

GHD Series

Versatile Robust H and T Drive Gantry



Direct drive,
zero backlash
linear motor



Two drive options
H (dual drive)
And T (single drive)



high peak and
continuous force



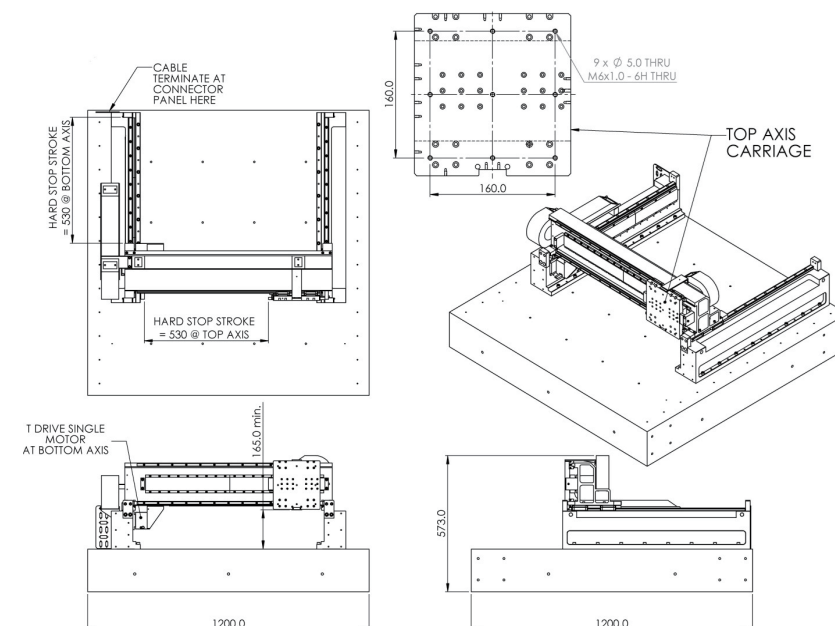
High efficiency

GHD

Specifications

Model	Model	GHD		
	Drive Type1	T or H		
	Axis	Top	Bottom	
	Motor	ACM1-L50	ACM3-S1	
Performance Parameters		Unit		
Continuous Force, coil @100°C		N	160	293
Peak Force		N	692.4	878
Motor Constant		N/SqRt(W)	22.6	29.4
Continuous Power		W	50.3	99.1
Peak Power		W	936.2	891.6
Magnetic Period		mm	20	42
Max Coil Temperature		°C	130	130
Continuous Current		Arms	4.2	4.8
Peak Current		Arms	19.2	14.4
Force Constant		N/Arms	38.2	61.0
Back EMF Constant		Vpeak/m/s	31.2	49.8
Inductance		mH	10.4	38.0
Phase Resistance @25°C		Ohms	2.85	4.30
Magnetic Attraction		N	1619	1.45

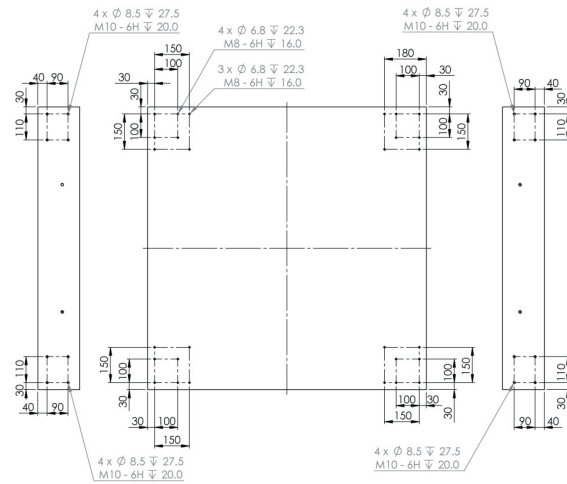
Dimension Drawing



GHD

Specifications

Granite Bottom and Side Mounting Hole



Model	Drive type	Axis	Effective Stroke	Moving Mass	Total Mass	Sensor Position
			(mm)	(Kg)	(Kg)	(mm)
GHD	T or H	trabeated axis	510	4.6	29	514
		gantry axis	510	34.8	103	514

Note: that granite mass is approx. 778Kg.

