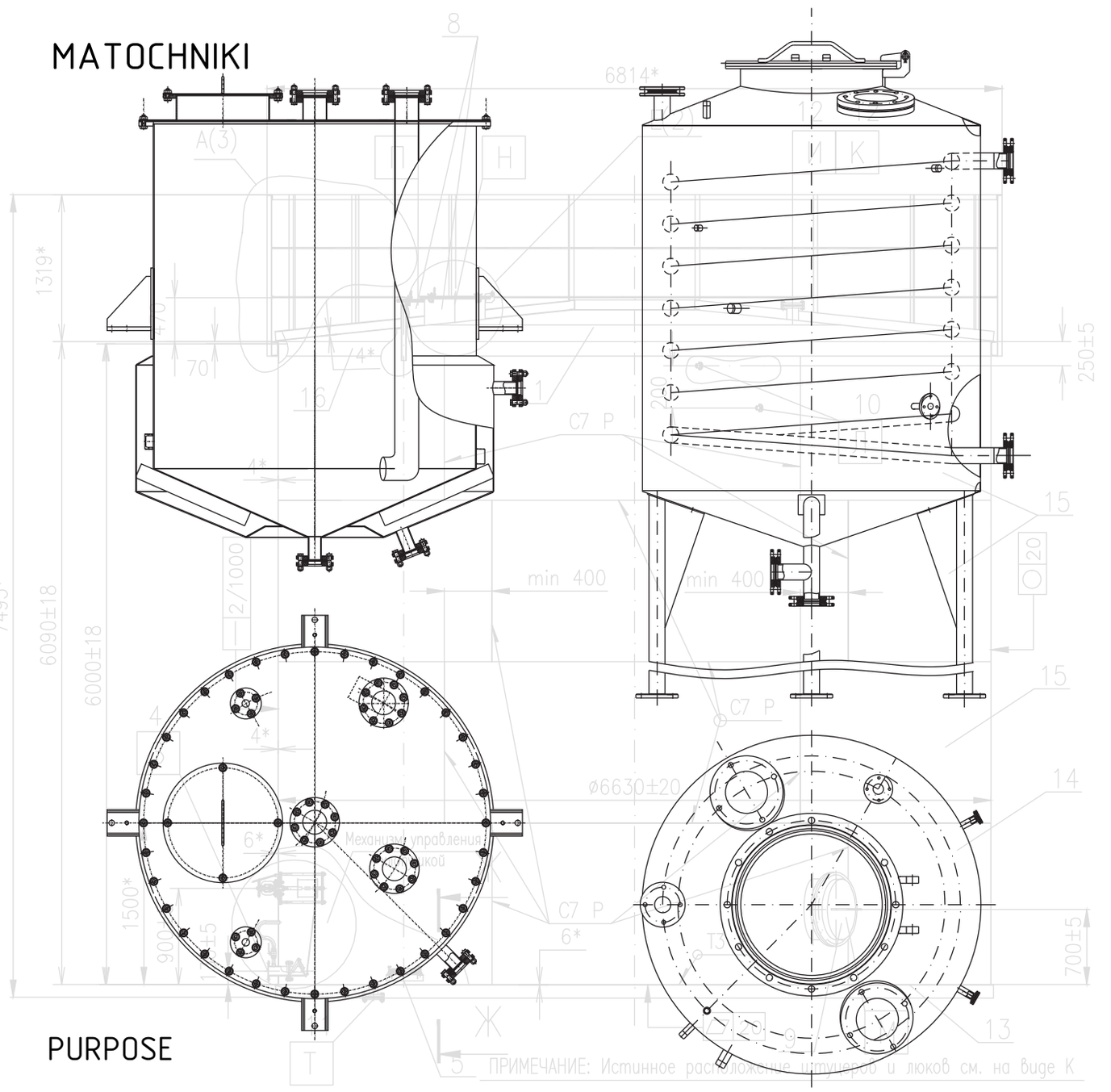
They are used in the production of food, industrial alcohol, alcoholic beverages, wine, in the alcohol and food industries.

Storage tanks should be operated only in a room of category A and class of hazardous areas B-1a according to ONTP24-86. Are made in a climatic modification of UHL of category 4.2. GOST 15150-69.

BASIC TECHNICAL DATA

Type of equipment	vertical or horizontal
Environment	liquid and puree products
Operating pressure, MPa	atmospheric/-0,9...2,0
Operating volume, m³	0,07/0,1/0,16/0,2/0,24/0,25/0,5/0,6/0,8/1,0/1,32 1,5/1,6/2,0/2,5/3,0/4,0/4,5/5,0/6,3/8,0/9,0/10,0 12,0/13,0/15,0/16,0/20,0/25,0/32,0/40,0/50,0 60,0/70,0/80,0/90,0/100,0/170,0/200,0/560,0/730,0
Construction material	stainless/carbon steel
Estimated Life	10 years

MATOCHNIKI



PURPOSE

The matochnik of the EPP brand (version with a jacket, a mixing device) and MTCHK (with a coil) are used at the enterprises of the alcohol, food, livestock industries and are an element of the yeast growth department and are intended for growing yeast.

They are a cylindrical apparatus with a conical bottom and a flat cover. Outside the apparatus, a jacket is made, which is used for sterilization of yeast wort and its subsequent cooling.

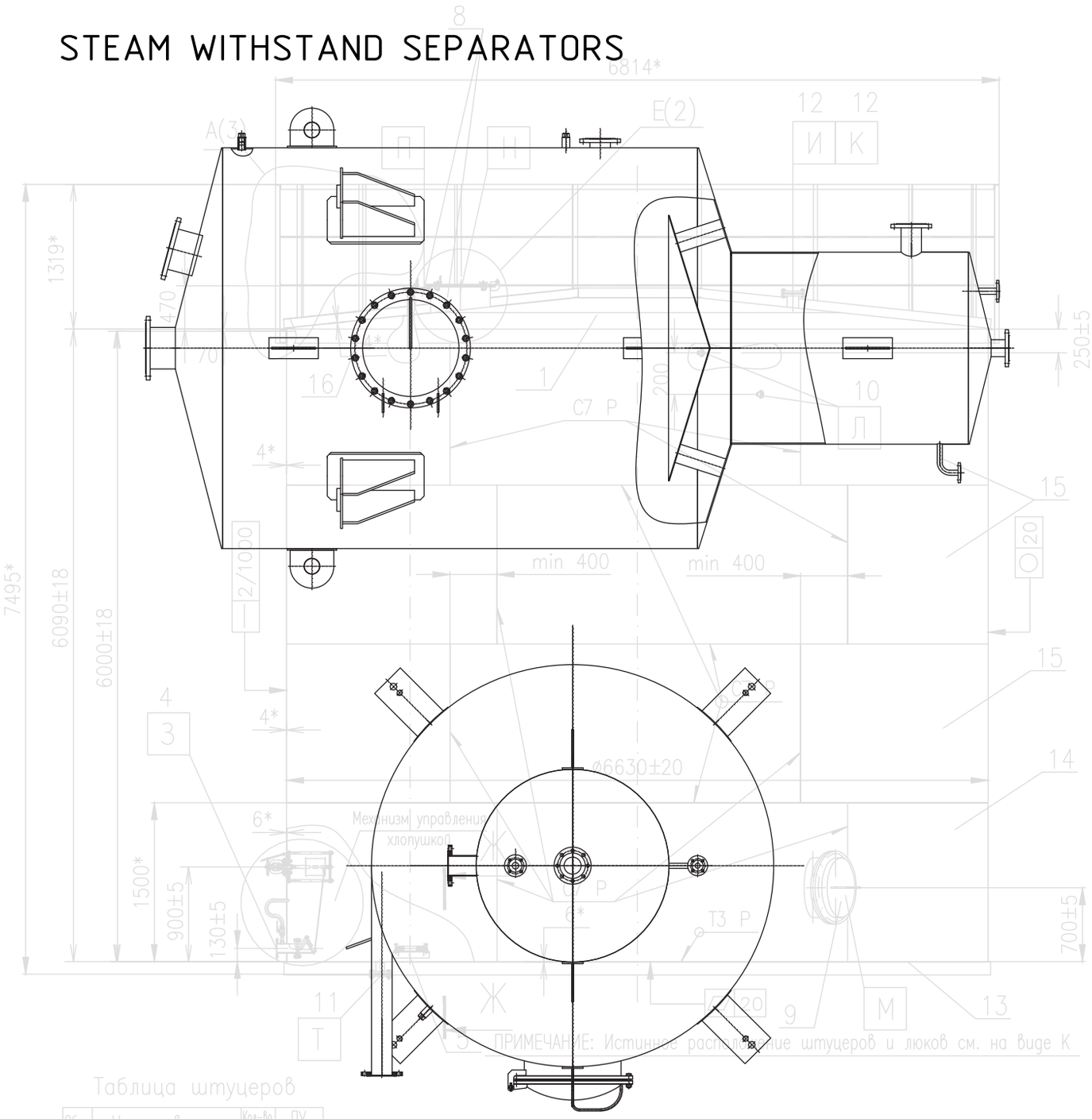
The devices are equipped with a hatch and fittings for entering wort, yeast, water; for the exit of fermentation gases, water from the jacket, the exit of the finished product and wash water, can also be equipped with a mixing device.

The matochnik are installed in rooms having category D in terms of explosion hazard (in accordance with PUE).

BASIC TECHNICAL DATA

Environment temperature, C°	to 30
Operating pressure in the apparatus, MPa	atmospheric
Operating pressure in jacket/coil, MPa	0,3/0,5
Working volume, m^3	1,5/2,5
Construction material	stainless steel
Estimated Life	6 years

STEAM WITHSTAND SEPARATORS



PURPOSE

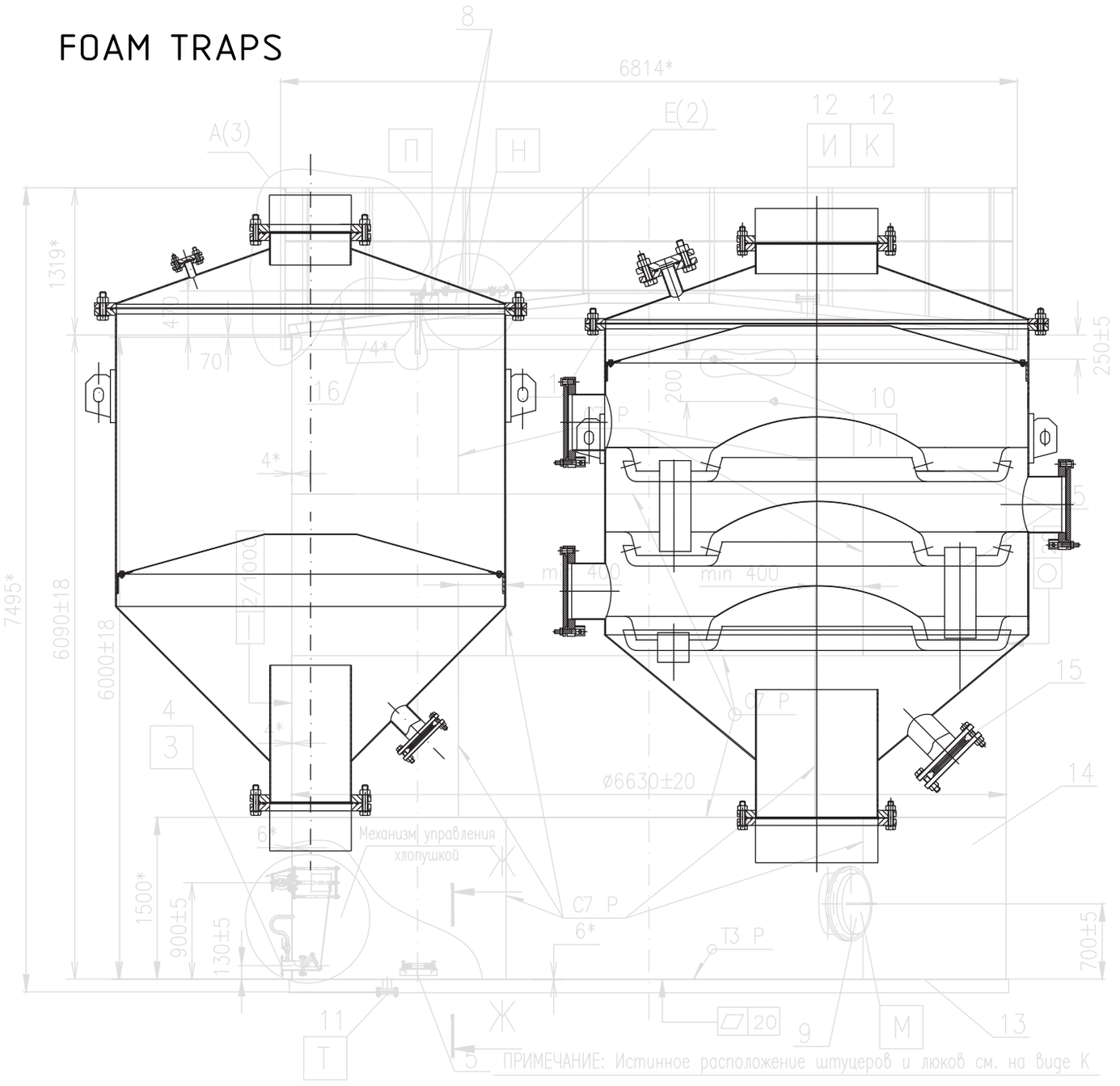
Steam withstand separators are used to extract extra-steam from the mass and to reduce the temperature of the mass, as well as to completely separate the steam from the mass.

They are used at the enterprises of the alcohol and meat and dairy industries and are installed in rooms that have category D in terms of explosion hazard (according to PUE).

BASIC TECHNICAL DATA

Environment.....mixing of crushed grain with water, non-corrosive
Environment temperature, C°.....114
Operating pressure in the apparatus, MPa.....to 0,6
Working volume, m^3.....8,5/11,5/15,0/16,0
Construction material.....carbon steel

FOAM TRAPS



PURPOSE

Foam traps are a necessary element of the BRU rectification plant, a plant for processing molasses.

Designed to trap spray and foam mash, reactor columns.

They are a vertical cylindrical container with a diameter of 400-1600 mm with three single-cap plates or a reflector.

They are used at the enterprises of the alcohol, chemical, petrochemical and pharmaceutical industries.

BASIC TECHNICAL DATA

Working environment.....water-alcohol vapors
Environment temperature, C°.....94
Working pressure in the water camera, MPa.....0,03
Working volume, m³.....from 1,7
Construction material.....stainless steel

REACTORS

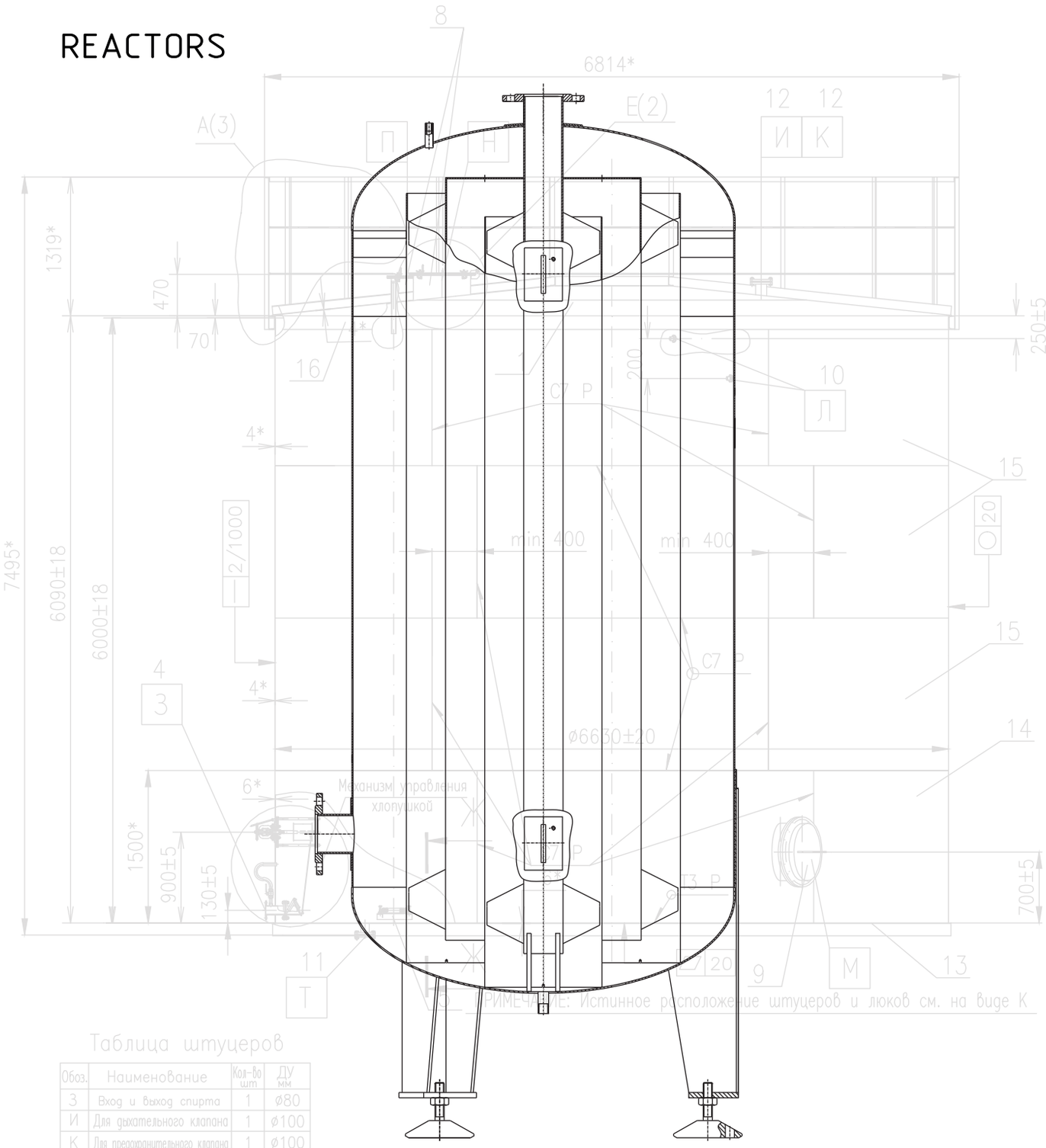


Таблица штуцеров

Обоз.	Наименование	Кол-во шт	ДУ мм
З	Вход и выход спирта	1	ø80
И	Для дыхательного клапана	1	ø100
К	Для предохранительного клапана	1	ø100
Н	Люк световой	2	ø500
П	Для уровнемера	1	ø32
Л	Для	1	ø500

PURPOSE

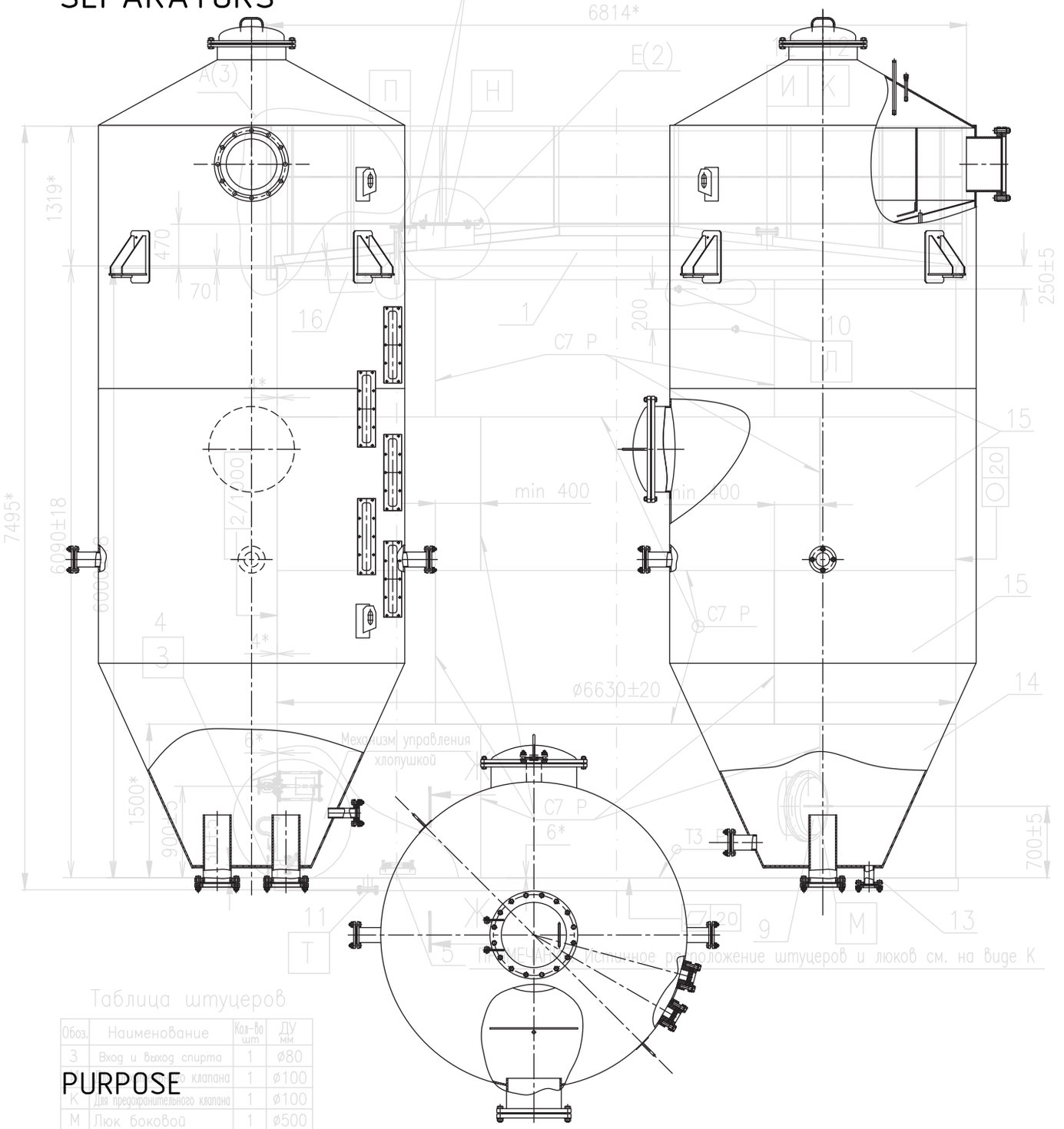
Water reactors are designed to saturate the transmitted volume of water with oxygen compounds. Represent a capacity from stainless steel of various diameter.

Saturation occurs due to cylindrical nozzles placed inside the container.

BASIC TECHNICAL DATA

Working volume, m^3.....from 0,7
Working environment temperature, C°.....to 100
Working pressure, MPa.....0,25
Construction material.....stainless steel
Estimated Life.....10 years

SEPARATORS



PURPOSE

Separators are a necessary element of the bard pre-dewatering equipment kit.

