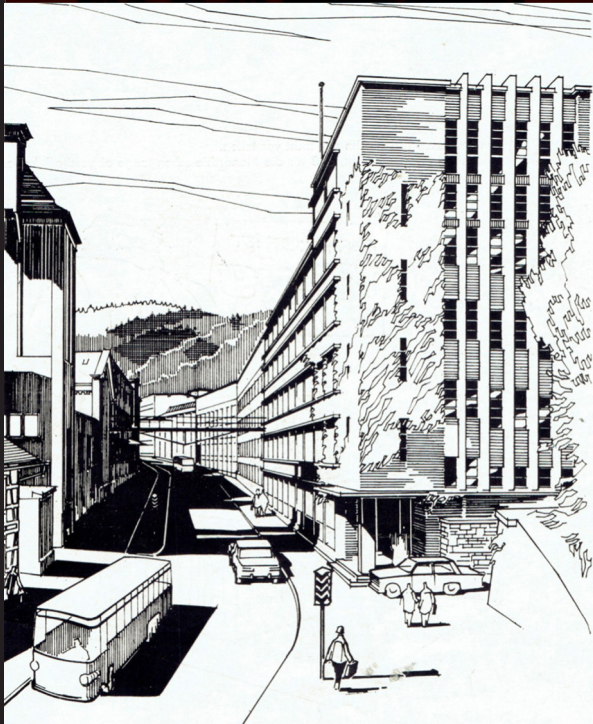


1862 - 2022

Glass mosaic windows at Eisenach main station



View from the 1960s



Company view 2022

The founding of the Thiel brothers' metal goods factory in Ruhla in 1862 marked the beginning of a

160-years Tradition

in the manufacture of metal goods, watches and machines

Published by

***Förderverein
Uhrentradition Ruhla e.V.***



25. September 1862

The foundation

The brothers Georg and Christian Thiel founded the
Metal goods factory Gebrüder Thiel



The first factory building
is located at
Köhlergasse no. 29



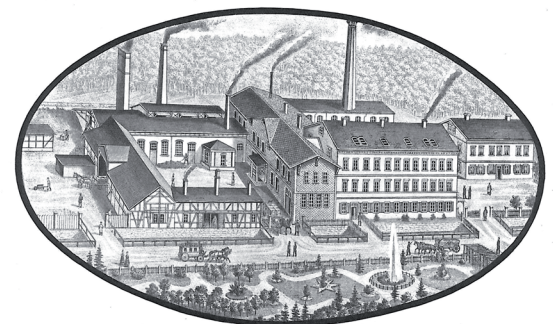
Ansicht des ehemals Steinmetz'schen Grundstücks (1862 Köhlergasse 29)

With a founding capital of 2,452 Thalers* and five machines, the production of pipe fittings, watch cases and other small metal goods begins.

1873 New production facility

The production facility in Köhlergasse becomes too small for the growing company and the former "Reiß'sche Filzfabrik" in the lower part of the village, known as "Ruhlaer Grund", is purchased for 18,250 Thalers*.

* Former German unit of currency



Fabrikaufsicht im Jahre 1873 (Reiß'sches Grundstück)

1874 - 1875

In addition to the initial production of metal goods, such as toe caps and heels for children's shoes, shop window hooks, protective watch cases and beer clocks, children's music boxes were produced from 1874, mainly for export.

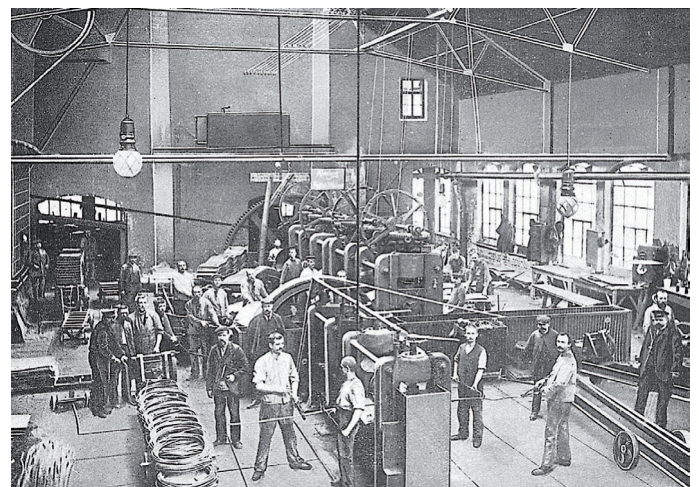


Beer watch



Children's Music Boxes

Picture far right:
The silhouette of a woman
adorns the back of a music
watch, among other things.



