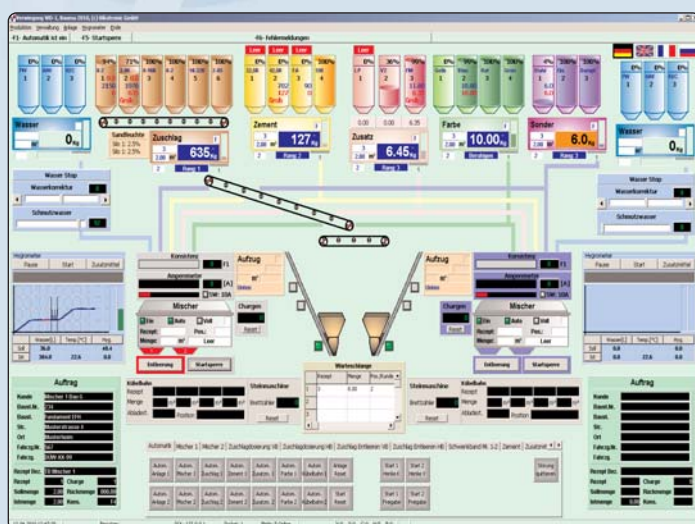




# Beton-WIN

## Control System for Concrete Mixing Plants

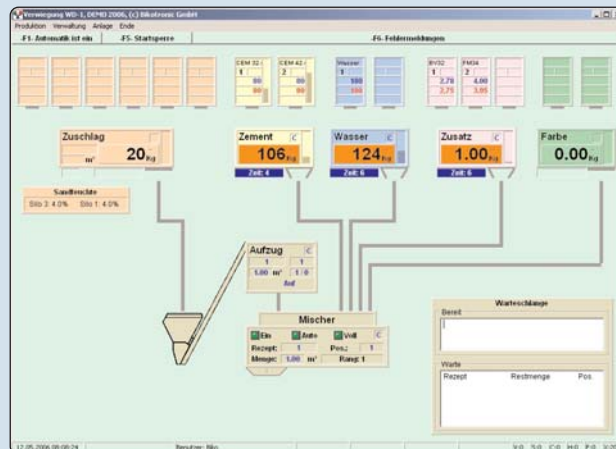


The Beton-WIN SQL System allows the manual and automatic control of the processes in the concrete mixing plant. It is composed of the administration software Beton-WIN SQL, the plant visualisation Visu-WIN, the independent batching computer WD-A and a Recovery Set for restoring data. Thanks to its modular structure a tailor-made plant control can be created. For this, only the hardware and software modules necessary for the specific production process will be compiled.

## Batching Computer WD-A

The WD-A is a computer-controlled batching system, which controls the batching of the mixture and the mixture procedure independently from the administration computer Beton-WIN SQL. During production you can continue using the Beton-WIN SQL system. The mixing equipment will be displayed on a second screen schematically.

- Graphical production overview, displaying all scales on the screen
- Operating system Windows 2000
- Adjustment of the water correction and the mixing rate fresh / recycling water with the mouse
- Display of the processes
- Continuous automatic overrun calculation
- Water stop function by mouse click
- Change of the loading quantity during production
- Change of silo during batching
- Double filling lock for mixer
- Individually adjustable control times

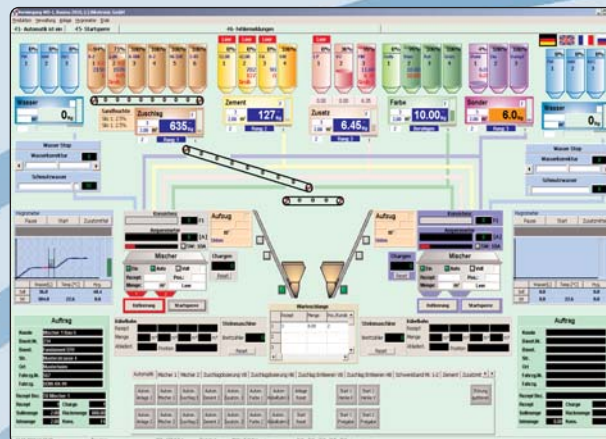


## Plant Visualisation Visu-WIN

The visualization and operation of the plant is realized via an individually adjusted process visualization. All relevant processes and equipment states as well as exact and clear error messages with time and date are displayed graphically.

- Easy operation of the plant
- Output of the error messages
- Operating hours meters for all drives
- Cycle counters for all drives
- Maintenance module

Every motor, valve and every limit switch can be monitored. If a beforehand defined condition is fulfilled, a plain text will appear which will also be saved in a file for later processing.



