

175 years of KERN & SOHN

250 years of balance manufacture in the Sauter family

A success story in eight generations

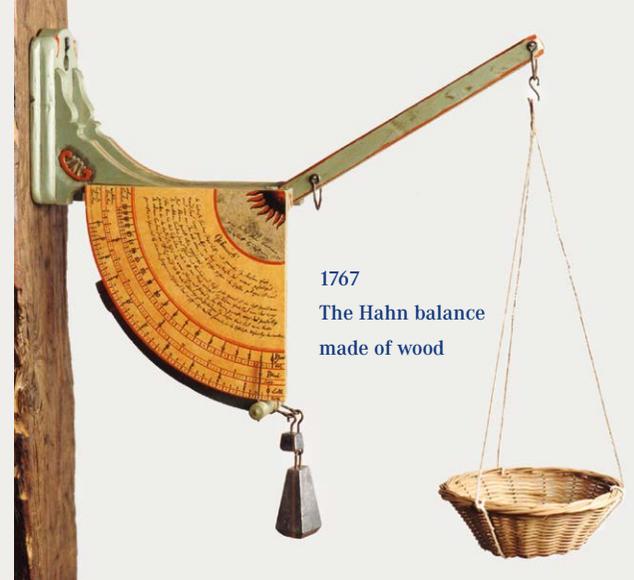




Martin Sauter
Senior Director



Philipp Matthäus Hahn,
Pastor and Engineer from
Württemberg,
*1739 - †1790.
Builder of astronomic clocks,
calculating machines and
balances. He was the pioneer
for the future balance indus-
try in our region.



1767
The Hahn balance
made of wood

Already quite strange – the history of the foundation of the company started with a young village pastor ... Martin Sauter tells:

“What are you doing there – technical wizardry has no place in a rectory!”

Cautionary words 250 years ago from the church authorities to the Swabian Pastor Philipp Matthäus Hahn in the remote Swabian mountain village of Onstmettingen (Albstadt-Onstmettingen today). Because he was in the process of building an astronomic clock, which was the most intricate and beautiful in all of Württemberg. Amazingly enough, it was the village blacksmith, my five times great grandfather, **Jakob Sauter I** who helped him.

It was through this that the pastor invented something else:

An "automatic balance" for tradesmen. The weight can be read directly from the pointer, a complete innovation. The first products were made completely of wood, but their load capacity of up to 20 pounds was somewhat modest. The balance

needed to be made of iron, then you would be able to weigh 100 pounds and more. Now it's the turn of our village blacksmith and Hahn employee - **Jakob Sauter I. 1769** and it arrived, the Hahn balance made of iron, which you could use to weigh up to 200 pounds. A foundation stone for weighing – the inclination scale – was born. It had a long life. You will know it as the dial scale in the corner shop.

From that point balance manufacture has never left our Sauter family. The sons followed the fathers.

A few years later: In the meantime Pastor Philipp Matthäus Hahn became famous from both a theological as well as a technical point of view. One day the call of a scholar caught his attention: “Why not

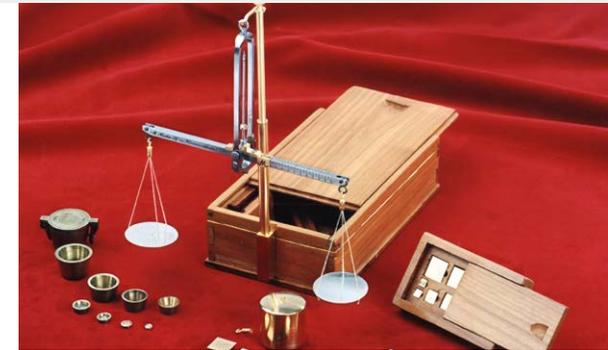
turn your attention to work out how we can determine the quality of the wine right at the time of the harvest.” In the small area of Württemberg not only did they work hard at drinking the wine, they also worked hard



With his precise balance, Hahn measured the specific weight of the unfermented wine must

to sell it as an export. Even in those days it was a quality issue. After a long search, in **1774** he found the solution in a small, extremely precise beam balance with a sensitivity of a 50th part of pin, i.e. almost a thousandth of a gramme. This level of accuracy

General hydrostatic balance
from 1774



had never been seen in Southern Germany before! This marvel in precision sank in the turmoil of the Napoleonic wars and was almost forgotten. But the main concept never completely disappeared, our masterpiece gradually found a new lease of life as a pharmaceutical and chemical balance.

Someone who understood this very early on was my three times great grandfather **Simon Sauter**, son of the village blacksmith we already know, **Jakob I**. From **1820** the moment arrived when Simon was finding an emerging customer base for his “fine weighing beams”, today we call them precision balances.

1769

Jakob Sauter

Jakob Sauter I

*1743 - † 1805

First generation

A clever village blacksmith became a balance manufacturer

You already know our ancestor **Jakob Sauter I** from the previous story of the founding of the company. He was a competent blacksmith and forged automatic balances for his pastor, graded the scale and adjusted to the correct weight.

Every balance was a one-off and adapted to suit the customers' requirements. He was the first balance manufacturer in the Sauter family.

