

Cobot Palletizer Datasheet

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General Description

The Vention Cobot Palletizers perform automatic palletizing of products at the end of a packaging line. The machine system comes as a comprehensive application kit, including MachineApp software for controls, infeed conveyor, safety provisions (door-access enclosure, laser-based scanners, or a hybrid), a robot, optional vertical range extension, optional slip sheet magazines and optional vacuum-based grippers.

Features (V3.3.0)

- Works with Doosan M1013, H2017 and H2515, Universal Robot UR10e and Fanuc CRX10iA/L
 - Belt conveyor or Roller conveyor
 - Up to two pick positions
 - Single box type per layer
 - Variable box size from pallet to pallet
 - Variable pallet pattern from pallet to pallet
 - Vertical range extension with enclosed lead screw
 - Vertical range extension with telescopic actuator
 - Reduced speed in collaborative mode when operator enters the robot cell
 - Compatible with Vention robot wrist extension
 - Slip sheets management
 - Able to pick multiple boxes per pick
 - **Supported grippers:**
 - Schmalz FXCB [with cups](#) or [with foam](#)
 - Joulin [Safe & Light](#) with [dual adapter](#)
 - Suction cups actuated via [SMC on/off valve](#)
 - Double labels per box
 - **Pallet Configurator:** <https://vention.io/tools/configurators/pallets>
 - Auto Layout
 - Auto Sort
 - Auto Layer
-

General Specifications

Specifications	Value
Air consumption	14 SCFM <i>Using Dual Joulin gripper w/ 12mm hose</i>
Optimal input pressure	5.5 bar
Permitted pressure range	4.5-7.0 bar
Maximum pallet width	48 inches
Maximum pallet length	48 inches
Voltage (MachineMotion)	100-240 VAC
Voltage (Doosan)	100-240 VAC
Ambient temperature	10-40 degC
Max humidity	85%

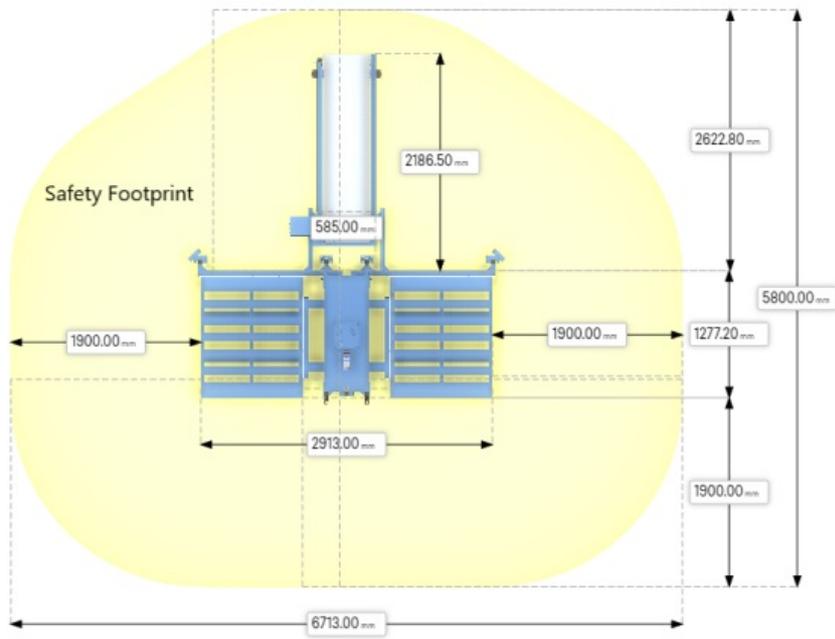
Robot specifications

	Doosan M1013	Universal Robot UR10e	Fanuc CRX10iA/L	Doosan H2017	Doosan H2515	Universal Robot UR20	Fanuc CRX25iA
Max payload	10 kg	12.5 kg	10 kg	20 kg	25 kg	20 kg	30 kg
Cycle time*	Up to 7.5 picks/min	Up to 13 picks/min	Up to 10 picks/min	Up to 7.5 picks/min	Up to 7.5 picks/min	Up to 13 picks/min	Up to 8 picks/min

* Cycle time can vary depending on the box weight, weight distribution and risk assessment. Contact support@vention.cc for more information.

