

# Pennine modular 'G' range machine

## Technical Guide Information

### Pennine 'G' bed type:

Bed/table size:	From 4,000 long x 1,000 wide to desired length (e.g 15,000) x 2,000 wide (see note below)
Machine capacity:	2,500 long x 1,000 wide x 400 deep to 13,500 long x 2,000 x 1,000 deep
Machine travels:	X = 2000 to XX,XXX (e.g. 13,500) Y = 1,000 to 2,250 Z = 400 to 2,000 A = +/- 100° B = +/- 270°

### Pennine 'G' beam type:

Distance between upright:	2,000 to 5,000
Machine capacity:	length 2,000 to desired length (e.g. 15,000) width 2,500 to 5,000, height 500 to 3,000
Machine travels:	X = 2,000 to (e.g 15,000) Y = 2,500 to 5,000 Z = 500 to 2,500 A = +/- 100° B = +/- 270°

### 'G' bed & beam common specifications:

X,Y,Z feedrates:	Standard 1 to 10,000 mm/min (high speed to 50m/min)
Machine size and & weight:	dependent upon the machine type & capacity
Spindle power/speed:	5 to 22kW, Speeds 3,000 to 30,000
Spindle taper:	ISO or HSK

Note (i) Specific detailed machine specifications supplied with quotations (all dimensions in mm).  
Details shown for guide purposes only, if your size/power requirement isn't shown, enquire for the nearest match.

Note (ii) Super High Speed Gantries available with alloy/composite construction.

Further details available on request.



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A Pennine Engineering Group Company



Completed beam machine installation

large capacity  
high accuracy  
low cost



pennine modular gantry 'G' range machines

flexible capacity at an affordable price with a minimum machine footprint



# Modular Gantry 'G' Range Machines

The cost effective way to machine parts from 1 metre to 5 metre in width

These machines have been developed and manufactured to meet the demands of companies whose need is to provide large or specific machining capacity at an affordable price, with a minimum machine footprint.

Pennine Modular 'G' Range Machines are designed to meet the following customer criteria:-

-  Conventional or high speed machining
-  Fixed or CNC heads
-  Bed or Beam configurations
-  Toolchanging or manual tool change
-  Various tool systems - ISO for conventional and HSK or CAPTO for high speed
-  Affordable investment with quick payback
-  Machine design allows 3D profiling, milling and drilling of steels/alloys and composites

Beam G type gantry



Bed G type gantry

## 2 types of Pennine Modular 'G' Range Machines are available - BedG (Bed gantry) and BeamG (Beam Gantry)

**BedG** type allows Gantries up to 2 metres wide. These machines are driven lengthways by a single sided drive. The Bed provides component and structural support.

**BeamG** type allows Gantries up to 5 metres wide, driven lengthways by dual (tandem) X-axis drives (one on each end of the beam) with software synchronisation.

When increased stiffness and improved accuracy are required, each beam side employs twin software torque control drives (e.g. X as 4 drive motors).

The Beam system comprises side member upright frames, which support the Beam assembly.

The Beam 'X' axis drives are on the upper side of the upright frames. This arrangement minimises skewing, limits the mass moment for improved accuracy and allows higher positioning speeds and performance.

**Modular construction is achieved through the utilization of common elements:-**

### **Beams, Saddles, Rams and Spindles.**

These common elements, coupled with the latest technological build and assembly techniques, reduce build costs significantly. Each sub-assembly is completely precision machined so that fitting is reduced to an assembly task, reducing costs.

The machine slideways and drive systems are all the latest technology - proven reliable components from major reputable suppliers. For example: the linear motion guideways are THK SHS type, with caged ball technology. This technology gives extended life, high stiffness, low friction (rolling resistance) and the ability to run at very high speed with quiet operation. Multi-seal/scrapper systems are employed to suit differing and hazardous machining environments. The bearing blocks are lubricated for life.

Spindles can be supplied with separate drive motors or integral spindle motor assemblies. The integral motor system can be supplied with planetary gears for speeds up to 12,000 rpm, or up to 30,000 rpm without. Separate drive motor spindles have speeds up to 6000 rpm.

**Options include: -**

-  Extractor/Vacuum hardware interface systems
-  2-Axis CNC tilt and swivel heads
-  Angular Heads (Manual Move)
-  Fixturing Tables
-  Large CNC Rotary Tables
-  Tool Changers
-  Various CNC options – Siemens, Osai and Fanuc



2 axis CNC head