

## Caliber Z60 – 13¼"



### Product Specifications

Analog quartz movement

Line startech

Caliber Z60

Size 13¼"

Version Swiss Made 0 Jewels / nickel plated

Version Swiss Parts 0 Jewels / nickel plated

Standard battery life 50 months

Standard hand fitting height 1

### Features

- Repairable movement with metal main plate and bridges
- Power saving mechanism with pulled out stem: Reduction of consumption approximately 70%
- Very easy handling by two pushers

### Functions

- 30 minute counter
- Center stop second (1/1 sec)
- ADD and SPLIT functions
- Chronograph
- Day indicator
- Small second
- Date

# Quartz Movements

## Chronographs

### RONDA startech

## Caliber Z60 – 13¼"

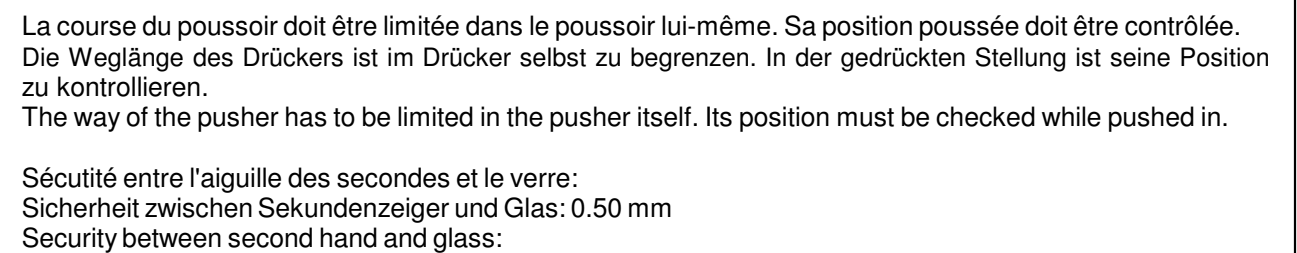
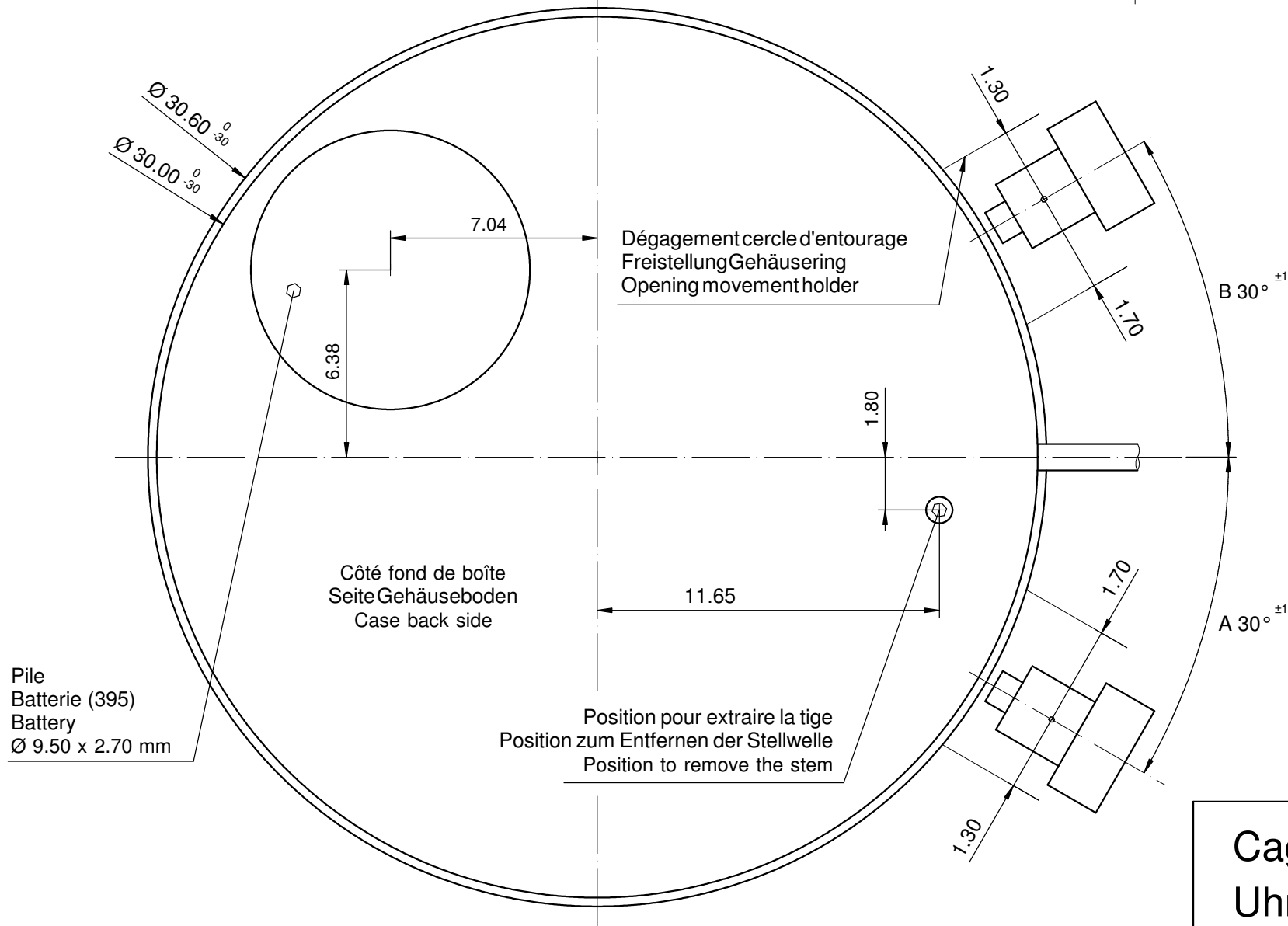
### Technical Specifications

Diameter Total	30.60 mm
Case fitting	30.00 mm
Movement height	4.60 mm
Height over standard battery	4.60 mm
Movement rest	1.37 mm
Height over stem	1.75 mm
Length of stem travel	1.00 mm
Stem thread	0.90 mm
Useful torque second – typical	6 µNm
Useful torque minute – typical	300 µNm
Useful torque center stop second – typical	6 µNm
Operating temperature	0 - 50 °C
Instantaneous rate	-10/+20 sec/month
Resistance to magnetic fields	18.8 Oe
Resistance against shock	NIHS 91-10

