

FEATURES

- Long Travel
- High Speed Capability
- Smooth PTFE Linear Bearings
- Long Life Anodized Ways
- Impact Tolerant
- Adjustable Limit Switches
- 100mm Advance/Turn (direct drive)
- Precision AT5 Timing Belt
- Stainless Steel Timing Belt Pulleys
- BiSlide Assembly Modularity

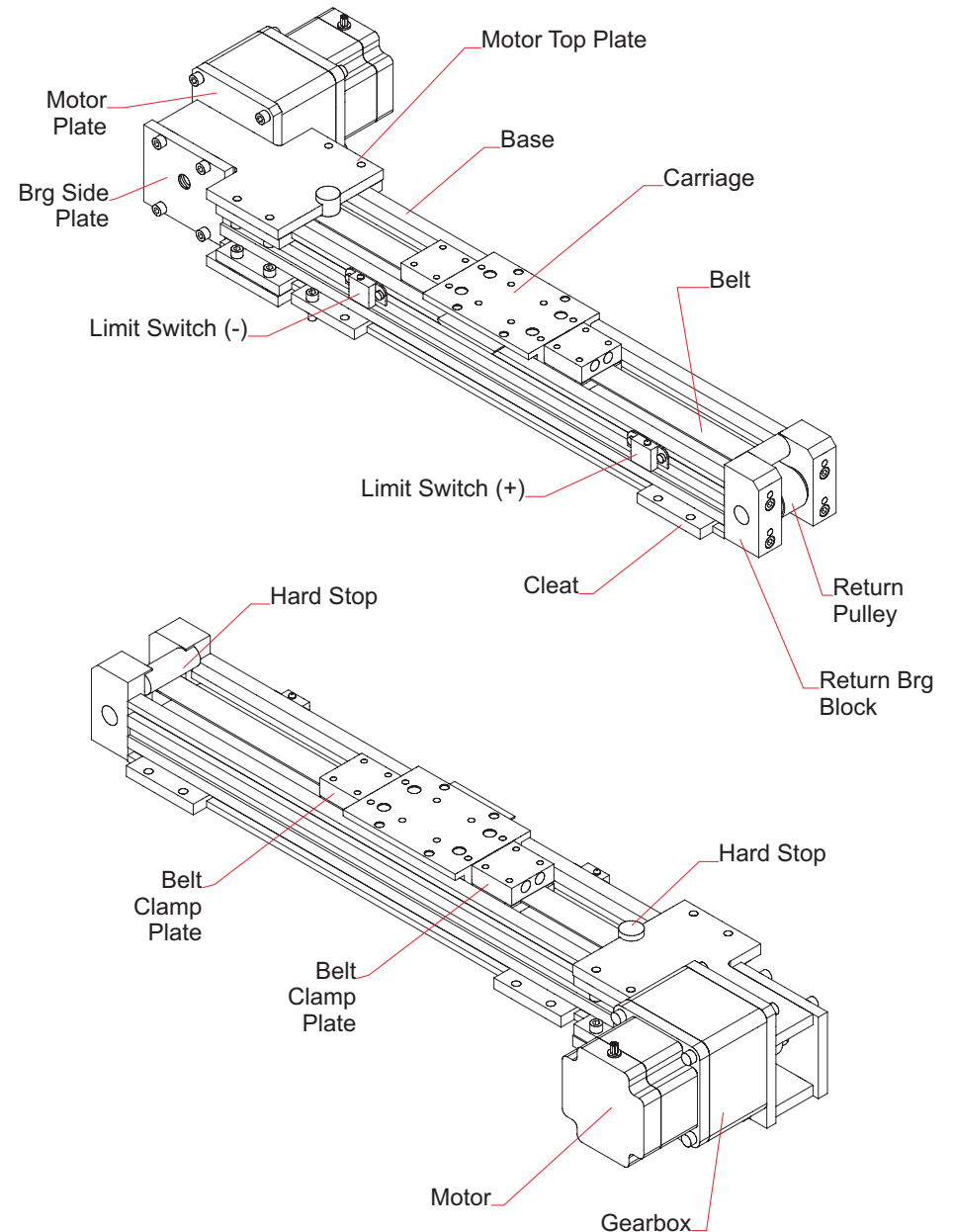


DESCRIPTION

The BiSlide belt drive assembly is the solution when long travel and high speeds are required. The belt system can be manufactured up to 220 inches (5.6 meters) travel versus 80 inches (2.0 meters) of travel for the standard lead screw drive. Speeds as high as 3 meters per second can be achieved using direct drive motors and high powered controllers. Several gear reduction motor options are available for high resolution and lower speed applications.

