



EPOS PJSC



**MANUFACTURE
of dredgers
and non-standard
products**



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We are working

FOR YOUR SUCCESS!





ABOUT US

Epos PJSC is specialized in the field of production and development of dredgers and pumping equipment. The company has got long-standing business and an excellent reputation in the market of the CIS countries as well as high technology and well-equipped production facilities.

Epos PJSC has developed a wide range of different cutterhead dredgers and a hydraulic washout system. The main feature of the dredgers is their universal modular construction and employment of innovative technologies. The efficiency of dredger operation can be increased with the help of the innovative automation and control technology which makes it possible to maximize the results of solid material extraction and handling.

The demanding level of machine-building technologies of European enterprises imposes high requirements to the equipment reliability, as well as its efficient and cost-effective operation.

Reliability of **Epos** company equipment is based on the essential application of state-of-the-art means, methods of control and equipment manufacture on the basis of a complex approach to technical and engineering solutions. As a result, the specialists of our company have achieved increased run time and exclusion of possible down times during operation.





GENERAL DESCRIPTION FOR DREDGERS of ADST series

Application

It is applied for excavation of soils of the 1-3 category, sand and other non-metallic materials; dikes, roads, building sites aggradation, pumps cleaning, and bottom dredging operations in small channels and rivers. Ground ripping is hydraulic using the pump and technical water. Pulp intake is carried out by submersible dredging pump.

Description

The dredger consists of several assemblies transportable by truck, namely: a central pontoon, two side pontoons, a diesel-generating set on the common frame with the dredger master's cabin (for M design) and the gantry for dredge pump movement.

Equipment Arrangement

The dredge pump in the non-operating position is installed on an easily demountable platform between the two side pontoons, then by means of an electric winch and a modular system, after the platform demounting, it is submersed in the area of pulp intake. The dredge master's cabin with control panel is located on the common frame with the diesel-generating set (for M design) and located on the central pontoon. All the other equipment is also installed aboard. With the aim of monitoring the dredge pump operation, the remote-control panel is equipped with a current consumption control device and a pressure gauge.

Equipment set

The dredger is completed with:

- rubberized fabric hose of the water jet ring;
- rubberized fabric hose of the dredge pump.

On the client's request the dredger can be completed with a floating pipeline.

The design features of the assemblies make it possible to assemble the dredger on the site of operation by means of a lorry-mounted crane.

Dredger working travel is achieved by means of ropes. The working travel is carried out by means of four swing winches located on the side pontoons.

The dredger operation is performed by means of control panel installed in the dredger master's cabin. The control of dredger operation is effected on the basis of a readout of the electric motor's current consumption and pressure in the discharge pipeline. The control panel is equipped with an industrial controller. Electric connection provides the possibility for lighting and signaling lanterns.



GENERAL DESCRIPTION FOR DREDGERS of ADST series

The dredgers of the **ADST** series are based on the concept of dredging with a submersible pump that is specifically designed for high viscosity mixtures and high solids content mixtures. There is no need to equip the dredger of the **ADST** series with a ladder carrying the dredging system (i.e., suction pipeline and ripper).

In this design an electric submersible pump with an embedded electromotor and agitator for soil swelling are used. Moreover, the pump is equipped with a jet ring with nozzles which by means of a cantilever pump ensure hydraulic ripping of the soil in the area of the dredger operation. In this way the required pulp density for pumping as well as the dredger's space-efficiency are achieved.

At the nominal parameters of the submersible dredge pump according to capacity, the dredger provides 30% of the solids technical capacity. The horizontal pulp transportation is 500 m.

The dredging depth is limited to 30 m. The pumps of special design can dredge the soil up to 50 m of depth. These technological characteristics are achieved thanks to the innovative solutions which are aimed at application of the pumps in heavy duty conditions of dredging, cleaning, waste recycling and other slurry pumping enterprises.

Among the distinguishing features of the **ADST** series dredger it is necessary to mention its modular construction comprised of one central pontoon, two side pontoons, frame with diesel generator and the dredge pump lifting-hoisting gantry. All the above-mentioned assemblies can be transported by truck, the largest assembly in size is the central pontoon, depends on the modification and it is transported by a standard truck.

