



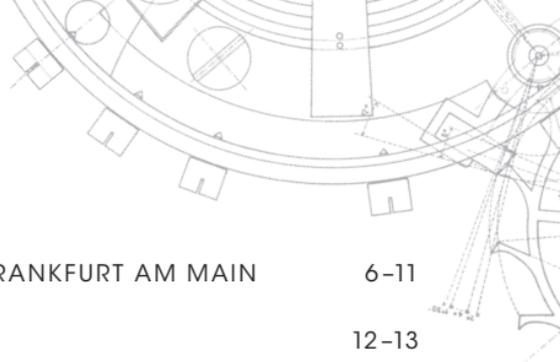
SERIES 104



*Sinn*

SPEZIALUHREN ZU FRANKFURT AM MAIN





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## DEAR CUSTOMER,

We know from numerous conversations that the people who buy our watches do so out of conviction. This includes people with a pronounced affinity to technology who are fascinated, for example, by the solutions we have devised for protection from magnetic fields and scratch resistance. Some of our customers, such as divers, pilots and the German GSG 9 special police unit, rely on their watches in their respective careers because their lives depend on it.

They all swear by the performance, resilience and durability, as well as the quality and precision of our watches. That is why the world's largest classification society DNV (formerly Germanischer Lloyd, Hamburg) regularly tests and certifies the water and pressure resistance of our diving watches.

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 a suitable all-round replacement for the on-board timekeeping instruments available to pilots. Functionality is our top priority and ultimately determines the design. Only the technical features that are really needed can be found on our watches. Because we believe that products have to speak for themselves.

The basic question that we ask ourselves is: which innovative technologies and materials can be employed for our craft and provide solutions for rendering our watches even more practical 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. We repeatedly go to the limits of physical resources to upgrade our watches – with the aim of making what's good even better. Most of our best developments are yet to come!

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

Yours,

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 100 mT (= 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 (formerly Germanischer Lloyd, Hamburg), has been testing our diving watches for pressure and water resistance since 2005. As part of DNV'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 (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 model 717 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.



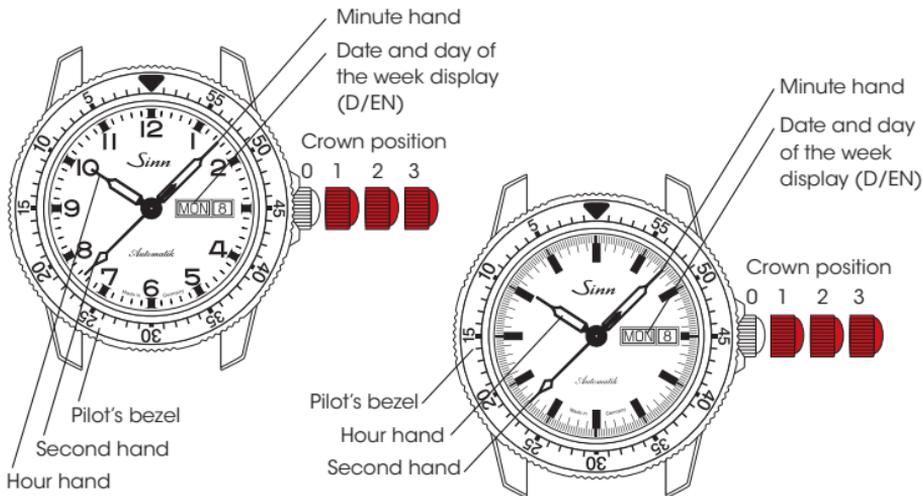


## SERIES 104

**Be it with indices or Arabic numerals, the series 104 are classic pilot watches designed in traditional SINN style.**

Clearly structured, these watches provide optimum readability of the time, date and day of the week. The pilot's bezel with minute ratcheting can be rotated on both sides and is securely attached to the case. Its main marking is a luminous triangle. The instrument watch features a polished stainless-steel case and sapphire crystal glass, which is also used for the transparent back. This transparent back allows the delicate work of the mechanical movement to be admired in all its intricacy. Series 104 is resistant to low pressure and can withstand pressures of up to 20 bar.

