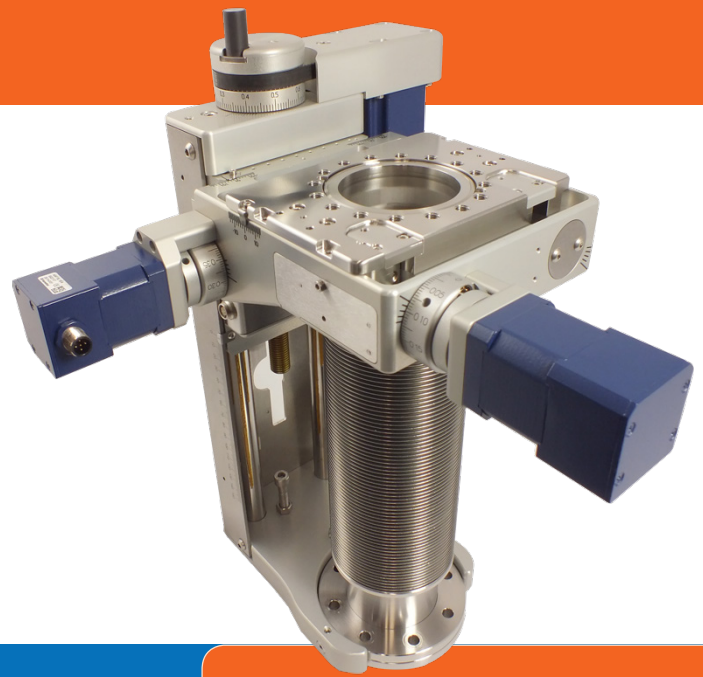


# XYZT Stage

## TETRAXE

### Precision Manipulator



TETRAXE offers precise manipulation in X, Y and Z axis with convenient  $\pm 2^\circ$  tilt integrated into the mounting flange assembly. Rugged construction combined with ultra-compact footprint make the TETRAXE an ideal manipulator platform where space is at a premium.

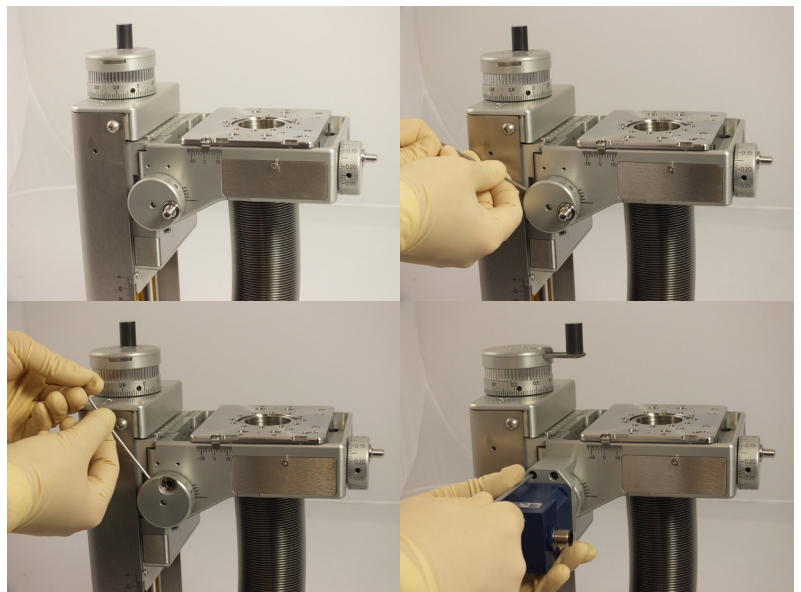
#### KEY ADVANTAGES

- » 50-300mm Z motion options
- » XY options include  $\pm 12.5$ mm (38mm bore) and  $\pm 15$ mm (65mm bore)
- » High resolution performance
- » Easy to retrospectively motorise

In situations where available space is limited, in addition to an ultra-compact footprint, the TETRAXE allows both the X and Y actuation methods to be moved to alternative positions to avoid mechanical clashes if required. Moving the manual handwheels or motorisation kits requires no specialist tools or training and can be completed on-site by following a simple process. In addition to this feature, the mounting flange incorporates an integrated  $\pm 2^\circ$  tilt for convenience during final alignment.

The TETRAXE is available in manual or motorised configurations with the option to upgrade from manual actuation to motorisation at a later date using simple 'DIY' motorisation kits.

