



**KARMEL**  
[www.karmel.com.ua](http://www.karmel.com.ua)

**TECHNICAL - COMMERCIAL OFFER**

**CONCRETE BATCHING PLANT KARMEL- 70K**  
**70 m<sup>3</sup>/h**



The private enterprise KARMEL was founded in 1997 in Khmelnytsky city on a general area of manufacturing about 1000 m<sup>2</sup>.

In a short time, our company has made great strides in its development and reached a high level in its sector. Today the company operates at total covered area of over 7,000 m<sup>2</sup>. The company has about 60 employees under the management of 5 engineers.

From the day of its foundation until today, the company manufactures concrete mixing units for the production of concrete, mortars, concrete mixers, mortar mixers, complete lines for the production of paving slabs and dry construction mixtures.

The company has been awarded the ISO 9001-CE certificate and other certificates. We have thousands of implemented projects of various complexity in the CIS and Europe.

We are able to offer the appropriate equipment layout options for private entrepreneurs and factories of any size and request, including the ability to supply turnkey equipment for business.

A wide range of equipment and the possibility of individual design allows to satisfy any requirements of our clients.

Our company has proven its leadership in the sector by providing continuous service 7 days a week 24 hours a day and responding to all customer inquiries. From the moment of the decision to purchase the equipment, we fully provide customers with all the necessary technical support for long-term and efficient operation.



The automated concrete mixing plant is designed for the preparation of high-quality concrete mixtures, both plastic and hard and non-rigid, on heavy and medium aggregates (maximum fraction up to 150 mm), as well as mortars and other mixtures on construction sites.




### Specifications KARMEL-70K

<b>Ready-mixed concrete productivity:</b>	<b>up to 70 m<sup>3</sup>/h*</b>
<b>Mixer characteristics:</b> <ul style="list-style-type: none"> <li>• type</li> <li>• model</li> <li>• dry concrete capacity</li> <li>• capacity of compacted concrete</li> </ul>	rotary type BRZ-2250 2250 l 1500 l
<b>Number and capacity of aggregate bunkers:</b>	3x20 m <sup>3</sup>
<b>Cement storage:</b> <ul style="list-style-type: none"> <li>• number of silo</li> <li>• silo capacity</li> </ul>	1 55 m <sup>3</sup> (~75t)
<b>Climate performance:</b>	summer type
<b>Total power:</b>	up to 120 kW
<b>Operating pressure:</b>	0,6 MPA
<b>Overall dimensions:</b> <ul style="list-style-type: none"> <li>• lenght</li> <li>• width</li> <li>• height</li> </ul>	45 000 19 000 17 000

\* – the value of theoretical productivity is calculated for continuous operation of the plant in automatic mode, with a standard cycle duration

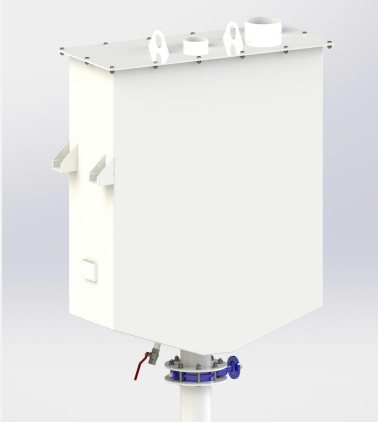
**Brief description of plant's nodes. Statement of coordination of a complete set and additional options**

№	Name	Manufacturer	Q-ty	Choice of options by the Customer	Base / Option	Price without VAT
1.	<b>Mixing unit KARMEL-70K</b>					
	<p style="text-align: center;"><b>BRZ-2250 2250 /1500 l</b></p> 	<b>Ukraine</b>	<b>1</b>	<b>X (basic equipment)</b>	<b>X</b>	<b>X</b>
1.1	<p>The new design of the cover and bushings minimizes dusting during operation and improves the maintenance conditions of the concrete mixer. The increased hardness of the bowl guarantees more reliable operation of the concrete mixer. The use of a new design of the bowl improved the centering of the rotor of the concrete mixer body, which resulted in a significant reduction of the side clearances between the blades, scrapers and armor of the concrete mixer bowl and the corresponding improving the quality of mixing concrete mixtures. The use of non-contact sensors on the bushings of the cover guarantees the safe work of service personnel.</p> <p>The concrete mixer is intended for the preparation of concrete mixtures and construction mortars, as well as other mixtures in the construction industry, glass, foundry and chemical industries.</p>					
<b>Description and technical characteristics:</b>						
Dry concrete charging capacity		2250 l		<b>Standard equipment</b>		
Concrete output per cycle (compacted)		1500 l				
Cycle time		up to 60 sec				
Capacity per hour		70 m <sup>3</sup>				
Mixing motor power		45 kW				
Hydraulic power pack motor		-				
Max aggregate size		up to 70 mm				
Mixing shafts speed		22,7 rpm				
Mixing blades Ni-Hard-15		6 + 2				

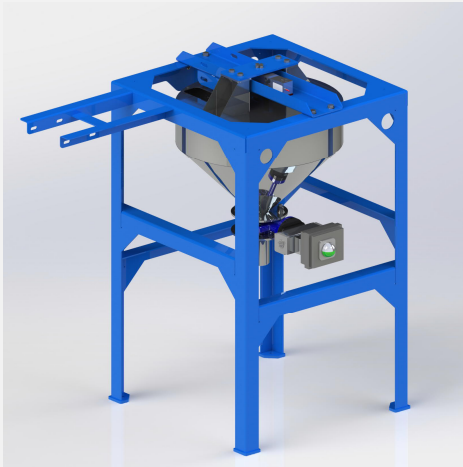
Weight of empty mixer	4500 kg	<b>Additional options</b>
Top cover inspection hatches	+	
Hidraulic drive discharge door	+	
Mixer tank lined with ST 65G Cast Iron	+	
Mixer aspiration system	-	
Concrete temperature sensor	-	
Sampler	-	
Humidity sensor	-	
<b>High pressure mixer washing system</b>	-	

<b>1.2</b>	<b>Cement bunker CB-800</b> 	<b>Ukraine (KARMEL)</b>	<b>1</b>	<b>x (basic equipment)</b>	<b>x</b>	<b>x</b>
	<p>The cement bunker CB-800 corresponds to the State registers of measuring equipment of Ukraine. This is a high-precision device with a weighing range of up to 800 kg, with a dosing accuracy of <math>\pm 1\%</math>. The bunker is installed above the mixer on 3 special load cells, reliable and faultless in work. Unloading of the bunker is carried out through the rotary valve "butterfly" type. A vibrator is installed on the bunker to accelerate the release of material. A special aspiration compensating system is installed as well. The bunker is integrated into the Automatic Control System (ACS) with visualization of readings of the current state.</p>					

Pneumatic actuator CAMOZZI	Italy	1	x	x	<b>x</b>
Butterfly valve D.300 mm CAMOZZI	Italy	1	x	x	<b>x</b>
Pneumatic vibrator CAMOZZI	Italy	1	x	x	<b>x</b>
Aspiration sleeve d.50 mm	Italy	1	x	x	<b>x</b>
End position sensor CAMOZZI	Italy	1 set	x	x	<b>x</b>

	Load cells CAS (500 kg)	Korea	3	x	x	<b>x</b>
	Flexible connections	Italy	3 sets	x	x	<b>x</b>
	Bunker housing, accessory	KARMEL	1 set	x	x	<b>x</b>
	<p style="text-align: center;"><b>Water bunker WB-500</b></p> 	<b>Ukraine (KARMEL)</b>	<b>1</b>	<b>X (basic equipment)</b>	<b>x</b>	<b>x</b>
<b>1.3</b>	<p>Water bunker WB-500, certified, included in the State registers of measuring equipment of Ukraine. High-precision device with a weighing range of up to 495 liters, with a dosing accuracy of <math>\pm 1\%</math>. The bunker is mounted over the mixer on 3 special load cells, reliable and trouble-free, with electro-pneumatic inlet and pneumatic outlet valves, with integration in ACS and visualization of indications of a current condition.</p>					
	Load cells CAS (250 kg)	Korea	3	x	x	<b>x</b>
	Butterfly valve D.125 mm CAMOZZI	Italy	1	x	x	<b>x</b>
	Pneumatic actuator CAMOZZI	Italy	1	x	x	<b>x</b>
	End position sensor CAMOZZI	Italy	1	x	x	<b>x</b>
	Flexible charging insert D.273 mm BASE	Italy	2	x	x	<b>x</b>
	Flexible discharging insert D.325 mm BASE	Italy	1	x	x	<b>x</b>
	Emergency discharge valve (manual) 3/4"	Italy	1	x	x	<b>x</b>
	Flexible connections	Italy	3	x	x	<b>x</b>
	<b>Bunker housing, accessory</b>	<b>KARMEL</b>	<b>1</b>	<b>x</b>	<b>x</b>	<b>x</b>

1.4

**Additive bunker AB-40**Ukraine  
(KARMEL)

1 set

x  
(basic  
equipment)

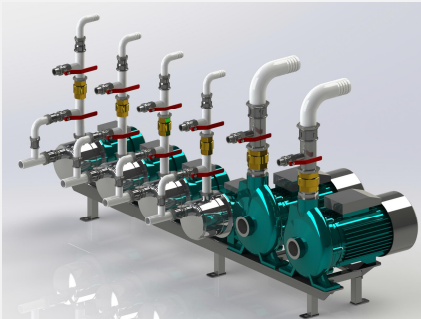
x

x

The additives bunker AB-40, certified, is included in the State registers of means of measuring equipment of Ukraine. High-precision device with a weighing range of up to 40 liters. Dosing accuracy  $\pm 1\%$ . The bunker is installed on 1 load cell, reliable and faultless in work, with electropneumatic inlet and pneumatic outlet valves, with integration in ACS and visualization of indications of a current condition.