The dredgers of the **ADST** series can be manufactured in two versions, namely:

Autonomous M (mobile)

autonomous - with electric power supply from diesel-electric set installed aboard;

The dredger of the **ADST series (M)** is independent of the shore electric networks, it is electro-efficient. The dredger is equipped with autonomous power supply source aboard, namely a diesel generating set of the relevant power. Due to this, the dredger can be operated in areas remote from power supply lines.

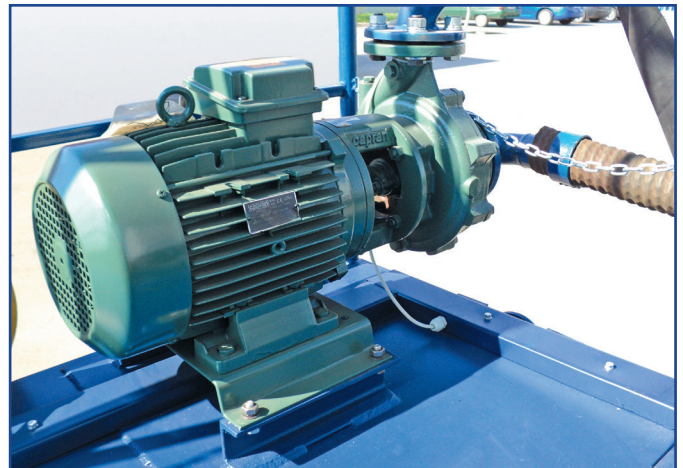
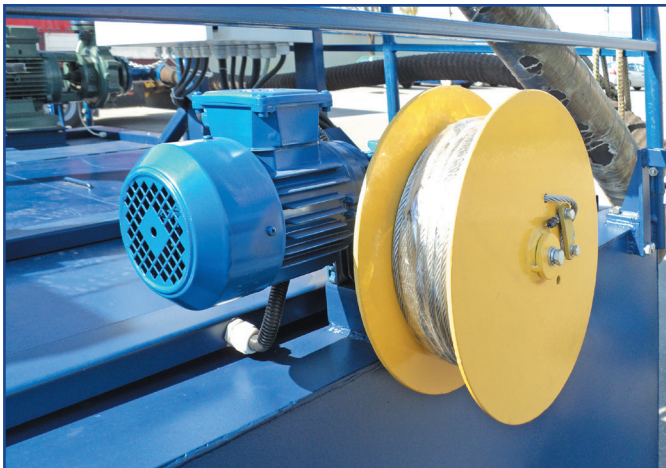
Dependent E (electric)

with electric power supplied from the shore.

Small-sized non self-propelled electric dredger

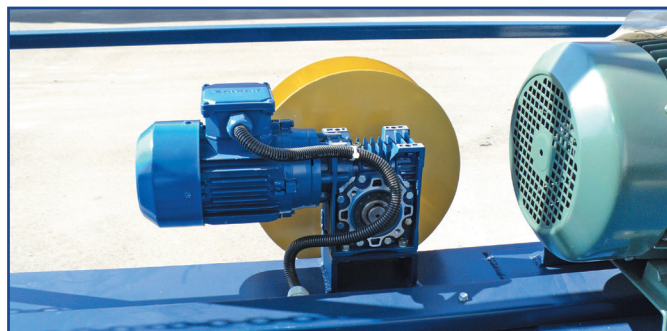
It is designed for excavation of soils of 1-3 categories, cleaning water basins from silt, sand and other non-metallic materials extraction and dredging operations in small channels and lakes. Ground ripping - hydraulic, by means of high pressure water pump and water jet system. Pulp intake is carried out by means of a submersible dredging pump.

ELECTRIC DRIVE DREDGER ADST 100E



Construction

The dredger is designed with two pontoons connected by the catamaran type. The dredger design allows it to be fully assembled while in transportation. The following dredger mechanisms are installed on the hull: the boom of dredging pump hoisting-sinking, boom gantry and electric devices for boom operation and dredger maneuvering. The water jet pump and control panel for operation of dredger mechanisms are installed on the hull. The control platform and panel are protected from atmosphere precipitation by means of a shed. The dredging pump operation control is carried out by means of the device of current consumption. The dredger mounting is carried out directly on water within one day.