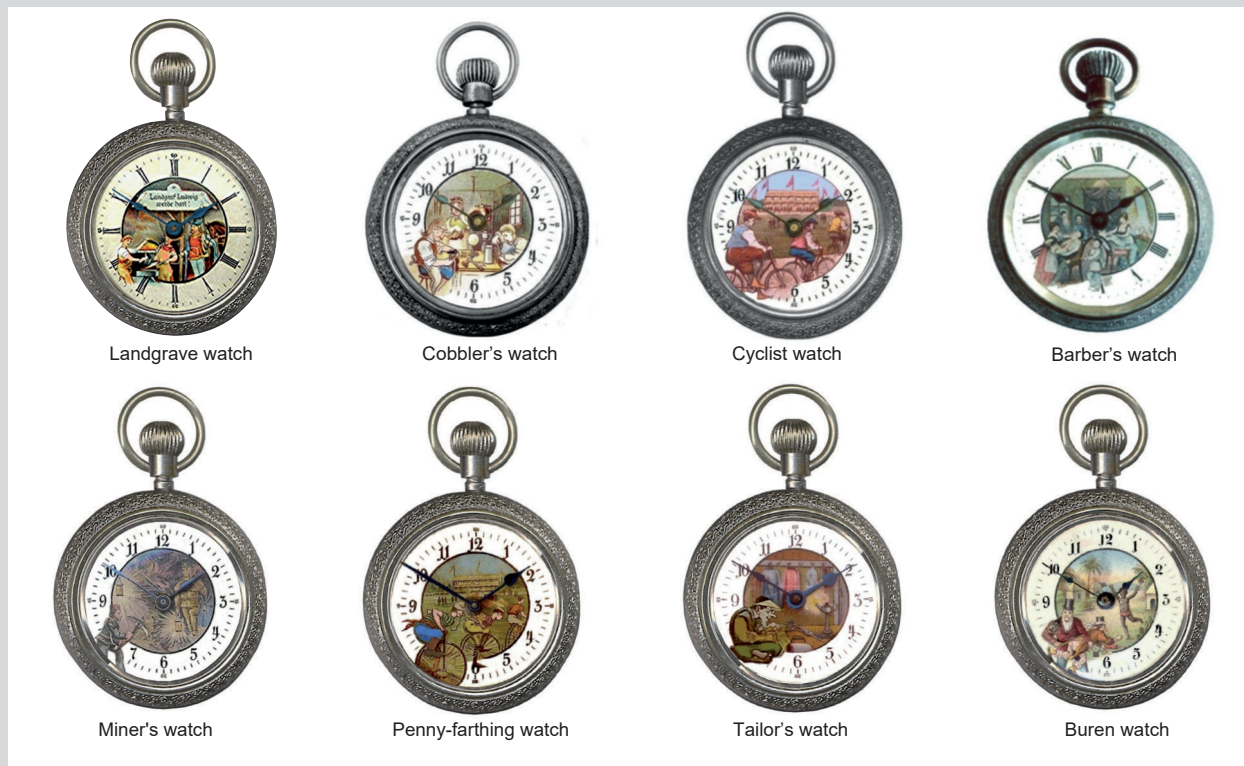
The demand for brass sheets and wires had grown so much in the meantime that the company built its own hydropower rolling mill in 1875. This production was preceded by the foundry for brass and gunmetal sheets. The production facilities were designed so that brass sheets and wires could also be sold to other metal goods factories.

1892

The „Fearless“- Pocket watches

The birth of clock production in Ruhla dates back to the mid-1880s. American bulk buyers of children's music boxes demanded music boxes that had to be "running". The technical solutions required for this were the starting point for the real running pocket watch. The watch was given the name "Fearless" and was produced in large numbers from 1892 as the first cheap German watch from Ruhla.

The so-called "Automata" with moving motifs were particularly popular



1908

The first wristwatches

Thiel was also the first German manufacturer for series production wristwatches.



Modell Divina flat



Modell Lola



3-jewel Darling



View of the "Darling" movement



The collection was offered under the name "Darling"

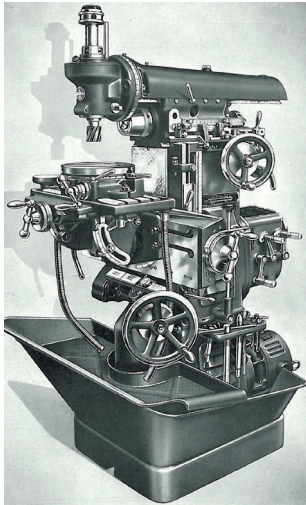
1910 - 1912

Foundation of the machine factory

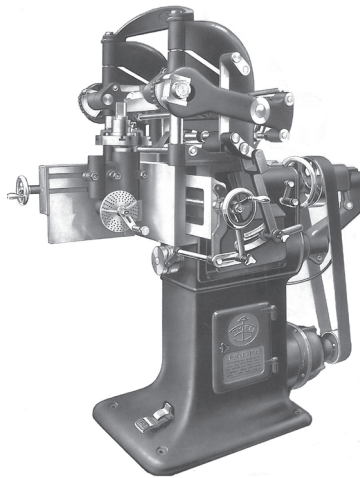
The "central locksmith's shop" formed in 1905 is expanded into a company with its own sales department. This is the founding year of the machine factory.

1930 - 1936

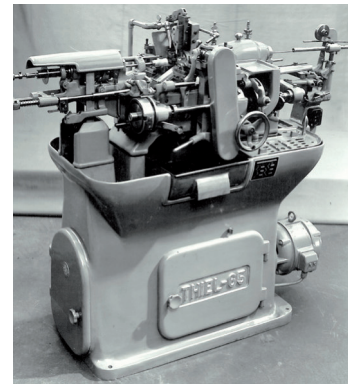
The "Thiel machine set for toolmaking" is completed with two important new developments and the long tradition of automatic lathe production begins with the first Swiss-type sliding headstock automatic lathe.