>aSV UWeCAS (50 ] Y)	Korea	1	x	x	<b>x</b>
I` W h S h W [ f Z f Z W b ` V g _ S f [ U S U f g S f a d d . 3 0 C A M O Z Z I	Italy	5	x	x	<b>x</b>
Butterfly valve with pneum. actuator d.50 CAMOZZI	Italy	1	x	x	<b>x</b>
Bunker housing (Stainless Steel), accessory	KARMEL	1	x	x	<b>x</b>

1.5

**Water and Additives supply system**Ukraine  
(KARMEL)

1

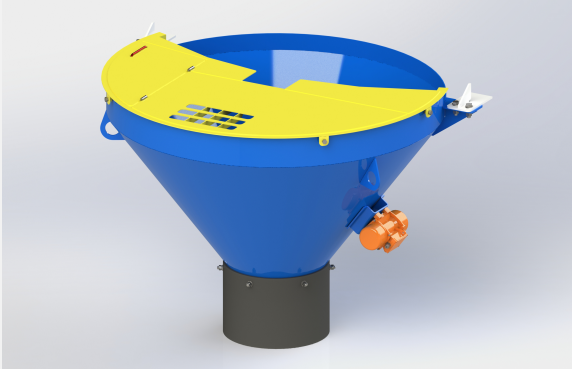
X  
(basic  
equipment)

x

x

Water pump 4 kW 380 V PEDROLO	Italy	1	x	x	<b>x</b>
Additives pumps 0,3 kW 220 V PEDROLO	Italy	2	x	x	<b>x</b>

Mixer truck concrete feeding pump 1,1 kW 220 V PEDROLO	Italy	1	x	x	<b>x</b>
Pump unit frame	KARMEL	1	x	x	<b>x</b>
Intermediate water tank 15 m <sup>3</sup>	KARMEL	1	-	option	-
Automatic topping-up water system	KARMEL	1	-	option	-
Electric water heating system	KARMEL	1 set	-	option	-
Water temperature sensor	GERMANY	1	-	option	-
Galvanized metal pipeline (water) Dy.50	KARMEL	1	x	x	<b>x</b>
Galvanized metal pipeline (additives) Dy.30	KARMEL	2	x	x	<b>x</b>
<b>Flexible connections</b>	<b>Italy</b>	<b>3 sets</b>	<b>x</b>	<b>x</b>	<b>x</b>

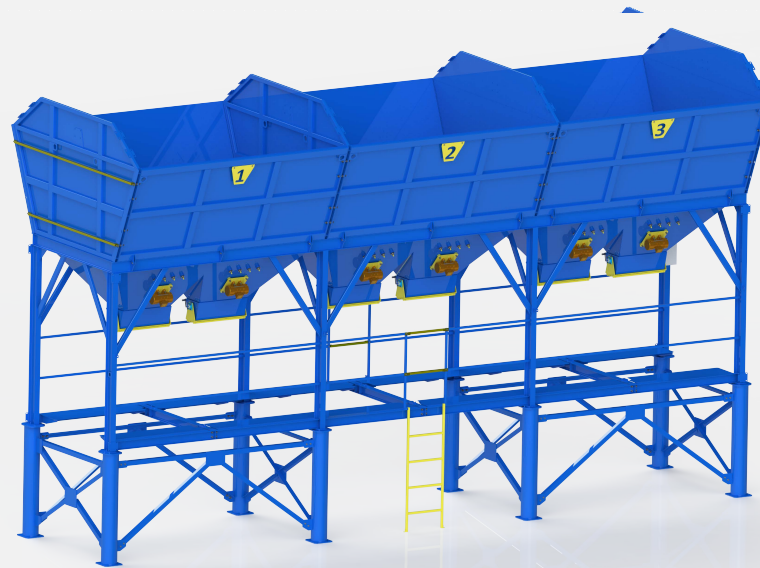
<b>1.6</b>	<b>Discharge hopper</b>				
		<b>Ukraine (KARMEL)</b>	<b>1</b>	<b>X (basic equipment)</b>	<b>x</b>
<p>The discharge hopper serves for reception of ready concrete from the concrete mixer and giving it in a receiving mixer truck hopper. Unloading height in the basic variant - 3800 mm to a rubber sleeve, 4150 mm to funnel metal.</p>					
	Metal housing, connecting and fastening accessory	KARMEL	1	x	<b>x</b>
	Discharging sleeve BASE	Italy	1	x	<b>x</b>
	Electric vibrator 500/3	Turkey	1	x	<b>x</b>



## 2. Aggregate Batching Unit

2.1	<b>Aggregate bunkers 3 x 20 m<sup>3</sup></b>	<b>Ukraine (KARMEL)</b>	<b>1</b>	<b>x (basic equipment)</b>	<b>x</b>	<b>x</b>
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Bunkers are located on the axis of the inclined conveyor. Each compartment is equipped with two elongated casting valves with a pneumatic drive, which provides rapid dosing on a "rough-accurate" system. To speed up the unloading of aggregates over each shutter with an electric vibrator installed. Loading width of each section - 3200 mm, length of the block of bunkers - 10000 mm, width of the block during transportation - 2350mm. Height to the loading cut - 5500 mm, recommended height of the ramp - 2500 mm. Additionally, bunkers are equipped with a set of sieves. Each compartment is equipped with a cover with an electric hoist. For maintenance of electric hoists and the mechanism of lifting of covers the bunker is equipped with maintenance platform with a ladder. For convenient access to the weighing conveyor of aggregate in a design of the bunker sides maintenance platforms are provided.



Electric vibrator	Turkey	6	x	x	x
Casting valves	KARMEL	6	x	x	x
Pneumatic cylinder CAMOZZI 100*250	Italy	6	x	x	x
Seives (130x200 mm)	KARMEL	3 sets	-	option	-
Electric vibrator (seive)	Turkey	3	-	option	-
Material level sensors	Italy	3	-	option	-
Aggregate weighing conveyor maintenance platform	KARMEL	1 sets	-	option	-

Ladder (maintenance platform)	KARMEL	1	-	option	-
Bunker cover with lifting mechanism	KARMEL	4	-	option	-
Electric hoist		4	-	option	-
Electric hoist maintenance platform	KARMEL	1	-	option	-
Ladder (el. hoist maintenance platform)	KARMEL	1 set	-	option	-
Tension station maintenance platform	KARMEL	1 set	-	option	-

## 2.2

### Aggregates weighin unit

Structurally, the weighing bunker is a belt conveyor with a belt width of 800 mm mounted on 4 load cells. Weighing of aggregate - consistent. Dosing accuracy of aggregate  $\pm 2\%$ , upper dosing limit - 3500 kg max.

The weighing conveyor is equipped with side rollers which prevent shift of a belt. The tape is connected by vulcanization.

The conveyor is equipped with emergency stop systems and protective covers, which reduces the likelihood of accidental injury to staff. The protective cover of a take-up pulley is equipped with the limit switch which excludes work of the conveyor with the removed cover.



Motor-reducer STROINA 15 kW	Slovenia	1	x	x	x
Load cell CAS (2000 kg)	Korea	4	x	x	x
Protective fences	KARMEL	1 set	x	x	x
Cable emergency stop system	KARMEL	2 sets	x	x	x
Conveyor belt cleaning system	KARMEL	1 set	x	x	x
Sand humidity sensor ARCOMED	Spain	1-2	-	option	-
Belt 800 TK-200	Italy	1 set	x	x	x
Protective pulley covers (locked)	KARMEL	1 set	x	x	x

3.

**Belt conveyor**

**Ukraine  
(KARMEL)**

**x  
(basic  
equipment)**

**x**

**x**

The conveyor receives a portion of materials from the weighing conveyor of aggregate and feeds it to the mixing unit. Conveyor length - from 14 - 17 m, drive power - 15 kW, feed speed - 1.6 m / s, the angle of the conveyor is 22 degrees.

Conveyor belt type - ribbed (chevron), 800 mm wide. The tape is connected by vulcanization. The drive pulley is rubbered, which provides a secure grip on the surface of the belt and the pulley. Grooved roller bearings increase the throughput of the conveyor. The conveyor is equipped with side rollers to prevent lateral movements of the belt. Conveyor rollers have a reliable bearing assembly of the closed type which does not demand constant service.

The cleaning of the tape is performed by a rotating cleaning brush device.

The conveyor is equipped with emergency stop systems and protective covers, which reduces the likelihood of accidental injury to staff. The protective cover of the take-up pulley is equipped with a limit switch, which excludes the operation of the conveyor with the cover removed.



Belt 800 TK-200	Italy	~44 m.	x	x	<b>x</b>
Protective fences	KARMEL	1 set	x	x	<b>x</b>
Moror-reducer Stroina 15 kW with el. brake	Slovenia	1	x	x	<b>x</b>
Receiving tray with seive and ladder	KARMEL	1	x	x	<b>x</b>
Cable emergency stop system	KARMEL	2 sets	x	x	<b>x</b>
Conveyor supports	KARMEL	1 set	x	x	<b>x</b>
Conveyor belt cleaning system	KARMEL	1 set	x	x	<b>x</b>
Maintenance platform from both sides	KARMEL	1 set	-	option	-

4.

**Main Body Frame**

**Ukraine  
(KARMEL)**

**1 set**

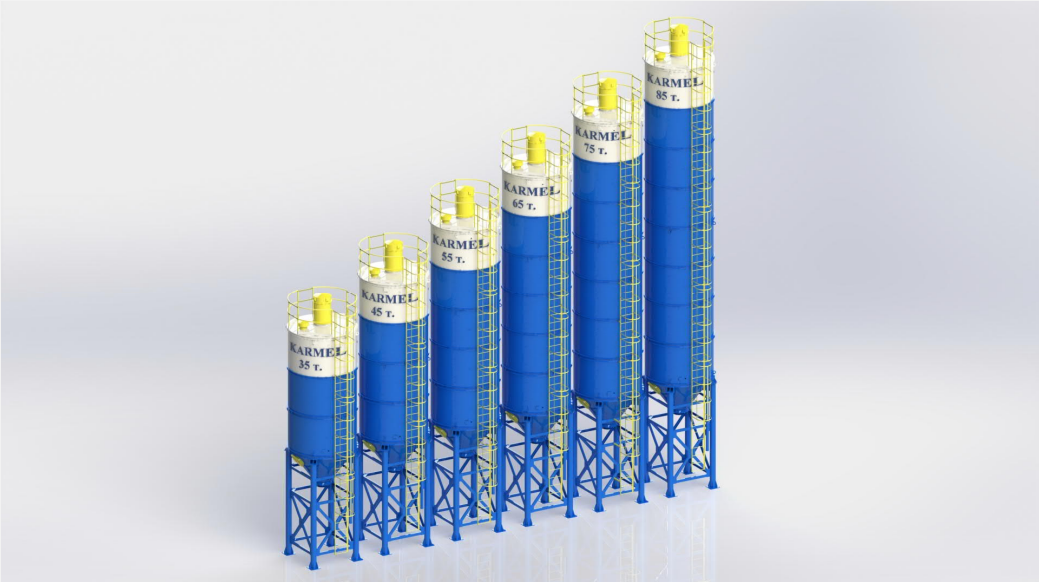
**x**  
(basic  
equipment)

**x**

**x**

Support frames, platforms, frames, stairs, connecting elements that protect structures made of certified metal. Made taking into account the design requirements for the impact of external and internal loads with a resource period of at least 10 years. Material cutting is carried out on computerized plasma cutting lines, with the use of stamping, pressing operations and bench assembly using high-quality modern welding equipment. All metal structures pass a stage of preparation of a surface for painting covering.