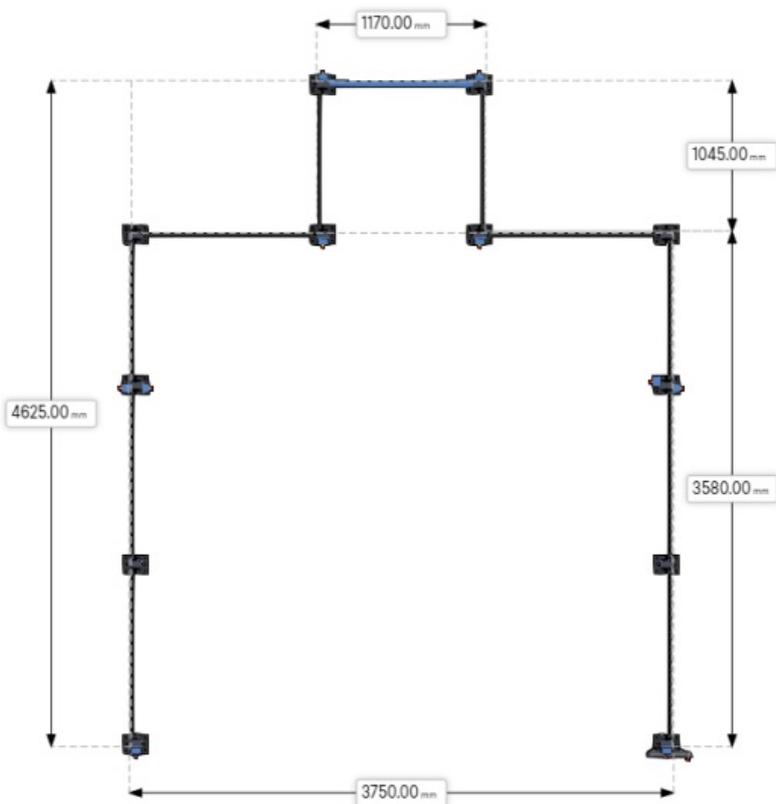
Footprint

Fenceless



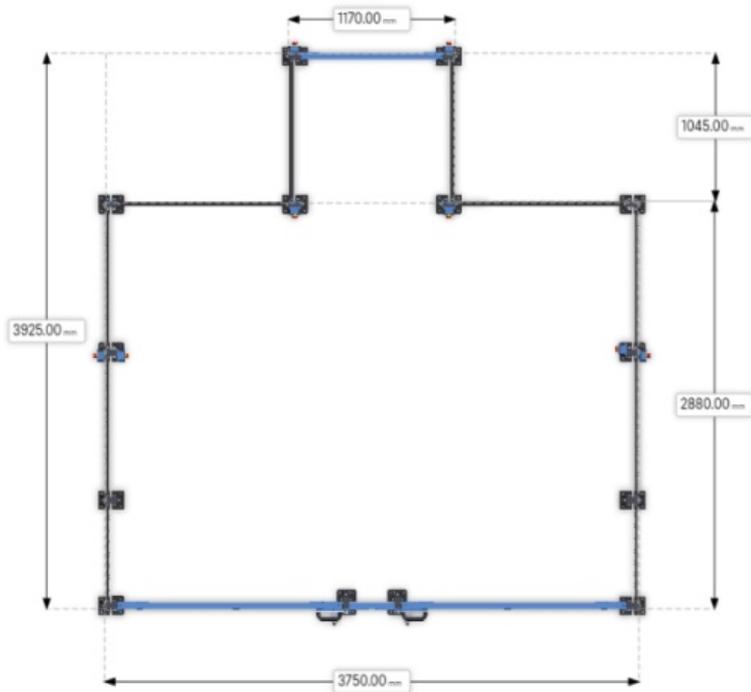
*Footprint can be reduced depending on configuration and the robot selected. Contact support@vention.cc for more information.