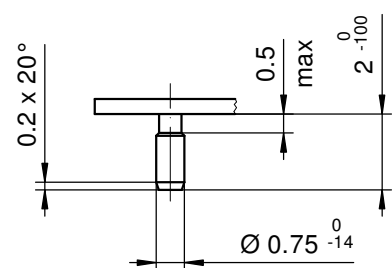
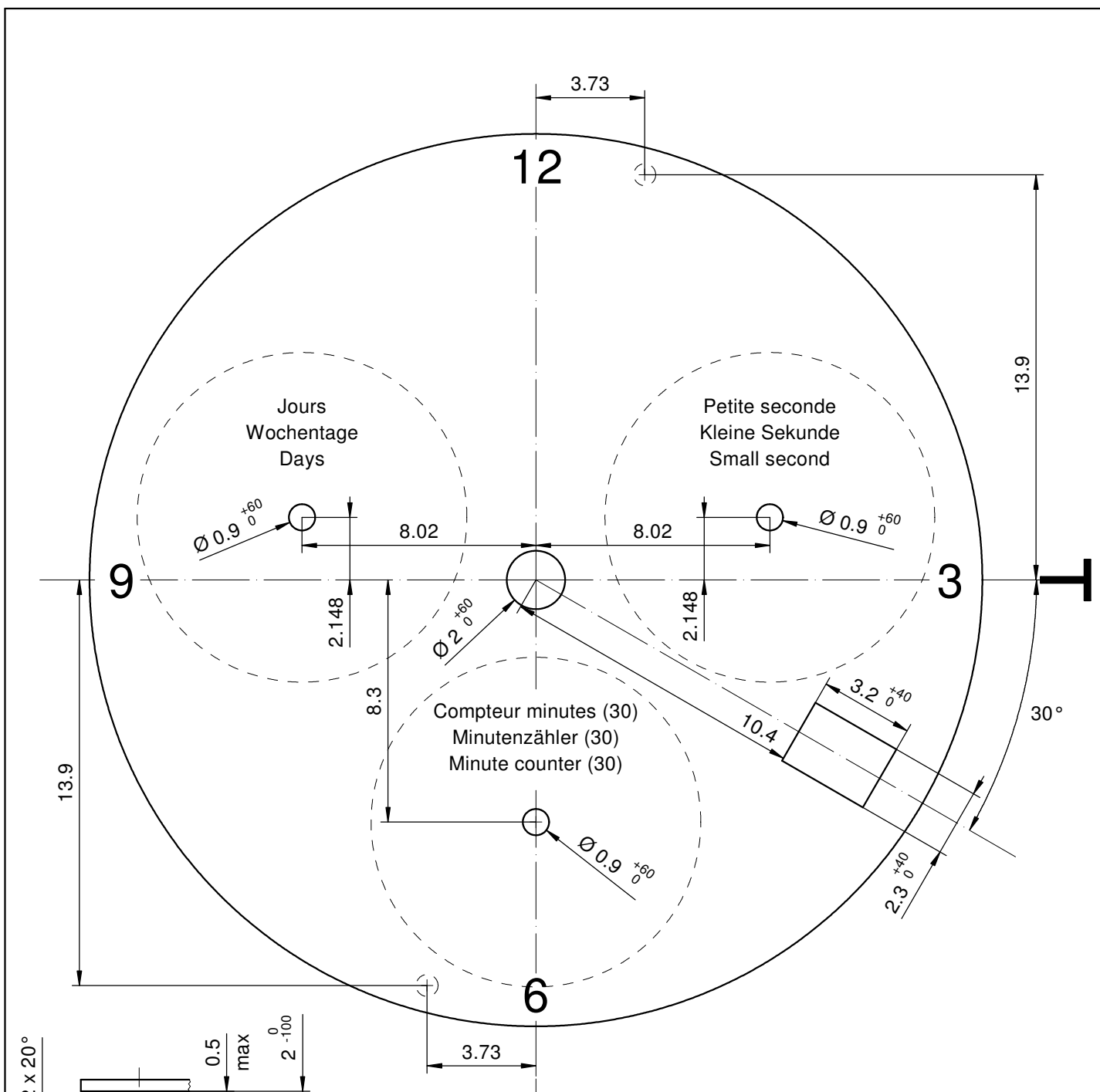


### Battery Specifications

Standard battery	No. 395
Standard battery life	50 months
Battery voltage	1.5 V
Current consumption – typical	1.42 µA (Date Mechanism not in Gear)
Current consumption – maximum	3 µA (Date Mechanism not in Gear)



<div>Cage</div> <div>Uhrwerkgestell 13¼"</div> <div>Frame</div>		Issued	04 Nov 2010	mg
		Modified	13 Mär 2013 ÄA 10036	fl
		Released	Yes	
		Tolerance	+/- 20 µm	
		Scale	10 : 1 (5 : 1) (A3H)	
RONDA	Z 60	Sous réserve de modifications Aenderungenvorbehalten Modificationsreserved		
		No.	5000.406	02



