

Doosan Box Erector Datasheet

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General Description

The Doosan Box Erector performs automatic forming of boxes from flat cardboard boxes. The machine system comes as a comprehensive application kit, including MachineApp software for controls, safety provisions (door-access enclosure, laser-based scanners, or a hybrid), a robot, a box magazine, a taping system and a vacuum-based gripper. The Doosan Box Erector can be integrated upstream of a Cobot Palletizer.

Features (V1.0.0)

- Works with Doosan M1013 model
- Apply industrial clear tape. Tape width : 2". Tape roll size : 1500 - 2000 yard rolls.
- Auto-detection when the tape roll is running low.
- Auto-detection and rejection of errors during box formation.
- Boxes dimensions from 250mmx250mm to 400mmx400mm. Height from 120mm to 300mm respecting height + width < 550mm.
- Easy calibration process.
- Reduced speed in collaborative mode when operator enters the robot cell.
- Option to fully integrate safety with the system.
- Hard safety reset (physical button).
- Specific gripper:
 - Suction cups actuated via [SMC on/off valve](#).
- System control from Vention pendant.
- Flexible to configure box dimensions through Vention pendant.
- Machine status indicated through integrated tower lights and Vention pendant.

Specifications

	Box Erector - Large boxes (coming soon)	Box Erector - Medium boxes (available)	Box Erector - Small boxes (coming soon)
Robot	Doosan M0617	Doosan M1013	Doosan M1013
Max payload	6 kg	10 kg	10 kg
Maximum robot TCP speed	3.0 m/s	3.0 m/s	3.0 m/s

	Box Erector - Large boxes (coming soon)	Box Erector - Medium boxes (available)	Box Erector - Small boxes (coming soon)
Maximum box throughput*	5 boxes/min (standard taping system)* 1.5 boxes/min (full collaborative)*	5 boxes/min (standard taping system)* 1.5 boxes/min (full collaborative)*	5 boxes/min (standard taping system)* 1.5 boxes/min (full collaborative)*
Magazine capacity	Standard - Up to 120 boxes** Extended - Up to 200 boxes**	Standard - Up to 120 boxes** Extended - Up to 200 boxes**	Standard - Up to 120 boxes** Extended - Up to 200 boxes**
Tape width	2" ***	2" ***	2" ***
Air consumption	3 SCFM	3 SCFM	3 SCFM
Optimal input pressure	6 bar	6 bar	6 bar
Permitted pressure range	4.5-7.0 bar	4.5-7.0 bar	4.5-7.0 bar
Box length	400mm to 600mm 15 3/4" to 23 5/8"	250mm to 400mm 9 7/8" to 15 3/4"	150mm to 250mm 6" to 9 7/8"
Box width	400mm to 600mm 15 3/4" to 23 5/8"	250mm to 400mm 9 7/8" to 15 3/4"	150mm to 250mm 6" to 9 7/8"
Box height	TBD	120mm to 300mm**** 4 3/4" to 11 7/8"****	TBD
Voltage (MachineMotion)	100-240 VAC	100-240 VAC	100-240 VAC
Voltage (Doosan)	100-240 VAC	100-240 VAC	100-240 VAC
Ambient temperature	10-40 degC	10-40 degC	10-40 degC
Max humidity	85%	85%	85%

*Conditions apply. Contact support@vention.cc for more information.

**Depends on flute height.

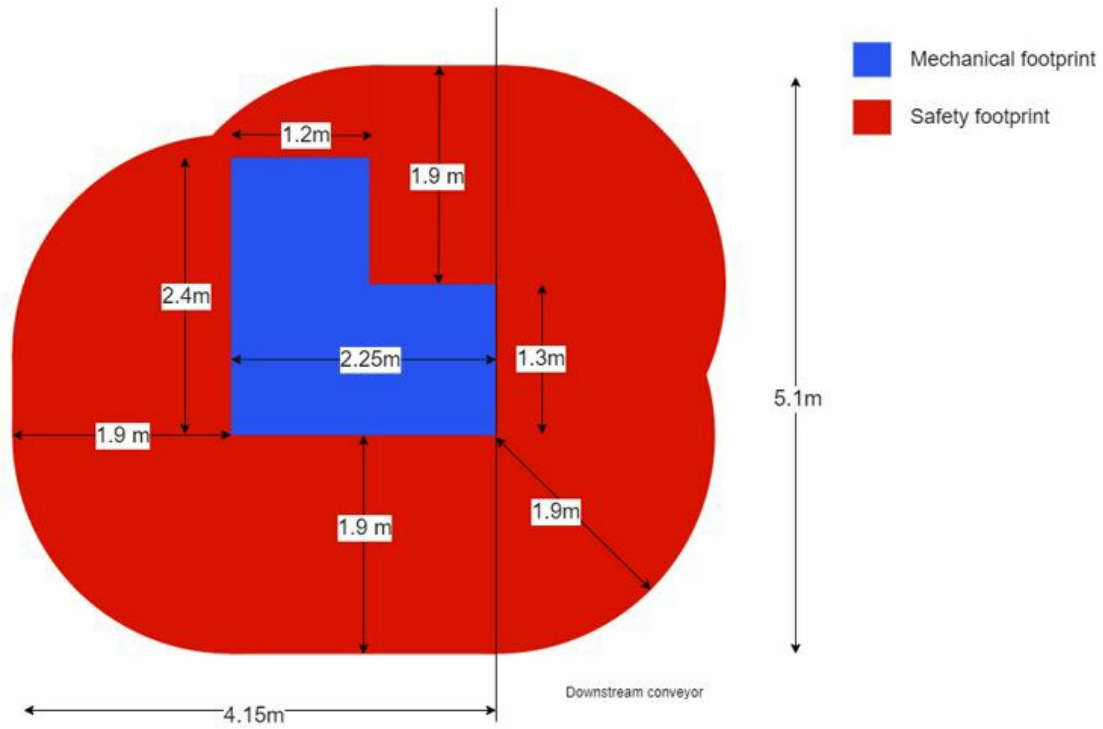
***Width from 1.5" to 6" are possible upon validation.

