

**SCHNEEBERGER – Essentials for the best!**

**CATALOGUES**

MONORAIL and AMS  
LINEAR GUIDEWAYS and Recirculating units  
SLIDES  
MINIRAIL  
AUTOMATION  
POSITIONING SYSTEMS



**BROCHURES**

NanoX  
NanoC CONTROLLER  
POWERTRACK  
MINERAL CASTING RHENOCAST  
SCHNEEBERGER Systems  
COMPANY BROCHURE



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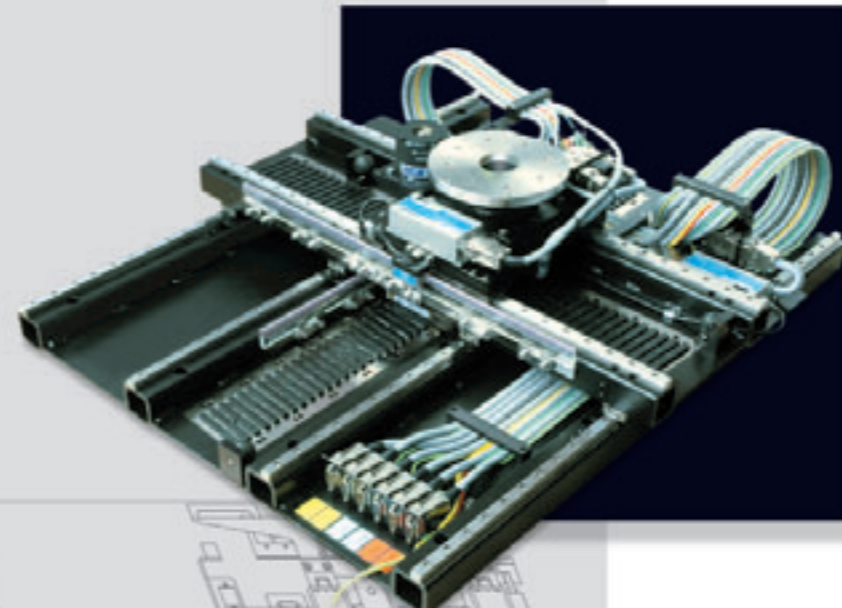
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**SCHNEEBERGER**  
LINEAR TECHNOLOGY

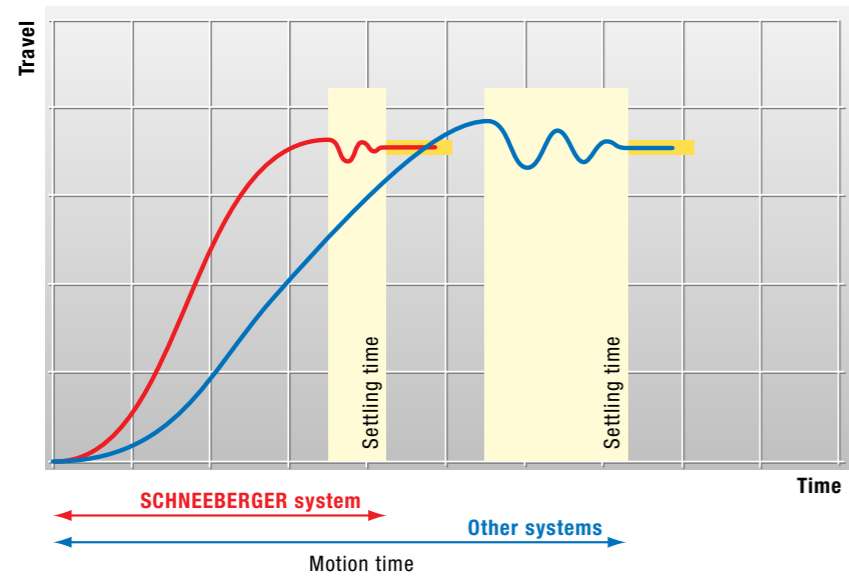


**NanoX**  
nanometer stability anywhere

20.2136-01.705/6/0.1/SRO/EG/Printed in Switzerland. Subject to technical changes

**Increase your throughput with SCHNEEBERGER NanoX**

With NanoX, SCHNEEBERGER offers you an innovative positioning system that can significantly reduce your cycle times. A technically mature standard product that is easy to integrate with an unparalleled price-performance ratio.