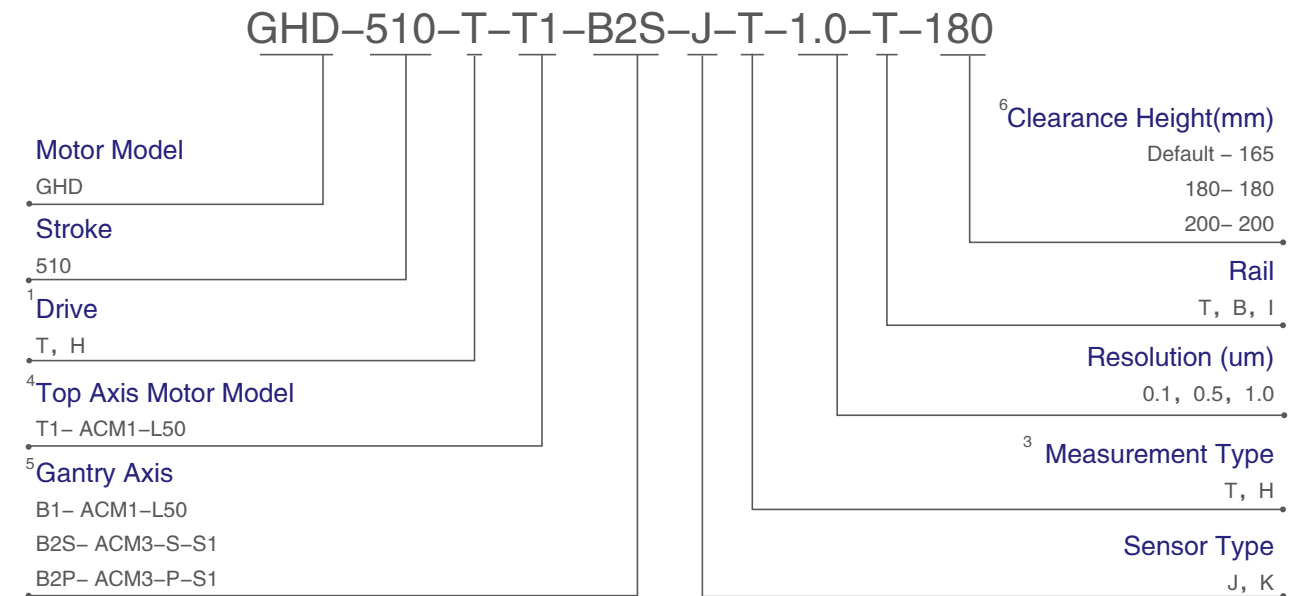
Performance Parameter

Specification Parameter	Unit	VHG510
² Straightness	µm	±2.5µm/100mm, NTE±10µm for FS
² Flatness		±2.5µm/100mm, NTE±10µm for FS
Repeatability (0.1µm resolution)		±1
Repeatability (0.5µm resolution)		±2.5
Repeatability (1µm resolution)		±5
Repeatability (Analogue)	counts	±5
X-Y Orthogonality	arc-sec	10

² All measurement taken when module is mounted on a 5 micron flat granite table.

