



U50 S MOTHER-OF-PEARL S



*Sinn*


SPEZIALUHREN ZU FRANKFURT AM MAIN





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## DEAR CUSTOMER,

Since the company was founded in 1961, we have focused on the creation of high-quality mechanical watches. Nowadays, watch lovers associate innovation and patents with the name of Sinn Spezialuhren. And it's not just our diving watches that stand for high performance, robustness, and durability, quality and precision.

These watches do, however, constitute an outstanding example of how we repeatedly push the limits of what can be achieved physically in development.

We are driven by the question of which new technologies and materials can be used to make diving watches safer and more suitable for everyday use.

It is often worth indulging in a little lateral thinking to see what is going on in other industrial sectors or fields of science. It is therefore no coincidence that the series U1, U2, U50, U212 and UX are made of high-strength, seawater-resistant German Submarine Steel. The series T1 is another example. All case parts for this mission timer are made of high-strength titanium. Both submarine steel and high-strength titanium predestine our diving watches for use in salt water.

Fittingly, we work closely with an independent company specialising in technical maritime security. The world's largest classification society DNV GL (formerly Germanischer Lloyd, Hamburg) checks and certifies the diving-watch data – including compliance with European diving device standards, which is unique in the watch industry.

I am delighted that you have decided to buy a SINN diving watch and hope that it will continue to give you pleasure for many years to come.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'L. Schmidt', with a stylized flourish at the end.

Lothar Schmidt



*Sinn*

ENGINEERING OF TECHNOLOGY IN MADE

*Sinn*

ENGINEERING OF TECHNOLOGY IN MADE

## SINN SPEZIALUHREN ZU FRANKFURT AM MAIN

It was back in 1961 that pilot and blind-flying instructor Helmut Sinn founded the company. Since then, we have been committed to producing high-specification mechanical watches. In 1994, the graduate engineer Lothar Schmidt took over the company. This marked the beginning of a new era for the SINN brand, because the new owner took a decisive step towards more innovation. Under his leadership, new technologies and materials were introduced, thus providing the crucial incentives for our company's evolution and gradual emergence as an insider's tip for lovers of fine watches. Today, our name stands for technical innovations – much to the delight of both the trade and our customers alike.

### **Technical innovations**

Take, for example, the absolutely condensation-free, anti-reflective, German Submarine Steel diving watch – made possible by HYDRO Technology. Other examples include a chronometer chronograph fashioned from a 22-carat gold alloy that is as hard as stainless steel and a chronometer with a magnetic resistance of up to 80,000 A/m. There are also watches with a clockwork mechanism optimally protected from aging by an inert gas and integrated dehumidifying capsule. The list would not be complete without mentioning the development of mission timers (Einsatzzeitmesser or EZM in German) for firefighters, for special police units and border patrol guards. DIAPAL is one of our most important technological developments, with oiling no longer needed for the most important functions in the watch thanks to the materials we select. This technology was first used in 2001. With the aid of TEGIMENT Technology, we achieve greatly increased scratch resistance through surface hardening.

## Ongoing advancement in technology and quality

Our top priority has always been to develop watches that offer superior performance – both in daily and in professional use. Which is why our engineers are working continually to identify which innovative methods, materials and technologies are best suited for optimising our watches. Each new development has to first undergo rigorous practical tests before being incorporated. And no watch leaves our workshops before it has been subjected to thorough checking and fine adjustment by our master watchmakers.

## Innovations in endurance testing

The world's largest classification society for maritime safety DNV GL (formerly Germanischer Lloyd, Hamburg), has been testing our diving watches for pressure and water resistance since 2005. As part of DNV GL's official certification process, our diving watches have been treated as part of diving equipment since 2006 and tested and certified in accordance with European diving equipment standards. This is unparalleled in the watch industry. Selected pilot watches are tested and certified by independent institutions according to the DIN 8330 Horology – Aviator watches in an extensive and





complex type and unit verification process. This ensures that a DIN 8330-compliant pilot watch is not only a suitable all-round replacement for the on-board timekeeping instruments available to pilots, but is also capable of remaining unaffected by the physical stresses of flight, posing no risk potential for the crew or aircraft, and demonstrating compatibility with other on-board instruments.

