

## Concrete Plant Automation System

# User Manual



Version EN\_91510



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## About Probeton

Probeton, which is a high-tech product created by embedding the experience and know-how of Proksis, can control any concrete plant Probeton.

During the installation using parametric values site dependent information such as number of conveyor belts to vibrator locations, number of silos to PLC communication settings can easily be introduced to the program.

Some of the Probeton's features are:

- Easy transfer of analog or digital input/output ports in case of a malfunction
- Seperatic application of vibration and air shocks
- In-production silo change to minimize the affects of cement sticking problems
- Gradual opening of mixer lids to prevent splashes and overflows
- Self learning, embedded error correction algorithms to minimize scaling errors
- Automatic shutdown of pneumatic systems when the air pressure is low
- Production is paused when power outage occurs

However Probeton's features are not limited to the above items, which distinguishes Probeton from being just a concrete production software. Probeton also;

- Automates fuel consumption
- o Provides stock weighting and control system on your computer
- o Reads online data from the Truck scales
- o Allows viewing real time information about productions and stocks from different sites from the central site
- o Provides remote connection to the computers on the network to print reports, shipment planning and record modification
- o Provides flexibility of sending invoice information for billing purposes to a computer in the same site or to a computer on the central site

All of these features makes Probeton integrated solution for a concrete production company.

## Advantages of Probeton

- Parameter definitions per prescription. Error free concrete production suitable for different consistency concretes with different weighting, mixtures and discharge parameters
- Multiple site support. For central Access to the individual site data, unique site code defined and implemented in each site.
- Automated mixer starting and stopping. Display of mixer operating times. Control of the mixer with a computer Mouse or automated start/stop of the mixer when the production starts and stops. Daily counter for the mixer up time and counter for the total mixer up time is also displayed.
- Gradual opening of the mixer lid. To prevent splashes and overloading mixer lids are opened gradually.
- Speech functionality. Definition of voice messages for selected warning/error messages.
- Production from the operator panel. Touch sensitive panel to control production in case of the computer breakdown.
- Calibration of the scales and easy weight reading. Calibration and resetting of the scales with the usage f the digital indicators and viewing the net weight values.
- Periodic vibration application. Periodic application of the vibration and air shocks (controlled with parameters) to prevent mechanical fatigue of the vibration engines.
- Smart flow control. Application of vibration on agrega and cement weighting system with periodic check of material flow. In case of temporary problems, ability
  of online silo selection.
- Safe data storage. Unlimited data storage. Removal of data by specifying a time range.
- Real-time remote support. Remote program support via modem.
- 7/24 professional support services. Professional technical support on cell phone even in off working hours.
- Problem analysis. System problems and user interferences are recorded in the system and reports can be generated on collected data.
- Billing automation. Transferring dispatch list information to the accounting software on different computers on the network or to AS/400 system.
- Affective humidity control. Periodical check of the humidity of the sand during the production to provide more consistent production and automated calculation
  of the water usage depending on the humidity level.
- Modification of the agrega scaling orders. By changing the agrega scaling order, system eliminates the need for changing the materials in the silos, hence
  increasing the system performance by increasing the conveyor belt up time.
- Multi level user rights. User defined system privileges limits the operators rights to protect the organization.
- "End Weighting" function. Incase of a system failure during the scaling of a material, moving the production to the next step with simple use of the Mouse, hence decreasing the production delays.
- PLC independent structure. System supports and works problem free with all PLC brands.
- Signal viewing from the computer. Provides quick problem solving on electrical issues with the help of PLC input/output signal viewing functionality.

#### Suggested Power Supplying Structure for Electronic Equipment



## Warnings

- While Probeton is working DO NOT shutdown the computer using the shutdown button. First you should exit the program safely to the Windows operating system and shutdown your Windows system before turning off your computer. For this reason it is essential to have an UPS installed in your system to prevent computer shutdown due to the power outages.
- If there is a power outage during the production, system automatically moves in to the pause mode. In this case if you should exit the program and shutdown the computer until the power is back on. When the power is back on, you should click on the resume button to continue your production. If you follow these steps production will continue without any data loss.
- System is designed to support any under structure. On the settings menu, you have the ability to adjust the system according to your sites understructure.
   These values are directly related to the PLC flow control values, incorrect data entry on these parameters cause production errors.
- Printer settings should always be checked prior to production since at the end of each production dispatch list is automatically printed.
- After manually completing the problem productions, it is very important to manually enter manual production data to the system since this will affect the data consistency of the later productions.
- C Resetting the system means taking the system back to the beginning. System automatically resets itself at the end of each successful production.
- In case of overloading of the scales (which is defined with a system parameter; Scale Upper Limit) "error warning" is generated and the weighting is brought to stand by. Units related to the other scale systems completes its work for the subject period prior to moving into stand by state.
- When the scaling process is stopped, the scale is manually unloaded until it reaches an acceptable weight and system then is moved to automated state and resumes where it is left over. If the problem can not be solved manually, you should cancel that production and reset it.

## Warnings Regarding the Electrical Systems

Operating conditions of the electronic equipment is : 0°C - 50°C of temperature, %5 - %95 humidity.

- Load cells on the scales and connection indicators on the control cabin, PLC and the computer system is highly sensitive to the electric. For this reason healthy grounding system should be implemented and should be controlled periodically.
- If you need to weld any place on the concrete production site, you should turn off the power on all of the electronical equipment and unplug the plugs from the sockets, disconnect the connection wires of the Load Cells from the indicators. Shutting down the main power switch on the power panel is the safest practice. Connect the ground cable of the welding machine somewhere close to the welding location.
- UPS not only acts as a battery for the computer system during the power outages but also acts as a power regulator for the voltage irregularity during the regular operating time (It is recommended to chose a UPS Line-Interactive ones, preferably an Online UPS). To be able to support this work load UPS capacity should be in the range of 800VA-1kVA. It is recommended that you will set up a structure as defined on the above diagram to protect your system against the voltage irregularities.
- When you first bring the system up it is recommended that you wait for at least 10 minutes prior to your first production because scale indicators needs to
  warm up to provide better values.
- All peripherals connected to the computer system (printer, monitor, PLC –hence the scale indicators-) should be grounded on the same ground line.

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## Installation and Starting Probeton



After installation via Setup CD interface shown above, to start Probeton double click on the Probeton icon on your desktop or click on the "probeton.exe" located on the Probeton installation folder (i.e.: C:\PROBETON). After the short display of program introduction you will be presented with the Login Screen where you will be asked for your user name and password.

Code				
	Name			
1	supervisor	_		
2	OPERATOR1		Entry	
3	YETKILI			
4	TECHNICIAN			
5	HOSA69		User Name TECHNICIAN	
			()))	
		- 11	Password	
		_		
			Ok	

After typing in your user id and password click on the OK button to continue using the program or click on the Exit button to go back to the Windows. On this screen you also have the opportunity to change user by using the left column.

You will not be able to continue using the system:

If you have not provided a correct password or

If you do not have a protection key, plugged to USB port.

#### **Probeton Menu**

1. General Entries 2. Settings 3. Production 4. View Screens 5. Reports 6. Users 7. System

After login process you will be presented with production screen. Using your mouse, you may click on the menu items located on top of the screen to reach the other parts of the program. Using your keyboard, press F10 key and use your arrow keys to browse through the program menu items.

## **Exiting the Program**

Exit option is located under the System menu. If you activate this menu item you will be asked to confirm your request. Choose 'Yes' to confirm your request. You may reach the same Exit Confirmation Screen by clicking on the F11 short cut key on your keyboard.

General Entries	2. Settings	3. Production	4. View Screens	5. Reports	6. Users	7. System       1. Exit       2. About Probeton
				Probe	eton Art	e you sure you want to quit program ?
						Yes No

## **1. General Entries**

Right side of the Data Entry Screen contains a list of previously entered data. Data grid contains two columns, one for the unique code, and the other column for the name of the record. You may reach the detail information about these records by clicking on the desired row.

## 1.1 Recipes

Using this screen, you may enter concrete recipes, view previous recipes and/or make the necessary modifications to the recipes. Recipes Screen has two parts:

## a-) Amounts

b-) Parameters

#### a-) Amounts

Recipe Number : Assign a code to each recipe. Recipe code is alphanumeric and may contain both numbers and characters.

Recipe Name : User Friendly name is given to each recipe.

Search Code : This field is used to easily find a recipes in the list. In case you have to give the same name to different recipes, use this field to differentiate between the recipes.

Explanation : Use this field to enter further explanations about the recipe.

Volume : Amount of material in terms of m<sup>3</sup>.

Water/Cement Ratio : Ratio of the water to cement.

Total Weight : Total weight of the recipe

#### b-) Parameters

Use this part of the form to enter the recipe specific parameters.

**Coarse - Fine Dosage Parameters :** Use this field to minimize the miscalculations and the provide the required liquid state of the materials. On dual valve aggregate bins, when the weight of the material is below this parameter, system closes one of the valves and continues weighing the material from the other valve. Values set here are relative to the value set under the 'Volume' section of the program.