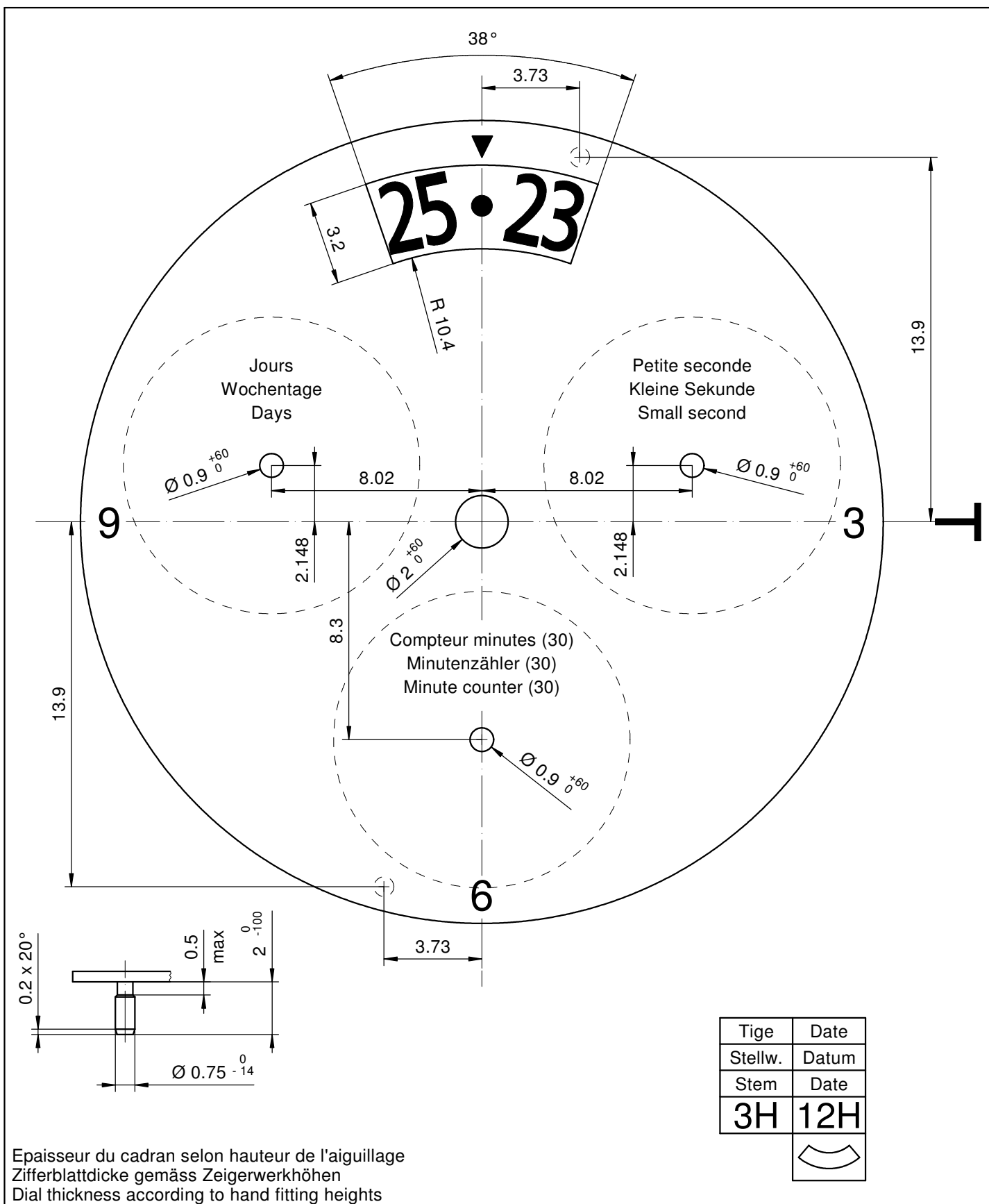
Epaisseur du cadran selon hauteur de l'aiguillage  
Zifferblattdicke gemäss Zeigerwerkhöhen  
Dial thickness according to hand fitting heights

Tige	Date
Stellw.	Datum
Stem	Date
3H	4H

Cadran Zifferblatt 13¼" Dial		Issued	08 Nov 2010	mg
		Modified	23 Mär 2017 ÄA 35959	di
		Released	YES	
		Tolerance	+/- 20 µm	
		Scale	5 : 1 (A4V)	
RONDA	Z 60	Sous réserve de modification Änderungen vorbehalten Modifications reserved		
		No.	5010.675	01







Cadran  
Zifferblatt 13 $\frac{1}{4}$ "  
Dial

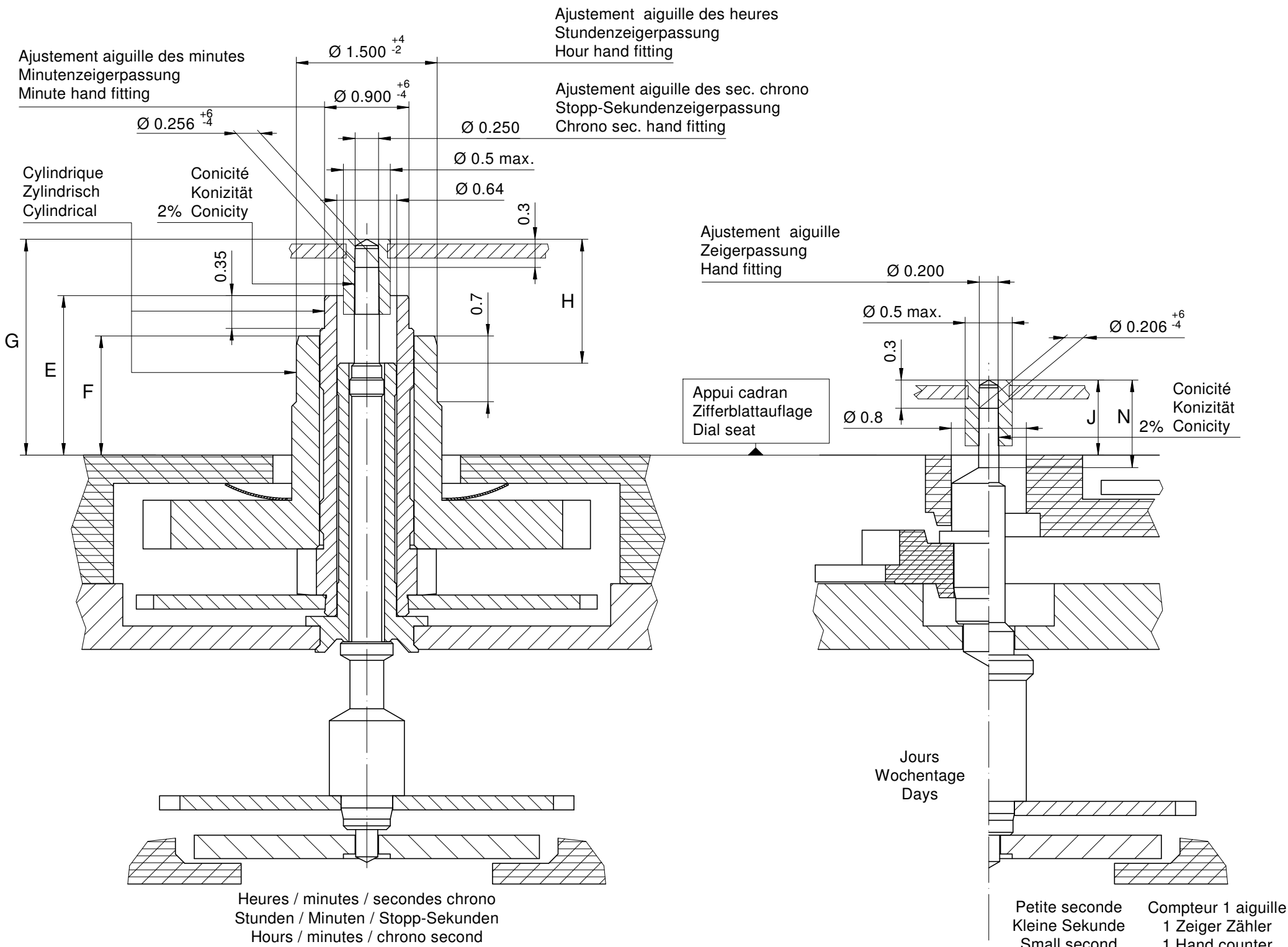
Issued	22 Sep 2015	di
Modified	22 Mär 2017 ÄA 35959	di
Released	YES	
Tolerance	+/- 20 µm	
Scale	5 : 1 (A4V)	

