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VTU Motor Guide:

Glide-Line offers a variety of motor options that can be used to power the vertical motion of a VTU. Our standard offering consists of a standard AC motor, Integrated Stepper Motor, and Stand-Alone Servo Package. For applications requiring a customer supplied servo, we offer all the mechanical information needed to assist you in choosing the right motor for your application.

Integrated Stepper Motor:

The Integrated Stepper Motor is an all-in-one stepper-servo motor where feedback, servo drive, and servo controller are housed in the same package. As a standard, we typically configure the VTUs with a 10:1 ratio gearbox, but the ratio can be increased to allow for more torque and less speed, if needed. The following graphic shows the vertical travel speed vs. pallet weight chart, showing data for both 24V and 48V cases:



In the graphic to the right, the weight or load is considered the total weight of the pallet when it is in the VTU and assumes ~15lb for the transport deck conveyor.



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Stand-Alone VTU Servo Package

Glide-line offers a stand-alone, simple controls package when a servo motor is required for an application. This standard package was designed to provide a more "turn-key" solution for customers looking for a more complete and ready-to-install device.

The Standard Package Includes:

- Panel/Enclosure
- Kollmorgen VLM Series Servo Motor
- Kollmorgen AKD Series Servo Drive
- Meanwell 24VDC Power Supply
- Wiring, Cable Trays, Cable Management
- Sensors
- E-Stop
- (2) Analog Inputs and (2) Analog Outputs (-10V to 10V)
- Additional (9) Terminal Inputs and (7) Terminal Outputs

Additional Options:

- Pre-Programming
- Guarding
- Interlock Safety Switches
- Pneumatics/Solenoids
- Planetary Gearbox



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Servo Sizing Guide for Glide-Line VTUs

The following guide provides information needed for sizing servo motors for our VTUs. Due to the overall weight exceeding the recommended parameters for our standard stepper-servos, a true servo motor must be provided. When using a servo, Glide-Line recommends pairing the servo with a planetary gearbox that will fit to our standard 5:1 or 10:1 ratio gearbox to ensure maximum efficiency.

For VTUs with 5:1 Ratio Size 40 Gearbox:

Rotary to Linear Relationship: 40 mm/rev.
Total System Efficiency: 70%
Total Drive System Inertia: 0.5 kgcm²
Total Weight: GL to help provide

For VTUs with 10:1 Ratio Size 40 Gearbox:

Rotary to Linear Relationship: 20 mm/rev.
Total System Efficiency: 61%
Total Drive System Inertia: 0.4 kgcm²
Total Weight: GL to help provide

*A mounting flange and coupling can be provided to fit any planetary gearbox or motor such that the shaft diameter does not exceed 16mm.

For more information or additional assistance, please contact:

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