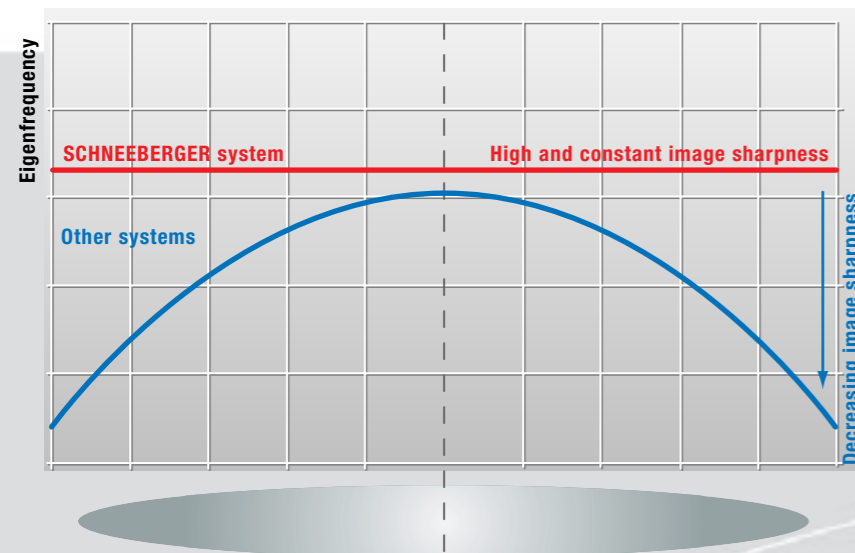
**NanoX:  
More wafers per hour!**

NanoX not only knows how to move fast, but also has no problems stopping for your measurement at hitherto unmatched speed and stability.

Thanks to this exceptional «step-and-settle» performance, you will achieve shorter cycle times, higher quality and thus higher productivity in your application.

**Nanometer stability throughout the entire work envelope**

NanoX' innovative design concept and the high-end components used ensure that every coordinate to be controlled has exactly the same properties. That is why you can operate the system with maximum performance without any loss of quality in peripheral working areas.



**NanoX: simply sharper**

The consistently high stability and accuracy of NanoX has a direct influence on the quality of your measurements. You gain sharper contrast images across the entire surface of the wafer, which represents a considerable reduction in error rates.

**SCHNEEBERGER positioning competence**



**NanoX and NanoC controller. The perfect system solution**

The full potential of NanoX is unfolded when used in combination with SCHNEEBERGER's high-end NanoC controller. As a perfectly coordinated SCHNEEBERGER standard package, they form a motion system that offers maximum throughput performance, is modular in design and involves a substantially lower integration outlay.

By the way: We can supply a standard package in one week.

**No more position errors**

NanoX and NanoC are so coordinated that positioning errors can be drastically reduced. The high resolution of the measuring system of the NanoX encoder can be processed to the full by the controller thanks to its 20 kHz control frequency. With clean signals, the extremely low-noise linear amplifiers guarantee the corresponding correction of the motion system.

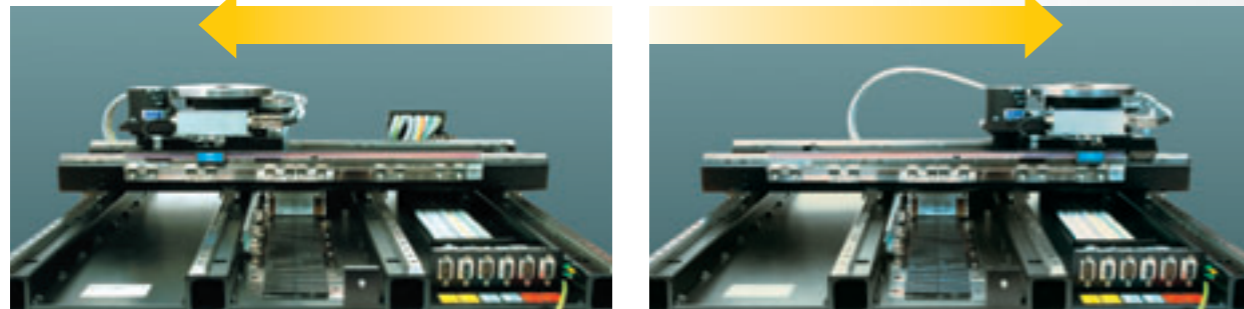
**SCHNEEBERGER expertise**

**Where mechanics meets electronics**

With SCHNEEBERGER at your side, you have a partner that can provide sophisticated solutions and extensive application skills for all your motion and positioning problems. Unique product concepts for your application are the result of many years' experience in the development and production of ultra-precise linear guideways and comprehensive electronics expertise.