Hybrid



*Footprint can be reduced depending on configuration and the robot selected. Contact support@vention.cc for more information.

Fully enclosed



*Footprint can be reduced depending on configuration and the robot selected. Contact support@vention.cc for more information.

Reach analysis

Reach of the palletizer depends on 4 main parameters : the robot, the base, the minimum box dimensions and the maximum pallet stack height

Acceptable product dimensions for standard configurations

Minimum Box Height: The minimum reachable box height for the palletizer configuration in question, as a function of box horizontal dimensions (width or length). If the box height dimensions is outside (below) the green zone, then it is too short and the robot will not be able to reach it at every position on the first layer of the pallet.

Maximum Pallet Stack Height: The maximum reachable pallet stack height for the palletizer configuration in question, as a function of horizontal box dimensions (width or length). If the pallet stack height dimensions is outside (above) the green zone, then it is too tall and the robot will not be able to stack the top layer(s) of the pallet.

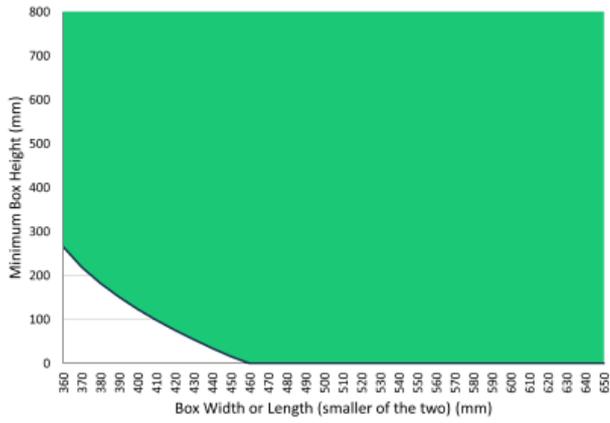
*Charts below are using 42"x48" pallets and 150mm wrist extender.

Doosan M1013

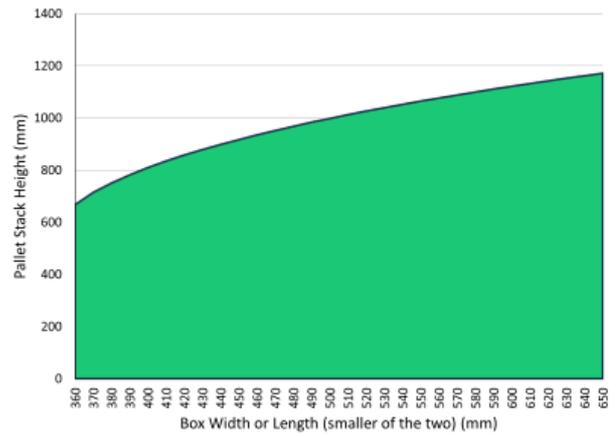
Fixed Height - 585mm Pedestal

Design: vention.io/designs/257618

Minimum Box Height*
Fixed Pedestal



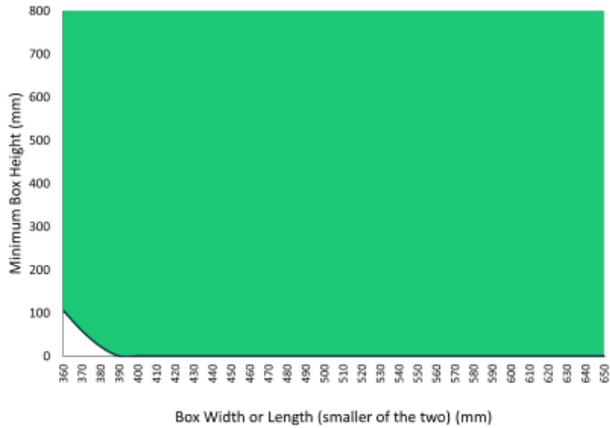
Maximum Pallet Stack Height*
Fixed Pedestal



