NOMOS GLASHÜTTE

NOMOS Glashütte/SA Roland Schwertner KG

01.09.2021 – 18:10 Uhr

Perfection in its smallest forms: The high-precision parts of a watch

Perfection in its smallest forms

In the NOMOS Glashütte production center, the parts of the in-house watch movements are manufactured like clockwork—that is to say, with high precision and always in the same way. The majority of work that goes into a NOMOS watch is done by hand, just as it was 175 years ago. But when it comes down to the micrometer, cutting-edge technology prevails.

GLASHÜTTE, SUMMER 2021. In the Glashütte district of Schlottwitz is located the modern industrial hall, clad in local larch wood. Inside, CNC-controlled lathes and milling machines are in operation; gear cutting and wire erosion are taking place. The NOMOS production center is packed to the rafters with high-end high-tech. The small and smallest parts for the 11 different calibers are manufactured here. The temperature in the hall is constant, year in year out—so tolerances can be reduced to the minimum and work carried out with exceptional precision. Later, these components enable the watchmakers to build the finest watches, to bring time to life. The latter takes place a little higher up in the town, in the NOMOS chronometry building.

As we all know, the watch-industry term “manufacture” doesn’t mean that everything is made by hand. This is largely the case with watches such as those from NOMOS Glashütte. Rather, “manufacture” means that watch movements are designed, developed, and produced in-house. Brands that buy their movements, straight off the shelf so to say, can by no means be called a manufacture. NOMOS Glashütte is an independent watchmaking company that develops, designs, and produces all calibers, also called watch movements, itself—that includes, of course, all the necessary parts. 11 different calibers in total. Their quality determines the precision of each watch, alongside the handcraft of the watchmaker.

Would you like to see for yourself exactly how we do it? How we manufacture the smallest of parts by hand down to the micrometer, i.e. a thousandth of a millimeter, before performing fine finishing and decoration on individual components? And why, exactly, do we go to these lengths? It would be our pleasure to welcome you to our home: See with your own eyes what the 175-year-old tradition of Glashütte handcraft looks like today. We would be happy to put you in touch with a contact person and provide you with further information and images.

We are here to answer all your questions. Just e-mail us or call us anytime.

Best regards from Glashütte,
NOMOS PR

+49 35053 404-481
pr@glashuette.com

NOMOS Glashütte/SA

Roland Schwertner KG
Ferdinand-Adolph-Lange-Platz 2
01768 Glashütte
Germany

Imprint

Medieninhalte

They seem to disappear into the grooves of a fingertip: The tiny pinions of a NOMOS watch caliber. Virtually all of the components for the in-house movements are manufactured at the NOMOS Glashütte production center. After all, even the best watchmakers can only build the best watches if they have high-precision parts.

These rods will soon become watches: Three-meter long rods made of brass and stainless steel are delivered to NOMOS Glashütte. They will be turned, milled, and drilled on special lathes. The resultant tiny parts are then finished finely by hand.

Only round-shaped workpieces are processed in lathes like this one, because the tools inside circle around the rotating caliber component. This is how pins, pillars, screws, wheels, pinions, or even the particularly challenging balance, the balance staff, and the corresponding plateau—one of the smallest parts that NOMOS Glashütte manufactures itself—are produced for NOMOS movements. Painstakingly precise: The strictest tolerances are two-thousandths of a millimeter, so 2 micrometers tolerated deviation from the specified dimension.

In the NOMOS Glashütte production center, the parts of the in-house watch movements are manufactured, including these tiny pinons for the various gear wheels of a caliber. In the watch world, working with the greatest precision is essential for every part. Even the best watchmakers can only build the best watches if they have high-precision parts

Fresh out of the CNC lathe machine at NOMOS Glashütte: Because the parts are so small, they are rinsed out of the machine in oil and left to fall into a sieve. Then they are cleaned and measured. It should be noted that without the people manning them, these machines would achieve nothing. It can take hours, oftentimes even an entire workday, to configure the machine for a new caliber part.

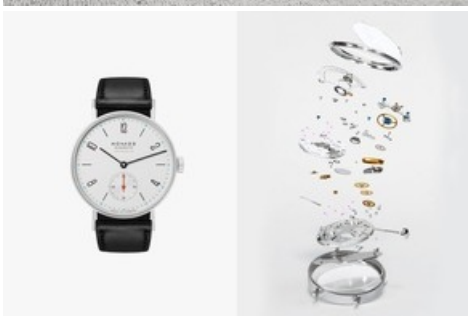
The gear-cutting machine: A rarity in the watchmaking industry and a special feature at NOMOS Glashütte. This is because only a few watchmaking companies worldwide perform their own gear cutting. This is also where NOMOS' proprietary gear wheel train for neomatik movements is created—it is the result of a research project between NOMOS Glashütte and the Dresden University of Technology. The aim was to find the perfect tooth form for wheels in NOMOS watches. It worked: An efficiency of an incredible 94.2 percent means that almost no power is lost through friction.

In the CNC milling center at NOMOS Glashütte: Circular blanks are the round brass discs from which various movement parts are milled—base plates, plates, cocks, or bridges. This machine can process 40 blanks at a time, which takes between two and eight hours each. The machine automatically reloads new blanks and repeatedly changes the tools during machining: Milling cutters, drills, taps—around 200 instruments wait in a magazine to be used. Later, the blanks are washed and stripped, i.e. deburred and polished by hand.

At NOMOS Glashütte, parts for movements are manufactured by machines that are precise down to a thousandth of a millimeter. Then each one is checked and finished by hand. Some are also lavishly decorated with traditional Glashütte sunburst finish—an elaborate process, one stage of which can be seen in the picture.

In the past, watchmakers had the time to patiently try out by hand whether a part fitted or not. Sometimes they were lucky, other times less so. Though, of course, watches in those days were nowhere near as precise. Today, precision is a must. And the highest precision of the parts is a prerequisite for the best form of watchmaking that follows: The assembly and adjustment of the watch are performed by hand, as it always has been.

A wooden chest houses the smallest parts: The NOMOS Glashütte production center. Here, in the Glashütte district of Schlottwitz, the individual parts of the company's proprietary movements are manufactured. Being independent of third-party suppliers is important because it means the brand can determine its own quality standards.



Tangente neomatik from NOMOS Glashütte is a mechanical wristwatch with character: At only 6.9 millimeters in height, this classic timepiece is as elegant and slender as a hand-wound model and yet ticking inside it is a high-end automatic caliber. Movement DUW 3001 is an in-house innovation from NOMOS Glashütte. The parts that make up this movement are also produced in-house at the NOMOS production center, located in the Schlottwitz district of Glashütte.