Universal tool milling machine
Type „Thiel-Duplex 58“



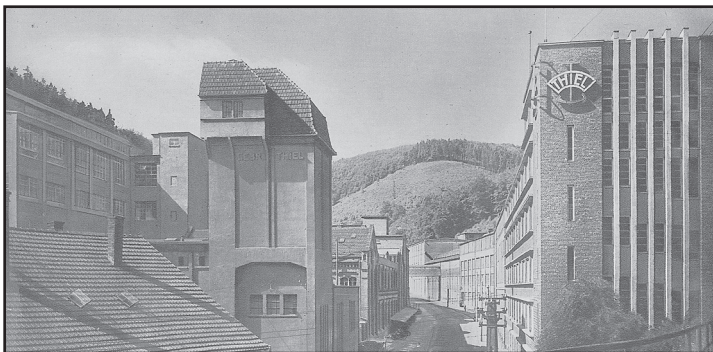
Stamp planer
Type „Thiel 32“



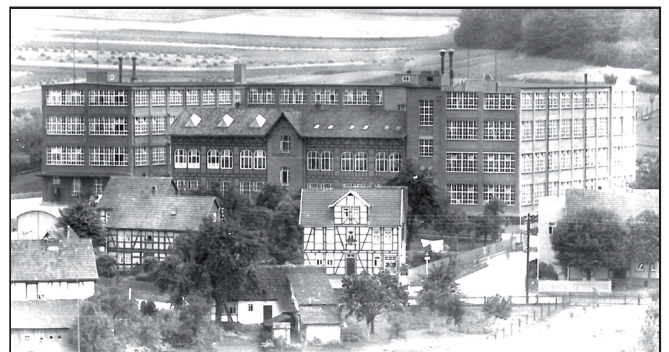
Sliding headstock automatic lathe
Type „Thiel 65“

1930 - 1937

The extensive new buildings in Ruhla and Seebach document the company's development into a major enterprise.



Ruhla 1937 Administration and watch factory on the right, machine factory on the left



Seebach 1935 The detonator factory

1903 - 1945

The production of time fuses

1903

First contacts with the development of clockwork time fuses for KRUPP via the patent of the Berlin Löbner watch factory.

1909 - 1912

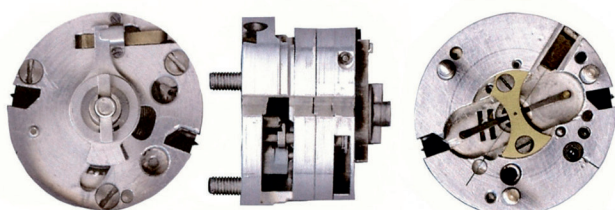
Production of own detonators at the Seebach plant and discontinuation of production due to malfunctions during use.

1914 - 1918

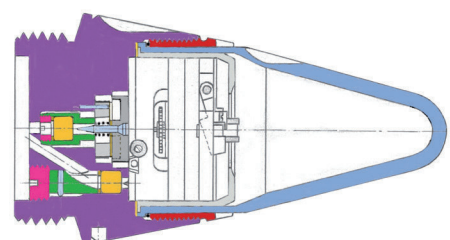
After further development and own patents the production of large quantities (up to 5,000 pieces per day) until the end of the war.

1934 - 1945

The company becomes one of the largest detonator manufacturers in the German Reich. In Seebach and Waltershausen and the new plant in Mühlhausen, almost 10,000 people work for the armaments industry in the final years of the war.



Detonator movement

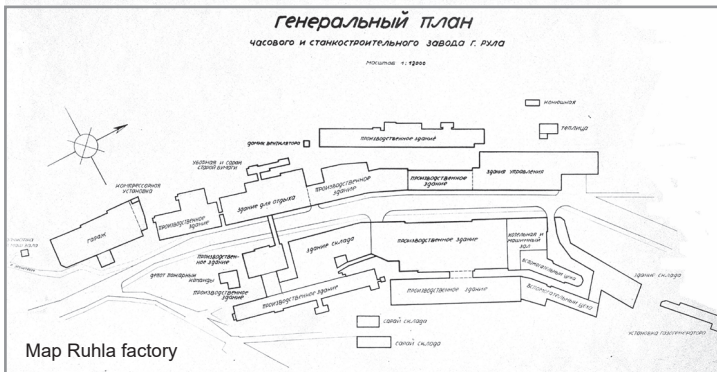


The ZS-60 S double igniter as a sectional view

1946 - 1952

On 19th July 1946, the company "Uhren- und Maschinenfabrik Thiel-Ruhla" with all its assets becomes the property of the USSR.

- The company is managed by the Soviet Joint-Stock Company (SAG) Awtowelo, headed by a general director.
- Three pocket and two wristwatch models continue to be produced from the watch range of Thiel brothers.
- In the period from 1946 to 1952, the following watch types, among others, were developed and manufactured:



Map Ruhla factory



Alarm clock Mod. 6



Wristwatch Mod.12
15-jewels



Travel alarm clock
Mod. 66, 5-jewels

1952 - 1962

- On 1st May 1952, the government of the USSR decided to transfer the SAG company to public ownership of the GDR.
- The publicly owned enterprise ("Volkseigener Betrieb" VEB) becomes Uhren und Maschinenfabrik Ruhla.

The Mod.3, Mod.9 and Mod.34 wristwatches were victims of the so-called "disturbance clearance" (economic independence from non-socialist economic area).

Mod.23 had to be discontinued after two years due to design and technical defects. As successor the Calibre 24 was developed.

New watch models from this period



Ladies' wristwatch
Mod.3, 15-jewels



Wristwatch
Mod.9, 6-jewels



Wristwatch
Mod.23



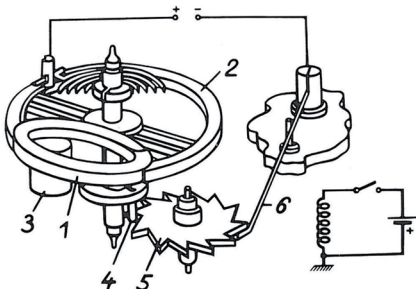
Ladies' wristwatch
Mod.34, 17-jewels

1961 - 1962

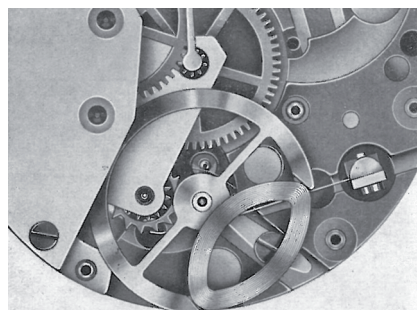
The major crisis in the GDR watch industry

In 1961, the GDR watch industry was at a turning point. COMECON (the Council for Mutual Economic Assistance), as the coordinating body for the economies of the socialist member states, recommended that watch and clock production in Ruhla, Glashütte and Weimar be discontinued and that the country be supplied with watches from Soviet Union. In order to avert this recommendation, the GDR leadership had to be convinced that the GDR's watch industry was also capable of producing the novel electric wristwatches, which represented the state of the art at the time.