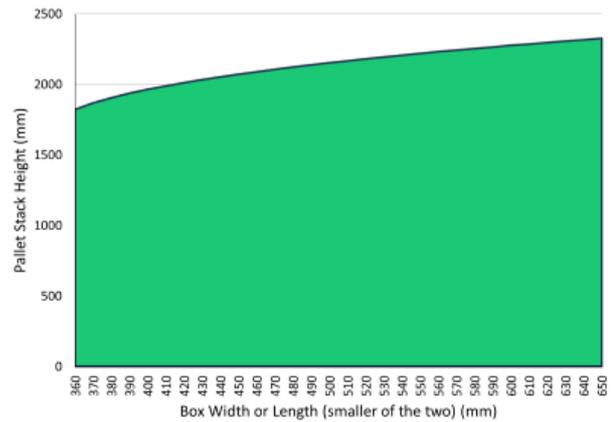
Vertical gantry

Design: vention.io/designs/257604

Minimum Box Height*
Vertical Gantry



Maximum Pallet Stack Height*
Vertical Gantry

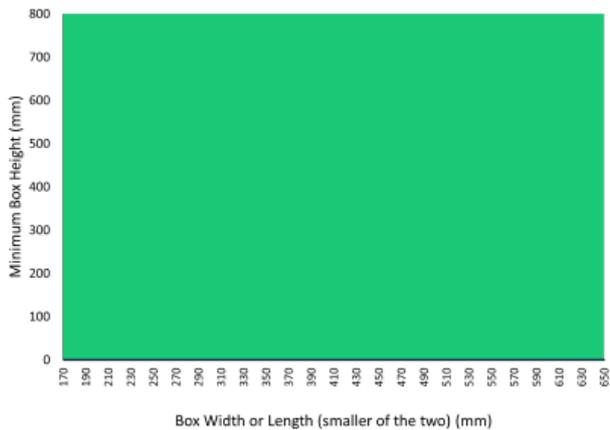


Universal Robot UR10e

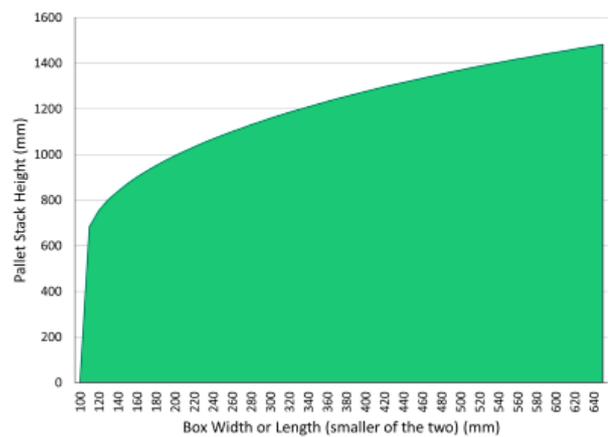
Fixed Height - 585mm Pedestal

