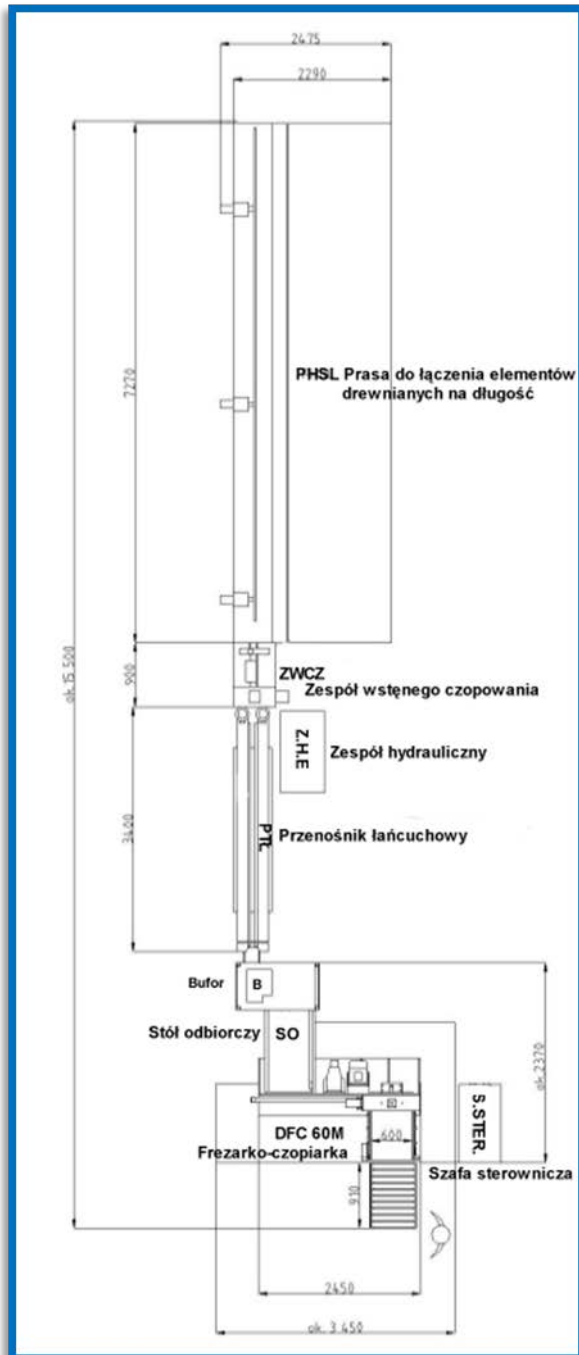


LINE FOR FINGER JOINTING OF WOOD ELEMENTS PDFD-I (single tenoner version)

v1

2013/01/23



The PDFD line in the single milling cutter version consists of two primary components : the DFC 60M milling tenoner (where strip faces are processed) and the PHSL finger jointing press, on which elements are jointed into a strip of a length of up to 6.6 mb with the capability of programming up to eight intercuts separating the strip into segments of a length programmed by the operator. Between these primary machines, there are transporting devices that simultaneously fulfill the function of preliminary tenoning. The presented configuration of the machine makes it possible to achieve a maximum output of up to 3.880 mb/shift. The modular design of the line makes it easy to expand it to a dual tenoner system.

The line control system is built on the basis of microprocessor controllers and gives the capability of flexible adjustment of operating parameters to the user's needs. The machine enables processing of "calzing" type elements, and after the supplying and receiving table is equipped with a flipping system and undercutting saws, it can mill and finger joint elements - for tabletop production. The application of a receiving table with automatic feeding of strips to the conveyor introducing them to the PHSL press enables line operation by one worker. The line operates in an automatic cycle with manual supply of material. Line components can be assembled in various (approved by the recipient) configurations making it possible to adapt the machine to the conditions at the user's establishment.