GHD

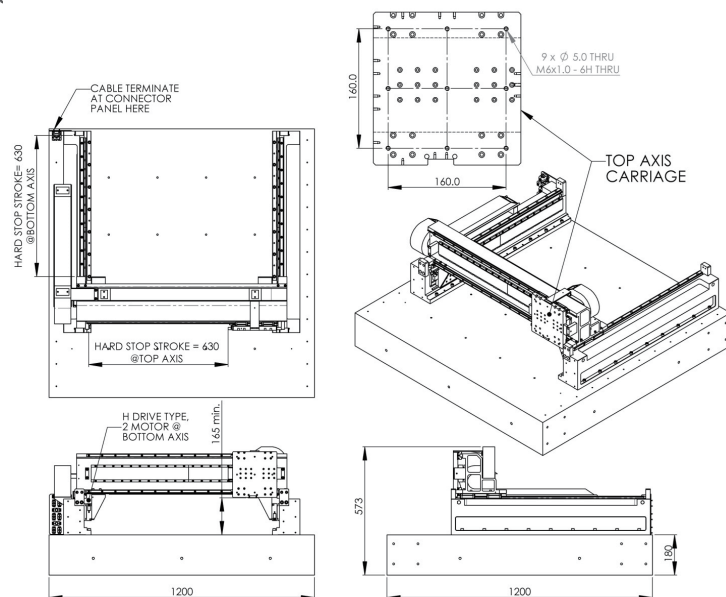
Part Numbering



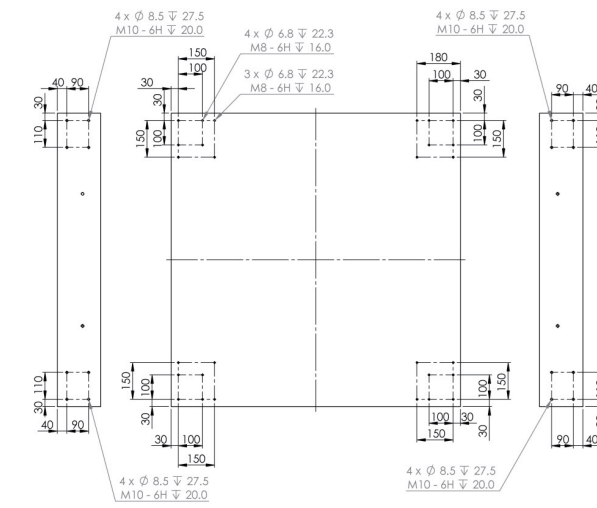
- ¹ In T-drive gantry, there is only 1 motor at the bottom axis whereas H-drive gantry has 2 motors at the bottom axis for better performance.
- ² For T-measurement, there is only 1 linear encoder at the bottom axis. For H-measurement, there are 2 encoders at the bottom axis for better performance.
- ³ The preferred motors for the top axis are in the table above. For other motors e.g. AUM series, pls contact us for more details.
- ⁴ The preferred motors for the bottom axis are in the table above. For other motors e.g. AUM series, pls contact us for more details.
- ⁵ Clearance height is the distance measured from granite top to the bottom of the top axis carriage. Pls refer to Figure 1 and 2. The minimum clearance is 165mm by default.
- ⁶ For applications that have specific straightness and flatness requirements, please contact us for more details.

Model	GHD		
	Drive Type ¹	T or H	
	Axis	Top	Bottom
	Motor	ACM1-L50	ACM1-L50
Performance Parameters	Unit		
Continuous Force, coil @100°C	N	182	182
Peak Force	N	831.4	831.4
Motor Constant	N/SqRt(W)	25.6	25.6
Continuous Power	W	50.3	50.3
Peak Power	W	1050.6	1050.6
Magnetic Period	mm	20	20
Max Coil Temperature	°C	130	130
Continuous Current	Arms	4.2	4.2
Peak Current	Arms	19.2	19.2
Force Constant	N/Arms	43.3	43.3
Back EMF Constant	Vpeak/m/s	35.4	35.4
Inductance	mH	10.4	10.4
Phase Resistance @25°C	Ohms	2.85	2.85
Magnetic Attraction	N	1619	1619

Dimension Drawing



Granite Bottom and Side Mounting Hole



Model	Drive type	Axis	Effective Stroke	Moving Mass	Total Mass	Sensor Position	Hard Stopper Position
			(mm)	(Kg)	(Kg)	(mm)	(mm)
GHD	T or H	trabeated axis	620	4.85	32	624	630
		gantry axis	620	38.3	122	624	630

