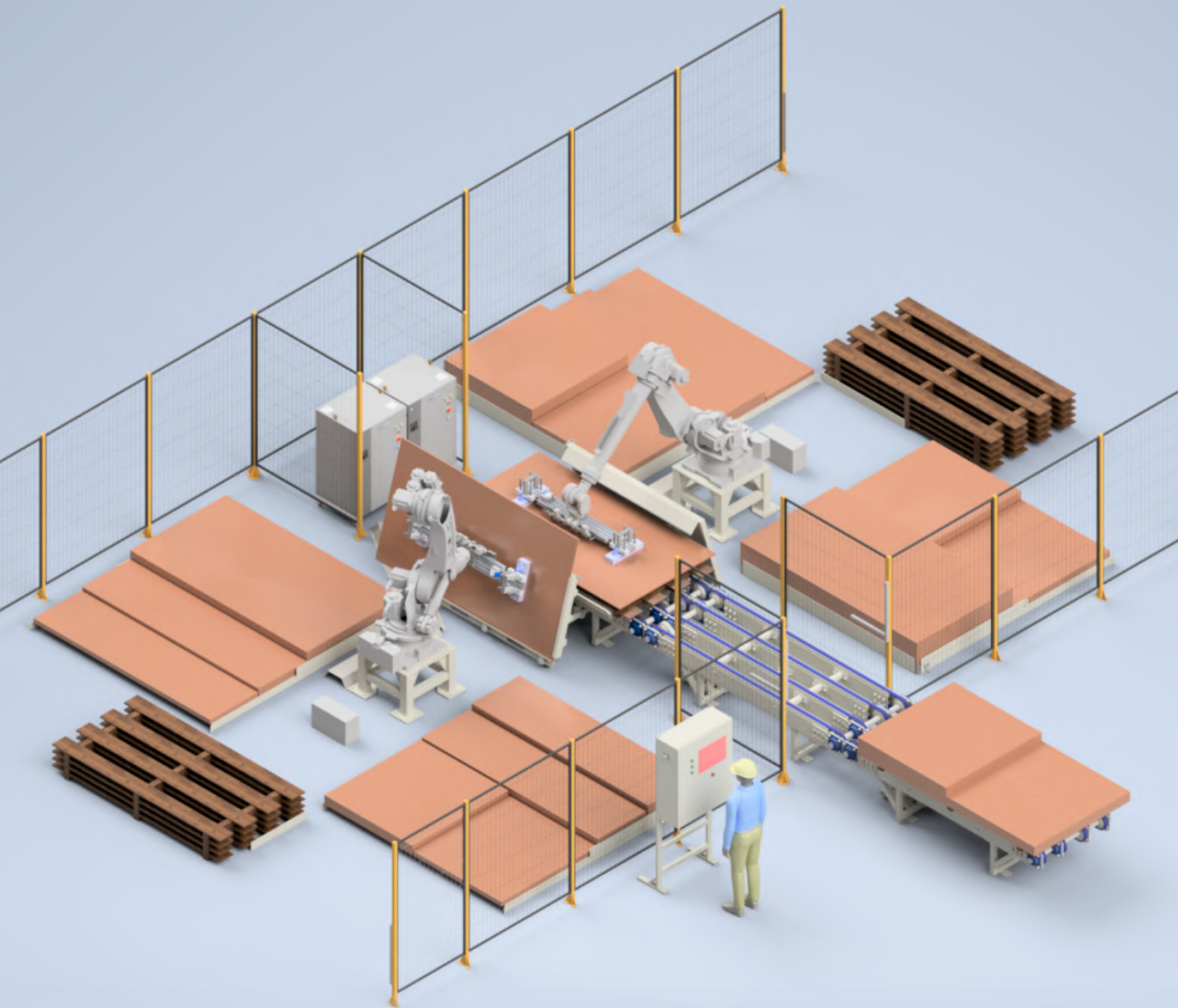