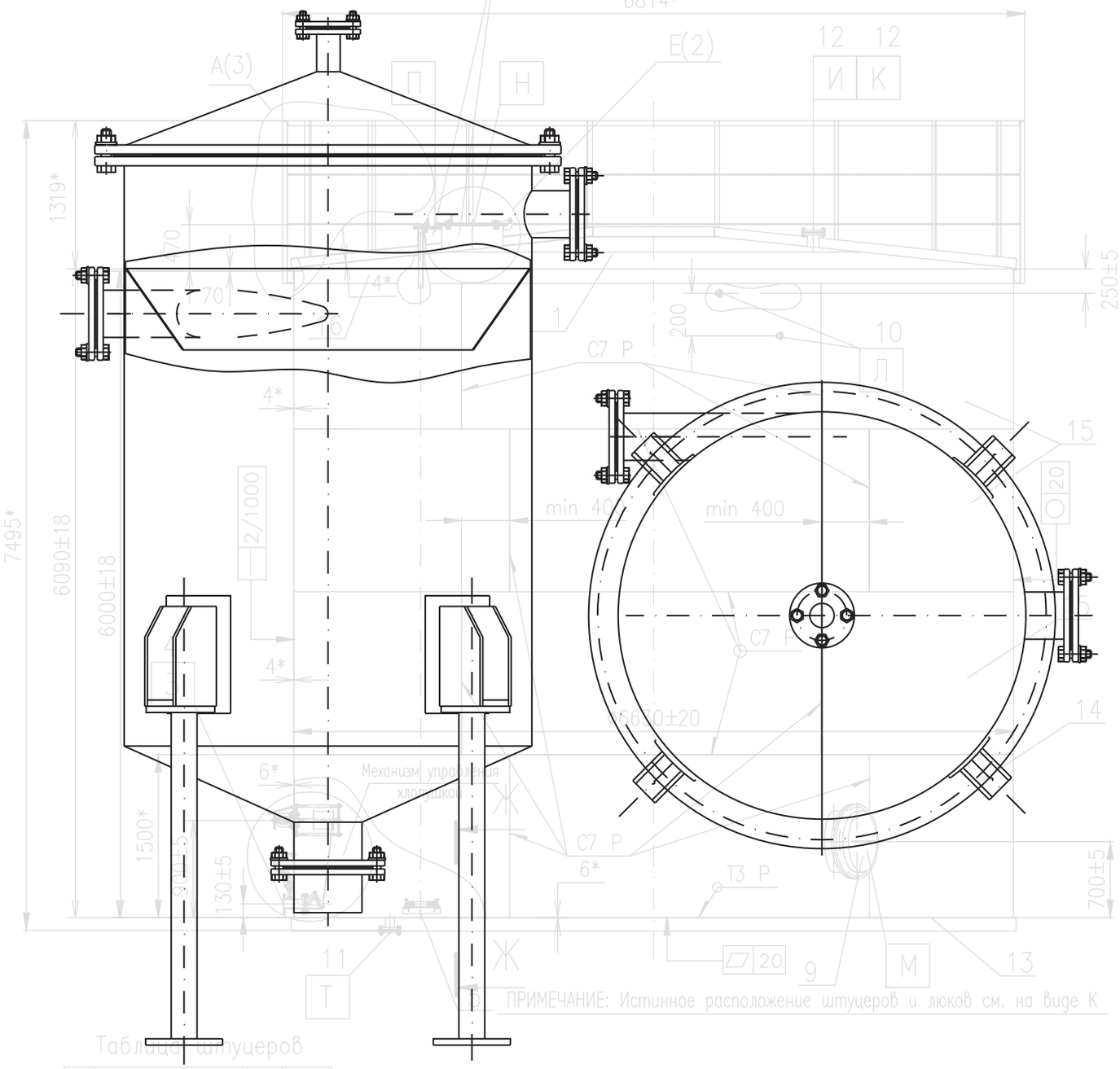
Designed for the release of water and residual gases from the post-alcohol bard, separation of vapors and gas from the liquid phase, have a device for removing condensed post-alcohol bard.

They work in conjunction with a heater as part of the technological lines of multi-body vacuum-evaporation plants.

BASIC TECHNICAL DATA

Diameter of the apparatus, mm.....700/1 300/1 500/1 600/1 800/2 450
Working environment temperature, C°.....to 130
Working pressure, MPa.....from +0.1 до -0,085
Construction material.....carbon/stainless steel
Estimated Life.....10 years

BRAGA SEPARATORS



PURPOSE

Braga (mash) separators are a necessary element of the BRU rectification plant, as well as a plant for processing molasses.

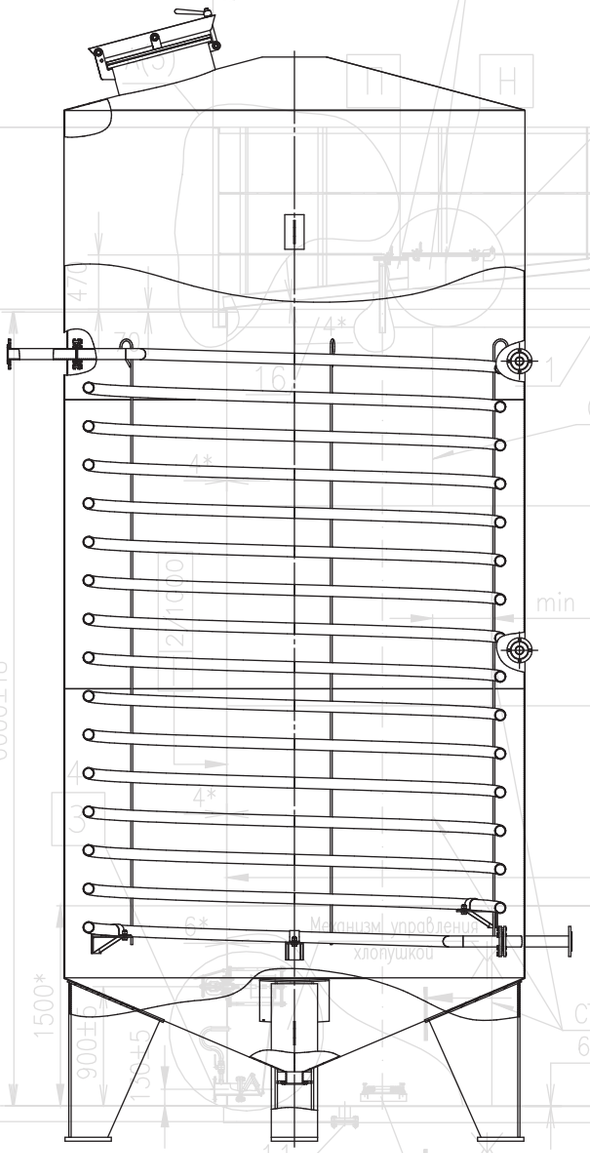
Designed for the isolation and removal of carbon dioxide and overhead products from the mash, and have a device for the separate removal of light and heavy emulsions. Work complete with a beer column.

They are used at the enterprises of the alcohol, chemical, petrochemical and pharmaceutical industries.

BASIC TECHNICAL DATA

Diameter of the apparatus, mm	700/900/1 000/1 200
Estimated wall temperature, C°	100
Working pressure, MPa	to 0,07
Construction material	stainless steel
Estimated Life	10 years

THERMALIZER



PURPOSE

Thermalizers are part of the equipment for the production of dry fodder yeast.

Designed for thermolysis of yeast before drying. During thermolysis, the liquid yeast concentrate is heated to 70-100 ° C and held for 45-60 minutes in order to biologically neutralize the concentrate and facilitate subsequent drying.

Thermalizers are a cylindrical closed vessel, inside which a paddle mixer rotates (pump mixing of the product is allowed).

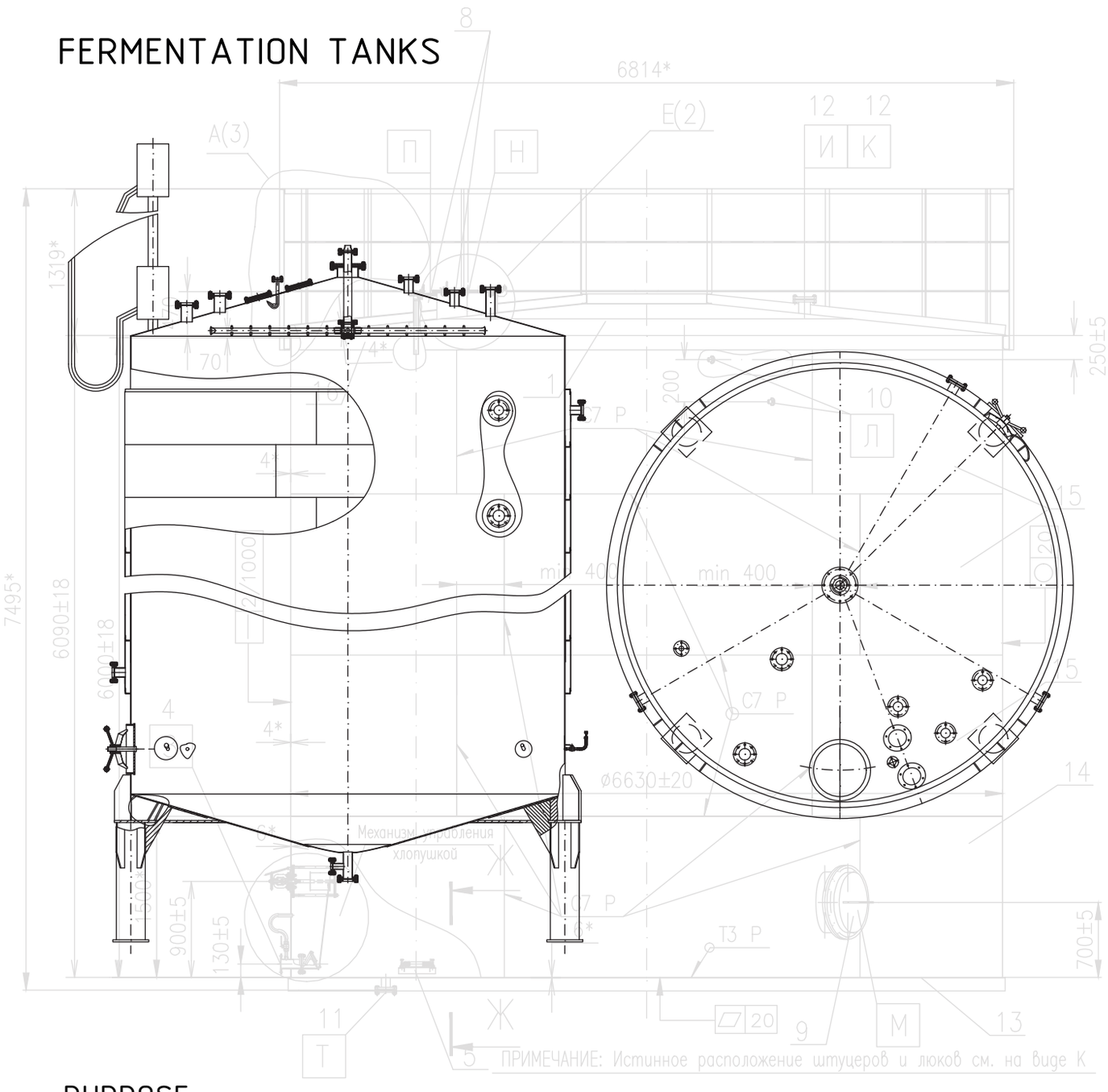
To heat the yeast concentrate, a coil heated by steam is installed in the thermolysers.

An exhaust pipe is located in the top cover to remove steam.

BASIC TECHNICAL DATA

Working environment.....yeast concentrate
Working volume, m^3.....22,0
Working temperature, C°.....to 100
Working pressure, MPa.....atmospheric
Construction material.....stainless steel
Estimated Life.....10 years

FERMENTATION TANKS



PURPOSE

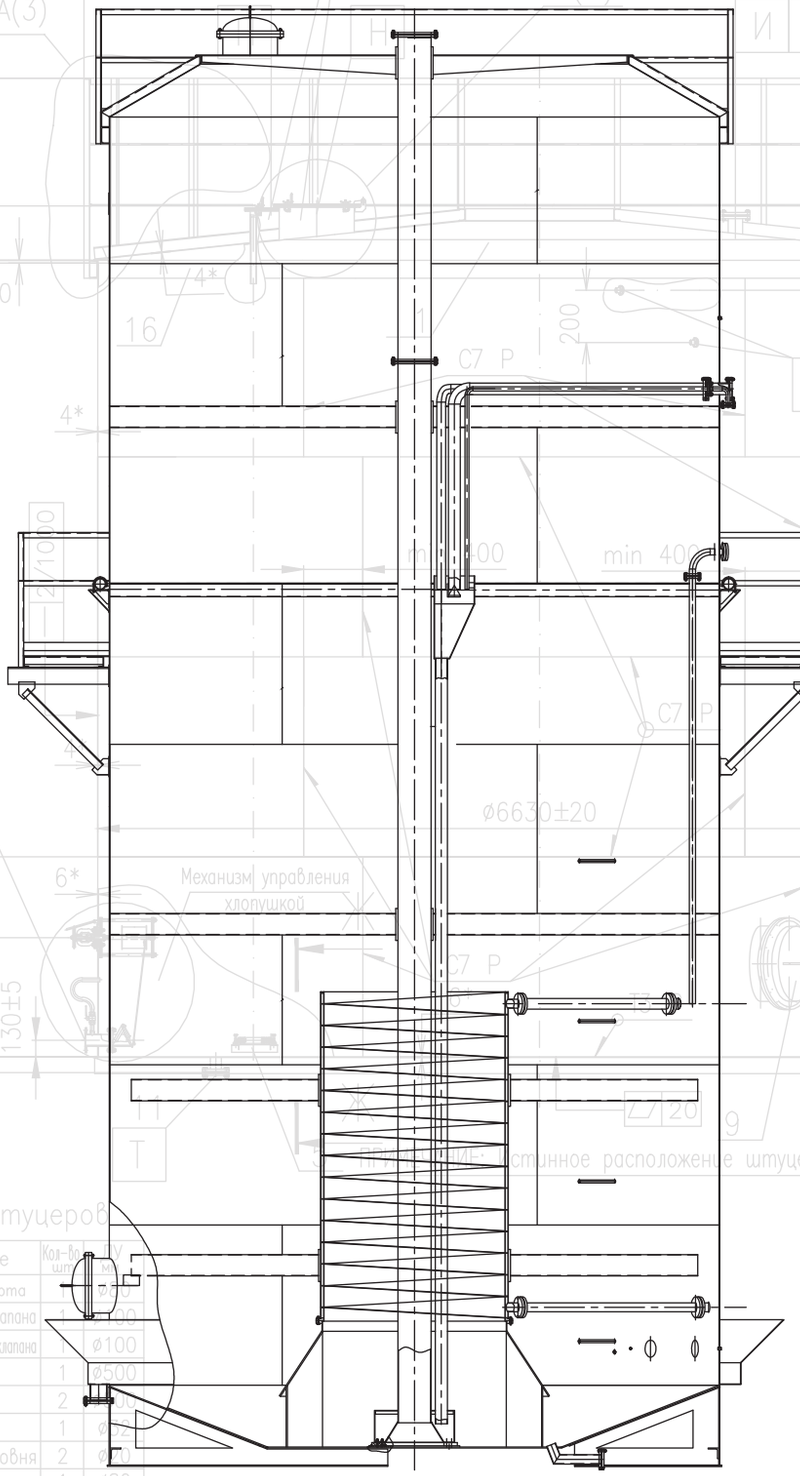
Fermentation technological tanks are intended for the fermentation of wort for the purpose of subsequent production of mash.

Tanks are used at the enterprises of the alcohol industry and are installed in rooms that have category D in terms of explosion hazard (according to PUE).

BASIC TECHNICAL DATA

Working environment	mash
Working volume, m^3	100,0/160,0
Working temperature, C°:	
in the apparatus	22-28
in the jacket or coil	10-20
Working pressure, MPa:	
in the apparatus	atmospheric
in the jacket or coil	0,06
Construction material	carbon steel
Estimated Life	10 years

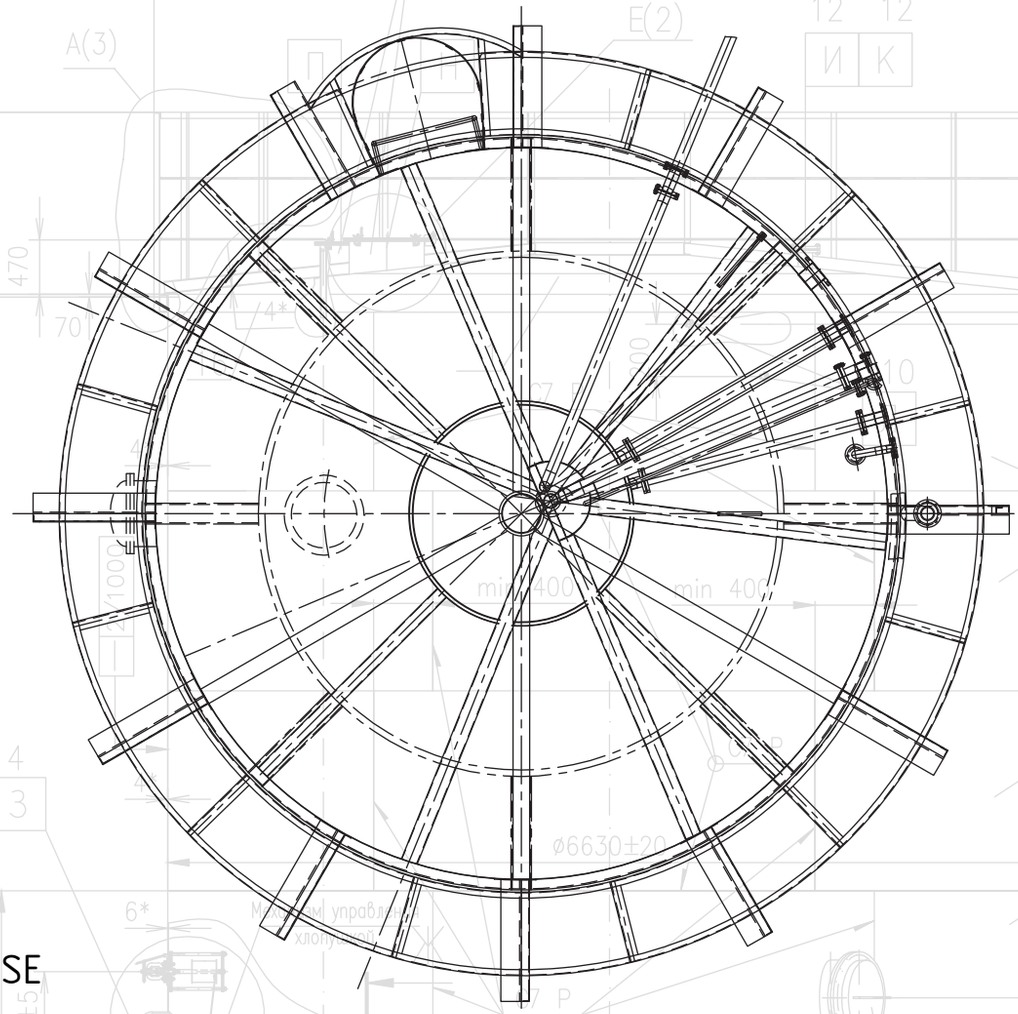
YEAST TANKS (YEAST GENERATORS)



BASIC TECHNICAL DATA

Nominal volume, m^3	320,0
Product temperature, C°	36-38
Working pressure, MPa	atmospheric
Supply wort productivity, m^3/hour	20-30
Air consumption, m^3/hour	to 5 000
Air pressure, kgf/cm^2	to 0,6
Diffuser jacket cooling surface, m^2	to 30
Construction material	stainless steel

YEAST TANKS (YEAST GENERATORS)



PURPOSE

They are used at the enterprises of the alcohol, food, and livestock industries and are an element of the yeast growth department.

Designed for continuous cultivation of a pure yeast culture on the must of hydrolysis production.

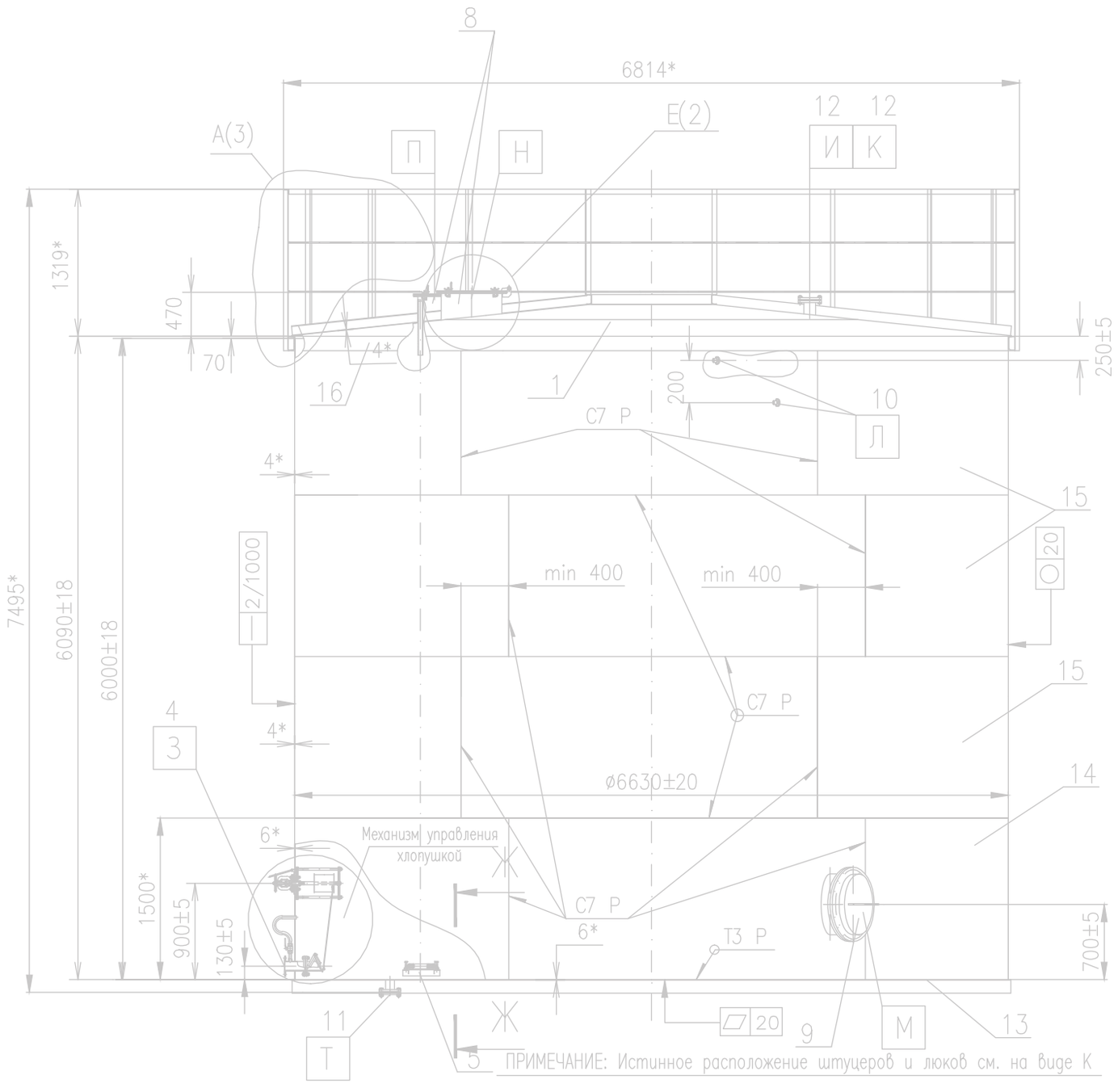
They are a cylindrical stainless steel apparatus with a conical lid and a bottom.

During the start-up of the apparatus, specially prepared seed yeast is fed into it. To obtain them, they take a pure yeast culture (free of impurities, for example, cells of other microorganisms), which is grown under sterile conditions, first in the laboratory, and then in the pure culture department at the factory. Air enters the yeast apparatus through a pipe, on the lower end of which a cell is fixed. The wort flows from the pipe into the cuvette, spreads over it and passes over its edge. Air leaves through a narrow (25 mm high) annular gap between the cuvette and the bottom of the apparatus at a speed of 20 m/s, captures the wort and emulsifies it.

Foam with excess air rises through the diffuser (hollow steel cylinder with double walls), fills the entire apparatus, is extinguished by its own gravity, descends down the periphery of the apparatus and again rises through the diffuser. Thus, continuous circulation of the contents of the apparatus without the use of mechanical mixing devices. If necessary, ammonia water is supplied to the apparatus to maintain the optimal pH of the medium.

After the normal process parameters are established, the supply of sowing yeast is stopped. Yeast grows in the foam when there is a plentiful supply of oxygen from small air bubbles.

The device is equipped with a hatch and fittings for introducing wort, pure culture, water; for the exit of fermentation gases, water from the coil, the output of the finished product and wash water.



ПРИМЕЧАНИЕ: Истинное расположение штуцеров и люков см. на виде К

Таблица штуцеров

Обоз.	Наименование	Кол-во шт	ДУ мм
З	Вход и выход спирта	1	ø80
И	Для дыхательного клапана	1	ø100
К	Для предохранительного клапана	1	ø100
М	Люк боковой	1	ø500
Н	Люк световой	2	ø500
П	Для уровнемера	1	ø32
Л	Для датчика уровня	2	ø20
Т	Грязевой	1	ø80

Технические характеристики

1. Назначение – для хранения спирта
2. Обьем номинальный $м^3$ – 208
3. Среда – спирт этиловый
4. Плотность среды,$кг/м^3$ – 900
5. Внутреннее избыточное давление, мм.вод.ст.– 200
   Остаточное, мм.вод.ст. – 25
6. Температура продукта,C° –25 +30
7. Расчетная минусовая температура,C° –30
8. Среда: взрывоопасная, пожароопасная
9. Материал–Сталь 09Г2С ГОСТ 5520–79
10. Метод испытания емкости : налив
11. Степень агрессивности среды: неагрессивная
12. Габаритные размеры, мм: 6814x7060x7495
13. Масса, кг: 9700
14. Срок службы емкости– 40лет

Технические требования.

