



MODEL SERIES 144




Sinn

SPEZIALUHREN ZU FRANKFURT AM MAIN



CONTENTS

SINN SPEZIALUHREN ZU FRANKFURT AM MAIN	6-9
MODEL SERIES 144	10-11
Ar-DEHUMIDIFYING TECHNOLOGY	12-13
INSTRUCTIONS FOR USE	14-17
USING THE CHRONOGRAPH TO MEASURE TIME	18
COMBINATION TACHYMETER AND PULSE MEASUREMENT SCALE	19
ADJUSTING THE LENGTH OF THE WATCH STRAPS	20-21
TECHNICAL DETAILS	24-27
SERVICE	28-29





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 depends 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 GL (formerly Germanischer Lloyd, Hamburg) regularly tests and certifies the water and pressure resistance of our diving watches.

We have selected pilot's watches tested and certified to the technical standard for pilot's watches (TESTAF) by Aachen University of Applied Sciences. The TESTAF ensures that a pilot's watch meets all timekeeping requirements during flight operations in accordance with visual and/or instrumental flight regulations and is suitable for professional use. 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,

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

Lothar Schmidt

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.



Advancements in endurance testing

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 as well as Temperature Resistance Technology to keep mechanical watches performing at temperatures ranging from -45°C to $+80^{\circ}\text{C}$. This technology has proven its worth in the EZM 10 TESTAF model, for example, used as part of the official approvals procedure for Airbus Helicopter's (formerly Eurocopter) EC 145 T2 high-performance helicopter. Hot and cold climate tests and high-altitude experiments were carried out in the deserts of the USA, the Rocky Mountains and the frozen wastes of Canada. The watch was worn unprotected, outside the pilot's overall, during cold climate tests at temperatures reaching -45°C .



Innovations and certifications

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.

We have had selected pilot's watches tested and certified to the technical standard for pilot's watches (TESTAF) by Aachen University of Applied Sciences since 2012. The TESTAF, the result of a research project at the initiative of Sinn Spezialuhren, ensures that a pilot's watch meets all timekeeping requirements during flight operations in accordance with visual and/or instrumental flight regulations and is suitable for professional use.

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.

Workshop modifications and hand-engraving

From the robust case and the polished crystal through to elaborate refinements: we make sure that each and every detail of our watches is fit for purpose. The same applies to our workshop modifications. Only the perfect interaction of all components and technologies ensures that our watches can meet all their design specifications in full. Take for example the SZ02 calibre of our U1000 diving chronograph. The 60-minute scale of the stopwatch minute counter is much simpler and more intuitive to read than the 30-minute scale commonly found on other watches. The hand-engraving represents a highly personal form of refinement. If required, our specially trained engraver can etch a name, initials, monograms or symbols onto the rotor, movement bridge and case back.





MODEL SERIES 144

Absolute functionality, perfect ergonomics, and convenient operation: These are the characteristic qualities of the 144 model series. These instrumental chronographs are also among the most venerable timepieces we make, and are now available in many different varieties, for example as sports watches or world time chronographs.

The technologies developed under the long-time leadership of owner Lothar Schmidt are now also being used in several select models. For example, DIAPAL Technology that ensures long-term accuracy of the movement, in which special materials are used that produce no friction and function reliably without lubrication, as well as Ar-Dehumidifying Technology, which ensures enhanced freedom from fogging. Regardless whether you select a case made of titanium or stainless steel, a watch with a second time zone or one that displays the day of the week – the 144 model series offers just the technology and finish to meet your requirements.

Ar-DEHUMIDIFYING TECHNOLOGY

Indication colours of the drying capsule



Pale blue

Up to 25%
saturation



Light blue

Up to 50%
saturation



Medium blue

Up to 75%
saturation



Dark blue

Up to 100%
saturation



Initial condition



Drying capsule
saturated

The colour scale for the Ar-Dehumidifying Technology: the capsule continues to absorb moisture until the darkest colouration is reached.