This decisive new development was the electric men's wristwatch Calibre 25 from Ruhla.



The picture shows the operating principle of the balance motor. By inducing a voltage in the coil, a long-term constant amplitude of the balance wheel is generated, and thus, the E-watch achieves higher accuracy than the mechanical automatic watch with fewer components.



The partial view of the movement



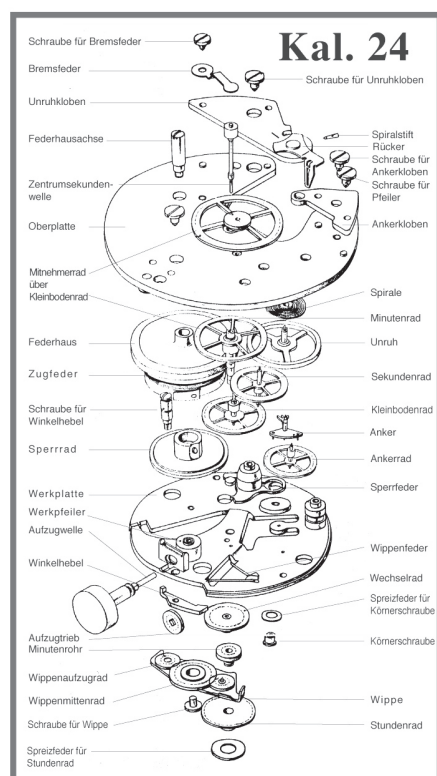
Electric men's watch Cal.25

On 20th January 1962 the first sample of the watch was presented to the Chairman of the State Council, Walter Ulbricht, which certainly had a positive effect on the subsequent decision. On 13th September 1962 the Economic Council of the GDR confirmed the continuation and further development of the watch industry of the GDR.

1963 - 1991

The Cal.24 mechanical watch family

In April 1963, production begins of the most successful watch model in the 130 years of Ruhla watchmaking.



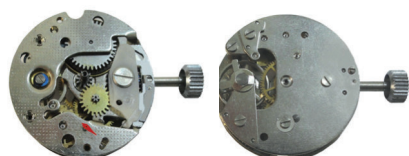
Exploded view of the movement

- In total, more than 116 million units are manufactured in several thousand equipment variants
- The daily production volume was 25,000 to 30,000 units
- In the record year 1980 6,6 million units were delivered
- The 100 millionth watch is assembled in the anniversary year 1987



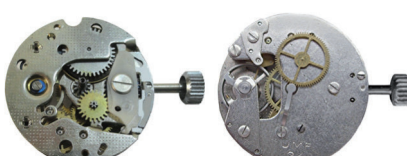
There were special movement groups for the Cal.24 pin lever watches for various watch products.

The following illustrations show the movement and dial side of the movement variants produced and their product applications.



Movement Variations

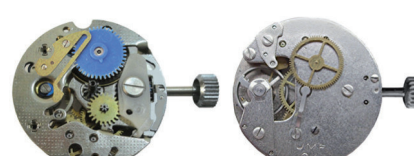
- Cal.24-30 without second
- Cal.24-31 small second
- Cal.24-39 Travel alarm clock



Movement Variations

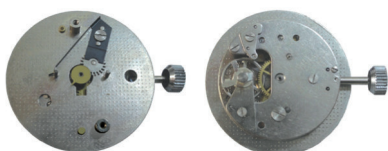
- Cal.24-24 Point display
- Cal.24-32 central second
- Cal.24-36 Digital display for LWW*
- Cal.24-38 Moving foot

*) Ladies' wristwatches



Movement Variations

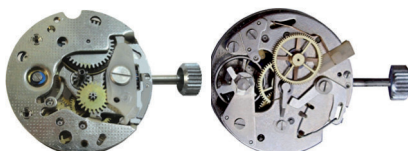
- Cal.24-27 Moon phase
- Cal.24-33 Date, central second



Movement Variations

- Cal.24-34 Digital display for MWW*

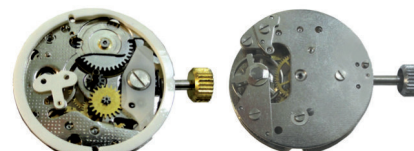
*) Men's wristwatches



Movement Variations

- Cal.24-35 Chronograph

It proved that high quality watches did not always have to be expensive. It is one of the most sought-after collector's items from Ruhla.



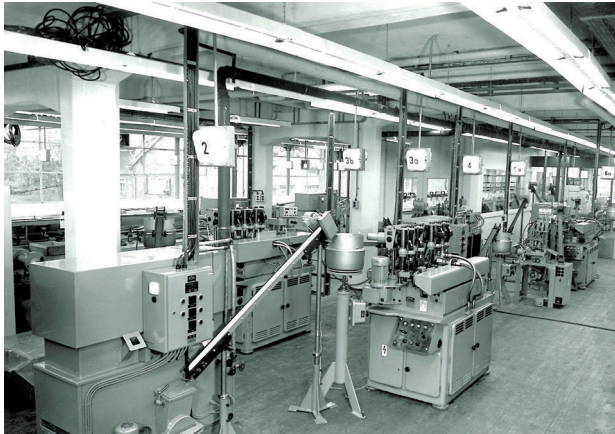
Movement Variations

- Cal.24-26 "wiggly eyes"

Children's watches with moving eyes in 15 designs were popular gifts.