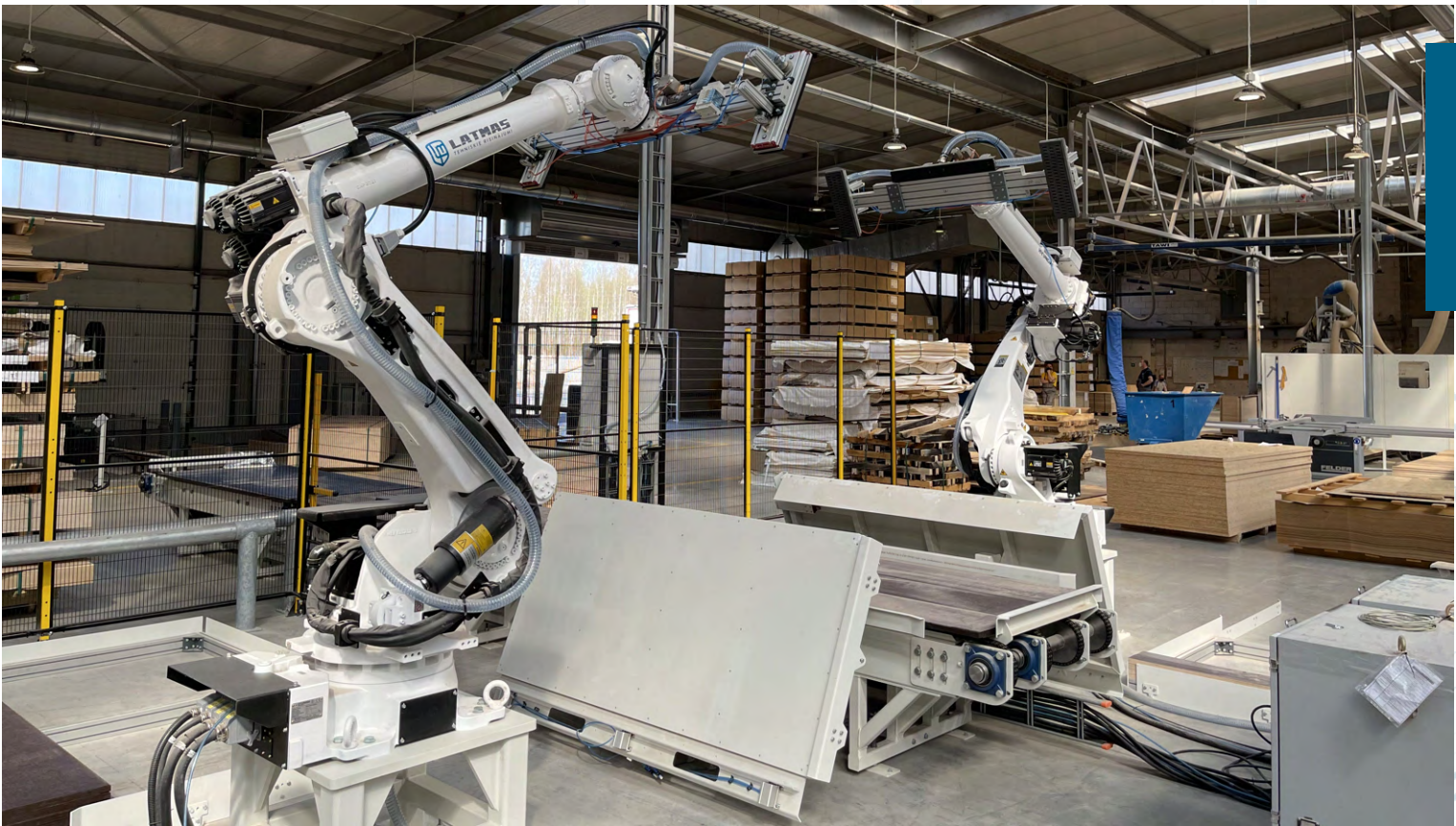




