



CONTROL SYSTEM

BLS 3000





Always live data.

A modern control system is the basis for the future.

- ▼ Modern machine and plant controls provide a large contribution to efficiency and quality of production. That increases the economic efficiency of the plants.

We want our control units to be highly reliable, with state-of-the-art hardware and software to ensure continuous availability of the installed components when required. Operation of the plant has to ensure safe operation and avoid operator errors to increase the quality of the materials produced.

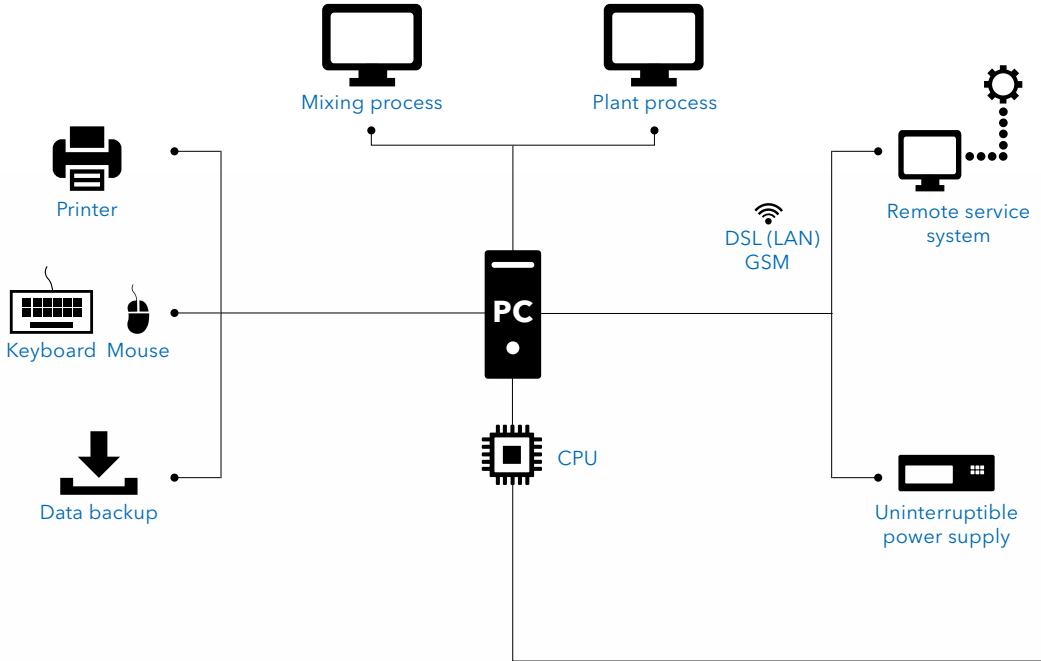
The standard functions of the control unit already offer a wide range of functions and flexibility. This can be further expanded with additional options to suit customer requirements. The overall package is completed by worldwide professional service.