1960s

The automation of movement plate production and wheel production for the Cal.24 continued until the end of the 1960s



Movement plate production 1967



Wheel production 1969

1971 - 1990

The new machine factory in Seebach

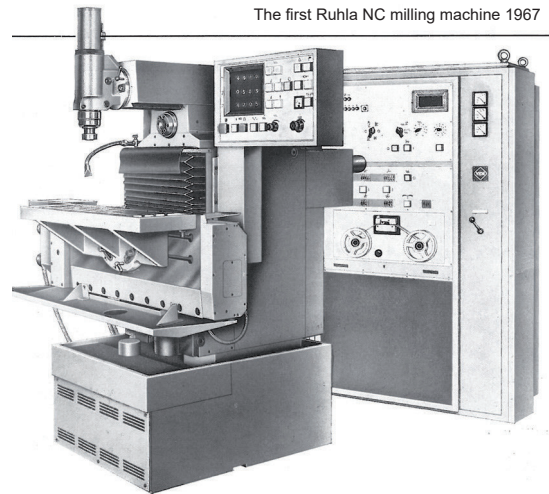
In the autumn of 1969, the GDR Council of Ministers decided on the "Seebach Major Project" to build one of the most modern machine tool factories of the time and the construction of a new residential area with associated infrastructure for around 1900 people in Seebach.

The main building of the machine factory in the 1970s



FUW 250 NC

The first Ruhla NC milling machine 1967



4th January 1971 Trial operation begins

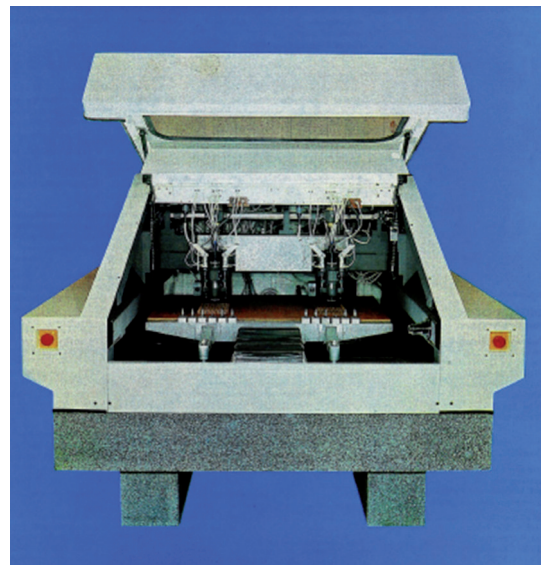
The product range consists of a series of universal tool milling machines in conventional design, milling machines with NC control and CNC machine centers.

1978

The machine factory becomes a factory for the development and production of special technological equipment for microelectronics.



The FUW C 450 NC machining centre with contouring control



An example from the range of special technological equipment: The LM - B 20 PCB drilling machine

1972 - 1978

Further automation

The continuation of automation in Calibre 24 mechanical watches and the Calibre 69/67 alarm clock.

1972

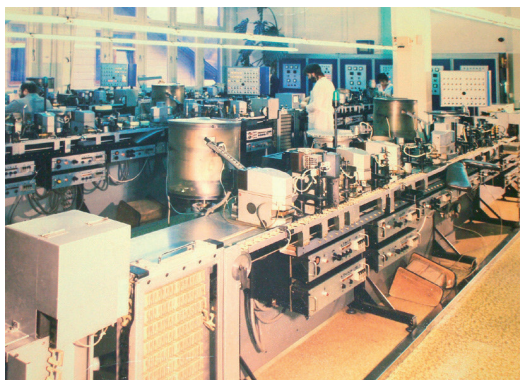
In March 1972, the automation department is expanded with the vacated buildings of the machine factory and enlarged to become the rationalisation department. This was an essential prerequisite for the automation of the production and assembly of mechanical watch models with automatic machines from this division.

1972/73

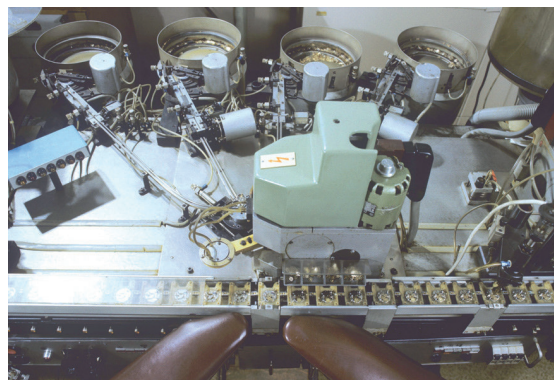
The first Calibre 24 automatic watch assembly machine goes into trial operation, a world first for wristwatch manufacturing at the time.

1974/75

In Seebach, the three automatic watch assembly machines produce the Calibre 24.



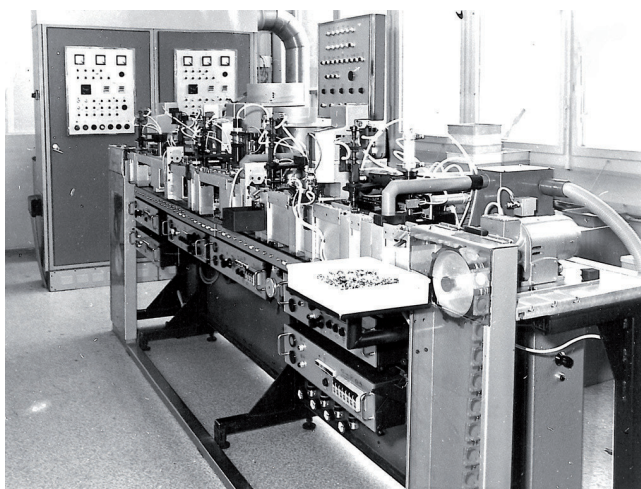
The overall system with three lines.