Perfect freedom from fogging

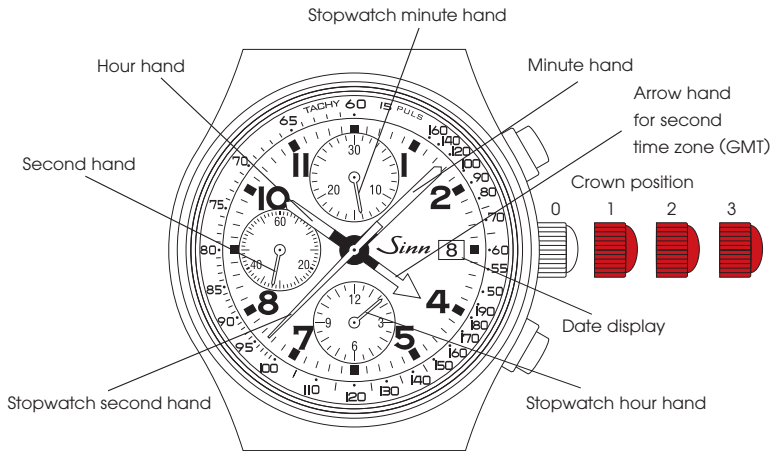
All watches in this series are water-resistant as per DIN 8310. But even with watertight instruments, the air enclosed in the case contains water in a gaseous state. And air can also penetrate the seals. When the water vapour in the case condenses into liquid, the instruments are impossible to read. To prevent this from happening, we have developed the Ar-Dehumidifying Technology. The combination of a special drying capsule, EDR seals (**extreme diffusion reduction**) 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).

INSTRUCTIONS FOR USE

Models: 144 DIAPAL, 144 GMT



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)

Do not use this function between 9 p.m. and 3 a.m. Set the crown in position 2 and turn it *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.

Adjusting the second time zone (crown position 2)

Pull the crown into position 2 and turn it *counter-clockwise* until the correct time appears. The GMT hand stops at hourly intervals. This setting may be adjusted between 9 p.m. and 3 a.m., but it is important to ensure that you are really setting the second time zone in this period by turning the crown *counter-clockwise*! Otherwise the watch could be damaged!

Please take care to fasten the crown after making adjustments.

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 of the week (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.

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.

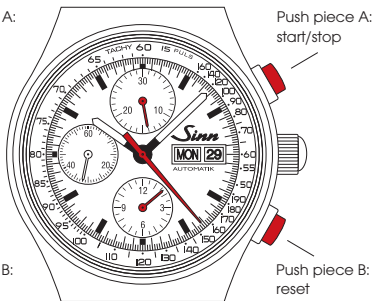
Please take care to fasten the crown after making adjustments.

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.



144 DIAPAL/144 GMT



144

COMBINATION TACHYMETER AND PULSE MEASUREMENT SCALE

The tachymeter or pulse measurement scale can be used to read off average speeds between 60 and 190 km/h or pulse rates between 50 and 160 beats per minute. To determine an average speed using the tachymeter scale, first use the chronograph to determine the length of time needed to travel one kilometre. The value indicated by the second hand on the outer ring of the dial then indicates the distance travelled in one hour. (Example: 40 seconds per kilometre equals 90 km/h.)

To read off a pulse rate, measure the length of time required for 15 heartbeats. (Example: 15 heartbeats in 10 seconds equals a pulse of 90.)



144 DIAPAL/144 GMT



144

ADJUSTING THE LENGTH OF THE WATCH STRAPS

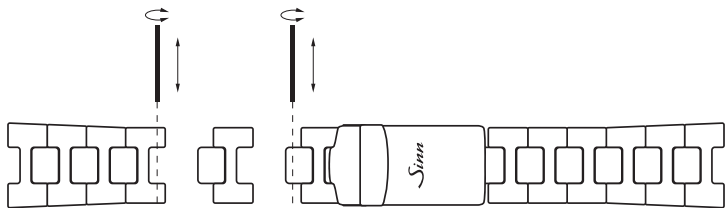
If you don't know how to shorten or lengthen the solid bracelet, please contact your SINN dealer or the watchmakers in our customer service department in Frankfurt am Main. Our customer service employees are also happy to help you over the telephone.

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.