	Main mixer frame	KARMEL	1	x	x	<b>x</b>
	Fence (mixer platform)	KARMEL	1 set	x	x	<b>x</b>
	Supports (mixer platform)	KARMEL	1 set	x	x	<b>x</b>
	Ladder (mixer platform)	KARMEL	1	x	x	<b>x</b>
	Weighing bunkers unit frame and fence	KARMEL	1 set	x	x	<b>x</b>
	Maintenance mixer platform	KARMEL	2	x	x	<b>x</b>
	Weighing unit platrom	KARMEL	1	x	x	<b>x</b>
	Weighing unit ladder	KARMEL	1	x	x	<b>x</b>
	<b>Intermediate transfer hopper 2,5 m<sup>3</sup></b>	KARMEL	1	x	x	<b>x</b>
<b>5.</b>	<b>Cement storage:</b>					
	<b>The cement storage of the plant KARMEL-100K consists of silo and screw conveyor feeders with a set of fasteners for them.</b>					
<b>5.1</b>	<b>Cement silo 55m<sup>3</sup> (~75t)</b>	<b>Ukraine (KARMEL)</b>	1	x	x	<b>x</b>
	Welded cement silo with a diameter of 2500 mm is made of sheet steel 4-5 mm thick, sealed, with a conical outlet. Equipped with a full set of equipment to ensure their normal operation as part of the plant. The silo is equipped to service attachments with maintenance ladder and fences on the upper platforms. Requires foundations for installation.					
						
	Silo top fence	KARMEL	1 set	x	x	<b>x</b>

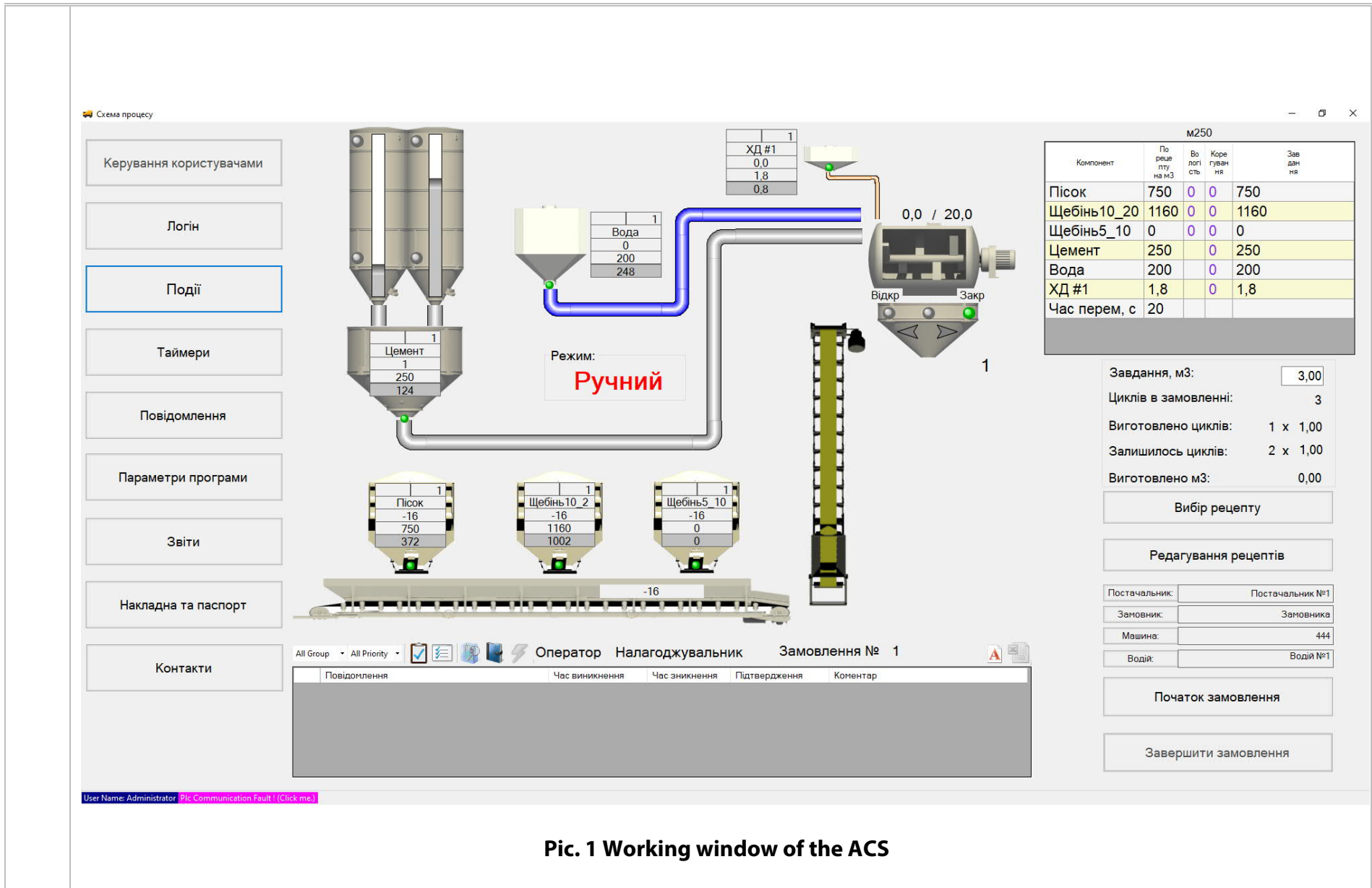
Top silo filter SCUTTY	Italy	1	x	x	x
Ladder	KARMEL	1	x	x	x
Excessive pressure valve	KARMEL	1	x	x	x
Aeration BASE	Italy	1 set	x	x	x
Inspection hatch	KARMEL	1	x	x	x
Electric vibrator	Turkey	1	x	x	x
Silo supports	KARMEL	1 set	x	x	x
Level indicator	Italy	2	x	x	x
Screw conveyor maintenance platform with ladder	KARMEL	1 set	x	x	x
Feeding pipe with eurolock	KARMEL	1	x	x	x
Manual emergency valve d.300 BASE	Italy	1	x	x	x
Connecting bridge	KARMEL	-	-	-	-
<b>5.2 Screw conveyor d.273, SCUTTY</b>	<b>Italy</b>	<b>1</b>	<b>x</b>	<b>x</b>	<b>x</b>

The screw conveyor provides high-performance transportation of cement from a silo storage to the weighing bunker in the mixing block.

- productivity up to 40 t / h.
- feed length up to 12 m, angle of inclination up to 40 degrees, nominal diameter of the conveyor 273 mm.
- reliable motor-reducer of European quality.
- end and intermediate supports provide reliability of fixing of shafts in the case that prevents deflection of a shaft and mashing of turns on the case.
- convenient maintenance of the motor-reducers located in the lower part of feeders.
- conveyor is equipped with convenient inspection hatches that allow you to inspect and clean the conveyor in case of foreign objects.



	Motor-reducer SCUTTY	Italy	1	x	x	x
	End bearing SCUTTY	Italy	2	x	x	x
	Intermediate bearing SCUTTY	Italy	1	x	x	x
	Screw conveyor fixing system	Ukraine	1	x	x	x
<b>6</b>	<b>Automatic control system.</b>					
<b>6.1</b>	<b>ACS KARMEL.</b>	<b>Ukraine (KARMEL)</b>	<b>1 set</b>	<b>X (basic equipment)</b>	<b>X</b>	<b>X</b>
<p>+ Modern management program that includes all the latest developments in IT technology and modern hardware.</p> <p>+ All control of the power part of the plant is carried out from an industrial computer through discrete I / O modules. This allows you to fully realize the potential of modular installation. Adding new devices to the system (bunker, screw conveyor, weighing bunker, etc.) takes several hours without specialists leaving the office.</p> <p>+ The plant can be controlled from the tablet using remote access.</p> <p>+ User-friendly interface. Flexible and multifunctional graphic tools allow you to continuously display information about the current state of the plant and the progress of the order. The friendly interface provides simplicity and ease input of the necessary information.</p> <p>+ Easy order queue management. The user is given the opportunity to enter orders indicating the customer, recipe, volume, machine number, destination. In addition, the user can change the order of orders. To start making the mixture, the operator only needs to select the appropriate order and press the start button - everything else will be done automatically.</p> <p>+ Intelligent dosing algorithms for materials developed special algorithms that increase dosing accuracy and save materials for concrete production. Two-stage mode of loading of batchers (rough dosing at the beginning and exact at the end of loading). Automatic adaptation of inlet shut-off delays for material completion and dose change from previous dosing. Algorithm compensation of errors in dosing phases (the system minimizes errors in dosing of previous batches by reducing or increasing the dose of material subsequent batches). These algorithms significantly increase product quality and cost savings.</p> <p>+ Control of the order fulfillment process. The operator screen displays the status of the order, the amount of concrete produced, measurement error. In addition, the operator has access to information about the current state of the plant's mechanisms.</p> <p>+ Preparation of reporting documents. The system automatically keeps track of material costs, which allows you to view and / or print information about the completed order or order for the selected period at any time. Data in the system is stored throughout the year.</p> <p>+ Alarm about emergency situations. Displaying fault information allows you to react in a timely manner to a breakdown or malfunction, which will avoid serious costs and damage to the equipment. The system includes checks of certain conditions under which the plant is impossible, namely: no rope tension, open inspection hatches of the mixer and others. In this case, the control system issues a message about a possible fault. After eliminating the cause of the fault, the alarms are automatically removed.</p> <p>+ Monitor the condition of fast-wearing parts. The system keeps track of the development of the resource of certain parts as orders are fulfilled. When the wear of a part during the time of its operation approaches the critical one, the user receives a notification about the need to take measures (perform replacement or repair). If the replacement and repair work is done, the user can remove the warning, confirming the fact of work.</p> <p>+ Planning to replace parts. Based on the entered parameters of the plant (average number of cubic meters of concrete released per day, the average mixing speed of one cubic meter) the user is provided with information about the timing of replacement of a part during the specified period (in months). This information is useful for a detailed economic calculation of profits and expenses.</p> <p>+ Accounting for scheduled work. To ensure the timeliness of maintenance, the program has a function of notifying the user about the need for routine work (such as monthly maintenance). After the work is performed, the user confirms the fact of holding, and information about the date and time of entering information and information about the user is automatically entered into the database.</p> <p><b>Additional options: warehouse accounting of materials, calculation of the prime cost, the counter of the electric power consumed by plant, system of measurement of humidity, installation of frequency converters, installation of counters of a channel for chemical impurity.</b></p>						