NanoX components

Intelligently designed mechanical system

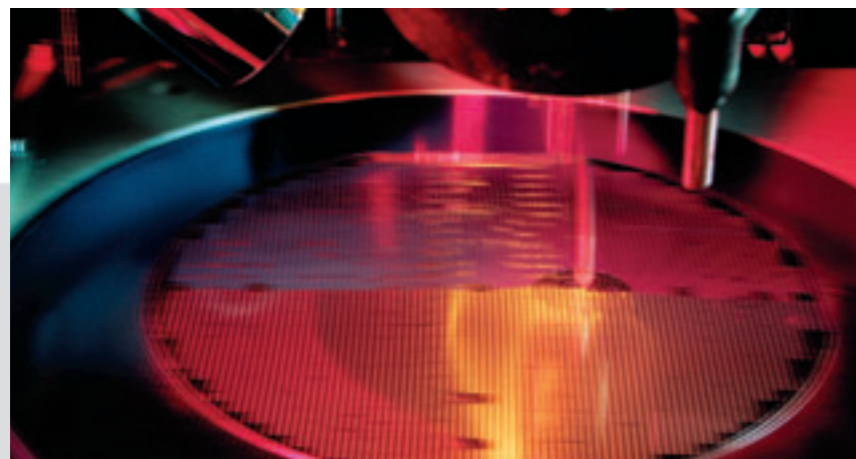


Unparalleled rigidity

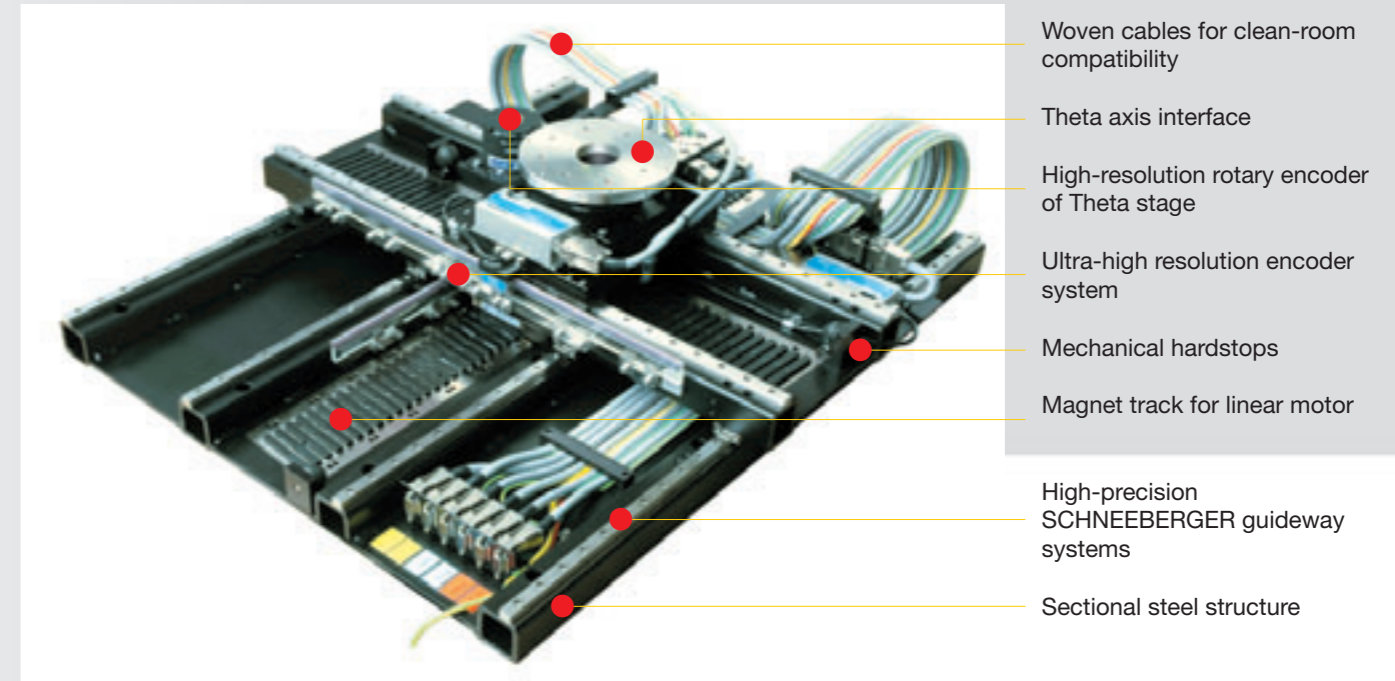
NanoX' unique stability is based on SCHNEEBERGER's ultra-precise MINIRAIL guideway. Proven thousands of times over, this miniature guideway features extremely high rigidity and operating performance. MINIRAIL permits particularly high acceleration with consistent accuracy over lengthy distances.