Wooden lathe from around 1770



Everything under one roof: Living - Workshop - Agriculture



1769
Hahn's iron balance by Jakob Sauter I

1768
Home clock manufactured by Jakob Sauter I

His sons became top engineers

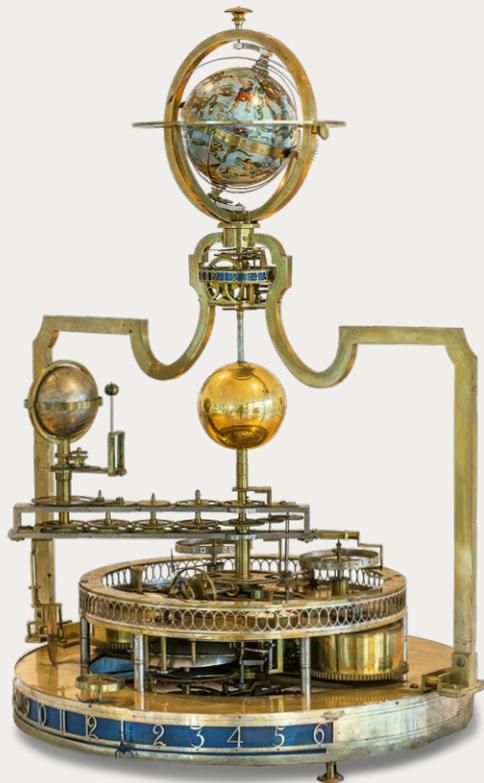
At the same time, **Jakob Sauter I** became a clock maker and precision engineer and trained three sons to become excellent engineers. With the Napoleonic wars Württemberg became noticeably impoverished and **his sons Jakob Sauter II**

and **Johannes Sauter** were forced to emigrate. Their outstanding achievements in fine mechanics were made in Sweden and France. An enormous amount of know-how was lost to the hometown.

Just one son, **Simon Sauter**, remained faithful to his hometown of Onstmettingen.



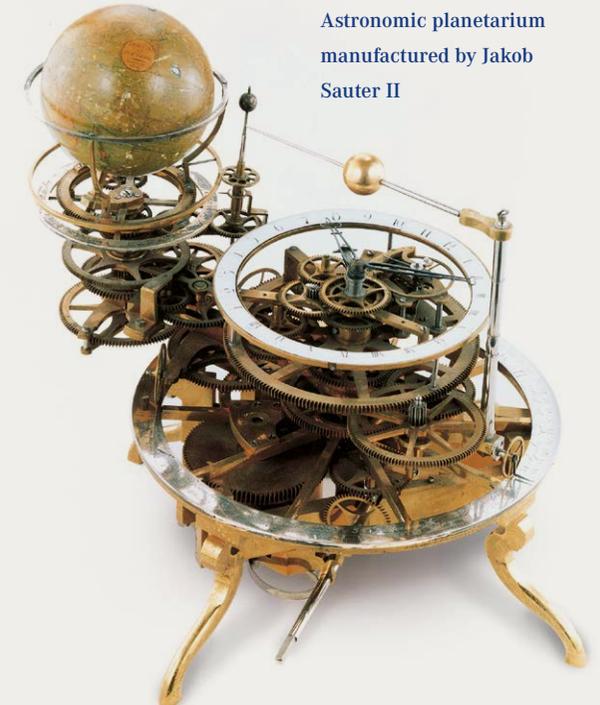
Around the year 1810
Chemical balance, built by son Jakob Sauter II,
Stockholm – for the Swedish chemist, Berzelius



1808
A technically-gifted family: Astronomic globe clock,
manufactured by Johannes Sauter, Strasbourg



Around the year 1800
Calculating machines manufactured
by Johann Jakob Sauter II, Stockholm



Around the year 1810
Astronomic planetarium
manufactured by Jakob
Sauter II

1820

Simon Sauter

Simon Sauter

*1784 - †1831

Second generation

The daredevil – the man with the “fine weighing beams”.

After 1812 the dreadful Napoleonic time slowly drew to a close, trade and commerce recovered in small steps. **Simon Sauter** took over the workshop of his father, Jakob I and became the standard bearer of a new business. First he built an elaborate clock

as a masterpiece, which proved his skill as a perfect clock maker and mechanical specialist. Around the year 1820 he was ready and offered “**fine weighing beams**” through wholesalers and trading companies.

1820
Lathe of a precision
engineer



Around the year 1825
Clocks made by
Simon Sauter



1820
Table clock with many
functions: Date display,
ringing of bells for going to
church and devout hymns
sounding from a musical
cylinder.

Simon Sauter's
home in
Onstmettingen



The super accurate balance from Pastor Hahn from 1774 is recreated. The times were good, which meant that he was soon able to dedicate himself, with his three sons, to balance manufacture, or more precisely, precision balance manufacture.

The remote village of Onstmettingen became the nucleus of a specialty that was unimaginable at the time. It is almost a miracle, that in this mountain village, located far away from universities and long before the industrial need, such precise balances were made.