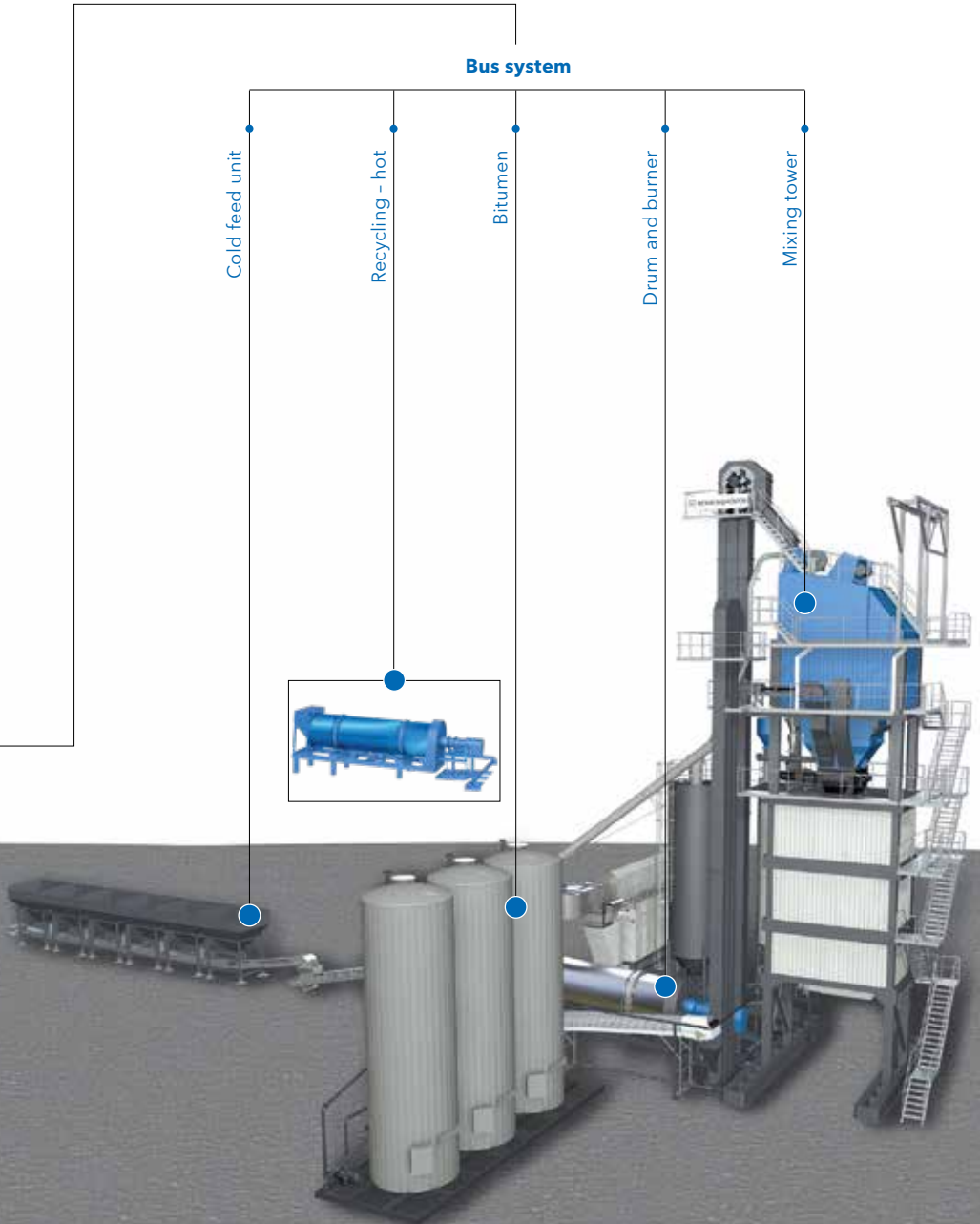
TOP 5

- > Standardised, ergonomic user interface
 - + Fast introduction into the control system and flexible personnel management
- > Backup system
 - + Never lose data again
- > Energy monitoring
 - + Your costs at a glance
- > RAP recipe generator
 - + Maximum flexibility combined with quality
- > WEB reports
 - + View production data from your office

>> The following descriptions of the standard functions and software options are only possible with the correspondingly required hardware!

Systematic control.





ORIGINAL EQUIPMENT

Main computer with keyboard, mouse and UPS



2 monitors 24"



DSL or GSM connection

**REPLACEMENT
COMPUTER**

Replacement computer with keyboard and mouse





HARDWARE OPTIONS

- > Laser printer b/w
- > Laser printer colour
- > Additional workstation
Designed as operator station with maximum 2 monitors. The computer is integrated into the existing UPS system of the main computer.
- > 3rd monitor



BACKUP SYSTEM

- > NAS system "Never lose data again"
All data are stored on an external storage medium. This is usually located in a different room, providing additional security. The data are also mirrored and backed up on two physically separated drives (Raid 1). The system is connected to our UPS. The computer can be changed by the system personnel and is user-guided.

Success at your fingertips.





COLD FEED UNIT

- > Control of cold feed unit via recipes
- > Overall and individual adjustment of output during active production
- > Sequential starting of feed hoppers to achieve the desired material mix at the drum discharge
- > Allocation of materials from the article database
- > Volumetric and gravimetric feed hoppers can be combined
- > Calibration assistant for gauging
- > Automatic or manual control of vibrators



TRANSFER CONVEYORS

- > Control and visualisation of the complete transfer conveyor system



DRYING

- > Burner controls from all manufacturers
- > Automatic control of the drum discharge temperature
- > Automatic control of the filter based on underpressure
- > Temperature monitoring of the filter
- > Filter controls from all manufacturers
- > Display of all production-relevant information, partially as diagrams
- > Drum control with existing frequency transformer for optimum raw gas temperature
- > Automatic underpressure control for optimum output adjustment of the filter for parallel drum operation



WEIGHING AND MIXING

- > Job list for processing the created jobs
- > Job sequence can be selected (also with running mixing process)
- > Control of different dosing systems
- > Automatic taring
- > Parallel weighing
- > Tolerance monitoring and logging
- > Weighing unit adjustment and calibration through the plant computer
- > Parameterisation of the weighing process (sequence and delay of weighing and draining)
- > Article-based recipe and application system