The Temperature Resistance Technology keeps mechanical watches performing at temperatures ranging from  $-45\text{ }^{\circ}\text{C}$  to  $+80\text{ }^{\circ}\text{C}$ . This technology has proven its worth in the EZM 10 TESTAF, for example, used as part of the official approvals procedure for Airbus Helicopters (formerly Eurocopter) EC 145 T2 high-performance helicopter. The 303 KRISTALL is impressive proof of the functional reliability of our watches under the toughest climatic conditions. Equipped with Temperature Resistance Technology, the chronograph passed the acid test at the Yukon Quest, the world's most demanding dogsled race. The 203 ARKTIS passed its Arctic endurance test on the wrist of extreme diver Mario M. Weidner, withstanding all dives in the freezing cold waters of the Arctic Ocean above 81 degrees latitude. Both watches were worn on top of protective clothing. The real test was in the extreme temperature fluctuations between water and land – a test that the 303 KRISTALL and the 203 ARKTIS passed with flying colours.

Image: All of the technical details of our watches are documented by tests. This system of assessment has been specially designed for certification of the pressure resistance of our diving watches by DNV GL (formerly Germanischer Lloyd, Hamburg), the world's largest classification society for maritime safety.

## Workshop modifications

From the robust case and the polished crystal to the exquisitely decorated movement, we make sure that each and every detail in our watches is fit for purpose. In addition to our technology, the heart of any SINN watch is the fascinating mechanical movement. That is why we rely only on selected renowned manufacturers.

“SZ movements” is the name given to our movement modifications. The results are high-quality calibres characterised by impressive features. An example of this is the SZ04 with regulateur for the 6100 REGULATEUR series.

The model series 140 and EZM 10 uses our proprietary chronograph development, the SZ01. It was modelled on the Lemania 5100 calibre used in the EZM 1. One of the biggest differences between the SZ01 and the Lemania 5100 is the former’s stopwatch minute display. This feature now makes it even easier and quicker to record stop times more accurately. The aim of this modification was to significantly improve the readability of the chronograph function.

The SZ calibres 02, 03, 05 and 06 are a modification of the SZ01 movement, characterized by an off-center 60-minute counter. The 60-minute scale of the stopwatch minute counter is much simpler and more intuitive to read than the 30-minute scale commonly found in other watches.

Image: The column wheel chronograph movement of our 903 series is an enhancement based on the high-quality LJP 8000 calibre of Manufacture La Joux-Perref.



## DNV GL CERTIFIES SINN DIVING WATCHES

**So what does DNV GL (formerly Germanischer Lloyd) have to do with a watch manufacturer from Frankfurt am Main? The renowned company tests and certifies our diving watches according to a variety of criteria. One test focuses on water resistance and pressure resistance, while a second test procedure covers something never done before in the watchmaking industry: certification in accordance with the European standards for diving equipment!**

### **Testing for water resistance and pressure resistance**

In each dive, time plays a crucial role in survival on every dive. Diving watches must therefore be water-resistant, reliable and durable, and guarantee perfect readability in all lighting and water conditions. The information we provide about our diving watches is thus not merely captured in words, but proven in practice as well. Since 2005, DNV GL has been testing our diving watches for water resistance and pressure resistance. In accordance with these certification standards, the 206 ARKTIS II and 206 St Ar are pressure-resistant to 30 bar, the U50, EZM 3 and EZM 13 are pressure-resistant to 50 bar, the T1, U1, U212 and the U1000 series are pressure-resistant to 100 bar, while the T2, U2 and U200 series are pressure-resistant to 200 bar and the UX series is actually pressure-resistant to any accessible diving depth. For this series, DNV GL has confirmed the pressure resistance of the case to 12,000 m and of the movement to 5,000 m diving depth. The tests are repeated at regular intervals on all of these watches in order to document the consistency of the quality.