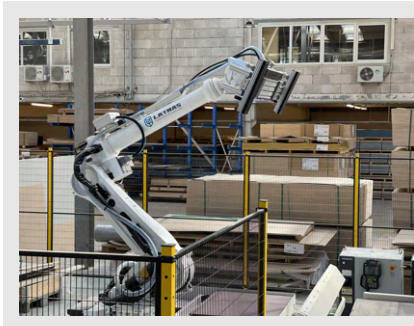
PLYWOOD STACK ASSEMBLY CELL



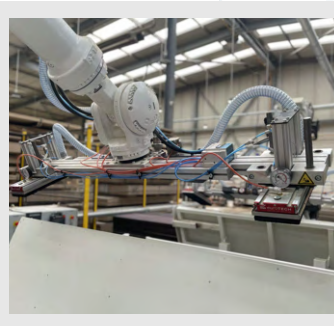
LATMAS
TEHNISKIE RISINĀJUMI



The plywood palletizer cell can stack a wide variety of plywood parts into a pre-defined layout quickly and effortlessly. The main objective of this system is to stack unique rectangular parts within a single stack coherently without having any of them protrude outside the boundaries of the underlying pallet. A significant advantage of the cell is that it can stack 8-16 unique parts within a single layout. The system not only reduces time and manpower required, but also removes the risk of personnel injury.



The robot
Using robots that are capable of lifting a large payload ensures that even the largest plywood sheets can be stacked without issues.



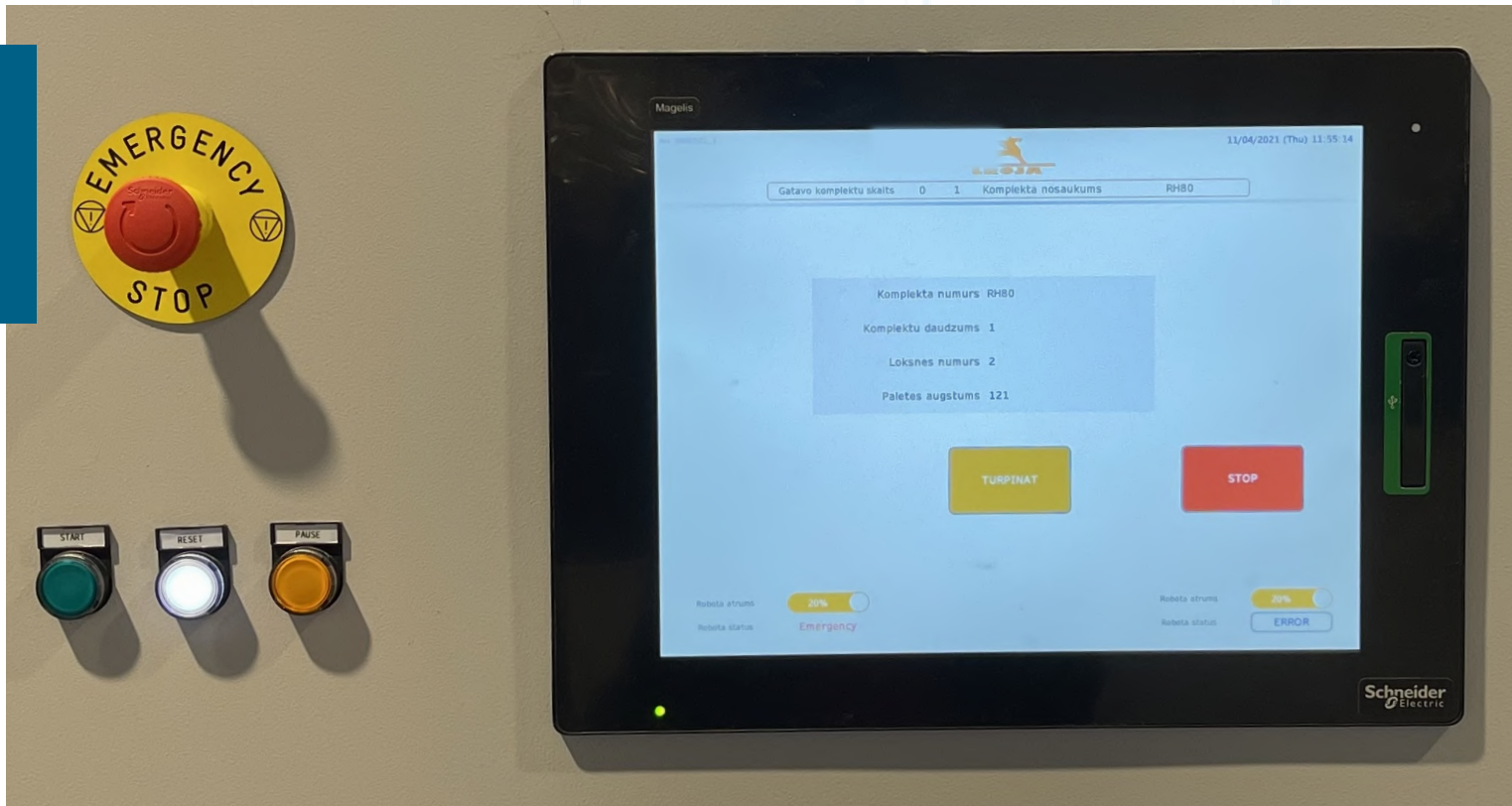
Suction
As the suction tool utilizes dual suction pads, it is possible to handle both large parts, by using both pads simultaneously, as well as smaller parts, by just using a single pad.