The belt drive assembly consists of a motor/gearbox, mounted 90 degrees to the traverse. The output of the motor or gearbox is directly coupled to a stainless steel pulley which drives a steel reinforced timing belt. Compared to the screw motion BiSlide, the belt version's overall length and width is greater, there is a 0.375" under-hang at the motor, and the belt accuracy is less. Special precautions need to be taken when using the belt drive vertically since it does not "self-lock" to prevent back-driving like a fine pitch lead screw drive.

The belt drive's high efficiency make it an ideal choice for moving light loads at high speed and for continuous duty applications.



BiSlide Assembly shown with Motor/Gearbox and Cleats sold separately

SPECIFICATIONS

Coefficient of Sliding Friction: 0.09
 Cantilevered Loads: Equivalent center load= (dxF/2) +F
 d= distance from center (inches)
 F= Load (lbs)
 Minimum Input Torque required: 75 in-oz
 Repeatability: 0.0002" (0.005 mm)
 Straight Line Accuracy: 0.0007"/ 10" (0.018mm/25cm)

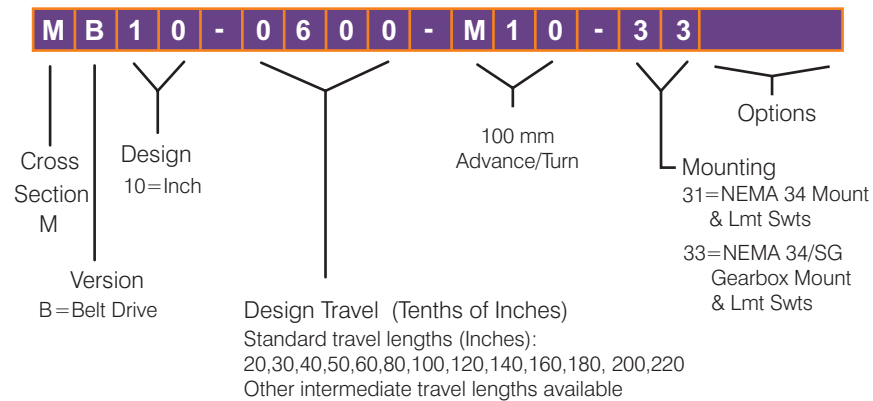
Belt Pre-load Tension: 120 lbs (54.5 kg)
 Pulley Pitch Radius: 0.6266" (15.9 mm)
 Advance per turn: 100 mm (3.937")

Operating Temperature: 23 to 158° F (-5 to 70° C)

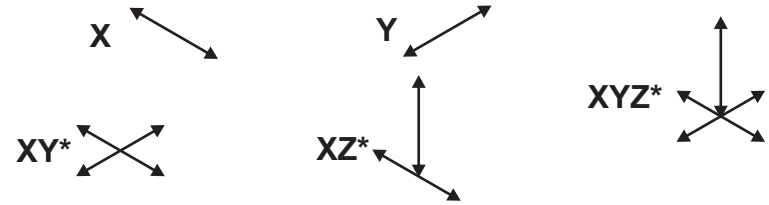
Materials

Base, Carriage, Cleats, Ends: Hard alloy aluminum
 Pulleys: 303 SS
 Belt: AT5 Polyurethane with Steel Cord