The arrangement of four MINIRAIL guideways for the lower axis and two guideways for the upper axis ensures that the system is incomparably rigid over the entire work area. This innovative concept keeps the natural frequency of the mechanical parts permanently at such a high level that the stabilities required are achieved in every position. There is therefore no other system whose travel-stability values get anywhere near the quality of NanoX.

The benefits at a glance

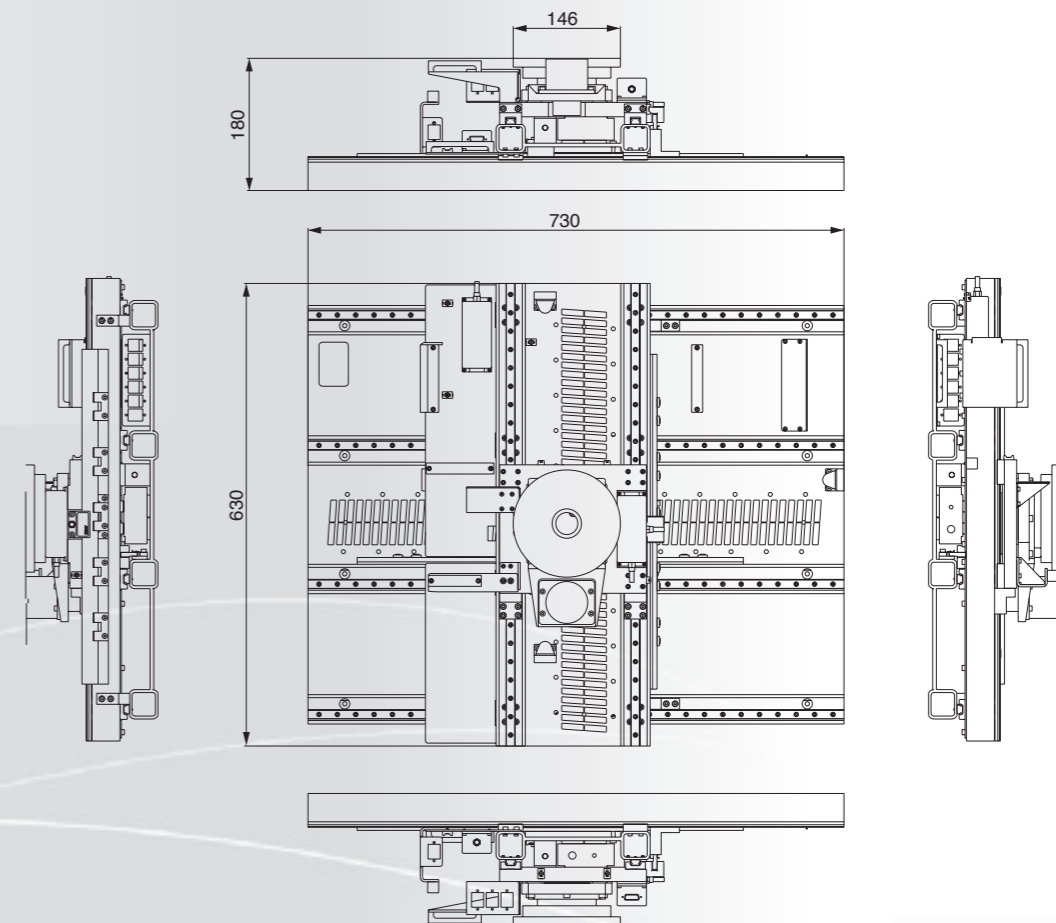


- » Low initial costs
- » Low integration outlay
- » Nanometer stability irrespective of position
- » Consistently high traversing speed
- » Fewer positioning errors
- » More wafers per hour!



