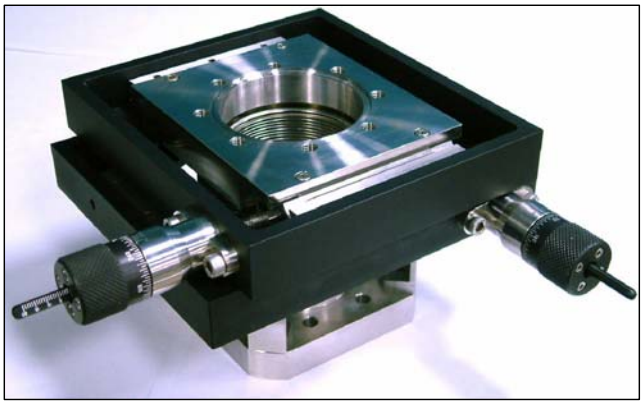
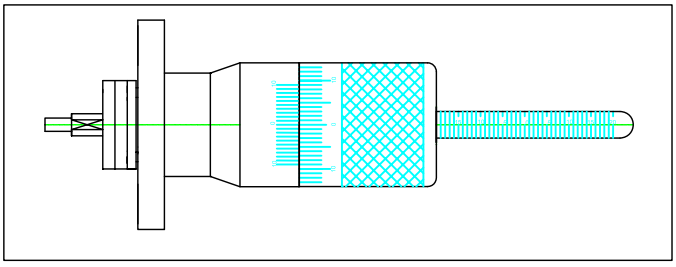
X,Y TABLES



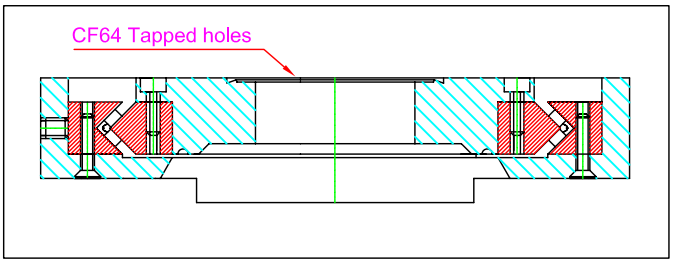
Generality

X,Y table is a module with two degrees of freedom.The two movements are linear and orthogonal. Each table slides into a guiding support.
Guidance precision,symmetrical movement and absence of backlash are specially important for precision mechanical positioning.
In conventional positioner,backlash is eliminated by pushing the guiding rims against the ball bearing until all backlash is suppressed.
With crossed roller bearing, the positioner moves on cylindrical rolling element along the guiding rods
Two series of rollers are mounted at 90° so the positioner can accept tractive and compressive stress.
An almost complete absence of backlash is obtained by parallel adjustment of the guiding tracks and pressing the rims against the bearing rolls.
Crossed roller bearing allows a compact construction of positioning components and they also guarantee precise movement with larger loads.
The 100 notches , through the decimal vernier, give a resolution of $1x10^{-6}$ m.



Micrometer

Each table is mounted with two Schneeberger crossed roller bearing with linear stroke of 40 mm.
To drive the slide a special precision micrometer has been designed. The measuring spindle is hardened through out.The thread with 1 mm pitch is grounded into the hardened spindle.The sleeve made in auto lubricant hard nickel-bronze alloy is cut into two parts.
The two half sleeves are installed with a preloaded spring to suppress the backlash.The main advantage of this assembly is the possibility to reach high temperature (300°C) without generating clearances and strains.

