EZM 13.1
EINSATZZEITMESSER

EN

Sinn

SPEZIALUHREN ZU FRANKFURT AM MAIN

CONTENTS

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 sincerely,

Lothar Schmidt


Sinn
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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 °C to +80 °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 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: SINN-Caliber SZ01.


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DNV CERTIFIES SINN DIVING WATCHES

So what does DNV (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 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, EZM 13 and EZM 13.1 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 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.

Certificate

No. 55577-14 HH

This is to certify that at request of Messrs. Sinn Spezialuhren zu Frankfurt am Main, Im Földchen 5-7, 60489 Frankfurt a

hydraulic pressure test

on 5 diving watches
of type line Sinn

EZM 13

representing serial number lot

613.0001-613.1000

has been performed on June 3rd, 2014 with a nominal pressure of 50bar, corresponding to a diving depth of 500m for a testing time of one hour. Additionally, testing with a test pressure of 63bar and a testing time of 15 minutes has taken place. The tests have been performed under survey of DNV GL SE with an officially calibrated pressure measuring device.

There were no housing deformations noticed. The proper function of the watches has been determined and a subsequent examination has proofed the leak tightness of the tested specimen.

DNV·GL
Hamburg, 2014-06-19

Dr.-Ing. Stephan Hinz

Germanischer Lloyd (now DNV) has confirmed and certified the pressure resistance of the preceding model EZM 13. The certificate of the EZM 13.1 was not yet available at the printing of this brochure.

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 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 °C, then for three more hours at +50 °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 °C and 3 hours at +70 °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), EZM 13.1 (since 2022) 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 °C and +60 °C due to their battery operation and oil filling.

Certificate

No. 55578-14 HH

This is to certify that at request of Messrs. Sinn Spezialuhren zu Frankfurt am Main, Im Földchen 5-7, 60489 Frankfurt

temperature resistance and functional tests

on 4 diving watches
of type line Sinn

EZM 13

representing serial number lot

613.0001-613.1000

were performed on April 30th, 2014. The proper function of the watches has been determined directly after 3 hours conditioning at -30°C and at +70°C and 95% relative humidity, respectively.

The examinations were based on the requirements of the European Standards EN250:2000 and EN14143:2003 for type-examination of diving equipment, and were performed at the Zentrum für Sicherheitstechnik of BG Bau in Haan.

DNV·GL
Hamburg, 2014-06-19

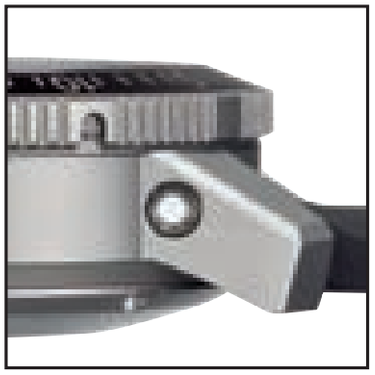
Dr.-Ing. Stephan Hinz

Germanischer Lloyd (now DNV) 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 of the preceding model EZM 13. The certificate of the EZM 13.1 was not yet available at the printing of this brochure.

(Ar)-DEHUMIDIFYING TECHNOLOGY

Indication colours of the drying capsule

Pale blue	Light blue	Medium blue	Dark blue
Up to 25% saturation	Up to 50% saturation	Up to 75% saturation	Drying capsule saturated



When the drying capsule is saturated, as indicated by a deep blue colour, we recommend you have it exchanged so you can continue to enjoy all the advantages of the Ar-Dehumidifying Technology (enhanced reliability, longer intervals between maintenance).

Perfect freedom from fogging

All the watches in this series meet the technical requirements for waterproofness, as set out in standard DIN 8310. But even with watertight instruments, the air enclosed in the case contains water in a gaseous state. And air can also penetrate the seals. When the water vapour in the case condenses into liquid, the instruments are impossible to read. To prevent this from happening, we have developed the Ar-Dehumidifying Technology. The combination of a special drying capsule, EDR seals (**e**xtreme **d**iffusion **r**eduction) and a filling of protective gas guarantee that the crystal remains free from fogging, even in difficult conditions.

Longer service intervals

The sophisticated Ar-Dehumidifying Technology considerably slows the aging process of the watch's inner workings and keeps the movement functioning properly for longer. That is why we issue a three-year warranty on all our watches featuring Ar-Dehumidifying Technology. When the drying capsule is saturated, as indicated by a deep blue colour (refer to picture on the left side), we recommend you have it exchanged so you can continue to enjoy all the advantages of the Ar-Dehumidifying Technology (enhanced reliability, longer intervals between maintenance).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When it comes to its features, this diving chronograph is one of the most traditional and yet technically advanced timekeeping instruments.