## Test Certificate

**No. 56498-19 HH**  
A0794442

This is to certify that at request of the manufacturer,  
Messrs. Sinn Spezialuhren zu Frankfurt am Main, Wilhelm-Fay-Straße 21,  
65936 Frankfurt am Main, on October 29<sup>th</sup>, 2019, a type related

**hydraulic pressure test**

on 10 diving watches  
of type line

**Sinn U50**

representing the lot  
of serial numbers

**1050.0001 - 1050.2500**

has been performed with a nominal pressure of 50bar, corresponding to a diving depth of 500m, for a testing time of one hour. Additionally, testing with an increased test pressure of 62,5bar and a testing time of 15 minutes has been performed.

The tests have been performed under supervision of an authorised representative of DNV GL SE using officially calibrated pressure gauges.

After pressure testing, no watch case deformations could be noticed. The proper function of the watches under test conditions has been determined and a subsequently performed examination proved the leak tightness of the tested specimen during the pressure test.

**DNV-GL**

Hamburg, 2019-12-27



Dr.-Ing. Stephan Hill

DNV GL has confirmed  
and certified the pressure  
resistance.

## **A premiere: certification in accordance with European diving device standards**

In a standardised test situation, will a diving watch deliver the same reliable performance as, say, a breathing apparatus? To answer this question, we were the first who have watches tested and officially certified according to the European standards for diving equipment. Also these tests are performed at regular intervals for all these watches. The testing and certification according to the European standards EN250 and EN14143 was completely new territory for both sides. This was the case because the standards for diving equipment cannot be applied to watches without modification. The experts at DNV GL thus adapted the standards appropriately and defined two series of tests. In the first of the two, they put the timepieces in a test cabinet for three hours at  $-20\text{ }^{\circ}\text{C}$ , then for three more hours at  $+50\text{ }^{\circ}\text{C}$ . The timepieces were subsequently checked for accuracy and functional reliability at both temperatures. In a second test, the watches had to withstand three hours at  $-30\text{ }^{\circ}\text{C}$  and 3 hours at  $+70\text{ }^{\circ}\text{C}$  with 95 % humidity. The result: Temperature resistance and perfect functioning were documented and certified for the watches in the U1, U1000 (since 2007), U2, U200 (since 2009), T1, T2, U212 (since 2013), EZM 13 (since 2014), 206 (since 2019), U50 (since 2020) and EZM 3 series after both tests. The UX series watches were also certified; however, these were subjected to a modified test involving temperatures between  $-20\text{ }^{\circ}\text{C}$  and  $+60\text{ }^{\circ}\text{C}$  due to their battery operation and oil filling.

## Test Certificate

**No. 56499-19 HH**  
A0794442

This is to certify that at request of the manufacturer,  
Messrs. Sinn Spezialuhren zu Frankfurt am Main, Wilhelm-Fay-Straße 21,  
65936 Frankfurt am Main, on December 5<sup>th</sup>, 2019, a type related

**temperature resistance and  
functional test**

on 10 diving watches  
of type line

**Sinn US0**

representing the lot  
of serial numbers

**1050.0001 - 1050.2500**

were finalised. The proper function of the watches could be determined  
directly after 3 hours of conditioning at -30°C as well as at +70°C and 95%  
relative humidity, respectively.

Examinations were carried out in accordance with the requirements of the  
European standards EN250:2014 and EN14143:2003, as applicable to the  
EU Type-Examination of diving apparatus and were performed at the  
Zentrum für Sicherheitstechnik of the BG Bau in Haan, Germany.

**DNV·GL**  
Hamburg, 2019-12-27

  
Dr.-Ing. Stephan Hohl

Germanischer Lloyd (now  
DNV GL) has confirmed  
and certified the  
type-based test of  
temperature resistance  
and functionality in  
accordance with the  
European diving device  
standards EN250:2000  
and EN14143:2003.