Design: vention.io/designs/257287

Minimum Box Height*
Vertical Gantry

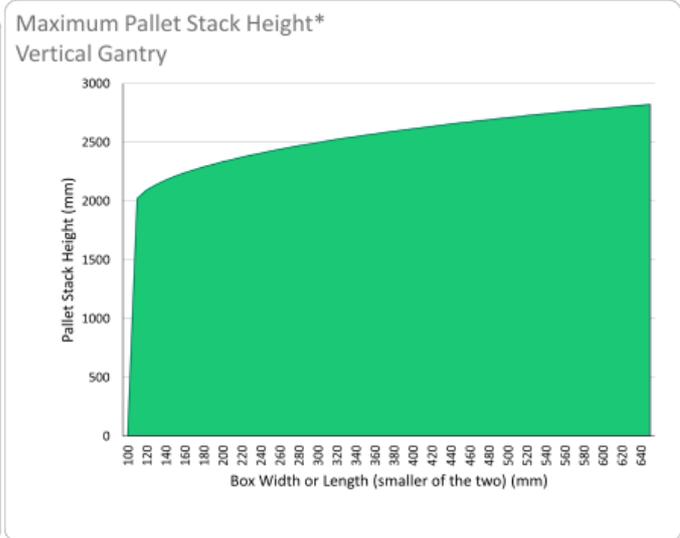


Maximum Pallet Stack Height*
Fixed Pedestal



Vertical gantry

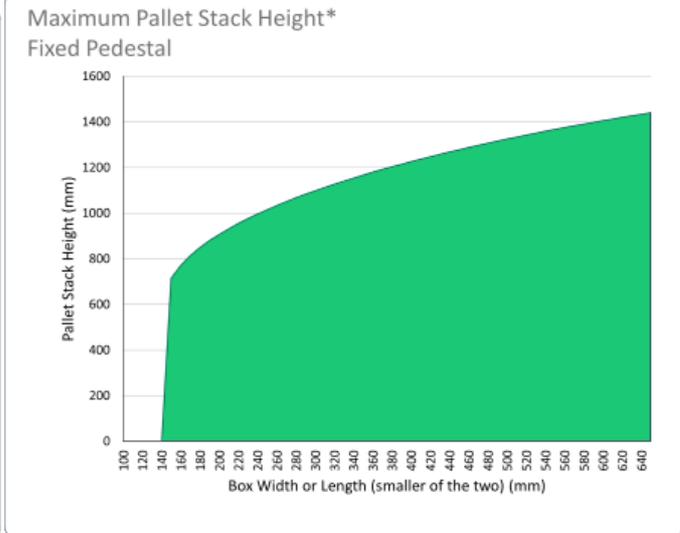
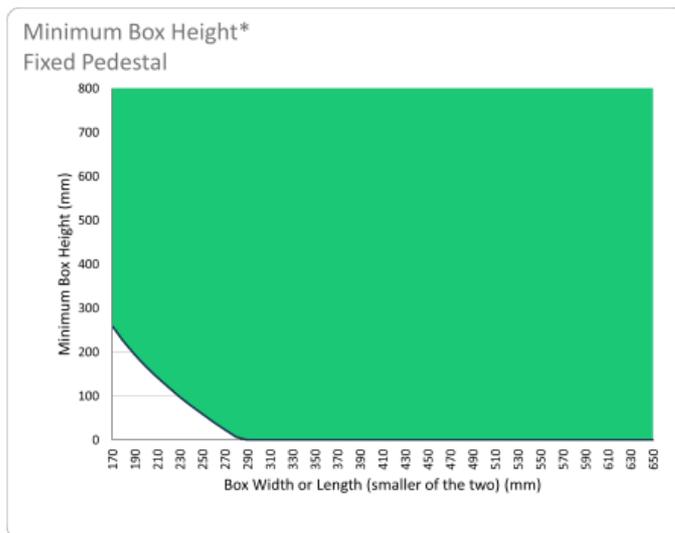
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Fanuc CRX10iA/L

