



## **Another step ahead - THE FREAK DIAMON SIL®**

Half a decade ago, Ulysse Nardin unveiled a watch codenamed "FREAK". Until now, this watch has represented the pinnacle of both technological and artistic watchmaking.

Produced in very small numbers, the original FREAK is sought after by the most elite and respected watch connoisseurs around the world!

No watch company has ever produced a timepiece like the FREAK – one of the most technically innovative watches conceived, designed and produced in the past 100 years.

The concept was a technical tour de force, requiring the combined efforts of three of watchmaking's most renowned engineers. The arrangement of parts was inconceivably unorthodox - it had essentially no true case! The crystal and the bezel were actually part of the movement; the Freak had no crown, no hands and the movement pivoted to indicate time!

It contained fewer parts than the simplest watch today, and remained a Carrousel Tourbillon by necessity. No watch had ever been designed this way.

The development of the FREAK pioneered the use of silicium in the context of necessity - not for decoration or to be different. While developing this novel escapement the Ulysse Nardin engineers explored the various opportunities to be had with the implementation of nanotechnology. Indeed, the accuracy and lightness (accompanied with the ease in designing complicated movement parts) confirmed the unique abilities of silicium for the production of our escapement wheels.

### **FREAK DIAMON SIL®**

Our primary goal continues to be the improvement of our products, while increasing their maximum life span and protecting the mechanism against external strains and stress. Diamond "forever" is the ideal material to achieve this purpose. Beginning in 2005 Ulysse Nardin successfully applied diamonds on the FREAK DIAMOND HEART. The latest advancements in technology allow for alloying the light and easy-to-design silicium with diamond. Years of intense work at La Chaux-de-Fonds and Le Locle have culminated with Ulysse Nardin presenting the incredibly supercharged and highly tuned version of the FREAK - the FREAK DIAMON SIL®!



The FREAK DIAMonSIL® in platinum is the first timepiece sporting a synthetic nanocrystal diamond escapement grown on a silicium raw part. This noble material was developed in cooperation with Sigatec (a highly qualified manufacturer of precision silicium parts) and our partner GFD in Ulm (leader in producing components in diamond with nanotechnology for various industries).

The FREAK DIAMonSIL® represents the next leap forward for Ulysse Nardin. The FREAK DIAMonSIL® is the embodiment of our proud tradition of 160 years of Innovation with Ulysse Nardin leading the way in silicium and diamond technology.

The FREAK DIAMonSIL® is a technical work of art, a symphony in white and blue in a Limited Edition of 28 pieces in Platinum

## **Dual Ulysse Escapement**

The Dual Ulysse Escapement is the most vital part of the watch movement and is made in this very light but extremely strong and novel material : DIAMonSIL®, a registered trademark of Ulysse Nardin.

The Dual Ulysse Escapement has 2 wheels, allowing natural force transmission: the force and the move have the same direction, alternatively clockwise with the first wheel and counter-clockwise with the second.

The wheels have 18 active teeth, guaranteeing excellent energy transmission to the oscillator. No lubrication is required - the transmission occurs through a "gear like" mechanism.

The impulse is given to an alternator, which passes it further to the balance shaft. This alternator is a gear which turns alternatively in one direction and then the opposite direction.

The innovative principle of the Dual Ulysse Escapement permits a dramatic reduction of the lift angle from the usual 50-52 degrees (Swiss Anchor) down to approximately 30 degrees. The lift angle is the arc run by the balance between its first contact with the escapement and its last contact. The shorter the arc, the lower is the disturbance of the natural oscillation of the balance.

## New Technologies; new Materials

2001: Ulysse Nardin launches the FREAK, the first timepiece commercially available with a silicium escapement.

2002: Ulysse Nardin, in collaboration with GFD Germany, produced the first hairsprings etched in diamond (patent pending) with the DRIE process.

2005: Ulysse Nardin launches the FREAK "DIAMOND HEART" with an escapement manufactured of diamond (DRIE-Process).

2007: Ulysse Nardin unveils the FREAK DIAMonSIL® with an escapement combining the properties of silicium and diamond: DIAMonSIL® (synthetic nanocrystal diamond grown on a silicium raw part).

## Technical data

Movement	Caliber UN-200, 13 $\frac{3}{4}$ " Dual Ulysse Escapement in DIAMonSIL® - patent pending 28 jewels
Power-Reserve	7 days
Winding	The mainspring is wound with the case back
Functions	Carrousel Tourbillon displaying hours and minutes Dual Ulysse Escapement 28'800 V/h (4 Hz) Turning bezel with lock device to set the time
Case	platinum case
Diameter of case	44.5 mm
Crystal	Anti reflective sapphire crystal
Case-back	Anti reflective sapphire crystal
Band	Alligator leather strap, folding buckle