ORDERING INFORMATION



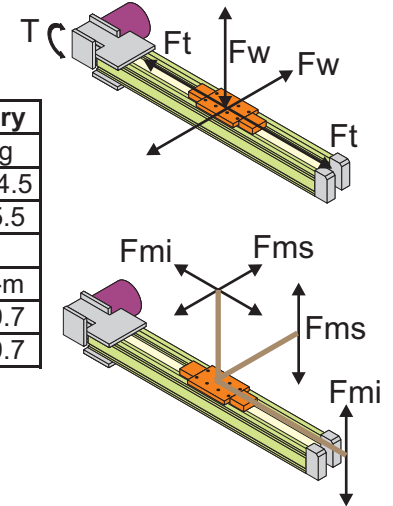
APPLICATIONS*



* Leadscrew Drive BiSlide Assembly recommended for Y&Z

MAXIMUM RATINGS

Load	Dynamic		Static		Momentary	
	lb	kg	lb	kg	lb	kg
Fw	300	136.4	300	136.4	1000	454.5
Ft	50	22.7	50	22.7	100	45.5
	in-lbs	N-m	in-lbs	N-m	in-lbs	N-m
Fms	500	56.0	500	56.0	800	89.7
Fmi	500	56.0	500	56.0	800	89.7

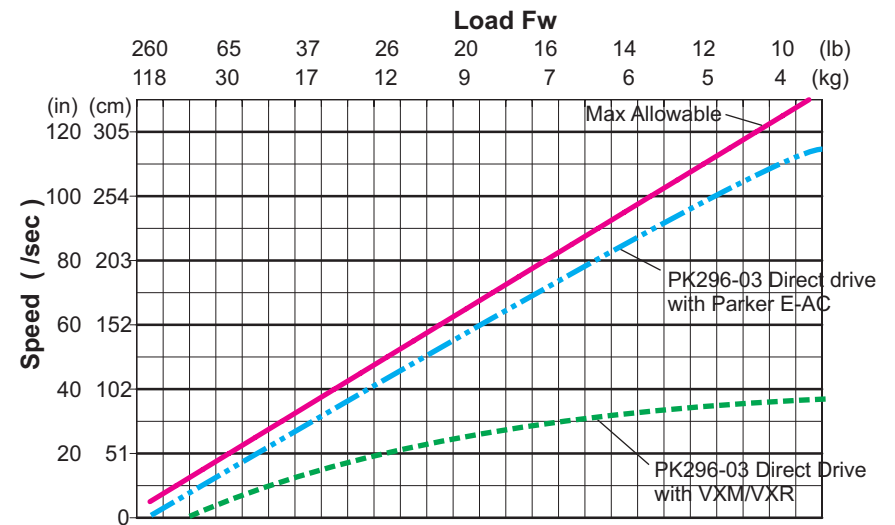


The following formulas are to determine minimum torque for a given load:

