

WASTEWATER TREATMENT EQUIPMENT



Manufacturing and trading company «Ecopolymer» one of the first in Russia organized the production of equipment for wastewater treatment plants. It all started in far 1990, when a group of young engineers started the production of tubular aeration systems from polymeric materials. The name "Ecopolymer" was born from the first advertising slogan "Polymers at the service of ecology!". Over 28 years of its activity, the company has become a recognized leader on the Russian market, which produces a full range of equipment made of metal and polymers for water and wastewater treatment - more than 20 items.

Our company is located in the Kaluga region, 150 km from Moscow. The production area is more than 4000 m2 and is equipped with modern highprecision SMART equipment from European manufacturers. This allows to make a closed production cycle on the territory of the enterprise and minimize the manufacturing terms.

Self-contained manufacture of all parts and the applying of components from leading world manufacturers allows us to achieve such high quality products that meet international standards and is competitive in the global market. Quality is one of the priorities of our company.

We are proud of our qualified staff. Our design office is one of the best in the industry, the personnel structure is stuffed by experienced high-level workers.

We have been successfully working in the field of water and wastewater treatment for over 28 years. This allows us to proudly say:

«Our experience is the best guarantee of quality!»

We produce products of European quality by Russian prices. Cooperating with us, you will make it sure for yourself!



OUR CUSTOMERS ARE:

more than 1000 industrial plants, water supply companies and waste water treatment plants;

main contracting, trading companies.

OUR SERVICE INCLUDES:

consultation and equipment selection recommendation;

- adapt the equipment for your needs;
- warranty and post-warranty service.

...our equipment ecoLOGICALLY solves your problems!



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MECHANICAL TREATMENT

The first step of processing municipal and industrial wastewater is mechanical treatment, which is used as a preliminary stage before biological treatment.

Mechanical treatment is used to remove undissolved mineral and organic impurities from wastewater.

The company «Ecopolymer» offers a wide range of equipment for wastewater treatment from mechanical pollution:

- mechanized screens;
- screw wash presses;
- screw conveyors;
- sand separator and sand silos;
- > sludge scrapers.

RAKE BAR SCREEN

The rake bar screen is designed for sewage treatment from solid waste and is part of the mechanical sewage treatment complex at wastewater treatment plants, and also protects pumps at sewage pumping stations.

Screen operation is fully automated. The automatic control system is built on the basis of a programmable logic controller, which allows displaying information about the state of the screen using standard communication protocols to the local control pools or dispatcher's automated workplace.

- > The design of the filter screen does not require the use of transverse stiffeners.
- > The design of the rake allows effectively clear the gap in the entire depth of the profile of the bar.
- > The absence of rotating details in the submerged part of the screen, which increases its reliability.
- > Installed in a channel with a width from 500 to 2600 mm and
- with a depth from 600 to 3500 mm.
- The screen has two degrees of protection for mechanisms and parts mechanical and electronic.

Mechanical protection is provided by a torque limiting ferrule integrated into the gear motor.

- > Filter screen and rakes are collapsible, which allows the replacement of any screen bar and teeth of the rake without dismantling the entire screen or rake.
- The chain tensioning mechanism is interlocked with the kicker device, which makes it possible not to correct the position of the kicker device at each chain tension.
- Intellectual system of automatic removal of a blockage of the filtering screen.

Production of a screen according to individual requirements of the Customer is possible.

FINE SCREEN WITH PERFORATED PLATES

The screen is designed for fine treatment of municipal and industrial wastewater from mechanical garbage larger than the size of the screen holes.

> The stepped shape of the perforated panels allows to increase productivity and remove large objects from the water.

Ideal for wastewater with a high content of fibrous inclusions due to a perforated screen.

Perforated panels from the back side are transferred to the position parallel to the flow, which reduces the hydraulic resistance and eliminates the accumulation of small size garbage inside the screen.

The manufacturing of the screens with non-standard dimensions and technical specifications is possible according to the individual Customer requirements.

COARSE VERTICAL SCREEN WITH REVERSE RAKE

The vertical screen with reverse rake is designed for coarse pre-treatment of wastewater from mechanical garbage on sewage pumping stations, municipal and industrial water, and wastewater treatment plants. Screen is used as part of a mechanical sewage treatment complex and is designed for installation vertically into the channel. Bar space has a variable spacing from 16 to 50 mm.