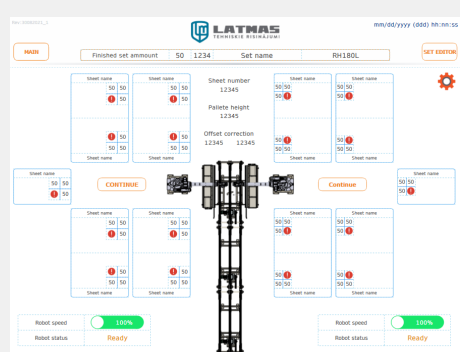
Conveyors
The 4-chain conveyor system transports the finished stack outside of the working area.



Positioning
The start conveyor is where the stacking begins. The initial pallet is placed and then properly aligned by using pneumatically actuated positioning rails.

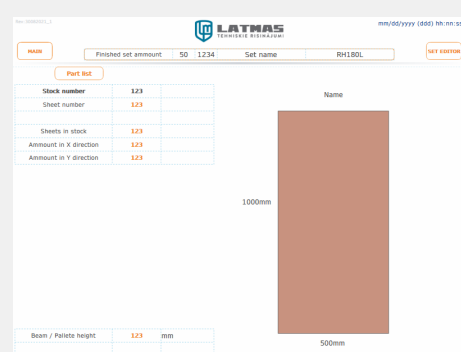


The HMI screen provides all the necessary input capabilities packaged in a user-friendly, interactive experience. From here, the cell operators are able to input data regarding different parts' positions within the stacking layout, as well as configure prepared part locations within the cell easily. The operator inputs data layer by layer, providing coordinates for all the parts that will be stacked in this layer. This information in turn is processed and then sent to the robot.



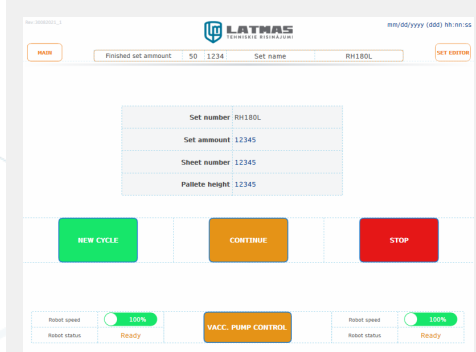
Main screen

The main screen provides an overhead overview of the cell, displaying where certain plywood parts are located within the cell and how many of them have been prepared for work. The screen is dynamic: whenever a part is picked up from the prepared stock by the robot, it automatically updates the displayed count.