RONDA

Z 60

Sous réserve de modification  
Änderungen vorbehalten  
Modifications reserved

No.	5010.760	01
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Aiguillages Zeigerwerkhöhe Hand fitting height								
Dépassement Höhe über Zifferblattauflage Height over dial seat								
No	Pignon des secondes chrono Stopp-Sekundentrieb Chrono second pinion	Chaussée Minutenrohr Cannon-pinion	Roue des heures Stundenrad Hour wheel			Petite seconde Kleine Sekunde Small second	Pignon compteur Zählertrieb Counter pinion	1 aig. 1 Zeiger 1 Hand Pignon des jours Tagesantriebs Day pinion
1	G	E	F	H	N	J	J	J
1	2.30	1.70	1.27	1.32	0.90	0.80	0.80	0.80

Aiguillages Zeigerwerkhöhe Hand fitting height							
Peinture comprise / inkl. Farbe / Paint included							
Epaisseur maximum du cadran Maximale Zifferblattstärke Maximum dial thickness							
No	Sous l'aiguille des secondes chrono Unter Stopp-Sekundenzeiger Under chrono second hand	Sous l'aiguille des minutes Unter Minutenzeiger Under minute hand	Sous l'aiguille des heures Unter Stundenzeiger Under hour hand	Sous l'aiguille de petite seconde Unter kleine Sekundenzeiger Under small second hand	Sous l'aiguille compteur 1 aiguille Unter Zeiger 1 Zeiger Zähler Under hand 1 hand counter	Sous l'aiguille des jours Unter Tageszeiger Under days hand	Epaisseur des aiguilles Zeigerdicke Hands thickness
1	1.80	1.30	0.85	0.40	0.40	0.40	0.15

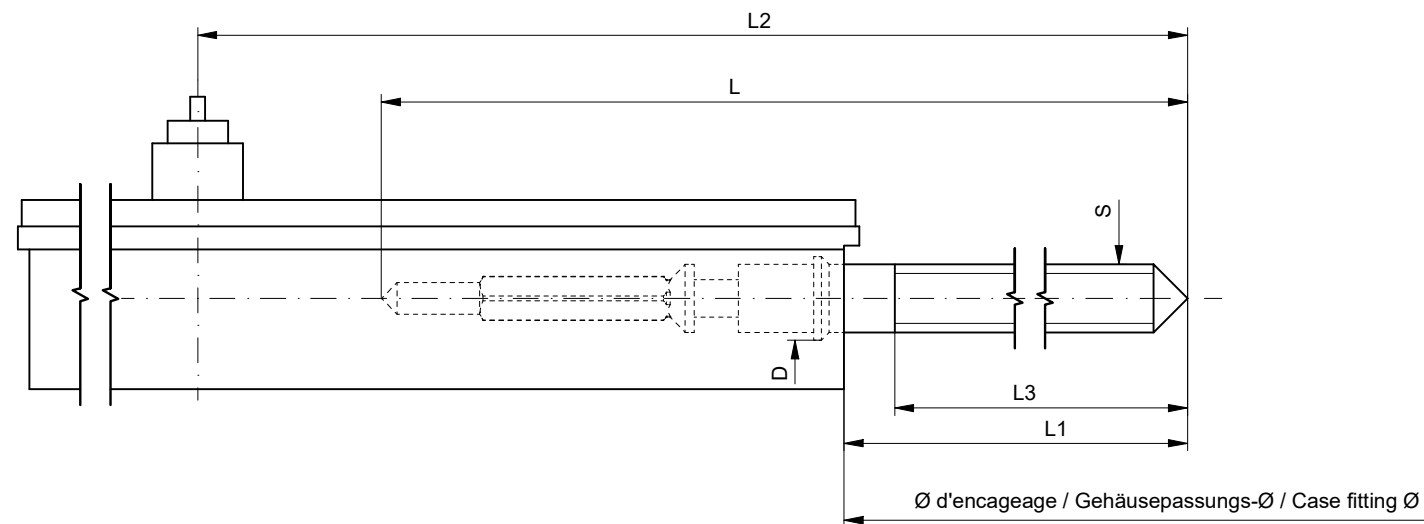
		Aig. des sec. chrono Stopp-Sekundenzeiger Chrono second hand	Aig. des minutes Minutenzeiger Minute hand	Aig. des heures Stundenzeiger Hour hand	Aig. petite secondes Kleine Sekundenzeiger Small second hand	Aiguille compteur (1 aig.) Zähler Zeiger (1 Zeiger) Counter hand (1 hand)	Aig. des jours Tageszeiger Day hand	Lors de la pose d'aiguilles, le mouvement doit être soutenu. Beim Zeigersetzen muss das Werk abgestützt werden. The movement needs to be supported for hand setting.
mg	max.	10	30	30	10	10	10	Masse / Masse / Weight *
µNm	max.	0.06	0.70	0.70	0.06	0.03	0.05	Balourd / Unwucht / Unbalance *
gmm <sup>2</sup>	max.	1.0	-	-	0.4	1.0	1.0	Inertie / Massenträgheit / Inertia *
N	max.	30	40	40	30	30	30	Force de chassage / Aufpresskraft / Force