# INSTRUCTIONS FOR USE



## Winding the watch (crown position 1)

The crown is screwed down (crown position 0). To loosen the crown, turn it *counter-clockwise* (crown position 1). The movement is wound manually by turning the crown *clockwise*. Under normal circumstances, a few turns of the crown are enough to start the movement. We recommend 20 full turns of the crown for the initial use. 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 rewind it. About 40 turns of the crown

by hand will wind up the watch completely. Because the winding mechanism of your watch is designed for automatic winding with minimal winding speed, the watch should be wound at a moderate, consistent speed when winding by hand to avoid damaging the movement.

### **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 and day of the week adjustment (crown position 2)**

**Do not use this function between 9 p.m. and 3 a.m.** Crown position 2 can be used to change the date and day of the week quickly and simply. To set the date, pull the crown to the second position and turn it *clockwise* until the current date appears in the display window. To set the day of the week, turn the crown *counter-clockwise* until the desired day of the week is indicated. You can choose to display the day of the week in German or English. The day of the week is then automatically displayed in the selected language each day. **Please do not use this function between 9 p.m. and 3 a.m.** Between these times, the gear wheels used for changing the date are engaged, and the movement could be damaged.

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

## USING THE PILOT'S BEZEL TO MEASURE TIME

The pilot's bezel can be moved manually in both directions. The triangle glows in the dark. It can be used in a number of ways, including to measure important lengths of time. For example, you can set the marking to the beginning of the time span to be measured, or you can use it to indicate the end of a given span of time.

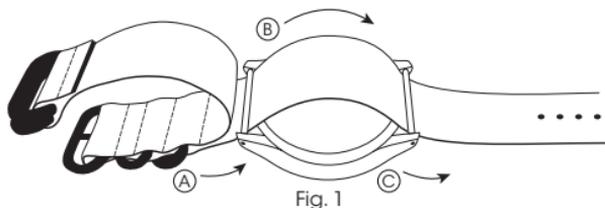


## ASSEMBLING AND ADJUSTING OF STRAPS

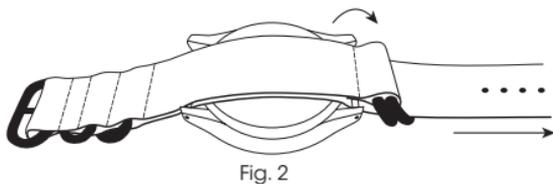
If you are not sure how to assemble, shorten or lengthen the watch straps, please contact your specialist SINN retailer directly or one of our watchmakers in customer service in Frankfurt am Main. We would also be happy to help you over the telephone.

### Assembling the textile strap

1. Place your watch on a soft cloth with the dial facing down.
2. Fold over the shorter side of the textile strap with the two metal loops pointing to the left. Then bring the longer side of the textile strap through the spring bars on the left and right, as illustrated in figure 1 (steps A to C).



3. Fold over the shorter side of the textile strap to the right over the case back and bring the longer side through the two metal loops. Tighten the textile strap carefully (figure 2).