Most often, the coarse screens perform the function of protecting equipment installed downstream behind a screen, for example, fine screens or pumps.

Moving the bucket with rakes, along the guides up and down, is provided by winding or unwinding of a belt sling on a drum with a drive.

Reliable and efficient screening operation by cleaning the filter screen with a rake bucket from the side of the cleaned stream to the side of the uncleaned stream and unloading the collected sludge over the uncleaned stream. Ideal for deep and wide channels.

- The simplicity of the design provides reliable operation of all components and mechanisms of the screen and, as a result, low operating costs.
- > Excluded jamming of the raking and cleaning mechanism in case of hit of sticks or logs in front of the screen.
- Bucket design with rakes allows removing large size garbage from wastewater.
- > It is possible to lift the filter screen above the channel without dismantling the screen.
- > Screen operation is fully automated.

The manufacturing of the screens with non-standard dimensions and technical specifications is possible according to the individual Customer requirements.

SCREW FINE SCREEN

The screw screen is designed for fine mechanical treatment of wastewater from garbage larger than the size of the screen perforation holes and is used in municipal and industrial wastewater treatment plants.

It is used a slotted or perforated filter screen with variable spacing from 1 to 5 mm.

- All components of the screen, including shaftless screw, are made of stainless steel and other corrosion resistant materials.
- > Use shaftless screw for cleaning screen and transporting collected waste in the pressing area increases the reliability of the screen.
- > An integrated press for compaction of collected waste minimizes the volume of garbage.

The use of a screw screen allows having turnkey decision: collect, wash from organic solids, and compact waste with transportation to a height of up to 5 m.

- > In the pressing zone integrated washing system of collected waste from organic solids.
- It can be designed for in the channel or in the container.
- > It works fully in automatic mode, does not require the attendance of a serving staff.
- Inexpensive and cost-effective solution for small wastewater plants.

The manufacturing of the screens with non-standard dimensions and technical specifications is possible according to the individual Customer requirements.

SCREW WASH PRESS

Screw wash press is designed for washing, compaction, and transportation to a collecting waste container removed by screens from wastewater. Also, the press used to return the organic soluble compounds contained in the waste, back to the wastewater treatment processing.

Pressing allows reducing the volume of waste up to 10 times. The press usually is operated as a

Maximum unloading height up to 5000 mm at an angle up to 45°.

- The press and screw are made of stainless steel. >
- Intensive washing of waste allows saving organic compounds > in wastewater.
- Compacted waste does not have a strong odor. >
- Press working in automatic mode, it operates from a signal > from other process line equipment.

The manufacturing of a screw wash press according to individual requirements of the Customer is possible.

SCREW CONVEYOR

The screw conveyor is designed to transport waste with moisture from 30% to 80% and any other granular (0,5-6 mm) and small-sized (6-80 mm) matter. Transportation on a screw conveyor is carried out in a horizontal or inclined position.

The screw conveyor can be operated as part of technological lines where the transportation of such products is required.

Transportation of waste or other materials along of the conveyor provides by a shaftless screw.

The supports if necessary can be arranged with a step of 150 mm. The angle of elevation up to 35° is possible.

- > Height-adjustable supports that simplify installation and hide surface flaws.
- > In automatic mode, it operates from a signal from other technological line equipment.
- May have two technical solutions with a pulling or pushing screw, as well as one or several loading windows.

The manufacturing of the conveyor on the individual requirement of the Customer is possible.

SAND SEPARATOR

The sand separator is designed to separate sand and other mineral particles from the sand pulp stream, launder them from organic compounds and transport washed product in a container with its simultaneous dehydration.

- > The efficiency of separation of mineral particles with a size of 0,2 mm and more is 95%.
- > Ideal for sand-pulp processing from sand traps at wastewater treatment plants.
- > Productive capacity for dry matter up to 3 t/h.
- > Hydraulic productive capacity for sand-pulp up to 90 m³/h.
- > The operation of the sand separator is fully automated, does not require the presence of staff.
- > Washing the sand from organic compounds increase the sanitary and environmental safety.
- > Dehydration of sand reduces its volume by 2-3 times, which helps reduce disposal costs.