General Parameters : On this section, "Granulite", "Slump" and "Stength" values do not have any affect on the production calculations and they are only used for information purposes. These values are printed on the invoice for information

Granulite : Size of the largest stone in millimeters in the concrete

Slump : Slump value of the concrete.

Strength: Standard strength value of the concrete.

Collecting Bin / Vertical Skip Discharging Period : Amount of period required for the Aggregate to transfer from the bin to the mixer.

Mixer Parameters : These are the parameters related to the mixing and loading/discharging of the mixer

Mixing Period : Amount of period( in seconds) required for the total mixing process after the materials start filing the mixer

Discharging/loading Period : Total period (in seconds) required to empty the mixer after the valve opens.

Gradual Opening Application - Wait Periods : Period to control the liquid state of the concrete discharging in the mixer and to minimize splashes and over loading.

New : Click on this button to create a new record

Edit : Click on this button to make modification on the selected record.

Delete : Click on this button to delete a record.

Print : To send the screen content to the printer, click on this button.

**Copy** : Creates a copy of the current record with a different code.

Save the Parameters : Click on this button to save the parameters in the database for the current recipe.

Save : Click on the Save button to update the database with the modifications on the current record.

#### Cancel : Cancels the modifications.

Recipe								
	Amounts		Param	ieters	Search Co	de Recipe name	Recipe code	
Recipe 1 code	Amount	Recipe name Search Code	C-20 C-20		C-20 C-25 GRO C-20T C-25T	C-20 C-25 GRO C-20T C-25T	1 2 3 4 5	*
15-25MCR	450				GRO T SSS	GRO T SSS	6 7	
0-7 TAS	340				GRO2	GRO2	8	
0-5 KUM	750	s	tandarts					
7-15MCR	350	T. Information 1						
CEM 1	300.0	T. Information 2						
CEM 2	0.0	T. Information 3						
		T. Information 4						
SU	150	Volu	ime	1.00 Kg				
KATKI 1	3.00	Wat	er/Cement	0.50				
		Total	weight	2343.00 kg				
New	Era	se	Сору	Save				
Edit	Pri	nt Se	ve parametres	Cancel				-

	Amounts		Parameters			Search Cor	le Recipe name	Recipe code
Precise weight	ing parameters	) <u></u>				C-20	C-20	1
Accesso anto 1			( )	0.00	1	C-25	C-25	2
Aggreegate 1	0.00	Kg Aggreegate 4		0.00	Ng	C-20T	C-20T	4
Aggreegate 2	0.00	Kg .				C-25T	C-25T	5
Aggreeyate 5	0.00	Kg				SSS	SSS	7
General parame	eters					GRO2	GRO2	8
C. Effect class	22	Saturation class	S4					
Chloride cont	XC1	A Bunker/bucket empty		10.00	Sec			
Epmting postpo	oning				-			
Aggregate	1 Se	c Water	1	Sec				
Cement	2 Se	C Additive	1	Sec				
Mixer paramete	ers				_			
Mixing time		10.00 Sec						
Emptying time		10.00 Sec						
	Level	ed opening execution time		2.00	Sec			
	Level	ed opening waiting time		2.00	Sec			
New	Erase	Copy		Sav	re			

## **1.2 Customers**

Use this form to enter new customer information, to make modifications on the existing customer information, and/or to delete a customer information

Customer Code : Use this field to identify each customer record. Customer code may contain alphanumeric characters.

Customer Name : Use this field to enter the customer's name or the company name.

Search Code : This field is used to easily identify the customers. It is especially helpful if you have several customers with the same name.

Telephone : Use this field to enter telephone number of the customer

Fax : Use this field to enter fax number of the customer.

Address : Use this field to enter address of the customer

Address 2 : Use this field to address information if the first field is not enough to enter the full address of the customer.

State : Use this field to enter the State of the customer.

City/Town : Use this field to enter city/state of the customer

Tax Office : This field is intended to be used in Turkey. Use this field to identify the Tax Office of tax related information about your customer

Tax Number : Use this field to enter tax number of the customer

New : Creates a blank page for new customer entry

Edit : Click on this button to make modifications on the selected record.

Delete : Click on this button to delete the selected record

Print : Click on this button to print the content of the current screen.

Save : Click on this button to save the new record or to save the modification on an existing record.

**Cancel :** Click on this record to cancel the modification on the record.

Client code	3		Search Code	Client name	Client code
			SETAT MDN	SETAT MDN	3
Client name	SETAT MDN		SLN INS IPEK INS	SLN INS IPEK INS	5 6
Search Code	SETAT MDN		aset karam	jaset karaman	Ч
Telephone	Fa	x			
Address 1			1		
		-	·		
Address 2			1		
		-			
City					
District					
Tax office					
Tax number					
New	Erase Print	Save			
Edit		Cancel			

## 1.3 Sites

Using this form you may define multiple sites for each customer as well as making modifications to the customer's site records

Site Code : Use this field to identify each record.

Site Name : Use this field to enter site's name.

Search Code : Use this field to identify the sites with the same name and to easily find record on the site list.

Customer Name : This field identifies the customer for the current record and you can not make modifications on this field after you save the site record.

Telephone : Use this field to enter telephone number for the site

Fax : Use this field to enter fax number for the site.

Address 1 : Use this field to enter address information for the site.

Address 2 : Continue with the address information on this field if the address 1 field is not enough to enter all the address information.

State : Use this field to enter sites state.

City/Town : Use this field to enter city/town information for the site

Contact Person : Use this field to enter the customer's primary contact name for the site.

Distance : Use this field to enter the distance between your establishment and the site.

New : Creates a blank page for new data entry

Edit : Click on this button to make modifications on the selected record.

Delete : Click on this button to delete the selected record

Print : Click on this button to print the content of the current screen.

Save : Click on this button to save the new record or to save the modification on an existing record.

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Cancel : Click on this record to cancel the modification on the record.

		Search Code		Chosing client	
Site code	3	Search code	<b>A</b>		2
Site name	site1	site1	Search Code	Site name	Site code
Client name	7 Chor asef karam	an	site1 site1		3
Telephone	Fax				
Address 1		*			
Address 2		*			
City					
District					
Relational					
Distance	0 Km				
New	Erase Prod.	Type Save			
		Cancel			

## 1.4 Truckmixers

Using these forms you may enter new truckmixer information and/or make modify/delete existing records pertaining to trucks.

Code : System assigned number for each truckmixer.

Tag Number : Use this field to enter licience number of the truckmixer.

Search Code : Use this field to enter the search code to help with identifying records.

Registration Number : Use this field to enter the registration number for the truckmixer.

**Capacity**: Use this field to enter the maximum amount of concrete  $(m^3)$  for the truckmixer. This amount must be greater than or equal to the production volume. If this condition is not met the system will prompt you with a notification message.

Type : Use this field to enter the descriptive information about the truckmixer.

Active : Use this field to identify if the vehicle is active or not.

Driver : Use this field to enter the name of the truck operator. This field is copied to the driver name field on the production screen when you make a vehicle selection on the production screen.

New : Creates a blank page for new data entry

Edit : Click on this button to make modifications on the selected record.

Delete : Click on this button to delete the selected record

Print : Click on this button to print the content of the current screen.

Save : Click on this button to save the new record or to save the modification on an existing record.

Cancel : Click on this record to cancel the modification on the record.

Truck						
			Search Code	Plate	Truck	code
Truck code	3		34 TB 8201 69 AL 525	34 TB 8201 69 AL 525	1 2	*
Plate	34 TE 0279		34 TE 0279 69 AK 909 69 AK 910	34 TE 0279 69 AK 909 69 AK 910	3 4 5	
Search Code	34 TE 0279		34 UD 6045	34 UD 6045	6	
Register no.						
Capacity	9 m3					
Туре						
Exist						
Driver	RAMAZAN BAYTEMUR					
New	Erase Print	Save				
Edit		Cancel				-

## 1.5 Drivers

Use this screen to enter, modify and/or delete records pertaining to drivers.

Driver Code : System assigned number for the driver's record.

Driver's Name : Use this field to enter the driver's name.

Search Code : Use this field to enter information to help you easily locate the record.

**Registration Number :** Use this field to enter the driver's registration number.

Address : Use this field to enter the driver's address information

Telephone : Use this field to enter the driver's telephone number.

Active : Use this field to identify whether the driver is currently active or not.

New : Creates a blank page for new data entry

Edit : Click on this button to make modifications on the selected record.

Delete : Click on this button to delete the selected record

Print : Click on this button to print the content of the current screen.

Save : Click on this button to save the new record or to save the modification on an existing record.

Cance : Click on this record to cancel the modification on the record.

Driver				
		Search Code	Driver name	Driver code
Driver code	3	YASIN DURS YASI EYUP DEMI EYUP RAMAZAN BA RAM	N DURSUN 9 DEMIR AZAN BAYTEMUR	1 ^
Driver name	RAMAZAN BAYTEMUR	NACI MEHME NAC GOKAN GULH GOK	i mehmedoglu An gulhan	4 5
Search Code	RAMAZAN BA	ERHAN AYHA ERHA mustafa ar must	AN AYHAN afa ari	6 7
Register no.				
Address		*		
Tolophono		<u></u>		
relephone				
Existant				
New	Erase Print Save			
Edit	Cancel			-

## 1.6 Services

Use these screens to enter, modify and or delete Service information.