**Fig. 1 Working window of the ACS**



Звіти

0:00:00 Звіт з сумою Звіт за марками

по: 23:59:24 Звіт по замовленням

Замовлення: Експорт в Excel Скопіювати до буферу обміну Фільтр відсотків 0

Дата	Марка бетону	Постачальник	Замовник	Автомобіль	Водій	Клас міцності	Рухомість	Морозостійкість	іодонепроникність	Розчин/бетон	Змішувач	Об'єм	Оператор	№ замовлення	Етап
02.12.2021 16:2...	m350	222111	Замовника	444	Водій №1						Змішувач №1	1,50	Налагоджував...	316	Початок
02.12.2021 16:2...	m350	222111	Замовника	444	Водій №1						Змішувач №1	1,50	Налагоджував...	316	Кінець
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03.12.2021 9:52...	m150	222111	Замовника	444	Водій №1						Змішувач №1	0,00	-	320	Кінець

Дані дозаторів Експорт в Excel Скопіювати до буферу обміну

Дата	Компонент	По рецепту	Фактично	Відхилення	Відсоток	Вироблено МЗ	Змішувач	Режим
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09.11.2021 9:43:21	Щебінь10_20	930	927	-3	-0,32		Змішувач №1	Ручний
09.11.2021 9:43:31	Цемент	155	156	1	0,65		Змішувач №1	Ручний
09.11.2021 9:43:38	Щебінь5_10	200	197	-3	-1,5		Змішувач №1	Ручний
09.11.2021 9:44:30	Вода	130	130	0	0		Змішувач №1	Ручний
09.11.2021 9:46:22	Пісок	820	821	1	0,12		Змішувач №1	Ручний
09.11.2021 9:46:23						1	Змішувач №1	Ручний
09.11.2021 9:46:35	Щебінь10_20	930	974	44	4,73		Змішувач №1	Ручний
09.11.2021 9:46:45	Щебінь5_10	200	238	38	19		Змішувач №1	Ручний
09.11.2021 9:46:45	Цемент	155	157	2	1,29		Змішувач №1	Ручний
09.11.2021 9:47:37	Вода	130	131	1	0,77		Змішувач №1	Ручний
09.11.2021 9:51:43						1	Змішувач №1	Ручний
09.11.2021 10:08:40	Пісок	820	820	0	0		Змішувач №1	Ручний
09.11.2021 10:08:58	Щебінь10_20	930	930	0	0		Змішувач №1	Ручний
09.11.2021 10:09:11	Цемент	155	156	1	0,65		Змішувач №1	Ручний
09.11.2021 10:09:16	Щебінь5_10	200	199	-1	-0,5		Змішувач №1	Ручний
09.11.2021 10:09:55	Вода	135	134	-1	-0,74		Змішувач №1	Ручний
09.11.2021 10:11:26						1	Змішувач №1	Ручний
09.11.2021 10:11:53	Пісок	820	818	-2	-0,24		Змішувач №1	Ручний
09.11.2021 10:12:12	Щебінь10_20	930	928	-2	-0,22		Змішувач №1	Ручний
09.11.2021 10:12:19	Цемент	155	156	1	0,65		Змішувач №1	Ручний
09.11.2021 10:12:30	Щебінь5_10	200	198	-2	-1		Змішувач №1	Ручний
09.11.2021 10:13:16	Вода	135	135	0	0		Змішувач №1	Ручний
09.11.2021 10:14:38						1	Змішувач №1	Ручний
09.11.2021 10:32:51	ХД #1	0,05	0,8	0,75	1500		Змішувач №1	Автомат
09.11.2021 10:33:01	Пісок	820	818	-2	-0,24		Змішувач №1	Автомат

User Name: Administrator Plc Communication Fault! (click me)

Pic. 2 The "Reports" chapter contains order history

№	Повідомлення	Час виникнення	Час зникнення	Час підтвердження	Коментар
20	Кришка змішувача не закрита	13.01.2022 12:12:26	13.01.2022 13:35:38	13.01.2022 13:35:38	
30	Дозатори не готові	13.01.2022 12:12:26	13.01.2022 13:35:38	13.01.2022 13:35:38	
16	Змішувач не закритий	03.01.2022 14:54:18	03.01.2022 14:54:50	03.01.2022 14:54:50	
16	Змішувач не закритий	03.01.2022 14:51:04	03.01.2022 14:51:36	03.01.2022 14:51:36	
12	Дозатор води не закритий	03.01.2022 14:50:01	03.01.2022 14:50:02	03.01.2022 14:50:02	
16	Змішувач не закритий	03.01.2022 14:49:00	03.01.2022 14:49:30	03.01.2022 14:49:30	
12	Дозатор води не закритий	03.01.2022 14:48:38	03.01.2022 14:48:39	03.01.2022 14:48:39	
16	Змішувач не закритий	03.01.2022 14:05:54	03.01.2022 14:06:23	03.01.2022 14:06:23	
16	Змішувач не закритий	03.01.2022 14:04:27	03.01.2022 14:04:59	03.01.2022 14:04:59	
12	Дозатор води не закритий	03.01.2022 14:03:54	03.01.2022 14:03:55	03.01.2022 14:03:55	
16	Змішувач не закритий	03.01.2022 14:02:49	03.01.2022 14:03:21	03.01.2022 14:03:21	
16	Змішувач не закритий	03.01.2022 14:01:24	03.01.2022 14:01:56	03.01.2022 14:01:56	
16	Змішувач не закритий	03.01.2022 13:59:59	03.01.2022 14:00:31	03.01.2022 14:00:31	
30	Дозатори не готові	03.01.2022 11:12:50	03.01.2022 11:20:09	03.01.2022 11:20:09	
20	Кришка змішувача не закрита	03.01.2022 11:12:49	03.01.2022 11:20:08	03.01.2022 11:20:08	
16	Змішувач не закритий	03.01.2022 11:10:23	03.01.2022 11:10:55	03.01.2022 11:10:55	
16	Змішувач не закритий	03.01.2022 11:08:59	03.01.2022 11:09:31	03.01.2022 11:09:31	
16	Змішувач не закритий	03.01.2022 11:07:34	03.01.2022 11:08:05	03.01.2022 11:08:05	
16	Змішувач не закритий	03.01.2022 11:05:38	03.01.2022 11:06:11	03.01.2022 11:06:11	
12	Дозатор води не закритий	03.01.2022 11:05:17	03.01.2022 11:05:17	03.01.2022 11:05:17	
12	Дозатор води не закритий	03.01.2022 11:04:23	03.01.2022 11:04:25	03.01.2022 11:04:25	
16	Змішувач не закритий	03.01.2022 10:35:11	03.01.2022 10:35:42	03.01.2022 10:35:42	
16	Змішувач не закритий	03.01.2022 8:39:58	03.01.2022 8:40:24	03.01.2022 8:40:24	
16	Змішувач не закритий	03.01.2022 8:38:27	03.01.2022 8:38:59	03.01.2022 8:38:59	
16	Змішувач не закритий	03.01.2022 8:36:12	03.01.2022 8:36:44	03.01.2022 8:36:44	
16	Змішувач не закритий	03.01.2022 8:34:48	03.01.2022 8:35:20	03.01.2022 8:35:20	
16	Змішувач не закритий	03.01.2022 8:33:23	03.01.2022 8:33:55	03.01.2022 8:33:55	
12	Дозатор води не закритий	03.01.2022 8:33:02	03.01.2022 8:33:03	03.01.2022 8:33:03	
16	Змішувач не закритий	03.01.2022 8:31:57	03.01.2022 8:32:29	03.01.2022 8:32:29	
1	Тиск пневмосистеми	03.01.2022 8:07:41	03.01.2022 8:12:30	03.01.2022 8:12:30	
1	Тиск пневмосистеми	31.12.2021 16:25:41	31.12.2021 16:25:42	31.12.2021 16:25:42	
1	Тиск пневмосистеми	31.12.2021 16:25:30	31.12.2021 16:25:35	31.12.2021 16:25:35	
1	Тиск пневмосистеми	31.12.2021 16:22:08	31.12.2021 16:22:16	31.12.2021 16:22:16	
16	Змішувач не закритий	31.12.2021 16:16:42	31.12.2021 16:17:09	31.12.2021 16:17:09	
16	Змішувач не закритий	31.12.2021 16:15:20	31.12.2021 16:15:42	31.12.2021 16:15:42	

User Name: Administrator Plc Communication Fault ! (click me)

**Pic. 3**The history of "Emergency messages" contains all information about failures in the course of operation of the plant