Using the shaft less screw for transportation and sand dehydration simplifies design, increases reliability and durability of the equipment.

- 1 sand-pulp feed pipe;
- 2 the flow twisting tank;
- 3 gear-motor;
- 4 water outlet pipe;
- 5 pipe outlet of organic compounds;
- 6 branch pipe for the technical water supply;
- 7 mixer;
- 8 sand discharge conveyor;
- 9 sand discharge area;
- 10 drainage of water after dehydration.

Designed to receive sand pulp from sand traps, accumulation, static compaction and unloading into motor transport.

- > Equipped with vibrators on the conical bottom to provide reliable unloading and prevent sand retention.
- By custom order the silos could be made with heating system for outdoor installation.

Sand silos for the accumulation of 8 m³ with a penstock and vibrators on the conical bottom.

SKIMMING DRUM SCREEN

The skimming drum screen with integrated press (SVSLS) is equipment for a continual separation of suspended solids from various type of wastewater. The filtering element is perforated sheet metal with circle openings or a slot sieve.

- > Perforation filter strainer, about 0,8-8 mm.
- > Height adjustable support for easy installation.
- > Waste retained on the filter is removed using two rotating brushes.

Small size, reliable operation and easy installation – the ideal solution for small wastewater treatment plants.

- The position of the brushes on the rotor can be adjusted in the radial direction, which provides maximum removal of waste.
- > Efficient cleaning of the brushes is provided by two rakes.
- > The drum body is closed with a cover, in the upper part of which there is a vent pipe that is connected to the internal volume to prevent odors.
- > Availability of additional nozzles to improve the efficiency of drum cleaning.

SLUDGE SCRAPER

Scrapers are used in primary radial clarifiers and designed to collect sediment thick substances on the bottom and floating substances on the surface and removal them from the tank.

The classic, reliable design of collecting and removing the sediment, time-tested – suspension of two diametrically opposite scraper wings over the bottom of the tank.

- The bridge of sludge scraper is a structure in the form of spatial truss made of aluminum alloy AMg3M, due to which its high strength and limited windage are achieved
- > High corrosion resistance of the bridge is achieved by riveted joints instead of welding.
- > The upgraded design of the turntable ensures reliable operation, as well as ease of installation and low requirements for its accuracy.
- Slotted flooring with anti-slip surface, drive a carriage with solid tires and direct drive to the drive wheel – a reliable technical solution for harsh winter conditions.

An innovative and efficient collection system for floating substances provides uniform collection and disposal around the radius of the tank.

For more convenience of use, scrapers are recommended to be equipped with additional equipment:

- > overflow brush cleaner, which helps to increase the service life of overflows and reduce the number of suspended substances in purified water;
- > under especially cold climatic conditions:
 - **infrared thermal radiator**, which is installed between the snow plow and the rotating brush, which contributes to snow melting;
 - heating of the sump side of the tank with an electric heating cable.

PHYSICAL AND CHEMICAL TREATMENT

Physical and chemical methods of wastewater treatment are used to removal of suspended, colloidal and dissolved solids using the physical properties of solids and chemical reagents: the processes are based on different abilities of the interaction of substances with water, chemical reagents and among themselves.

Physical and chemical methods include: coagulation, flotation, adsorption, ion exchange, reverse osmosis, etc.

The Ecopolymer company produces the following types of equipment:

- > dissolved air flotation;
- > mixers for flocculation tanks;
- > drain systems.

DISSOLVED AIR FLOTATION (MY DAF)

Dissolved air flotation is used to purify industrial wastewater from suspended substances, fats, petroleum products, as well as to reduce the concentration of COD and BOD. Saturation of waste water with air and the use of reagents can improve the quality of water purification.

MY DAF – dissolved air flotation unit is the joint Russian-Czech production. Component parts come from the Czech Republic. Ecopolymer Company develops its own SCADA system and control cabinets.

Flotation is especially effective for wastewater treatment at meat processing plants, poultry farms, fish factories, dairies, oil extraction plants, paper mills, and other industrial plants.

- > Compact dimensions of the flotation unit simplify its movement, installation and save space.
- > The optimal ratio: price quality.
- > DAF is made of stainless steel AISI 304 or AISI 316, which provides long service life.