ELECTRIC DRIVE DREDGER **ADST 100E**

MAIN TECHNICAL CHARACTERISTICS:

Capacity by pulp, m ³ /h	90	60
Maximum dredging depth, m	5	5
Minimum dredging depth, m	1	1
Dredging pump, type	submersible	submersible
Pump head	15-20	12-15
Drive power of the dredging pump, kW	11- 15	5,5-7,5
Horizontal pulp discharge distance, m	up to 300	up to 200
Average capacity by solid materials, m ³ /h	25	15
Ground ripping	hydraulic	hydraulic
Waterjet ripper pump, type	monobloc	monobloc
<i>Hydraulic ripper pump characteristics:</i>		
capacity, m ³ /h	30	16
head, m.w.c	60	56
drive power, kW	9,2	7,5
Dredger working travel	anchor-rope	anchor-rope
<i>Dredging pump boom hoisting-sinking mechanism:</i>		
Hoisting capacity, ton-force	1,5	1,0
Installed dredger power, kW	30	23
Mains voltage, V	380	380
Nominal diameter of the floating slurry pipeline, mm	100	80
<i>Overall dimensions of the dredger:</i>		
Maximum length, m	4,8	3,75
Width, m	2,4	2,4
Height, m	3,5	3,5
Overall hull height, m	0,7	0,7
Mean draught, m	0,4	0,4
Water displacement, t	4,0	4,0



AUTONOMOUS, DIESEL DRIVEN DREDGER ADST 200M, ADST 300M



This type of dredger is applied for excavation of soils of the 1-3 category at a depth of up to 30 meters, excavation of sand and other ore and non-metallic materials; dikes, roads, building sites aggradation, and bottom dredging operations.

Ground ripping is hydraulic (waterjet) by means of jet ring and a pump for technical water supply. Pulp intake is carried out by submersible dredging pump.

The dredger consists of self-contained automobile-transportable mounting assemblies, namely: a central pontoon, two side pontoons, a skid-mounted diesel-generator unit and a dredger master's cabin, gantry of the dredge pump transport mechanism.



AUTONOMOUS, DIESEL DRIVEN DREDGER

ADST 200M, ADST 300M

MAIN TECHNICAL CHARACTERISTICS:

The hull length on the construction waterline, m	8,7
The maximum hull width, m	4,4
The overall width, m	5,1
Midship depth, m	1
Draught at full load, m	0,5
Water displacement, t	15
Maintenance crew, person(s) per one shift	2
Pump for excavation works	submersible
Capacity by pulp (mixture), m ³ /h	up to 360
Capacity by soil, m ³ /h	up to 120 (depends on the soil characteristics)
Minimum dredging depth, m	1,5
Maximum dredging depth, m	30
Horizontal discharge distance (without booster set), m	up to 500
Discharge pipe diameter, mm	150
Pump electric power, kW	37-55
Dry pump weight, kg	1000
Soil grains maximum diameter, mm	60
Ground ripping	hydraulic
Hydraulic ripper pump, type	cantilever
Power supply source	from the shore, diesel generating set
Power of diesel-generator, kW	up to 160
Guaranty period of the dredger, months	12





**DREDGER
ADST 400E, M**

WITH THE SUBMERSIBLE DREDGE PUMP

Non self-propelled dredger with medium capacity is applied for bottom dredging operations, water cleaning and excavation of non-metallic materials from water bottom and beach nourishment.

It is developed and produced in two modifications, such as: electric with shore power supply, and autonomous with supply from the diesel-electric station on the dredger deck.





