# Motion System Datasheet







#### Motion System Datasheet

### Tool Positions

- Up to 4 standard tools
- Max tool dimension:
  - X: 88mm
  - Y: 60mm
  - X: 100mm

#### Build Volume

- The following dimentions are given for the Motion System equipped with the Bowden V6 tool and high temperature heated beds.
  - X: 300mm
  - Y: 200mm
  - Z: 290mm

## Volume & Dimensions

- Overall
  - Height: 800mmWeight: 550mmLength: 580mm
- Frame
  - Height: 510mmWidth: 540mmLength: 505mm
- Mass: ~20kg

# Movements & Accelerations

- Toolhead & bed not fitted
  - Recommended maximum travel speed: 800mm/s
  - Recommended maximum acceleration: 300mm/s<sup>2</sup>
  - Maximum travel along X axis: 363mm
  - Maximum travel along Y axis: 280mm
  - Maximum travel along Z axis: 325mm
- E3D ToolChanger & E3D high temperautre heated beds fitted
  - Recommended maximum travel speed: 600mm/s
  - Recommended maximum acceleration: 200mm/s<sup>2</sup>
  - Maximum travel along X axis: 363mm
  - Maximum travel along Y axis: 265mm
  - Maximum travel along Z axis: 285mm



## Motor Specifications

- X axis / Y axis:
  - 1.8°/step (200step/turn)
  - 2A/phase
  - 40mm body length
- Z axis:
  - 1.8°/step (200step/turn)
  - 1.6A/phase
  - 34mm body length
  - 385mm TR8\*2 integrated leadscrew

# Belts & Pulleys

- Belts: 6mm Gates Unitta 2GT
- Motor pulleys: 16T Gates Unitta 2GT
- Toothed idlers: Gates Unitta 2GT
- Smooth idlers: Gates Unitta 2GT

## Operating Conditions

- Place machine in a well-ventilated room on a rigid, horizontal and vibration free surface. Keep away from water and other fluids. Keep out of reach of children and vulnerable people.
- Minimum operating temperature: 5°C
- Maximum operating temperature: 40°C

#### Maintenance

- Every 20 prints / 50hours, whichever comes first:
  - Clean rails from any debris
  - Clean any plastic debris from belt path, cartrdiges and motors
  - Check belts have sufficient tension and that tension is even, adjust accordingly
  - Check bed is level
- Every 100 prints / 200hours, whichever comes first:
  - Inspect rails and cartridges for play
  - Inspect belts and teeth, look for thinning rubber or lower tooth profiles
  - Inspect pulleys and idlers for play
  - Inspect lead-screw for play
  - Inspect homing grubscres for wear
  - Lubricate rails and cartidges, see Hiwin for maintenance instructions https://www.hiwin.com/pdf/lubricating\_instructions.pdf
  - Lubricate lead screw with magnalube