## **U50 S MOTHER-OF-PEARL S – THE DIVING WATCH MADE OF GERMAN SUBMARINE STEEL WITH A MOTHER-OF-PEARL DIAL.**

**Each of our 500 limited edition diving watches is uniquely numbered and boasts a light-reflecting dial that creates an exciting interplay of colour. This iridescent finish is the result of the shimmering black mother-of-pearl on the dial, which is a feature of this edition.**

Combining mother-of-pearl with a diving watch seems only natural, given that they are united by the element water. What's more, mother-of-pearl is a naturally occurring product, making each dial unique. The overall design is completed by the Black Hard Coating, which highlights the striking form of the U50 S Mother-of-Pearl S and its minimalist display.

The timepiece is also equipped with special technical features. For example, the case and crown are made of high-strength German Submarine Steel. The classification company DNV GL verifies and certifies pressure resistance to a diving depth of 500 metres (= 50 bar) and temperature resistance and functionality in accordance with the European diving equipment standards.



Thanks to the natural product mother-of-pearl, each dial is unique and has a different appearance depending on the incidence of light.

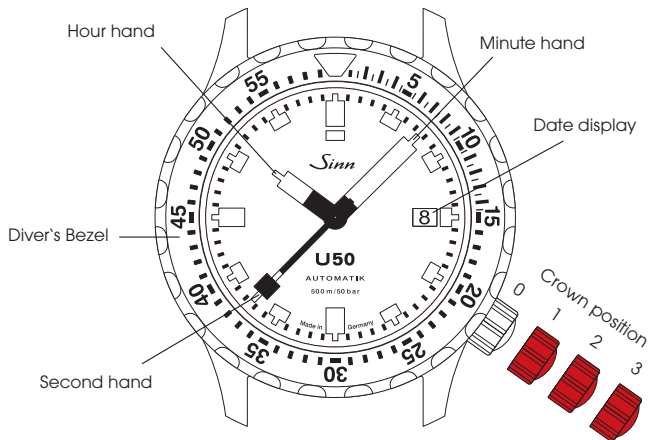
## **TEGIMENT Technology and the Black Hard Coating**

With the aid of TEGIMENT Technology, we achieve greatly increased scratch resistance through surface hardening. TEGIMENT Technology increases the level of hardness of the base material, such as submarine steel, many times over. To achieve this, we do not apply any coating. The material itself is hardened in the surface area. The hardened surface is far better protected against scratching than the surface of the base material. The tempering with the TEGIMENT Technology forms the basis for the application of the Black Hard Coating – a high quality PVD coating.

## **The captive diver's bezel**

To protect against unintended adjustments, the diver's bezel may only be turned counter-clockwise and can easily be operated while wearing diving gloves. Because the bezel plays a vital role in time measurement, it is an extremely sensitive safety feature. That's why we have protected our bezel against loss with a special construction. Our secure attachment differs significantly from the conventional snap-in mechanism: loss due to unfortunate impacts is practically impossible, because the captive bezel is securely fastened to the centre section of the case.

# INSTRUCTIONS FOR USE



### **Winding the watch (crown position 1)**

The crown is screwable (crown position 0). To loosen the crown, turn it *counter-clockwise* (crown position 1). The movement is wound by turning the crown *clockwise*. About 40 winds of the crown are generally enough to ensure reliable functionality. Under normal circumstances, simply wearing the watch every day should suffice to keep the self-winding mechanism wound. The power reserve allows you to take off your watch overnight without having to re-wind it.

### **Time adjustment (crown position 3)**

In crown position 3, the motion is paused. This helps you to set the watch precisely. Please make sure the date changes at midnight and not at midday. Just move the hands forward until the date changes. Afterwards you attempt to set the time. We recommend moving the hands past the desired minute marker and then adjusting it backwards. The movement restarts as soon as the crown is no longer in position 3.