1.* Размер для справок.

2.** Размер допускается изменять на месте монтажа, по согласованию с заказчиком.

3. Сварку производить согласно ГОСТ 14771–76,ГОСТ 5264–80, контроль качества сварных соединений произвести методом визуального контроля и измерением в соответствии с ГОСТ 3242 –79, и ультрозвуковой дефектоскопии.
Визуальному контролю должны подвергаться 100% длины всех сварных соединений емкости.
Ультрозвуковому контролю должны подвергаться 25% длины всех сварных соединений емкости.

4. Емкость испытать на прочность методом налива и созданием избыточного давления 300 мм вод. столба .
Время выдержки емкости под наливом 4 часа и под пробным давлением 10 минут .

5. В ограждении обеспечить проход, в зависимости от расположения смотровой площадки.

6. Покрытие наружной поверхности грунт ГФ 020 красно–коричневый в два слоя

7. При изготовлении руководствоваться : ТУ 5131–002–45763132–00,
исходными данными на разработку емкости 53–02–ТХ.ИД.01

Section 10.
DRYING EQUIPMENT

ROTARY DRYING UNITS

PURPOSE OF EQUIPMENT

Rotary drying unit type RDS (rotary disk dryer), RTS (rotary tube dryer) are designed for drying various raw materials, previously squeezed on a decanter or separator, and other materials in continuous operation to final moisture.

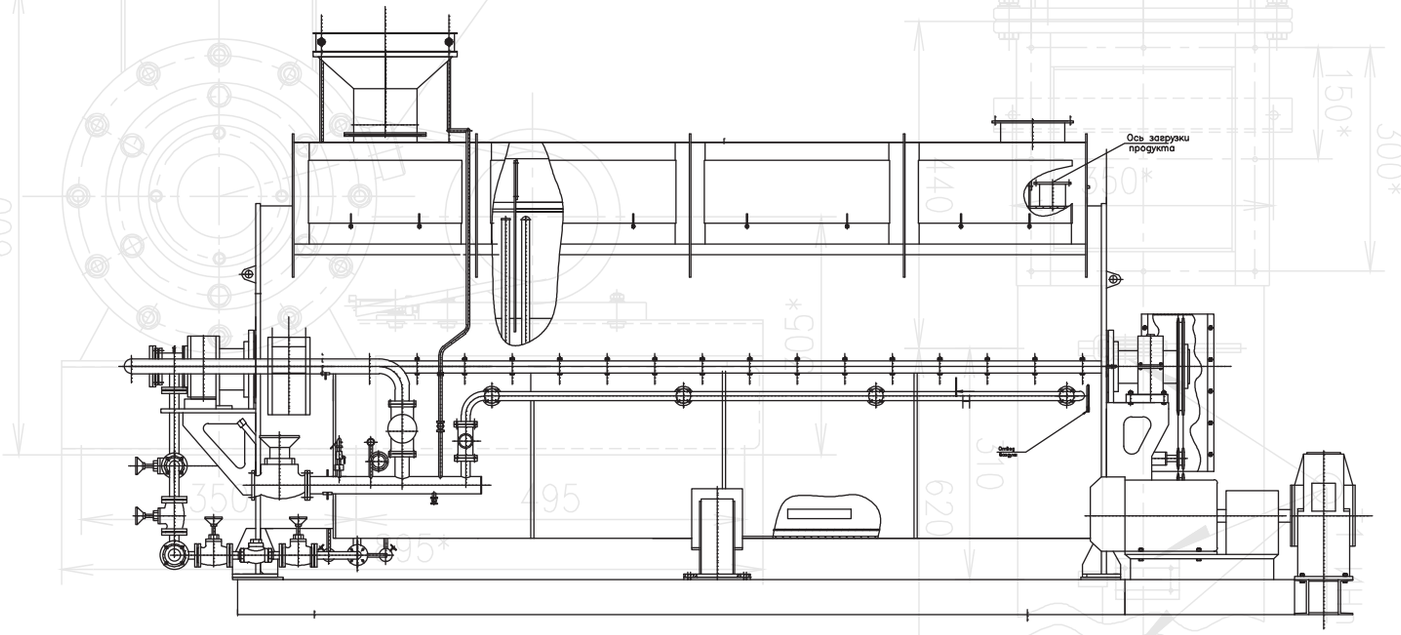
The design of the RDS dryer allows the drying of dazzling and hard-to-dry, porridge-like and bulk materials, including waste from the fish, meat, brewing, alcohol industries for processing into feed flour for poultry farms, fish farms and other livestock farms, drying sunflower meal, etc.

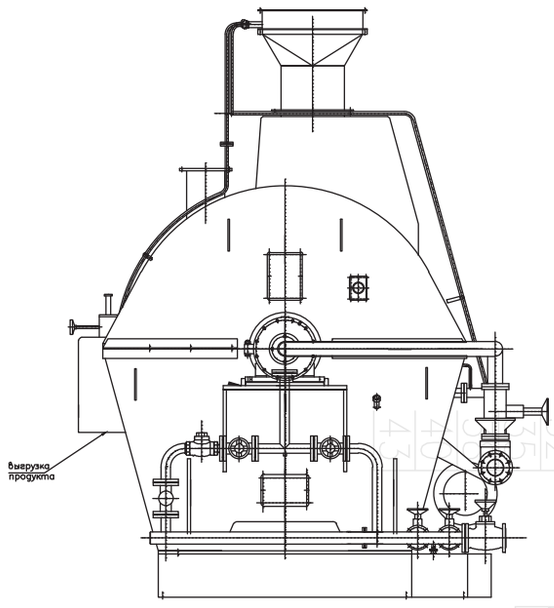
The RTS drying unit is designed for drying protein raw materials of plant and animal origin in a continuous mode and allows the drying of various pasty, porridge-like and bulk materials.

Due to indirect heating of the raw materials, the product obtained after such drying does not have traces of carcinogens and extraneous odors, the ash content of the resulting product does not exceed the established standards for use as feed additives.

RTS-type drying units are used as part of the line for processing post-alcohol grain stillage grains into fodder flour, as well as in RMU lines (fish and flour plants), where the raw materials are preliminarily dehydrated in a centrifuge, evaporator or other device to a moisture content of 55-72% installation and dried to a moisture content of not more than 10%.

ROTARY DRYING UNIT TYPE RTS



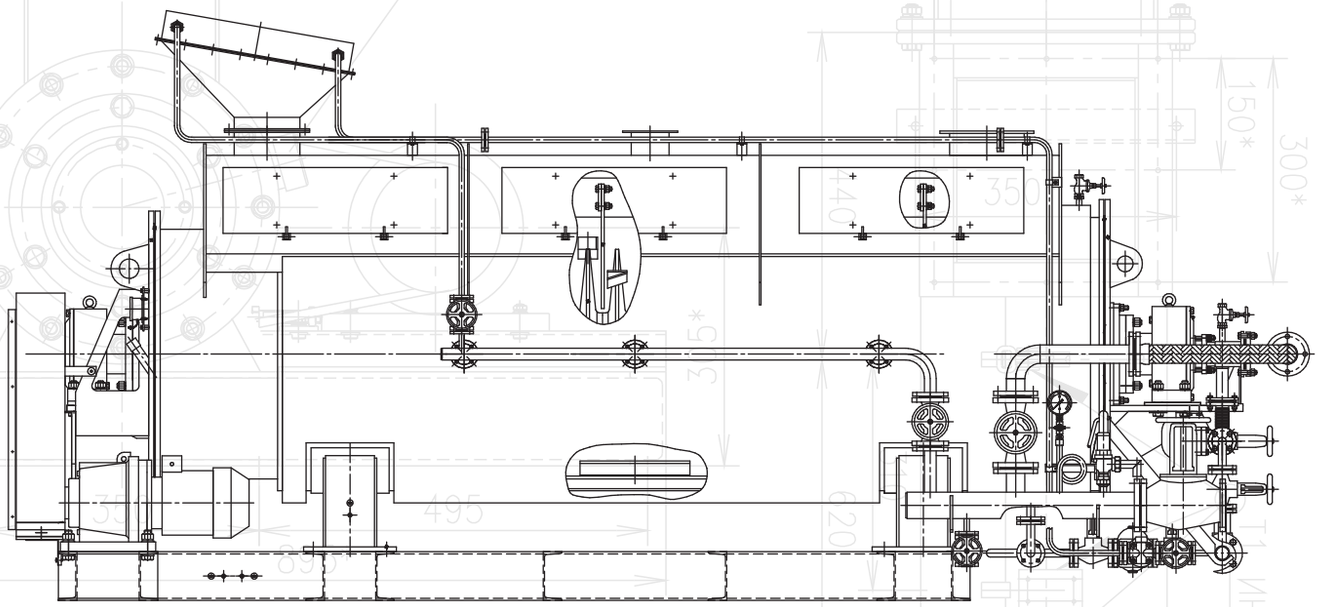


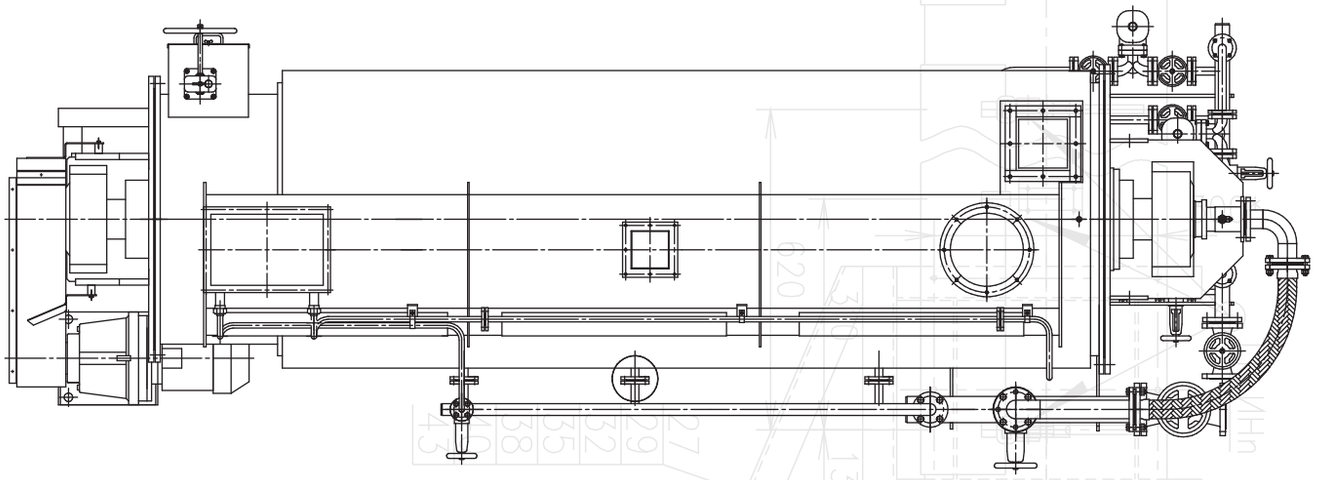
BASIC TECHNICAL DATA

Type of equipment	Surface heat exchange, (sq.m^2)	Steam pressure, MPa (kgf/cm^2), not more than	Steam consumption per kg of evaporated moisture, not more than	Productivity by evaporated moisture (kg/h)	Installed power (kW), not more than	Overall size, LxWxH (mm), not more than*	Weight (kg), not more than
RTS-75	75	0,5 (5)	1,4	450	19,5	6050 x 2020 x 2550	12 800
RTS-160	160	0,5 (5)	1,4	960	56	7305 x 2785 x 3490	21 800
RTS-200	200	0,5 (5)	1,4	No less than 1200	66	7305 x 2985 x 3620	23 800

* – The ventilation system is not included in the overall dimensions.

ROTARY DRYING UNIT TYPE RDS





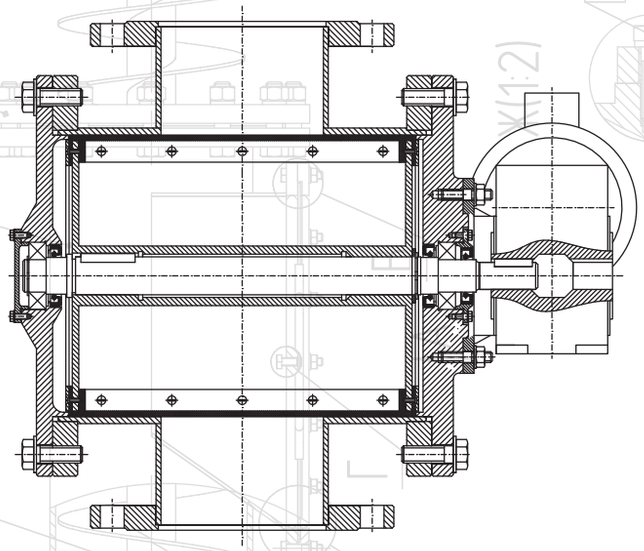
BASIC TECHNICAL DATA

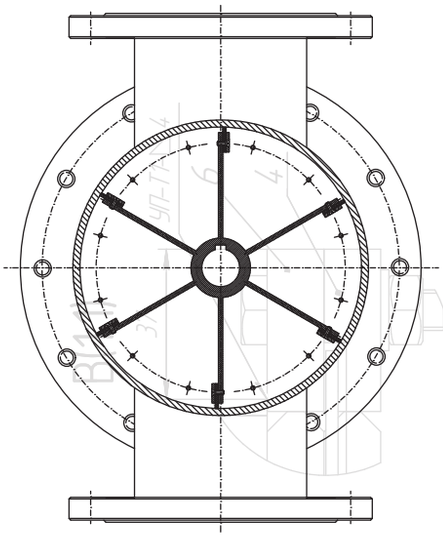
Type of equipment	Surface heat exchange, (sq.m.^{2})	Steam pressure, MPa (kgf/cm^2), not more than	Steam consumption per kg of evaporated moisture, not more than	Productivity by evaporated moisture (kg/h)	Installed power (kW), not more than	Overall size, LxWxH (mm), not more than*	Weight (kg), not more than
RDS-20	20	0,5 (5)	1,4	120	5,5	3755 x 1460 x 1950	4 000
RDS-40	40	0,5 (5)	1,4	240	12,5	5330 x 1780 x 2420	8 050
RDS-60	60	0,5 (5)	1,4	360	20,5	6050 x 2020 x 2550	11 230

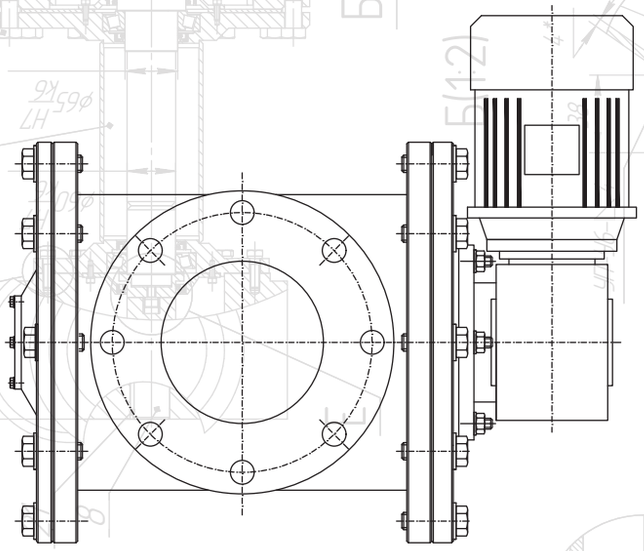
* - The ventilation system is not included in the overall dimensions.

Section 11.
TRANSPORTATION EQUIPMENT

GATE LOCKS







PURPOSE

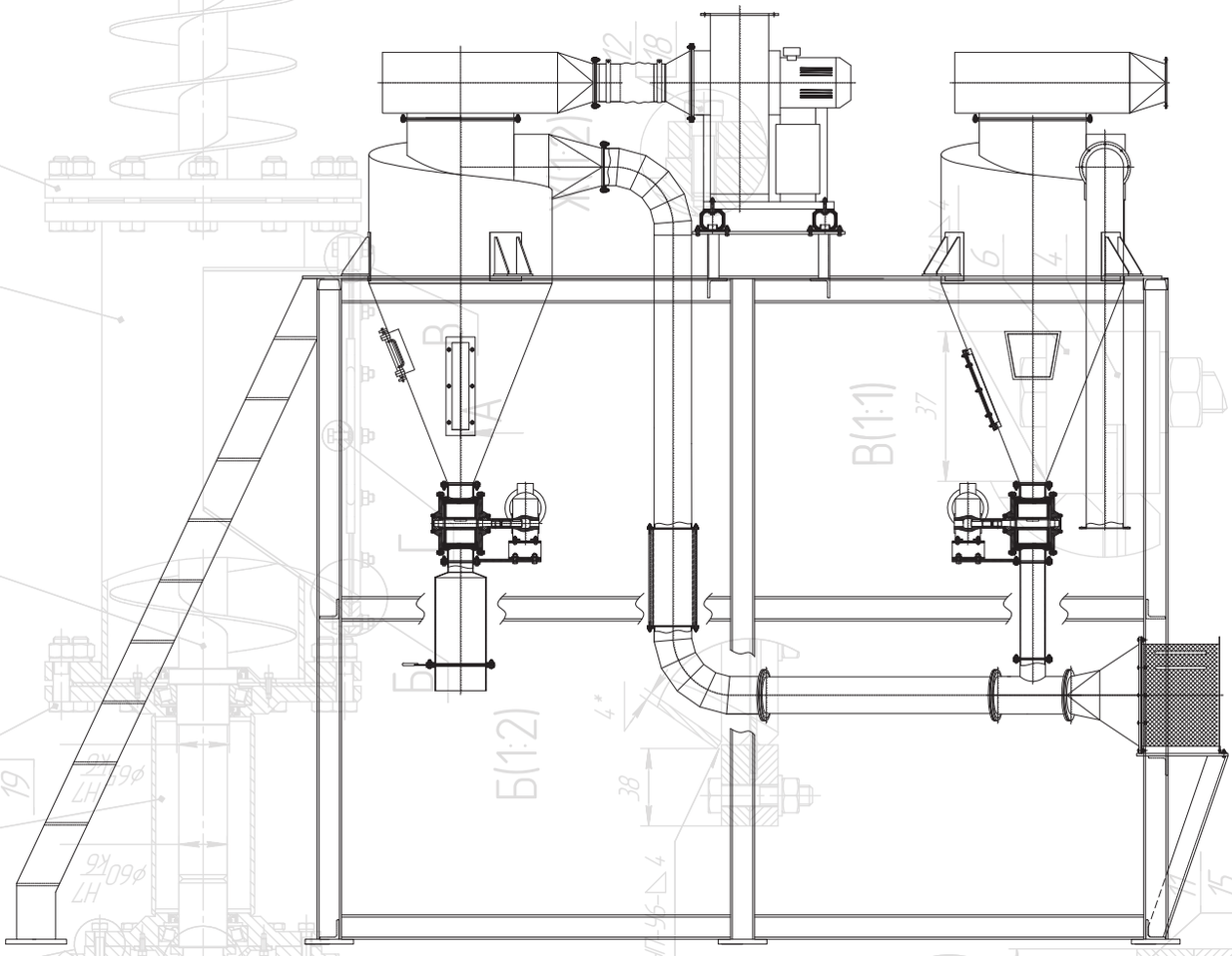
Gate locks are designed to move products with simultaneous air sealing, release precipitated product from cyclones - unloaders and filters of pneumatic units, as well as to prevent atmospheric air from entering them.

They are used for unloading bulk products from bins and in pneumatic conveying systems, as well as a dispenser and other similar tasks.

BASIC TECHNICAL DATA

Type of loading window, mm	round/square
Loading window size, mm	ϕ100/ϕ150/150x150/150x350
Structural material	carbon steel
Environment	bulk product
Working temperature, °C	from -40 do +100

PNEUMOTRANSPORT



PURPOSE

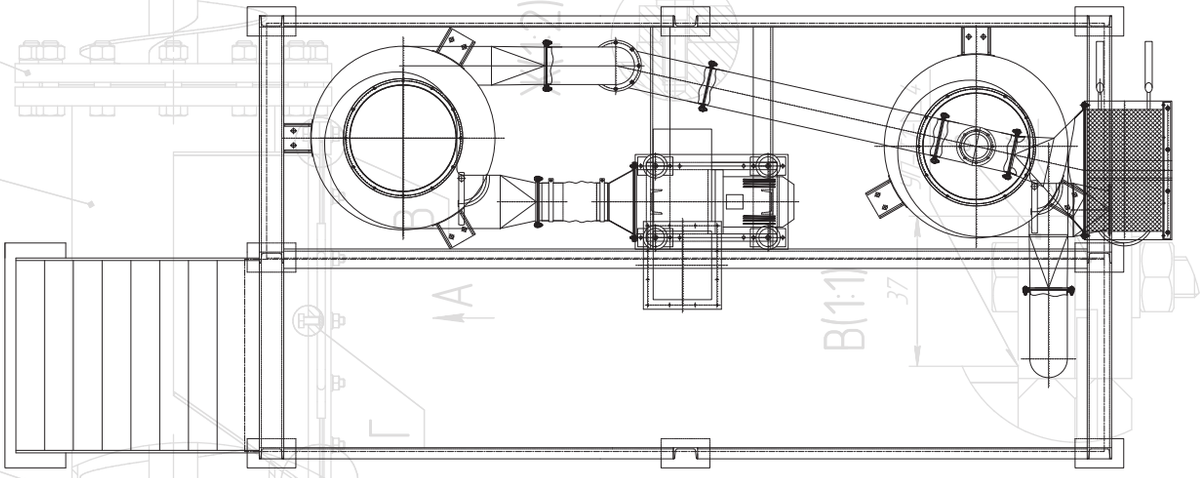
Pneumatic conveying units are a set of devices that facilitate the movement of bulk materials (dust, powder, granular, crushed, etc.) using compressed air or discharged gas. With granules of transported material up to 10 mm, pneumatic transport is preferable in almost all cases to other transport systems.

Pneumotransport is widely used for moving bulk materials due to their significant productivity and long range in the most cramped production conditions, i.e. the use of areas unsuitable for other methods of transportation, saving production space, the complete absence of residues and losses of the transported product in the lines, high sanitary and hygienic conditions for its transportation, with the exception of violations of the technological and hygienic conditions of the air in production rooms due to the lack of dusting, ease of installation, reducing staff and simplifying maintenance, flexibility in operation and the ability to fully automation.

A pneumatic conveying apparatus allows suitable bulk and granular substances to be transported through the pipeline by air flow in the vertical, horizontal and inclined directions.

The disadvantages of pneumatic transport include a relatively high specific energy consumption per unit mass of the transported product, the complexity of the manufacture and operation of equipment for cleaning transporting and exhaust air, significant wear of material pipelines and grinding of the transported product. However, the correct choice of the method and equipment for pneumatic transportation of this product allows you to partially or completely eliminate them.

PNEUMOTRANSPORT



PURPOSE

The main parameters characterizing the pneumatic conveying system are the solid phase productivity, the length of the route and the height of the lift, the concentration of the transported material, the mass coefficient of suspension, the amount of overpressure at the beginning of the route (for pressure pumping units) and residual pressure (vacuum) at the end of the route (for suction units).

According to the method of creating the air flow and the conditions of its movement in the pipeline, together with the material, the pneumatic conveying units are divided into suction, discharge and combined (suction-discharge).