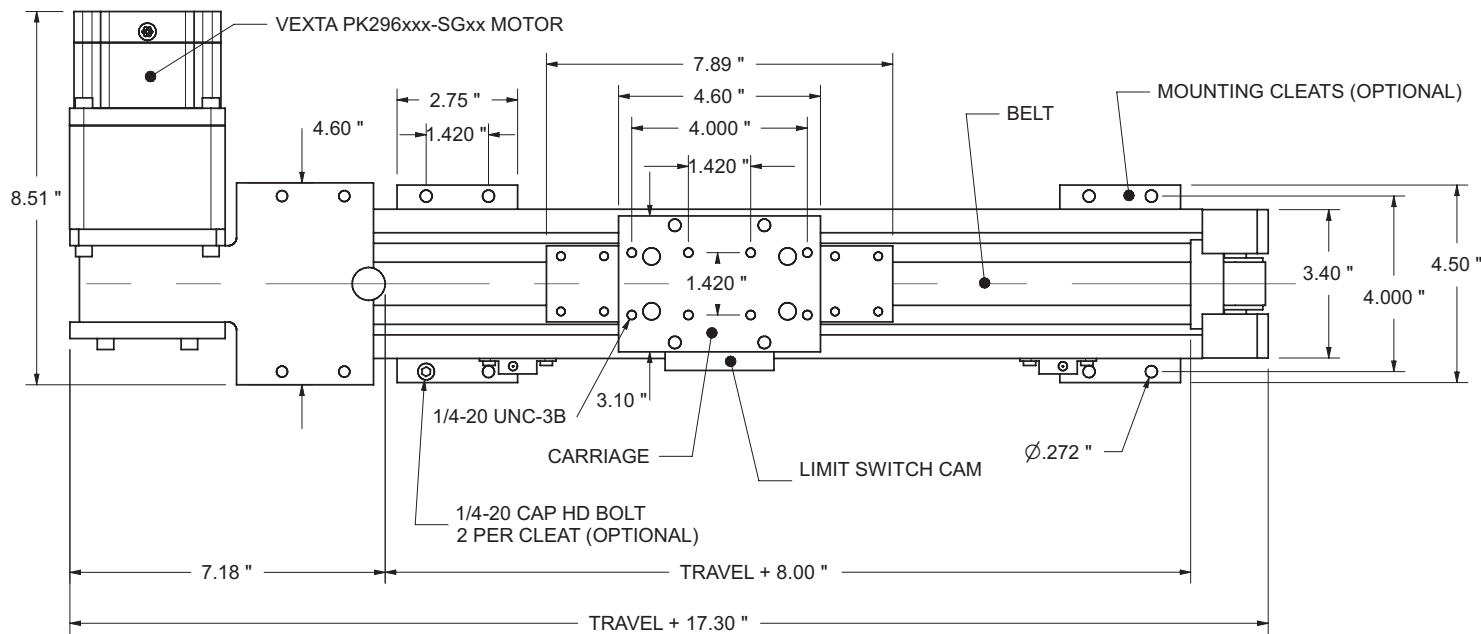
Ft (lbs) = (T (in-oz) / 10) - 5

Fw (lbs) = Ft (lbs) x 5

Maximum Load / Linear Speed



DIMENSIONAL DRAWINGS

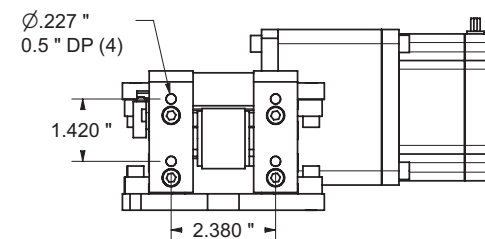
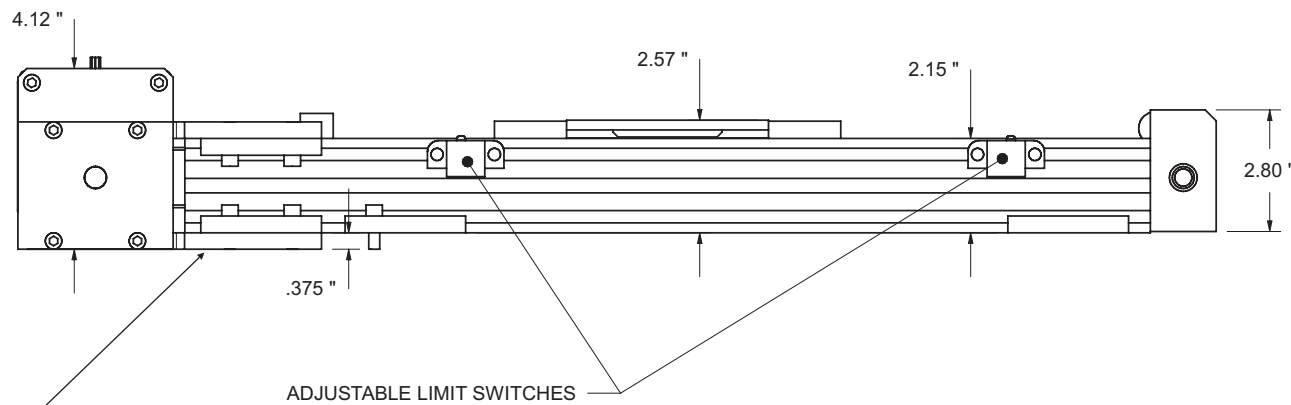


Cleat Attachment

Travel	# Cleats*
20"	6
30"	8
40"	10
60"	14
80"	16
100"	18
120"	20
140"	22
160"	24
180"	26
200"	28
220"	30