- Woven cables for clean-room compatibility
- Theta axis interface
- High-resolution rotary encoder of Theta stage
- Ultra-high resolution encoder system
- Mechanical hardstops
- Magnet track for linear motor
- High-precision SCHNEEBERGER guideway systems
- Sectional steel structure

Dimensions



**Technical specifications**

**XYTheta stage mechanical data**

Footprint

- :: x 630mm
- :: y 730mm
- :: Height 180mm

Travel

- :: x max. 420mm
- :: y max. 490mm
- :: x/y speed 1m/s
- :: Flatness and straightness 8µm
- :: Pitch and yaw 10µm

- :: Motor type 3-phase linear motor
- :: Measuring system Ultra-high resolution encoder system
- :: Signal pitch (analog - sin cos) 0.4µm
- :: Signal interpolation 14 Bit (16384x)

- :: Material Sectional steel structure
- :: Hard stops On all axes. Additional programmable soft limits

**XYTheta stage performance**

- :: Position accuracy 20µm (without mapping)
- :: Repeatability (bidirectional) 350nm, measured on chuck
- :: Contamination ISO class 2

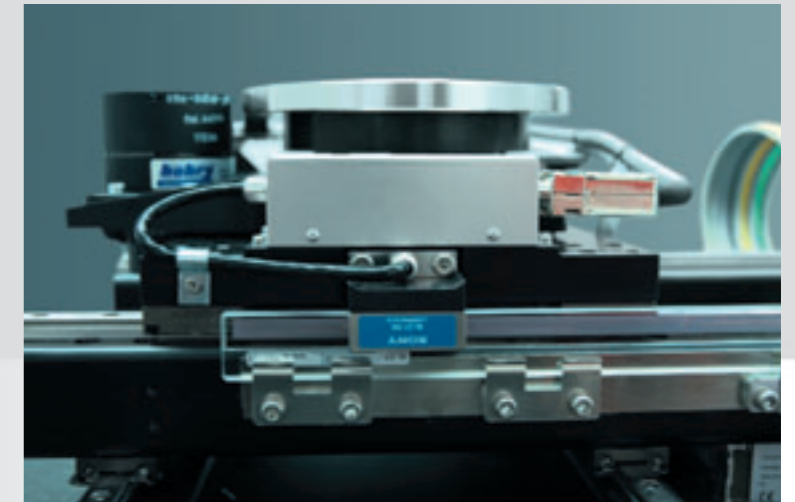
**Theta mechanical data**

- :: Payload on Theta 0 – 10kg
- :: Clearance hole in Theta 30mm (to route vacuum cables to the chuck)

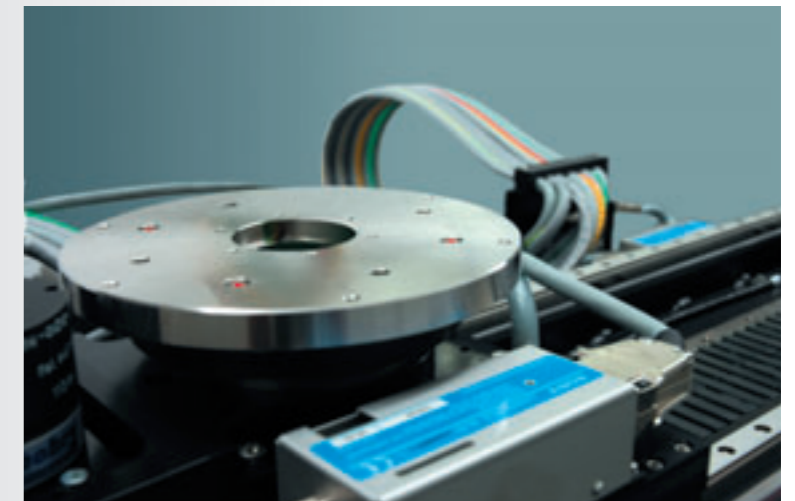
**Theta axis performance**

- :: Theta travel 364 deg
- :: Theta speed Up to 0.25 rps
- :: Accuracy 0.003 deg
- :: Resolution 0.2µ deg
- :: Repeatability 0.0005 deg

Ultra-high resolution encoder system



Theta axis interface



Woven cables for clean-room compatibility