Service Code : System generated number to identify service records.

Service Name : Use this field to enter the description of the service (i.e. with pomp, with mixer, with additives etc.) .

Search Code : Use this field to enter the search code to help you easily locate a record.

New : Creates a blank page for new data entry

Edit : Click on this button to make modifications on the selected record.

Delete : Click on this button to delete the selected record

Print : Click on this button to print the content of the current screen.

Save : Click on this button to save the new record or to save the modification on an existing record.

Cancel : Click on this record to cancel the modification on the record.



## 1.7 Orders

Use these forms to enter customers order information. Using these orders, you may define productions cards and start production.

Code : System assigned number for each order.

Date : Use this field to enter the date and time information for each order.

Customer : This field identifies the customer who has given the order.

Site : This field identifies the site that the order will be delivered to.

Recipe : Use this field to enter the concrete type by making selections from the recipes list.

**Requested Volume :** Use this field to enter the total volume of the order in terms of m<sup>3</sup>.

Production volume : This field displays the amount of production completed for this order. This field is automatically updated by the system as the production continues.

Service 1 : Use this field to enter the service information for the production.

Service 2 : Use this field to enter the additional service requirements for this order/production.

Order No : Use this field to enter the self defined number for the order.

Description : Use this field to enter the additional descriptive information for this order.

Driver : Use this field to enter the drivers name for the truckmixer

New : Creates a blank page for new data entry

Edit : Click on this button to make modifications on the selected record.

Delete : Click on this button to delete the selected record

**Print :** Click on this button to print the content of the current screen.

Save : Click on this button to save the new record or to save the modification on an existing record.

Cancel : Click on this record to cancel the modification on the record.



#### 1.8 Materials

Use this section for defining materials used in the production of concrete.

Material Code : Product code for the material.

Material Name : Use this field to enter the name of the material. This name will be displayed on the selection lists of the other forms and it will also be used on the reports and invoices.

Material Type : Use this field to enter the descriptive information for the material.

Producer : Use this field to enter the name of the producing company of the material.

Production Place : Use this field to enter the descriptive information about the production place of the material.

Warning Amount : Use this field to define the minimum stock amount for this material. The system will prompt you with a warning message when the material goes below this amount.

Max Size : Use this field to enter the maximum width of the pieces of the material in millimeters.

Minimum Size : Use this field to enter the minimum width of the pieces of the material in millimeters.

Description : Use this field to enter additional descriptive information about the material.

Stock Amount : Displays the stock amount for the material.

New : Creates a blank page for new data entry

Edit : Click on this button to make modifications on the selected record.

Delete : Click on this button to delete the selected record

Print : Click on this button to print the content of the current screen.

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Save : Click on this button to save the new record or to save the modification on an existing record.

Cancel : Click on this record to cancel the modification on the record.

			Stock amount		Code	Name	
	( The second sec				1	AGR 1	
Material code	1		0	Kg	2	AGR 2	
				÷	3	AGR 3	
Material name	AGR 1				4	AGR 4	
					5	CEM 1	
Material type					6	CEM 2	
					7	CEM 3	
Con	trol Stock Amo				8	CEM 4	
					9	WATER	
Producer					10	ADD 1	
					11	ADD 2	
Production Site					12	ADD 3	
					13	ADD 4	
Warning Amount	0	kg			14	15-25MCR	
					15	0-7 TAS	
Max size	0 mm				16	0-5 KUM	
					17	7-15MCR	
Min. size	0 mm				18	SU	
					19	KATKI 1	
Description				-	20	KATKI 2	
					21	KATKI 3	
					22	KATKI 4	
New	Erase	Print	Si	ave			

## 1.9 Stocks

Use these forms to enter stock information, to make modifications on the stock information. You may enter negative stock information to decrease the stocks. List on the left of the screen is used to display stock information.

Stock number : System assigned number to identify stock activity.

Material Name : Make the proper selection for the material for the subject stock activity.

Amount : Use this field to enter the amount of material for the stock activity.

Created By : System will automatically copy your user information on this field, and you will be assigned to this stock activity.

Last Modified By : This field will display the user name of the person who made the last update on the subject materials stock information.

Description : Use this field to enter the descriptive information for this transaction.

New : Creates a blank page for new data entry

Edit : Click on this button to make modifications on the selected record.

Delete : Click on this button to delete the selected record

Print : Click on this button to print the content of the current screen.

Save : Click on this button to save the new record or to save the modification on an existing record.

Cancel : Click on this record to cancel the modification on the record.

Material 4			Stock	Nc Material name	Amount
L			1	CEM 1	25,700
			2	CEM 2	27,700
			3	CEM 2	28,800
			4	CEM 1	4,469
			5	CEM 1	10,727
			6	CEM 1	26,000
Date	26/06/2010 07:17		7	CEM 2	15,000
			8	CEM 1	3,761
Stock No.	1		9	CEM 2	-3,999
			10	CEM 1	28,050
Material name	5 Chose CEM 1		11	CEM 1	-624
			12	CEM 1	14,175
Amount	25700 Ka		13	CEM 2	14,175
unount	25700 Kg		14	CEM 1	10,358
0000000			15	CEM 2	-14,144
Entered User	HOSA69		16	CEM 1	13,625
			17	CEM 2	13,625
Last person modifying	HOSA69		18	CEM 1	7,988
			19	CEM 1	10,77
Description			20	CEM 2	13,625
			21	CEM 1	17,250
		*	22	CEM 1	27,550
			23	CEM 2	1,000
New	Erase	Save	24	CEM 1	28,250
			25	CEM 1	28,200
Edit	Null stock	Cancel	26	CEM 1	24,500

## 2. Settings

## 2.1 Production Parameters

Use these forms to set, modify, and/or view the parameters used during production. Similar parameters are grouped together and values are displayed in tabular format. Group names are displayed on the left of the screen. Make the desired selection from the group list and the parameter values will be displayed on the right side of the screen.

## 2.1.1 Mixer and Weighting - emptying time

#### **Mixing Period**

Mixing Period is the duration of mixing process of the materials after each of the defined material periods. Since aggregate, cement, water and additives can be added in the mixer on different periods, Mixing Period starts with the first material starts loading. Hence Mixing Period includes loading periods and loading delay periods of all of the materials.

For the Turbo mixers, this period starts with the closure signal of the mixer material loading valve after all of the materials are loaded in the mixer. After mixing Period expires, discharging mouth will be lowered to the loading position.

On the systems without mixers, these parameters are not used.

#### Mixer Discharging Period

Discharging Period is the total period required for the total discharge of the mixed material in the mixers. Discharging Period will start as soon as the Mixer Discharge Valve Open signal is received. However, mixer valve will not be shut until the system receives the "mixer is empty" signal even if the mixer discharging period expires.

Please keep in mind that period defined for the opening of the discharge valve on graded systems is also included in mixer discharging period.

When the turbo mixers are in the discharge position, at the end of the mixing period at the discharge state, it stops mixing and starts revolving in the discharge direction. At this stage Mixer Discharging Period starts. After mixing Period expires, discharging mouth will be lowered to the loading position.

On the systems without mixers, these parameters are not used.

#### Graded Valve Opening Application and Waiting Period

To avoid splashes and over loading of the concrete with sudden burst of the mixed material in the mixers during the discharge process, valves may be set to open up gradually. This gradual opening process is completed with opening of the valve a little bit and then waiting at this state for a while. This process starts with the first open the valve signal sent after the mixing process completes. Valve opens for the period defined for the Graded Valve Opening Process. After this period expires, valve stays at this state for the period defined in the Graded Valve Wait Period. This cycle continues until the valve opens up completely. When the valve opens up completely system will generate valve open signal.

On the systems without mixers, these parameters are not used.

#### Waiting Periods for the Aggregate, Cement, Water and Additives Before and After Weighting

Materials for the next production cycle are weighted right after the loading of the materials for the current production. Materials to be weighted are conveyed through a channel to the scale. These processes interferes with the scales weighting process. To stabilize the scales prior to and after the weighing the materials, system automatically waits for two seconds before continues with the next weighting process.

#### Aggregate, Cement, Water and Additive Loading/discharging

Loading of the materials stops as soon as the weight goes below the pre-defined "Loading Stopping Weight Limit". However scaling errors could occur due to sudden oscillation of the conveyor belts. To minimize these miscalling errors or to make sure that all of the material in the scale pans to empty, you might define additional wait time before closing the valve or before stopping the conveyors.

### 2.1.2 Partial emptying, bucket safety and vibration time

#### Aggregate, Cement, Water and Additives Partial Discharge Waiting Periods

To obtain the desired consistency, loading of the materials into the mixer could be gradual process. This means that loading valves are shut after loading the material as much as the predefined "Partial Loading Percent" and the system waits as much as the predefined wait time before repeating the process. This process repeats until all of the material is loaded

In case the Wait Period and the Percentages of Partial Loading equals to zero partial loading process is skipped and all of the material is loaded at once.