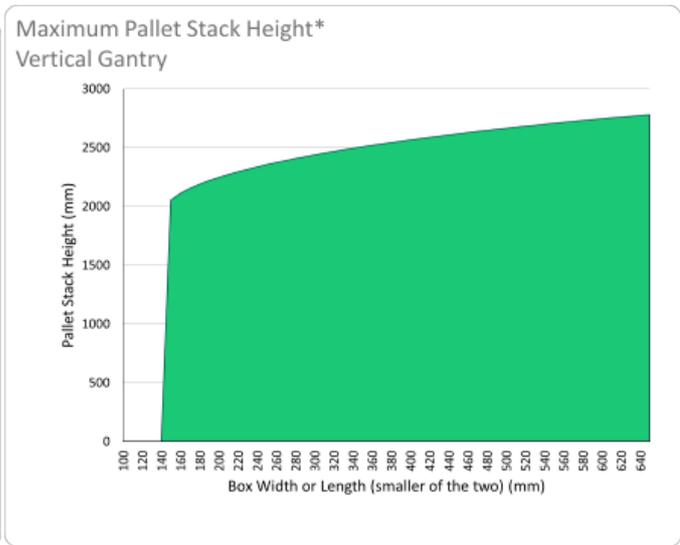
Fixed Height - 585mm Pedestal

Design: vention.io/designs/257635



Vertical gantry

Design: vention.io/designs/257626

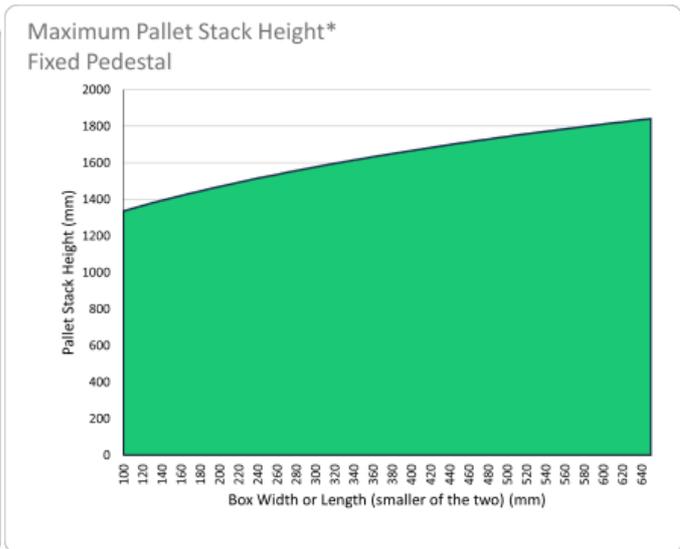
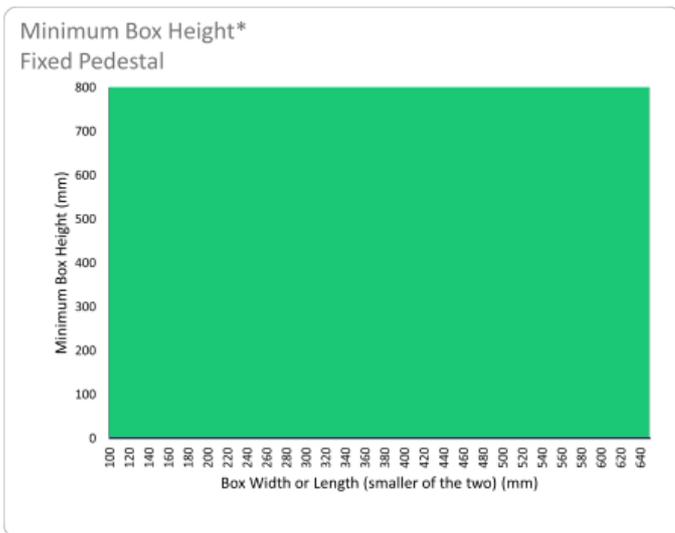


*Charts below are using 42"x48" pallets and 100mm wrist extender.