DREDGER

ADST 400E, M

WITH THE SUBMERSIBLE DREDGE PUMP

MAIN TECHNICAL CHARACTERISTICS:

Dredger name	ADST 400E	ADST 400M
Source of power supply	Shore power source 380 V	Diesel generator aboard
Capacity by pulp, m ³ /h	400	
Capacity by soil, m ³ /h	up to 120	
Maximum dredging depth, m	30	
Minimum dredging depth, m	2	
Dredging pump, type	submersible	
Drive power of the dredging pump, kW	75	
Dredger manometric head, m	30	
Horizontal pulp discharge distance, m	up to 500	
Average capacity by solid material, m ³ /h	110	
Ground ripping	hydraulic	
Hydraulic ripper pump, type	cantilever centrifugal	
<i>Hydraulic ripper pump characteristics:</i>		
capacity, m	100	
head, m	80	
power, kW	37	
Dredger working travel	anchor-rope	
<i>Dredging pump boom hoisting-sinking mechanism:</i>		
hoisting capacity, ton-force	5	
rope capacity, m	50	
Installed dredger power, kW	140	
Mains voltage, V	380	400
Nominal diameter of the floating slurry pipeline, mm	200	
<i>Overall dimensions of the dredger:</i>		
Maximum length, m	12,5	
Width, m	5,6	
Height, m	4,8	
Mean draught, m	0,5	
Water displacement, t	18	

HIGH PRODUCTION DREDGER **ADST 600E** WITH ELECTRIC DRIVE



Non self-propelled dredger is applied for bottom dredging operations, waters cleaning, excavation of non-metallic materials from waters bottom, beach nourishment and sand excavation.

MAIN TECHNICAL CHARACTERISTICS:

Capacity by pulp, m ³ /h	up to 720
Capacity by soil, m ³ /h	up to 220
Maximum dredging depth, m	30
Minimum dredging depth, m	2,5
Dredging pump, type	submersible
Drive power of the dredging pump, kW	110
Dredger manometric head, m	up to 40
Horizontal pulp discharge distance, m	up to 500 (depends on the technological characteristics)
Average capacity by solid material, m ³ /h	up to 220 (depends on the soil characteristics)
Ground ripping	hydraulic
Hydraulic ripper pump, type	cantilever
<i>Hydraulic ripper pump characteristics:</i>	
capacity, m ³ /h	180
head, m	80
power, kW	55
Dredger working travel	anchor-rope
<i>Dredging pump boom hoisting-sinking mechanism:</i>	
hoisting capacity, ton-force	6
rope capacity, m	50
Installed dredger power, kW	195
Mains voltage, V	380
Nominal diameter of the floating slurry pipeline, mm	250



HYDRAULIC AND MECHANICAL COMPLEX (BOOSTER STATION)

The booster station consists of the electric dredge ADST based on a submersible dredge pump and a pumping station with a cantilever dredge.



The complex, controlled by one workplace, fully automatically operates with the ability to pumping sand-gravel slurry up to one kilometer without breaking a jet. The hydraulic and mechanical complex includes booster pumps for hydraulic ripping in the soil intake area for dredge operation.

The dredge is equipped with a frequency control, which enables control of the pumping parameters depending on the slurry control range and other parameters of the hydraulic system.

The hydraulic and mechanical complex can be operated either with a pumping station or with direct supply up to 500 m of range directly by the dredger. We also tested and put into operation a system of floating plastic pressure slurry discharge pipeline and power cable on steel floats of our own design and manufacture.



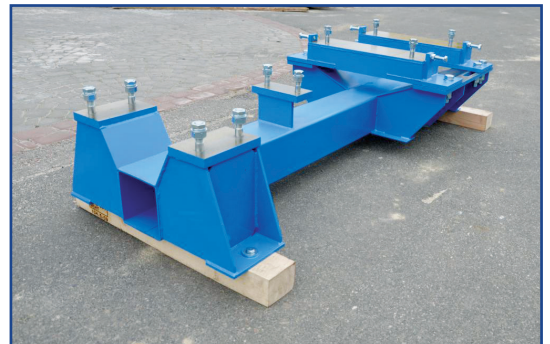


MANUFACTURE OF NON-STANDARD PRODUCTS

We are providing this service in the scope starting from scratch. This process includes multiple stages starting from the drawings' elaboration, other technical documentation, certification of the product up to packing and shipment.

Extensive production area (more than 2600 m²) and specialized equipment allow EPOS PJSC to produce non-standard equipment according to customer's drawings.