Effective removal of suspended solids, fats, petroleum products – up to 90%. Decrease BOD and COD – by 50-70%.

- > Standard sizes for various applications.
- Capacity from 5 to 250 m³/h.
- > Automated control system that does not require the presence of staff.

The flotation unit «MY DAF T» (for sludge thickening) is also successfully used for thickening biological activated sludge, for the purification of suspended solids.

The visualized information is presented to the operator on the screen of the control panel of DAF unit.

FLOCCULATION TANK MIXER

Vertical frame mixer with adjustable speed of rotation and side vortex generators for installation in flocculation tank of water treatment plants.

The mixer is designed to intensify the process of flocculation before settling. It is can be used for existing mechanical flocculation tank and also for re-equipment of hydraulic tanks.

- > Intensification of the flocculation process.
- The ability to control the frequency of the mixer's rotation, depending on water quality.
- > The design and size of the mixer are designed according to the size of the flocculation tank.
- > Uniform distribution of the brought energy in the volume of water and obtaining the maximum effect of flocculation, which allows minimizing their destruction.

DRAIN SYSTEMS

Drain systems (DS) are intended for reconstruction any type of filters:fast nonpressure filters with water or water-air flushing, contact clarifiers, pressure filters.

Due to an innovative technology, Ecopolymer produces DS from polymeric materials that have unique technical characteristics and have no analogues on the market. The use of patented drainage filters with adjustable length significantly reduces installation time and simplifies its process. For filters with air-flushing, along with the DS, there is an original air supply system made of AQUA-PRO diffusers.

- Reducing the cost of repair and reconstruction of filters.
- Improving the efficiency of using volume by eliminating supporting layers of gravel.
- Increase filter performance without increasing the number or volume of filtering facilities by increasing the filtering speed and, as a result, the filter cycle.

«Ecopolymer» produces the wide range of drain systems.

- > Exclusion of the removal of the filter load with purified water.
- Ensuring uniform distribution of water during filtration and washing.
- Drainage filters of adjustable length simplify installation and shorten its time.

BIOLOGICAL TREATMENT

Biological wastewater treatment is based on the use of special bacteria capable to absorb dissolved pollutants from wastewater.

Ecopolymer Company produces the following types of equipment for biological treatment:

- two types of aeration systems disk membrane and tubular diffuser;
- sludge suction scrapers;
- spillway trays;
- v-notch weir;
- semi-submersible boards;
- lifting devices;
- fixed bed bioreactor media;
- > airlift pumps.

The basis for the creation of the company «ECOPOLYMER» was the invention and introduction into production in 1990 of a polymer diffuser of the original design, which became one of the best in world practice.

AERATION SYSTEM AQUA-PRO-M

Aeration systems AQUA-PRO-M are used to saturate wastewater with oxygen in biological treatment process. The main elements of the AQUA-PRO-M aeration system are tubular diffusers, manufactured on the basis of profiled frame tubes.

The frame of the diffuser has longitudinal ribs, which form the air cavities between the inner and outer dispersing layer. This contributes to the uniform distribution of air throughout the length of the diffuser.

The most reliable and durable diffusers in CIS countries and China.

- > Capacity from 6 to 21 m³/h.
- > External diameter 128 mm.
- > Internal diameter 88 mm.
- > Long-term service life without regeneration.
- > Simple design provides reliable, easy and quick mounting.
- > Stable operation conditions during all service life.
- > Diffusers have high mass-transfer design, confirmed with national and international certificates, operational experience at more than 1000 WWTP.

AERATION SYSTEM AQUA-TOR

AQUA-TOR aeration system based on toroidal diffusers AR-420 T(N) with perforated elastic membrane is designed for aeration of sludge mixture (wastewater with activated sludge) in biological wastewater treatment systems (also, it is possible to apply to saturate natural).

The diffuser combines the advantages of membrane disc diffusers and a capacity of pipe diffusers. The air flow rate through one diffuser stands within a wide range. The diffusers efficiently prevent formation of dead areas in aeration tanks. The AQUA-TOR diffuser is protected by a number of patents. Diffusers are compatible with different piping systems of air distribution in air tanks, which simplifies building and assembly jobs.