Aiguillages Zeigerwerkhöhen 13¼" Hand fitting heights		Issued	08 Nov 2010	mg
		Modified	15 Okt 2014 ÄA 13275	dh
		Released	YES	
		Tolerance	µm	
		Scale	20 : 1 (A3H)	
RONDA	Z 60	Sous réserve de modifications Änderungen vorbehalten Modifications reserved		
		No.	3316.141	03

\* En cas de données différentes, veuillez contacter le service après-vente

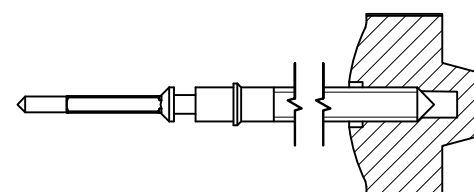
\* Bei abweichenden Werten, bitte technischen Kundendienst anfragen

\* In case of different values, please contact the customer service



Tige de travail (intégrée dans le mouvement)  
Arbeitsstellwelle (im Werk eingebaut)  
Working stem (implemented in the movement)

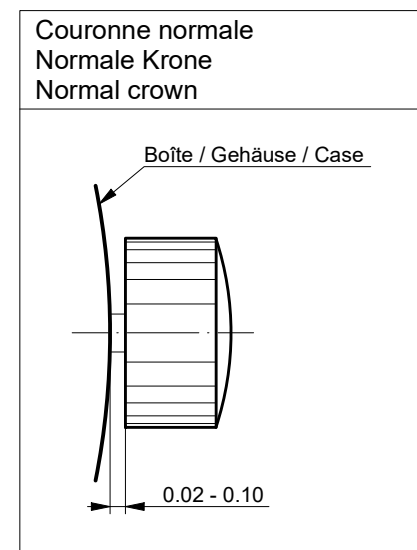
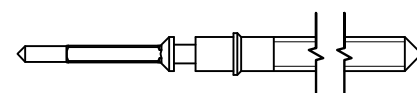
No. d'article Artikelnummer Part number	L	L1	L2	L3	S	D
3000.208.CO	21.85	11.15	26.15	10.85	0.90	1.35



Couleur de la couronne Kronenfarbe Crown color	jaune foncé dunkelgelb dark yellow
Code	UN 1509

Tige (normale) / Stellwelle (normal) / Stem (normal)

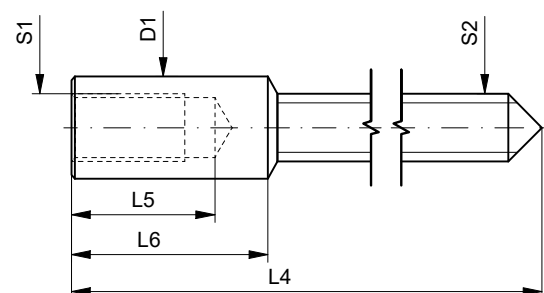
No. d'article Artikelnummer Part number	L	L1	L2	L3	S	D
3000.208	21.85	11.15	26.15	10.85	0.90	1.35



Couronne vissée Geschraubte Krone Screwed crown	
Force ⇄ min. Kraft ⇄ min. Force ⇄ min.	10 N
Force ⇄ max. Kraft ⇄ max. Force ⇄ max.	15 N

Rallonge de tige / Stellwelle Verlängerung / Stem extension

No. d'article Artikelnummer Part number	L4	L5 (min)	L6	S1	S2	D1
3000.040	12.00	1.90	2.60	0.90	0.90	1.35



Tige (dimensions / forces)  
Stellwelle (Dimesionen / Kräfte)  
Stem (dimensions / forces)

RONDA Z60, Z50, X30, X20

Issued	11.02.2013	f15223
Modified	03.09.2019	jk5228
Released	YES	
Mod. No.	41339	
Tolerance	---	
Scale	---	Page 1 / 1 A3

Sous réserve de modifications Aenderungen vorbehalten Modifications reserved		
No.	5030.026	04



**Movement holder**  
*Removing setting stem*  
H ZXX.1T



**Movement holder**  
*Setting hands*  
H ZXX.2A

## Fitting dial and hands

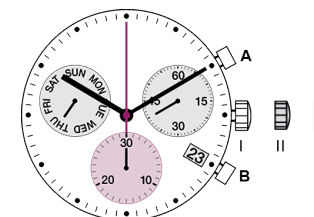
- Crown in position III
- Wind hour hand forwards, until date changes
- Remove working hand
- Fit dial
- Place all hands towards 12 o'clock except the day hand
- Setting the hands on 1:30 a.m.
- Place the day hand
- Wind hands forwards to set actual time
- Zero chronograph hand\*
- Crown in position II
- Set date
- Crown in position I

## Date switching duration:

~1¼hrs

## \*Zeroing the Chronograph hand

- Press pushers A and B for 2 seconds at the same time (Chrono seconds hand rotates once)
- Pusher A - to correct chrono seconds hand
- Pusher B - to jump to minute hand
- Pusher A - to correct hand position



## General Instructions

*Removing the setting stem can only be effected in Pos. I.*

*The use of supporting screws is essential when mounting the hands.*

*Permitted hand setting strengths:*

*Hr / min. hands: <40N*

*Other hands: <30N*

*During quick date correction (setting stem in position II), a date switching speed of 5 d/s must not be exceeded.*

## Complement for T2 instructions Z5o/Z6o

*It might be possible that the date jump will not be finalized when the date is set manually. In that case the movement will be adjusted automatically at the next date jump.*

You have decided to buy a watch, which was assembled by a watch-maker using a Ronda movement. Please note that no watches are produced or distributed under the Ronda brand.