Simon Sauter's hymnbook with dedication from 1814:

"If you buy iron and wire and do not forge with it, then you are not a blacksmith; if you have a book and don't read from it, – and don't follow what you have read, then the result will be p – ? (punishment) Read, pray and follow"



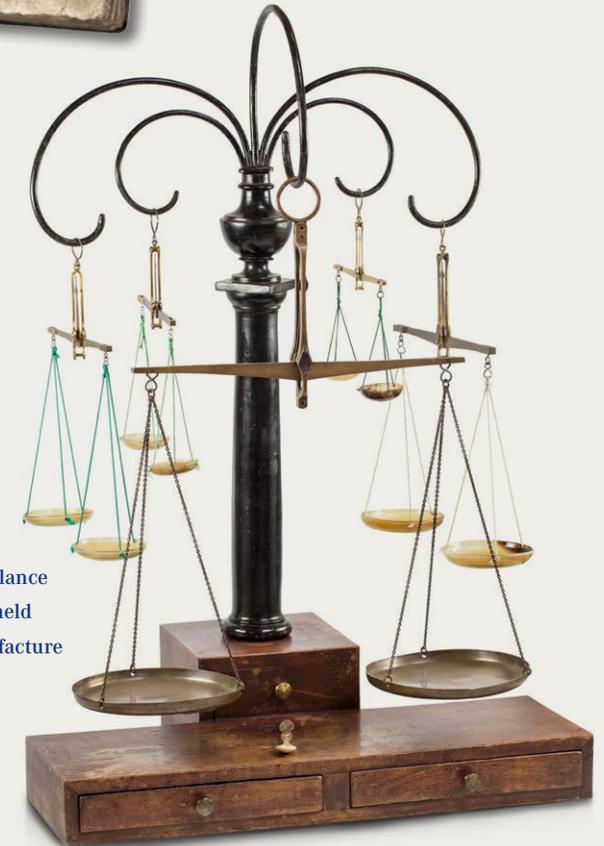
Around the year 1825 Hahn's balance in wall-mounted version for the mail from Thurn & Taxis.

Around the year 1810 Hahn's balance in wall-mounted version



Around the year 1830 Precision balance. This design principle remains current for over 200 years

1825 Pharmaceutical balance stands with hand-held scale for the manufacture of medicines



1831

J. Sauter, Profenbild. 22
M. Sauter

Jakob Sauter III

* 1808 - † 1844

Matthäus Sauter

* 1818 - † 1846

Third generation

M. Sauter Profenbild.

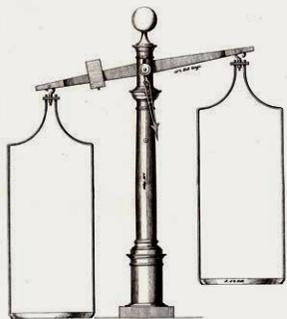
In spite of a good order situation, there were hard times within the company

The precision balance business thrived, two sons of Simon, **Jakob III** and **Matthäus** took over the business. Tragedy of fate: both died one after the other, neither having reached the age of forty.

The business had no leader, passing it on within the Sauter family seemed to be impossible, at first. There was a risk of having to shut down. The fate of the workshop hung by a thread.



Around the year 1840, workshop equipment in the balance museum, Balingen



Tare balance for pharmacists, exhibited by Johann Jakob Sauter III at the Art and Industry exhibition in Stuttgart in 1842

PREIS-LISTE
 von
MECHANISCHEN GEGENSTÄNDEN,
 welche bei
M. SAUTER IN ONSTMETTINGEN
 verfertigt werden.

Wagen auf Stahl oder Carzeel laufend, von Messing genau und fein gearbeitet, ganz fertig oder zum putzen sehr bequem eingerichtet.

Länge der Balken, französische Messung		auf Stahl	auf Carzeel
Zoll	20	15	10
24	18	12	8
28	16	10	6
32	14	8	4
36	12	6	3
40	10	4	2
44	8	3	1
48	6	2	1
52	4	1	1
56	3	1	1
60	2	1	1

Auf Verlangen werden zu den Balken auch messingene Schalen mit Ketten zu billigen Preisen verfertigt.

Tarrierwagen
 welche 1 Genz genau angegeben mit messingenen Schalen und Sättel, ganz fertig oder zum putzen sehr bequem eingerichtet 7 36

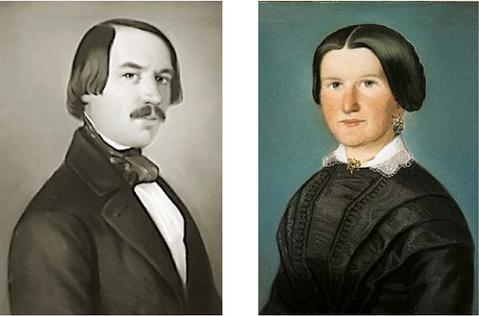
Hand- und Granwagen
 mit ganz feinen Hornschalen.