The assembly station of the gear train, where four running gear wheels were engaged and the movement plate was inserted.

1978

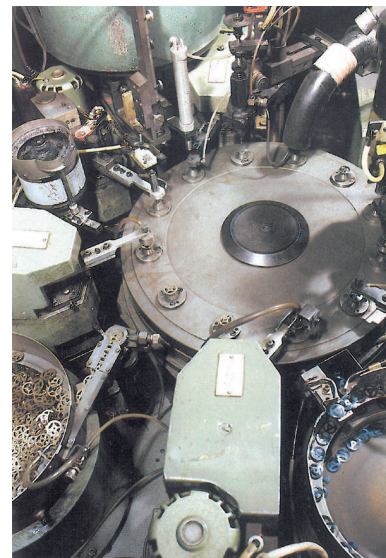
The factory assembly is completed with two automatic lines for mounting the Calibre 24 rocker.



Automatic yoke assembly Cal.24

An example from the production of the mechanical alarm clock Cal.69/67:

The minute wheel assembly machine, which has five individual parts fitted.



1976

Analogue quartz watches

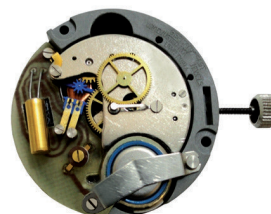
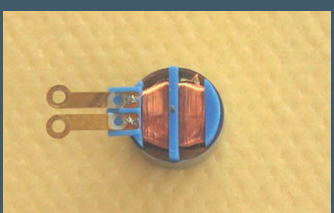
The start of production of analogue quartz watches with the first Ruhla quartz men's wristwatch Calibre 28.

In the 1970s, American electronics companies flooded the world market with fully electronic quartz watches with light-emitting diodes. For a while, the impression was created, promoted by aggressive advertising, that the analogue quartz watch was irrelevant. But the disadvantages of LED watches and the popular way of displaying time using hands confirmed the traditional watch manufacturers' assessment that the analogue quartz watch would be the main path of development. Work also continued in this direction in Ruhla. The Calibre 28 was the first series quartz watch. It was "designed into" Calibre 24 mechanical movement, which had the advantage of utilising a large number of parts.

The main focus of the new beginning was a separate stepper motor and the associated electronics on the circuit board. The cost advantages were achieved with the extremely large movement dimensions, but the Calibre 28 was nevertheless a decisive stage in the development of the company.

A total of 300,000 watches were produced.

Stepper motor



Movement Cal.28

During the space flight on 26th August 1978, the cosmonauts Valery Bykovsky and Simgund Jähn wore a special designed Calibre 28.

1978 Cal.28 in cosmonaut design

Its successor, the Calibre 14, was presented at the Leipzig Trade Fair in 1978 and replaced Calibre 28 in 1979.



1981 - 1991

Quartz watches dominate watch production

Contrary to international practice, the in-house development and processing of circuits, stepper motors and circuit boards for all quartz watches is carried out in-house due to a lack of foreign currency.

1981

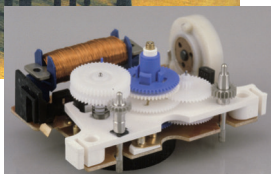
The first LCD wristwatch developed in-house, the Calibres 19 and 16 are produced.

1982

The analog quartz alarm clock Calibre 62 is created as a standard movement for alarm clocks and large clocks, is assembled on automatic factory assembly lines and is produced in quantities of up to 2 million per year until 1991.



The overall view of the automatic assembly line

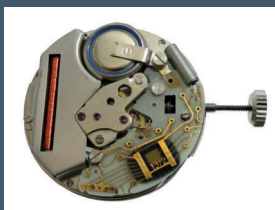


The alarm clocks as well as the wristwatches were coveted products in the GDR but also for export. Some models received awards for their good design. A short-time alarm clock received the Japanese G-MARK Design-Award.

1984

Calibre 13 becomes the standard model. It is sold and exported with great success until 1991, as the standard international movement dimensions are achieved.

Wristwatches calibre 13



Wristwatch Calibre 13

An assembly desk for the movement



1985

1985 In the LCD watches, the Calibre 15 series with four basic versions replaces the first Calibre 19 and 16 watches. The latest bare-chip processing technology allows particularly flat case designs.

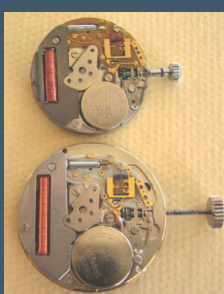
1989

The Calibres 12 and 02 with a movement height of 2.2 mm are the most sophisticated, but also the last watch developments from UWR. Until mid 1991, 50,000 movements were manufactured, after which production ended.

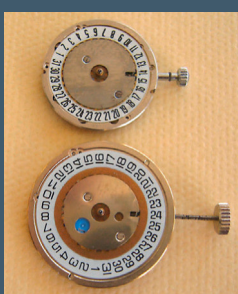
Two watch model Cal.12



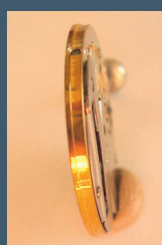
The 6-spindle NC machining centre CPW Cal.12



Cal.12 / Cal.02 back side



Dial side



Movement side view

1990

The first radio-controlled table clock

The era of the radio-controlled (RC) clocks begins in Ruhla. With the patented solution of the individual drive of the three hands the Cal.49 international is the clock with the shortest time setting after receiving the radio signal.

patented RC movement Cal.94

The clock, which also received an award for its design in 1990, is included in the international presentation of the GRASSI Museum of Applied Arts in Leipzig.