The EZM 13.1 thus knows exactly what matters during use: a focus on the key essentials in terms of outstanding readability. To this end, we have integrated a factory modification with high functional value into the SINN chronograph movement SZ02. To enable the elapsed times to be read quickly and intuitively, the EZM 13.1 features a 60-minute counter at 6 o'clock instead of a (generally customary) 30-minute counter. It is distinguished by an optimised dial design. To enable clearer readability, the Arabic numerals have been omitted on the EZM 13.1. This adds an optical enhancement to its technically functional focus.

For the highest levels of mechanical stability and durability against external influences, we have equipped the EZM 13.1 with a technology package consisting of Magnetic Field Protection, Ar-Dehumidifying Technology and Temperature Resistance Technology. The independent classification company DNV verifies and certifies the water resistance and pressure resistance of the EZM 13.1 as well as its functionality in accordance with the European diving equipment standards.

Conclusion: The EZM 13.1 is primed and ready for its first use on your wrist!


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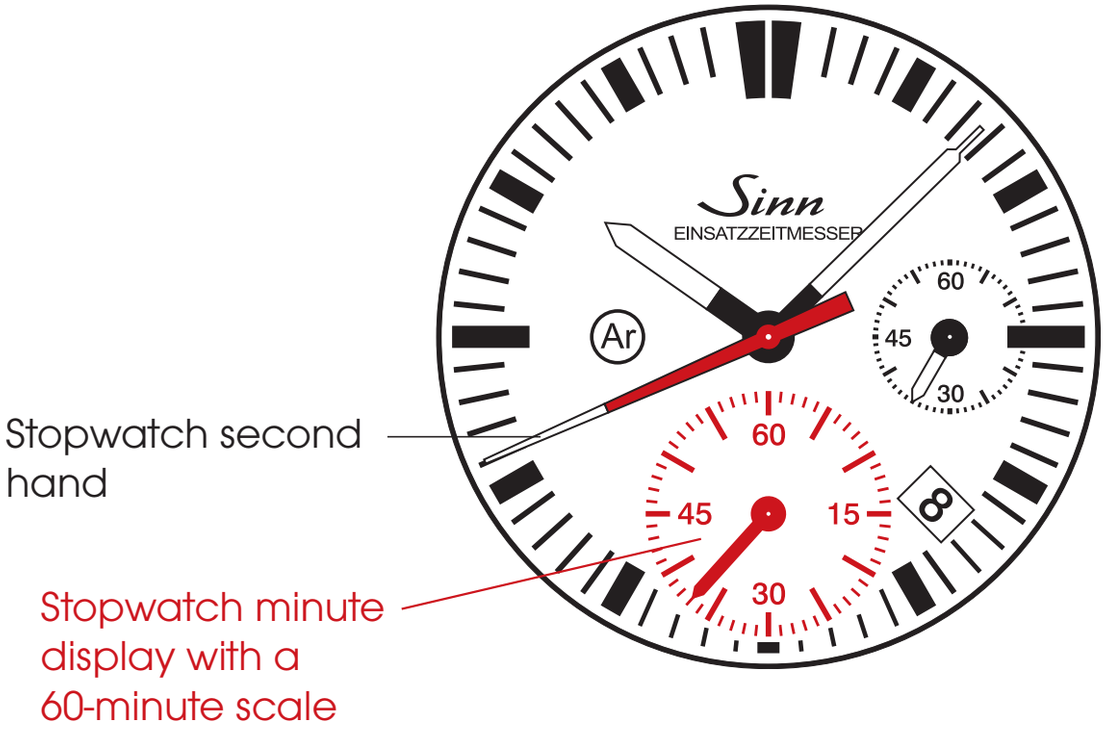
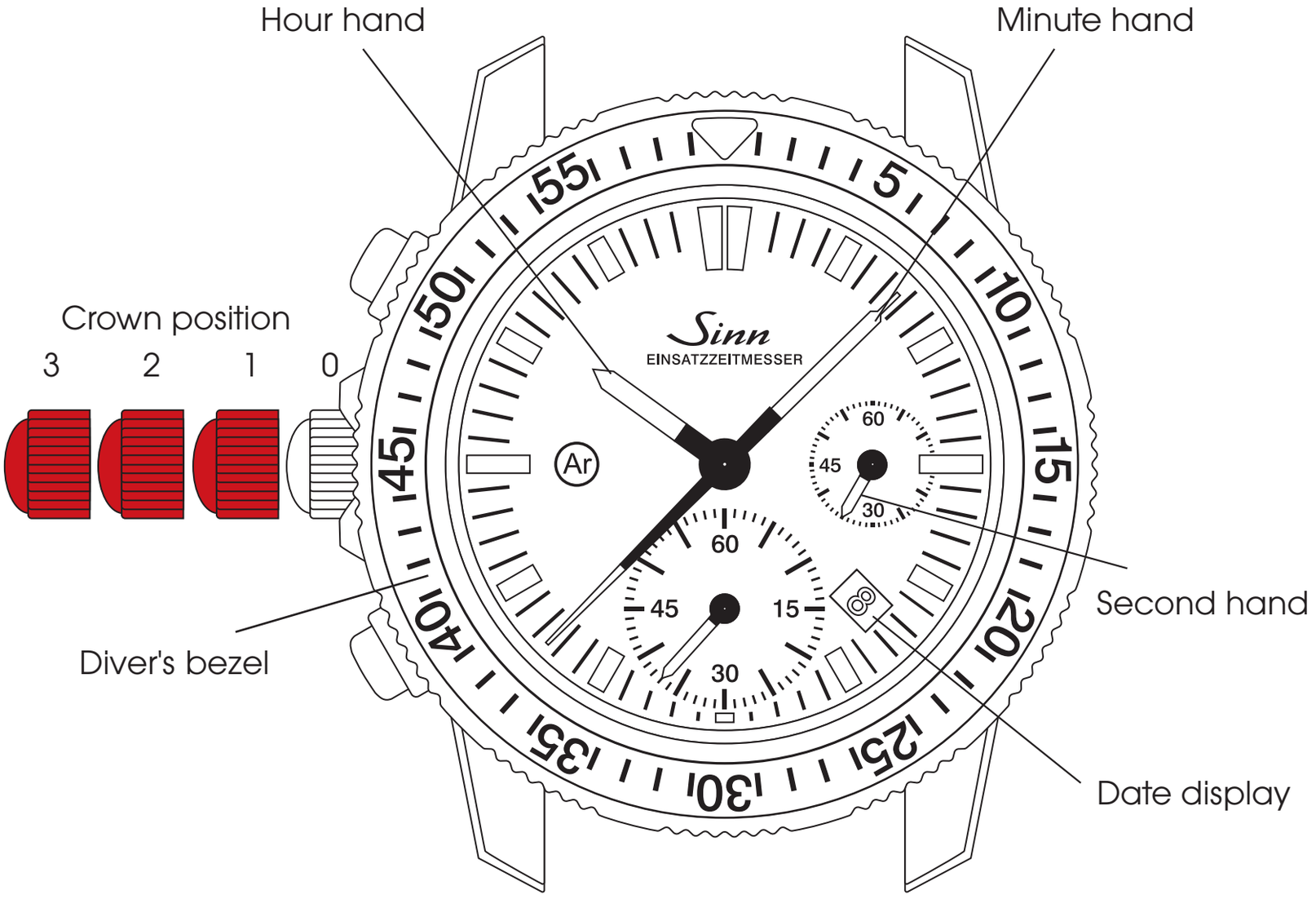
THE SINN MOVEMENT SZ02