On systems without the Material Wait Bins these parameters are not used.

#### Aggregate Vibration Control and Vibration Application Periods

System does occasional tests to control the aggregate flow. In case the aggregate flow is below the predefined aggregate flow parameters, to increase the aggregate flow, system automatically applies vibration for the predefined vibration application periods.

#### Scaled Conveyor Belt Vibration Application and Wait Periods

To provide the quick load of sticky material and to clean the scale surface of the conveyors system applies vibration. To optimize the process, application of the vibration occurs towards the end of the discharging process, and it applies the vibration and waits for a while. This process stops as the transferring of the materials stops. Vibration process starts as the weight on the conveyor belt goes below the predefined Conveyor Vibration Control Weight.

#### Feeding Conveyor Carrying Period

It is the waiting time for the vertical feeding conveyors to completely carry the materials from the Weight Conveyors to Aggregate Collecting Bin. In other words, after weighting belts stops, system waits this amount of time before generating the signal for opening up the Bin Discharging Valves.

For example if this parameter is set to 4 seconds Holder Bin's valve opens before the conveyor completes carrying all of the material. This way holding bin starts discharging its content as the feeding conveyor carrying the weighted material, therefore, saving from the total wait time and increasing the production capacity.

On systems without the Collecting Bin, system generates empty signal as soon as other materials are weighted and ready to be mixed

#### Station Safety Periods for Skip Movement

On systems using skips for aggregate loading, you can define safety wait times for the movement of the skip between 3 stations (bottom, middle, top) to protect the lift motors in case of system problems.

If the skip does not reach the station in these predefined durations, system generates a warning signal and stops the lift motors. After the problem is fixed the process continues from where it stopped. It is recommended that these parameters are set to 1 or 2 seconds more than the average operation times to obtain a healthy control mechanism

On systems without the middle station first two parameters are not used and the Skip Top-Bottom Duration is used for both the skip up and down times.

#### **Collecting Bin/Skip Discharge Period**

It is the amount of time required for the aggregate in the Collecting Bin to totally empty. This period starts as the system receives the valve open signal from the Holding Bin valve

On the systems utilizing skips, discharging period for the skip is also set using this parameter. This period starts as soon as the system receives the 'Skip is at the top station' signal.

#### Collecting Bin Vibration Control, Application and Wait Periods

These parameters are used differently depending on if your system is using Collecting Bin is Empty signal or not.

If your system is generating Collecting Bin is Empty signal, system repeats the process of vibrating the bin and waiting for the amount of predefined period until it receives the Collecting Bin is Empty signal.

If your system is not generating the bin empty signal, after the discharging process starts systems waits for the amount of period defined in the Vibration Control Period and the system repeats the vibration process and waits for the specified period until the bin is empty.

These parameters are not used in systems without the Collecting Bin.

## 2.1.3 Pumping Time 1

#### Aggregate Pumping Period and Wait Period

Since you can not apply error correction procedures in the productions with a single production periods, by using pumping technique you can weight aggregate more precisely. Idea behind the pumping process is to stop the scaling units when the weight reaches to the Pumping Control Weight, weights the materials for the duration of Pumping Application Period and then waits for the duration of Wait Period. If you consider the fact that you can enter 1 second or less for the application period, scaling results will be quite precise.

Entering 0 seconds for any of these parameters will cancel the pumping process. Our recommended values for these parameters are 0.5-1 second for the Pumping Period and 2-3 seconds of Wait Period.

Pumping process is accomplished by opening and closing the valves for the specified periods and it is highly recommended that you will check the mechanical properties of the valves and make sure that the valves are well suited to endure the frequent opening and closing.

## 2.1.4 Vibration, Airshock. Syren and Filter time

#### **Cement Bin Vibration Application and Wait Periods**

As in the conveyor belt vibration procedure, vibration is applied to ease the loading process and prevent the cement from sticking on the belt. To prevent the mechanical fatigue you should start this process towards the end of the loading period. Vibration process starts when the weight on the conveyor drops under the defined Cement Bin Vibration Control Weight.

#### **Cement Air Shock Application and Wait Periods**

These parameters controls the air shock given to the lover conic section of the cement bins to increase the cement flow. This air shock is applied periodically to prevent the cement sticking together due to the moisture in the air. Air is applied for the duration defined in the Air Shock Application Period and stops for the duration of the wait period.

#### Additives Bin Water Spraying Period

By spraying water in the bins after the additives are discharged from the container, additives are cleaned of the walls of the bins. Process of spraying starts when the weight on the scale goes below the Discharge Stopping Weight Limit and continues until the specified period of period. Bin valve will not shut until this period ends (even if the Wait Period After Discharge period expires).

#### Horn Duration

System notifies the end of the production with a horn after the last mixer valve shuts. This parameter defines the duration of the horn.

On the systems without mixers, this signal is generated when the last loading process for the last production period ends.

#### Mixer Filter Wait Periods Pre-Discharge and Discharge

Materials in the mixer filters could be dumped into the mixer after the material loading in each period. Pre-discharge wait period is the wait duration after all of the materials are loaded in the mixer and the lids are shut. On the other hand the discharge wait period defines the duration that the fitter lid stays open. Mixer discharge lids will stay shut until the filter discharge period expires -even if the mixing period expires.

#### Mixing Period in Turbo Discharge Position

When the discharge mouth moves to the discharge position mixer will continue rotating in the mixing direction as defined in this parameter. When the period expires, mixer will stop and will start rotating in the discharge direction, starting the Mixer Discharge Period. If you set this parameter to 0 seconds this procedure will not take place and discharge operation will start immediately. However we recommend that you set this parameter to 2-3 seconds to prevent splashes and sudden discharge.

These parameters are not used in the systems without Turbo Mixers.

#### **Cement Flow Control Period :**

On the "Plant Informations and Confirmations" window you have the option to apply period controlled cement flow during the weighting process.

During the Flow Control Duration, if the system detects flow below the Flow Control Weight it will prompt the operator with a selection window, asking for a decision to continue weighting the cement from the same silo or to choose to continue using another one. After making the desired selection the control procedure continues the cycle. Process of weighting from the secondary silo starts as soon as the screw of the primary silo stops and the secondary silo's screw starts.

## 2.1.5 Weighting start and end limits

#### Aggregate, Cement, Water and Additives Scaling Start Weight Limits

Prior to starting the production all scales are tested for leftovers from the prior production cycles or due to an malfunction in on of the scales. This control is to prevent undesired consistence problems..

If the system detects weights above the weight limits, user is flagged and the scale is marked as unusable.

To reuse the scale, the scale needs to be reseted with the weight on the tare. Other method is to increase the weight limit parameter to a value above the weight on the scale. However if you think that the materials left over on the scale will change the consistency you should empty the scale manually and continue the production from where it has stopped.

#### Aggregate, Cement, Water and Additives Scaling Ending Limits

Discharging the scales stops after weighting the materials on the scales. As soon as the weight on the scales goes below the Scaling Ending Limit system generates signal to stop the conveyor belts and to open the discharge lids. To prevent miss scaling due to the vibration on the scales discharge of the materials might be delayed for some duration.

Lids will not shut or the conveyor belts will not stop until the weight on the scale goes below the respective parametric weight. Although it is not recommended, by reseting the scales indicator manually or increasing the parametric values you may still continue with the production.

Resetting the indicators to overcome the scaling beginning and ending limits will eventually cause overflows and inconsistent productions, hence it is not recommended to resort to this method too often. It is recommended to clean up the materials stick on the scales.

## 2.1.6 Precise weight values

#### Aggregate, Cement, Water, and Additives Coarse - Fine Dosage Parameters

To prevent scaling errors, some scaling systems has functionality for precise scaling. Examples of such systems are having two lids on aggregate bins, the ability of the cement screws to operate in fast and slow motion, and having two valves for the water scaling systems, one with smaller diameter than the other.

Main principle is, to save period, initially materials are sent to the scales in large quantities and when the system detects the parametric weight limits, material flow is slowed down to precise scaling.

In aggregate systems, initially materials are sent from two mouths and the system shuts down one of the lids when the weight reaches the precise scaling limit. In the cement scaling systems, initially cement is sent to the scale with fast Cycle of the screw and then the screw is slowed down to obtain precise scaling. On the water and additives intake systems, initially materials are sent via a valve with a large diameter and the system closes this valve and continues from the smaller valve.

When the Coarse –Fine Dosage Parameters are equal to or greater than the total material weight the system will use the single lid for the aggregate, slower Cycle speed for the cement and smaller valve for the water and additives intake systems which will increase the scaling precision, however, decreasing the production capacity.

#### 2.1.7 Air param and scale limit values

#### Aggregate, Cement, Water and Additives Error Correction Parameters

All materials are dropped on to the scales from a certain height. For this reason even after the system generates close signal for the lids or the valves, there will be materials left hanging on the air causing the system to mis scale the material. System will try to correct this problem by taking less material on the next cycle as much as the excess materials on the previous cycle, hence trying to correcting the overall results.

However inconsistency of the materials due to the environmental conditions such as moisture or the pressure differences on the liquid intake systems affects the material over intake by changing the amount of the material hang in the air.