Nr.	Balkenlänge	10 Zoll	12 Zoll	14 Zoll	16 Zoll
1.	10	3	4	5	6
2.	12	4	5	6	7
3.	14	5	6	7	8
4.	16	6	7	8	9
5.	18	7	8	9	10
6.	20	8	9	10	11
7.	22	9	10	11	12
8.	24	10	11	12	13
9.	26	11	12	13	14
10.	28	12	13	14	15
11.	30	13	14	15	16
12.	32	14	15	16	17
13.	34	15	16	17	18
14.	36	16	17	18	19
15.	38	17	18	19	20
16.	40	18	19	20	21
17.	42	19	20	21	22
18.	44	20	21	22	23
19.	46	21	22	23	24
20.	48	22	23	24	25
21.	50	23	24	25	26
22.	52	24	25	26	27
23.	54	25	26	27	28
24.	56	26	27	28	29
25.	58	27	28	29	30
26.	60	28	29	30	31
27.	62	29	30	31	32
28.	64	30	31	32	33
29.	66	31	32	33	34
30.	68	32	33	34	35
31.	70	33	34	35	36
32.	72	34	35	36	37
33.	74	35	36	37	38
34.	76	36	37	38	39
35.	78	37	38	39	40
36.	80	38	39	40	41
37.	82	39	40	41	42
38.	84	40	41	42	43
39.	86	41	42	43	44
40.	88	42	43	44	45
41.	90	43	44	45	46
42.	92	44	45	46	47
43.	94	45	46	47	48
44.	96	46	47	48	49
45.	98	47	48	49	50
46.	100	48	49	50	51
47.	102	49	50	51	52
48.	104	50	51	52	53
49.	106	51	52	53	54
50.	108	52	53	54	55
51.	110	53	54	55	56
52.	112	54	55	56	57
53.	114	55	56	57	58
54.	116	56	57	58	59
55.	118	57	58	59	60
56.	120	58	59	60	61
57.	122	59	60	61	62
58.	124	60	61	62	63
59.	126	61	62	63	64
60.	128	62	63	64	65
61.	130	63	64	65	66
62.	132	64	65	66	67
63.	134	65	66	67	68
64.	136	66	67	68	69
65.	138	67	68	69	70
66.	140	68	69	70	71
67.	142	69	70	71	72
68.	144	70	71	72	73
69.	146	71	72	73	74
70.	148	72	73	74	75
71.	150	73	74	75	76
72.	152	74	75	76	77
73.	154	75	76	77	78
74.	156	76	77	78	79
75.	158	77	78	79	80
76.	160	78	79	80	81
77.	162	79	80	81	82
78.	164	80	81	82	83
79.	166	81	82	83	84
80.	168	82	83	84	85
81.	170	83	84	85	86
82.	172	84	85	86	87
83.	174	85	86	87	88
84.	176	86	87	88	89
85.	178	87	88	89	90
86.	180	88	89	90	91
87.	182	89	90	91	92
88.	184	90	91	92	93
89.	186	91	92	93	94
90.	188	92	93	94	95
91.	190	93	94	95	96
92.	192	94	95	96	97
93.	194	95	96	97	98
94.	196	96	97	98	99
95.	198	97	98	99	100
96.	200	98	99	100	101
97.	202	99	100	101	102
98.	204	100	101	102	103
99.	206	101	102	103	104
100.	208	102	103	104	105
101.	210	103	104	105	106
102.	212	104	105	106	107
103.	214	105	106	107	108
104.	216	106	107	108	109
105.	218	107	108	109	110
106.	220	108	109	110	111
107.	222	109	110	111	112
108.	224	110	111	112	113
109.	226	111	112	113	114
110.	228	112	113	114	115
111.	230	113	114	115	116
112.	232	114	115	116	117
113.	234	115	116	117	118
114.	236	116	117	118	119
115.	238	117	118	119	120
116.	240	118	119	120	121
117.	242	119	120	121	122
118.	244	120	121	122	123
119.	246	121	122	123	124
120.	248	122	123	124	125
121.	250	123	124	125	126
122.	252	124	125	126	127
123.	254	125	126	127	128
124.	256	126	127	128	129
125.	258	127	128	129	130
126.	260	128	129	130	131
127.	262	129	130	131	132
128.	264	130	131	132	133
129.	266	131	132	133	134
130.	268	132	133	134	135
131.	270	133	134	135	136
132.	272	134	135	136	137
133.	274	135	136	137	138
134.	276	136	137	138	139
135.	278	137	138	139	140
136.	280	138	139	140	141
137.	282	139	140	141	142
138.	284	140	141	142	143
139.	286	141	142	143	144
140.	288	142	143	144	145
141.	290	143	144	145	146
142.	292	144	145	146	147
143.	294	145	146	147	148
144.	296	146	147	148	149
145.	298	147	148	149	150
146.	300	148	149	150	151
147.	302	149	150	151	152
148.	304	150	151	152	153
149.	306	151	152	153	154
150.	308	152	153	154	155
151.	310	153	154	155	156
152.	312	154	155	156	157
153.	314	155	156	157	158
154.	316	156	157	158	159
155.	318	157	158	159	160
156.	320	158	159	160	161
157.	322	159	160	161	162
158.	324	160	161	162	163
159.	326	161	162	163	164
160.	328	162	163	164	165
161.	330	163	164	165	166
162.	332	164	165	166	167
163.	334	165	166	167	168
164.	336	166	167	168	169
165.	338	167	168	169	170
166.	340	168	169	170	171
167.	342	169	170	171	172
168.	344	170	171	172	173
169.	346	171	172	173	174
170.	348	172	173	174	175
171.	350	173	174	175	176
172.	352	174	175	176	177
173.	354	175	176	177	178
174.	356	176	177	178	179
175.	358	177	178	179	180
176.	360	178	179	180	181
177.	362	179	180	181	182
178.	364	180	181	182	183
179.	366	181	182	183	184
180.	368	182	183	184	185
181.	370	183	184	185	186
182.	372	184	185	186	187
183.	374	185	186	187	188
184.	376	186	187	188	189
185.	378	187	188	189	190
186.	380				

