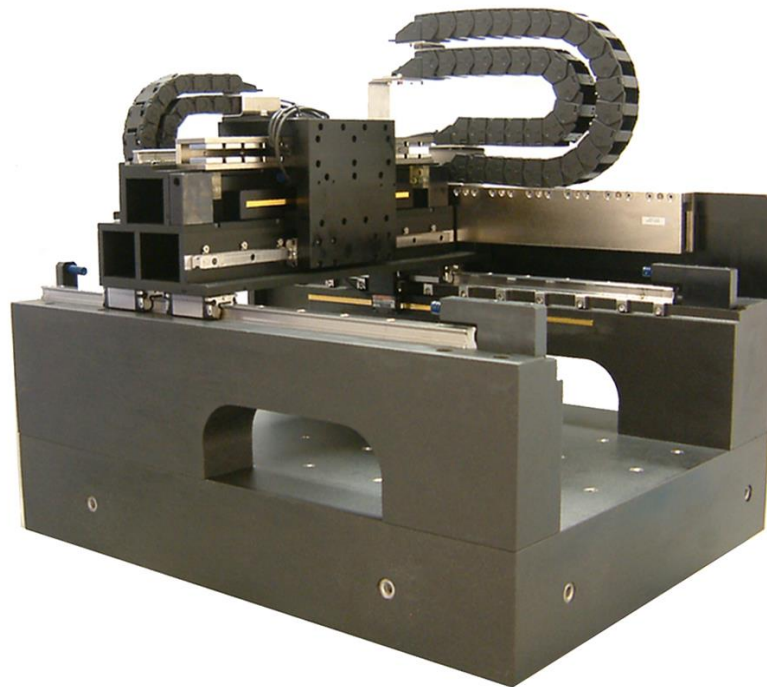


# GTD Series

## V Granite T-Drive Gantry

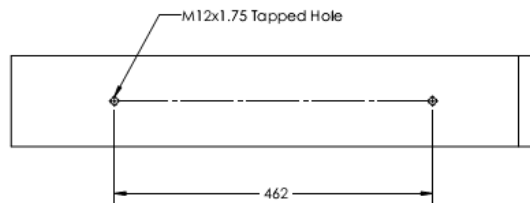
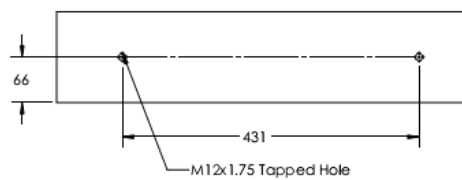
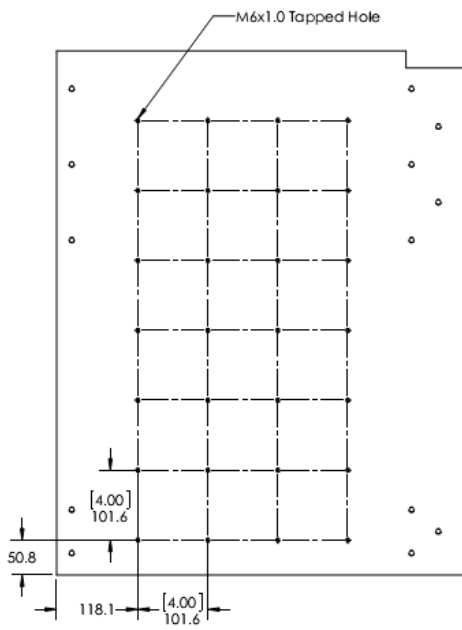
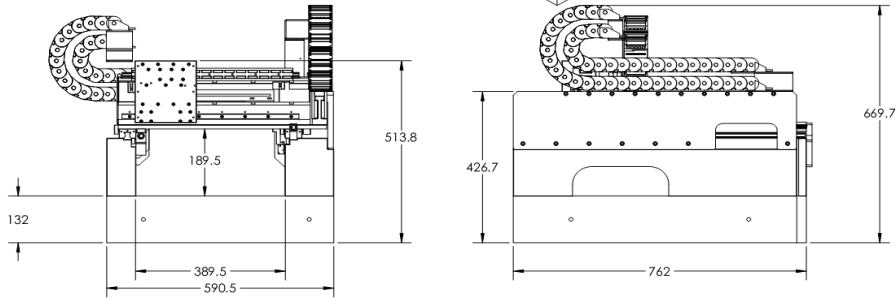
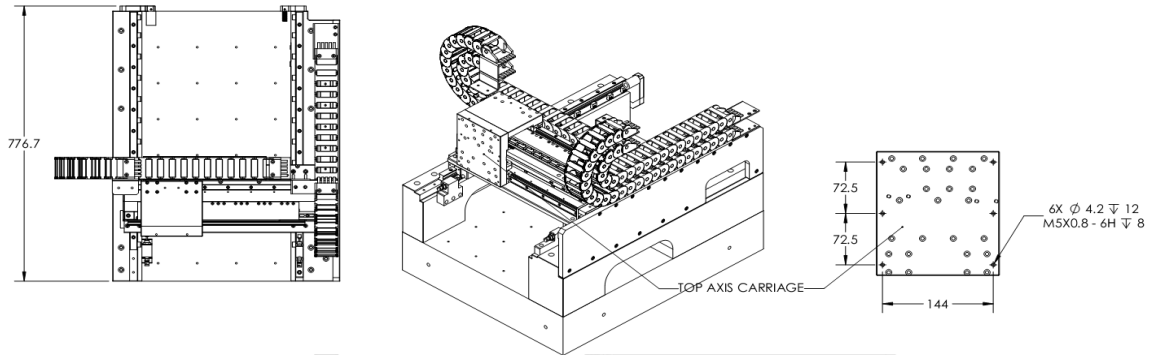