1980 - 1991

Extensive investments in buildings

1980

A new technical college is built in Seebach. Around 700 apprentices are trained each year in 16 professions, some of whom also have a high school diploma.



Seebach vocational school

1981

The new production complex for for lathe parts on Weimarer Berg goes into operation.



Apolda new lathe parts plant

1982

All services for Berlin and the surrounding area are concentrated in the new Berlin Service Center. Further training courses and apprentice training for watchmakers are also held at this location.



Service Centre Berlin

1985

The new equipment and finishes facility is completed. With a large electroplating shop and generously proportioned workrooms, the production of dials and metal alarm clock cases is improved.



Facility Equipment and surface Seebach

Environmentally friendly treatment of the electroplating waste water is ensured.

1987

The social building, which was completed in 1976, is given a new look to mark the 125th anniversary celebrations. A specially developed outdoor radio-controlled clock with analog time display, date, temperature and air pressure display showcases the capabilities of the Ruhla clockmakers.



Outdoor radio-controlled clock Ruhla

1989

The circuit factory for watch circuits and circuits for other applications starts production in three shifts in October 1989. A total of approx. 50 million have been manufactured since 1980. The scale of this investment is only comparable with the construction of the machine factory in 1971.



Circuit factory Seebach

The political change in the former GDR placed completely new demands on the management and operations of VEB Uhrenwerke Ruhla. Many years of experience in exporting to the NSW *) led to the timely realisation that the UWR company could neither be restructured nor privatised as a single unit. Even before the conversion of the former VEB into a corporation, lengthy negotiations were held in some cases with well-known watch manufacturers in Europe and Japan, with producers of machine tools and work tools, with electronics companies and with electroplating companies on the privatisation of parts of the business, on new start-ups and on the introduction of new types of products into the company.

*) non-socialist economic area

Together with the managers of the trust company, 48 companies and facilities were newly established or privatised. The number of employees transferred from the former large company totalled 2,179.

The following is a representative presentation of 5 companies/institutions for the preservation and maintenance of the industrial tradition in Ruhla and Seebach after 1990. Extensive detailed presentations of other newly founded companies beyond Ruhla and Seebach are described in the book "150 Jahre Gebrüder Thiel - Uhrenwerke Ruhla - Gardé - DECKEL MAHO Seebach" on pages 517 - 619.

(See also further information on the back cover of this documentation)

1990

DECKEL MAHO Seebach GmbH

- Foundation of MAHO GmbH in 1990
- 1994: Foundation of DECKEL MAHO Seebach GmbH as a subsidiary of the GILDEMEISTER Group
- 1995: Development of the first 5-axis milling machine
- 2002: DECKEL MAHO Seebach is awarded "Best Factory" in Europe
- 2012: Grand opening of the new technology center at the site



- In 2013 DECKEL MAHO Seebach took second place as "Best Factory" in Europe
- One brand for the world: DECKEL MAHO Seebach has been operating under the DMG MORI brand since 2013
- 2017: Grand opening of the DNG MORI Medical Excellence Center Seebach and expansion of the shipping area
- 2017: World premiere of the DMU 50 3rd Generation
- With more than 10,000 machines sold, the DMU 50 is DMG Mori's most successful machine
- 2019: Modernisation of the paint shop



DMU 50 Stealth

- DECKEL MAHO Seebach is one of the largest and most modern machine tool manufacturers in the new German federal states and is the largest employer in the region
- DECKEL MAHO Seebach can look back on 160 years of tradition



Assembly line

Founded on 1st October 1990 as a joint venture between the Trust Agency and Junghans Schramberg GmbH.

- As of 1st September 1991, Eurochron is a 100% subsidiary of Junghans Schramberg GmbH. The existing watch factory in Seebach is completely taken over as a production facility.

- Watch design, toolmaking and the rationalisation division of the former VEB are integrated into the pre-production development of new products for the global market.



Entrance area with four-sided Eurochron radio-controlled exterior clock W718

- The main products are analogue and digital radio-controlled alarm clocks and radio-controlled wristwatches as well as analogue quartz and radio-controlled wall clocks, but also a wide range of mechanical short-time clocks. Another business segment is an analogue radio-controlled office and outdoor clock developed and manufactured in Eurochron with the in-house developed movement W718.
- Eurochron Seebach evolves into a centre of radio-controlled alarm clock development and production within the group of companies and during this time is the market leader in Europe for radio-controlled alarm clock ranges in terms of technology and design.

Examples from the EUROCHRON watch programme



RC alarm clock for Tchibo



Radio-controlled (RC) wall clock



RC weather station



RC weather station



Quartz travel alarm clock for Aldi

- The strongest sales drivers are radio-controlled alarm clocks with 23.3 million units, followed by 13.4 million quartz clocks. However, a total of 4.1 million radio-controlled wristwatches, 4.9 million radio-controlled wall clocks and 3.7 million timers are also produced.



Radio-controlled wristwatches



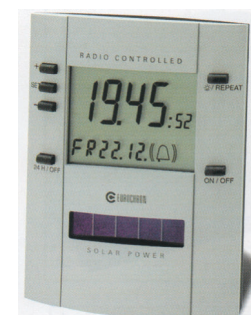
Digital RC alarm clock for



Radio weather station for the Junghans brand



Quartz travel alarm clock and LCD RC alarm clock for Aldi



Digital RC alarm clock with solar



Digital RC alarm clock



Kitchen timer



Radio-controlled wall clock

- In addition to the volume business with major customers such as ALDI, LIDL and TCHIBO, where the watches are sold under the customers' own brands, Eurochron also develops and manufactures quartz and radio-controlled alarm clocks, radio-controlled weather stations, radio-controlled wristwatches and mechanical kitchen timers under the Eurochron and Junghans brands.