Події системи

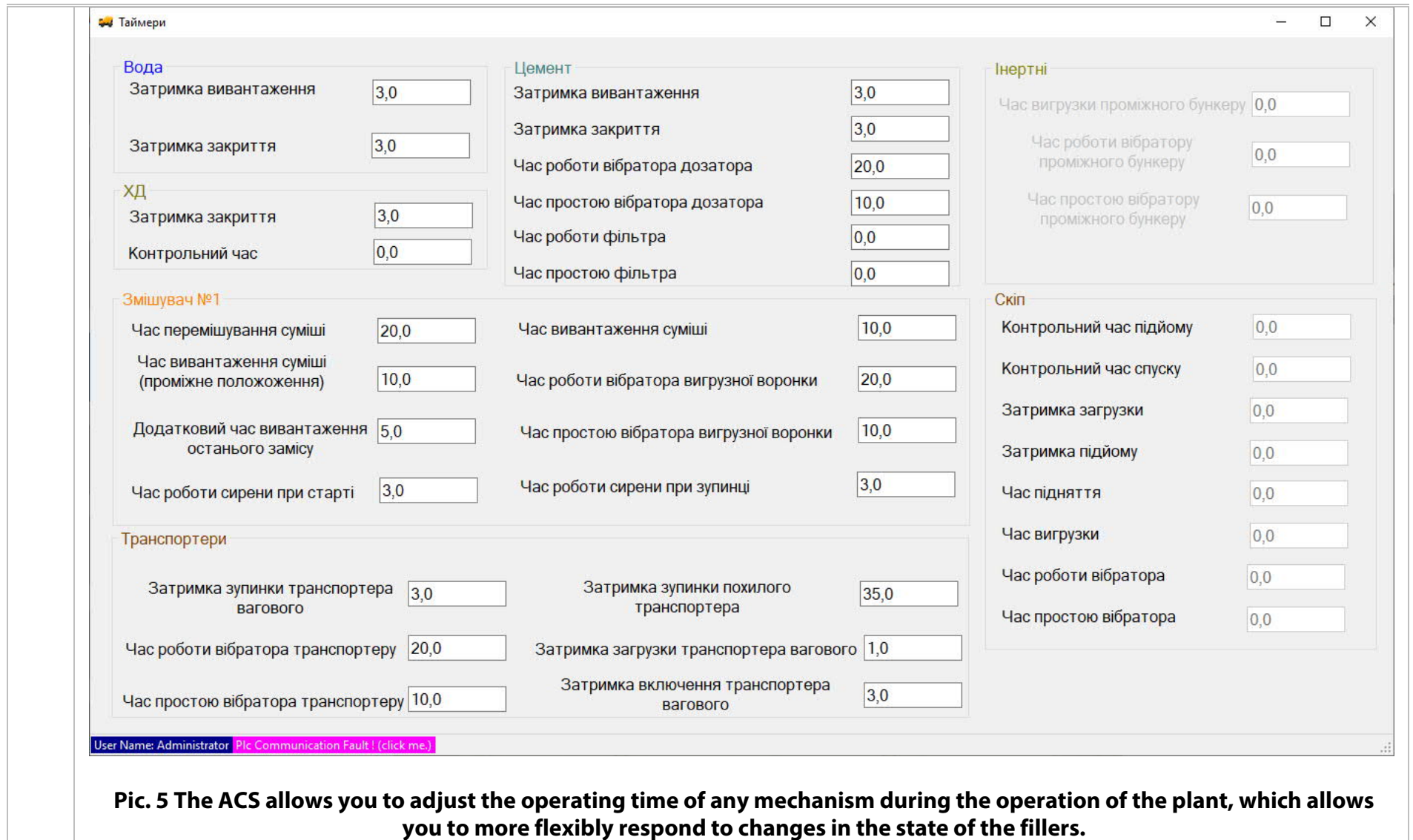
Дата з: 14:23:27 по: 18:48:00

Вивести дані    Експорт в Excel    Скопіювати до буферу обміну    Користувач:

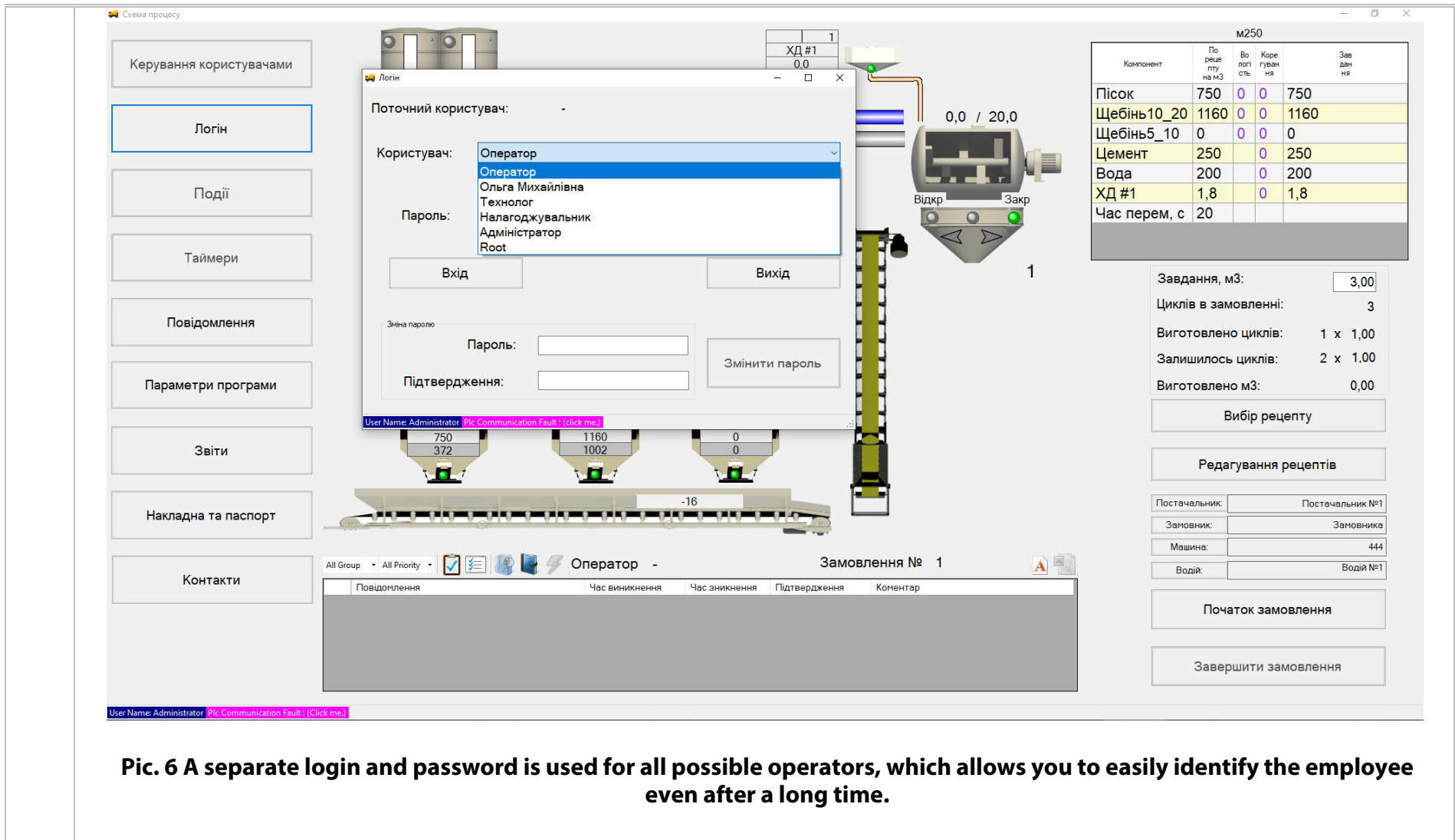
Дата	Екран	Користувач	Повідомлення
12.11.2021 7:39	Схема процесу	-	Завдання для змішувача змінено на : 10,00
12.11.2021 7:40	Схема процесу	-	Натиснута кнопка : Запуск (Button_4)
12.11.2021 8:01	Схема процесу	-	Завдання для змішувача змінено на : 8,50
12.11.2021 8:01	Схема процесу	-	Натиснута кнопка : Запуск (Button_4)
12.11.2021 8:20	Схема процесу	-	Натиснута кнопка : Запуск (Button_4)
12.11.2021 9:22	Схема процесу	-	Натиснута кнопка : Звіти (Button_6)
12.11.2021 9:25	Схема процесу	-	Натиснута кнопка : Параметри програми
12.11.2021 9:25	Схема процесу	-	Натиснута кнопка : Логін (Button_15)
12.11.2021 9:25		Налагоджувальник	Виконаний вхід в систему
12.11.2021 9:25	Схема процесу	-	Натиснута кнопка : Таймери
12.11.2021 9:31	Схема процесу	-	Завдання для змішувача змінено на : 5,00
12.11.2021 9:31	Схема процесу	-	Натиснута кнопка : Вибір рецепту
12.11.2021 9:31	Схема процесу	-	Натиснута кнопка : Редагування рецептів (Button_18)
12.11.2021 9:33	Схема процесу	-	Натиснута кнопка : Запуск (Button_4)
12.11.2021 9:54	Схема процесу	-	Натиснута кнопка : Редагування рецептів (Button_18)
12.11.2021 9:54	Схема процесу	-	Натиснута кнопка : Вибір рецепту
12.11.2021 9:55	Схема процесу	-	Натиснута кнопка : Запуск (Button_4)
12.11.2021 10:07	Схема процесу	-	Завдання для змішувача змінено на : 5,00
12.11.2021 10:07		-	Користувач вийшов з системи
12.11.2021 10:07			Система зупинена
12.11.2021 10:07			Система запущена
12.11.2021 10:07	Схема процесу	-	Натиснута кнопка : Вибір рецепту
12.11.2021 10:07	Схема процесу	-	Натиснута кнопка : Редагування рецептів (Button_18)
12.11.2021 10:07	Схема процесу	-	Натиснута кнопка : Вибір рецепту
12.11.2021 10:08	Схема процесу	-	Завдання для змішувача змінено на : 2,50
12.11.2021 10:08	Схема процесу	-	Натиснута кнопка : Запуск (Button_4)
12.11.2021 10:15	Схема процесу	-	Натиснута кнопка : Параметри програми
12.11.2021 10:15	Схема процесу	-	Натиснута кнопка : Логін (Button_15)
12.11.2021 10:15		Налагоджувальник	Виконаний вхід в систему
12.11.2021 10:15	Схема процесу	-	Натиснута кнопка : Таймери
12.11.2021 10:16	Схема процесу	-	Натиснута кнопка : Параметри програми
12.11.2021 10:16	Параметри програми	Налагоджувальник	Натиснута кнопка : Додаткові параметри
12.11.2021 10:16	Схема процесу	-	Натиснута кнопка : Вибір рецепту
12.11.2021 10:16	Схема процесу	-	Натиснута кнопка : Редагування рецептів (Button_18)
12.11.2021 10:17	Схема процесу	-	Натиснута кнопка : Вибір рецепту
12.11.2021 10:29	Схема процесу	-	Натиснута кнопка : Параметри програми
12.11.2021 10:29	Схема процесу	-	Натиснута кнопка : Звіти (Button_6)
12.11.2021 10:31	Схема процесу	-	Натиснута кнопка : Вибір рецепту
12.11.2021 10:31	Схема процесу	-	Завдання для змішувача змінено на : 9,00

User Name: Administrator    Plc Communication Fault ! (click me.)