- Direct drive, no cogging, zero backlash linear motor
- Linear encoder options of 0.1 $\mu$ m, 0.5  $\mu$ m and 1.0 $\mu$ m
- High accelerations (up to 10m/s<sup>2</sup>) and speeds (up to 5m/s)
- Smooth motion at low speeds (low velocity ripple)
- Precise homing through encoder index pulse

## Motor Parameter

Specifications	Model	GTD		
	Drive Type	T-Drive		
	Axis	Top		Bottom
	Motor	AUM3-S2	AUM3-S2	AUM4-S2
Performance Parameters	Unit	Series	Parallel	Series
Continuous Force, coil @100°C	N	57		112
Peak Force	N	289		624
Motor Constant	N/SqRt(W)	10.24		15.83
Continuous Power	W	49.4		50.1
Peak Power	W	790.8		1554.8
Electrical Cycle	mm	60		60.0
Max Bus Voltage	V	330		330.0
Max Coil Temperature	°C	125		125.0
Thermal Dissipation Constant	W/°C	0.66		0.7
Continuous Current	Arms	1.8	3.6	2.3
Peak Current	Arms	9.2	18.4	13.0
Force Constant	N/Arms	31.4	15.7	48.0
Back EMF Constant	Vpeak/(m/s)	25.6	12.8	39.2
Inductance	mH	6.26	1.57	7.00
Terminal Resistance @25°C	Ohms	9.40	2.35	9.20
Electrical Time Constant	ms	0.67	0.67	0.76
<b>Mechanical Parameters</b>				
Coil Mass	Kg	0.45		0.56
Coil Length	mm	121		121.0

# Dimension Drawing



## Effective Stroke

Model	Drive Type	Axis	Effective Stroke	Sensor Position	Hard Stopper Position
			(mm)	(mm)	(mm)
GTD	T-Drive	Top	200	202	210
		Bottom	400	402	408

Note that granite mass is approx. 240 Kg.

## Performance Parameter

Specification Parameter	Unit	GTD400X200
Straightness	μm	±3μm/25mm NTE±10μm for FS
Flatness		±3μm/25mm NTE±10μm for FS
Repeatability (1μm resolution)		±3μm (40μm scale pitch)
Repeatability (0.5μm resolution)		±1.5μm (20μm scale pitch)
Repeatability (0.1μm resolution)		±1μm (20μm scale pitch)
Repeatability (Analogue)		±5 counts
X-Y Orthogonality		Arc-sec

## Part Numbering (Rapid Delivery Series)

GTD	Stroke	Drive	Top Axis Motor Model	Bottom Axis Motor Model	Sensor Type	<sup>1</sup> Motor Cable (m)	Encoder Option (type)	Encoder Resolution (micron, μ)	Rail
	400X200	T	AUM3-S/P-S2	AUM4-S/P-S2	J K	1.0-5.0	RE, MII	0.1 0.5 1.0	T B

1. Motor cable is the length of cable measured after the bottom axis cable chain.

**Example: GTD400X200-T-AUM3-S-S2-AUM4-S-S2-J-3.0-RE-0.5-T**