TECHNICAL AND OPERATIONAL DATA:

Width of the input stack milling tenoner	mm	600
Maximum glued element width	mm	30 ± 155
Length of glued elements	mm	170 ± 900
Glued element thickness	mm	20 ± 70
Working air pressure	MPa	0.6
Demand for compressed air	m ³ /h	18
Operating output	cycles/min.	1.5
Glued element length	mm	4500 ± 6600
Working voltage	V AC	3/N/PE 400 V 50 Hz
Control voltage	V DC	24
Electrical demand	kW	apprx. 52

OPERATION DESCRIPTION:

Wood strips are supplied by the operator to the truck of the milling tenoner. Supply of elements initiates the miller work cycle. The stack face is levelled, after which milling of the finger joint outline is carried out. The miller truck returns to its starting position with preliminarily processed elements and returns the stack to the rotating supply table, where it is rotated. The stack is once again supplied to the milling tenoner, where the other side of the stack is processed.

Elements supplied from the DFC - 60 M tenoner through the chain conveyor are introduced to the preliminary tenoning unit, where preliminary clamping of the wedge-joints of square-sawn timber is carried out by means of a set of cylinders and a pressure pad before its introduction into the press.

The preliminarily tenoned square-sawn timber is directed to the press table, on which it is cut after achieving the required length. Next, the wood is transported into the area of the pressing bed by means of a pushing strip and pressure strip, where the pressing process takes place. Glued and pressed, the ready strip is pushed onto the receiving table of the press.

After square-sawn timber is moved into the area of the pressing bed, the process of element supply onto the press table is carried out in parallel. This maintains continuous press operation and also makes it possible to improve the efficiency of glue spreading.

TECHNICAL PARAMETERS OF THE DFC - 60M MILLER TENONER

Dimensions of the input raw material		
Length of input elements	mm	170 ÷ 900
Milling height	mm	20 ÷ 155
Width of the stack of processed elements	mm	600
Possibility of milling with tools with a tooth length of	mm	10 (5, 15, 20 optionally)

Work cycle	automatic with manual material supply		
Working air pressure	MPa	0, 6	
Demand for compressed air	m ³ / h	apprx. 6	
Output of the extraction installation	m ³ / h	apprx. 4000	
Efficiency	cycles/min.	Ok. 1.5	
Truck advance rate	m/min	operating	10-23
		return	32
Working voltage	V AC	3 x 400 + N + PE	
Sampling Freq.	Hz	50	
Control voltage	V DC	24	
Start-up system of milling cutter drives	SOFTSTART		
Spindle rotational speed control	rpm	6000 ÷ 4500	
Protection against drop in air pressure	MPa	below 0.45	

TECHNICAL PARAMETERS OF THE PHSL PRESS

Working supply height	mm	890 ÷ 910
Maximum glued element width	mm	35 ÷ 155
Glued element thickness	mm	20 ÷ 70
Length of glued element min./max.	mm	4500 ÷ 6600
Working air pressure	MPa	0.6
Demand for compressed air	m ³ /h	12
Output of the extraction installation	m ³ /h	2000
Output of the two-track line - single milling tenoner	cycles/min.	apprx. 2
Working voltage	V AC	3 x 400 + N + PE
Sampling Freq.	Hz	50
Control voltage	V DC	24

Machine dimensions:

Working height	mm	900 ÷ 920
Total height	mm	1475

Dimensions of the feeding and receiving table:

Working height	mm	900 ÷ 920
Total height	mm	1060
Length	mm	1100
width	mm	678

Receiving table dimensions:

Working height	mm	900 ÷ 920
Total height	mm	1060
Length	mm	2000
width	mm	732

Installed power

DFC-60M milling tenoner

- tenoner saw and milling cutter	kW	6
- truck belt conveyor flight	kW	0.55
- truck drive	kW	2.2
- spindle drive	kW	18.5
- undercutting saw drive	kW	1.1
- pushing unit roller drive	kW	0.37
- arm pusher drive	kW	0.75
- receiving belt drive	kW	1.1

PTLL Conveyor

- PTLL conveyor drive (chain)	kW	2x1,5
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PHSL Finger jointing press

- cross-cut saw motor	kW	3.5
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ZHE Hydraulic unit

- ZWCz drive pump	kW	4.0
- hydraulic actuator pump	kW	3.0
• Total	kW	44.5

Optionally (on special order) - a system enabling the performance of one intercut

Possibility for performing intercuts of a preliminarily tenoned strip

number of segments possible to be programmed - 8

measuring accuracy approx. 10 mm on a single segment (dependent on the amount and length of tenoned elements)