

Quartz Movements

特别功能

朗达 超值系列

型号 4220.B - 12□"



产品规格

指针式石英机芯

系列

超值系列

型号

4220.B

尺寸

12□"

版本 瑞士制造

7 钻石 / 金色

电池寿命

54 月

标准针高

2

特点

- 金属机芯，可修理
- 拉停把心省电功能：节省大概70%耗电
- 一个按掣简易操作
- 大日历可快调

功能

- 两地时间
- 特别功能
- 两针
- 大日历
- 小秒针

Quartz Movements

特别功能

朗达 超值系列

型号 4220.B - 12□”

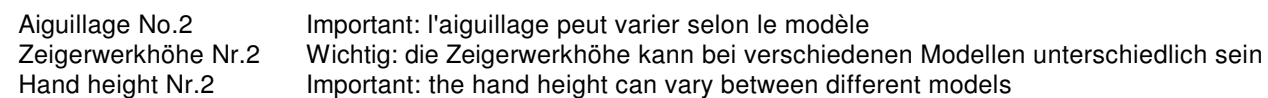
技术规格

机芯直径	28.60 mm
内罩座位直径	28.00 mm
机芯厚度	4.40 mm
电池以上厚度	4.40 mm
机芯座位	0.60 mm
把中	1.90 mm
把心行程	0.90 mm
把心螺纹直径	0.90 mm
秒针运行扭力 - 一般情况下	6 μ Nm
分针运行扭力 - 一般情况下	300 μ Nm
运作温度	0 - 50 ° C
误差率	-10/ +20 秒/月
防磁度	18.8 Oe
防震度	NIHS 91-10



电池规格

电池类型	型号 395
电池寿命	54 月
电压	1.5 V
电耗 - 一般情况下	1.32 μ A (日历不在跳动当中)
电耗 - 上限	1.65 μ A (日历不在跳动当中)



The way of the pusher has to be limited in the pusher itself. Its position must be checked while pushed in.

Poussoirs
Drücker
Pushers

Pile
Batterie (395) Ø 9.50 x 2.60mm
Battery

Position pour extraire la tige
Position zum Entfernen der Stellwelle
Position to remove the stem

Stellwelle
Tige
Stem

Chemin:
Weg: 0.90
Way:

Filetage:
Gewinde: S 0.90
Thread:

Vis
Schraube Nr. 4000.310
Screw

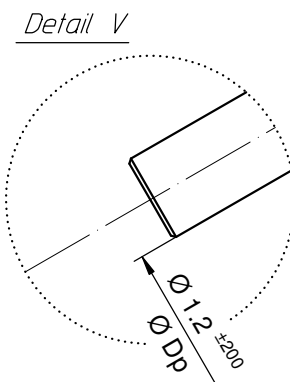
Vis
Schraube Nr. 4000.195
Screw

Vis
Schraube Nr. 4000.194
Screw

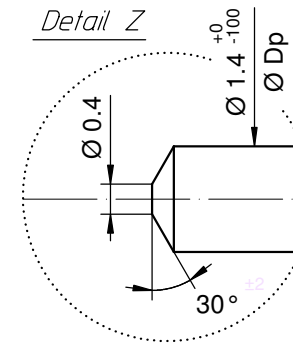
The indicated angle of the pusher direction and the position must be fulfilled. For pusher angles of 0° (pusher A and B), see drawing 5000.345.

Issued	02 Mär 2004	mk
Modified	05 Sep 2016 ÄÄ 34777	dh
Released	YES	
Tolerance	+/- 20 µm	
Scale	10 : 1 (5 : 1) (A3H)	
Sous réserve de modifications Änderungen vorbehalten Modifications reserved		
No.	5000.348	02

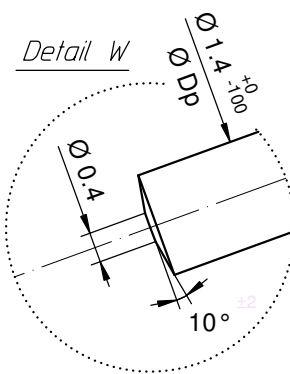
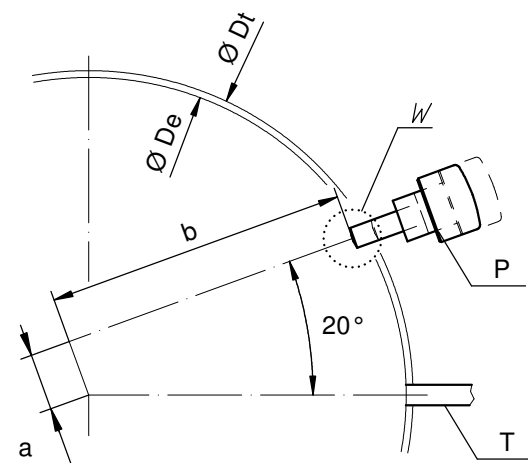
Angle Winkel Angle	30°	
Ø Dp	b	
1.00	13.50	
1.10	13.50	
1.20	13.50	
1.30	13.50	
1.40	13.50	



