DATA SHEET

BL100A

BLOCKHAUSFRÄSE

Fully automated Loghouse milling machine Blockhausfräse BL100A for economic production of components used in modern log cabin construction.
Due to the efficient production method with automatic Optimization and multiple lengths (Multilog System) the output from this machine is very high. During each working shift can be produced up to 1200 metres of components for average-sized, individual houses.
High performance spindle drives and climb milling ensures a clean cut milling contour without being frayed.

Through the compact and fully developed construction the machine is very efficient and the working result is exact and precise.
The machine consists of

- Belt conveyer loading system, where the operator puts onto the raw material.
- Infeed table with Servo pushing system for fully automated workpiece transport and positioning.
- Blockhausfräse BL100 with the working units.
- Outfeed table with the pneumatic unloading device.
- Workpiece deposit support, where the operator takes off the finished Logs.
- Operator panel with IPC for software and machine control.

Process flow: The machine should be adjusted to the required workpiece dimension. The operator puts the Log onto the belt conveyer loading system and starts the program. Now the working process occurs fully automated: The servo pushing system takes the log from the belt conveyer. On the infeed table the servo pushing system verify the length of the raw material and moves the log to the working positions, as inputted in the software. At the positions the machine control starts the proper working unit until all jobs at the log are done. After this the Servo pushes the finished material with the last offcut to the out pushing position and the unloading devices moves the logs to the workpiece deposit support.

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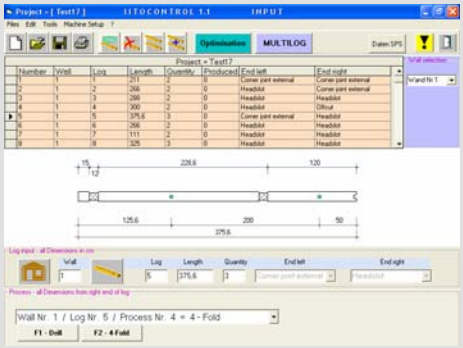
IPC- CONTROL & IITO SOFTWARE

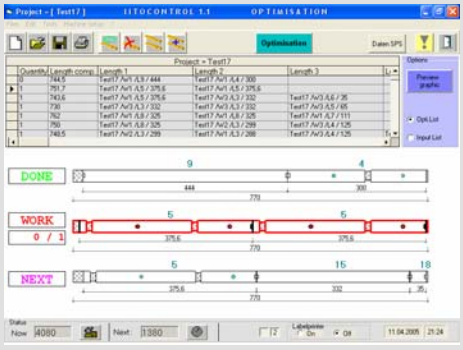


The operation and the control of the complete machine is handled by industry PC with PLC and TFT monitor.
At the IPC is installed the input-, import and optimization software IITO Control. This Software handles all the workpiece management and the complete machine control with the automatic operation.
The Data Input results trough:

A) Manual Input: All the required Data as quantity, length and operation of the log house components are putted into the IITO-Software very comfortable and with graphical Visualisation.
B) Data Import directly from CAD Software with BTL Interface or through IITO TXT File.

The list of the workpieces at the IITO Software is automatically optimized to a Multilog list with multiple lengths (Optimized Exploitation of the Wood length) for the production.
For this optimization are some options available:

- Single wall optimization: Each wall of the building is able to choose and can be optimized separately (Big buildings).
- Building Optimization: All the components of the building will be optimized and produced at once.
- Several projects optimization: The software optimize several projects and they can be produced at once (smaller garden houses)



Directly from this Multilog List at the IITO Software is the automated production to START. The machining sequence “workpiece Infeed” – “pushing and positioning” – “operation with the different tools” and “Outfeed” after the last operation is fully automated.
The produced pieces will be booked automatically at the Software and the operator keeps the full overview about the production.

Through the possibility to install a labeling system is it very easy to identify the workpieces at packing or assembling. The information on the label contains name of project, log#, wall#, length. Additional information from strange CAD software can also be printed. Sticking on the labels to the Log occurs through the operator.
Automated printing directly to the workpiece with inkjet system is also possible.