Doosan H2017

Fixed Height - 585mm Pedestal

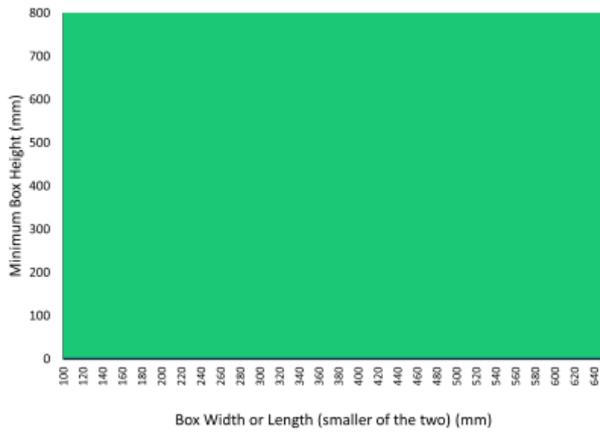
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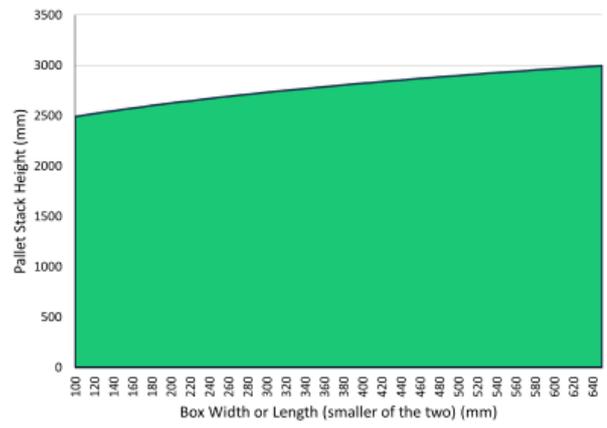
Vertical gantry

Design: <https://vention.io/designs/207084>

Minimum Box Height*
Vertical Gantry



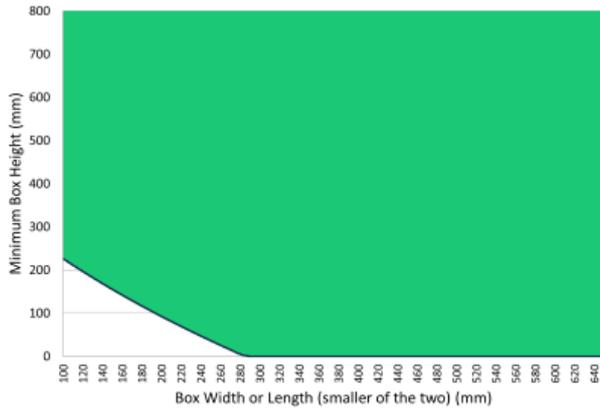
Maximum Pallet Stack Height*
Vertical Gantry



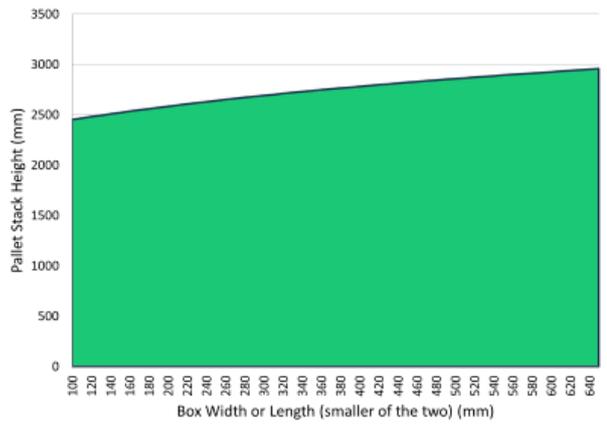
Telescopic column

Design: vention.io/designs/227925

Minimum Box Height*
Telescopic column



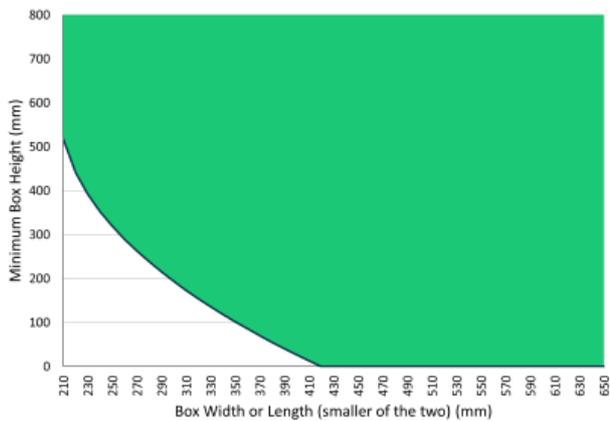
Maximum Pallet Stack Height*
Telescopic column