1844

Gottl. Kern, Mannheim

The brand KERN stems from Gottlieb Kern



Gottlieb Kern with wife Auguste, previously Sauter

Gottlieb Kern

* 1819 - † 1886

Now it was the time for **Gottlieb Kern**. He came into the Sauter workshop as a newcomer and married the widow of Matthäus Sauter and became an attentive stepfather to Albert Sauter, the newborn son. The workshops grew, in 1863 with

9 employees, **Gottlieb Kern** was already a large company in Württemberg from a tax point of view. Serial production of precision balances began. The **GOTTLIEB KERN & SOHN** brand name was known at home and abroad.

1863

Gottlieb Kern (sitting at the front) with his engineers



1851

Gottlieb Kern created the first German letter scale, at the same time as the first stamp appeared in the Kingdom of Württemberg. The principle of the dial scale from Pastor Hahn was unmistakable.



Around the year 1860, Analytical balance for delicate weighing procedures



1847

Balance on the Béringer principle, so-called English balance, first commercial product from Gottlieb Kern



Invoice from 26 June 1874

1870

Albert Sauter

Albert Sauter

* 1846 - † 1913

Fourth generation

From the workshop to the factory

Albert Sauter entered the business in 1870. He got on well with his stepfather, Gottlieb Kern. The company name was changed to Gottl. Kern & Sohn (actually stepson). He brought in mechanisation wherever he could. The investment

required for new machines was high, it makes Gottlieb Kern proclaim: "Albert - we'll end up going to auction". But this didn't happen, KERN, with 22 employees, became one of the largest precision balance manufacturers in Germany.

1890, Albert Sauter, Councillor of Commerce



New business premises and home, 1885/86 in walking distance of the Ebingen railway station. The production building extends to the rear.



1904, Councillor of Commerce, Albert Sauter (third from the right) was elected to the committee of the Chamber of Commerce with the largest number of votes.



1880
Pharmaceutical tare balance with Aesculapian scale



1874
First balance catalogue

The wild year of 1871. The old Württemberg weight units such as the Lot and pound became obsolete. The modern metric units with gramme and kilogramme gained legal status. Orders flooded in. Gottlieb Kern and Albert Sauter are hardly able to cope with the flood of orders, they can initially handle only half of all orders.

with wife Julie Sauter,
née Landenberger



1885, it was now time for the move from Onstmettingen to the new premises in neighbouring Ebingen, Altstadt-Ebingen today, as there was a new railway there. After the death of Gottlieb Kern, Albert Sauter then was the sole owner, as there were no

successors in the Kern line. Albert Sauter was not only a business man, but also one of the most active citizens in the town of Ebingen. In 1902 he was awarded the title of Councillor of Commerce by the Württemberg King.



Around the year 1900, a gas engine ran the individual machines in the production hall through a transmission on the ceiling by means of leather straps



1910
Opel type 6/14
(14 = 14 PS)
First car in the Sauter family.
First driver: Amazingly, Frida Jung née Sauter, the daughter of Albert Sauter



Inscription on the wall in Albert Sauter's garage
"God as the leader, luck as a companion."

1902

Gustav Sauter

*1870 - † 1954

Fifth generation

Gustav Sauter

Trying times were on the horizon

German industrialisation gained tremendous momentum, balance manufacturers sprang up all over the place. Everyone was undercutting everyone else so terribly that even the customers urged the manufacturers to take more care with quality. In desperation

the Reutlingen Chamber of Commerce wrote in 1902: *“There is nothing else we can do other than hope that an angel comes down from heaven to help.”* Macabre enough, it wasn't an angel that came to help, but the First World War.

1896, Gustav Sauter with wife Helene, née Keller



1888
Gustav Sauter, member of one of the first cycling associations, “Germania” in Stuttgart



1921, Family of Gustav Sauter



1904, entrepreneurial family of Gustav Sauter with staff



1895
Helene Sauter with sister-in-law Frida Jung, née Sauter

The military discovered the balance industry and ordered hospital scales, powder balances, and eventually rifle and detonator parts.