### Production

- Allocation table for articles
- Colormix
- Start of production with recipe no., article or place of discharge

### Article Administration

- Selection of several recipe numbers for one article
- Start parameters

### Recipe Administration

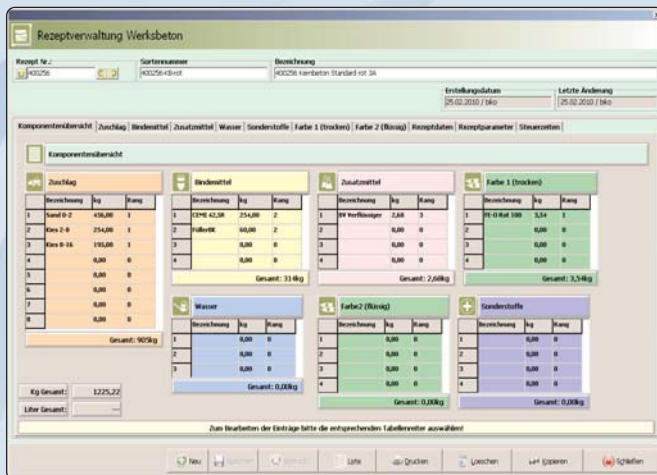
- Entering recipes with recipe numbers, designations, components, theoretical values, hygrometer control etc.

### Statistics

- All statistics can be output with any time frame
- Consumption statistics with administration of the used material, theoretical and actual values with difference equation
- Recipe statistics
- Article statistics: Listing according to produced articles with consumption of aggregates, cement, additives, colour and water for every article
- Production statistics with all components included in the recipe with itemization of theoretical and actual values including difference equation
- Statistics of the mixing protocols for every single batch
- Daily production
- LOG File – All processes of the system are recorded and stored in a LOG file



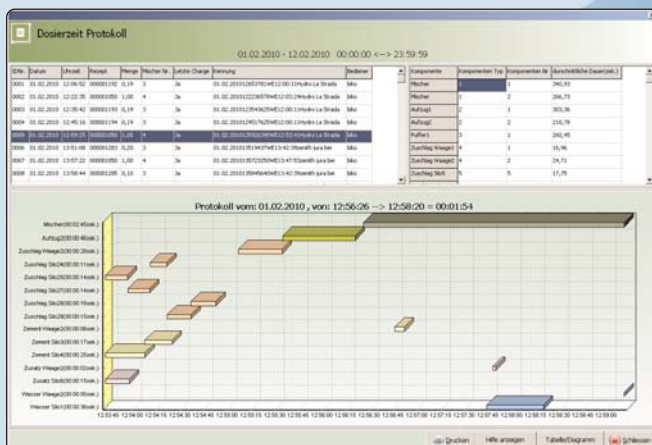
Administration Computer Beton-WIN SQL



The administration computer Beton-WIN SQL administers all master data like recipes, clients, construction sites, materials used, statistics etc.

Clearly laid out menus and self-explaining buttons give the operator a maximum operating comfort and a very good overview. Basic knowledge of the operating system Microsoft Windows is enough to operate Beton-WIN SQL rapidly and without problems.

All lists and statistics can be accessed with different sorting orders and output with any time frame. All statistics are displayed tabularly or graphically.



The Beton-WIN SQL has a data export module which exports all statistics in an ASCII or Excel format. With Microsoft Excel, the data can be examined or prepared for the annual financial statement.

The Beton-WIN SQL can record unlimited data quantities. Data size does not matter, the speed does not diminish significantly with bigger data sizes. This data can be transferred to a central ERP with a USB stick, by disk, modem or through a network.

All master data of one or more plants can be administered centrally and transferred to the plant. The operator in control of the mixing does not need to enter data, if that is what you wish. Furthermore, the consistency of the data between the mixing control and the ERP is guaranteed.