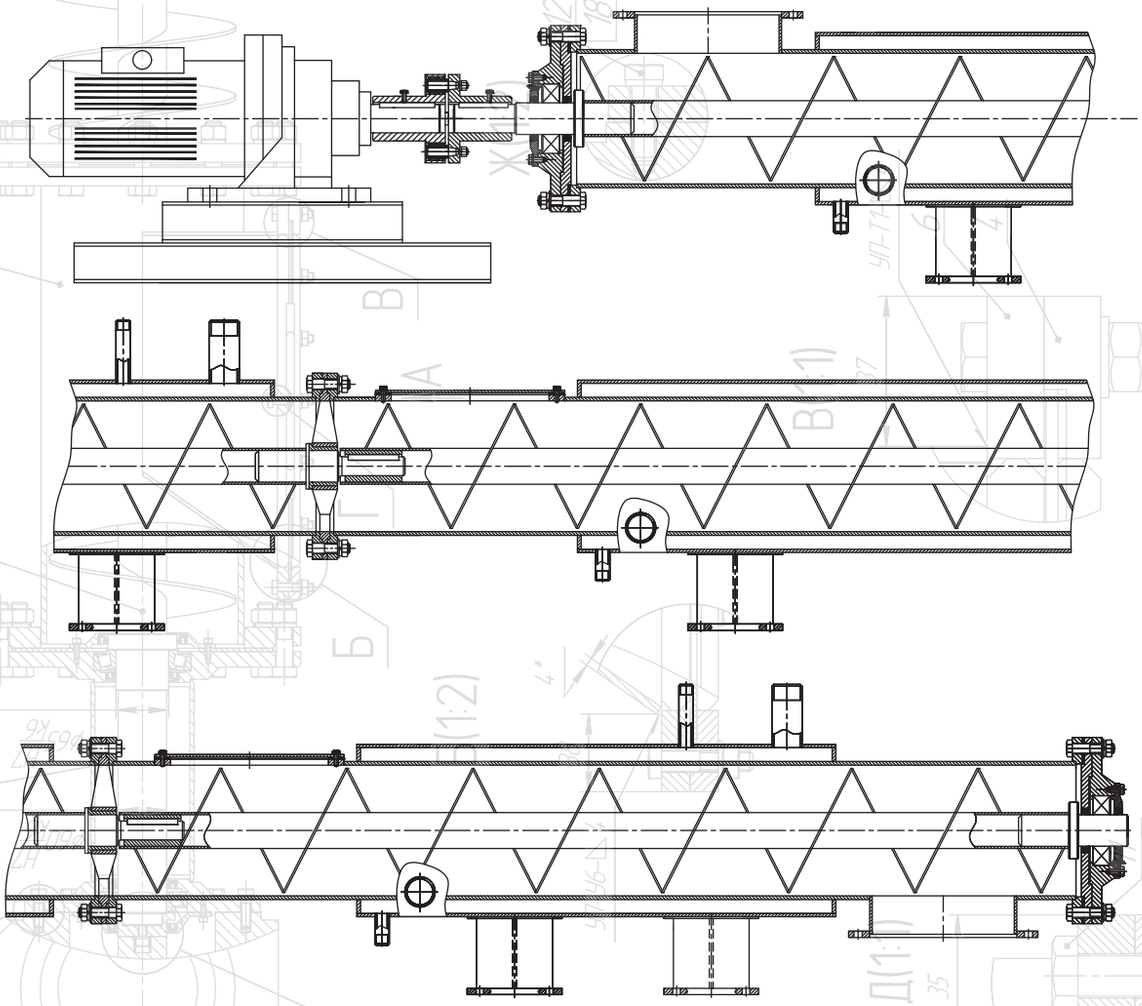
Composition of pneumatic transport:

- a cyclone with a snail,
- block filter,
- lock gate,
- cooler,
- bag attachment system,
- fan,
- cyclone cleaning device,
- pneumatic transport frame,
- piping system,
- control cabinet.

BASIC TECHNICAL DATA

Cyclone type	ЦН15-900Н
Productivity, m^3/hour	9 000
Permissible gas dust, gr/m^3:	
for weakly sticking dusts, no more than	1 000
for medium-sticking dusts, no more than	960
The temperature of the gas to be purified, °C, not more than	400
Coefficient of hydraulic resistance:	
for single cyclones	147
for group of cyclones:	
with snail	175
with compilation	182
Dust removal efficiency d=20 microns	78-90%
The main structural material	carbon steel

SCREW CONVEYORS



PURPOSE

Screw conveyors (stationary screw conveyors, screw pumps, metering augers) are designed for transportation in horizontal and inclined (at an angle of up to 40°) positions, at temperatures up to 80°C dusty, powdery, small-sized (piece size up to 20 mm), non-abrasive and abrasive bulk cargo.

They are a stationary transporting device of continuous operation, the working body of which is a screw rotating in a closed trough.

Conveyors consist of a drive mounted on a common frame with a conveyor, gutter sections with bearings mounted on them and interconnected by gaskets, sections of screws interconnected by a suspension bearing sleeve using studs, gutter covers, bearings, loading and unloading nozzles.

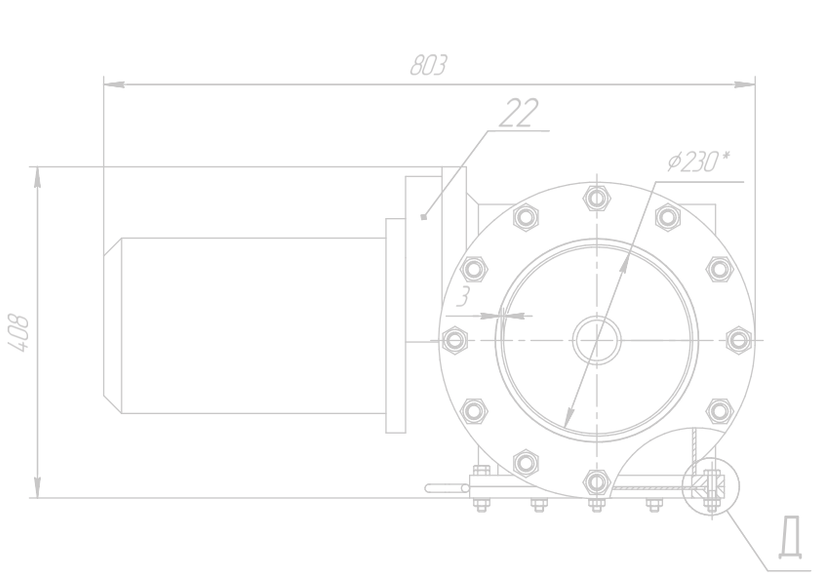
Rotation from the drive is transmitted to the screw via a chain drive.

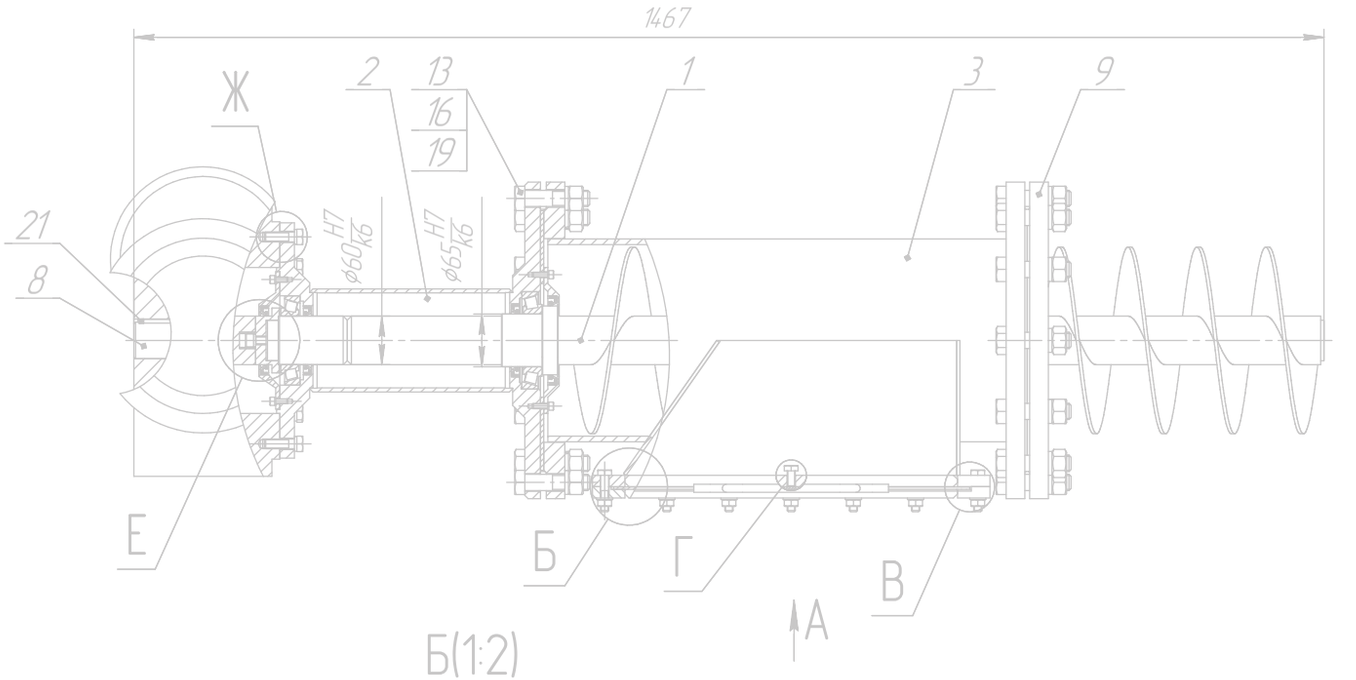
The conveyors are loaded through the loading nozzle mounted on the cover of the gutter.

The unloading of the gutter is made through the discharge pipe mounted on the bottom of the gutter at the end of the conveyors.

BASIC TECHNICAL DATA

Standard section length, mm.....2 000
Fluid temperature.....to 80 °C
Material of construction.....stainless / carbon steel


803
22
ϕ230*
408
3
Д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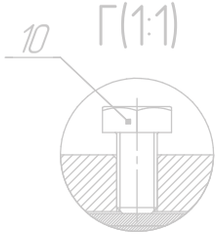
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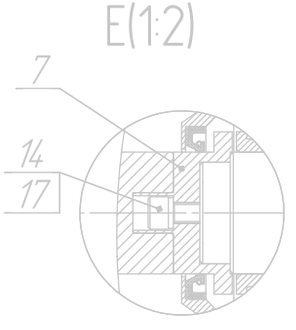
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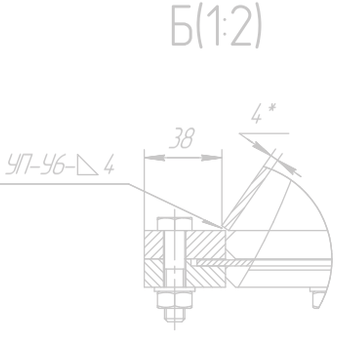
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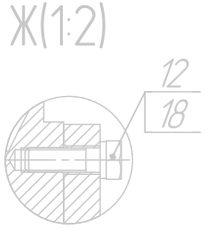
УП-У6-△4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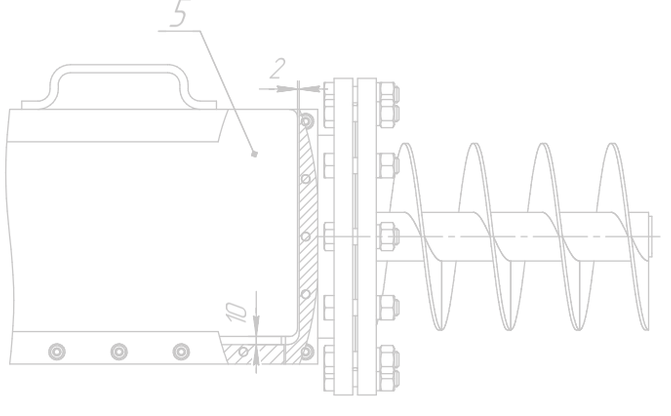
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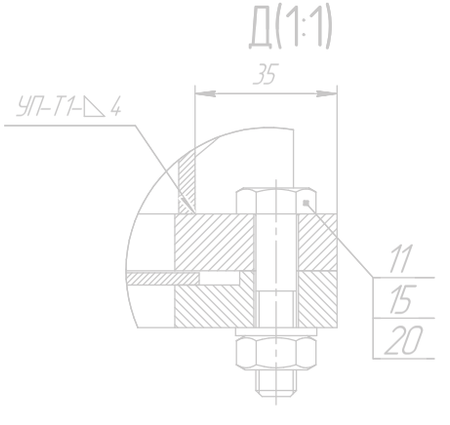
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УП-Т1-△4
11
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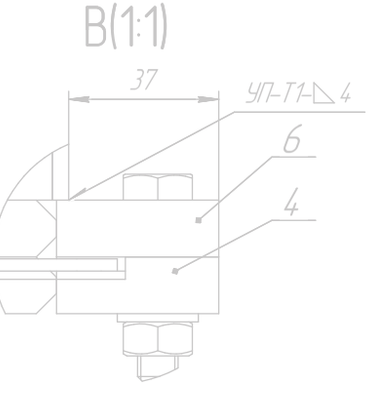
В(1:1)
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УП-Т1-△4
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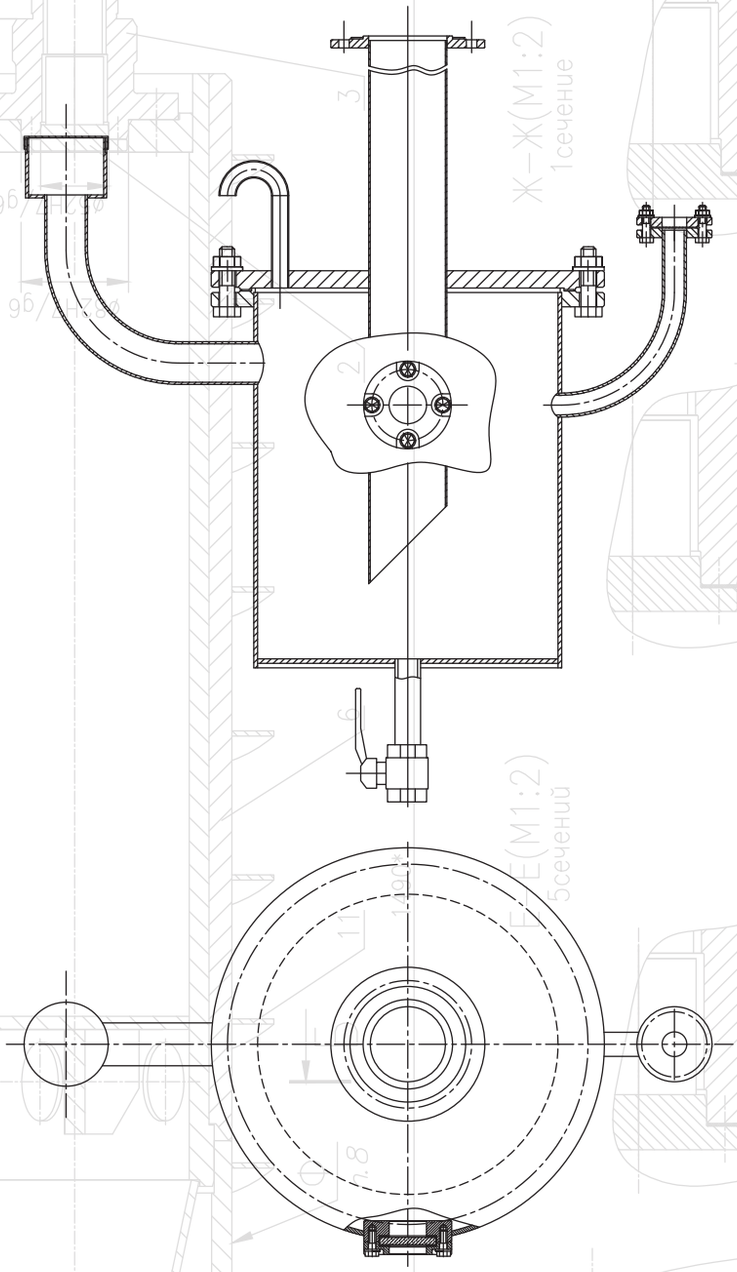
4

Section 12.

OTHER EQUIPMENT

ABSORBERS



PURPOSE

Absorbers are used to absorb gases, vapors, to separate a gas mixture into its constituent parts by dissolving one or more components of this mixture in a liquid called an absorbent (absorber).

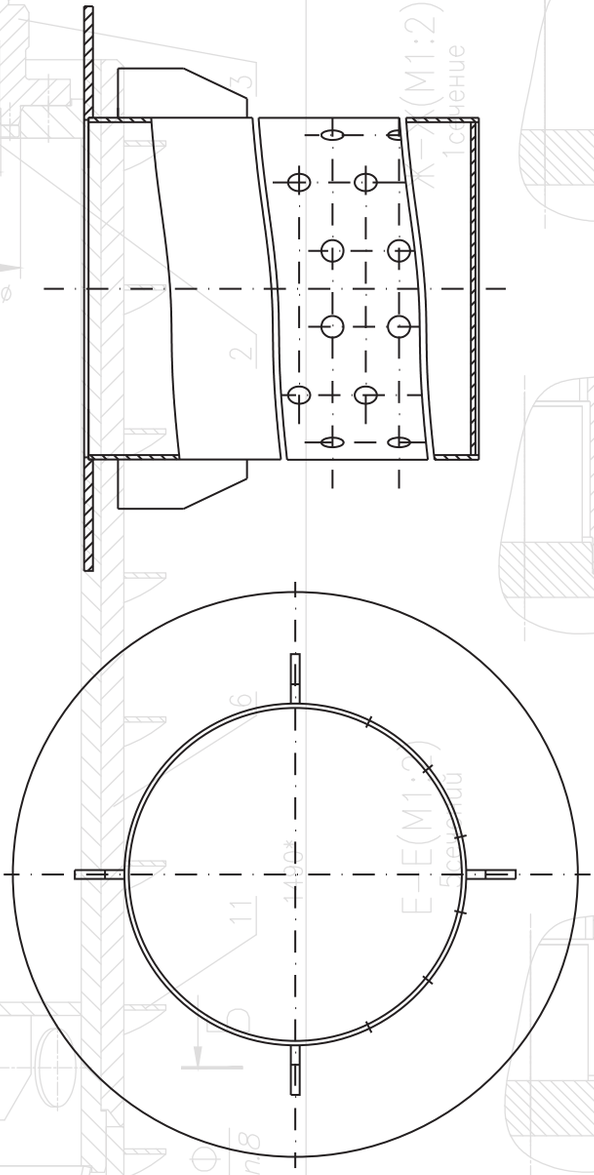
The equipment is a column with a nozzle or plates, in the lower part of which gas is supplied, and in the upper part is liquid; gas is removed from the absorber from above and liquid from below.

Absorbers are used in chemical, oil refining and other industries.

BASIC TECHNICAL DATA

Construction material.....stainless steel

BUBBLERS



PURPOSE

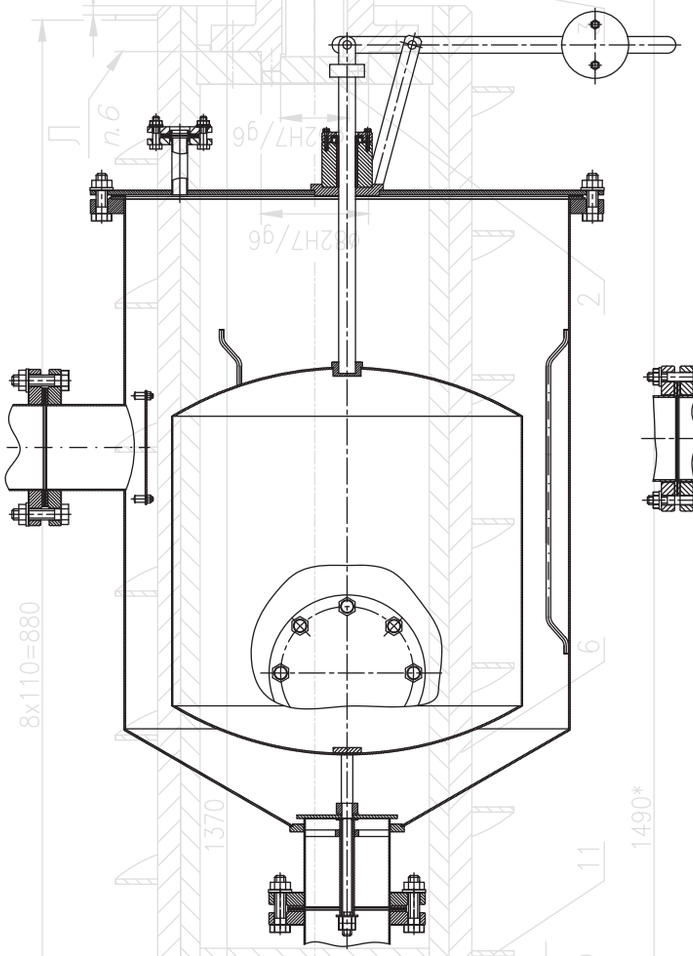
Bubblers are used to pass gas or vapor bubbles dispersed in a liquid layer by special structural elements immersed in a liquid – perforated pipes, plates with holes, caps, etc. (bubbling).

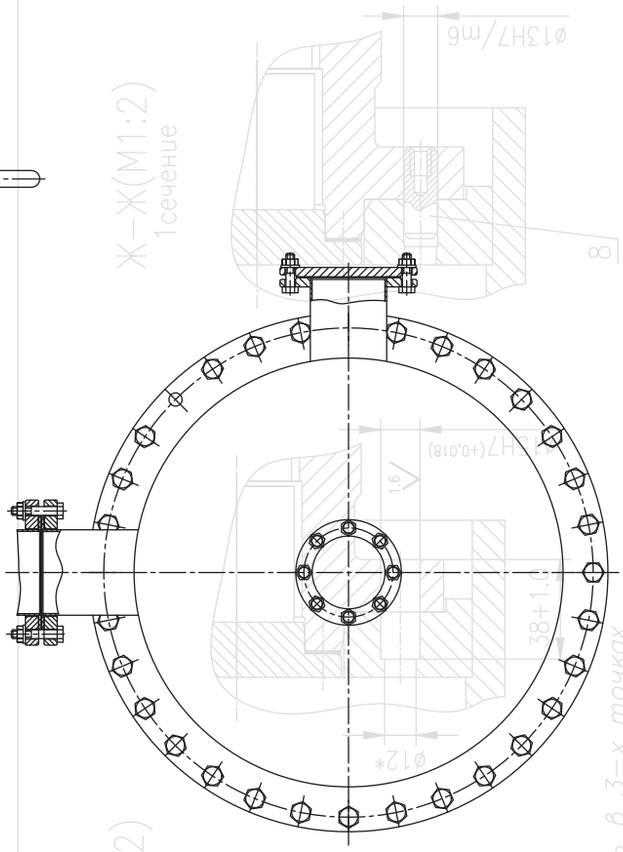
Bubblers are widely used in various industries, in particular in the alcohol industry.

BASIC TECHNICAL DATA

Construction material.....stainless steel

BARDOREGULATORS





PURPOSE

Bardine regulators of the BAR brand are used at the enterprises of the alcohol, chemical, petrochemical and pharmaceutical industries.

They are a necessary element of the rectification installation BRU, installation for processing molasses.

Designed to drain the bard from the mash column and prevent steam from leaving the column.

The bardoregulator is a cylinder with a float inside it.

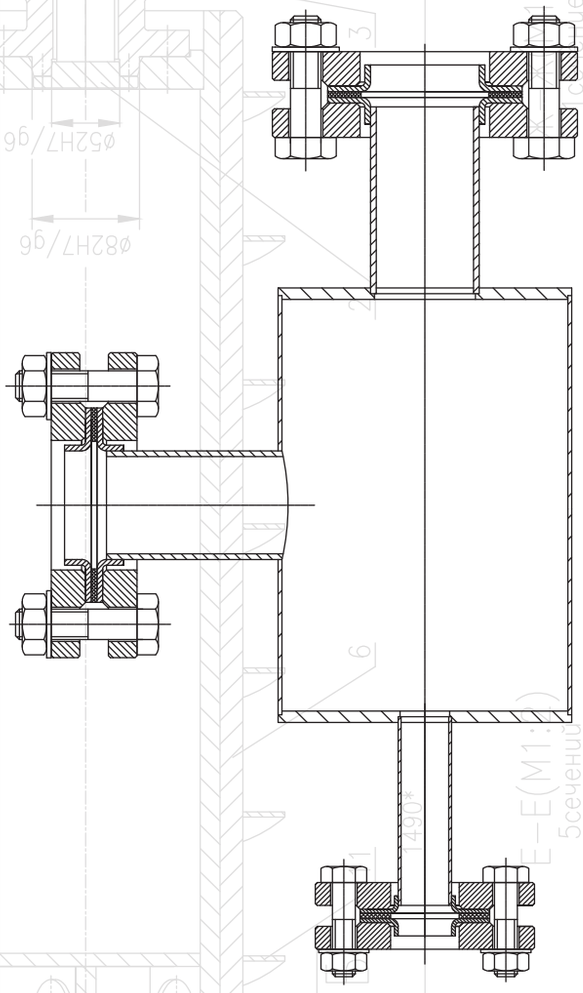
Bard from the mash column through the nozzle enters the bardoregulator.

After filling it with liquid to a certain level, the float floats up and pulls a valve behind it, opening the outlet, as a result of which part of the stillage flows out.