- > Capability of continuous and periodic modes of aeration.
- Aggressive chemical action resistance.
- > Mud-resistant elastic membrane.
- Fine-bubble aeration and high level of oxygen transfer efficiency (OTE) at low head losses.
- Capacity from 4 to 25 m³/h.
- > Outer diameter 420 mm.
- > The diameter of the inner hole 170 mm.

The most productive diffusers with air-lift effect.

- > High economic efficiency of one diffuser is equal to capacity of 3 standard 12" disc diffusers.
- > Design, assemble and maintenance simplicity.

AQUA-PLAST aeration system based on disk diffusers AR-300M with perforated elastic membrane are employed in multipurpose aeration systems.

Original design of rubber membrane provides effective diffusers operation within 10 years. Due to the design of the system service life can be extended up to 20 years by means of simple membrane replacement, which require minimal expenses.

- > Ability to operate both in continuous and intermittent aeration modes, including backup aeration tank areas with nitrification-denitrification.
- > Reliable protection from wastewater ingress into the system and resistance to aggressive conditions.
- > Non-clogging membrane.
- > Fine-bubble aeration and high mass transfer properties.

We have created a fashion for diffusers!

- > Capacity from 2 to 10 m³/h.
- Outer diameter 290 mm.
- > Simplicity of design, mounting and operation.

Diffuser AR-300-M

1 – air pipe;

2 – perforated membrane.

LIFTING DEVICES

Lifts and guides are designed for the installation, dismantling and maintenance of submersible mixers and pumps, and also for their positioning in tanks.

Elevators are made 3 models: UP01, UP02, UP03 and differ from each other in design and carrying capacity. Maximum capacity – up to 800 kg.

- > All models of lifts are made of stainless steel.
- > Lifts have adjustable arm.

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SLUDGE SUCTION SCRAPER

The suction scraper is used in secondary radial clarifiers and designed to collect sediment sludge on the bottom and floating sludge on the surface and removal them from the tank, it designs as a rotating mechanism with a peripheral drive, sludge feed, and sludge discharge systems.

Ecopolymer's sludge suction scraper has such technological advantages:

- > The suction bridge is a structure in the form of framework, due to which its high strength and limited windage are achieved and made of AMg3M aluminum alloy.
- > High corrosion resistance of the bridge is achieved by using a riveted connections instead of welding.

Separate sludge pipes allow to regulate the sludge consumption in each suction pipe – an innovative development of Ecopolymer's constructors – it's make possible to remove active sludge with a higher concentration and without pumping excess water. All sludge collection system are produced of stainless steel.

- The central support is a designed structure ensuring reliable operation of the suction scraper during its running, as well as ease of installation and low requirements for its accuracy. Central support is produced of stainless steel.
- Flooring on bridge with anti-slip surface, drive unit with one-piece tires and direct drive to the driving wheel – reliable solution for harsh winter conditions.

The sludge collection system is made of stainless steel.

For ease of use it is recommended to equip suction scrapers with additional equipment:

- additional cleaning brush, which increases the service life of weir and reduces the amount of suspended solids in effluent;
- > for harsh winter conditions:
 - use infrared thermal radiator, which promotes the snow melting;
 - use special heating system the track with an electric heating cable;
- for a system with high foam forming it is recommended to apply the option of collecting floating substances that are removed from the clarifier together with recirculation sludge.

SPILLWAY TRAYS

Designed for diversion of clarified water from radial and horizontal sedimentation tanks. The water flow of clarified water is poured into the water overflow tray, where it is removed from the tank and sent to the further stages of cleaning. Provided for in sewage treatment plants.

Production material - stainless steel or zinc coated carbon steel.

Convenience of installation and durability of operation.

SEMI-SUBMERSIBLE BOARD

It's intended to prevent the ingress of floating solids into the spillway tray of the sedimentation tanks and is mounted on brackets to board overflow tray.

V-NOTCH WEIRS

Intended to ensure uniform distribution of water along the length of the spillway tray and to level the hydraulic load between the tanks operating in the same group. V-notch weirs can be installed on both the concrete and the metal drain box of the sedimentation tank.

The material is stainless steel or special sheet plastic, resistant to UV and low temperatures.

BOARDING FOR central (inlet) well

The complete set of boarding for the central (inlet) well includes all the fasteners necessary for the execution of the corresponding installation work.