# Mischungsprotokoll vom:25.02.2010/10:33:55

Mischungscharge: <u>Leute</u>				Drehbreitform: <u>Leute</u>				W/2 Faktor: <u>Leute</u>		Drehbreitcharge: <u>Leute</u>		Theoretisches Volumen: <u>Leute</u>	
Rezepturen: K0209				Drehbreitform: 10:33:11				Zuschlagform: 13,21		Zuschlag: 0,00		Zuschlag: 407,43	
Rezept K0209: Normales Standard 1st 3A				Drehbreitform Mischung: 10:33:12				Wasser: 49,00		Zement: 0,00		Zement: 99,00	
Mischer Nr. 1				Beginn Mischung: 10:33:26				Abschneigenform: 45,00		Zementzeit: 0,00		Zementzeit: 1,50	
Abdeckschale 1				Hygrometer Start: 10:33:00						Sandzeit: 0,00		Sandzeit: 0,00	
Charge Nr. 2				Hygrometer Ende: 10:33:49				Total: 61,71		Farbe: 0,00		Farbe: 0,00	
Bodenform 1st				Hygrometer Start: 10:33:49						Farbe: 0,00		Farbe: 0,00	
W/2 Faktor (Vergleiche) 1,40				Mischung endzeit: 10:33:55				Zementzeit (Tag): 175,00		Wasser: 0,00		Wasser: 0,00	
W/2 Faktor (Schlag) 0,00				Mischungsaufzeit: 00:03:43				Zementzeit und Faktor (Tag): 175,00		Wasser: 0,00		Luft: 0,015	
Leichte Charge 3A													
Kombiende 2													
Artikel 0								W/F 0,334		€ 0,00		m³ 0,076	
...													
Sorte	Info	Arbeits	Sorten	Sorten	Sorten	Sorten	Sorten	Feu (%)		Abschneigenform (%)		Abschneigenform (%)	
Zuschlag (kg)	Sort 1/2							Feu (%)		Abschneigenform (%)		Abschneigenform (%)	
	2	30003	0-2	319,00	300,00	-0,80	0,00	9,00		0,00		0,00	
	2	31009	2-4	177,00	170,00	-2,80	0,00	1,40		2,40		0,00	
	2	31024	0-106	186,00	170,00	-2,60	0,00	1,10		1,40		0,00	
	Total			682,00	670,00	-3,00	0,00			13,21		0,00	
Bremsen (kg)	Sort 1/2							Zementzeit (Tag)		Zementzeit (Tag)		Filter	
	1	20010	42,58	176,00	170,00	-2,80	0,00	1,00		175,00		kein	
	1	20112	84	42,00	41,00	-1,00	0,00	0,39		17,59		ja	
	Total			218,00	210,00	-3,80	0,00						
Zementzeit (Tag)	Br von Rungen							Verdichtgr		Feu (%)		Rhe (%)	
	1	30010	84	1,88	1,88	0,00	0,00	kein		11,00		0,00	
	Total			1,88	1,88	0,00	0,00						
Wasser (kg)	Prochenge							Rst. Wasser					
	1	90003	Proch	95,50	49,50	-7,00	0,00	kein					
	Total			95,50	49,50	-7,00	0,00						
Farbe (kg)	Prochenge							Feu (%)		Rhe (%)			
	1	50003	Rot	2,40	2,40	0,00	0,00	0,00		0,00			
	Total			2,40	2,40	0,00	0,00						

...

Mischungsprotokoll

Hygrometer Kurve

Drucken

Exportieren

Schließen

21

With the Beton-WIN My SQL server, you can access the data bases rapidly and safely. It is a server-client application and disposes of an independent backup system which saves the data of the complete data bases time-controlled.

## Data Backup

- Automatic data backup of all data on a USB stick, CD-ROM or server

## Database

- My SQL Server
- Server-Client Application
- Independent backup system

## Data Export

- Data export in ASCII or Excel Format for later data preparation with Excel

## Additional Features

- Protocol printout with any time frame
- All protocols can be stored on external data media: CD-ROM, USB stick
- Recording of all operating functions and system errors for later analysis of the equipment
- Change languages by pushing one button (if delivered with a foreign language)
- Data transmission
- Interfaces to the invoicing / ERP
- Drilldown function

## Recovery Set

To restore all Bikotronic software packages and databases easily. The recovery can be managed by the client without any problems. The Recovery Set consists of:

- Bikotronic Recovery CD with instruction manual to restore all Bikotronic software packages
- Acronis TrueImage software package with manual
- USB stick as storage medium with min. 1 GB memory capacity

## Remote Maintenance Beton-WIN SQL

Through this connection all functions of the plant can be tested, accepted or changed with the administration computer.

- Via ISDN, network or Internet
- Remote maintenance for BT-7000
- Remote maintenance software
- Remote maintenance for BTS-WIN



## Online Remote Maintenance PLC

Through this connection all functions of the software PLC can be tested, edited, changed and transmitted online.

- Via ISDN
- Remote maintenance software

## Spare Parts Provision

The hardware of the Beton-WIN SQL system is based on standard industry computer hardware. Thus, a fast and easy spare parts provision is ensured by standardized PC components.

### Options:

#### Water Batching System BT-7000

Nowadays, the concrete quality is of vital importance for the industrial production process. In order to meet the increasing quality demands, it is essential to control and regulate the moisture content. The Water Batching Computer BT-7000 determines the moisture of the concrete in the mixer fast and exactly. It calculates and doses the water to be added and is thus the basis for a constantly optimal concrete quality.



#### Sand Moisture Measurement Device BTS-WIN

The BTS-WIN measures the moisture continuously while the batching is running. Afterwards the sand / water correction will be executed during the batching. The measured sand moisture values are displayed in the corresponding silo.



## Beton-WIN SQL

Control System