Angle Winkel Angle	0°	
Ø Dp	a	b
1.30	7.40	11.43
1.40	7.45	11.40



Angle Winkel Angle	20°	
Ø Dp	a	b
1.30	2.57	13.22
1.40	2.59	13.21



Ø De: diamètre d'encageage
Durchmesser der Gehäusepassung
fitting-diameter

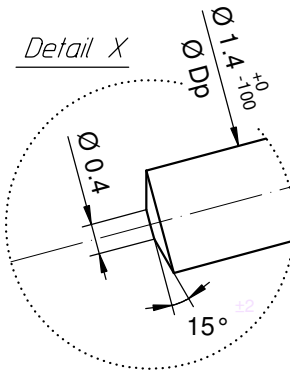
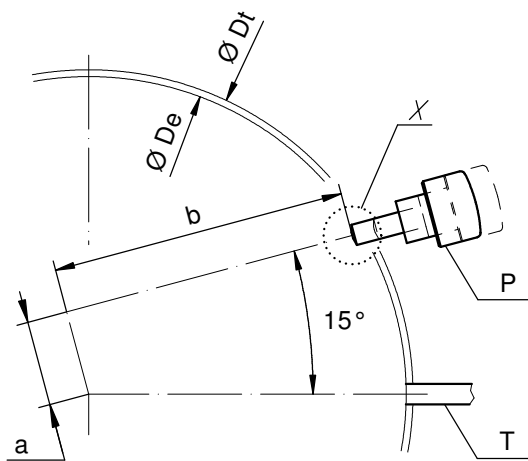
Ø Dp: diamètre du poussoir
Drückerdurchmesser
pusher-diameter

Ø Dt: diamètre total
Totaldurchmesser
total-diameter

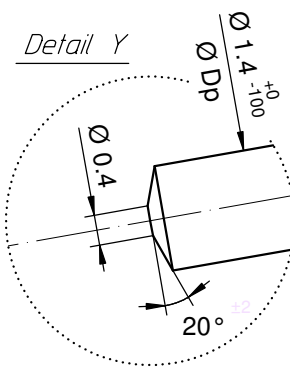
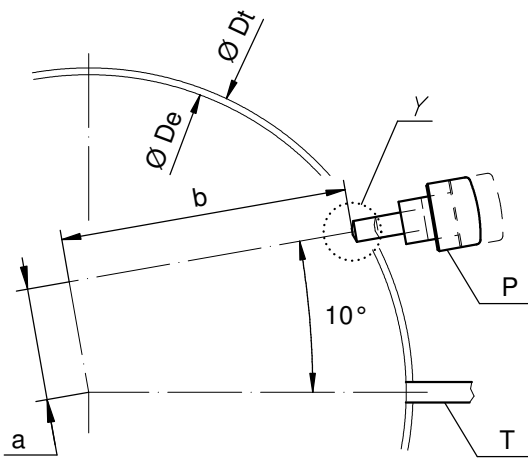
P: poussoir en position poussée
Drücker in gedrückter Stellung
pusher in pressed position