### **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.



Warning

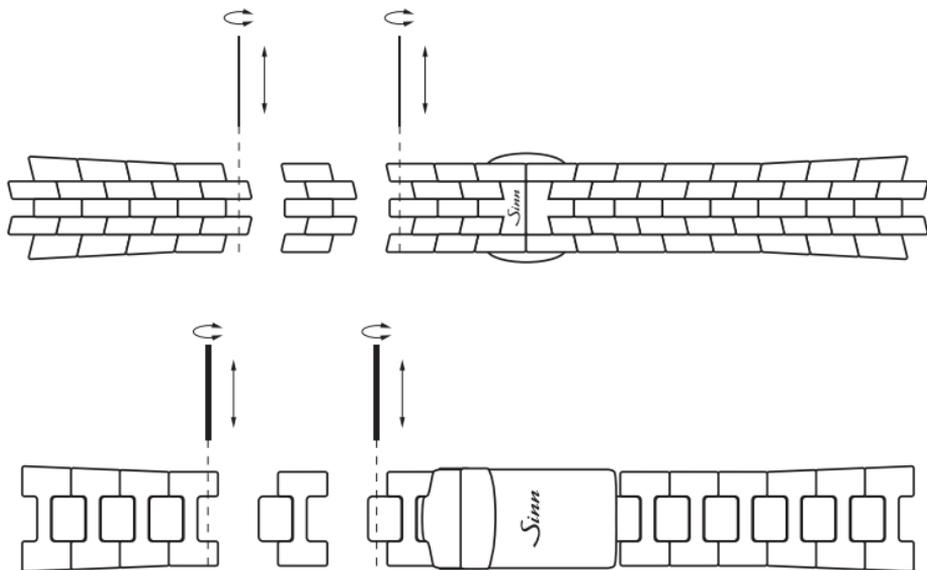
### Safety note!

Thread-locker (AN 302-42 medium-tight) contains:

2-hydroxyethyl methacrylate, cumene hydroperoxide.

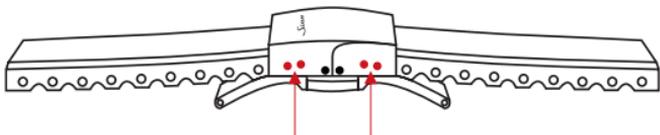
May cause an allergic skin reaction. May cause respiratory irritation.

Wear protective gloves. UFI: 51T6-80C3-800Q-SCR2

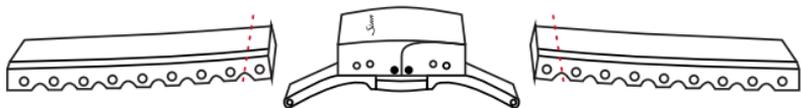


## Silicone strap with butterfly folding clasp

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.

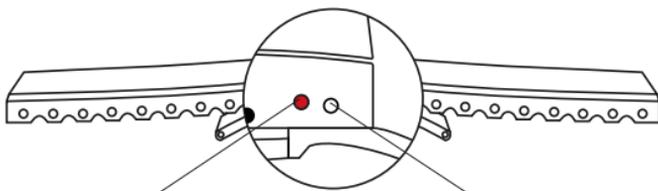
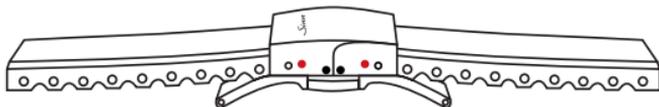


2. Using a knife or scissors, cut the silicone band in the middle between two metal pins. You should shorten the band symmetrically and little by little, starting from the clasp, until you have reached the desired length. Test the length from time to time before proceeding. Shortening both ends by the 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.

4. 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.

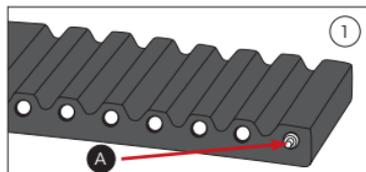
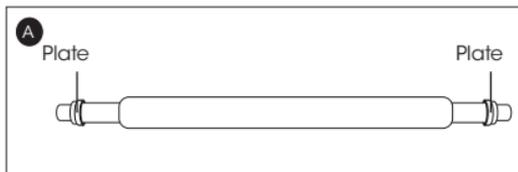
## Silicone strap with folding clasp with strap-length quick adjustment