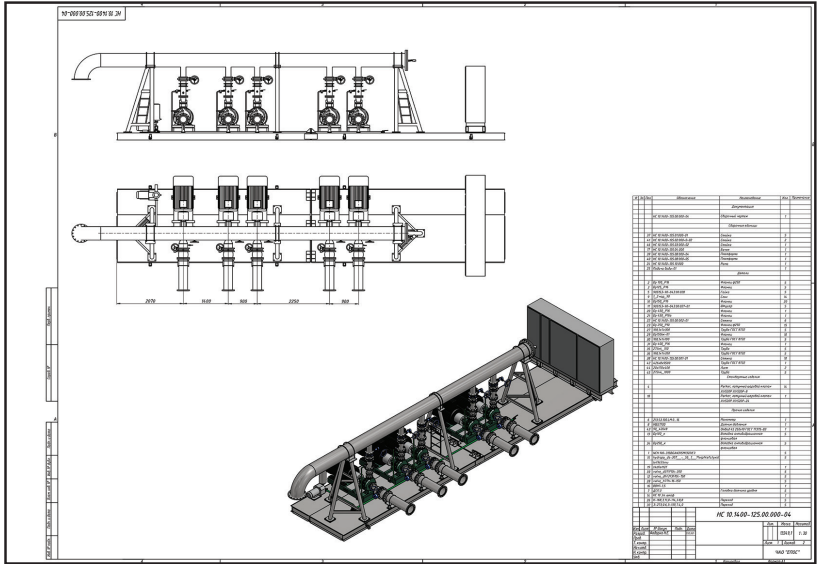
There is a park of industrial equipment: turn-mill group, an automatic plasma cutting machine, a sheet bender, a drilling machine, a rounding machine, shears for metal cutting, a sandblasting unit, a set of modern welding equipment, lifting equipment, and our own truck park.

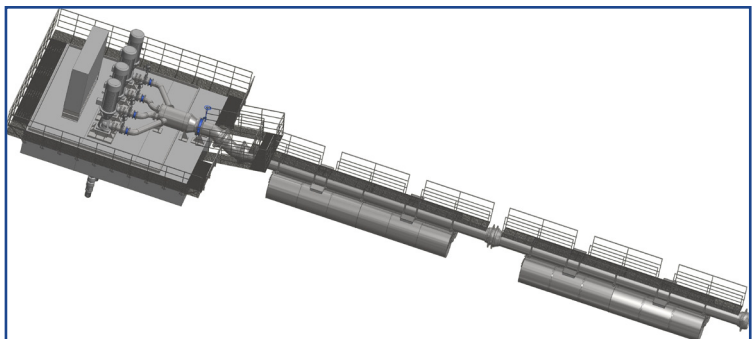
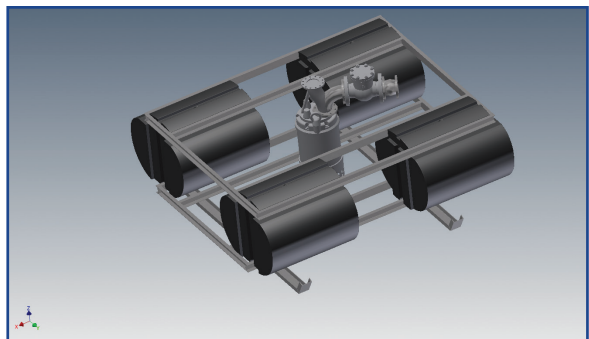
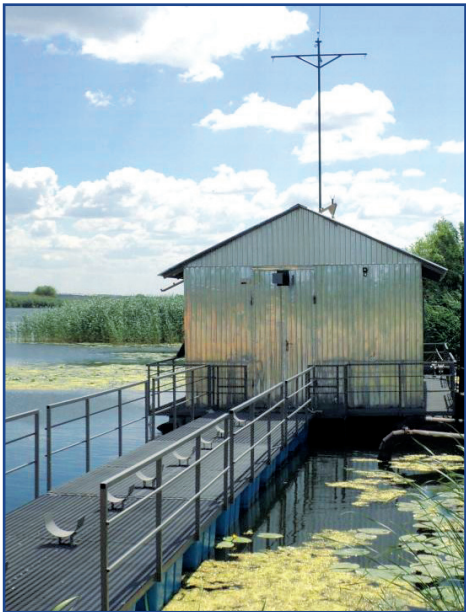
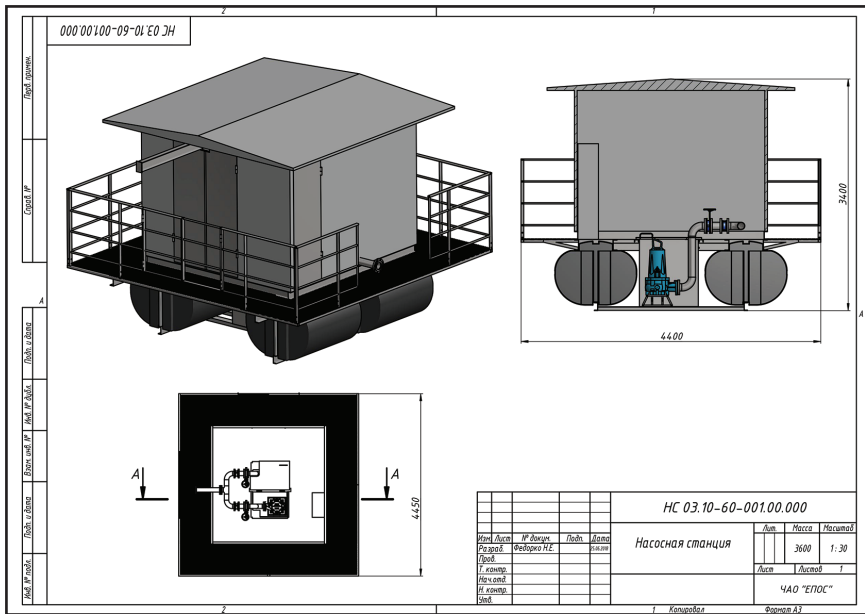