T: tige de mise à l'heure
Stellwelle
stem

Angle Winkel Angle	15°	
Ø Dp	a	b
1.30	3.83	12.92
1.40	3.86	12.91



Angle Winkel Angle	10°	
Ø Dp	a	b
1.30	5.06	12.52
1.40	5.10	12.50

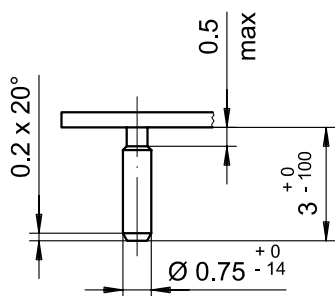
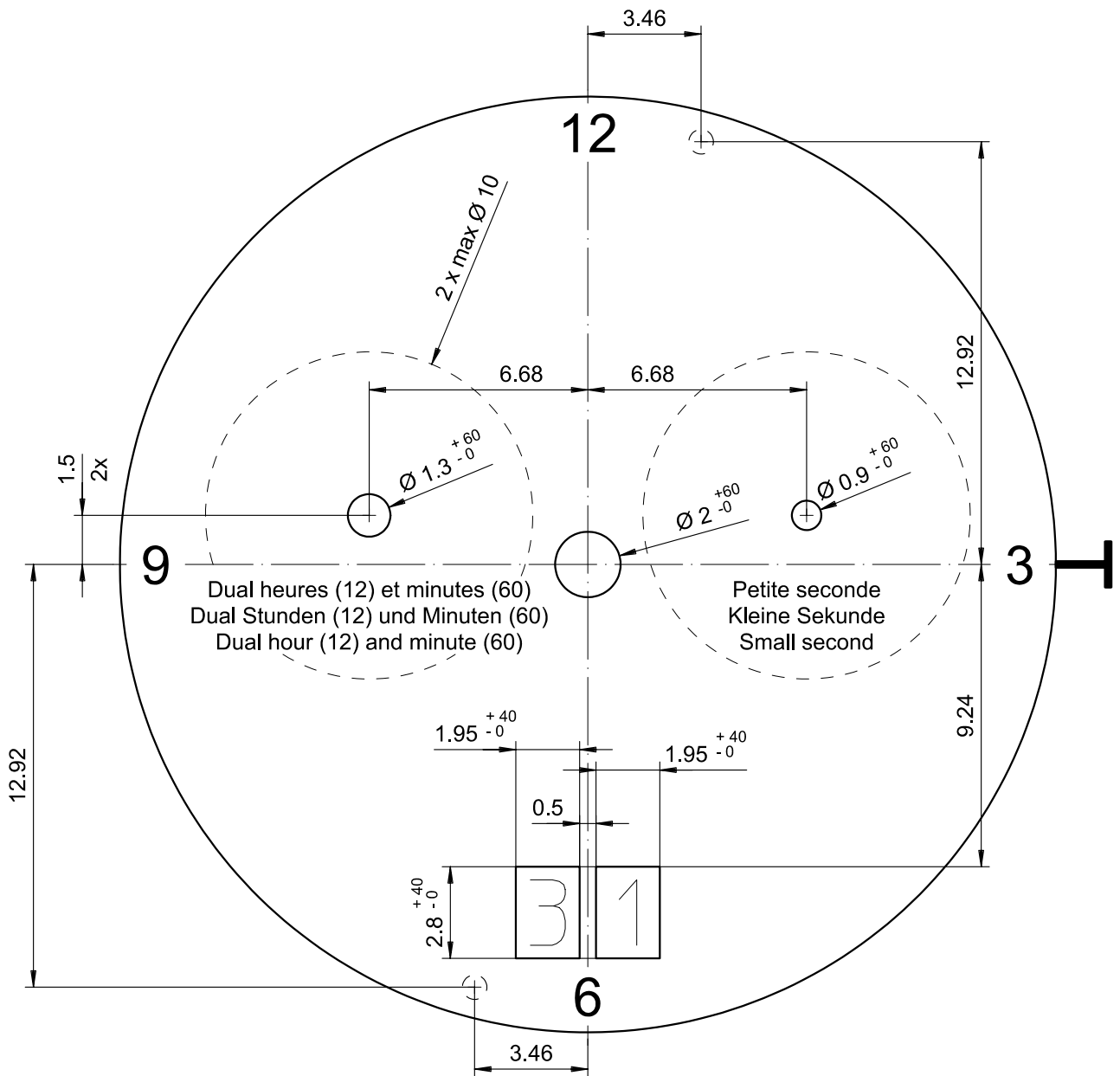


Angle des poussoirs A et B
Winkel der Drücker A und B
Angle of pusher A and B

RONDA

4xxx.x, 5xxx.x

Issued	06 Sep 2004	mk
Modified	30.März 2005 ÄA 1784	mk
Released	YES	
Tolerance	+/- 20 µm	
Scale	10 : 1 (5 : 1) (A3H)	
Sous réserve de modifications Äenderungen vorbehalten Modifications reserved		
No.	5000.345	01



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	6H

Cadran
Zifferblatt
Dial

12 1/2"