BASIC TECHNICAL DATA

Cylinder diameter, mm	700/800/900
Name of the working environment	bard
Environment temperature, C°	to +100
Working pressure, MPa	0,03
Apparatus volume, m^3	0,285
Construction material	copper, carbon/stainless steel
Estimated Life	6 years

EQUALIZING TANKS



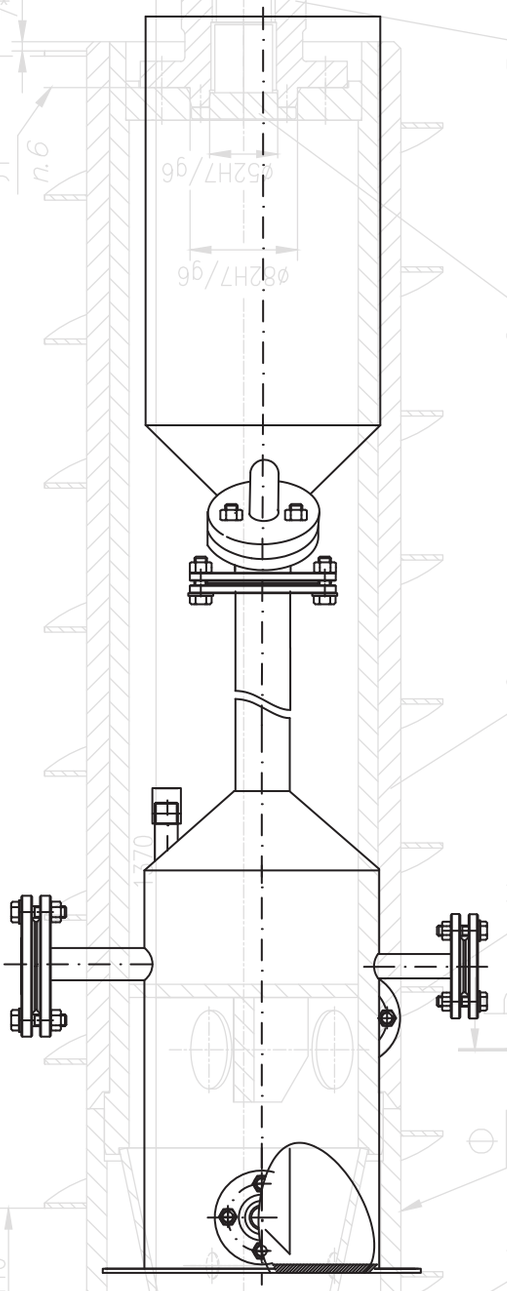
PURPOSE

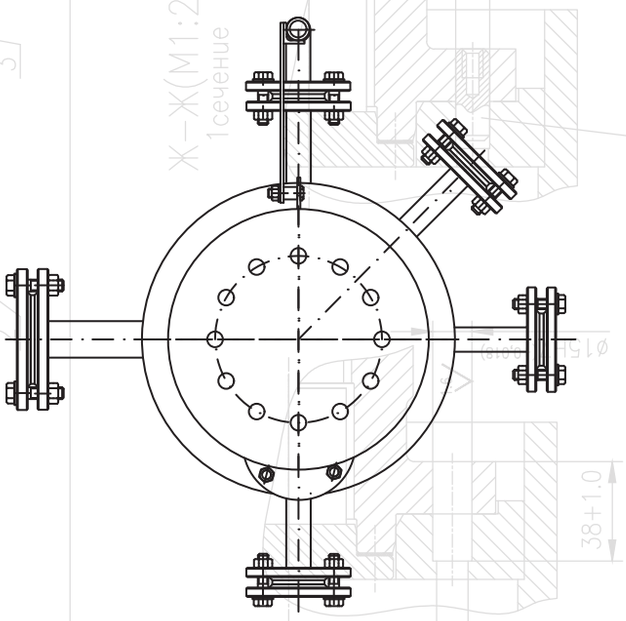
Equalizing (leveling) tanks of the URB brand are a necessary element of the BRU rectification installation and are used at enterprises of the alcohol industry.

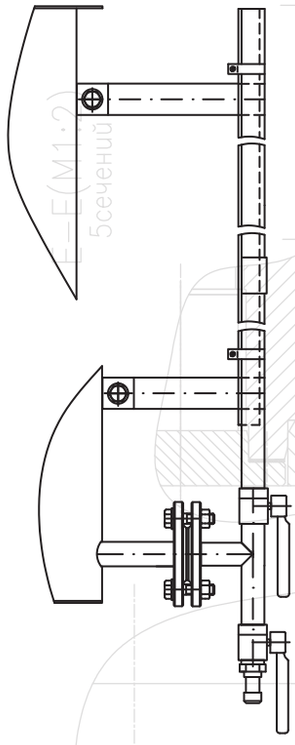
BASIC TECHNICAL DATA

Name of the working environment	alcohol
Environment temperature, C°	15-20
Working pressure, MPa	atmospheric
Apparatus volume, m^3	0,2
Construction material	stainless steel

VACUUM CIRCUIT BREAKERS







PURPOSE

Vacuum breakers of the VAK brand - steam and water supply regulators.

Designed to control the pressure in a distillation column and are a necessary element of the BRU rectification unit.

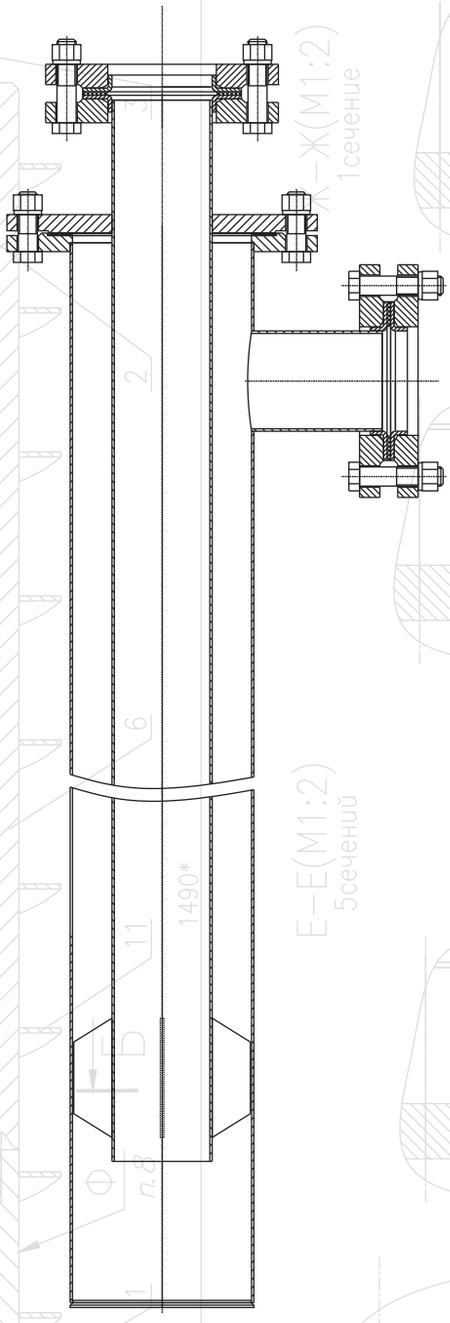
Vacuum circuit breakers consist of 2 tanks with a diameter of 300 or 325 mm.

Work as a safety valve in the top and bottom of the column.

BASIC TECHNICAL DATA

Diameter of a tank, mm	300
Name of the working environment	water-alcohol mixture
Environment temperature, C°	50
Working pressure, MPa	atmospheric
Construction material	stainless steel
Estimated Life	10 years

HYDRAULIC LOCKS



PURPOSE

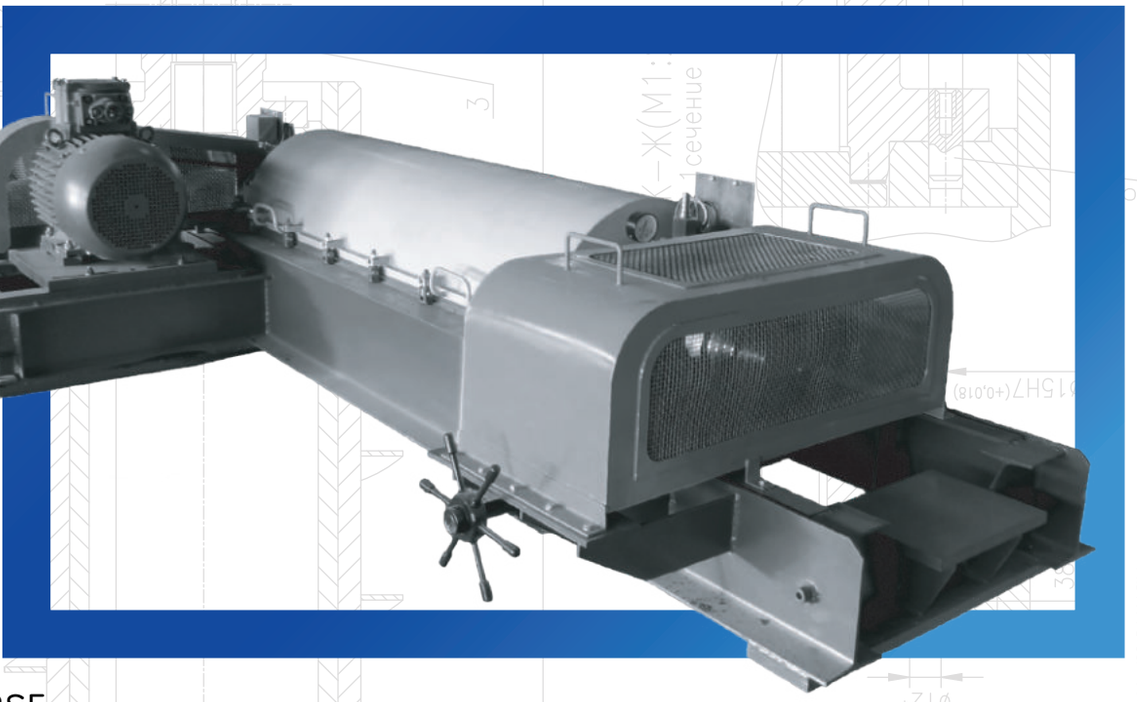
GZ brand hydraulic locks are a necessary element of the rectification installation and are used at the enterprises of the alcohol industry.

Designed to remove distillation residue from booster, fusel, distillation, epuration columns.

BASIC TECHNICAL DATA

Working environment	luther water, corrosive, non-toxic
Environment temperature, C°	to 100
Working pressure, MPa	0,02-0,04
Apparatus volume, m^3	0,145/0,163
Construction material	stainless steel

DECANTERS



PURPOSE

Decanters of the D-305 type - continuous horizontal precipitation with screw discharge of sediment for processing two-phase suspensions with a stainless steel rotor.

They are used for the processing of post-alcohol distillery stillage and beer grains and are part of the bardo-dewatering plant, as well as part of the technological lines for obtaining fish feed flour and technical fat.

The main unit of the decanter is a cylindrical rotor located horizontally. The rotation of the rotor is carried out from the engine by means of a belt drive.

A screw is coaxially located inside the rotor and is designed to transport the precipitated solid phase sediment to the discharge windows of the rotor.

Rotation of the screw is reported by the rotor through the reducer. The screw rotates in the same direction as the rotor, but at a lower speed. The difference in the speed of rotation of the screw and the rotor is necessary for the forced movement of the sediment along the inner surface of the rotor.

Through the left hollow trunnions of the rotor and the screw passes the supply pipe, through which the suspension is fed to the distributor welded into the inner cavity of the screw. Through the windows in the shell of the screw slurry enters the rotor.

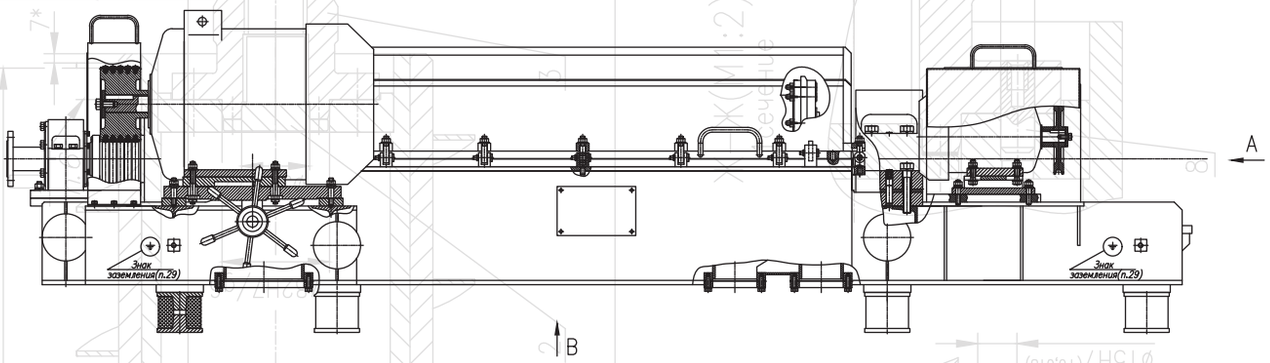
Under the action of centrifugal forces in the suspension, the solid phase is separated from the liquid phase. The solid phase is deposited on the walls of the rotor and transported by the screw towards the conical part of the rotor. At the end of the sediment path to the discharge windows, in the dehydration zone, moisture is squeezed out of the sediment.

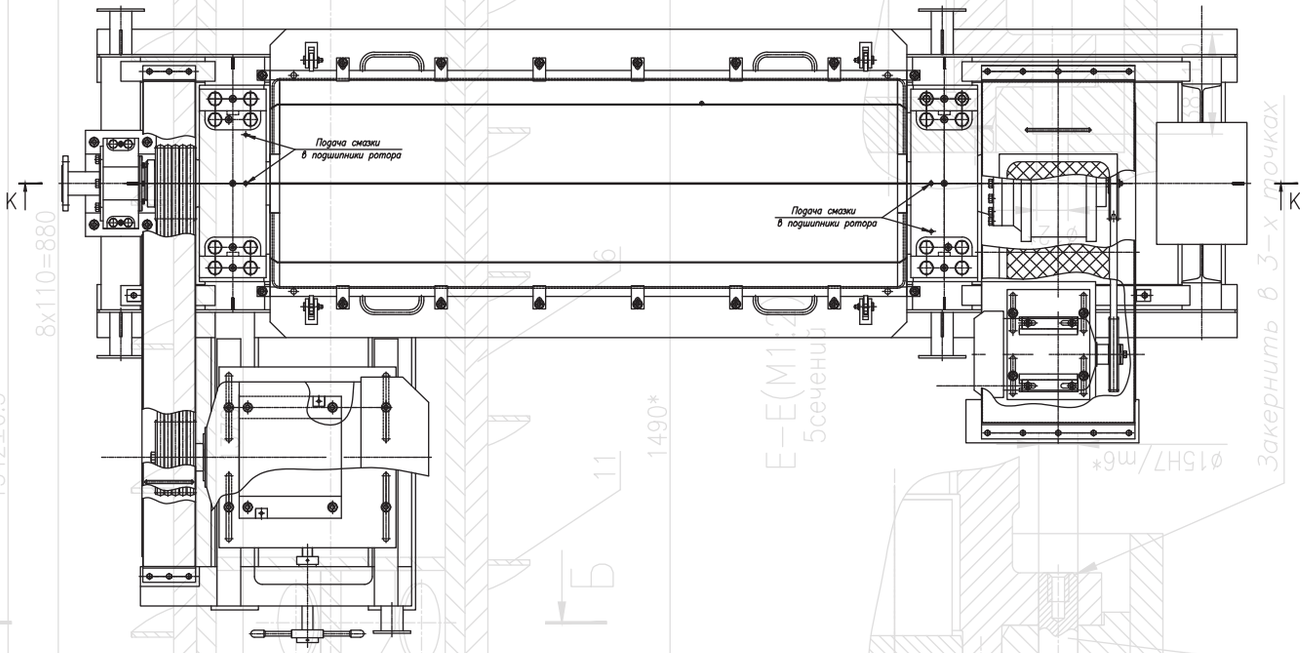
Under the action of the screw pressure, the solid phase is ejected through the discharge windows in the left axle into the sludge discharge compartment of the decanter bed.

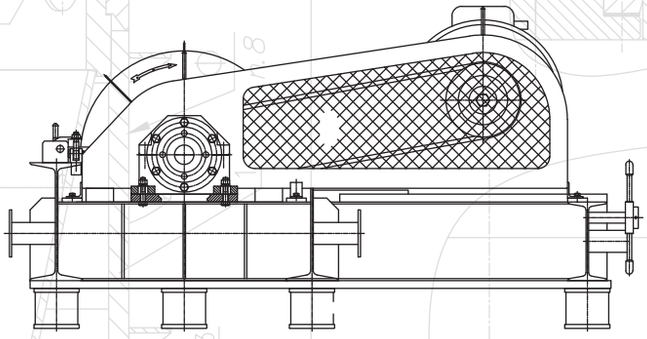
The clarified liquid phase (fugate) through the drain windows in the right axle of the rotor is output to the fugate drain compartment of the decanter frame.

In the process of separating the solid phase from the liquid sludge discharge and discharge of fugate occur continuously.

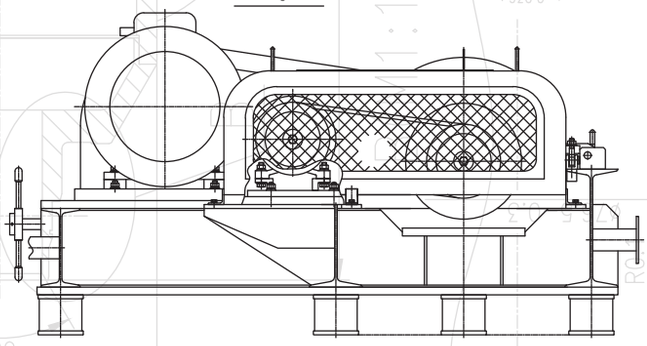
DECANTERS



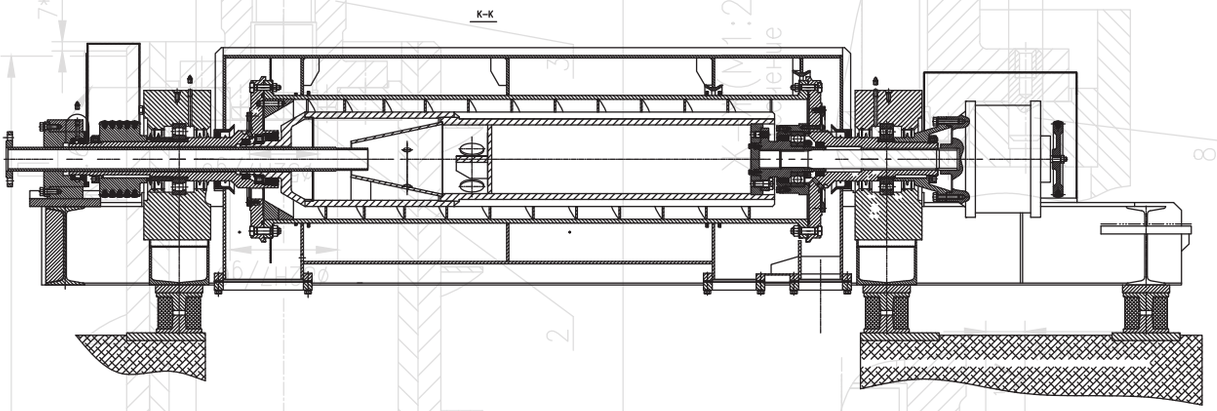


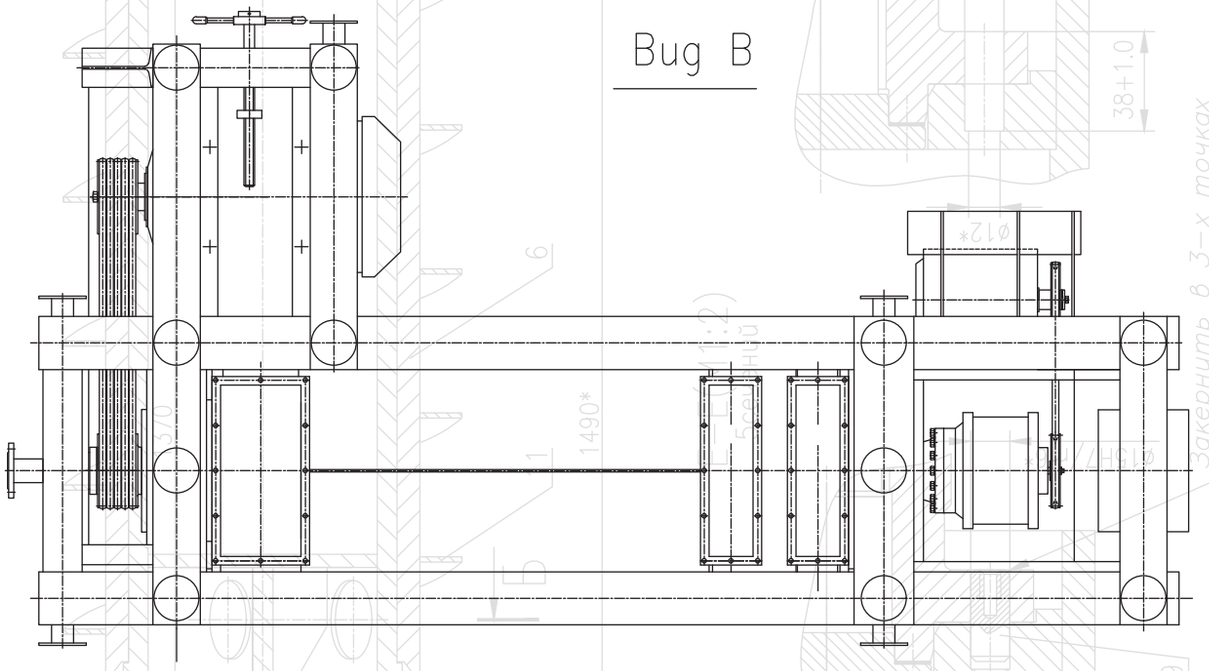


Вид A



DECANTERS

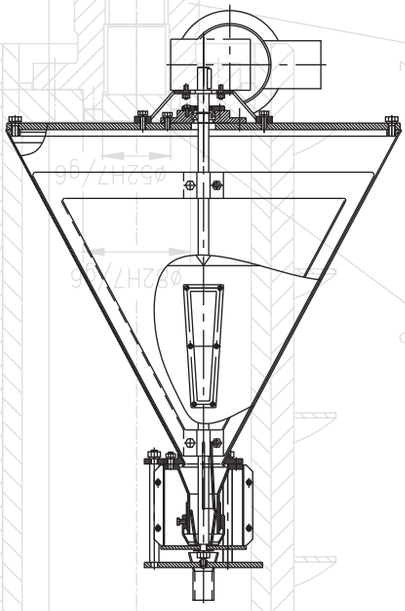


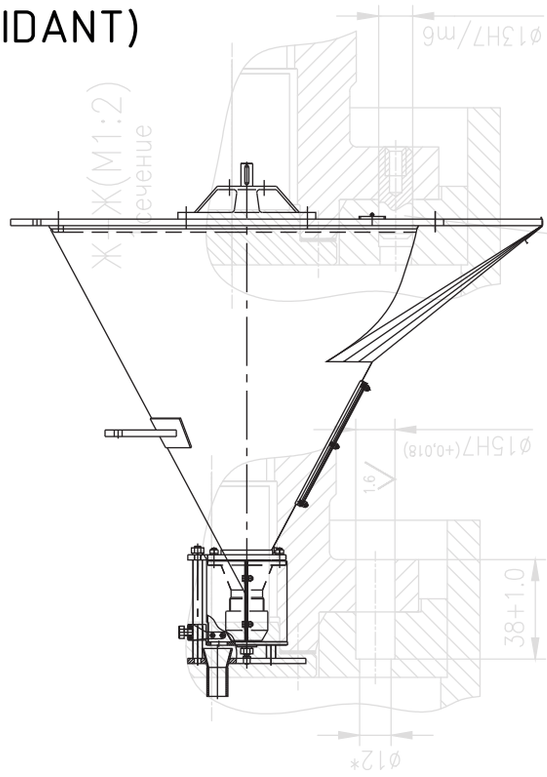


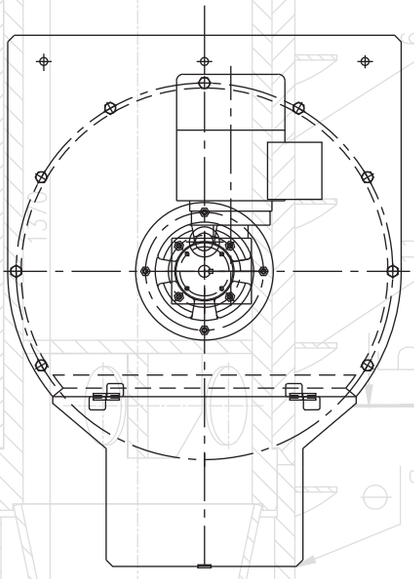
BASIC TECHNICAL DATA

Perfomance by suspension (at 95% humidity), nominal, up to m³/hour	5-15
Productivity for discharged sludge, not more, m³/hour	3
Humidity of the unloaded sediment, no more, %	72
The effect of the detention of dry matter, %	
when working with flocculant	95-99
when working without flocculant	70
Power consumption per 1 m³ of the processed suspension at rated output, not more than, kW	1,5
Separation factor, the largest	2 683
The rotor diameter is internal, mm	305
Working rotor length, mm	1 320
Operating rotor speed, rpm	to 3 000
Relative screw rotation speed, rpm	to 37,5
Power of the main drive, kW	18,5
Temperature of the processed product, no more, °C	90
Weight, no more than, kg	1800
Overall dimensions, mm:	
length	3 017
width	1 600
height	925

DISPENSERS OF IONOL (ANTIOXIDANT)







PURPOSE

Ionol dispensers with a mixing device are designed for the metered supply of a free-flowing component - an antioxidant (ionol) to the mass of prepared fish meal.