Additionally, it is possible to manufacture and supply the corresponding stainless steel central (inlet) well according to the Customers drawings or according to the calculations of Ecopolymer specialists.

FIXED BED BIOREACTOR MEDIA

Fixed bed bioreactor media is used at the stage of biological water purification in biofilters and bioreactors, where intensive microbiological processes are applied that require an advanced surface of the carrier of the attached microflora.

- > The outfit we make for the attached microflora has the most balanced ratio of consumer properties: easy of installation, high specific surface area, as well as easy of operation.
- > High porosity contributes to the fixation of the biofilm and prevents its complete leaching, thereby accelerating the entry bioreactor to work.
- > Low hydrodynamic resistance allows to evenly distributing water over the reactor area.
- Low weight reduces installation time and reduces requirements for strength and stiffness of walling.
- Short delivery times.

Frameworks are made of trapezoidal and triangular cross-section.

Supplying outfit in the form of mesh cylindrical frames made of polyethylene or polypropylene with the addition of a light stabilizer, and can be supplied in element and block versions.

AIRLIFT PUMP (VERTICAL AND ANGLE)

Airlift pump are used to remove sludge from sedimentation tanks, as well as the circulation of return activated sludge in aeration tanks at medium and small biological treatment plants. The design of the airlift pump elements and its type is selected individually, considering the characteristics of each object and the calculation of its capacity.

Airlift pump is available in two versions: vertical and angular.

Big range of capacity from 2 to 100 m³/h.

- > Long-term work of airlift pump without maintenance and repair.
- > The presence of the air vent safety pipe reliably protects the airlift pump from emissions of sludge from the air separator.
- The package includes a protective mesh of polymeric materials, which prevents outside objects from entering the airlift pump.
- > Made from corrosion resistant materials.

SLUDGE DEWATERING

Sludge dewatering is used to reduce sludge volume in order to getting the product easy for transportation. Dewatering is a mandatory step in the process preparation of sludge for further processing and disposal.

For the successful implementation of the technology of sludge dewatering, trade and industrial company «Ecopolymer» produces reliable and efficient equipment:

- belt filter presses;
- screw presses;
- > silos for dewatering sludge.

BELT FILTER PRESS

Ecopolymer belt filter presses provide the premium process for continuously converting sludge into a moist cake. The sludge is processed in three distinct stages: flocculation, gravity drainage, compression and shear.

Belt filter press is result of years of work experience in dewatering of different types of sludge and the latest world developments. EBP design is based on kinematic scheme at vertical positioning of press rolls and shafts.

> The press shafts are located close to the vertical plan, each shaft has its own collection tray of filtrate. This technical decision prevents filtrate going to the previous or next shaft.

Filter press allows to reduce the volume of sludge by 10 times with minimal capital and operating costs.

- The belt positioning system includes a compressor, pneumatic cylinders, belt position sensors and an air distribution panel. Technical solution provides reliable trouble-free operation of equipment and increases the service life of belts.
- > In the rubber shafts, grooves are made of a spiral shape provides reliable movement of belts without slipping efficient removal of filtrate.
- Additional pressing area provides for high efficiency and stable dewatering pressure. System allows achieving the required degree of sludge dewatering.

- > Stainless steel pallet is located under whole area of press. This solution excludes the need for concrete baths and reduces the cost of construction and installation work.
- > Stainless steel flocculation tank or with speed control mechanical mixer. This technical decision aids for better mixing of sludge with and reduce polymer consumption.
- > Automatic blade feeder with turners in gravity drainage area allow distribute sludge evenly over all width of belt regardless of the viscosity of sludge and improve the outflow of the filtrate.
- > Control cabinet with special touch panel. Control of belt press work can provide with operational tablet PC, or SCADA system. Any additional equipment can be easy connected.

TYPICAL PROCESS SCHEME OF MECHANICAL SLUDGE DEWATERING

- 1 Belt filter press
- 2 Polymer station
- 3 Polymer dosage pump
- 4 Flocculator mixing tank of sludge and polymer
- 5 Flushing pump
- 6 Inlet of technical water
- 7 Compressor
- 8 Cake removal conveyor
- 9 Cake storage tank
- 10 Sludge dosing pump
- 11 Control cabinet

All elements of EBP (frame, pallet, tray and mixer) are made of AISI 304 (321) stainless steel (optionally, AISI 316 can be used). Shafts are made of carbon steel with corrosion resistant coating (the main dewatering and drive shafts are rubber-coated, other shafts have RILSAN® polyamide coating). Other elements, in contact with sludge and cake, are made of modern polymer materials

The filter press dimensions (by width of belt): 1000, 2000 and 3000 mm and depends on the needed capacity.