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TECHNICAL DATA:

Working dimensions:		
	Wall thickness x log height min.: max.:	28 x 100mm 140 x 200mm
	Workpiece length min. at automated prod.	800mm
	Workpiece length min.:	300mm – depends on wall thickness
	Workpiece length max.:	Depends on mechanisation

Industry PC:		
Industry PC	Panel PC Flexline 15M with resistant steel case, Celeron Processor M370, 1500MHz; 256KB SLC; Profibus 12MIT/S; TTY; 80GBYTE HDD; 2048MB DDR SDRAM, Ethernet, keyboard & mouse.	The IPC with TFT Display is built in at a ergonomic console with temperature monitoring and heater. 
Monitor	15“ TFT flatscreen in build in frame	
System & Software	MS Windows XP PROF, SP, English IITO Software, Siemens WinAC, English,	
Data Interface	BTL 10.2; IITO- specific TXT file	
Printer	Laserprinter A4, standard Thermotransfer printer for labels (optional)	

Servopushing System	
Servopusher	Servo pushing arm, guided in precision linear modul
Drive Servopusher	Servodrive, 3,0Nm
Measuring system	Resolver
Max. speed	110m/min
repeat accuracy	0,1mm
Requirement raw material	Planed Soft wood with min. 1 flat surface (surface on table); **Right angle at Face surface for servo pusher required!**

Workingunits:

				
	4-Fold unit	*Groove unit*	*Drilling device*	*Circular saw*
Drives	Hor.: 2 x 3kW Vert.: 2 x 4kW	3,0kW	1,5kW	4,0kW
Spindle speed	4200 U/min	4200 U/min	1500 U/min	86 m/s
Milling shaft Ø	30mm	30mm	Drill chuck with Gear ring	30mm
Milling shaft length	120mm	90mm	-	-
Tool Ø max.	220mm	180mm	30mm	550mm
Tool width max.	140mm	40mm	-	-
Feed	Hydro pneumatic infinitely variable with express traverse		Pneumatic infinitely variable	
Adjustment milling support	Trapezoid spindle with digital counter		-	
Workpiece- holder	max. 5pcs. pneumatic pressing cylinder upside max. 2pcs. pneumatic pressing cylinder frontside			
Suction	under floor suction (hole) central D=160mm, 30m/min			D=120mm, 30mmin
Pneumatic supply	Euro coupler, compressed air - dried and cleaned, 8 bar, ca. 300l/min			
Current supply	Eurocurrency 400V+N+PE, 25kW			
Weight	+/-3600kg (complete with table 6,0m)			

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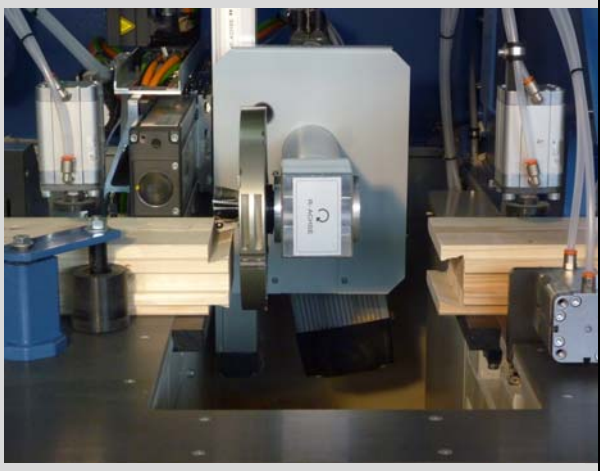
DOVETAIL – CONNECTION UNIT

For the production of dovetail connections, is optionally available a CNC- controlled, combined 3 Axis milling unit instead of the usual Groove unit.

Due to the integration into the automatic workpiece positioning system of the BL100A the advantages of the MultiLog system can be used completely and the power losses caused by the additional connection are very low.
Thus several components as optimized can be made from one raw material length in one pass.



The unit can produce the following processes:

- Head slot left & right
- Slot up and below
- Tenon left & right
- Dovetail Female left & right
- Dovetail Female up and below
- Dovetail Male left & right
- Further processes possible on request.

TECHNICAL DATA:

Drives	4,0kW
Spindle speed	0 - 8000 U/min – controlled by frequency device
Milling shaft Ø	35mm
Tool holder	M20 / Passung D=24mm
Headslot Cutterhead Ø	240mm
Slot width min - max.	Min. 12mm (depends on tool) – max. workpiece width
Dovetail width min - max.	Min. 35 – max. 70mm (depends on tool)
Slot depth max.	Max. 60mm
Y-Axis Feed	Servodrive 1,5Nm, ball screw
Z-Axis Height Adjustment	Servodrive 1,5Nm, ball screw
R-Axis Rotation	Servodrive 1,5Nm, gearbox
Workpiece- holder	1x additional pneumatic fixing cylinder vertical from top 1x additional pneumatic fixing cylinder horizontal from front
Suction	1x additional D=120mm, 30m/min

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