In case of repairs, guarantee claims and questions concerning the functioning of a watch, purchasers and consumers should contact their retailer or the watch manufacturer, for which the relevant information can be found in the sales or guarantee documentation provided with the watch.

**Description of the display and control buttons**

**Display elements**

**Control buttons**  
 Push-button A & B  
 Crown

**Display elements**

**Control buttons**  
 Push-button A & B  
 Crown

**Chronograph: Basic function**  
 (Start / Stop / Reset)

Example:

1 **Start:** Press push-button A.

2 **Stop:** To stop the timing, press push-button A once more and read the chronograph counters: **20 min / 38 sec**

3 **Zero positioning:** Press push-button B. (The chronograph hands will be reset to their zero positions.)

**Setting the time**

1\* Pull out the crown to position III (the watch stops).

2 Turn the crown until you reach the correct time 8:45.

3\* Push the crown back into position I.

**Please note:**  
 \* In order to set the time to the exact second, 1 must be pulled out when the second hand is in position «60». Once the hour and minute hands have been set, 3 must be pushed back into position I at the exact second.

**Chronograph: Intermediate or interval timing**

Example:

1 **Start:** (start timing)

2 **Stop:** (e.g. 15 min 5 sec following 1)

3 **Restart:** (timing is resumed)

4 **Stop:** (e.g. 5 min 12 sec following 3) = **20 min 17 sec** (The accumulated measured time is shown)

5 **Reset:** The chronograph hands are returned to their zero positions.

**Please note:**  
 \* Following 4, the accumulation of the timing can be continued by pressing push-button A (Restart / Stop, Restart / Stop, ...).

**Setting the date (quick mode)**

1 Pull out the crown to position II (the watch continues to run).

2 Turn the crown anticlockwise until the correct date 11 appears.

3 Push the crown back into position I.

**Please note:**  
 During the date changing phase between approx. 09:45 PM and midnight, the date must be set to the date of the following day.

**Adjusting the chronograph hands to zero position**

Example:

1 Pull out the crown to position III (all chronograph hands are in their correct or incorrect zero position.)

2 Keep push-buttons A and B depressed simultaneously for at least 2 seconds (the second counter hand rotates by 360° → corrective mode is activated.)

**Setting the date, day of the week (Z60) and time**

Example:  
 – Date / time on the watch: 17 / 01:25 / MON  
 – Present date / time: 23 / 20:35 / THU

1 Pull out the crown to position III (the watch stops).

2 Turn the crown anticlockwise until yesterday's day of the week WED appears.

3 Push the crown to position II.

4 Turn the crown until yesterday's date appears 22.

5\* Pull out the crown to position III (the watch stops).

6 Turn the crown anticlockwise until the correct date 23 and day of the week THU appears.

7\*\* Continue to turn the crown anticlockwise until the correct time 8:35 PM appears.

8 Push the crown back into position I.

**Please note:**  
 \* To set your watch to the exact second, please refer to the chapter entitled «setting the time».  
 \*\* Please observe the AM/PM clock rhythm.

Adjusting the second counter hand

Single step    A    1 x short

Continuous    A    long

Adjusting the next hand B

Single step    A    1 x short

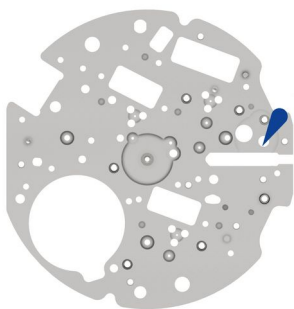
Continuous    A    long



Adjusting the minute counter hand (position 6h)

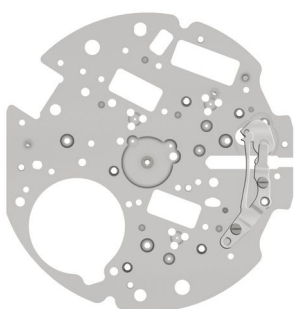
Single step    A    1 x short





Continuous    A    long

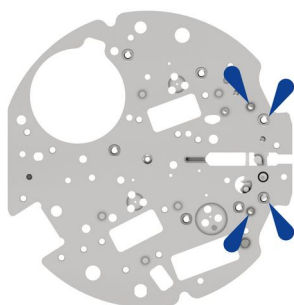
3 Returning the crown to position I  
 Termination of the chronograph hands adjustment (can be carried out at any time).




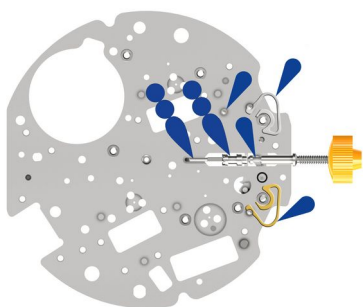
- |   |   |          |              |
|---|---|----------|--------------|
| 1 |  | 2000.708 | Main plate   |
| 2 |  | 8200     | Moebius 8200 |


















- |   |   |             |                      |
|---|---|-------------|----------------------|
| 3 |    | 3017.064.CO | Setting lever        |
| 4 |    | 3905.083    | Setting lever jumper |
| 5 |   | 4000.342    | Screw                |
| 6 |  | 4000.342    | Screw                |



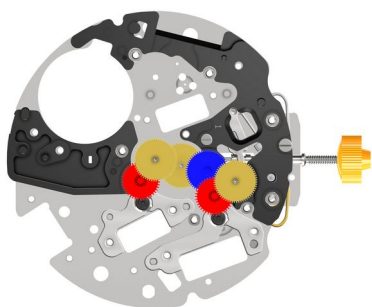
- |   |   |      |              |
|---|---|------|--------------|
| 7 |  | 8200 | Moebius 8200 |
|---|---|------|--------------|















8		3406.043	Pusher jumper A
9		3406.042	Pusher jumper B
10		3000.208.CO	Working stem (dual)
11		3001.072.FI	Sliding pinion
12		8200 / 9020 4x Moebius 8200 / 2x Moebius 9020	Moebius 8200 / Moebius 9020
13		3016.034	Stop lever
14		3603.098	Electronic modul support
15		4000.248	Screw
16		4000.343	Screw
17		3603.099	Battery support
18		3622.070	Stator
19		3622.071	Stator (counter)
20		3715.132.RK	Rotor
21		3715.132.RK	Rotor
22		9014	Moebius 9014