For this reason, the system apply various algorithms to the production results and automatically calculates the material flow characteristics and adjusts the Error Correction Parameters. There are also parameters to prevent these values to reach an uncontrolled limit due to the mechanical problems on the intake systems. Lower limit of these parameters is zero, meaning the error values may never be negative values.

#### Aggregate, Cement, Water and Additives Error Addition and Multiplying Parameters

These parameters are used in the error correction algorithms. Scaling problems such as always scaling below or above the targeted weight can be corrected using these parameters. When the ratio increases, the system will prevent from the over weighting, when the ratio decreases the system will try to correct the under weighting problems. Depending on the characteristics of your scaling systems you should set these parameters (i.e.2:3, 1:5)

#### Aggregate (1st Group, 2nd Group), Cement, Water and Additives Scale Limit Parameters

These parameters controls the overflow of the scales. In other words if the weight on the scale goes above these parameters the scaling process stops and the system warns the operator.

These parameters are not required to be the exact scale limits. For example, for a aggregate scale with 3000 kgs you might set this limit to 2600 kgs' if the mixer limit is 2600 kgs or if none of your recipes requires this material more than 2600 kgs.

## 2.1.8 Vibration, part. emptying, control parameters

#### Aggregate Vibration Control Weight

System performs Period Depended Flow Control on the aggregate systems. If aggregate flow is blow the control parameters, system applies vibration for the specified duration.

By only applying vibration as needed, overloading of the vibration engines will be prevented.

#### Weighing Belt Vibration Control Weight

To provide faster discharge and to prevent excessive sticking of materials on the Weighing Belts, system applies vibration during discharge. To prevent overloading of the vibration engine, vibration process starts towards the end of the discharge, when the weight on the container is not too much. Vibration process starts as soon as the weight on the scale goes below Weighing Belt Vibration Control weight.

#### **Cement Bin Vibration Control Weight**

Similar to the scale belt vibration process, system applies vibration to the Cement Bin for faster and steady discharge of the material. To prevent vibration engine overloading, this process takes place towards the end of the discharge process and vibration is applied and stopped in cycles. Periodical application of vibration process starts when the weight on the scale goes below the cement bin Vibration Control Weight.

#### Aggregate, Cement, Water and Additives Partial Discharge Percentages

Scaled materials can be added gradually to provide the desired thickness. The system closes the lid or the valve when the specified percentage of the material is discharged and waits for the period specified. The system repeats this cycle until all of the material is discharged.

#### Cement Flow Control Weight

The system will warn the operator if during the Flow Control Duration if the cement is not weighted as much as Flow Control Weight due to a mechanical or any other problem.

For example assume that you define 10 seconds for the Flow Control Period and 10 kg. for Flow Control Weight. If the system weights 7 kgs of cement in 10 seconds from a silo the operator will receive a warning message. At this point operator have the option to continue of taking the materials from the same silo or to choose another silo from the system. This control continues until the cement weighting process completes.

## 2.1.9 Pumping Control Weights

Since correction procedures can not be applied on single period productions, pumping method is used to obtain precision. When the scales reaches a weight Pumping Control Weight less than the total weight, the system stops scaling process and waits for the duration as defined in the wait period

Precision Scaling Parameters defines the process start periods for each unit. When the scale reads a weight as less as the weight defined in this parameter from the total weight, pumping process starts.

Since pumping is achieved by opening and closing of the lids for short periods of period, it is recommended that you will check your system if it can mechanically endure such process.

## 2.1.10 Agreggate humidity values

This parameter is used for manual entry of the moisture level of the aggregate in systems without moisture sensors installed in the silos.

## 2.1.11 Error Correction Values

All materials are dropped on to the scales from a certain height. For this reason even after the system generates close signal for the lids or the valves, there will be materials left hanging on the air causing the system to miss scale the material. System will try to correct this problem by taking less material on the next cycle as much as the excess materials on the previous cycle, hence trying to correcting the overall results.

However inconsistency of the materials due to the environmental conditions such as moisture or the pressure differences on the liquid intake systems affects the material over intake by changing the amount of the material hang in the air.

For this reason, the system apply various algorithms to the production results and automatically calculates the material flow characteristics and adjusts the Error Correction Parameters. There are also parameters to prevent these values to reach an uncontrolled limit due to the mechanical problems on the intake systems. Lower limit of these parameters is zero, meaning the error values may never be negative values.

#### 2.1.12 Scale and Hum. sensors analog input definition

Values from the scales and the Moisture sensors are read into the computer by the PLC's analog modules. Numbering of these modules are explained in the I/O planning modules. These parameters defines which sensor or scales readings comes from which port. In case of malfunction in the system, if you change the cable and the entry port for a specific sensor, you should make the proper corrections in the system using these forms.

#### Aggregate Vibrator Digital Output Numbers

You have the opportunity to relocate the aggregate vibrators. In other words, after changing the location of the vibrator, you can change the control parameters to synchronize the physical system with the software.

## 2.1.13 Control Tolerance Values

#### Aggregate, Cement, Water and Additives Tolerance Percentages

After each production, system performs a tolerance check between the total desired production and total produced materials.

At the end of each period the operator is warned for each material in excess of the tolerance limit and operator is asked to correct the problem. However, this does not mean that the production may not be forced to continue even if the operator does not correct the problem.

#### **Control Cycle Numbers**

These parameters are used if the conveyor belts and/or cement screws have Cycleometer system

Cycleometer counts Cycle pulse signals during the Tolerance Period. If the system detects Cycles count values less than as defined in these parameters, operator is warned and system is stopped assuming that the system does not work or Works with low speed.

If the Cycleometer reads values equal or grater than the values specified in these parameters, the procedure starts over again with the counting process for the specified duration. This process continues until the engine is stops.

#### Aggregate Water Ratio

These parameters are used in the Moisture calculations. These parameters are set by Proksis during the initial installation.

## 2.1.14 Control Tolerance Time

#### **Belt Slipping Tolerance Duration**

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Signals received from the slipping sensors installed on the mechanical structure of the conveyor belts are controlled periodically. If the system detects slipping signal for the duration as defined in this parameter, it is assumed that the belt is off track and the conveyor engine is stopped as the warning signal is generated.

#### **Broken Belt Tolerance Period**

System can detect the increase or decrease in the conveyors engines rotation cycle due to a breakage on the belt or engine shout down due to the overloading of the conveyor belt. If the system detects such signal for the duration as specified in this parameter, engine is topped and a warning signal is generated for the operator.

#### **Mixer Start and Stop Delays**

On systems where the mixer is started and stopped automatically, system waits as defined in the Start Delay parameter after the production is started, and if the mixer is not functioning at that stage the mixer is signaled to start. Similarly, at the end of the production, mixer is not signaled to stopped immediately after the lids are closed. The system waits for the duration specified in Stop Delay parameter, if there is another production, mixer is not stopped. If there is no further production mixer is stopped after this stop delay period is expired.

#### Cycleometer Tolerance Period

These parameters are used if the system has conveyor belts and/or cement screws with cycle control mechanisms.

For the duration of Cycleometer Tolerance Period, system collects pulse signals from the machines. At the end of the duration parameters are compared to the read values. If the results of readings are below these parameters it is assumed that the system is not functioning or working with low Cycle and the engines are stopped and a warning signal is generated.

This process repeats until the end of the production if the read values are equal to or greater than the specified parameters. This process stops when the engines are shut down properly.

#### 2.1.15 Analog input definitions - 2

#### **Cement Level Reading Port Numbers**

Values read from the level sensors are read in to the computer system via the PLC's analog modules. Numbering of the modules are defined in the I/O Planning Forms.

## 2.1.16 Pumping Time - 2

Since correction procedures can not be applied on single period productions, pumping method is used to obtain precision. When the scales reaches a weight Pumping Control Weight less than the total weight, the system stops scaling process and waits for the duration as defined in the wait time

Precision Scaling Parameters defines the process start periods for each unit. When the scale reads a weight as less as the weight defined in this parameter from the total weight, pumping process starts.

Since pumping is achieved by opening and closing of the lids for short periods of time, it is recommended that you will check your system if it can mechanically endure such process.