We have an experience in manufacturing of the following non-standard equipment: floating pipelines, platforms, pumping stations, pontoons; plates and frames, shelters and blocks for pump units, various metal constructions made according to customers' requirements.

Our qualified personnel can perform the development of technical documentation, as well as realize the project.





CERTIFICATES

3.5.3

РЕГІСТР СУДНОПЛАВСТВА УКРАЇНИ
SHIPPING REGISTER OF UKRAINE

СВІДОЦТВО
ПРО ВІДПОВІДНІСТЬ ПІДПРИЄМСТВА
CERTIFICATE
OF ENTERPRISE CONFORMITY

Цим повідомляється, що **Приватне акціонерне товариство «ЕПОС»**
This is to certify that **Україна, 09109, м. Біла Церква, вул. Толстого, 44**

відповідає вимогам Регістра судноплавства України як підприємство, яке виконує:
has been found to conform to requirements of Shipping Register of Ukraine as an enterprise performing:

22014000 Будівництво земснарядів за узгодженими з Регістром судноплавства України проєктами.
22014000 Ремонт і технічне обслуговування земснарядів.
22014000 Виготовлення суднового електротехнічного обладнання: електророзподільних пристроїв; щитів керування; сигналізації і автоматики.
22014001 Електромонтажні та пусконаладжувальні роботи суднового електрообладнання та систем автоматизації. Заміри опору ізоляції та заземлення.
22018000 Розробка проєктно-конструкторської документації на побудову, модернізацію, переобладнання земснарядів.

При виконанні робіт, зазначених у цьому переліку, використовувати тільки сертифіковані Регістром матеріали та вироби.

Акт огляду № 18-3-210-21 від 26.08.2021
Survey Report № 18-3-210-21 of 26.08.2021

Свідоцтво дійсне до 25.08.2026
This Certificate is valid until 25.08.2026 (дата / date)

при умові щорічного / один раз за 2,5 роки* підтвердження.
subject to annual / once in 2,5 years confirmation*

Це Свідоцтво втрачає дію у випадках, встановлених у Керівництві з технічного нагляду за побудовою суден та виготовленням матеріалів і виробів.
This Certificate becomes invalid in cases stipulated in Rules for technical supervision during construction of ships and manufacture of materials and production.