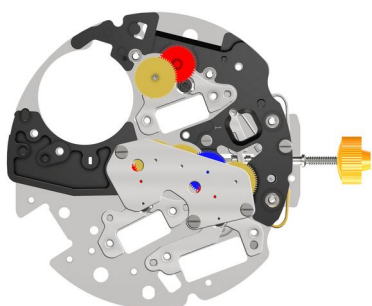











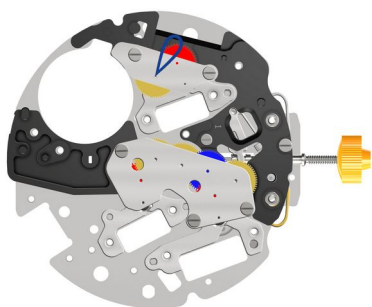
23			3122.073.CO	Third wheel
24			3147.089	Intermediate wheel
25			3136.215.CO	Chronograph wheel (Aig.)
26			3136.214	Second wheel (Aig.)
27			3147.089	Intermediate wheel
28			3136.216.CO	Small second wheel (Aig.)




29			2020.210.M01.Z60	Train wheel bridge
30			4000.248	Screw
31			4000.248	Screw
32			4000.248	Screw
33			9014	Moebius 9014




34			3622.071	Stator (counter)
35			3715.132.RK	Rotor
36			3147.089	Intermediate wheel
37			3136.216.CO	Small second wheel (Aig.)

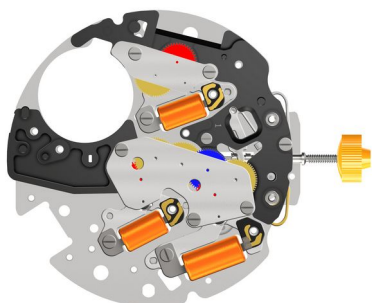



38  2020.211 Counter train wheel bridge


39  4000.248 Screw


40  4000.248 Screw


41  9014 Moebius 9014





42  3621.099.RK Coil  
Attention: Please hold the coil only on the grey coil core.

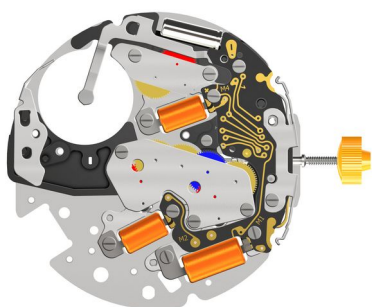
43  3621.054.RK Coil  
Attention: Please hold the coil only on the grey coil core.


44  3621.054.RK Coil  
Attention: Please hold the coil only on the grey coil core.


45  4000.248 Screw


46  4000.248 Screw


47  4000.248 Screw








48  3601.153 Bridle -

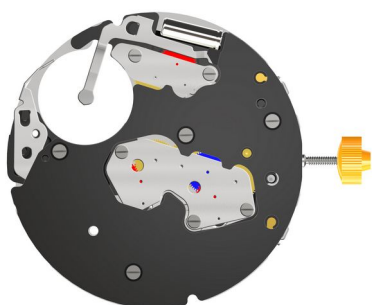
49  3612.246 Electronic module




50  4000.341 Screw

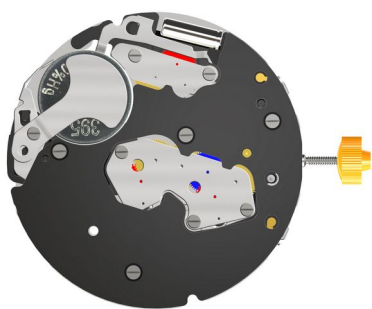
51  4000.341 Screw




52  4000.341 Screw

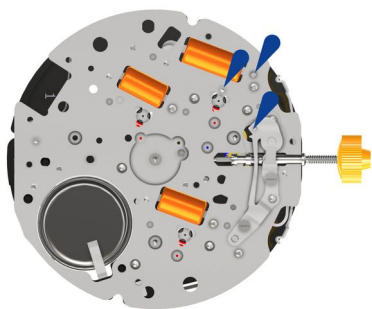
53		4000.341	Screw
54		3601.151	Contact spring for pusher
55		4000.248	Screw
56		3601.154	Lateral bridle



57		2130.230	Electronic module cover
58		4000.248	Screw
59		4000.341	Screw
60		4000.341	Screw
61		4000.341	Screw



62		3600.010.HGF	Battery 395 (Ø 9.50 x 2.70)
63		3601.152	Bridle +
64		4000.341	Screw

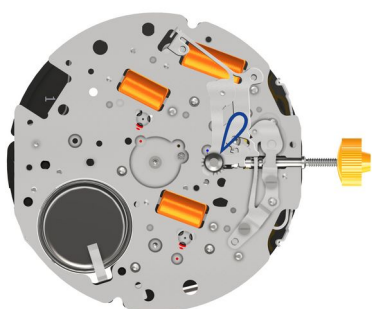


65



8200

Moebius 8200



66



3015.095

Yoke

67



3015.096.CO

Setting lever yoke

68



9014

Moebius 9014

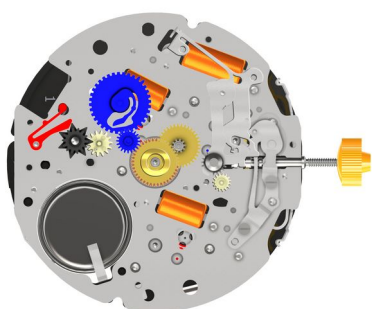
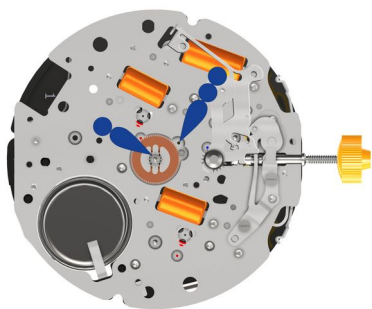




