

T-MAX SERIES

Direct Drive Rotary Servo



- Low Profile Direct-drive Rotary Stage
- Smooth Brushless Servo-drive Positioning Motion
- Integrated High Resolution Rotary Encoder
- High Stability Double pre-loaded Hub Bearing System

T-Max™ series of precision, direct-drive rotary servo positioning stages are ideal for today's high-performance technology environment. They are found in virtually all industries where intermittent part indexing, skew adjustment or precise angular alignment, continuous rotation and exact angular positioning is required.

Background

T-Max™ series of precision, direct-drive rotary servo positioning stages are ideal for today's high-performance technology environment. Driven by a powerful brushless, torque motor with an integrated high-resolution rotary encoder system. T-Max provides closed position and velocity feedback, enabling outstanding trajectory control. Built for the most demanding high precision applications, the rotating hub is suspended by large diameter precision ball bearings. This preloaded hub design provides for high load capacity and excellent running characteristics in a space efficient package. The absence of any mechanical contact in the drive components increases life expectancy dramatically and extends MTBF and service intervals. In most installations, this stage has an unlimited service lifetime.

Features and Benefits

T-Max series of rotary stages provide smooth, low friction rotary motions over a large speed range with zero-backlash. These are key advantages in any application where excellent trajectory control is required. T-Max positioning stages operate with low vibration and superior flatness. These are attractive features in any precision application. Closed-loop rotary position control coupled with direct drive technology creates a robust rotating hub with low-hysteresis and remarkable angular resolution. The single piece rotating hub design affords rugged mechanical stability, integrity and increased precision under load. The double preloaded hub with a crossed-roller top bearing and duplex angular ball bearing at the bottom offers extreme stiffness and outstanding dynamic characteristics with low axial and radial run out even at maximum load. A top ball bearing configuration is available for low drag, damping and compliance as an option.

T-Max Series Specifications

Specifications	T-Max 2	T-Max 3	T-Max 5
Hub Diameter	67 mm	98 mm	136 mm
Aperture Diameter	9 mm	8 mm	136 mm
Height	57 mm	65 mm	70 mm
Payload Axial	10 kg	18 kg	25 kg
Payload Radial	10 kg	18 kg	25 kg
Motor Size	0.17 Nm	0.9 Nm	2.9 Nm
Peak Torque	0.53 Nm	2.45 Nm	19.5 Nm