Variation in the flow rate of ionol is achieved by moving the threaded conical nozzle relative to the rotating disk, to which the loosened ionol is fed from the hopper from above through the diffuser.

The set gap value is fixed with a locking bolt.

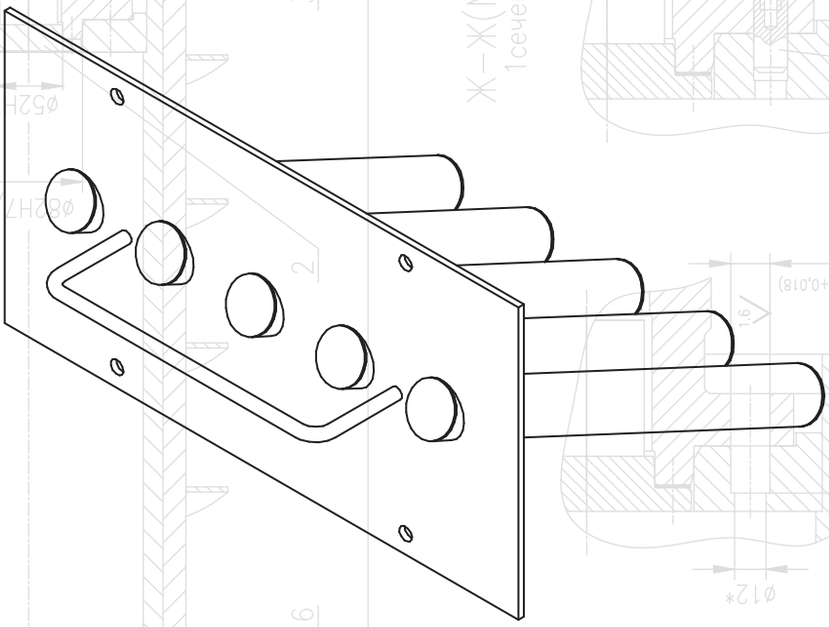
The loosening of the powdered mass of ionol is provided by rotating shredder rods on the mixing shaft.

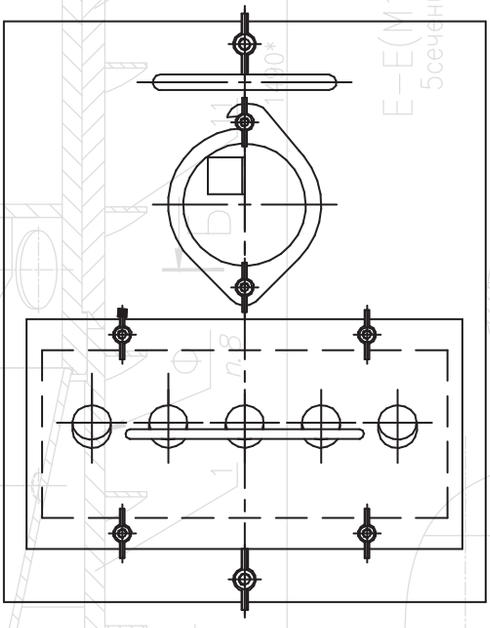
As the powder is consumed, the hopper is periodically replenished through a side loading pocket, which is closed by a hinged lid.

BASIC TECHNICAL DATA

Construction material.....carbon steel

MAGNETIC CATCHERS





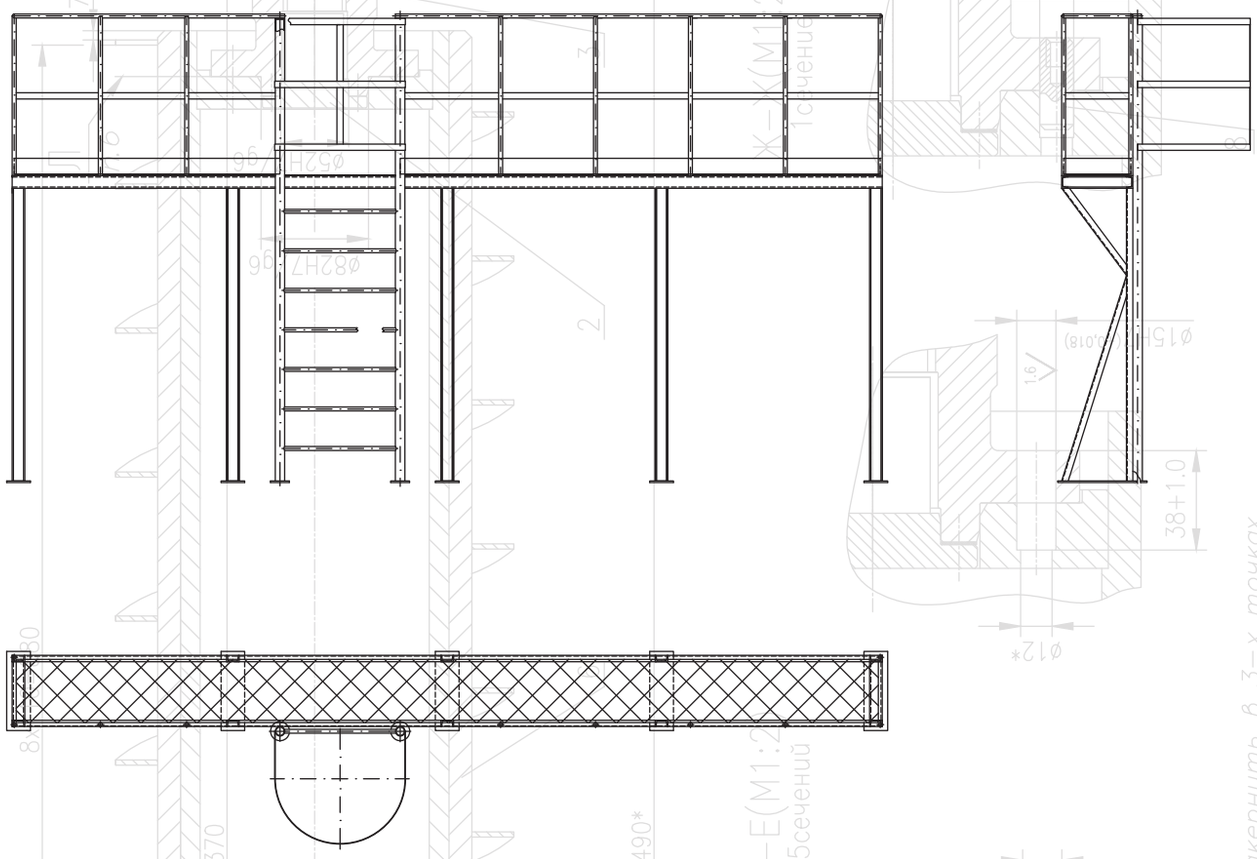
PURPOSE

Magnetic catchers designed to extract small objects, extraneous fractions with ferromagnetic properties from raw materials or the resulting product.

BASIC TECHNICAL DATA

Construction material.....carbon steel

METAL STRUCTURES



PURPOSE

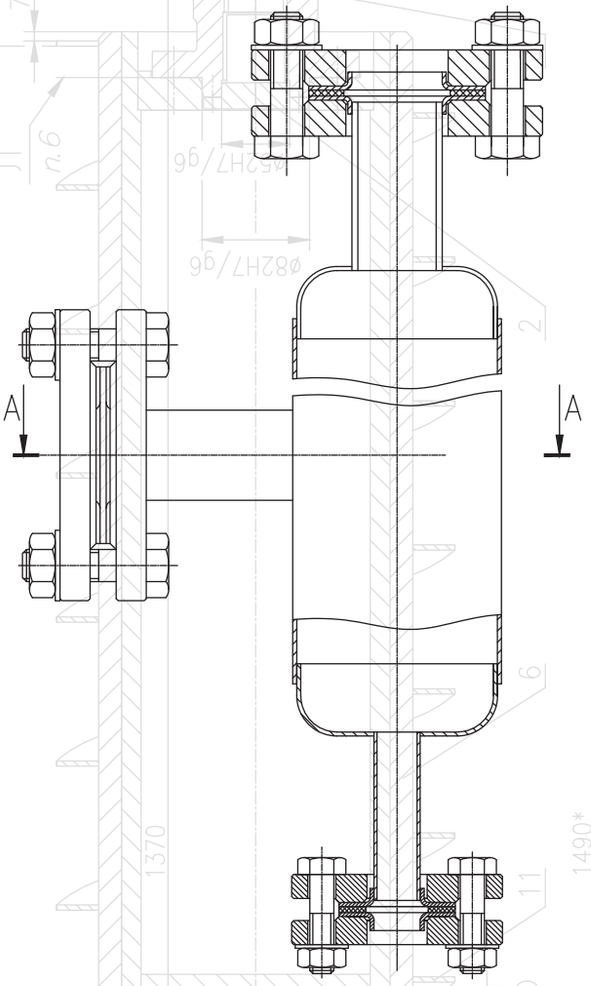
PC "KOROLAN" is engaged in the design, manufacture and installation of metal structures for basic and auxiliary purposes to ensure the production processes of technological equipment, as well as the manufacture of metal structures according to customer drawings.

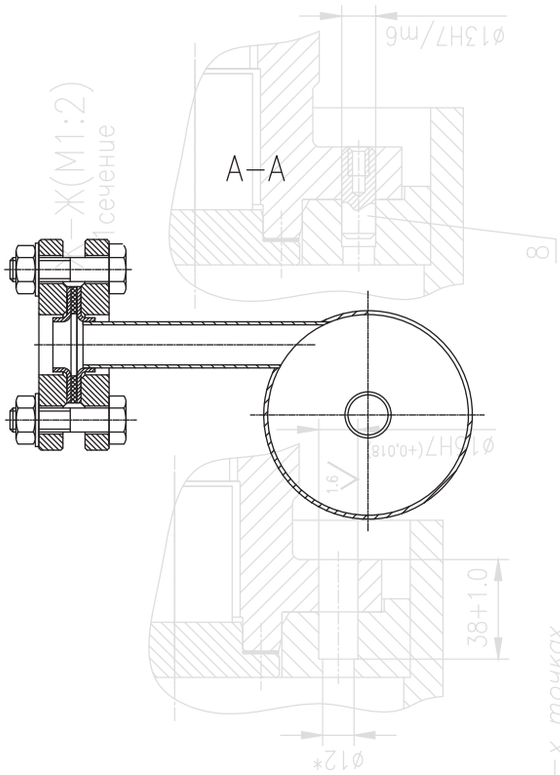
The company has rich experience in the development, preparation for production and manufacture of metal structures from carbon and stainless steel, non-ferrous metals for various industries.

A wide range of products, in particular, includes stairs and marches, openings for a plant for reinforced concrete products, hydroelevators for removing sludge from water reception chambers, sand traps and oil traps, a vibrating screen, a vibratory bed, a frame of drying plants and other technological equipment, a sand bath.

It is possible to place orders for mass production, single orders of non-standard equipment with the development of drawing documentation or according to customer drawings.

VAPOR SEPARATORS





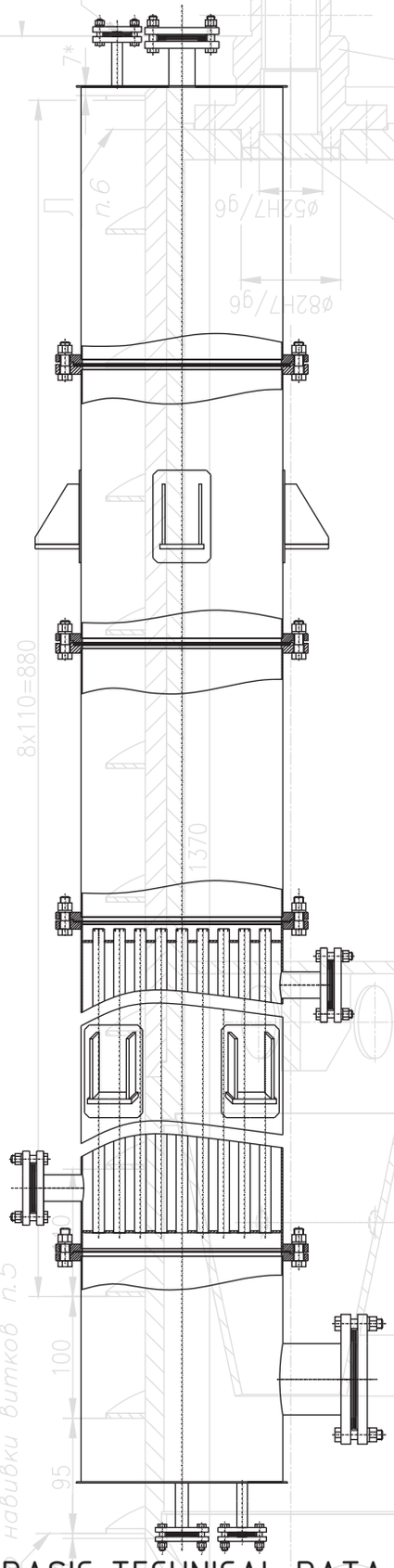
PURPOSE

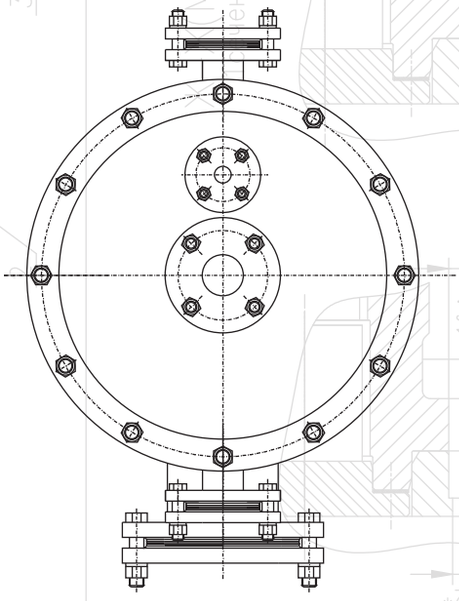
Fusel oil vapor separators are an element of the rectification plant and are used at the enterprises of the alcohol industry.

BASIC TECHNICAL DATA

Name of the working environment	fusel oil fumes
Environment temperature, C°	to 95
Working pressure, MPa	0,035
Construction material	stainless steel

ALCOHOL ABSORPTION TRAPS TYPE SL





PURPOSE

Alcohol traps are a necessary element of the BRU rectification installation.

Designed for trapping alcohol vapor from a distillation and epilation column.

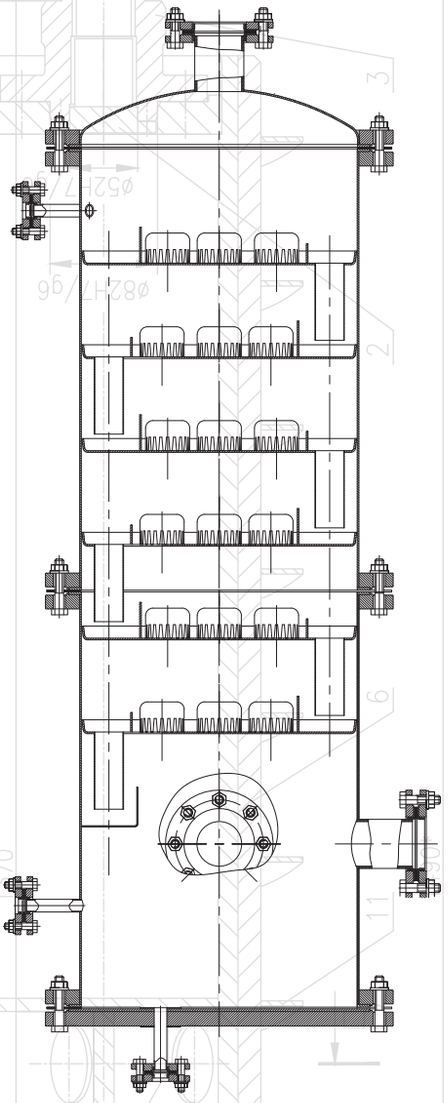
According to the type of trap, they are divided into absorption traps with a vertical shell-and-tube heat exchanger, a pipe in a pipe, a hydraulic shutter, a multi-cap plates, a sieve pan.

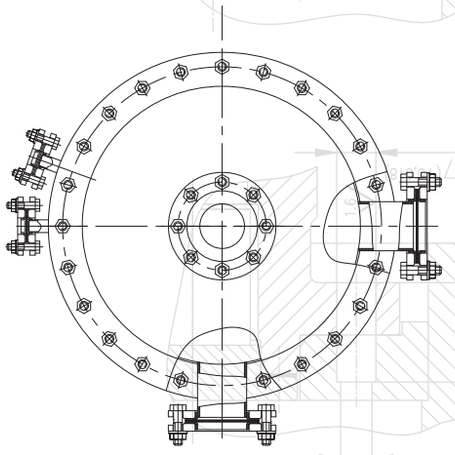
The main structural material is carbon and stainless steel.

BASIC TECHNICAL DATA

Type of alcohol trap	absorption, shell-and-tube heat exchanger
The volume of the absorption chamber, dm^3	7/10/11,32/16/20/75
Working environment	water, alcohol, alcohol vapors
Working pressure in the pipe space, MPa	to 0,2
Working pressure in the annulus, MPa	to 0,05
Construction material	stainless steel, copper
Established service life	6 years

MULTI-CAP PLATE ALCOHOL TRAPS





PURPOSE

Intended for trapping vapors and drops of alcohol carried away from fermentation tanks by carbon dioxide in distilleries and trapping vapors of alcohol released during its storage in capacitive equipment.

The design of the alcohol trap is a cylindrical apparatus, inside of which at equal distances there are six multi-cap plates.

The alcohol trap works according to the counterflow principle: alcohol vapors move from bottom to top, and water moves from top to bottom.

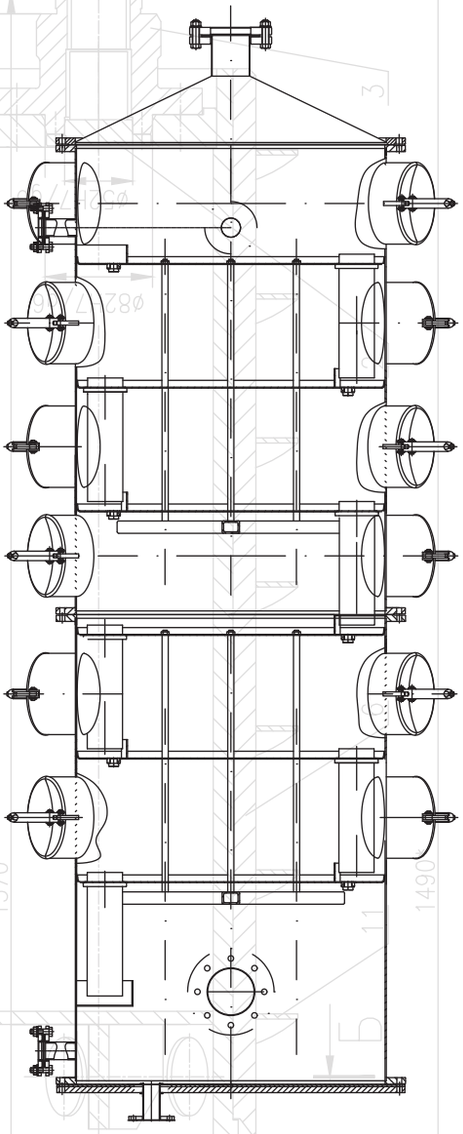
The water supply is regulated in such a way that the water-alcohol mixture emerging from the alcohol trap has a strength of no higher than 1.5–1.7% vol.

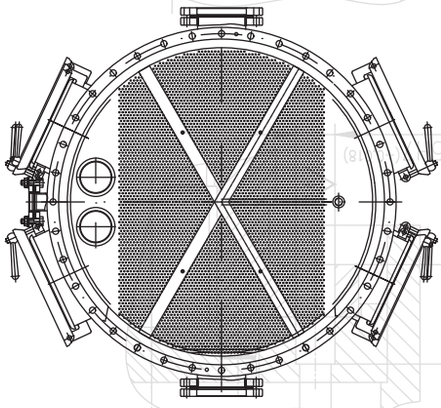
At a higher concentration, there is no complete trapping of alcohol.

BASIC TECHNICAL DATA

Type of alcohol trap	multi-cap plates
Working environment	hydroalcoholic liquid
Working volume	from 0,04 m^3
Working pressure, MPa	to 0,03
Construction material	stainless steel
Estimated Life	10 years

PLATE PAN ALCOHOL TRAPS





PURPOSE

Intended for trapping vapors and drops of alcohol carried away from fermentation tanks by carbon dioxide in distilleries and trapping vapors of alcohol released during its storage in capacitive equipment.

The construction of the alcohol trap is a cylindrical apparatus, inside of which six sieve plates are placed at equal distances.

The spit trap works according to the counterflow principle: alcohol vapors move from bottom to top, and water moves from top to bottom.

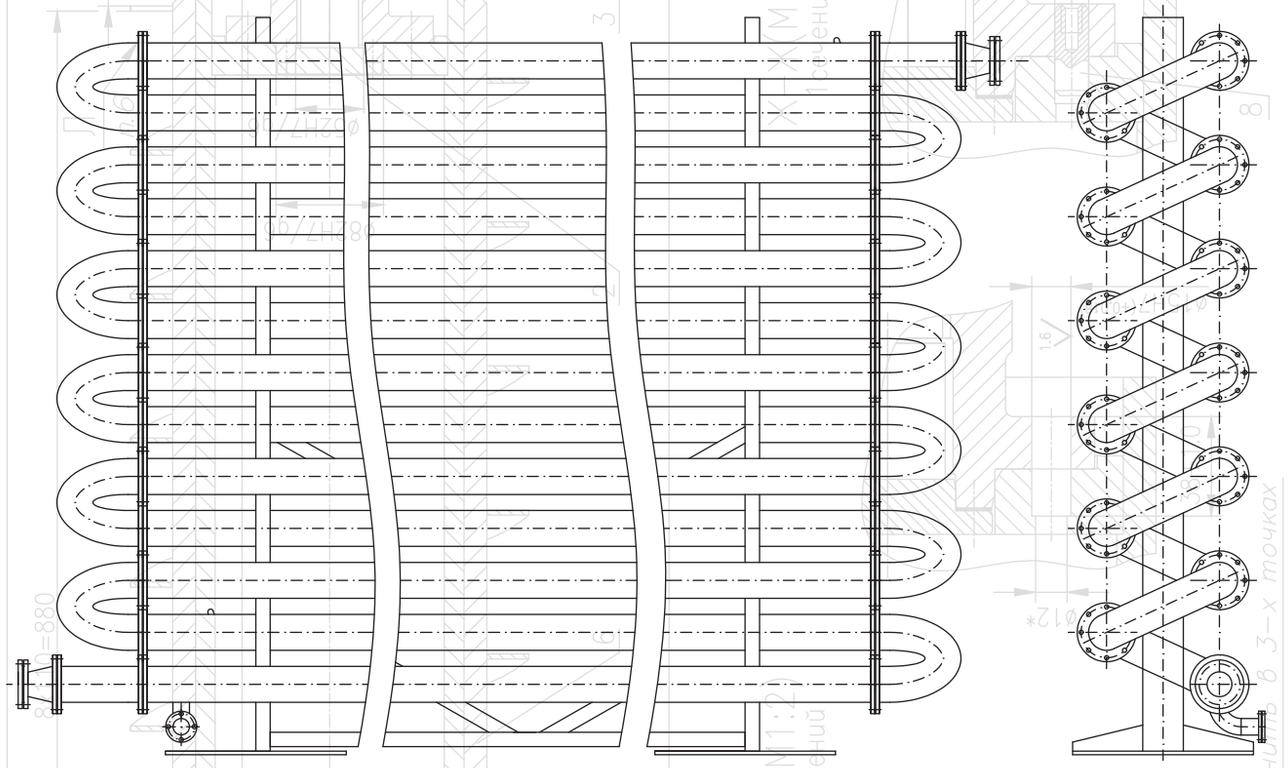
The water supply is regulated in such a way that the water-alcohol mixture emerging from the alcohol trap has a strength of no higher than 1.5–1.7% vol.