69

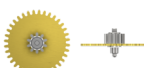










9020







Moebius 9020

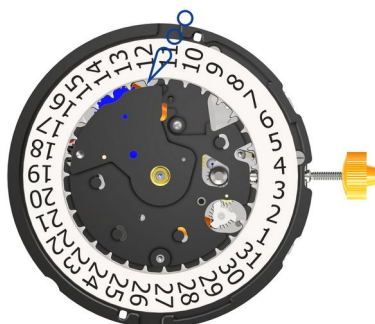




- |    |   |  |                           |
|----|---|--|---------------------------|
| 70 |  | 3305.370.CO                                    | Cannon pinion (Aig.)      |
| 71 |  | J124 / 9020<br>1x Jismaa 124 / 1x Moebius 9020 | Jismaa 124 / Moebius 9020 |

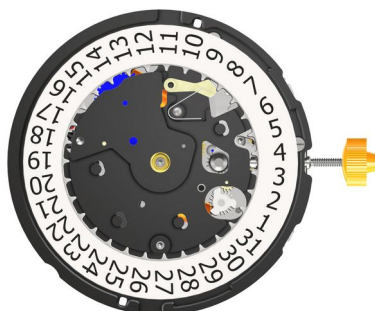
- |    |   |             |                              |
|----|---|-------------|------------------------------|
| 72 |    | 3007.092.CO | Minute wheel                 |
| 73 |    | 3301.332.TA | Hour wheel (Aig.)            |
| 74 |   | 3315.003    | Friction spring              |
| 75 |  | 3004.264    | Date indicator driving wheel |
| 76 |  | 3147.091    | Intermediate date wheel      |
| 77 |  | 3004.247    | Days driving wheel           |
| 78 |  | 3401.087.CO | Day wheel                    |
| 79 |  | 3500.082    | Day jumper                   |
| 80 |  | 3004.245    | Date setting wheel           |





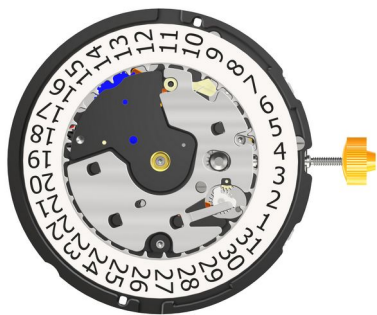
81		2130.231	Setting mechanism cover
82		4000.248	Screw
83		4000.248	Screw
84		4000.248	Screw
85		4000.248	Screw
86		3507.067	Date corrector





87		3504.243.AB.1.A	Date indicator (T3, G4) Nick of the indicator at 3 o'clock.
88		I-4	Moebius I-4

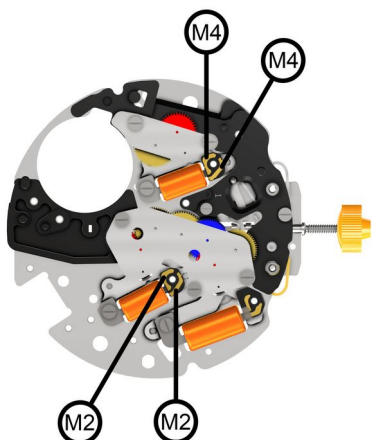


89		3500.081	Date jumper
90		3905.084	Date jumper spring

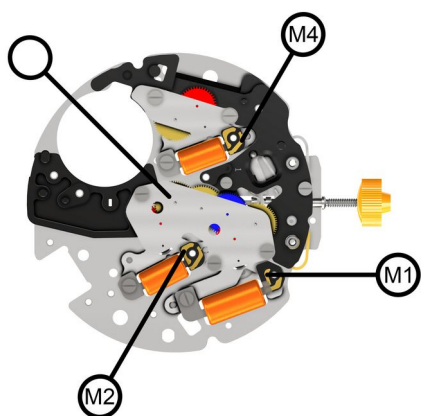


91		2130.229	Date mechanism maintaining plate
92		4000.343	Screw

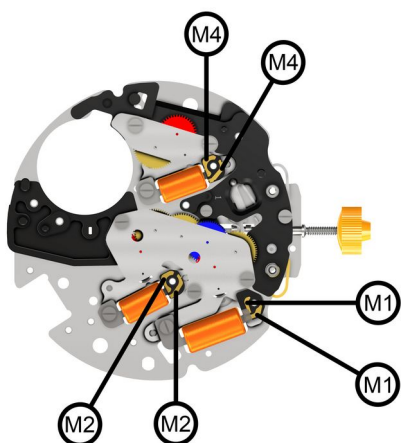
## Measurement



Signal generator (4.9ms, 8Hz)  
< 1.20 V



Coil insulation  
infinite

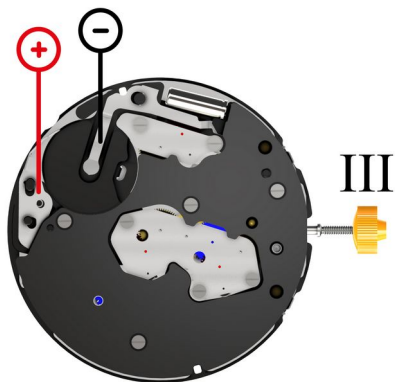


Coil resistance movement  
(min./max.) 1900 - 2100 Ohm

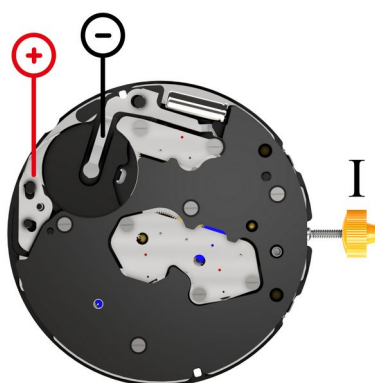
Coil resistance M2  
(min./max.) 1680 - 1880 Ohm

Coil resistance M4  
(min./max.) 1680 - 1880 Ohm





60s measuring interval  
(typ./max.) 0.10 / 0.30 $\mu$ A



Setting stem in position I, calendar not in gear, 60s measuring interval.

(typ./max.) 1.42 / 3 $\mu$ A

60s measuring interval

-10 .. +20s/mth

Lower working voltage limit

<1.20 V



Voltage  
typ 1.5V