Code	Name	Mixing Time (sn)	0.0
1	Mixer and Weighting - emptying time	Mixer Discharging Time ( sn )	0.0
2	Partial emptying, bucket safety and vibration time	Mixer Valve Graded Opening Application Time ( sn )	0.0
3	Pomping time 1	Mixer Valve Graded Opening Wait Time ( sn )	0.00
4	Vibration, Airshock. Syren and Filter time	Aggregate Wait Time Before Weighing (sn)	0.0
5	Weighting start and end limits	Cement Wait Time Before Weighing (sn)	0.00
В	precise weight values	Water Wait Time Before Weighing ( sn )	0.0
7	Air param and scale limit values	Additive Wait Time Before Weighing (sn)	0.0
8	Vibration, part. emptying, control parameters	Aggregate Walt Time After Weighing ( sn )	0.0
9	Pomping Cotrol weights	Cement Wait Time After Weighing (sn)	0.0
10	Agreggate humidity values	Water Wait Time After Weighing (sn)	0.0
11	Error correction values	Additive Wait Time After Weighing (sn)	0.0
12	Scale and Hum. sensors analog input definition	Apprepate Wait Time Before Discharging ( sp )	0.0
13	Control tolerance values	Cement Wait Time Before Discharging ( so )	0.0
14	Control tolerance time	Water Wait Time Before Discharging ( sn )	0.00
15	Analog input definitions - 2	Additive Wait Time Before Discharging ( on )	0.0
19	Pomping time - 2	Accrease Wat Time After Discharging ( an )	0.0
		Compat Wat Time After Discharping ( an )	0.0
		Cement wat time Atter Discharging ( sit )	0.0
		vrater wait time After Discharging ( sn )	0.00
		Additive wait time After Discharging ( sn )	0.00

## 2.2 Faults

In this screen you will see the warnings about the system malfunctions and solve your problems.

a-) Permanent Errors

b-) Temprorary Errors

#### a-) Permanent Errors

Problems listed in this section are required to be resolved prior to production. To solve a problem listed in this section please select the perspective error with left click of your Mouse, and then click on the 'Solve Problem' button.

#### b-) Temporary Errors

Temprorary errors are the errors solved without the operators interference.

## 2.3 Moisture

In this screen, values read from the sensors are displayed as well as data entry screens for manual entry about the Moisture information. On the left side of the screen moisture values for the aggregate is displayed on a table along with Code, Name, Automatic, Manuel values.

Code : Code number of the selected aggregate.

Name : Name of the selected aggregate.

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Manuel Value : If the selected bin does not have a moisture sensor, moisture value tested in the laboratory is entered manually.

Automatic : If the selected aggregate bin has a moisture sensor activate this switch.

Edit : Click on this button to modify the selected record.

Save : Click on this button to save the new information or to save the modifications.

Cancel : Click on this button to Cancel the modifications ...

Code		Cod	e Name	Automat	Manual Value	Automatic
Coue		1	AGREGA 1 (15-25MCR)		0.00	0.00
Name	AGREGA 1	2	AGREGA 2 (0-7 TAS )		0.00	0.00
	Moneorri	3	AGREGA 3 (0-5 KUM)		0.00	0.00
Manual Value	0.00 %	4	AGREGA 4 (7-15MCR)		0.00	0.00
		5	AGREGA 5		0.00	0.00
Automatic		6	AGREGA 6		0.00	0.00
				-		
				_		
				-		
				-		
				-		
Edit		Save		-		
L		Jave				
		Cancel				

## 2.4 Plant Informations and Confirmations

#### **Plant Information**

Plant Code : If the firm has more than one site, use a different code for each of your sites. This code is used to view site information on central systems if the sites are interconnected to each other.

Plant Name : Use this field to define the specific sites name if you have more than one site in your firm. This name is displayed under the animation screens.

Waybill List Serial Number : Constant number stating the serial number of the waybill.

Waybill Serial No : This information is entered by the operator to follow up on the production, this number is increased by one after each production.

Production No : This information is entered during the first installation and/or after resetting production and increased by one after each production.

**Mixer Capacity :** Maximum volume (m3) of production capacity for a period. Amount calculations for each period for a production is calculated based on this value. It is important that this value should be adjusted according to the mixer's physical capacity.

Company Name : Displayed on the report headers and animation screens.

Company Name 2 : Displayed only on report headers. Full company name can be entered.

Total Production Time : Total operation time of the mixer is displayed in hh:ss format. On the contrary to the values displayed on the animation screen, this value is not resetted. Hence this value displays total operating time since the establishment of the site.

Daily Production Time : Daily operating time of the mixer is displayed in hh:ss format. It is recommended that you will reset this value prior to your first production of the day. This value is also displayed on production screen.

Site info and approval	ls	
Plant Code	1	General Production Confirmations
Plant Name	UNIVERS BAT	Check PLC amounts for manual records
Waybill Serial No.	A	Ignore Bin Valve Switches
Waybill No.	38	E Feeding Belt Walt Approve
Production No.	38	TEST MODU
Mixer capacity	2.00 m3	Control collecting bin is empty or not
	Report Title Data	Get Shipping Record approval
Company Name	UNIVERS BAT	
Work-place name	UNIVERS BAT	IV] Get Approval before printing waybii
Total prod.	time Daily Production Time	
7645 h 52	min. 0 h 7 min. Reload	Cive audio warning Settings
Edit		Save
Fixed Data		Cancel

#### **General Production Confirmations**

Peek at the PLC Records in Manual Records : On systems where manual scaling values are recorded on PLC, this parameter defines if manual records will decrease by the PLC values.

Cement Flow Control Confirmation : This is to enable or to disable use of the parameters defined on the Cement Flow Control screens.

Feeding Belt Waiting Confirmation : If you want the conveyor belt to stop when the production is topped approve this action. However depending the mechanical capacity of your machines even if the production stops conveyor belt may still continue.

Holding Bin Confirmation : If your system has empty switch you should check this option. Even if the bin discharging period expires the system checks this switch to ensure that the bin is cleaned. If the system does not receive empty signal, system applies vibration to the bin. Also, if you check this option you are displayed a message of Empty/full on the animation screen when the Mouse is over the bin.

**Pre-discharging Confirmation :** If this option is checked, in the first period of the mixer discharge system requires operators approval. If the truckmixer is not under the mixer, this is how the system is moved to stand by.

Production Confirmation : If you check this flag the system will pause for the control of the values after the end of the production prior to production.

Approval Prior to Waybill List : To receive a prompt prior to printing a waybill at the end of the production.

Approval for the Aggregate Pumping : Since error correction procedures can not be applied in the single period productions, you can obtain better precision scaling by pumping method. When the weight on the scale reaches the point where the final weight is as much as less than the final weight as defined in the pumping control weight, scaling system stops and waits as for the duration defined in the wait time parameter.

Pumping Procedure is activated with this switch. In the periodical production cycles, it is not recommended that you use this switch since it will slow down the process.

Vocal Warnings: If you would like the system give the warnings vocally, please activate this switch. Using the Settings button next to the switch, you can define the vocal messages for the program to use (only for Turkish version). Use the button on the right to test the messages.

Edit : Click on this button to make modifications on the selected record.

Standard Information : Use this button to modify the information used on the Waybills and invoices.

Save : Click on this button to save the new information or to save the modifications.

Cancel : Click on this button to Cancel the modifications ...

## 2.5 Limits

This form is used to define the upper limits for peripherals used in the systems units. Numbers seen on the screen are sent to the PLC's and read from the PLC's. These values are set during the installation by Proksis. Prior to making any modifications on these parameters you must consult with Proksis.

Limit Code : Code value of the selected record. Cannot be modified by the user.

Limit Name : Name of the selected record. Cannot be modified by the user..

Value : Upper limit value of the selected record.

Edit : Click on this button to modify the selected record.

Save : Click on this button to save the new information or to save the modifications.

Cancel : Click on this button to Cancel the modifications..



## 2.6 Cement Silo Selection

To choose a different cement silo for any reason during production, click on the silo with your mouse and click on the Send button.



## 2.7 Cement Silo Settings

On the upper section of the screen there is a level graphics showing the ratio of the silo capacity to stock amounts and amount in the silo. This graphics depends on the stock level selection located under each silo. If the system has a level indicator then level selection, if there is no level sensors you should select the stock entered by the user.

On the lower section of the screen you have the grouping selection options in order to use two different silo at the same time. User can select any desired two silo to work together. In the mean time, users should also make the proper selection as far as which silo to use for the stock control.

Edit : Use this button to group cement silos and to make modifications.

 $\ensuremath{\textbf{Save}}$  : Use this button to save the modifications on the Cement Groupings.

 $\ensuremath{\textbf{Cancel}}$  : Use this button to cancel your modifications.

Update Levels : If the user adjusts the silo capacity use this button to refresh the silo level graphics.

Concrete Silo Selection					
Cement Maximum Level/Stock amount(kg)	CEM 1 150,000 32,222	2 CEM 2	00,000	100,000	
	C Level	© Le	vel	C Level	C Level
	Stock	<ul> <li>Str</li> </ul>	ock	Stock	Stock
Cement Grouping					
Silo 1-2 Together	Silo 1-3 Together	Silo 1-4 Togethe	Silo 2-3 Together	Silo 2-4 Together	Silo 3-4 Together
<ul> <li>Decrease from Stok '</li> <li>Decrease from Stok</li> </ul>	<ul> <li>Decrease from Stol</li> <li>Decrease from Stol</li> </ul>	<ul> <li>Decrease from Sto</li> <li>Decrease from Sto</li> </ul>	<ul> <li>Decrease from Stok</li> <li>Decrease from Stok</li> </ul>	<ul> <li>Decrease from Stok</li> <li>Decrease from Stok</li> </ul>	<ul> <li>Decrease from Stol</li> <li>Decrease from Stol</li> </ul>
Edit Si	ave Cancel	]			Reload level

## 2.8 Silo-Material Definitions

Use this screen to arrange the silo configuration and specify which material is stored in which silo. Also you have the opportunity to change the scaling order of the aggregate during production.