At a higher concentration, there is no complete trapping of alcohol.

BASIC TECHNICAL DATA

Type of alcohol trap	sieve plates
Working environment	hydroalcoholic liquid
Working volume	to 2,5 m^3
Working pressure, MPa	to 0,035
Construction material	stainless steel
Estimated Life	10 years

TUBE STERILIZERS



PURPOSE

Tubular sterilizers of the STET brand are designed for filling sterilization of the working medium: mixing crushed grain with water, starchy raw materials.

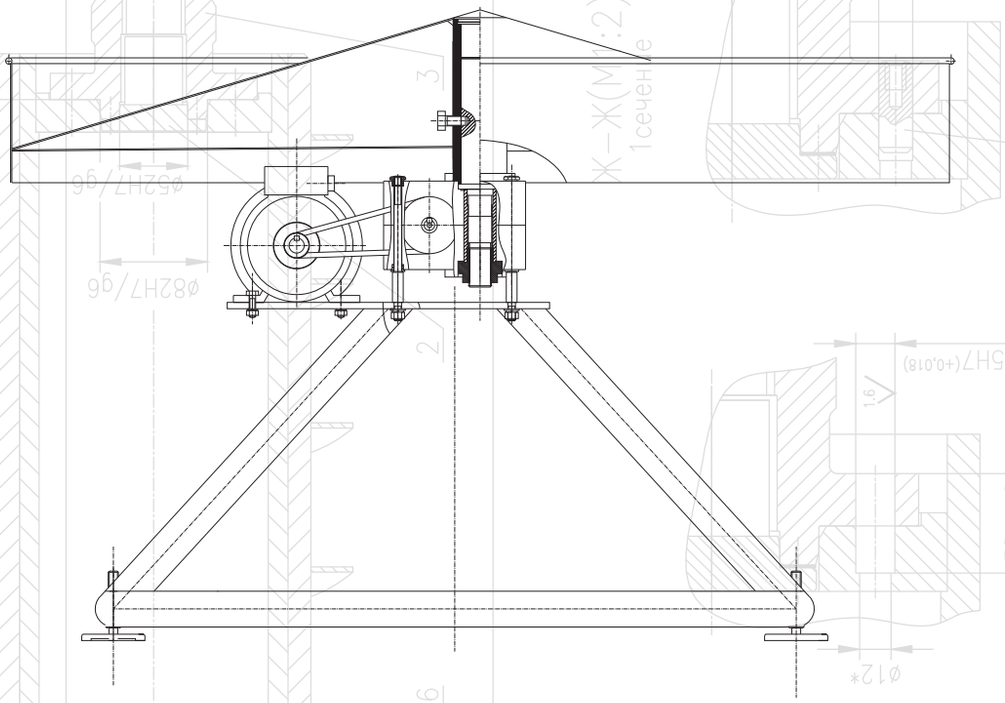
The environment is non-corrosive, non-toxic, fire and explosion proof.

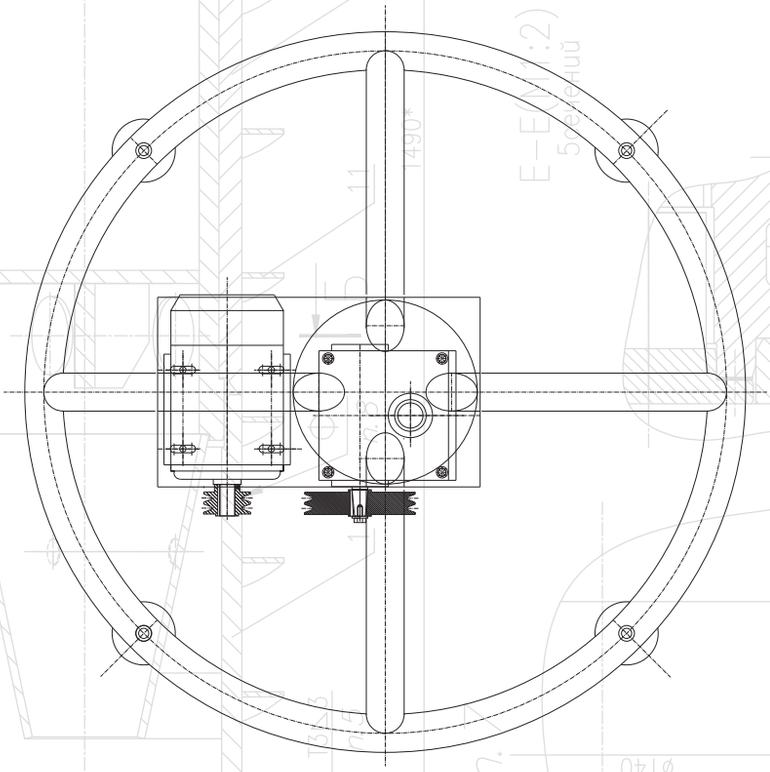
Sterilizers are used at the enterprises of the alcohol industry and are installed in rooms that have category D in terms of explosion hazard (according to PUE).

BASIC TECHNICAL DATA

Working environment	water + grain (or potatoes) + steam
Environment temperature, C°	from +18 to +164
Working volume, m^3	0,7/1,5
Working pressure, MPa	to 0,6
Construction material	carbon steel
Estimated Life	10 years

CIRCULATION TABLES





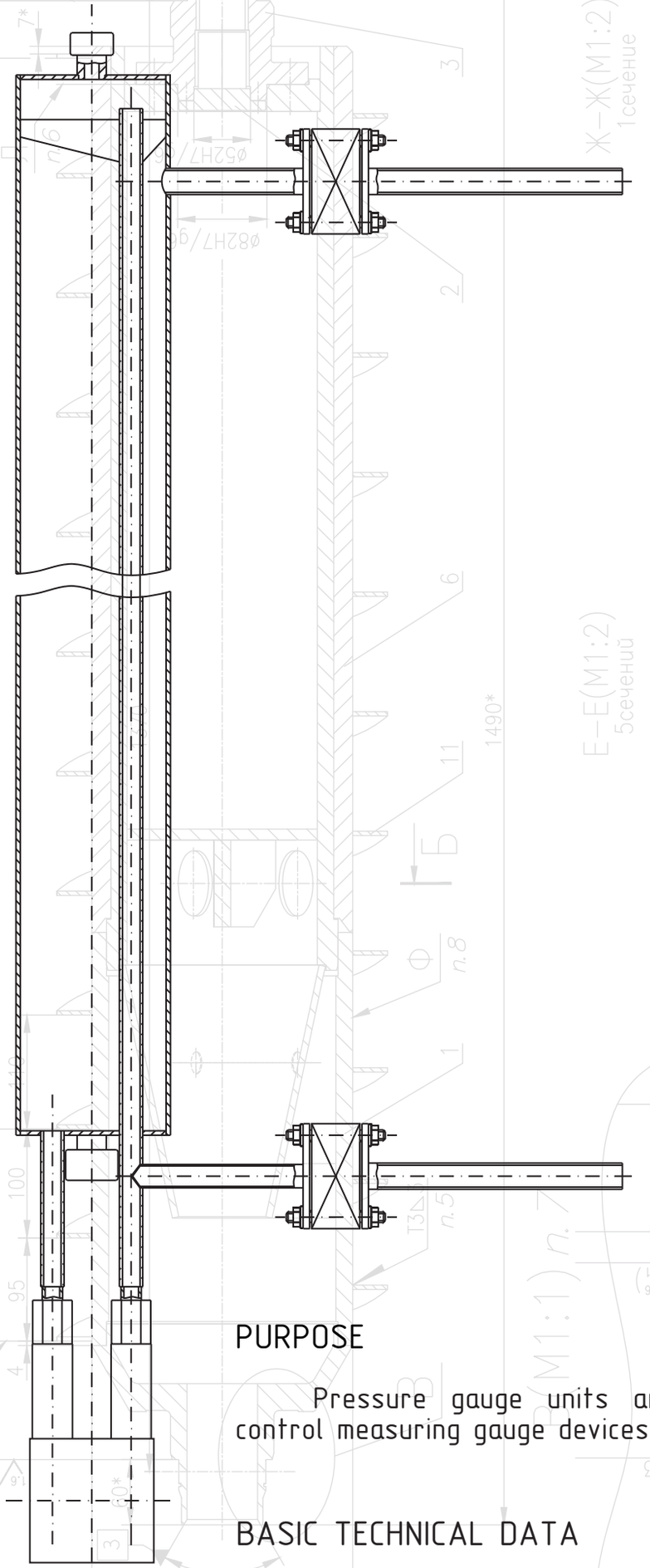
PURPOSE

Circulation tables are designed for the convenience of the operator when laying finished products continuously coming from conveyors of tunnel ovens or unloaded from bogies after baking, as well as packaging machines.

BASIC TECHNICAL DATA

Diameter of a table, mm.....1 500/ 2 000
Construction material.....carbon/stainless steel

PRESSURE GAUGE UNITS



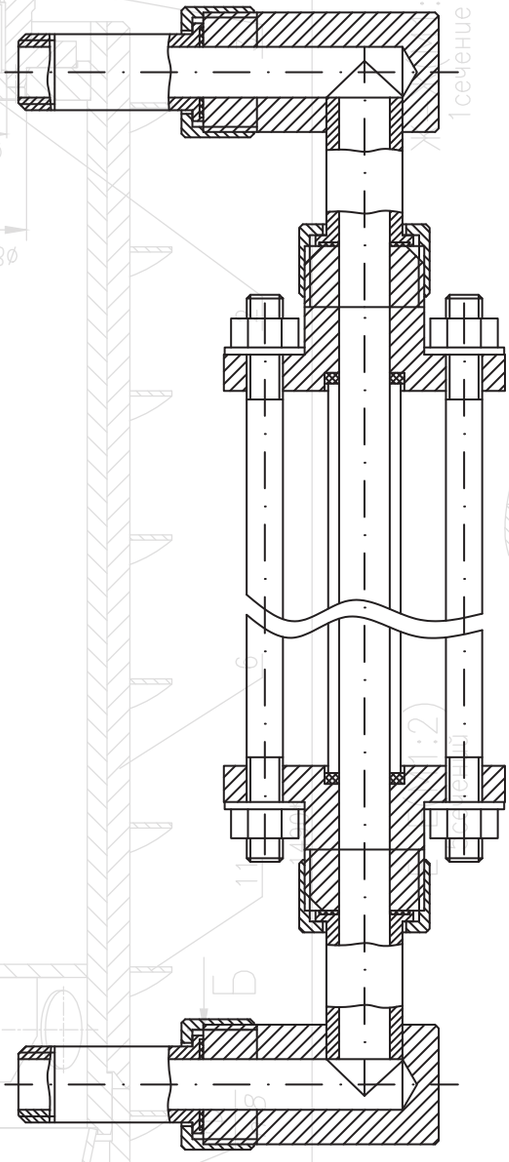
PURPOSE

Pressure gauge units are designed for mounting control measuring gauge devices.

BASIC TECHNICAL DATA

Construction data.....stainless steel
Estimated Life.....10 years

LEVEL GAUGES



PURPOSE

Level gauges are designed to determine the level of contents in open and closed vessels, reservoirs, storages and other containers.

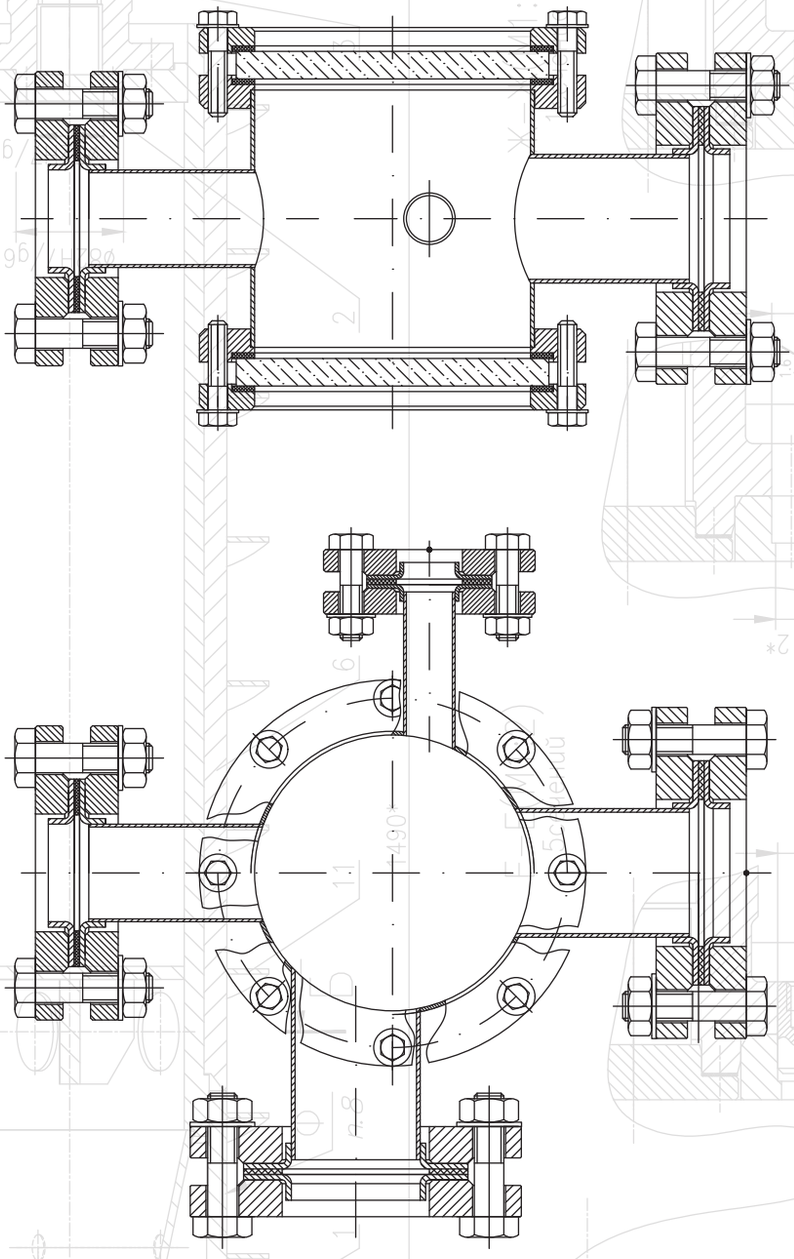
By contents are meant various types of liquids, including gas-forming ones.

BASIC TECHNICAL DATA

Mounting center distance, mm.....520/600/700/770/900
1 000/1 020/1 150/1 300

Construction material.....stainless steel

VIEWING LIGHTS



PURPOSE

SMOF viewing lights are designed for visual observation of product movement.

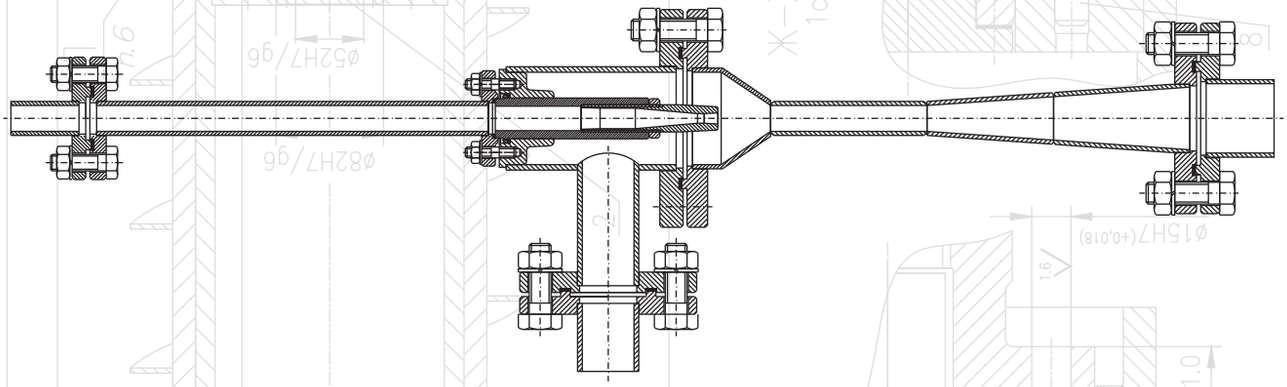
Viewing lights are used at the enterprises of the alcohol industry and are installed indoors.

Explosion hazard category of premises (according to PUE) – A.

BASIC TECHNICAL DATA

Type of viewing lights	two-/ three-/ four-piece
Working diameter, mm	100/150/200/250
Environment	mash
Environment temperature, C°	to 90
Working pressure, MPa	to 0,03
Construction material	stainless steel
Estimated Life	10 years

EJECTORS



PURPOSE

Ejectors are devices in which kinetic energy is transferred from one medium moving at a higher speed to another.

Working according to the Bernoulli law, ejectors create a reduced pressure of one medium in a tapering section, which causes suction in the flow of another medium, which is then carried away and removed from the suction point by the energy of the first medium.

Steam ejectors - jet devices for aspirating gases from a confined space and maintaining vacuum.

The working steam enters the nozzle, where it expands to a pressure equal to the pressure in the receiving chamber, and acquires a high speed.

A jet of working steam flowing out of the nozzle captures the vapor-air mixture injected into the receiving chamber of the ejector from the condenser and enters with it into the tapering part of the diffuser or mixing chamber.

The latter consists of a conical part and a cylindrical section.

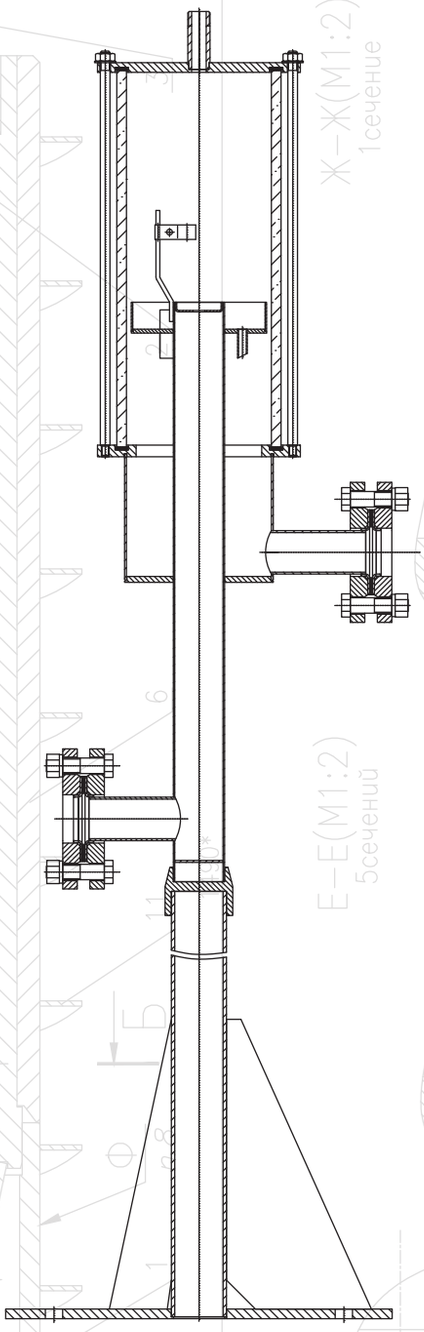
In the mixing chamber, including in the cylindrical section, the velocity is equalized over the flow cross section, accompanied by an increase in pressure.

Further compression of the mixed stream (a mixture of working steam and injected medium) - the conversion of the kinetic energy of the stream into potential energy - to the desired pressure value occurs in the expanding part of the diffuser.

BASIC TECHNICAL DATA

Name of the working environment	vapors of fusel alcohol, vapors of water
Steam temperature, C°	151,85
Ejected steam temperature, C°	90
Compressed steam temperature, C°	120
Working steam pressure, MPa	0,5
The vapor pressure ejected, MPa	0,12
Compressed steam pressure, MPa	0,15
Construction material	stainless steel

FINISHED PRODUCT EPRUVETTES

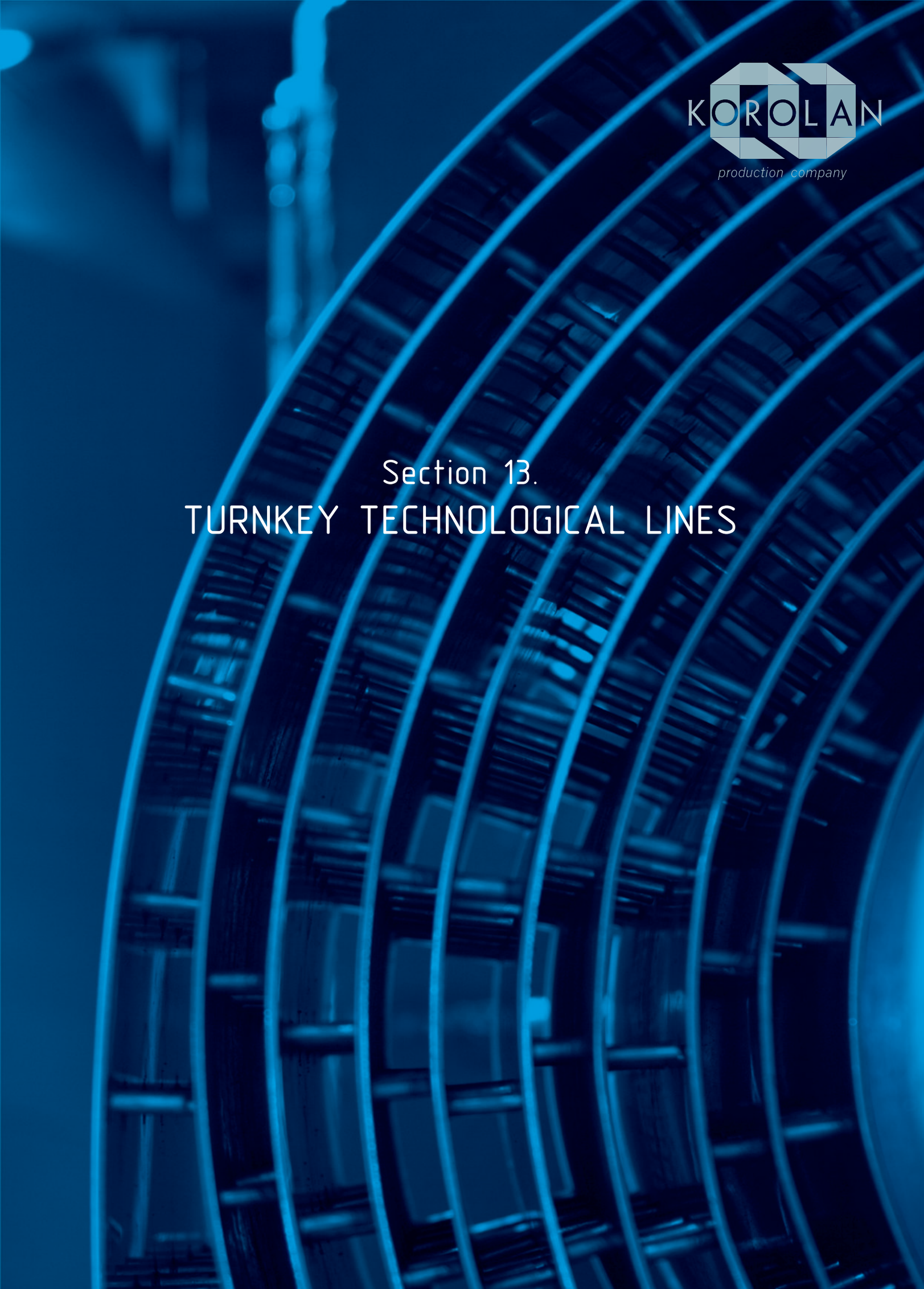


PURPOSE

Epruvettes of finished products of the EGP brand are an element of the rectification plant and are intended for product control. The equipment is a vertical cylindrical apparatus with a sight glass.