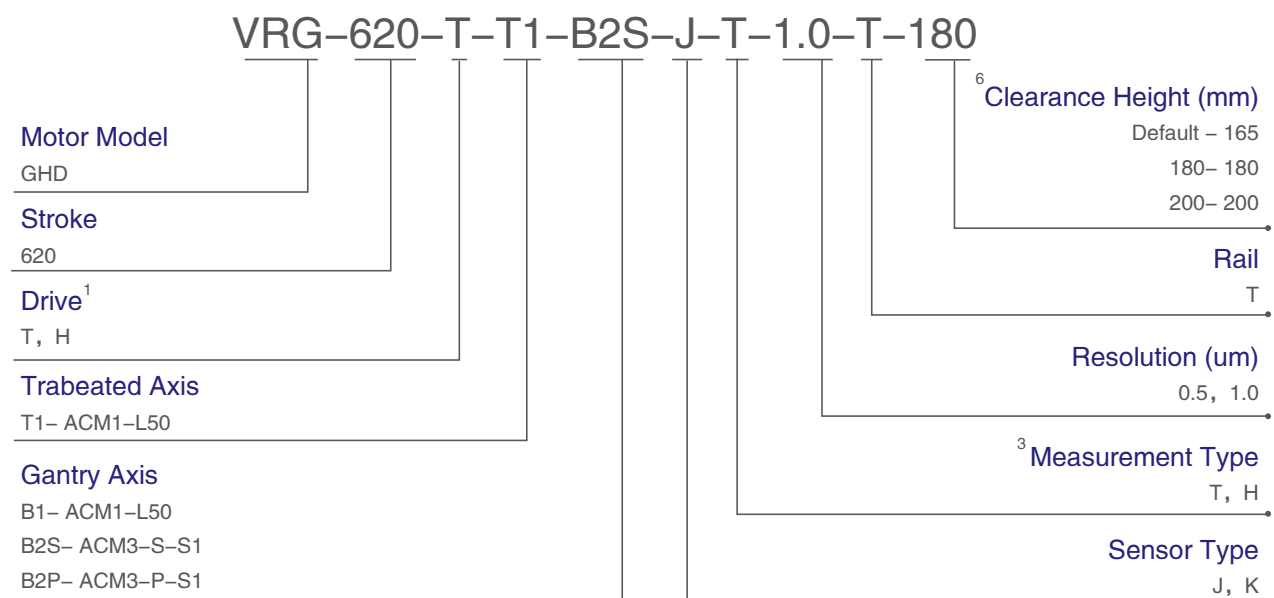
Note: that granite mass is approx. 778Kg.

Performance Parameter

Specification Parameter	Unit	VHG510
² Straightness	µm	±3µm/25mm, NTE±10µm for FS
² Flatness		±3µm/25mm, NTE±10µm for FS
Repeatability (0.5µm resolution)		±4
Repeatability (1µm resolution)		±5
Repeatability (Analogue)	counts	±5
X-Y Orthogonality	arc-sec	10

² All measurement taken when the stage is mounted on a 5 micron flat granite base and with 8kg load.

Part Numbering



- ① In T-drive gantry, there is only 1 motor at the bottom axis whereas H-drive gantry has 2 motors at the bottom axis for better performance.
- ② For T-measurement, there is only 1 linear encoder at the bottom axis. For H-measurement, there are 2 encoders at the bottom axis for better performance.
- ③ The preferred motors for the top axis are in the table above. For other motors e.g. AUM series, pls contact us for more details.
- ④ The preferred motors for the bottom axis are in the table above. For other motors e.g. AUM series, pls contact us for more details.
- ⑤ Clearance height is the distance measured from granite top to the bottom of the top axis carriage. Pls refer to Figure 1 and 2. The minimum clearance is 165mm by default.
- ⑥ For applications that have specific straightness and flatness requirements, please contact us for more details.