SCREW PRESS

The screw press is used for dewatering municipal and industrial sludge. The screw press works with sludge having a moisture content of 99,8% to 95%.

- > Compact closed system, completely made of corrosion-resistant stainless steel.
- Depending on the concentration of solids in the sludge, the screw dewatering machine can be equipped with either a sludge mixer and floculant, or vertical thickener.
- > The small weight and dimensions of the screw dewatering machine make it possible to compactly place the installation even in limited areas of mechanical dewatering workshops.

The use of the screw press can reduce the moisture content of sludge up to 75-85% with low capital and operating costs in a limited area.

- Due to the low speed of rotation of the screw and the forced movement of the moving disks, the service life of the equipment has been significantly increased.
- > Low noise level (no more than 60 Db).
- Low consumption of electricity, reagents and water for washing.
- Works well with industrial sludge containing oils, fibers, petroleum products and fat-containing substances, as well as low dry matter precipitation.
- Works in automatic mode, does not require the continual presence of staff.

SILOS FOR DEWATERING SLUDGE

Designed for the collection and short-term storage of dewatered sludge and produced as a silos with top loading and unloading from the bottom.

SILOS for accumulating 48 m³ of cake with a paddle turner-dispenser and bucket gates.

SILOS for accumulation 16 m³ of cake with a penstock.

- > The silos are made entirely of corrosion-resistant materials, which ensures a long service life.
- > Developed and manufactured for individual customer requirements.

The design, shape and size of silos depend on many factors: the layout of the structure, the time required for the accumulation of cake, methods of loading and unloading, the type of supporting structures of the building, the physical properties of the cake (humidity, bulk weight, angle repose), as well as environmental and economic requirements.

FLOW CONTROL EQUIPMENT

At the wastewater treatment plant, to regulate and shut off the flow of water, is used penstocks, which can be used at all stages of water purification.

Flow control equipment are used in chambers, trays, open or closed channels for monitoring the volume of waste water, activated sludge, sludge mixture, etc.

PENSTOCKS

Penstocks are designed to quickly shut off or regulate the flow of water and other liquids and installed in open and closed selfflowing trays, channels, distribution chambers, recessed wall openings and large section collectors.

The trade and industrial company «Ecopolymer» offers a wide model and standard range of gates, suitable for a variety of technological Customer tasks.

Easy replacement of the seal, bearings, screw and slide screw gear is made without dismantling the gate frame.

The penstocks of production «Ecopolymer» are divided:

- > Type of installation: channel penstocks (installed in the wall, channel etc.), wall penstocks (installed on inlets or outlets of chambers or basins) and flange penstock (installed on the pipe).
- > Type of location: surface (with sealing on the three sides of gate) and deep (with sealing on the four sides of gate).
- > Direction of flow: one side and two sided penstocks.
- > Type of drive: with manual drive, with manual gear and with electric drive.

All "Ecopolymer" penstocks are made of stainless steel and other corrosion-resistant materials.

- Rotatable stem nut of lifting mechanism is made of high-quality stainless steel and clevis is made of special bronze – it provides reliable operation for a long time.
- > Using of multi-rotatable nut allow to optimize opening-closing time and minimize electricity consumption;
- > All models of seals are made by a non-moulded method of high-quality rubber produced using rubber grade (heat-frost-acid-alkali-resistant) with special additives, improving performance, durability and resistance in aggressive environment.
- > Use of several models of seals with specially designed cross-section, allowing rational use of the environment pressure, allow to reduce material and energy consumption with the guarantee of impermeability.
- Penstocks are characterized by increased maintainability due to collapsible design: simplicity of seals replacement, bearings, stem and clevis without dismantling of frame gate.

Our equipment serves more

LEADING COMPANIES IN THE INDUSTRY HAVE

ALREADY CHOSEN "ECOPOLYMER" EQUIPMENT

than **120 000 000** people

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