#### Easy motorisation upgrade



## TETRAXE Technical Data

SPECIFICATION	TTX40-40	TTX40-100
Travelling flange size	CF40 (2 3/4") metric tapped straddled and In line	CF40 (2 3/4") metric tapped straddled and In line
Standard fixed flange size	CF40 (2 3/4") clear holes straddled or in-line	CF (6") clear holes straddled or in-line
Additional Ports	n/a	4 off CF16 ports on fixed flange
Flange tilt	+/-2 degrees	+/-2 degrees
Clear bore	39mm	39mm
Max axial load on travelling flange	200N	200N
Maximum cantilevered moment	10 Nm	10 Nm
Flange parallelism change on evacuation	<2 mrad	<2 mrad
Resolution Z axis	0.002mm	0.002mm
Micrometer resolution X & Y axis	0.001mm	0.001mm
Bakeout temperature	250°C with motors removed	250°C with motors removed
Max probe diameter	13.0mm (for max. X or Y)	13.0mm (for max. X or Y)
X & Y Stroke to hard stops	+/-12.5mm	+/-12.5mm
Vectorial Stroke to hard stops	+/-17.7mm	+/-17.7mm
X & Y Stroke to limit switches	+/-12.5mm	+/-12.5mm
Vectorial Stroke to limit switches	+/-17.7mm	+/-17.7mm
Leadscrew pitch X & Y axis	0.5mm	0.5mm
Stepper motor option X & Y axis	17 frame 4 wires 1.8A / phase	17 frame 4 wires 1.8A / phase
Stepper option	AS4118L1804 pre wired to M12 connector	AS4118L1804 pre wired to M12 connector
Stepper motor maximum linear speed X & Y axis	5mm/second	5mm/second
Motor gearbox type and ratio X & Y axis	N/A	N/A
Linear resolution per 1/2 step X & Y axis	0.00125mm	0.00125mm
Motorised Linear backlash under vacuum	<0.01mm	<0.01mm
Stepper motor option - switches X & Y axis	Bakeable limit and home switches with lemo socket wired to diagram WD-002	Bakeable limit and home switches with lemo socket wired to diagram WD-002
Linear encoder option X & Y axis	Renishaw LM10 encoder 10 micron resolution	Renishaw LM10 encoder 10 micron resolution
Leadscrew pitch z axis	2mm	2mm
Stroke range z axis	25 to 300mm	25 to 300mm
Stepper motor option z axis	23 frame 8 wires 3A / phase	23 frame 8 wires 3A / phase
Stepper option - motor wiring z axis	AS5918L4204 pre wired to M12 connector	AS5918L4204 pre wired to M12 connector
Stepper motor max linear speed z axis	10mm/second	10mm/second
Linear resolution per 1/2 step z axis	0.002 mm	0.002 mm
Drive pulley reduction ratio	2.5:1	2.5:1
Motorised Linear backlash under vacuum	<0.005mm	<0.005mm
Stepper motor option - switches z axis	Bakeable limit and home switches with lemo socket wired to diagram WD-002	Bakeable limit and home switches with lemo socket wired to diagram WD-002
Linear encoder option Z axis	Renishaw LM10 encoder 10 micron resolution	Renishaw LM10 encoder 10 micron resolution

