

# Selecting a Conveyor

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## Overview

This Vention Design Tip features a comprehensive guide on selecting the appropriate conveyor product for your application based on your speed and load requirements. Vention's roller and belt conveyors are both featured in this document, along with two different drive types: Stepper Motor and AC motor with VFD.

All components are available in Vention's 3D Machine Builder and can be added to any assembly. All Conveyor applications can be coupled with Vention's MachineMotion controller and MachineApps.

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## Conveyor types

### Belt Conveyors

- [2200 Belt Conveyor Datasheet](#)
- [3200 Belt Conveyor Datasheet](#)

### Roller Conveyors

- [585 Roller Conveyor Datasheet](#)
  - [855 Roller Conveyor Guide](#)
  - [1395 Roller Conveyor Guide](#)
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## Conveyor drive types

### AC Motors

- [AC Motor and VFD Guide](#)

### Servo Motors

- [Servo Motor Specs](#)
  - [MachineMotion 2 Specs](#)
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## Conveyor accessories

- [Accessories](#)
- Gearboxes
  - 5:1 Planetary Inline ([MO-PT-001-0001](#))

- 5:1 Right-Angle ([MO-PT-001-0003](#))
- [AC Motors and VFDs](#)

## Comparing the specs

### Conveyor type with stepper motor drive type

Drive type	Gearbox	2200 Belt	3200 Belt	585 Roller	855 Roller	1395 Roller
Large Servo Motor	None (default)	Max speed: 2500 mm/s Max load (pull / push): 36 kg / 18 kg	N/A	Max speed: 2500 mm/s Max load: 30 kg	Max speed: 2000 mm/s Max load: 440 kg	Max speed: 2000 mm/s Max load: 440 kg
Large Servo Motor	5:1	<i>Exceeds rated load</i>	N/A	<b>*Not recommended</b> Max speed: 500 mm/s Max load: 30 kg	<b>*Not recommended</b> Max speed: 400 mm/s Max load: 440 kg	<b>*Not recommended</b> Max speed: 400 mm/s Max load: 440 kg

\*\*\*\*\*Not recommended since load is limited by belt slippage. Adding extra gear reduction simply decreases top speed while having no effect on driving force.

**Note:** Maximum payload cannot be achieved at maximum speed, and vice versa. See curves in individual conveyor datasheets for more details.

### Conveyor type with AC motor and VFD drive type

Drive Type	Gearbox	2200 Belt	3200 Belt	585 Roller	855 Roller	1395 Roller
AC Motor (3:1 gearbox)	3:1 (default)	Max speed: 700 mm/s Max load (pull / push): 36 kg / 18 kg	N/A	Max speed: 1500 mm/s Max load: 30 kg	Max speed: 1200 mm/s Max load: 440 kg	Max speed: 1200 mm/s Max load: 440 kg
AC Motor (8:1 gearbox)	8:1 (default)	N/A	Max speed: 860 mm/s Max payload (pull / push): 45 kg	N/A	N/A	N/A
AC Motor (10:1 gearbox)	10:1	N/A	Max speed: 688 mm/s Max payload (pull / push): 75 kg	N/A	N/A	N/A
AC Motor (15:1 gearbox)	15:1	N/A	Max speed: 459 mm/s Max payload (pull / push): 125kg	N/A	N/A	N/A

For more detailed information, take a look at the tech doc of each conveyor.

## Operating Conditions

### Control and configuration options:

1. Simple manual On/Off is possible with the AC Motor and VFD product
2. Programmable On/Off is possible with stepper motors, and AC Motor when paired with a Machine Motion
3. Precision distance control only possible through MachineMotion with Stepper Motors

4. It is possible to have an Analog sensor feedback control through VFD

## Conveyor Lengths and Widths:

Here are the offered lengths and widths of conveyors. You can also refer to the applicable technical document for a more detailed table of each length available per width

### Available conveyor length

1. Dorner 2200: 585, 765, 945, 1125, 1305, 1530, 1710, 1890, 2070, 2295, 2475, 2655, 2835, 3060, 3240mm
2. Dorner 3200: 945, 1125, 1305, 1530, 1710, 1890, 2070, 2295, 2475, 2655, 2835, 3060, 3240, 3600, 3825mm

Note: Roller conveyor are set at a 450 mm increment

### Available conveyor width

1. Dorner 2200: 152, 305, 457, 610mm
2. Dorner 3200: 305, 610, 914, 1219mm
3. O-Ring Roller: 585 mm nominal, 495mm actual
4. HD Roller: 855 & 1395 mm nominal, 804 & 1344 mm actual