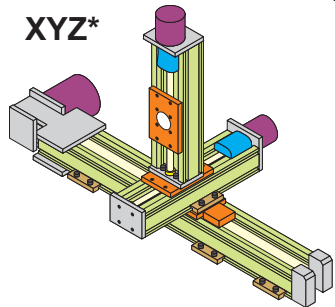
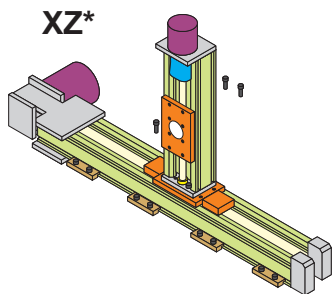
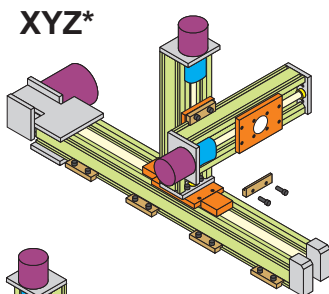
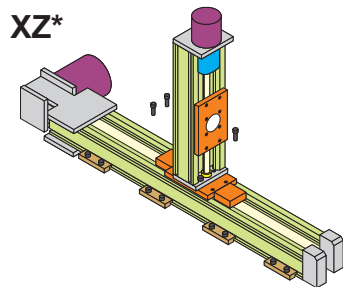
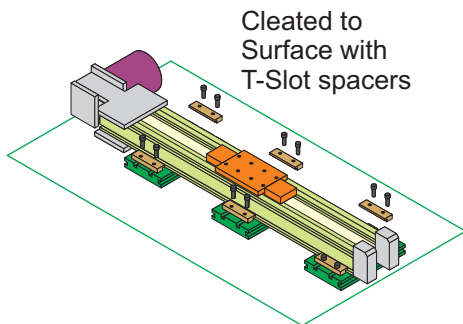
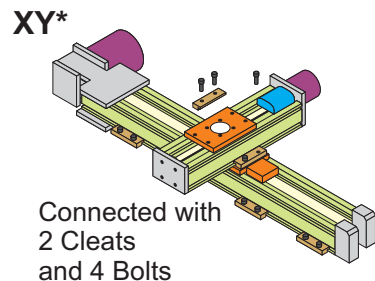
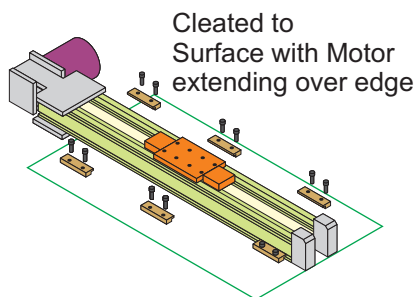
*Number of cleats is an average, use more for heavy loads, fewer for light loads.

**Shown with Motor
and Cleats sold separately**



NOTE: Motor Plate extends 0.375" below bottom of Base

CONFIGURATIONS*



* Leadscrew Drive BiSlide Assembly recommended for Y&Z

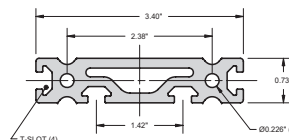
ACCESSORIES

Cleats/Bolts

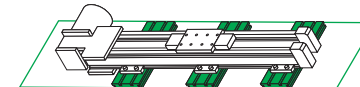


Cleats are used to mount the BiSlide assembly to a surface and to configure two BiSlides in XY. One pair of cleats has 425 lbs of holding capability. 1/4-20 x 3/4" long socket head cap bolts are used with cleats and for direct end (Z) mounting.

T-Slot Plate



The T-Slot plate can be used as a 0.73" spacer under the Base of the BiSlide assembly and for convenient alignment when mounting to irregular shaped surfaces.



Motor/Gearbox



A wide range of motors and gear reductions are available. There are integrated gear reduction motors for economical operation with low and medium power electronics. Driving directly from the motor shaft is possible for light loads, or when high powered motors and controls are used.

Controls



Velmex produces a series of full-featured yet economical stepping motor controllers. High power motor drives are available for high speed and heavy load applications.

Contact our Sales Engineering department for expert advice on your particular application.

WARRANTY

BiSlide Assembly products sold by Velmex are warranted to be free from defects for a period of **5 (five) years** on all parts. Velmex's obligation under this warranty does not apply to defects due, directly or indirectly, to misuse, abuse, negligence, accidents, or unauthorized repairs, alterations, or lack of maintenance; or to items that would normally be consumed or require replacement due to normal wear. Claims must be authorized, and a return authorization number issued before a product can be returned.

The warranty does not cover items which are not manufactured or constructed by Velmex, Inc. These components are warranted by their respective manufacturer. Under the above warranty, Velmex will, at its option, either repair or replace a nonconforming or defective product.

CONTACT INFORMATION

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