Gustav Sauter survived the turmoil of the First World War and the troubled times of



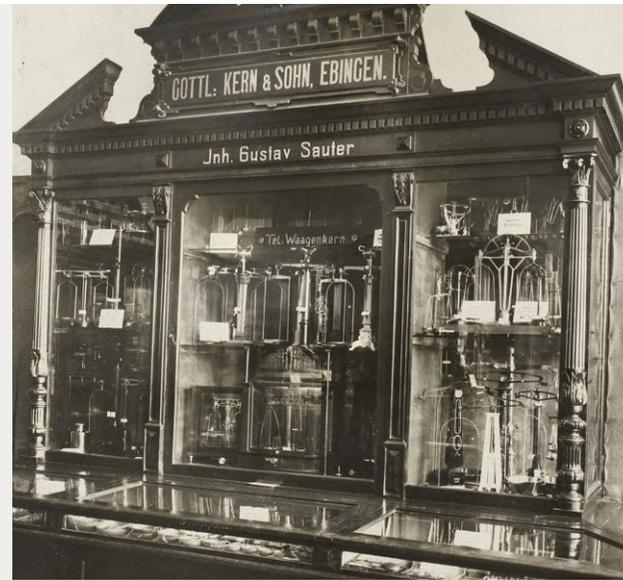
1923, printing their own banknotes helped get over the worst times during the period of inflation

inflation which followed. To pay the wages he printed the money on packing paper himself.

After the war it was a new era: In 1918 women gained entry to the balance

factories for the first time. Tariff partnership was born, there were months of strikes and lockouts about standard wages. With the 8-hour day which was won, working time was reduced down to 48 hours.

1900
Exhibition cabinet for
global exhibitions



1915
Powder balance for automatic
filling of powder to a precise
weight



November 1918, Union meeting in Ebingen



1924
GOTTL. KERN & SOHN,
picture from the sales
catalogue at the time

1932

Paul Sauter

Paul Sauter

*1899 - †1944

Sixth generation

Walter Sauter

*1908 - †1944

Walter Sauter

Construction, war and a bad ending

Right in the middle of the severe economic crisis in the Weimar Republic, sons **Paul** and **Walter** took over the succession from their father Gustav Sauter. The commercial world seemed to stand still – KERN's turnover fell by 50%. After 1933, the few years of peace

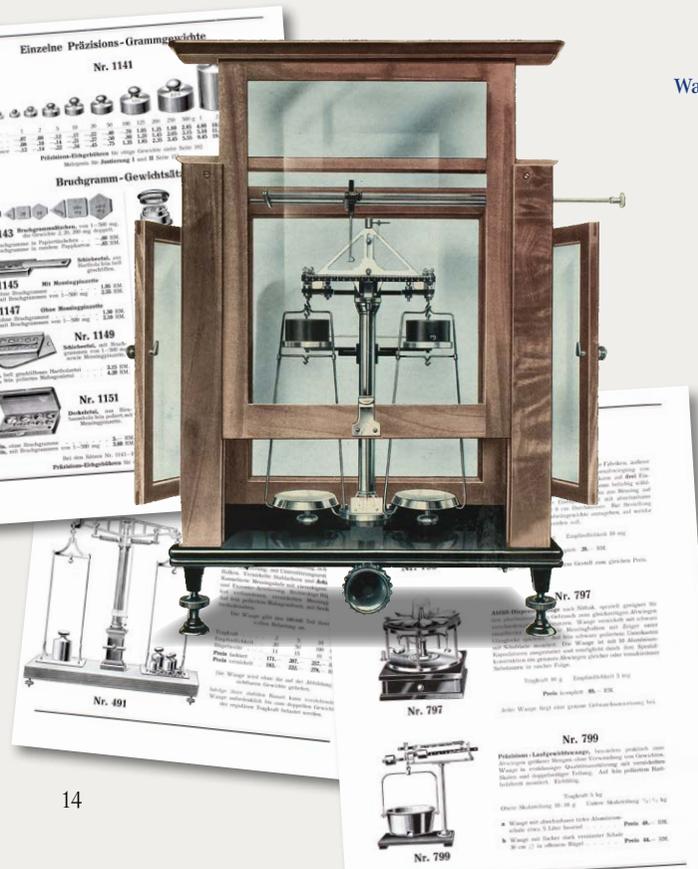
Paul Sauter



Walter Sauter

were used intensively. But soon the fine mechanical businesses had to be converted to making military equipment – whether they wanted to or not. In 1944 both company owners were killed by an air raid on the company. Again the fate of the company is hanging by a thread.

Selection from the catalogue of 1933.
The leading product, analytical balance in glass cabinet



1938
Walter Sauter with
Mercedes 170 V



1940
Walter and
Ruth Sauter



1944, Administrative and residence buildings after the air raid



1944

Else Sauter

* 1902 - † 1965

After this catastrophe, the sister of the two brothers, **Else**, made every effort to make sure that the business continued, as she wanted to keep it for the children of Walter Sauter. This was a success to an extent, however the economic growth



Else Sauter

period in the 1950s which was so prosperous, passed GOTTL. KERN & SOHN by. Businesses were in decline, one survived on its capital, from economic miracle no trace. With a baking and diet scale, there was an attempt at a fresh start.