Silo configuration is set up by Proksis during the establishment of the site, users should only make modifications to these configurations with the assistance of Proksis.

To modify the scaling order of aggregate, click on the Scaling Order button. Using the form on the next window, select the desired item from the list and drag the item up or down in the list by holding the left mouse button and then releasing it when you reach the desired position. After you rearrange order click on the button to save your work.

Edit : Click on this button to modify the selected record.

Save : Click on this button to save the new information or to save the modifications.

Cancel : Click on this button to Cancel the modifications..

## 3. Production

## 3.1 Animation Screen

Site's general view is graphically displayed on this screen. For this reason animation screens may visually look different in each site. On this screen you can enter production information and begin the production process, view the current production status with live animation, and view the scaling values.

Left upper corner of the screen is reserved for the periodical scale weights. Left bottom part of the screen is divided into two. One for the Production Start and the second for the Production Information. By changing the values regarding the production on the first section you can start production by clicking on the Start button. You can modify information from your keyboard using the arrow keys to move between the fields and the buttons or by using your mouse to click on the Select or Delete buttons. For the delete function either use the delete key on your keyboard or use your mouse's right button. When you click on any item, first column on the selection list is the search code. For this reason it is recommended to set the search codes in a manner to ease the selection operation. As soon as the production starts left lower corner turns in to Production Information format automatically. You can switch between these two screens with the tab button on your keyboard or with Alt-1 and Alt-2 buttons.

On the Production Information section you will be presented with information pertaining to requested-weighted-total scaling and differential values, period totals, m3/hour type site production capacity. On the lower section you will see a Pause button. When you click on this button the button label turns into Resume. Use this button to pause the production process and resume from where is has stopped. Reset button cancels the production process.

On the animation screen there are some information screens activated with the mouse. When you you're your mouse over a symbol on the animation screen information related to this symbol will be displayed on a small window. For example, mixer up time, period, remaining mixing time, type of the materials in a silo, stock information, moisture percentage for aggregate, weighting capacity of the scales can be viewed on this small screen. To close this information window click on it with your mouse.

When the production starts, recipe, volume, and the customer information is displayed on a black band under the animation screen.

You can quickly switch back to the production screen by clicking on the F9 key on your keyboard.



## **3.2 Production Plan**

You can adjust your system for adjacent productions using this form. Plans listed on the right side of the screen can be temporarily remove from the production by clicking on the Activate and Deactivate buttons. Active plans are in colored in green.

To start up a production from a Plan, select the desired production from the list and click on the Start button. At the end of the production cycle, completed item is removed from the list automatically.

Use the New, Edit, Delete and Cancel buttons to create new records, to make modifications or to delete a record. If you select the successive mod productions listed on the plan will be executed one after another (upon successful completion) from top to button.

				Producing Dont produ	Produce	
			Date	Recipe	Client	Amount 🔺
Date	24/06/2010 16:25		> 24/06/2010 16:25	GURIS	C-20	6.00
Code	8223		25/06/2010 11:26	GURIS	C-20	11.00
Amount	6.00		25/06/2010 18:18	GURIS	C-20	8.50
Alloune	0.00		28/06/2010 10:39	GURIS	YIKAMA	1.00
Recipe	C-20		28/06/2010 14:29	GURIS	C-25T	9.00
Client	GURIS		28/06/2010 15:16	GURIS	C-20T	1.00
0.11			29/06/2010 09:52	GURIS	YIKAMA	1.00
site	Site 03		29/06/2010 09:54	GURIS	YIKAMA	1.00
Truck	10		29/06/2010 09:55	GURIS	YIKAMA	1.00
Driver	SADTK UVSAL		01/10/2010 16:34	cilcil	C-20T	8.00
	CHIDIN OTOMIC		01/10/2010 16:39	cilcil	C-20T	8.00
Service 1			04/10/2010 10:29	SLN INS	C-25T	10.00
Service 2			12/10/2010 12:19	asef karaman	C-25	2.00
Add Water			12/10/2010 15:47	GURIS	GRO	3.00
Auu water			12/10/2010 16:37	GURIS	C-25	3.00
Plant	Mobil		13/10/2010 11:28	GURIS		7.00
Order	0		13/10/2010 12:02	GURIS	C-25	4.00
	-		13/10/2010 13:12	GURIS	C-25	4.00
Description	n	<b>^</b>	14/10/2010 15:16	GURIS	C-25	7.00
		+	18/10/2010 12:01	GURIS	C-25	3.00
New	Erase	Save	-			
Edit	Clear	Cancel	Produce	Dont produce Start	Normal Prod.	Serial Prod.

## **3.3 Manual Productions Record**

Manual productions or the productions completed manually can be registered in Probeton to print the waybill and for stock control.

Similar to the animation screens, left side is reserved for Production Information where you can modify production information or add new manual records using the Add Manual Production Record button. On the right side you are presented with supportive information and values read from the PLC's (if your system records manual values from PLC).

Weight values to be scaled per period, total weights of the different materials to be weighted on the same scale are among the supportive information for the user number of periods.



## 4. View Screens

## **4.1 Production History**

You have the opportunity of taking a look at the previous production information, reprinting the waybill, and depending on your user privileges you can view and delete production records between any given date range.

In this two part screen you are presented with production definitions on the left, and weight values on the right side.

Left bottom part of the screen contains navigation and search controls. Respectively first record, previous record, next record, last record.

When you click on the search from the list on the Customer and Recipe headers, only the customer and recipe records for the selected customer will be displayed.

**Removing a Production :** Depending on your user privileges you can search and delete production information between and given date range. You could use this functionality to clean out the jobs uncompleted or to reset your system at the beginning of a new year. You have the option of choosing the date range monthly, yearly or between any two specific date you input in the date range fields (To delete a single production record you must enter the exact time of the production). You will see the total number of records to be deleted at the bottom of the list. Click on the Delete button to remove records or Cancel to cancel your removing process.

Waybill : Use this item to send the production waybill to the printer.

		Prod. info			Weight wanted	Nen rev. wanted	Humidity	Total given	Difference
Production N	lo 00033		1	15-25MCR	3290	3290	0.00	3281	-9
Recipe	2	C-25	10	0-7 TAS	2660	2660	0.00	2669	9
Amount	7.00		m3	0-5 KUM	4760	4760	0.00	4769	9
Date-Time	14/10/2010	15:21		7-15MCR	2100	2100	0.00	2100	0
Client	GURIS			CEM 1	2590.0	2590.0		2588.0	-2.0
Site	SLN			CEM 2	0.0	0.0		0.0	0.0
Truck	69 AK 910				0.0	0.0		0.0	0.0
Driver	GOKAN GULF	AN			0.0	0.0		0.0	0.0
Add Water	0		kg/m3	SU	875	875		875	0
Service 1					0	0		0	0
Service 2				KATKI 1	21.00	21.00		21.09	0.09
Plant	Mobil				0.00	0.00		0.00	0.00
User	YETKILI				0.00	0.00		0.00	0.00
Waybill No.	33	A			0.00	0.00		0.00	0.00
		Ready Amount	Returned	TOPLAM	16296.00	16296.00		16303.09	7.09
		0.00 m3	0.00 m3						
				-	1				

## **4.2 Daily Productions**

Use this screen to view your daily production and production information. You have the option to group the information by customer, recipe, truckmixer, or by customer and recipe. Show Total and Show Detail options will display summarized or detailed information per you selection for the recipe, customer, truckmixer. To see the results of the current productions click on the Update button. On the lower left corner you will see the total number of daily productions, and total daily production amount on the lower right corner.

**Export to Excel**: Exports the results of the daily production report to an Excel file. By default results are saved in Gunsevk.xls file under the Excel directory of your Probeton folder (i.e. C:\PROBETON\EXCEL\ Gunsevk.xls). Using the text box on the left you may assign a different name for the Excel file.

## 4.3 Inputs-Outputs

Use this screen to view the inputs coming from the site or the panel to the PLC and outputs that the PLC is sending to the panel or to the site.

This list is quite comprehensive in order to accommodate the needs of all production sites. Left side of the screen is reserved for the input signals and the right side is for the output signals. You will see the label of (MAN) next to signals coming from the manual production buttons on the control panel. Inputs are in green color whereas outputs are in red.

Incase of malfunctions and extraordinary delay, you can try to detect the problem looking at this screen.

#### 4.4 Log Records

In this report you can view events and error messages per user on a given date or date range using the filter parameters on the screen. You have the option of limiting the messages according to the message count or according to number of days. In either case, you need to click on the Uygula button to activate the report.

## 5. Reports

## 5.1 Waybill Settings

Use these screens to define the format of your waybill form and to define when to print it.

Code : System assigned number for the Waybill

Name : User defined name for the waybill.

Prior to Production : Choose this option to print the waybill at the beginning of the production.

After Production : Choose this option to print the waybill at the end of the production.

From Previous Records : Choose this option if you would like to print waybill from prior production records.

At the end of the period : Choose this option to print the waybill at the end of each production period.

New : Opens a new page to create a new record.

Edit : Click on this button to modify the selected record.

Delete : Click on this button to delete the selected record.

Save : Click on this button to save your modifications or your new record information.