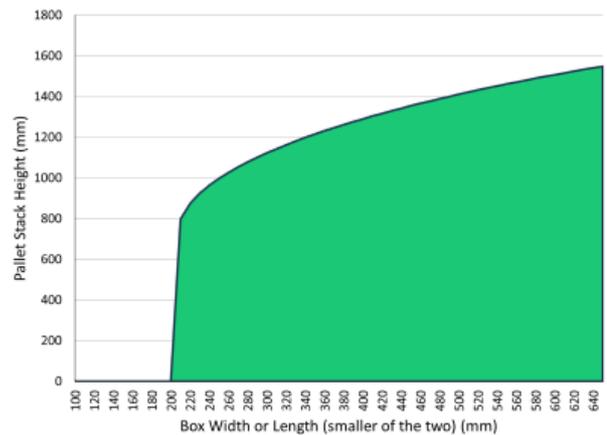
Doosan H2515

Fixed Height - 585mm Pedestal

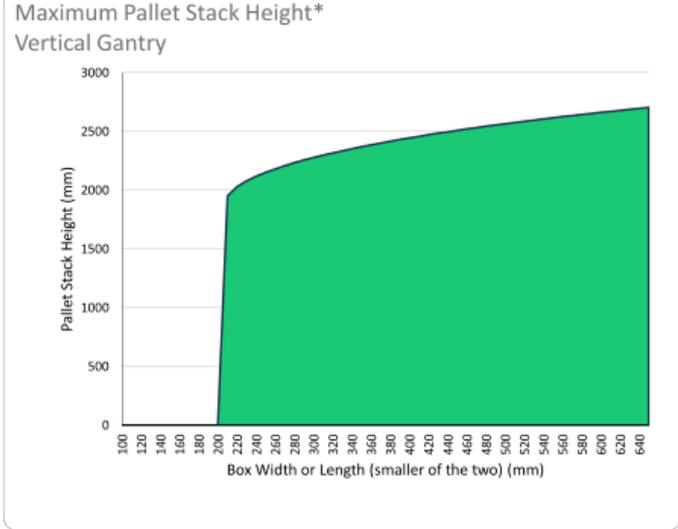
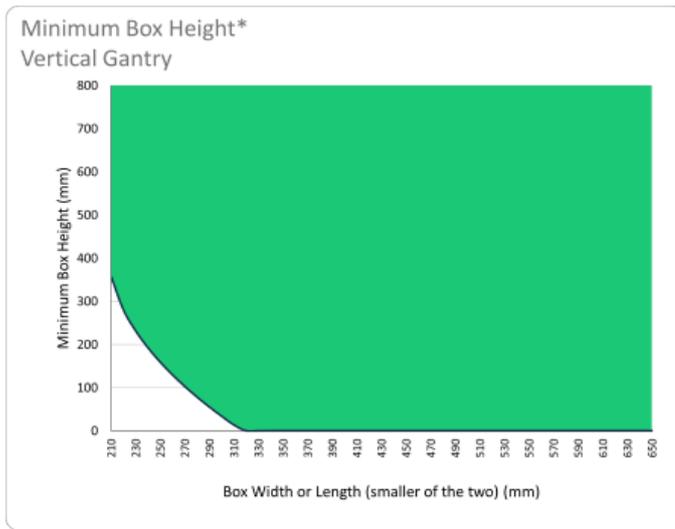
Minimum Box Height*
Fixed Pedestal



Maximum Pallet Stack Height*
Fixed Pedestal



Vertical gantry



Telescopic column