The SINN movement SZ02 is a modification of the SZ01 movement, characterized by an off-center 60-minute counter.

This movement, by contrast, only has a 30-minute chronograph counter. Stopped times are difficult to see on this standard caliber as the interim marks of the hour counter are very close to the hour indices. Only with the aid of this pointer is it possible to distinguish between a minute display of 0 to 30 and 30 to 60. The SZ02 permits direct reading of the minutes right through from 0 to 60 minutes.





Winding the watch (crown position 1)

The crown is screwed down (crown position 0). To loosen the crown, turn it *clockwise* (crown position 1). The movement is wound manually by turning the crown *counter-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 adjustment (crown position 2)
Do not use this function between 9 p.m. and 3 a.m. Set the crown in position 2 and turn it *counter-clockwise* until the correct date appears in the date display window. **Please do not use the date-setting 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 CHRONOGRAPH TO MEASURE TIME

The chronograph is operated by means of buttons A and B. The measurement starts when button A is pressed once. Pressing this button again stops the measurement. The measurement is resumed by pressing button A once more. This allows you to add up and record the cumulative time. Button B resets the hands of the chronograph to zero.

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.

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).

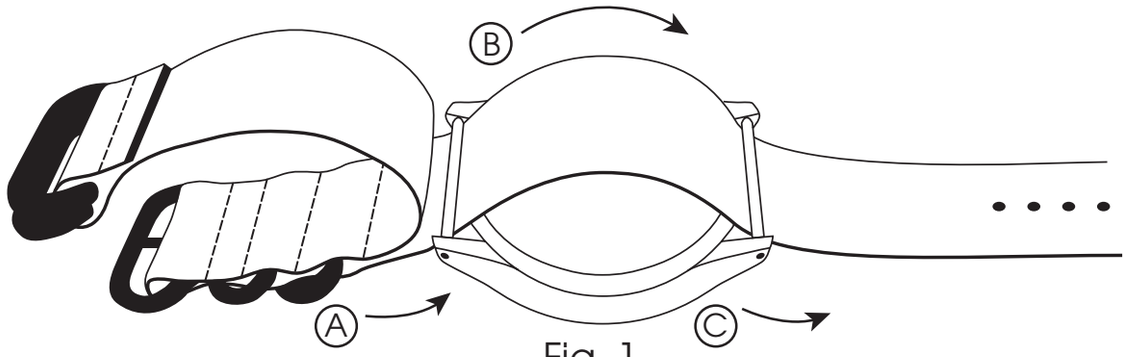


Fig. 1

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).