### Step 1:

#### Fitting the folding clasp with strap-length quick adjustment

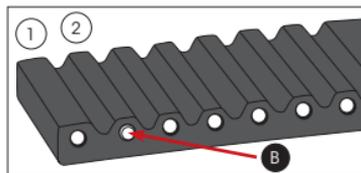
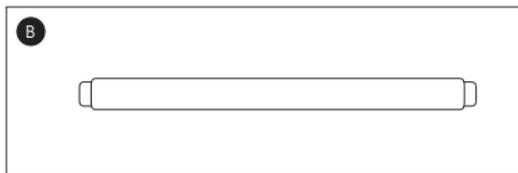
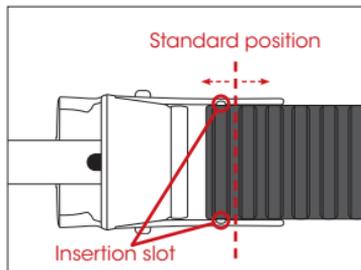
We recommend that you fit the folding clasp before shortening the silicone strap. Doing so will enable you to make a better assessment of whether you need to shorten the silicone strap. To avoid misunderstandings or mistakes, you should fit the two halves of the silicone strap exactly as described below.

On the silicone strap half with the SINN logo, insert spring bar **A** (see diagram) into the empty hole at position **1**. If a spring bar has already been pre-installed, replace this in any case with spring bar **A**. Then attach the folding clasp to this silicone strap half. To do this, insert the silicone strap half with the spring bar on one side into the hole in the folding clasp. Using the band replacement tool, press on the plate on the opposite side of the spring bar to position it in the hole. Pull on it to check whether the folding clasp is secure.



Next, on the silicone strap half without the SINN logo, remove the metal pin at position (2) and replace it by stud **B** (see diagram). Slide the stud as centrally as possible into position (2), so that both tapered ends of the stud protrude laterally from the strap. Then place the removed metal pin into the empty hole at position (1). If a spring bar is already pre-installed at this position, remove it and insert the metal pin referred to above. The pin acts as an adjustment tool and increases the stability of the strap guide when pulled laterally (see **Step 2**).

Open the retaining bar on the unfolded folding clasp and guide the silicone strap half with the stud from above via the insertion slot into the guide rails of the folding clasp. Position the silicone strap so that you can move it at least one position forward and one position back (standard position, see diagram). Then close the retaining bar again.



## Step 2:

### Strap-length quick adjustment

First, try on the fully fitted silicone strap on your wrist before you carry out a quick adjustment to the strap length.

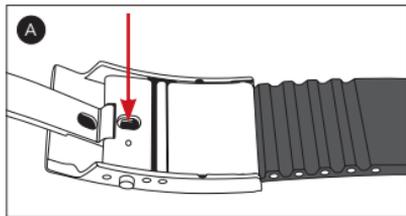
To carry out an adjustment, proceed as follows (see diagrams).

**Please note:** To use the quick adjustment, take the watch off your wrist.

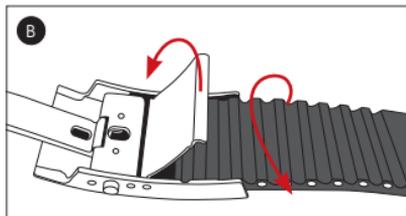
Afterwards, remove the strap from the watch exclusively for silicone straps with quick-adjustment strap system.

#### A. Take the folding clasp in your hand.

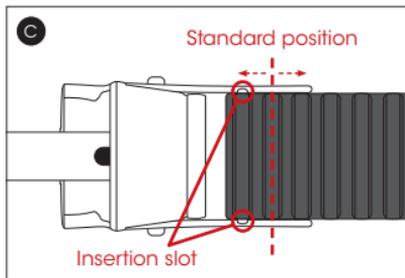
To fix your grip, press firmly on the underside of the folding clasp with your thumb. Ensure that you do not obstruct the retaining bar with your thumb.



- #### B. Hold the silicone strap with your other hand to open the retaining bar with a lever action. To do this, fold the side of the silicone strap facing away from you upwards.



- C. From the standard position, the silicone strap can be moved one position forward or back. To make the silicone strap tighter, move it one position to the left. To make the silicone strap looser, move it one position to the right.