## TETRAXE Technical Data

SPECIFICATION	TTX63-63	TTX63-100
Travelling flange size	CF63 (4 1/2") metric tapped straddled and In line	CF63 (4 1/2") metric tapped straddled and In line
Standard fixed flange size	CF63 (4 1/2") clear holes straddled or in-line	CF100 (6") clear holes straddled or in-line
Additional Ports		
Flange tilt	+/-2 degrees	+/-2 degrees
Clear bore	65mm	65mm
Max axial load on travelling flange	200N	200N
Maximum cantilevered moment	10 Nm	10 Nm
Flange parallelism change on evacuation	<2 mrad	<2 mrad
Resolution Z axis	0.002mm	0.002mm
Micrometer resolution X & Y axis	0.001mm	0.001mm
Bakeout temperature	250°C with motors removed	250°C with motors removed
Max probe diameter	22.0mm (for max. simultaneous X&Y)	22.0mm (for max. simultaneous X&Y)
X & Y Stroke to hard stops	+/-15mm	+/-15mm
Vectorial Stroke to hard stops	+/-21mm	+/-21mm
X & Y Stroke to limit switches	+/-15mm	+/-15mm
Vectorial Stroke to limit switches	+/-21mm	+/-21mm
Leadscrew pitch X & Y axis	0.5mm	0.5mm
Stepper motor option X & Y axis	17 frame 4 wires 1.8A / phase	17 frame 4 wires 1.8A / phase
Stepper option	AS4118L1804 pre wired to M12 connector	AS4118L1804 pre wired to M12 connector
Stepper motor maximum linear speed X & Y axis	5mm/second	5mm/second
Motor gearbox type and ratio X & Y axis	N/A	N/A
Linear resolution per 1/2 step X & Y axis	0.00125mm	0.00125mm
Motorised Linear backlash under vacuum	<0.01mm	<0.01mm
Stepper motor option - switches X & Y axis	Bakeable limit and home switches with lemo socket wired to diagram WD-002	Bakeable limit and home switches with lemo socket wired to diagram WD-002
Linear encoder option X & Y axis	Renishaw LM10 encoder 10 micron resolution	Renishaw LM10 encoder 10 micron resolution
Leadscrew pitch z axis	2mm	2mm
Stroke range z axis	25 to 300mm	25 to 300mm
Stepper motor option z axis	23 frame 8 wires 3A / phase	23 frame 8 wires 3A / phase
Stepper option - motor wiring z axis	AS5918L4204 pre wired to M12 connector	AS5918L4204 pre wired to M12 connector
Stepper motor max linear speed z axis	10mm/second	10mm/second
Linear resolution per 1/2 step z axis	0.002 mm	0.002 mm
Drive pulley reduction ratio	2.5:1	2.5:1
Motorised Linear backlash under vacuum	<0.005mm	<0.005mm
Stepper motor option - switches z axis	Bakeable limit and home switches with lemo socket wired to diagram WD-002	Bakeable limit and home switches with lemo socket wired to diagram WD-002
Linear encoder option Z axis	Renishaw LM10 encoder 10 micron resolution	Renishaw LM10 encoder 10 micron resolution

## TETRAXE Technical Data

SPECIFICATION	TTX100-100
Travelling flange size	CF100 (6") metric tapped straddled and In line
Standard fixed flange size	CF100 (6") clear holes straddled or in-line
Additional Ports	
Flange tilt	+/-2 degrees
Clear bore	102mm
Max axial load on travelling flange	200N
Maximum cantilevered moment	10 Nm
Flange parallelism change on evacuation	<2 mrad
Resolution Z axis	0.001mm
Micrometer resolution X & Y axis	0.002mm
Bakeout temperature	250°C with motors removed
Max probe diameter	31.0mm (for max. simultaneous X&Y)
X & Y Stroke to hard stops	+/-25mm
Vectorial Stroke to hard stops	+/-35mm
X & Y Stroke to limit switches	+/-25mm
Vectorial Stroke to limit switches	+/-35mm
Leadscrew pitch X & Y axis	0.5mm
Stepper motor option X & Y axis	17 frame 4 wires 1.8A / phase
Stepper option	AS4118L1804 pre wired to M12 connector
Stepper motor maximum linear speed X & Y axis	5mm/second
Motor gearbox type and ratio X & Y axis	N/A
Linear resolution per 1/2 step X & Y axis	0.00125mm
Motorised Linear backlash under vacuum	<0.01mm
Stepper motor option - switches X & Y axis	Bakeable limit and home switches with lemo socket wired to diagram WD-002
Linear encoder option X & Y axis	Renishaw LM10 encoder 10 micron resolution
Leadscrew pitch z axis	2mm
Stroke range z axis	25 to 300mm
Stepper motor option z axis	23 frame 8 wires 3A / phase
Stepper option - motor wiring z axis	AS5918L4204 pre wired to M12 connector
Stepper motor max linear speed z axis	10mm/second
Linear resolution per 1/2 step z axis	0.002 mm
Drive pulley reduction ratio	2.5:1
Motorised Linear backlash under vacuum	<0.005mm
Stepper motor option - switches z axis	Bakeable limit and home switches with lemo socket wired to diagram WD-002
Linear encoder option Z axis	Renishaw LM10 encoder 10 micron resolution

### For more information:

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