Дата видачі: 26.08.2021 № СВП-18-3-74-21
Date of issue: 26.08.2021 № СВП-18-3-74-21

РЕГІСТР УКРАЇНИ
REGISTER OF UKRAINE

О.В. Карпенко

П.І.Б., підпис уповноваженої особи, яка видає Свідоцтво
Name and signature of authorized official issued the Certificate

Печатка або штамп уповноваженої установи
Seal or stamp of the authorized organization

*Непотрібне закреслити
Delete unnecessary

ВІДМІТКИ ПРО ПІДТВЕРДЖЕННЯ СВІДОЦТВА
NOTES ON CONFIRMATION OF CERTIFICATE

На підставі результатів випробувань і огляду термін дії цього Свідоцтва підтверджується до
On the basis of the test results and survey the validity of this Certificate is confirmed until

Дата огляду № від
Date of Survey Survey Report № of

РЕГІСТР УКРАЇНИ
REGISTER OF UKRAINE

Печатка або штамп уповноваженої установи П.І.Б., підпис уповноваженої особи
Seal or stamp of the authorized organization Name and signature of authorized official

На підставі результатів випробувань і огляду термін дії цього Свідоцтва підтверджується до
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Seal or stamp of the authorized organization Name and signature of authorized official

3.5.3
07.15

CERTIFICATES

**DECLARATION
of conformity**

"EPOS" Private Joint Stock Company.
(full name of the manufacture)

44, Tolstogo str., Bila Tserkva, Kyiv region, 09109, Ukraine, EDRPOU code 24221705
address, code according to EDRPOU

authorized representative director of "EPOS" PJSC OKSANA PETRIVNA LOZENKO
(position, the surname, first name and patronymic of the manufacture and/or authorized representative, supplier)


confirms that the equipment for mining of minerals in the non-metallic industry, the dredger of the ADST type, models 200E, 200M, 300E, 300M, 400E, 400M, 600E, brand EPOS, year of introduction 2010, country of origin Ukraine
(full name of the machine, type, brand, model)

designed for: it is applied for excavation of soils of the 1-3 category, sand and other non-metallic materials; dikes, roads, building sites aggradation, pumps cleaning, and bottom dredging operations in small channels and rivers. Ground ripping is hydraulic using the pump and technical water. Pulp intake is carried out by submersible dredging pump.

complies with:
 Technical regulation for low voltage electrical equipment (resolution of CMU of October 29, 2009 № 1149 as amended and supplemented by CMU resolution of December 16, 2015 № 1067, The Low Voltage Directive 2014/35/EU);
 Technical Regulation of machinery safety (resolution of CMU of 30.01.13 № 62 as amended and supplemented by CMU resolution of 28.08.2013 № 632, as amended and supplemented by CMU resolution of 04.07.2018 № 533, Directive 2006/42/EC of the European Parliament and of the Council of 17 May 2006 on machinery, and amending Directive 95/16/EC);
 Technical regulation on electromagnetic compatibility of equipment (resolution of CMU of December 16, 2015 № 1077).

Information:
 - Permit for use No. 385.19.32 of February 19, 2019, issued by the MAIN DEPARTMENT OF KYIV REGIONAL STATE ADMINISTRATION.
 - The patent for the utility model №42326 dredge "EPOS" is registered in the State register of patents of Ukraine for useful models on 25.06.2009.
 - Declaration of conformity of electric winches model LFP 5-60, manufactured by "Epos" PJSC, included in the register of the "industrial safety" of 23.04.2018 under the number IJA PROMBEZOPASNOST.5.157.2018
To (name and address of the testing laboratory)

The declaration is made under the full responsibility of the supplier.

Director of "EPOS" PJSC  O.P. Lozenko
(position of the person who made the declaration) (signature) (initials and surname)

January «10» 2022
(date)




CERTIFICATE

This is to certify that



PJSC Company "EPOS"
 44, Tolstogo str.,
 Bila Tserkva, Kyiv region,
 09109, Ukraine

has implemented and maintains a **Quality Management System**.