BASIC TECHNICAL DATA

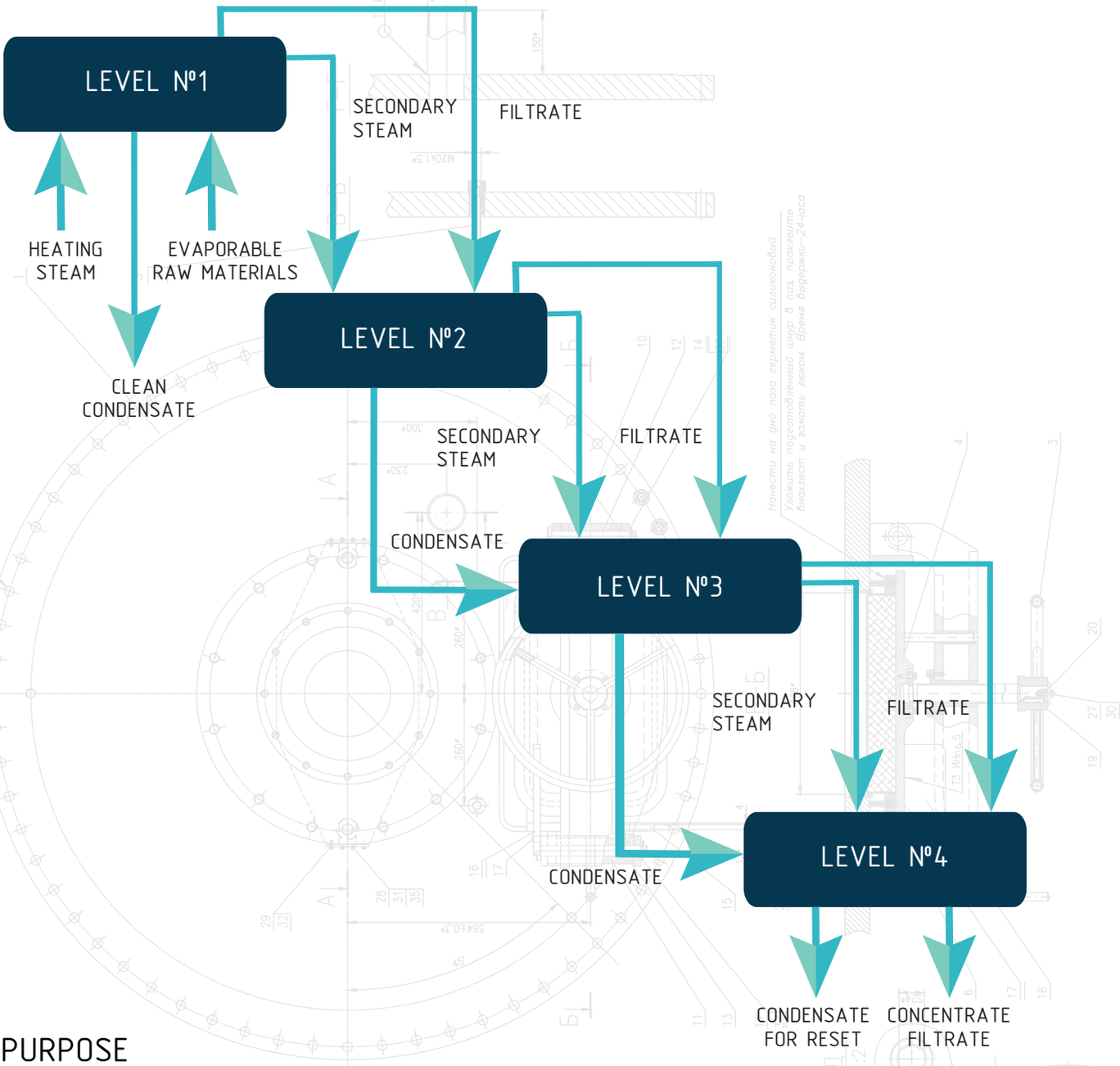
Type of epruvettes	alcohol/ether
Internal volume, m^3	0,01
Workong environment	alcohol/EAF
Working pressure	atmospheric
Construction material	stainless steel



Section 13.

TURNKEY TECHNOLOGICAL LINES

THE TECHNOLOGICAL LINE FOR THE EVAPORATION OF RAW MATERIALS



PURPOSE

It is intended for evaporation and drying of raw materials in the agricultural, fish processing, meat processing, alcohol industries: obtaining juice, wine concentrates, adhesive broth concentrate, tomato paste production, evaporation of alcohol stillage filtrates (vacuum-evaporating multi-unit plants, bardo-dewatering plants).

The evaporated filtrate passes sequentially through 3 (three) or 4 (four) blocks of the evaporator.

Heating steam is supplied only to the first unit of the evaporator.

Next, each subsequent block is heated by the secondary steam from the previous one.

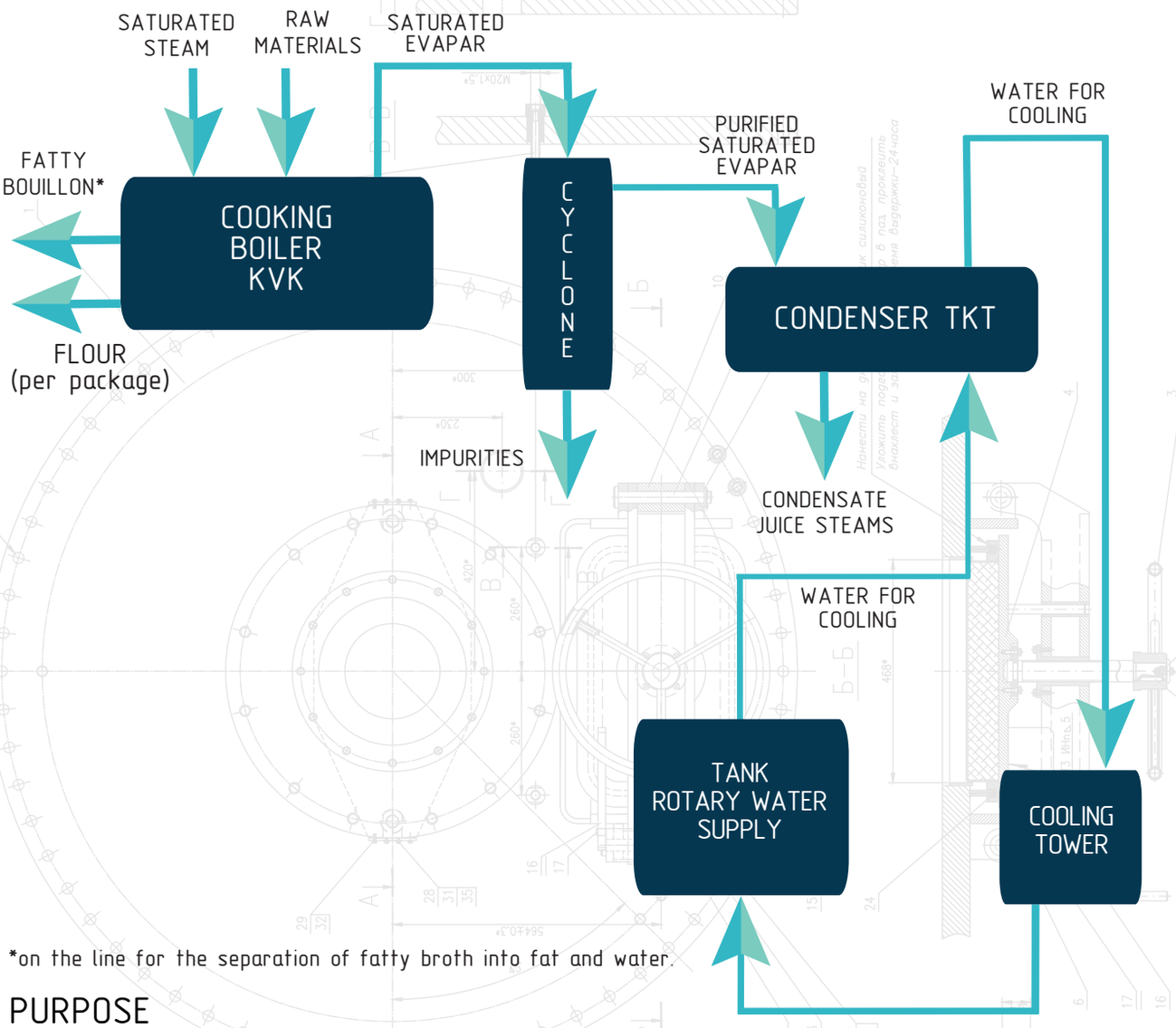
The temperature in each subsequent unit of the evaporator is reduced by reducing the pressure at which the evaporated filtrate boils.

Technological lines designed for dehydration of the product allow solving the problem of waste disposal of the food and agricultural industries, as well as the housing and communal services sector, and receiving the product without impurities of harmful substances present during gas combustion.

BASIC TECHNICAL DATA

look Section 1.

TECHNOLOGICAL LINE FOR THE PROCESSING OF LIVESTOCK, PIG AND POULTRY WASTE (MEAT, AGRICULTURAL INDUSTRY)



*on the line for the separation of fatty broth into fat and water.

PURPOSE

Technological lines for the processing of livestock, pig and poultry wastes that require high-temperature processing under pressure are intended for industrial use with the goal of producing feed components (bone, meat and bone, feather flour, etc.).

Raw materials by weight are laid in the internal case of the boiler, depending on its quality and composition. Dry saturated steam with a pressure of up to 8 bar is supplied to the boiler jacket and shaft. It is allowed to supply steam with a pressure lower, but this affects the reaction rate in the feed. Under the influence of temperature and pressure in the housing, a series of changes take place successively in the feedstock: hydrolysis, sterilization, atmospheric or vacuum drying.

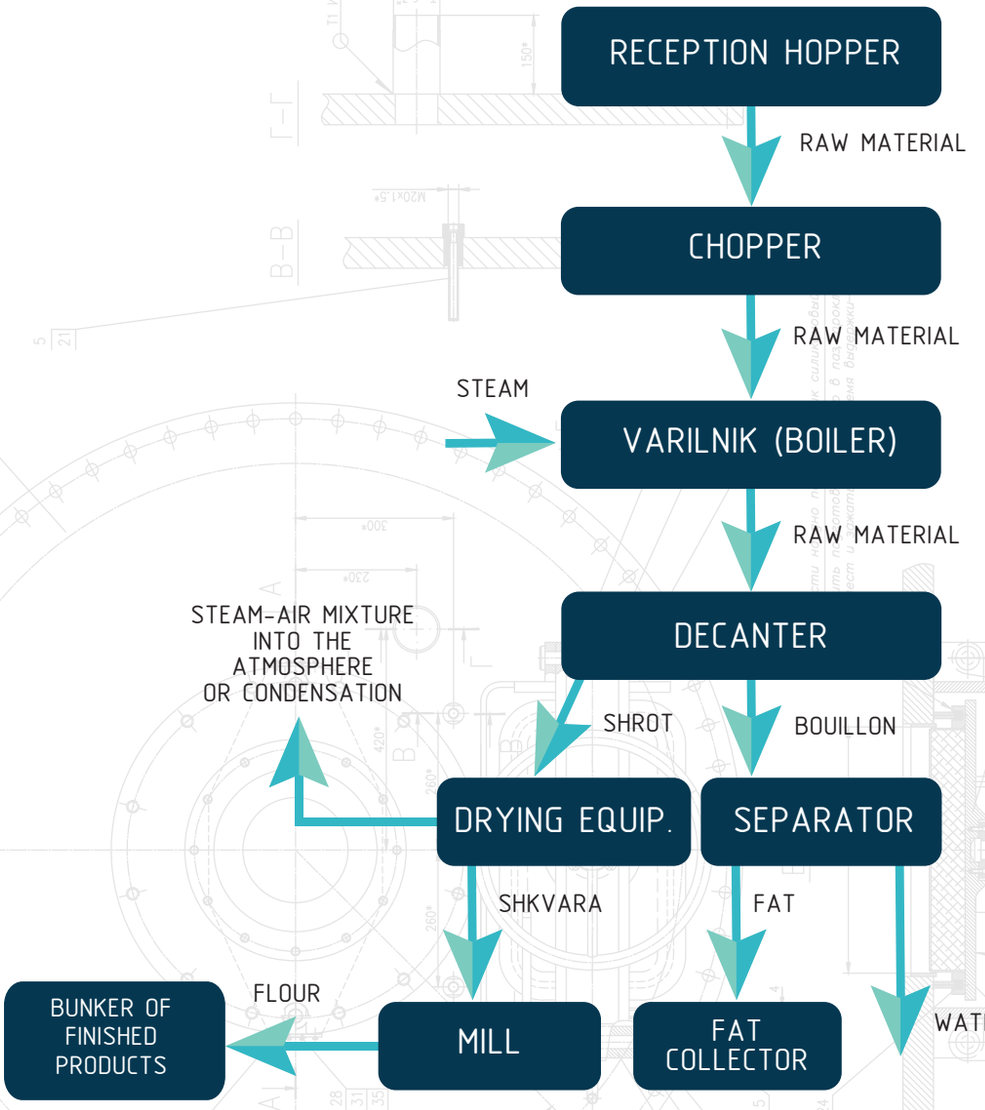
At the final stage, drying takes place to a moisture content of 8-12%.

PC "KOROLAN" carries out the design, manufacture, installation and launch of processing lines in a turnkey automatic, semi-automatic and manual cycle.

BASIC TECHNICAL DATA

Productivity of the line for raw materials, tons/ day.....16/25

PROCESSING LINE OF WASTE PROCESSING OF THE FISHING INDUSTRY



PURPOSE

Technological lines for the high-temperature processing of waste from the fishing industry are intended for the production of compound feed (fish meal) and technical fat.

The production of fishmeal begins with the preparation of raw materials for processing. Stable parameters of raw materials at the inlet are the main guarantor of stable quality of the product at the outlet. A strong change in the state of raw materials leads to poor-quality separation of flour from fat. Poor cooking quality of fatty raw materials leads to increased fat content of the product or poor quality of fat due to its poor separation from cake. When using heterogeneous raw materials, it is necessary to select technological parameters during the operation of the line to obtain the optimum quality of the obtained flour and fat.

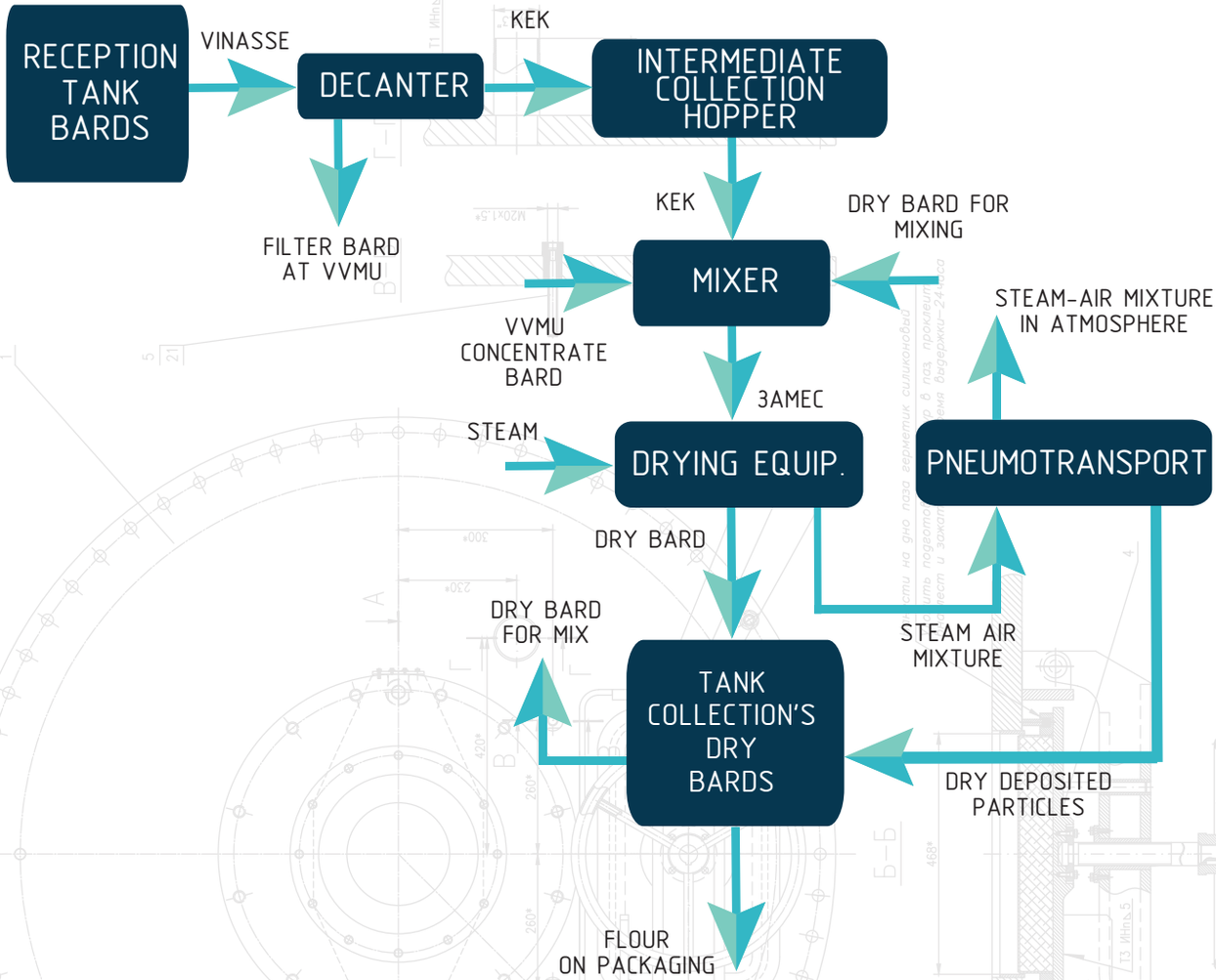
Of all types of processing of fatty raw materials, the scheme with decanter separation of meal from fat (fatty broth) has proven itself best. For high-quality separation in recent decades, decanters and tricanters have established themselves as indispensable elements.

The difference between using a tricanter and a decanter is the need to use a separator when using a decanter to dehydrate fat.

BASIC TECHNICAL DATA

Productivity of the line for raw materials, tons/day.....18/30/50

DRYING LINE FOR POST-ALCOHOL BARD



PURPOSE

Drying lines for post-alcohol stillage are designed for the production of animal feed.

The post-alcohol distillery vinasse with a solids concentration of 9–10% from the distillation workshop is fed to the distillation tank, from where they are pumped to decanters, where it is separated into a liquid fraction (distillery distillate filtrate) and a dispersed fraction (kek).

The filtrate vinasse fed to multi-body vacuum evaporator unit (VVMU) for the subsequent evaporation and concentration.

Kek through an intermediate collection hopper is fed to the mixer, there is also a concentrate of distillery stillage from VVMU for mixing. Recycling from the dry product collection hopper also enters the mixer. The resulting raw material goes to the dryer.

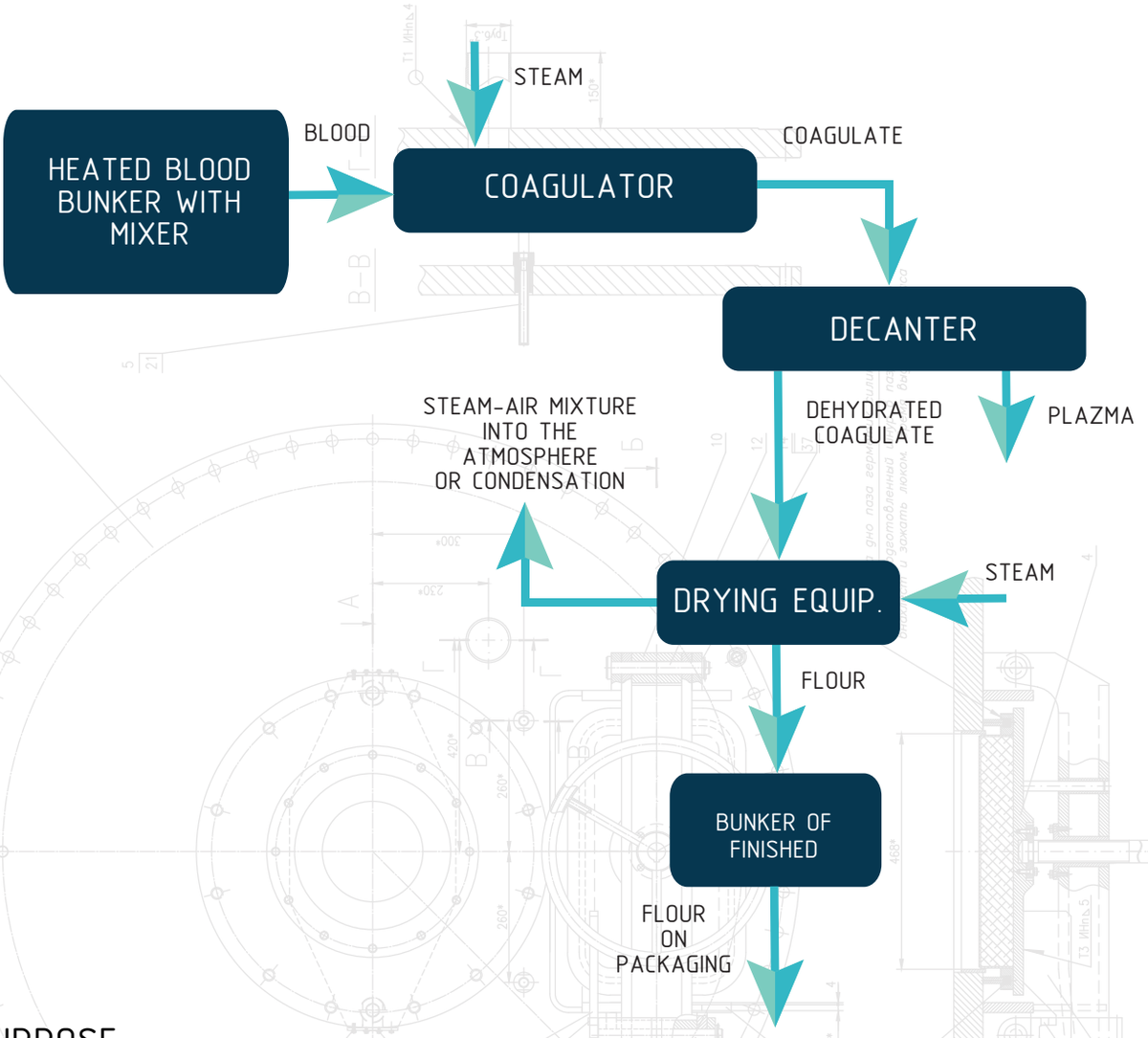
After the drying process, the dry bard with the help of a screw or pneumatic transport is unloaded into the hopper for collecting the dry product, from where it is partially mixed with the mixer. The vapor-air mixture from the dryers is discharged through the aspiration system to the atmosphere, and the dry deposited particles are also transported by pneumatic transport to the dry product collection hopper.

Dry feed product with a moisture content of 10% is served on packaging in kraft bags and shipped to vehicles.

BASIC TECHICAL DATA

Productivity of the line for raw materials, tons/day.....from 4,3
Productivity of the line for evaporated moisture, tons/day.....from 2,9

BLOOD PROCESSING LINE



PURPOSE

Technological lines for processing blood from animal waste, pig breeding, and poultry farming are intended for industrial use with the aim of producing blood meal as a component of animal feed.

The high moisture content in the blood necessitates its preliminary removal before subsequent heat treatment to obtain feed flour. To achieve this goal, blood and uniform elements are subjected to heating – coagulation.

In the process of heating, there is a change in the properties of proteins contained in blood and blood products. The most characteristic and main changes during heating are thermal denaturation of soluble protein substances. In the process of denaturation, a change in the structure of the protein molecule occurs, which leads to noticeable changes in properties without compromising composition. Preliminary moisture removal from the coagulate before drying is important, as it allows to reduce heat consumption and is carried out using decanters (centrifuges).

The subsequent process of drying raw materials on rotary dryers allows you to get flour for animal feed with the required parameters for moisture and protein content.

BASIC TECHNICAL DATA

Productivity of the line for raw materials, tons/day.....18/30/50

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