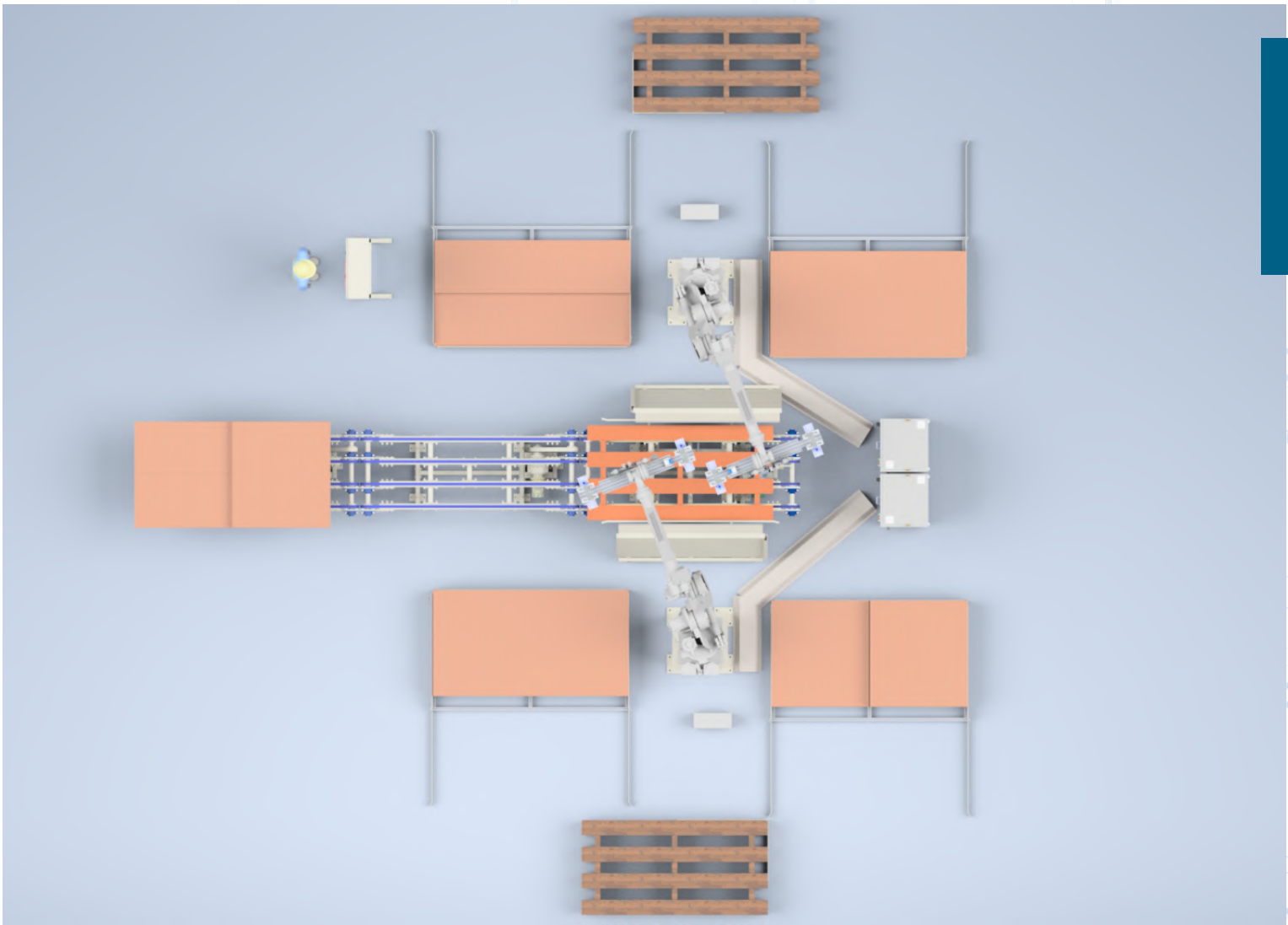
Stock editor

Whenever it is necessary to configure the stock part type or count, it is possible to use the stock editor. From here all the parameters that the system needs to know about the stock is inputted. The stock editor allows to simply choose from a list of already pre-programmed parts, so that part sizes do not have to be entered manually.



Process control

Besides data input, the screen also gives a full control over the stacking process. In case of a power outage, it is possible to resume the stacking process from wherever it was last interrupted.



Technical information

Robot parameters	
Payload.....	160 kg
Max reach.....	3036 mm
Degree of freedom.....	6 axes
Repeatability.....	+/- 0.15 mm
Ambient temperature.....	0-45 C
Approximate weight.....	985 kg
Max rated power.....	8 kVA
Controller model.....	Hi5a

Cell parameters	
Size.....	13500 x 113500 mm
approx. cell speed.....	one pallette /5 - 10 mins
Min sheet size.....	165 x 235 mm
Min sheet size.....	1115 x 2450 mm
Required air pressure.....	6-7 Bar
Required voltage.....	3 x 400 VAC