TECHNICAL DETAILS 144 DIAPAL

Mechanical Movement

- Calibre Valjoux 7750 GMT
- Self-winding mechanism
- Hand adjustment with stop-second function
- 25 bearing jewels
- 28,800 semi-oscillations per hour
- Shock-resistant as per DIN 8308
- Anti-magnetic as per DIN 8309

Functions

- Hours, minutes, subsidiary seconds
- Second time zone on a 12-hour basis (GMT)
- Chronograph
- Date display
- Tachymeter- and pulsometer scale
- Hands and indices coated with luminescent colour

SINN Technologies

- DIAPAL Technology
- Functionally reliable from -45°C up to $+80^{\circ}\text{C}$
- Ar-Dehumidifying Technology

Watch Case

- 144 St DIAPAL: stainless steel bead-blasted
- 144 Ti DIAPAL: titanium bead-blasted
- Sapphire crystal on front, anti-reflective
- Solid or transparent back screw-fastened (transparent back made of sapphire crystal, anti-reflective)
- Crown screwable
- Water-resistant as per DIN 8310
- Water-resistant and pressure resistant up to 20 bar (= 200 m underwater depth)
- Low pressure resistant
- Band lug width 20 mm
- Case diameter 41 mm



TECHNICAL DETAILS 144 GMT

Mechanical Movement

- Calibre Valjoux 7750 GMT
- Self-winding mechanism
- Hand adjustment with stop-second function
- 25 bearing jewels
- 28,800 semi-oscillations per hour
- Shock-resistant as per DIN 8308
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Functions

- Hours, minutes, subsidiary seconds
- Second time zone on a 12-hour basis (GMT)
- Chronograph
- Date display
- Tachymeter- and pulsometer scale
- Hands and indices coated with luminescent colour

Watch Case

- 144 GMT St: stainless steel bead-blasted
- 144 GMT Ti: titanium bead-blasted
- Sapphire crystal on front, anti-reflective
- Solid or transparent back screw-fastened (transparent back made of sapphire crystal, anti-reflective)
- Crown screwable
- Optionally: Ar-Dehumidifying Technology
- Water-resistant as per DIN 8310
- Water-resistant and pressure resistant up to 20 bar (= 200 m underwater depth)
- Low pressure resistant
- Band lug width 20 mm
- Case diameter 41 mm



TECHNICAL DETAILS 144

Mechanical Movement

- Calibre Valjoux 7750
- Self-winding mechanism
- Hand adjustment with stop-second function
- 25 bearing jewels
- 28,800 semi-oscillations per hour
- Shock-resistant as per DIN 8308
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Functions

- Hours, minutes, subsidiary seconds
- Chronograph
- Date display
- Day of the week display
- Tachymeter- and pulsometer scale
- Hands and indices coated with luminescent colour

Watch Case

- 144 St: stainless steel bead-blasted
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- Water-resistant and pressure resistant up to 20 bar (= 200 m underwater depth)
- Low pressure resistant
- Band lug width 20 mm
- Case diameter 41 mm

SERVICE

General advice

To preserve the water resistance for as long as possible, the watch should be rinsed whenever it has been in contact with seawater, chemicals, etc. If your watch is frequently worn in water or underwater, we recommend having its water resistance checked at yearly intervals.

The watch is designed to withstand high levels of mechanical wear and tear and is shock resistant as per DIN 8308. Nevertheless, it goes without saying that continual mechanical stress in the form of impacts or vibration will affect its durability.

Care should therefore be taken to protect your watch from unnecessary wear and tear. It is only possible to judge how well the watch keeps time after it has been in operation for approximately eight weeks, since it takes that long for the working mechanism to become adjusted, especially in view of the fact that everybody has different lifestyles and habits. In the event of any excessive deviation, please keep a day-to-day record of its timekeeping over a period of about one week, for example.

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 "Repairs" in our general terms and conditions of business 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.

Send your SINN watch by insured post to:

Sinn Spezialuhren GmbH
Kundendienst
Im Földchen 5-7
60489 Frankfurt am Main
Germany

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: kundendienst@sinn.de

Sinn

SPEZIALUHREN ZU FRANKFURT AM MAIN

Im Földchen 5-7 · 60489 Frankfurt/Main
Telefon +49 (0) 69 . 97 84 14-200 · Fax -201
<http://www.sinn.de> · vertrieb@sinn.de



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Technische Änderungen vorbehalten.
Technical specifications are subject to changes.

144 DIAPAL
Nach(t)leuchtend / luminous



144 GMT
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144
Nach(t)leuchtend / luminous