After making the adjustment, press the retainer bar back into the appropriate free spindle on the silicone strap. Check whether the retainer bar is securely locked into place.

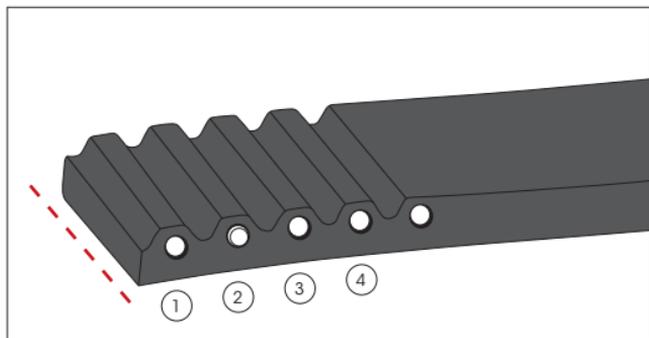
### Step 3:

#### Shortening the silicone strap

Be very careful when shortening the silicone strap!

In all cases, shortening of the silicone strap should be carried out symmetrically and on a step-by-step basis until the desired strap length has been achieved. If asymmetric shortening is necessary, the contact side should be shortened more. Keep trying on the silicone strap in between. Shortening on both sides by one hole in each case corresponds to a reduction of the total size by 10 mm – a one-sided length reduction of 5 mm.

**Please note:** As described in **Step 3**, the stud on the silicone strap half without the SINN logo must always be in position (2), a metal pin is always located in position (1). Use the stud to determine the margin for the strap-length quick adjustment so that you will be able to compensate for a changed wrist circumference (e.g. due to temperature-related variations). To use a minimum margin, at least four positions should always be occupied on the silicone strap half without the SINN logo, in the following sequence: Metal pin (1), stud (2) and two additional metal pins (3) (4) (see diagram).



First, shorten the silicone strap half for the strap-length quick adjustment (without the SINN logo). To do this, sever the silicone strap with a knife or pair of scissors centrally between the last metal pin and the stud in position ②. After severing the silicone strap, remove the stud and replace it with a metal pin. Replace the stud at the second-to-last position after first removing the metal pin. Open the retaining bar on the folding clasp and guide the shortened silicone strap half with the stud from above via the insertion slot into the guide rails of the folding clasp. From the standard position, the silicone strap can be move one position forward or back (see diagram © **Step 2**). Close the retainer bar and try on the silicone strap.

If a further shortening is necessary, you will then need to carry this out on the silicone strap half with the SINN logo. To do this, you will first need to remove the folding clasp. After doing this, sever the silicone strap again with a knife or pair of scissors – centrally between the spring bar and the metal pin. After severing the strap, replace the outermost metal pin with the spring bar and then reattach the folding clasp to the silicone strap (see **Step 1**). Try on the silicone strap.

**You can use this principle to make any additional shortenings that may be necessary.**



## TECHNICAL DETAILS

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

- Watch Case**
- Case made of stainless steel, polished
  - Sapphire crystal glass in front
  - Transparent case back made of sapphire crystal glass
  - Meet the technical requirements for waterproofness, as set out in standard DIN 8310
  - Waterproof and pressure-resistant up to 20 bar
  - Low pressure resistant
  - Crown screwable
  - Case back screw-fastened
  - Band lug width 20 mm
  - Case diameter 41 mm

- Functions**
- Hours, minutes, seconds
  - Date display
  - Day of the week display
  - Pilot's bezel with minute ratcheting and luminous key mark

- SINN Technology**
- 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 / 97 84 14-400

Telefax: + 49 (0)69 / 97 84 14-401

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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11. Auflage / 11th Edition  
07 2023

Technische Änderungen vorbehalten.

Technical specifications are subject to changes.

Nachleuchtschema / mit Ziffern  
Luminous design / with arabic numerals



Nachleuchtschema / mit Indizes  
Luminous design / with indices



Nachleuchtschema / mit aufgesetzten Appliken  
Luminous design / with attached appliqué