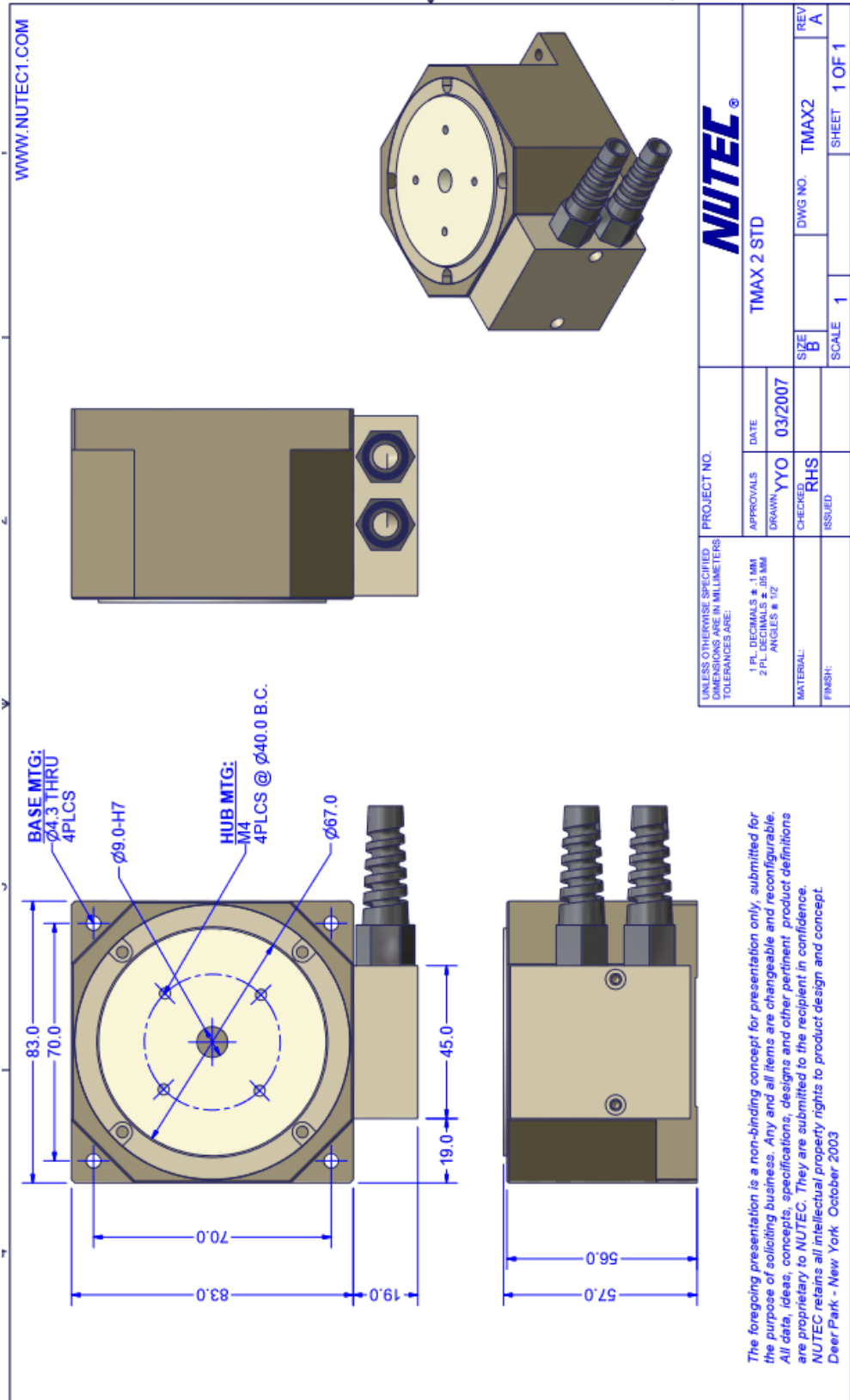
T-Max Series Resolution

T-Max 2					
Encoder Output	Grating Disk	Interpolator*	Quadrature Edge Detection	Resolution	Max speed
Analog 1 V (p-p)	3,600 lpr	In-Controller	Not Applicable	0.1 degrees/cycle	
TTL-9.0	3,600 lpr	10x	X4	9.0 arc-sec	889 rpm
TTL-0.9	3,600 lpr	100x	X4	0.9 arc-sec	444 rpm