1945
Carbide lamp, made from the base of a balance column



1945
GOTTL. KERN & SOHN employees kept the company afloat by manufacturing tool kits for plasterers



1954
Diet and baking balance - manufactured for Dr. Oetker

1960

Martin Sauter

* 1938

Seventh generation

KERN is back in the game

Martin Sauter, at the age of 22, son of the deceased Walter Sauter took on a task which was not straightforward. It didn't look good, the product range was completely outdated and needed to be fully re-vamped. After hard years of development, KERN was

ready for mechanical balances and business started to pick up again. But the joy was shortlived, in the 1970s the mechanical age fell victim the age of electronics, a painful break. Once again, a fresh start, which succeeded with the help of globalisation.



Around the year 1976 Entrepreneur Martin Sauter with son Albert on his arm, together with operations manager Erwin Zizmann in the laboratory



Around the year 1970 Assembly line for balance assembly of model 110

1977 Anniversary celebration. From left to right: Council chairman - Johannes Klaiber, Robert Ströhlin celebrating his 25 years' service, Managing Director, Martin Sauter



Aerial photograph from 1980 - KERN manufactured right in the middle of the town of Albstadt-Ebingen up to 1999



1994

Martin and wife Dr. Marijke Sauter, née Heimke

In addition, along came high-quality metrological test services such as the calibration of balances and weights (DKD). KERN was then growing substantially and Martin Sauter was actively supported by his wife Dr. Marijke Sauter in sales and financial accounting.



1985

Entrepreneurial family Martin and Marijke Sauter in the inner courtyard of the company in Albstadt-Ebingen

The Ebingen factory created by the great grandfather and grandfather, in the middle of the Ebingen city centre, becomes too small and so, in the year 2000 the factory moved to a new building in Balingen.



Around the year 1965 Mid-pan analytical balance, model 110

Top-pan precision balance from 1977, the first electronic generation of KERN 810



1970 Sliding weight precision balances KERN 150



Since 2000, KERN in the Ziegelei in Balingen-Frommern

from 1974, the new European OIML weights: Together with the Physikalisch Technischen Bundesanstalt (PTB - German metrology institute) pioneering work with the introduction of the most accurate Class E2

2003

Albert Sauter

* 1975

Eighth generation

Heading for new shores

At the beginning of the new millennium, **Albert Sauter**, the oldest son of Martin Sauter, came into the business. During these years the classic precision balance range was expanded significantly to include industrial balances.

In 2008 there was further diversification and an impressive range of medical balances was launched. Six years after that, a new, promising segment was introduced: Microscopes and refractometers.



SAUTER

Wenn Kraft auf Präzision trifft ...

www.sauter.eu

SAUTER SVM SAUTER® Messwaage Prüfstand bis 5.000 N € 990,-	SAUTER TVL Die Waage für „Aufbauhand“ Prüf- und Gegenmessung € 230,-	SAUTER FA Die Waage für mechanische Kraftmessung € 200,-	SAUTER FT Prüfwaage für alle Kraftmessungen mit einfacher Bedienung ab € 230,-	SAUTER FH Die Waage für alle Anwendungsbereiche ab € 230,-	SAUTER GmbH Kernstr. 1 74504 KERN Tel.: +49 (0) 7141 108-100 Fax: +49 (0) 7141 108-200 www.sauter.eu
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MECHANISCHE KRAFTMESSGERÄTE • DIGITALE KRAFTMESSGERÄTE • PRÜFSTÄNDE • DRUCKER & ZUBEHÖR • KALIBRIERLEISTUNGEN • FEDERPRÜFSYSTEME • TÜRTESTER

SAUTER force-measuring devices – Advert from 2006



KERN management team and others on the occasion of the retirement of the long-serving works manager Elmar Hauschel

Since 2014, microscopes and refractometers have been available through KERN Optics



2006
The start of the SAUTER force-measuring device range



From 2008
Medical balances complement KERN's line of business





2013, Albert Sauter
with wife Jessica Sauter, née Kümmel

Once again, space was getting tight at KERN & SOHN, so in 2014-2015 the site in Balingen was significantly extended, with the addition of a multi-function building and a high-bay warehouse with 100,000 storage locations.

Investment in the future: KERN in the anniversary year of 2019, with building extension and state-of-the-art, fully-automated high-bay warehouse

With the founding of SAUTER GmbH, Albert Sauter re-invigorated the traditional family name and, under the KERN umbrella, offered measuring devices for force, hardness and layer thickness.



2014 - 2015, Construction site in the Ziegelei in Balingen-Frommern



11.06.2016, Sauter family tour with the Balingen mayors on a works open day



2018, Albert and Jessica Sauter with their daughters



Another little anniversary:

25 years of the calibration laboratory at KERN & SOHN

The beginning of 1944 was not easy: Clearing the high hurdle of accreditation in accordance with DIN EN 45001 (today DIN EN ISO/IEC 17025:2005) in the German calibration service DKD (today DAkkS = Deutsche Akkreditierungsstelle (German accreditation body)), was an important step for us, as the benefit for our customers is so great:

- DAkkS calibration certificates open doors, with no ifs or buts, to Quality Management Systems such as, for example, the DIN EN ISO 9000 family of standards.
- For DAkkS-tested measuring devices, you can be sure that the measuring results fully comply with internationally-recognized regulations.
- In this way, the metrological requirements specified in a certified company's management system for test equipment are fulfilled.