### **Quickset date adjustment (crown position 2)**

Set the crown in position 2 and turn it *counter-clockwise* until the correct date appears in the date display window.

**Please take care to fasten the crown after making adjustments.**

## USING THE DIVER'S BEZEL TO MEASURE TIME

The diver's bezel is a rotatable bezel that can be set to the minute and only be rotated in one direction to prevent accidental adjustment. It has a luminous main marker which can be used in various ways. It can be used to highlight important time periods. Use it, for example, to mark the start of a period of time; the elapsed time can then be read off at a glance at any time.



## ASSEMBLING AND ADJUSTING OF STRAPS

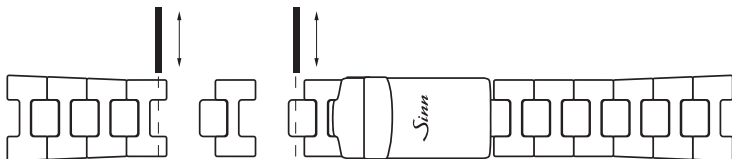
If you are not sure how to assemble, shorten or lengthen the watch straps, please contact your specialist SINN retailer directly or one of our watchmakers in customer service in Frankfurt am Main. We would also be happy to help you over the telephone.

### Adjusting the length of the solid bracelet

Determine the relative lengths of the two sides before adjusting the length of the bracelet. To ensure maximum comfort, both sides of the bracelet should contain the same number of links. If this is not possible, the top bracelet strap (above the 12 on the clock) should be longer.

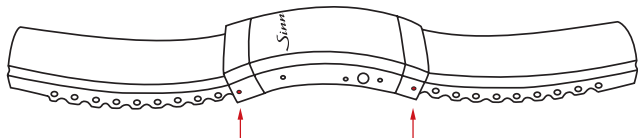
It is not necessary to detach the solid bracelet from the watch or the clasp.

1. Loosen the screws on the side of the bracelet link which is to be removed or added.
2. Remove the superfluous bracelet link or insert a new one.
3. Before screwing tight, add a small drop (no more!) of thread-locker (AN 302-42 medium-tight) to the thread of the bracelet screw.

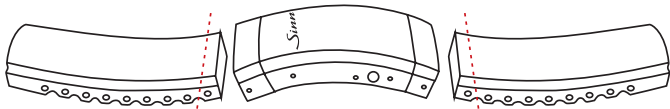


## Adjusting the length of the silicone strap

1. Release the silicone band from the clasp. To do so, use the pointed end of the band replacement tool to push the spring bar out of the fastener. The other side of the spring bar can be removed while the fastener is open, enabling you to remove the silicone band.



2. Using a knife or scissors, cut the silicone band in the middle between two metal pins. You should shorten the band symmetrically and little by little, starting from the clasp, until you have reached the desired length. Test the length from time to time before proceeding. Shortening both ends by the length of one metal pin results in a total difference of 10 mm in the length of the strap; shortening one end reduces the length by 5 mm.

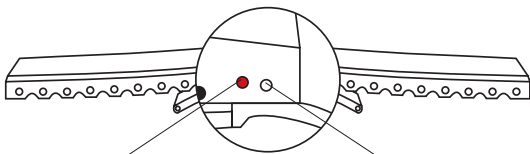
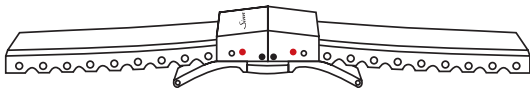


3. Remove the first metal pin and replace it with the spring bar. Then reattach the clasp to the band.



## Assembling the butterfly folding clasp as follows

We recommend first inserting the bar at the red marker, as per the illustration. If the silicone strap is too tight, use the option shown in the illustration by the white marker.



Hole for spring bar:  
**Tight-fitting strap**

Hole for spring bar:  
**Extend strap**

If you want to shorten the overall length of the silicone strap, refer to steps 1 to 3 in chapter “Adjusting the length of the silicone strap”.