**Pic. 4 Chapter "System Events" contains absolutely all, step by step, information about the work of the plant**



**Pic. 5 The ACS allows you to adjust the operating time of any mechanism during the operation of the plant, which allows you to more flexibly respond to changes in the state of the fillers.**



**Pic. 6 A separate login and password is used for all possible operators, which allows you to easily identify the employee even after a long time.**

6.2

**Electrical equipment.****KARMEL****1 set****x  
(basic  
equipment)****x****x**

All electrical equipment reliably performs its work to provide plant power supply and microprocessor control of power units. The set of electrical equipment of the plant includes more than 350 items of purchased units. As the development of our plant, the schemes are constantly improving.

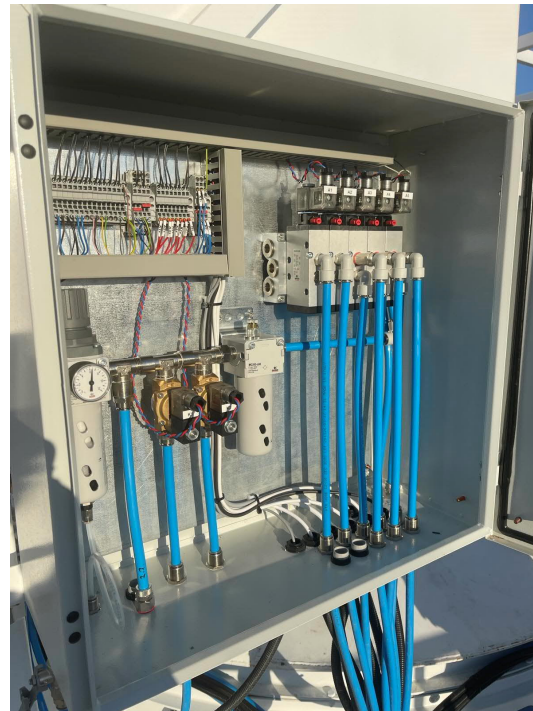
Cable lines	Germany / Ukraine	1 set	x	x	x
Tray DKS	Germany	1 set	x	x	x
Corrugation DKS	Germany	1 set	x	x	x
Lighting of the plant	China	1 set	x	x	x
Input cabinet	KARMEL	1	x	x	x
Grounding system of the plant	Ukraine	1 set	x	x	x
Lightning protection	Ukraine	1 set	x	x	x
Industrial computer ACER	China	1 set	x	x	x
Controller SIMENS	Germany	1 set	-	option	-
Electrical cabinet EATON	Germany	1 set	x	x	x
Loudspeaker system VONAMIC	Germany	1 set	x	x	x
Set of radio stations MOTOROLA	Germany	1 set	-	option	-
Plant video surveillance system HIKVISION	Germany	1 set	-	option	-

	ACS emergency power supply EATON	Germany	1 set	-	option	-
<b>7.</b>	<b>Air distribution system</b>	<b>Italy</b> <b>CAMOZZI</b>	<b>1set</b>	<b>X</b> <b>(basic</b> <b>equipment)</b>	<b>X</b>	<b>X</b>

Pneumatic equipment is designed to convert the energy of compressed air into energy of movement and ensure the operation of the plant mechanisms with air pressure in the pneumatic system of not less than 0.6 MPa and a nominal air flow rate of up to 2 m<sup>3</sup> / min.

Pneumatic system includes:

- Two cabinets of pneumatic equipment, in which pneumatic distributors are installed, which control the operation of pneumatic cylinders, pneumatic actuators and pneumatic vibrators. Pneumatic cabinets are also equipped with filters-regulators, moisture-oil separators, oil sprayers, throttles, safety valve and manometers.
- Supply of compressed air to the actuators is carried out using special plastic tubes TRN company Camozzi. Control of the pneumatic equipment system is carried out through the ACS or on command from the control panel (in the debugging mode).

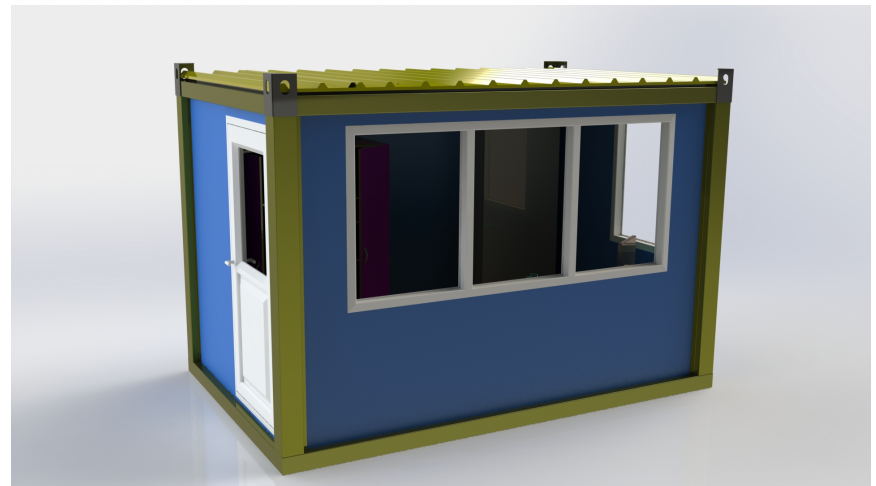


	Pneumatic pipeline CAMOZZI	Italy	150 m	x	x	x
	Pneumatic cabinet of the main unit	Italy	1 set	x	x	x
	Pneumatic cabinet of the aggregate bunkers	Italy	1 set	x	x	x
	Pneumatic cabinet electric heating	Italy	1 set	-	option	-

	Receiver	Ukraine	1	x	x	x
	Air preparation unit	Italy	1 set	x	x	x
	Compressor unit ABAC 1000л./хв	Italy	1	x	x	x
<b>8.</b>	<b>Control room</b> 4200 x 2400 x 2600	Ukraine	<b>1</b>	<b>x</b>	<b>x</b>	<b>x</b>
	Housing with insulation	Ukraine	1	x	x	x
	Overview window	Ukraine	2	x	x	x
	Doors	Ukraine	1	x	x	x
	Desk and chair	Ukraine	1	x	x	x
	Wardrobe	Ukraine	1	-	option	-
	Air conditioner	China	1	-	option	-
	Convactor	China	1	-	option	-
	Control room supporting frame h=1500 mm	Ukraine	1	x	x	x
	Ladder, platform, visor	Ukraine	1	x	x	x

Are made in structural profiles. Roof design for rainwater.

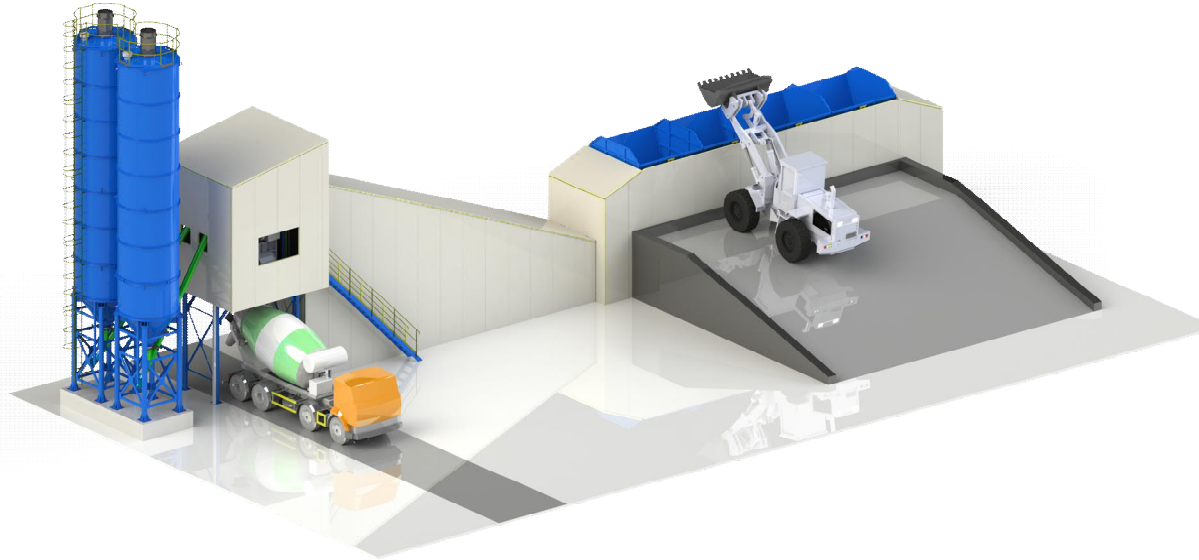
- Primed and treated with two-component paint RAL 5021 blue.
- Walls and roof with sandwich panel with polystyrene 50 mm, gray aluminum outside and white inside.
- Floor height in the cabin 120 mm.
- 22-millimeter waterproof plate covered with 2-mm aluminum drop sheet.
- Roof from galvanized profiled flooring SM-30 with a waterproofing joint of fiberglass 80 mm thick.