- From 2003, the economic situation deteriorates and leads to the company's insolvency in 2010.

1991 Gardé Watches and precision mechanics Ruhla GmbH

- Founded on 1st October 1991 as an MBO company.
- Four employees of VEB are the founders of this purely East German company without West German capital.
- Particularly in the early years, the existence of a high level of technical expertise and knowledge in the realisation of technical production issues among employees is crucial for the continued existence of the company.
- Gardé becomes a pioneer in the application of modern modern technologies in the machining and manufacture of precision mechanical parts, assemblies and products.
- As early as October 1991, the lucrative business of milling the cavity in telephone cards is realised; seven well-known companies from this sector have their telephone cards processed by Gardé in millions of units.



Comany view

- In September 1993 the company's own product, a time switch with an appealing design, is manufactured. Chinese Plagiarism forces production to be discontinued in 1999 for price reasons after a total of over 1.6 million clocks have been sold.



Timer assembly system

- The banks extend the first loans in March 1994, 30 months after the company is founded. At this time, 72 people are already employed.
- The new radio-controlled wristwatch developed in the Ruhla region is presented at the 1995 Basel Watch Fair. This watch will become a seminal timepiece for the coming years and is exported throughout Europe, to the USA and to Japan.
- In watchmaking, a number of niche products are of economic importance: These include chess clocks in mechanical, hybrid and fully electronic versions, animal detection with a 24-hour display and wristwatches for the blind.

Examples from the Gardé watch programm



Electromechanical chess clock



Gardé multifunction RC clock



Gardé RC wristwatch



Animal detecting clock



DM-watch



Junkers Chronograph for Point Tec



Population warning clock

- Founded on 1st August 2019, as a wholly owned subsidiary of Point Tec Electronic GmbH Ismaning-Munich.
- Acquired from the insolvency estate of Gardé GmbH:

The listed building

(built in 1929 in the Bauhaus style)

The Ruhla Clock and Watch Museum

The museum depot

Technical documentation

Text and image trademarks

- All employees who were involved in watch production, museum support and service tasks will be transferred to the new limited company from 1st August 2019
- The employees who were taken on completed a solid and professional watchmaking training program by the beginning of 1990
- An automatic Bauhaus watch assembled in Ruhla receives the 2021 GERMAN DESIGN AWARD for outstanding design



The illustration shows the model that won the GERMAN DESIGN AWARD 2021

- Clocks with the UMF logo designed in 1953 will be fitted from 2021
- The company exclusively assembles watches with the "Made in Germany" seal for the **Zeppelin**, **Bauhaus**, **Iron Annie**, **Ruhla 1929** und **UMF**.
- Movements are only assembled by reputable manufacturers such as ETA, Sellita, Ronda, Seiko or Citizen/Miyota.



The managing directors Nathalie and Willi Birk receiving the GERMAN BRAND AWARD 2019



Reconstructed watch assembly



Zeppelin „100 years Zeppelin“



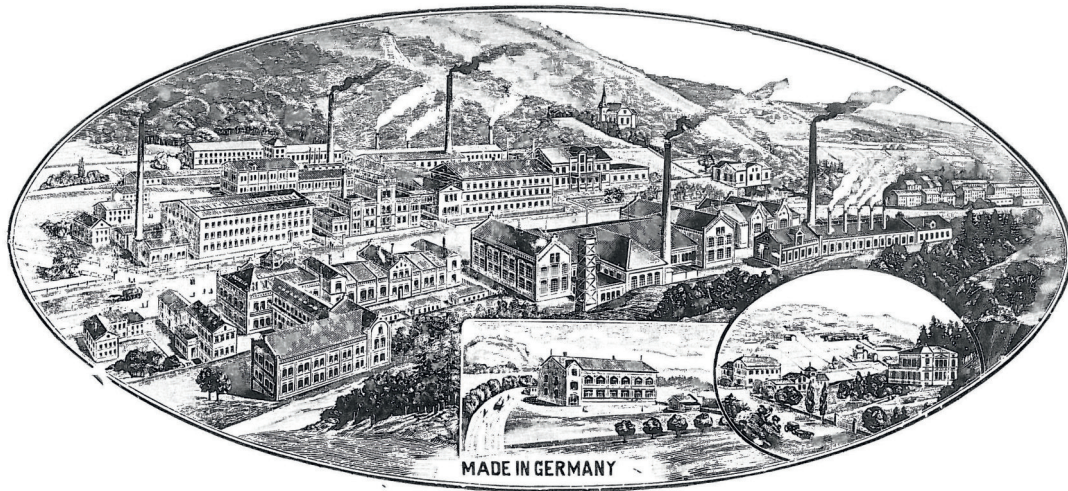
Iron Annie Flight Control



Zeppelin Atlantic



Ruhla 1929 Mine Diver



View of the Thiel watch factory at the end of the 19th century



Further details can be found in the book "150 Jahre Gebrüder Thiel - Uhrenwerke Ruhla - Garde - DECKEL MAHO Seebach", which can be purchased online via the website of the Förderverein Uhrentradition Ruhla e. V. or directly from the Ruhla Clock Museum.

www.uhrentradition-ruhla.de

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Page 09 Quartz clock white, right image.: Bernd Stegmann; Ruhla

Page 10 UWR view with radio-controlled outdoor clock: Ulrich Windoffer; Leipzig / Radio-controlled table clock and movement Kal.49: Bernd Stegmann; Ruhla

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Page 12 Digital radio-controlled alarm clock TCM: Bernd Stegmann; Ruhla / Further product images from Eurochron-catalogue

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