Luminous design

## TECHNICAL DETAILS

### Mechanical Movement

- Self-winding mechanism
- 28,800 semi-oscillations per hour
- Seconds stop function
- Anti-magnetic as per DIN 8309

### Tests and Certification

- Tested based on European diving equipment standards EN 250 / EN14143, certified by DNV GL
- Waterproof and pressure-resistant to 500 m diving depth (= 50 bar), certified by DNV GL
- According to the technical demands for the diving norm DIN 8306
- Meet the technical requirements for waterproofness, as set out in standard DIN 8310
- Low pressure resistant

### Dial and Hands

- Shimmering black mother-of-pearl dial
- Indices coated with luminescent colour
- Hour, minute and second hand coated with luminescent colour

### Functions

- Hours, minutes, seconds
- Date display
- Diver's bezel with minute ratcheting and luminous key mark

### Watch Case

- German Submarine Steel
- Sapphire crystal glass in front, anti-reflective on both sides
- Case back screw-fastened
- Crown screwable
- Band lug width 20 mm
- Case diameter 41 mm

### SINN Technologies

- Black Hard Coating on a TEGIMENT Technology basis
- Captive bezel



# ADVICE

## **Water resistance**

In its original condition, your watch fulfils the technical requirements of water resistance according to DIN 8310. The static compressive stress of your watch is given in bar. Each and every one of our watches is tested for water resistance. However, in everyday use it is important to note that seals can suffer from wear and ageing over time due to a wide range of factors which arise when wearing a wristwatch. We therefore recommend having the water resistance checked at least once a year. To ensure your watch retains its water resistance for as long as possible, rinse it with tap water if it comes into contact with seawater, chemicals or the like. Continual mechanical stress in the form of shocks and vibrations can also not only reduce water resistance, but also increase wear and tear of the movement. Care should therefore be taken to protect your watch from unnecessary impacts.

## **Accuracy**

The measured results of the watch's rate are always "snapshots" taken under laboratory conditions. For this reason, we also take each owner's individual movements into account when making a specific regulator correction. It is therefore only possible to judge the accuracy of your watch after it has been in operation for approximately eight weeks. In the event of a deviation, please keep a daily record of its timekeeping over an extended period, for example one week.

**Do you have any questions? Our employees will be pleased to advise you.**

Telephone: + 49 (0)69 978 414 400

Telefax: + 49 (0)69 978 414 401

E-mail: [service@sinn.de](mailto:service@sinn.de)



## SERVICE

### **Does your SINN watch need an inspection, repair, retrofitting or reconditioning?**

If possible, please use our service order form. For information about our service order form, please refer to the section entitled "Customer Service" on our website [www.sinn.de/en](http://www.sinn.de/en) and to the section entitled "Servicing and repairs" in our general terms and conditions at [www.sinn.de/en](http://www.sinn.de/en). We would be happy to send you a copy of the general terms and conditions.

Our international partners generally offer on-site service. However, should they be unable to provide a certain service, they will organise the safe dispatch and return of the SINN watch to our manufactory in Germany. Please be aware that our partners will wait until they have a sufficient number of SINN watches before they post a shipment, in order to keep transport costs and customs duties to a minimum. This will increase the processing time.

Alternatively, you can send your SINN watch to us directly. You will be required to cover the postage costs for the delivery and return shipment, which vary depending on the country. For insurance reasons, we strongly recommend sending us any return goods by registered parcel post. We regret that we are unable to accept deliveries with unpaid postage!

In case you have a chance to drop off your watch directly at our office in Frankfurt am Main we look forward to your visit. Please make a note of our opening times.

**For information about our service, please refer to the section entitled "Customer Service" on our website [www.sinn.de/en](http://www.sinn.de/en) or +49 (0)69 / 97 84 14-400.**

# Sinn

SPEZIALUHREN ZU FRANKFURT AM MAIN

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Technische Änderungen vorbehalten.

Technical specifications are subject to changes.