Scope:
 Design, production, supply, service, distribution and sales of industrial equipment

Through an audit, documented in a report, it was verified that the management system fulfills the requirements of the following standard:

ISO 9001 : 2015

Certificate registration no. 31400244 QM15
 Valid from 2021-01-31
 Valid until 2024-01-30
 Date of certification 2021-01-19




DQS GmbH

 Markus Bleher
 Managing Director

Accredited Body: DQS GmbH, August-Schanz-Straße 21, 60433 Frankfurt am Main, Germany
 Administrative Office: LLC "DQS CERTIFIC UKRAINE", Mykitsko-Slobidska Str., 6-D, Kyiv, 02002, Ukraine






THE INTERNATIONAL CERTIFICATION NETWORK

CERTIFICATE

DQS has issued an IQNet recognized certificate that the organization

PJSC Company "EPOS"
 44, Tolstogo str.,
 Bila Tserkva, Kyiv region,
 09109, Ukraine

has implemented and maintains a **Quality Management System**,

for the following scope:
 Design, production, supply, service, distribution and sales of industrial equipment

which fulfills the requirements of the following standard:

ISO 9001 : 2015

Issued on: 2021-01-31
 Expires on: 2024-01-30

This attestation is directly linked to the IQNet Partner's original certificate and shall not be used as a stand-alone document.

Registration number: DE-31400244 QM15




 Alex Stoichitau
 President of IQNet



IQNet Partners:
 AENOR Spain AFNOR Certification France APCER Portugal CCC Cyprus CISO Italy
 CQC China CQM China CQS Czech Republic Cro Cert Croatia DQS Holding GmbH Germany EAGLE Certification Group USA
 FCAV Brazil FONDONORMA Venezuela ICONTEC Colombia Inspectia Certificarii Oy Finland INTECO Costa Rica
 IRAM Argentina IQA Japan KPC Korea MRTTEC Greece MST Hungary Nemko AS Norway NSAI Ireland
 NYCE-SIGE Mexico PCBC Poland Quality Austria Austria RR Ruzsala SII Israel SIQ Slovenia
 SIRIM QAS International Malaysia SQS Switzerland SRAC Romania TEST St Petersburg Russia TSE Turkey YUQS Serbia

* The list of IQNet partners is valid at the time of issue of this certificate. Updated information is available under www.iqnet-certification.com

DATA SHEET FOR SELECTION OF THE DREDGER

Customer:			
Place of installation:			
Contact person:			
Address, customer's telephone:			
Capacity by soil:	[t/h]		[m ³ /h]
Capacity by pulp:	[m ³ /h]		
Head (if indicated by the Customer)	(mwc)		
Available pipeline:	[if yes - material/diameter]		
Pipeline length - L (in water, on shore)	[m]		
Solids size:			
0 - 2mm	[%]		
2 - 10mm	[%]		
10 - 100mm	[%]		
more than 100mm	[%]		
Dredging depth - P:	max. (m)		min. (m)
Lifting height of liquid column/dead lift (H):	[m]		
Pipeline characteristics, if available (amount of elbows, valves):			
Pumped medium content:	sand	yes/no	size / %
	silt	yes/no	size / %
	clay	yes/no	size / %
	gravel	yes/no	size / %
	pebble, stone	yes/no	size / %
Pumping target point:	Depositing site	yes/no	
	sump	yes/no	
	process.factory	yes/no	
Dredger pump motor type:	electric	yes/no	
	diesel generator	yes/no	
Ground ripping:	hydraulic ripper (water jet)	yes/no	
	without ripping	yes/no	
Dredger equipment:	swingwinches	yes/no	
	automation	yes/no	
	pontoons	yes/no	
	electric cable	yes/no	
	discharge pulpline	yes/no	



44, Tolstogo str., Bila Tserkva, Kyiv region, 09109, Ukraine

+38 (067) 537-85-52; +38 (04563) 6-14-16

+38 (044) 331-92-40; +38 (044) 331-92-41

e-mail: info@zaoepos.com.ua

www.pratepos.com.ua