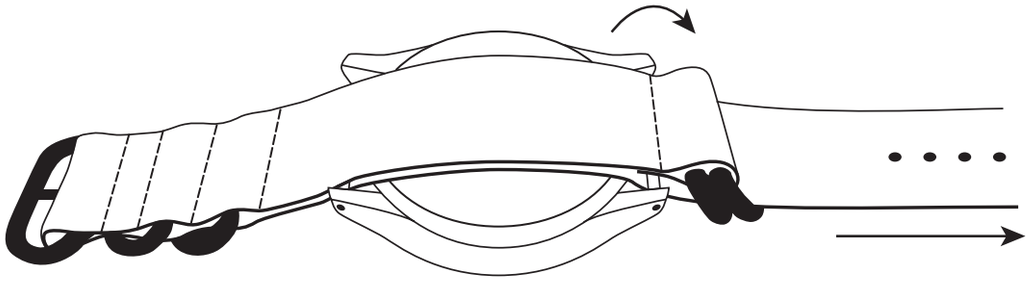
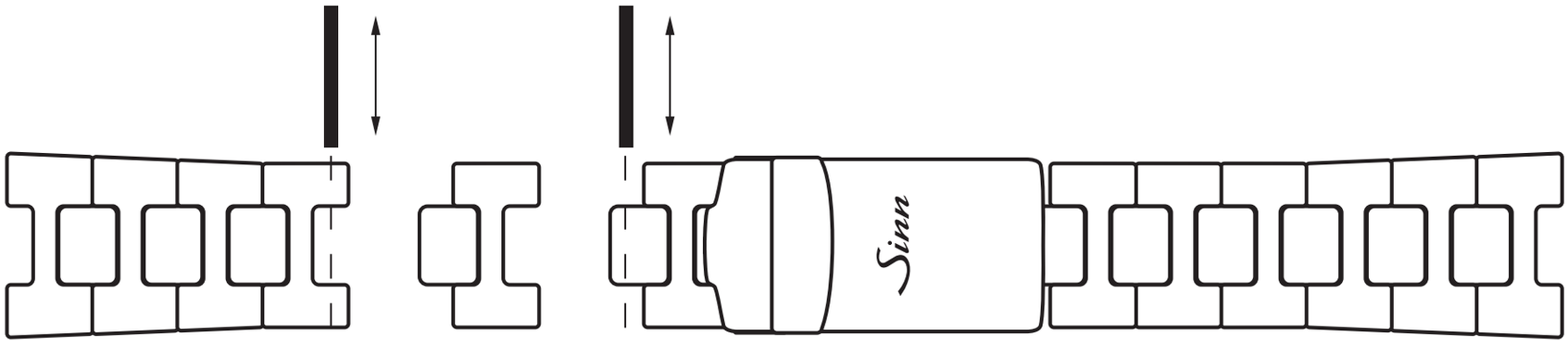


Fig. 2

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.



Luminous design

TECHNICAL DETAILS

Mechanical movement
- SINN movement SZ02
- Self-winding mechanism
- 26 bearing jewels
- Hand adjustment with stop-second function
- 28,800 semi-oscillations per hour
- Anti-magnetic as per DIN 8309

Functions
- Hours, minutes, subsidiary seconds
- Date display
- Chronograph with 60-minute stopwatch display
- Diver's bezel with minute ratcheting and luminous key mark

SINN Technologies
- Ar-Dehumidifying Technology
- Magnetic Field Protection up to 100 mT (= 80,000 A/m)
- Functionally reliable from − 45 °C up to + 80 °C
- Push-pieces with D3-System
- Captive bezel

Watch case
- Stainless steel, bead-blasted
- Crown screwable
- Sapphire crystal glass in front
- Case back screw-fastened, nickel-free
- Band lug width 20 mm
- Case diameter 41 mm

Tests and Certification
- Tested based on European diving equipment standards EN 250 / EN14143 and certified by DNV
- Waterproof and pressure-resistant up to 500 m diving depth (= 50 bar), tested and certified by DNV
- 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

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

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 and to the section entitled "Servicing and repairs" in our general terms and conditions at 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 or +49 (0)69 / 97 84 14-400.

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SPEZIALUHREN ZU FRANKFURT AM MAIN

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Technische Änderungen vorbehalten.
Technical specifications are subject to changes.