****Height needs to respect height + width < 550mm.

Footprint

Fenceless

**3 area scanners
Cobot box erector**



Hybrid & Fully enclosed

Footprint to be designed with an Application Engineer.

Acceptable products for standard configurations

Box dimensions:

	Box Erector - Large boxes (coming soon)	Box Erector - Medium boxes (available)	Box Erector - Small boxes (coming soon)
Box length	400mm to 600mm 15 3/4" to 23 5/8"	250mm to 400mm 9 7/8" to 15 3/4"	150mm to 250mm 6" to 9 7/8"
Box width	400mm to 600mm 15 3/4" to 23 5/8"	250mm to 400mm 9 7/8" to 15 3/4"	150mm to 250mm 6" to 9 7/8"
Box height	TBD	120mm to 300mm* 4 3/4" to 11 7/8"*	TBD
Box height + width	TBD	370mm to 550mm 14 1/2" to 21 5/8"	TBD

*Height needs to respect height + width limitation.

Tape roll:

Type: Industrial tape only.
Width : 2". Width from 1.5" to 6" might be possible upon validation.
Tape roll size : 1500 - 2000 yard rolls.

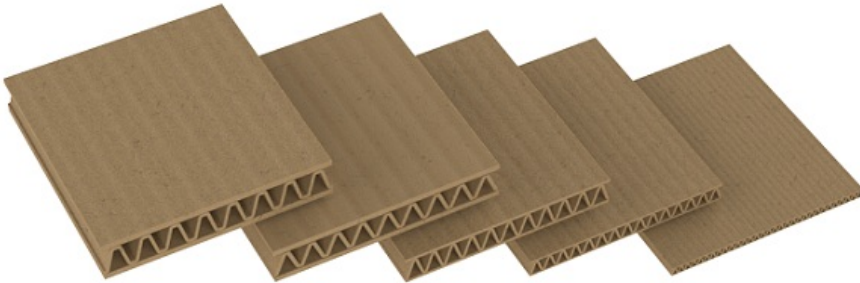
Corrugated composition:

Single wall : Currently supports single wall cardboard. The corrugated medium is glued between two sheets of linerboard. Also known as double-faced.



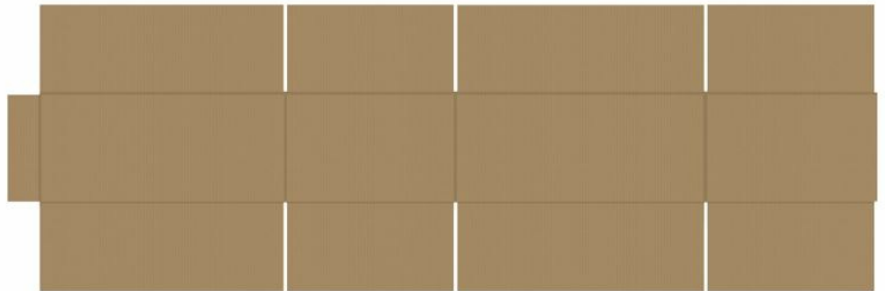
Flute height:

Currently flute height between 3mm and 5mm is supported. Flute height is the thickness of the cardboard.

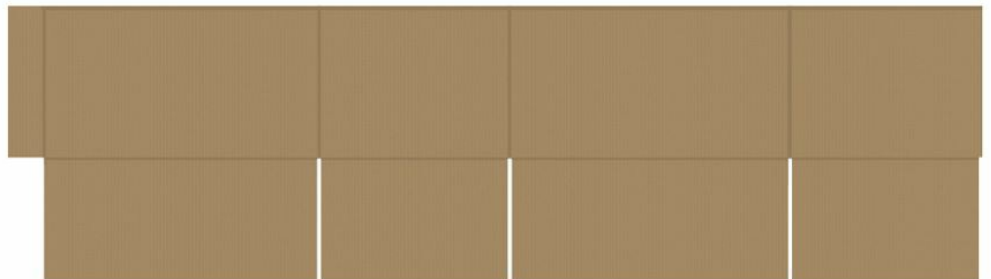


Box style:

Regular Slotted Containers (RSC) : RSC boxes are supported. All flaps have the same length, and the two out flaps are one-half the container's width, so that they meet at the center of the box when folded. The RSC is the most common box style.



Half Slotted Container (HSC) : HSC boxes are supported but box height (dimension D below) have to be between 185mm and 300mm. HSC boxes are same as a RSC but without one set of flaps.



Cardboard sheet orientation :

Default orientation of the cardboard sheet should be as shown below where the length is to the right side of width. If length and width are equal, printing on the flaps have to be on the right.

	PRINTING