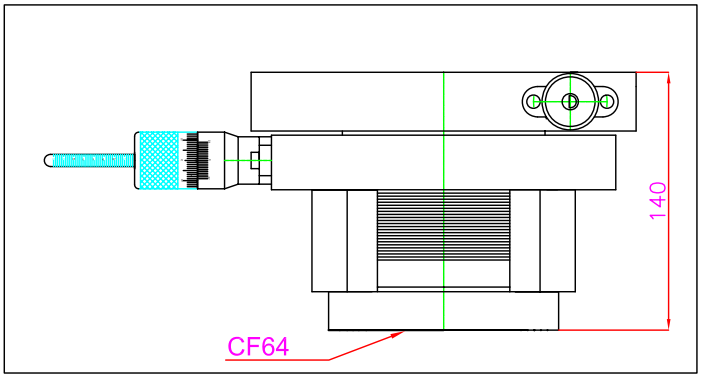


Crossed roller bearing table

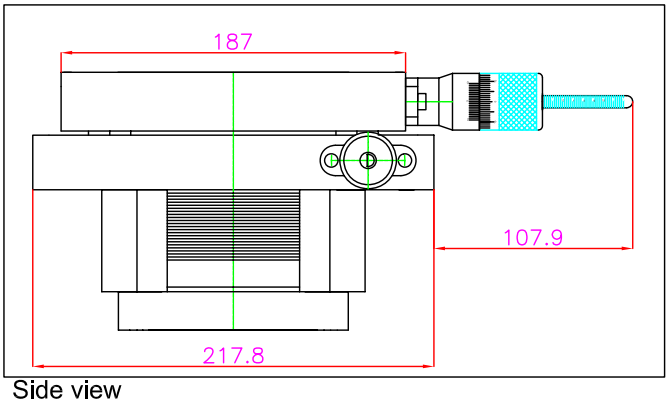
Due to the high load wearing, the X-Y table can be mounted in any orientation. Any way, when one axis of the table is in vertical position and the load is more than five kg, a compensation is recommended.
Each crossed roller bearing can wear a high dynamic load (10 000 N), but for long life and smooth movements , a superior limit load of about 300 N is suggested.

Specifications

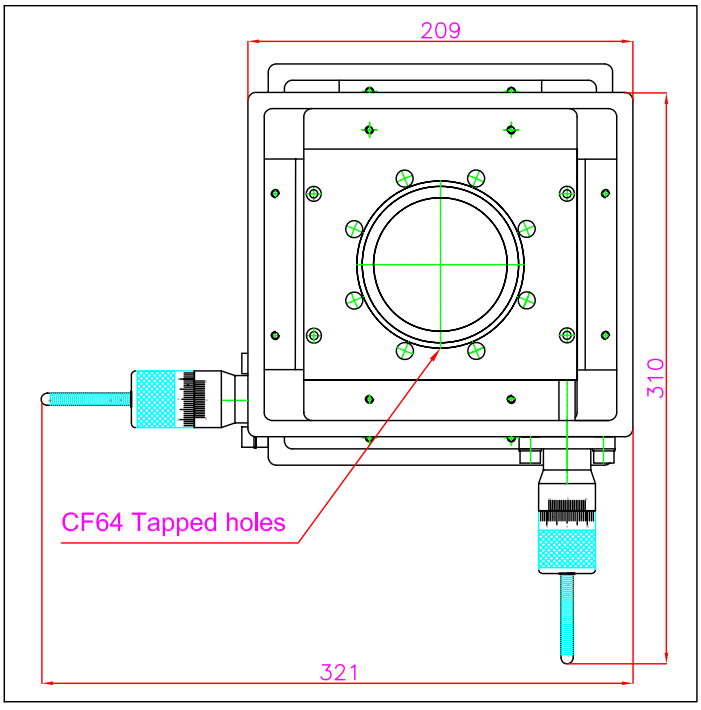
- X-Y stages are bakeable to 300°C
- Movements are +/-15mm linear :the limitation is the vectorial sum of the X and Y motion.
- Stepper motor with encoder can be fitted on both micrometers.
- The flange bolt pattern is straddled on the axis.



Front view



Side view



Top view

X-Y Motion	Top flange	Bottom flange	Resolution		Repeatibility		Max speed
			Manual	Motorised	Manual	Motorised	
±15 mm	CF64 Tapped holes	CF64	1 micron	0.5 micron	1 micron	0.5 micron	2 mm/sec

Ordering code

X-Y Table -Manual	**TM 022**
X-Y Table - Motorized	**TM 022 M**

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