**9. Set for cover of the plant units and heating of aggregates (All-season set):**

Equipment that protects high-precision weighing instruments (dispensers) and other plant equipment from the effects of precipitation and dust. Elements of warming and heating of plant for work in the winter:



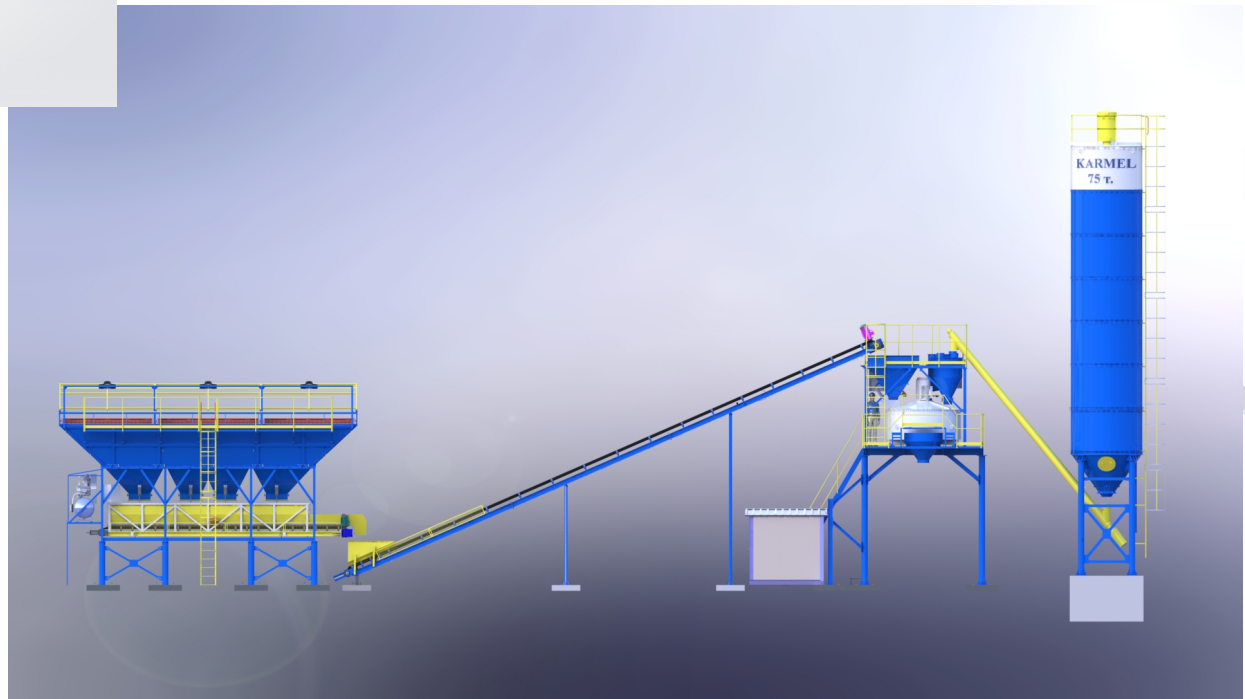
9.1	Warming cover of the plant by sandwich-panels 80 mm thick.	<b>Ukrain (KARMEL)</b>	<b>1 set</b>	-	option	-
9.2	<b>Heating registers</b> installed in the aggregate bunkers to supply with warm from external heat unit (hot water or hot steam or hot air)	<b>Ukraine (KARMEL)</b>	<b>1 set</b>	-	option	-
10.	<b>Flushing water recycling system MATEC BR 10</b>	<b>MATEC Italy</b>	<b>1</b>	-	option	-

Characteristic:

- Productivity: 11 m<sup>3</sup> / hour
- Diameter of screw conveyor: 1900 mm
- Length: 5200 mm
- Height: 2500 mm
- Power: 7.5 kW
- Voltage: 400V 50Hz - 440V

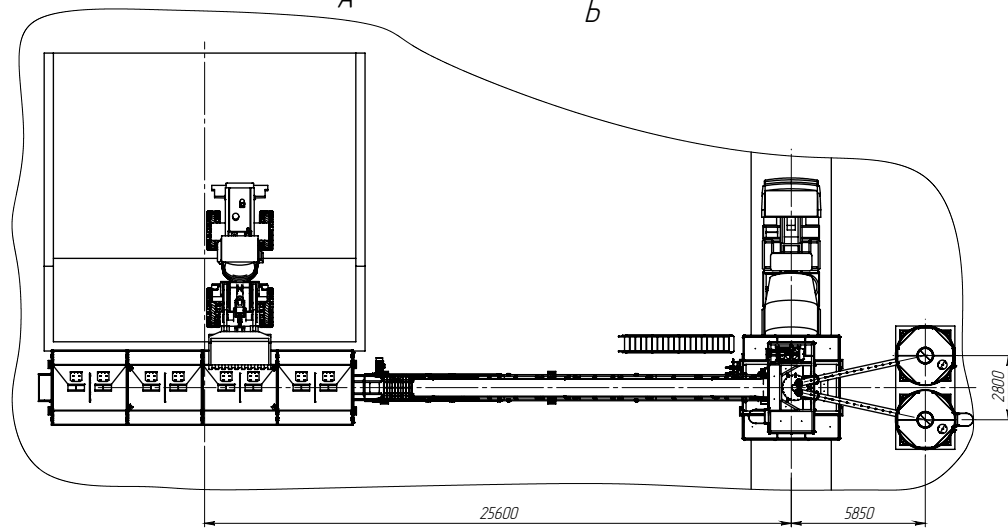
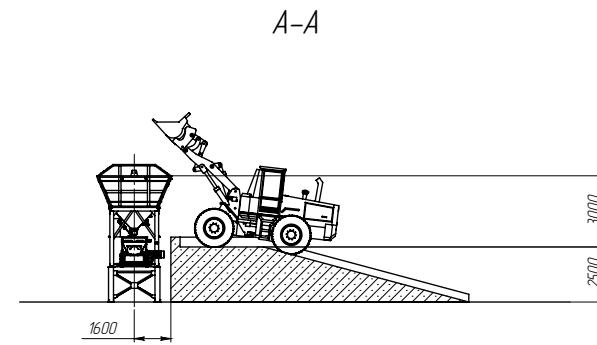
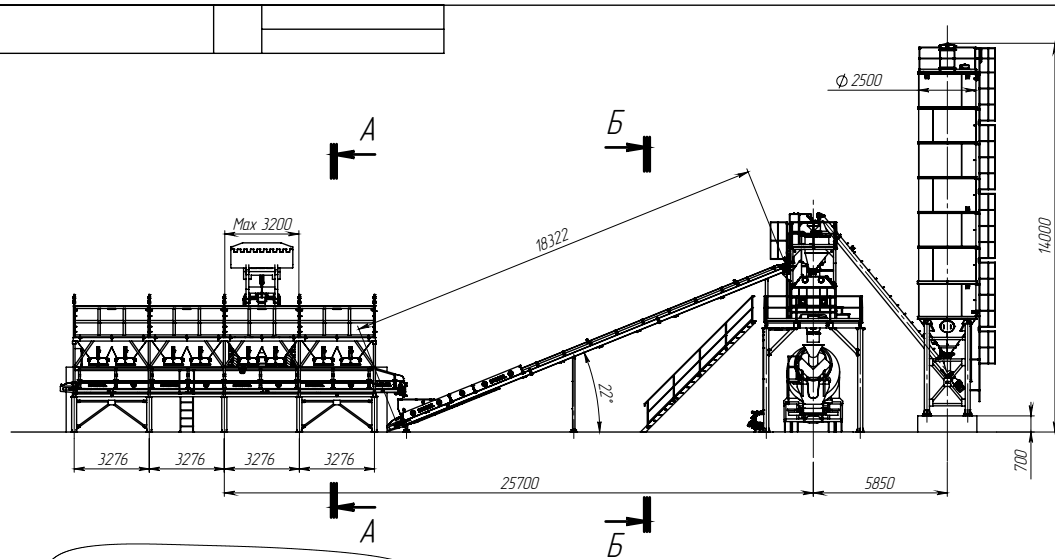
	<p>The device consists of:</p> <ul style="list-style-type: none"> <li>- The conical washing tank from steel, equipped with entrances for concrete and openings for overflow of slime water. Both the lower and upper part of the tank are hot-dip galvanized.</li> <li>- Exhaust spiral made of steel.</li> <li>- The engine with the planetary reducer of the increased size, is suitable for work with heavy environments.</li> <li>- The solenoid valve of supply of pure water in a circuit of return washing.</li> <li>- The unloading bunker of 1,5 m of the concrete mixer: The sizes: 1500kh1500mm In = 1400mm</li> </ul>				
<b>11.</b>	<p><b>Corrosion protection = 10 years</b>  Application of paints and varnishes is carried out in factory conditions. All metal structures undergo a stage of surface preparation before painting. Manipulation, warning signs, as well as advertising signs are made of contrasting paint, or a sticker of letters and signs cut from a special multi-fix material.</p>				
<b>11.1</b>	<b>Enamel LANKWIZER Primer LANKWIZER</b>	<b>Germany</b>	x	x	x
<b>11.2</b>	Painting color, painting of brands and others inscriptions stand for the Customer	<b>Ukraine (KARMEL)</b>	x	x	x
<b>12.</b>	<p><b>Chief - mounting works on the Customer's site:</b></p>				
<b>12.1</b>	<p>The chief - installation of BZU includes mechanical and electric installation (is carried out by experts of the Customer under the direction of engineers Ukraine (KARMEL)</p> <ul style="list-style-type: none"> <li>-Chef - installation, commissioning, training of the Customer's technical staff, trial commissioning of the equipment is carried out by specialists of PE "KARMEL", together with the Customer's specialists. The Customer must invite 1 electrician, 1 electronics engineer, 2 mechanics and a person responsible for solving issues related to the organization of work and compliance with safety rules during installation and commissioning.</li> <li>-Training of the Customer's personnel takes place during installation.</li> </ul> <p>-Provision of cranes on the construction site in accordance with the plan / regulations of installation works - provided by the Customer.  -Installation can be started only when the installation area (foundations) is prepared and energy carriers are connected.  - Commissioning and commissioning of plant is carried out in the presence of all components for the production of the mixture: crushed stone, cement, sand, water, chemical additives, etc. (according to the recipe), in the absence of raw materials on the site, the tests are carried out in idle mode.  -Calibration / adjustment of all weight batchers and components is carried out by the Customer under the guidance of a specialist of PE "KARMEL".</p>				
<b>13.</b>	<b>Aspiration system</b>		1 set	-	option
<b>14.</b>	<b>ZIP</b>			-	option
<b>15.</b>	<b>Set of technical documentation</b>				
<b>16.</b>	<b>Foundation plan (load)</b>				

**Price KARMEL-100K =**

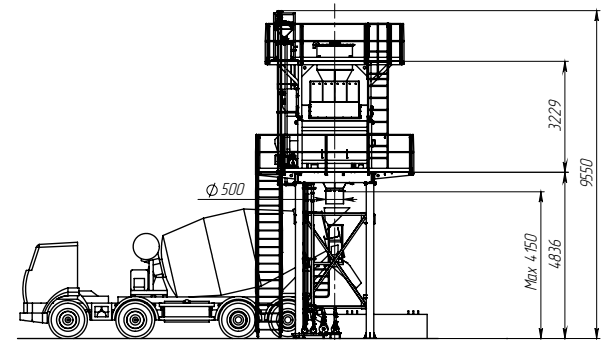




№ кр. проєкту	№ кр. проєкту	№ кр. проєкту	№ кр. проєкту	№ кр. проєкту	№ кр. проєкту
639-60П-0100.0000					



Б-Б (1 : 100)



- 1 Розміри для виконання
- 2 Після уточнення технічного завдання та детального проєктування можливі зміни в габаритах обладнання.