LOADING SILO

- > Display of the article in the mixed material loading silo
- > Prevents product mixing
(or possible through manual release from the operator)
- > Silo selection with automatic switchover to the alternative silo
- > Heating units and flaps are integrated into the control
- > Loading via external panel with button



BITUMEN TANK STORAGE

- > Complete control of electrically heated bitumen tank system (filling, circulation, transferring, mixing, draining)
- > Temperature control for the trace heating and bitumen containers
- > Display of temperature and content
- > Integrated, freely programmable timer for all heating units
- > Bitumen delivery monitoring and logging (temperature)



HANDLING AND OPERATION

- > Easy and clearly structured operation in real time
- > Overall plant status visible at a glance
- > Automated asphaltic mixture production
- > Manual intervention possible at any time
- > Different operating modes selectable
(repair mode, manual mode, automatic mode)
- > Can be expanded to several workstations
- > Wide selection of operating languages available
- > Information and error messages in plain text
- > Numerous object-related parameters for system setup and optimisation
- > Online operator manual
- > Configurable trend diagrams for plant monitoring and optimisation
- > Efficient troubleshooting using diagnostics tools
- > Extensive event log
- > Object-related operating hours
- > Error message logging
- > Direct access to circuit diagrams
- > Remote service access and diagnosis via Internet



OPTIONS

Automatic drainage of transfer conveyors

- > The conveyors can be drained before production by reversing

Data interface (RESTful Interface), customer-specific

- > For ERP, invoicing, laboratory and similar systems
- > Operating and production data

Energy evaluation

- > Energy measurement in the individual plant components

Energy report

- > The energy report covers the actual energy requirement - overall and per ton of asphalt produced

Integration of weigh bridge

- > Loaded material subtracted from the silo fill level - "always an eye on the current supply"

Driver terminal (loading aid)

- > Display of the material and the quantity in the silo as well as display of the loaded quantity (operating panel on the loading silo)
- > The driver independently decides how much material to load

Coarse/fine dosing of bitumen

- > Allows coarse/fine dosing of bitumen into the bitumen weigh hopper via a frequency transformer



OPTIONS

Customer-specific reports

- > These must be calculated through a sales request, with detailed information from the customer regarding content and design.

Load out

- > Additional workstation with a monitor.
- > A specific product is loaded here with a defined volume based on a job. It is determined how many steps the loading process has to involve. The complete loading process is controlled by a load-out computer. The loading process can be cancelled at any time.

Multi-phase mixing

- > The individual components are weighed in different phases and added to the mixer.

RAP report

- > The RAP reports states the RAP content as absolute and percentage values and calculates the resulting RAP ratio. This is grouped by mixed material type and a total value is determined and displayed.

RAP formulation generator

- > One recipe is sufficient for different recycling ratios
- > Change of recycling ratio using control slider during active production
- > If fluxing oils are added, the required fluxing oil quantity is calculated automatically to obtain the desired R&B value.



OPTIONS

Daily report

> The daily report is a daily balance sheet. It shows the most important operating hours. In addition, it shows the start-up of the burner and the number of opening processes of the mixer. The quantity of asphaltic mixture produced is also listed. Fuel and electricity required are listed per ton of asphaltic mixture and related to their energy [kWh]. The mixed material is grouped by varieties and the quantity per weighing unit is determined. Everything is shown in a diagram.

19.8 MW emissions trading

- > Total burner output limited to 19.8 MW
- > Fuel/energy consumption (peak load monitoring)

19.8 MW emissions trading report

> The set parameter curves can be viewed on the pages of the 19.8 MW limitation. The performance curves of the white material and black material burner and of the total value can be viewed.

**ADVANTAGE BLS 3000 VS. ONLINE BATCHER**

- > Highest possible hardware availability
- > Guaranteed updates
- > WEB reports
- > Alarm report
- > Trend viewer
- > NAS system option
- > RAP recipe generator (option)
- > Weighing system configurable via HMI
- > Configuration and error diagnosis of the connected frequency transformers
- > One software platform
- > Easier operation in job processing





MIXING PLANT 2.0

With our retrofit concepts, you can lift your plant to a new control generation.

After the conversion with the new software and hardware platform, the plant will have a substantially more reliable level of availability. The functions will allow you to operate the plant even more efficiently and to keep an eye on the economically relevant data.

With the new hardware and software, you can look towards the future with confidence when it comes to updates or plant expansions. Once again, you can rely on Benninghoven quality and diligence. A correctly implemented conversion saves time and money in case of a malfunction.

We can achieve all this for you in mixing plants from other manufacturers. Start with us for your mixing plant 2.0.



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