Cancel : Click on this button to cancel your modifications.

Activate These Settings : If you have defined multiple waybill formats select the item from the list and click on this button. Format to be used will be in black where as others will be red.

Code	Name	Start of producticAt the en	d of prcPrint from recor	rtAt the end of pe 🔺	New
1	detaylı	detayli.fr	x detayli.frx		New
					Edit
	-				Erase
					Save
	-				Cancel
	Activ	ve These Settings	Deactive These Settings		Design Waybill
Code	1	Start of production			
Name	detaylı	At the end of produ	detayli.frx		
		Print from record	detayli.frx		
		At the end of period			

## **5.2 Production Reports**

Use this report to either send the information to the printer or to the screen. Using the grouping options you can choose the desired records. By making the desired selections you can define the format of your report. You can print your report on daily, monthly, yearly, or between specific time range bases.

If you do not make any selection for grouping, you will have the most detailed report for the selected period.

View : Click on this button to send the report results to the screen.

Print : Click on this button to send the report results to the printer.

Printer Settings : To view and choose from the available printers defined on your Windows system click on this item.

Export to Excel: Exports the results of the production report to an Excel file. By default results are saved in sevkrap.xls file under the Excel directory of your Probeton folder (i.e. C:\PROBETON\EXCEL\ sevkrap.xls). Using the text box on the left you may assign a different name for the Excel file.

		Ship	ping Report	s			
Grouping	Choices						
X Recipe		<b>A</b>	🔀 Date	Beginning	21/10	2010 00:00	圆圆
_				End	21/10	2010 17:00	] 🕮
X Client		<b>A A</b>		6	Daily	O Monthly 🖉	Annı
X Truck							
Driver			Prod. 1	Гуре	Only A	uto. production	
Service		<b>A</b>			Only m All pro	ianual productio d.	n

## 5.3 Stock Reports

Using this form you can follow up on your stock amount, print the report and view the stock data entry information. You have the option to report grouping by the date range or by only selecting a certain material.

View/Print Stock Status and Data : Click on this option to view the stock status information and stock data entry information on the same page.

View/Print Stock Data : Click on this option to only view the stock data entry report).

View/Print Stock Status : Click on this option to only view the stock status information.

View : Prints the result of the report to the screen.

Prints : Sends the report results to the printer.

Printer Settings : To view and choose from the available printers defined on your Windows system click on this item.

Export to Excel : Exports the results of the stock status report to an Excel file. By default results are saved in stokrap.xls file under the Excel directory of your Probeton folder (i.e. C:\PROBETON\EXCEL\ stokrap.xls). Using the text box on the left you may assign a different name for the Excel file.

	Stock reports			
irouping Ct	hoices			
X Material	Date 🐹	Beginning	21/10/2010 00:00	國
		End	21/10/2010 17:01	國
Show/Print stock sit.		Oaily	C Monthly C A	nnual
Dont show/print stock sit.				
Just show/print stock				

## **5.4 Spending Materials Report**

Use this report to view/print material consumption per production along with the total production consumptions. By using the grouping options you can modify the format of the report and filter for the desired selection. You can view/print your report on daily, monthly, yearly, or between specific time range bases.

If you do not make any grouping or filtering selection, your report will comprehend all of your data in Probeton

View : Prints the report on your screen

Print : Sends the report content to the printer.

Printer Settings : To view and choose from the available printers defined on your Windows system click on this item.

Export to Excel: Exports the results of the consumed materials report to an Excel file. By default results are saved in harrap.xls file under the Excel directory of your Probeton folder (i.e.) C:\PROBETON\EXCEL\harrap.xls). Using the text box on the left you may assign a different name for the Excel file.

0.000	Chaines	Used Materia	l Report				
Recipe	Choices		🔀 Date	Beginning	21/10/20	10 00:00	
				End	21/10/20	10 17:01	
X Service		<b>A</b>			O Daily	O Monthi	y 🔘 Anni
Plant		<b>A</b>					
			Prod. T	ype	Only A	kuto, produci nanual produ	ion ction
					All pro	d.	

## **5.5 Production Total Reports**

This screen consists of Daily Productions and Production Reports screens. Looks and feel of the screen is similar to the Daily Productions screen

Update : After making modifications to the formats or changing the time period, you will need to click on this button to update the report with the correct values and formats.

Print : Sends the content of the screen to the printer.

Export to : Exports the results of the report for the desired time periods to an Excel file. By default results are saved in Sevktop.xls file under the Excel directory of your Probeton folder (i.e. C:\PROBETON\EXCEL\ Sevktop.xls). Using the text box on the left you may assign a different name for the Excel file.

## 5.6 Spending Material Totals Reports

This screen consists of Daily Production and Materials Used reports. Looks and feel of the screen is similar to the Daily Productions screen

Update : After making modifications to the formats or changing the time period, you will need to click on this button to update the report with the correct values and formats.

Print : Sends the content of the screen to the printer.

Export to Exce: Exports the results of the report for the desired time periods to an Excel file. By default results are saved in Harmaltp.xls file under the Excel directory of your Probeton folder (i.e. C:\PROBETON\EXCEL\Harmaltp.xls). Using the text box on the left you may assign a different name for the Excel file.

## 5.7 Requesting-Weighing Materials Report

For a given production with a certain recipe you can compare the actual weights of the given materials with the requested material weights.

On the screen you will have the opportunities to select a recipe and define a time period.

View : Displays the report results on your screen.

Print : Prints the report content

Printer Settings : To view and choose from the available printers defined on your Windows system click on this item.

Export to Excel File : Click on this item to save the report results on an Excel file. By default results are saved in Recistvr.xls file under the Excel directory of your Probeton folder. Using the text box on the left you may assign a different name for the Excel file.

		Red	quired - Given r	material r	aport		
Recipe			<b>A</b>	Date	Beginning	21/10/2010 00	0:00
				End	21/10/2010 1	7:05	
					Daily	Monthly	O Annual
Printer Sett	ings	Convert to Exe	el files recisto	/r .xls		Monitor	Print

## <u>6. User</u>

## 6.1 Users

Using these forms you may define users, assign privileges for them and change their passwords.

User Code : System assigned code for the users.

User Name : Assign a distinct user name for users.

Password : Assign a password for the user. For security reasons \*\*\*\* is displayed instead of text.

New : Click on this button to define a new user.

Edit : Click on this button to modify the user name or the password.

Delete : Click on this button to delete a user.

Save : Click on this button to save your modification or to save a new user in the database.

Cancel : Click on this button to cancel the modifications.

			Code	Name	
			1	supervisor	
User Code			2	OPERATOR1	
			3	YETKILI	
User Name	supervisor		4	TECHNICIAN	
Password	<b>N</b> ,		5		
New	Erase	Save			
Edit		Cancel			

## 6.2 Authorization

This screen is divided to two parts. On the left you are presented with the list of users defined in the Probeton system, on the right section you are presented with defined tasks in Probeton. Select a user from the list and click on the check boxes for the rights you want to give to the selected user. When the user logs into the system, he/she will be limited to the operations that you have defined.

Give All Permissions : Selected user is assigned all of the available rights.

	defined users		( supervisor	)				
Cod	de Name		Rights	Var / Yok				
1	supervisor		Recepte Scren Entry					
2	OPERATOR1		Recete Scren Edit	1				
3	YETKILI		Customer Scren Entry	9				
4	TECHNICIAN		Customer scren Edit					
5	HOSA69		Site Scren Entry	V				
			Site Scren Edit	1				
			Trucmixer Scren Entry	V				
			Trucmxer Scren Edit	<b>V</b>				
			Driver Scren Entry	V				
			Driver Scren Edit	1				
			Service Scren Entry	<b>V</b>				
			Service Scren Edit	<b>V</b>				
			Cement Silo Settings Scren Entry					
			Cement Silo Settings Scren Edit	1				
			Order Scren Entry	2				
						Order Scren Edit	Order Scren Edit	
			Material Scren Entry					
			Material Scren Edit					
			Stock Scren Entry					
			Stock scren Edit					
			Production Parameters Scren Entry	<b>V</b>				
			Production Parameters Scren Edit	1				
			Faults Scren Wiev	V				
		-	Cement Silo Select Scren Entry	V				

## 7. System

Exit, Restart, and Shut Down : commands performs the following tasks respectively: Exiting to Windows from the Probeton, Restarting Probeton and Windows, exiting Probeton and shutting down your Windows system.

About Probeton : displays the programs' about pages. On this page you will be presented with address and telephone information for Proksis, link to Proksis web site, and program license information. This page is also displayed for few seconds when you first start Probeton.

Record Finder, Command Prompt, File Explorer, and Modem Connection : menus are links to support programs and provides means for debugging your system when the Proksis Technical Staff services your site or gives you telephone support. We do not recommend activating these programs on your own.

Server	Server Drive Server path	C PROBETONIABMI	DBASE	
	Edit	Search	Save	Quit



1. General Entries	2. Settings	3. Production	4. View Screens	5. Reports	6. Users	7. System	
						<u>1</u> . Exit	
						2. About Probeton	

Are	you sure you want to quit	program ?	
৾			
		No	



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