Продуктивність заводу	M <sup>3</sup> /2	70
Модель бетонозмішувача	-	BP3 2250/1500
Кількість вяжучих	-	1
Кількість фракцій заповнювача	-	3
Місткість бункера інертних мас	M <sup>3</sup>	3x20
Кількість силосів цементу	-	1
Місткість складу цементу	M <sup>3</sup>	55
Споживана потужність	кВт	up to 90
Споживаний об'єм води	M <sup>3</sup> /2	up to 12
Тиск в пневматичній системі	атм.	6

Ім'я	Лист	№ докум.	Підп.	Дата	Лист	Маса	Масштаб
Розроб.	Паламарчук В.О.						
Проб.	Галамачук М.О.				ПП "Кармель"		
Т. контр.	Ільницький С.В.						
Н. контр.	Терещенко В.П.				Формат А2		
Заб.	Кармеліта М.						

# CERTIFICATES

## CERTIFICATE



for the management system  
according to ISO 9001:2015

The proof of the conforming application with the regulation was furnished and in accordance with certification procedure it is certified for the company



**PRIVATE ENTERPRISE  
"KARMEЛ"**  
117, Kurchatova str., 29025, Khmelnytsky,  
Ukraine

### Scope

Manufacturing of concrete mixing plants, screw feeders, warehouses for cement, belt conveyors, manufacturing of equipment for production of dry building mixtures and shaped paving stones, equipment for sorting municipal solid waste.

Certification Registration No.: TIC 15 100 2010905 Valid until: 2023-08-09  
Audit Report No.: 3330 3CEA A0 Valid from: 2020-08-10

This certification was conducted in accordance with the TIC auditing and certification procedures and is subject to regular surveillance audits.



TUV Thüringen e.V.  
Certification body for  
systems and personnel



Jena, 2020-08-10



Original certificates  
are issued with a hologram.

The current validity can be checked at our homepage [www.tuv-thueringen.de](http://www.tuv-thueringen.de)  
Zertifizierungsstelle des TÜV Thüringen e.V. • Eisenbahnring 4 • D-07746 Jena • ☎ +49 3641 280760 • ✉ cert@tuv-thueringen.de

## СЕРТИФІКАТ



відповідності системи менеджменту  
вимогам стандарту ISO 9001:2015

Відповідно до процедури сертифікації підтверджується,  
що підприємством



**ПРИВАТНЕ ПІДПРИЄМСТВО  
"КАРМЕЛ"**  
29025, м. Хмельницький, вул. Курчатова,  
117, Україна

застосовує систему менеджменту згідно з вищевизначеним  
стандартом у наступних сферах діяльності:

Виготовлення бетонозмішувальних установок, шнекових  
живильників, складів для цементу, стрічкових конвеєрів,  
виготовлення обладнання для виробництва сухих сумішей  
та фігурних елементів мощення, обладнання для сортування  
твердих побутових відходів.

Регістраційний номер: TIC 15 100 2010905 Чисельний до: 2023-08-09  
сертифікату: Дієльний з: 2020-08-10

Звіт про аудит №: 3330 3CEA A0

Сертифікацію проведено відповідно до процедури TIC з аудиту та сертифікації, на передбачення  
проведення періодичних наглядних аудитів.



TUV Thüringen e.V.  
Орган з сертифікації  
систем та персоналу



Єна, 2020-08-10



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Zertifizierungsstelle des TÜV Thüringen e.V. • Eisenbahnring 4 • D-07746 Jena • ☎ +49 3641 280760 • ✉ cert@tuv-thueringen.de

## CERTIFICATE

The Certification Body for  
Construction Products of TÜV Thüringen e. V.

certifies in accordance with TÜV Thüringen  
procedure that



**PRIVATE ENTERPRISE «KARMEЛ»**

117, Kurchatova str., 29025,  
Khmelnytsky, Ukraine

has established and applies a quality system  
according to  
**DIN EN ISO 3834 – 3**  
Standard quality requirements

in the specified scope to the annex of certificate

report no.: UK03/49646/21

certificate no.: 0090 152 1142

certificate expires: 2023-01-02



Valid only with hologram  
Erfurt, 2022-01-03



TUV THÜRINGEN  
Certification Body for  
Construction Products  
TÜV Thüringen e. V.  
notified body 0090

№ 1219



### ANNEX TO CERTIFICATE No. 0090 152 1142

Certified organisation	PRIVATE ENTERPRISE «KARMEЛ» 117, Kurchatova str., 29025, Khmelnytsky, Ukraine
Welding production facility	PRIVATE ENTERPRISE «KARMEЛ» 117, Kurchatova str., 29025, Khmelnytsky, Ukraine
Scope of Application	Manufacture of steel structures
Dimensions of components	Wall thickness up to 24 mm Length up to 12 000 mm Diameter up to 3 000 mm
Welding process(es) acc. to EN ISO 4063	111, 135, 141
Base material group(s) acc. to CEN ISO/TR 15608	1.1
Welding supervisor	Vasyi Tereshchenko, Level C

Other provisions  
During the initial certification period the Certification  
Body has to conduct monitoring of the QA-System for at  
least 12 (twelve) months.

This certificate does not replace verifications required in  
legal areas.

The certificate holder shall inform Certification Body  
immediately in case of any changes of the data in this  
annex or other conditions of certification.

Remarks  
Further details can be found in the assessment/production  
report.



№ 1219

Technischer Überwachungsverein Thüringen e.V.  
Mitteldeutscher Straße 44, 99084 Erfurt, Telefon: (0 36 1) 42 83-0, Fax: (0 36 1) 42 83-242

### Welding Certificate

1090-2.0001.TÜVTH.2022.01

In compliance with EN 1090-1, Tab. B.1, the following has been stated:

This welding certificate is valid in connection with the EC-Certificate No.  
0090-CPW-1090-2.0001.TÜVTH.2022.01 in the field of CPW.

Manufacturer (Manufacturer or its authorized representative)	PRIVATE ENTERPRISE «KARMEЛ» 117, Kurchatova str., 29025, Khmelnytsky, Ukraine
Essential manufacturing facilities: (Production site of the manufacturer)	PRIVATE ENTERPRISE «KARMEЛ» 117, Kurchatova str., 29025, Khmelnytsky, Ukraine
Technical specification	EN 1090-2:2018
Execution class	up to EXC 2
Welding Processes: (Reference to Acc. to DIN EN ISO 4063)	111 - Shielded Metal Arc Welding (SMAW/E) 135 - Gas Shielded Metal Arc Welding (GMAW/MAG) 141 - Gas Tungsten Arc Welding (GTAW/TIG)
Parent Materials: (Production site)	M-Group 1.1 acc. to CEN ISO/TR 15608 and EN EN 1090-2, sec. 5
Responsible Welding Coordinator (Title, First name, Name, Qualification)	Vasyi Tereshchenko, Level C
Deputy (Title, First name, Name, Qualification)	Yurii Shyhanok, Level C
Confirmation:	All provisions concerning welding as described in the above mentioned technical specification(s) were applied.
Begin of validity (First issue date)	03.01.2022
End of validity: (expiry date)	03.01.2023
Period of validity:	This certificate is valid as long as the provisions of the above- mentioned technical specification, in conjunction with EN 1090-1, do not change and the manufacturing conditions of the relevant operating facility(s) or the factory production control itself have not changed significantly.
Remarks:	see back
Place / Issue date	Erfurt / 03.01.2022



Valid only with hologram



TUV THÜRINGEN  
Certification Body for  
Construction Products  
(Name, sign, stamp)

№ 1121

### General Provisions to the validity of Certificates about Factory Production Control (FPC) acc. to DIN EN 1090-1 and additional Welding Certificates

- This certificate is unimpaired valid, if the following conditions are fulfilled:
  - The contents of the standard have not changed.
  - The conditions for dimensioning have not changed (if they are a component of authorisation, if manufacturer's Factory Production Control and the conditions of manufacture are unchanged)
  - There is a valid control with the responsible and certification body
  - The certifying body must be notified about following changes in accordance with § 4.1, DIN EN 1090-1 with an annual declaration by manufacturer:
    - New production plant or changes to key production facilities.
    - Changes in the position of responsible welding coordinator
    - Introduction of new welding procedures, new base materials and corresponding WPDs.
    - New key production facilities.
 Certified body declares in a written confirmation, based on declaration by manufacturer, that the validity of the certificate is maintained.
  - Surveillance periods were carried out in accordance with requirements from Tab. B.3, DIN EN 1090-1.
  - Surveillance documents confirmed, that conditions are fulfilled by manufacturer. Certificate These Documents are available at certification body.
- Unintended Surveillance will be arranged if one of the following situations has occurred:
  - One of the cases enter in Cap. B 4.1, DIN EN 1090-1 has arisen.
  - Introduction of a new or modified manufacturing procedure, provided that evaluating properties are influenced.
  - Change to a higher execution class (ESC).
- The first Surveillance is carrying out after one year  
If essential conditions are not necessary, surveillance system will be conducted in accordance with the rules of  
DIN EN 1090-1, Tab. B.3
- Manufacturer is obliged to make the actual surveillance report available to the certification body, provided that  
the report is not directly sent from the manufacturer to certification body. Based on this surveillance report the  
certification body will make a written confirmation about maintenance of the certificate, issue a modified  
certificate, issue a new certificate or certificate can be withdrawn.
- Use of certificates is available only together with the written confirmation by certification body. The Welding  
Certificate may only be used in combination with EC-Certificate.
- This certificate may be withdrawn by the certification body at any time, with immediate effect and without  
compensation, if the conditions under which it has been issued have changed or if the requirements of this  
certificate have not been complied with. Manufacturer is obliged to send back the original Certificate.
- This Certificate may be reproduced or published for advertising or other purposes only in its entirety. The  
wording of any marketing publications must not be contradictory to the contents of the certificate.
- The certified body reserves the right to conduct inspections at the company's premises at any time, without  
leaving to give notice and subject to additional charge, in the event of questions arising with regard to the  
manufacturer's qualification.

Remarks:



№ 1121





**KARMEL**  
[www.karmel.com.ua](http://www.karmel.com.ua)

## **OUR ADDRESS:**

 **KHMELNITSKY CITY, 117A R. SHUKHEVICH str.**

 **0 800 305 200**

 **KARMELBUD90@GMAIL.COM**

 **WWW.KARMEL.COM.UA**