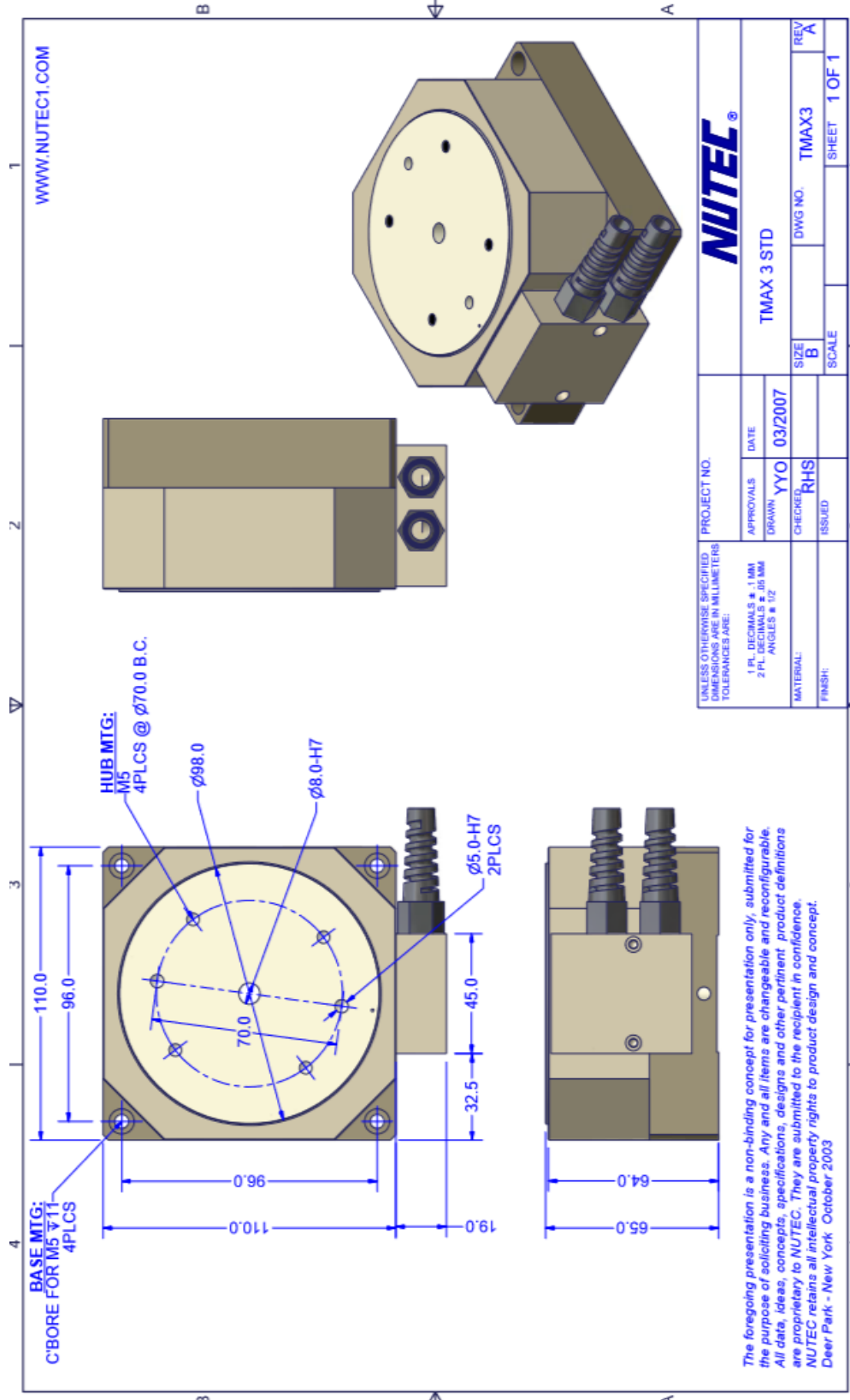
T-Max 3					
Encoder Output	Grating Disk	Interpolator*	Quadrature Edge Detection	Resolution	Max speed
Analog 1 V (p-p)	10,000 lpr	In-Controller	Not Applicable	0.036 deg/cycle	
TTL-3.25	10,000 lpr	10x	X4	3.25 arc-sec	320 rpm
TTL-0.32	10,000 lpr	100x	X4	0.32 arc-sec	160 rpm

T-Max 5					
Encoder Output	Grating Disk	Interpolator*	Quadrature Edge Detection	Resolution	Max speed
Analog 1 V (p-p)	18,000 lpr	In-Controller	Not Applicable	0.02 deg/cycle	
TTL-2.38	18,000 lpr	10x	X4	2.38 arc-sec	222 rpm
TTL-0.24	18,000 lpr	100x	X4	0.24 arc-sec	89 rpm

T-Max 2 Dimensions



T-Max 3 Dimensions



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T-Max 5 Dimensions