DAkkS calibration of balances

Our calibration services range from high-precision analytical balances through to floor scales for 6,000 kg. With crane scales we calibrate up to 50,000 kg.

Together with the calibration we can offer you a wide range of further services:

Usage accuracy (process accuracy)

The user should be certain that he has taken the influencing factors at the location of measurement and when carrying out the measurement into account properly.

Minimum weight of sample

What is the lightest item you can weigh on your balance, while still achieving accurate and reliable weighing results?

Installation qualification (IQ)

Commissioning of the balance including the correct documentation.

Maintenance qualification (MQ) Ensuring that maintenance is out professionally from a technical point of view and is properly documented and ensuring accurate measurement.

Operating qualification (OQ)

Checking all the parameters which determine the performance of the measurement process. This also includes user training.

Performance qualification (PQ)

The PQ is the documented proof that, in the selected application, the balance or weighing system is working as intended.

Ensuring correct position and database supported management of test equipment by KERN

We will take responsibility for your complete documentation including the reminder service for recalibrations.

Short calibration times

at the KERN factory, 4 days, express service 48 hours

KERN will also carry out the complete test service at your premises.



The KERN calibration service is brand-independent



Robot-assisted weighing comparators for rapid, accurate calibration of weights



Compressive testing for force (Newton) up to 5 kN

DAkKS calibration of weights

We calibrate to all international OIML weight classes: E1, E2, F1, F2, M1, M2, M3. Our calibration service ranges from 1 mg up to 2,500kg.

In addition we offer calibration of free nominal values, e.g. Newton or special weights.

Together with the calibration we can offer you a wide range of further services:

Volume determination for the most accurate Class E1, as a weight experiences small, but measurable, air buoyancy.

Testing the magnetic properties (sensitivity and polarisation) for weight material to avoid measuring errors from magnetic fields. On-site calibration with the MACOS calibration system from KERN.

We can come to your premises and calibrate your test weights (class M1 to M3) from 10 kg up to 2,500 kg with our mobile MACOS calibration system and will generate the DAkKS calibration certificates on-site.

Qualifications for any weights:

- Selection of the appropriate test weight for the balance
- Reconditioning and adjustment of old customer weights
- Short calibration times: 4 working days, express service in 48 hours

DAkKS calibration for tension and compression forces

For mobile force-measuring devices, calibration ranges in Newtons from 50 N up to 5 kN

Factory calibrations (ISO calibrations too)

Not all calibrations must or are able to be carried out in accordance with DAkKS, in many cases a factory calibration is sufficient. Factory calibration certificates meet international standards and are proof of a sophisticated, trusted calibration.

Factory calibration of the temperature in moisture analysers.

These are balances with drying devices for solid samples which contain moisture. Maintaining the correct temperature in the drying area is an important criteria for the results of a moisture analysis procedure to be meaningful. Calibration of your moisture analyser will be carried out at the KERN & SOHN factory.

Factory calibration of torque wrench test devices.

When being used, torque wrenches or screwdrivers must guarantee the specified torque. These are calibrated with a torque wrench test device. The factory calibration certificate for this proves the measuring accuracy of the test device.

The calibration range goes from 1 Nm up to 200 Nm (Newtonmeter)

Factory calibration of devices for measuring layer thickness

for lacquer coatings and metallic coatings. The calibration range goes up to a wall thickness of 2000 micrometer.

Factory calibration of hardness testing devices and hardness comparison plates in accordance with UCI, Shore, Leeb

2019

KERN – a powerful partner by your side

**An impressive mark of confidence:
Since the year 2000, over 2.2 million
balances sold**

Typical KERN advantages:

You have the choice of more than 800 different balance models

- Ordered today – on its way tomorrow.
- KERN hire purchase looks after your cash
- Up-to-date information on availability

Free of charge from KERN:

- We will build your customer-specific webshop
- You save – we will hold the stock for you
- Tailor-made marketing support
- Support with digital system solutions from the KERN Centre of Expertise

For many years, KERN has been certified and accredited in accordance with international metrological standards.

System solutions
Industry 4.0



Precision balances



Analytical balances



Moisture analysers



Bench scales



Price-computing



Counting balances/
Counting systems



Parcel scales/
Platform scales



Floor scales/
Pallet scales/
Drive-through scales



Display devices/
Platforms/
Weighing bridges



Hanging Scales/
Crane scales



Pallet truck scales



Test weights



Medical scales





“Our customers are the key to our longevity in this industry”

We serve our customers and learn from them. This wealth of experience is a precious asset, which we will continue to maintain carefully in the future. As a medium-sized, owner-managed business no-one can stop us in our endeavours in this area. We have been serving our oldest specialist dealers for more than 100 years.

Albert Sauter & Martin Sauter

DakkS calibration service (DKD) and verification service



Microscopes



Force-measuring devices



Refractometers





KERN & SOHN GmbH
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175
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in the Sauter family
250