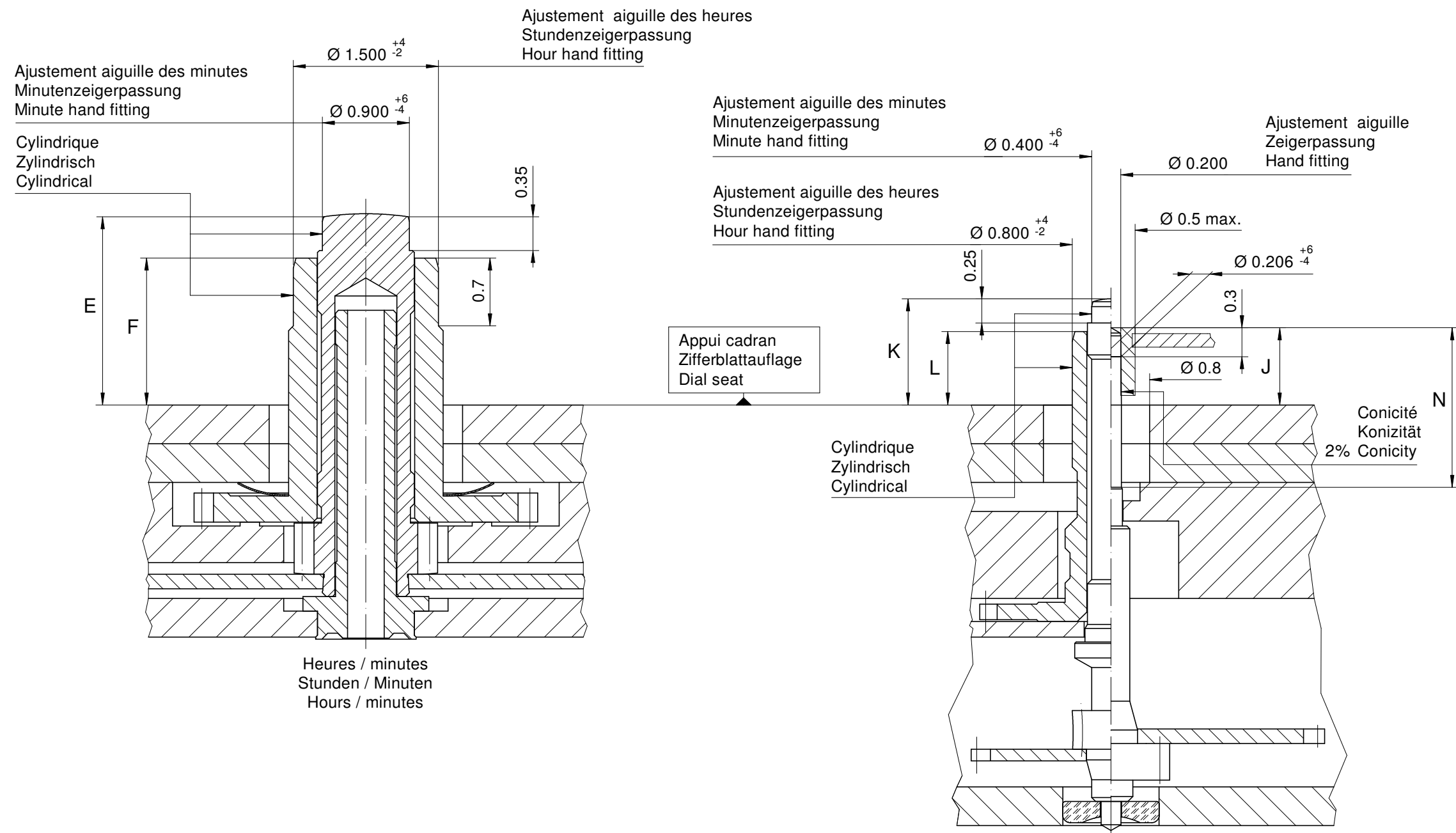
Issued	13 Dez 2006	cw
Modified	15.Dez.2006 ÄÄ ----	cm
Released	YES	
Tolerance	+/- 20 µm	
Scale	5 : 1 (A4V)	

RONDA

4220.B

Sous réserve de modifications
Änderungen vorbehalten
Modifications reserved

No.	5010.698	01
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Aiguillages Zeigerwerkhöhe Hand fitting height						
Dépassement Höhe über Zifferblattauflege Height over dial seat						
No	Chaussée Minutenrohr Cannon-pinion	Roue des heures Stundenrad Hour wheel	Compteur 2 aig. 2 Zeiger Zähler 2 Hand counter			
2	1.95	1.52	1.65	1.10	0.76	0.80
-						

Aiguillages Zeigerwerkhöhe Hand fitting height						
Peinture comprise / inkl. Farbe / Paint included						
Epaisseur maximum du cadran Maximale Zifferblattdicke Maximum dial thickness						
No	Sous l'aiguille des minutes Unter Minutenzeiger Under minute hand	Sous l'aiguille des heures Unter Stundenzeiger Under hour hand	Compteur 2 aig. 2 Zeiger Zähler 2 Hand counter		Sous l'aiguille de petite seconde Unter kleine Sekundenzeiger Under small second hand	Epaisseur des aiguilles Zeigerdicke Hands thickness
			Sous l'aiguille des minutes Unter Minutenzeiger Under minute hand	Sous l'aiguille des heures Unter Stundenzeiger Under hour hand		
2	1.50	1.10	0.70	0.40	0.40	0.15
-						

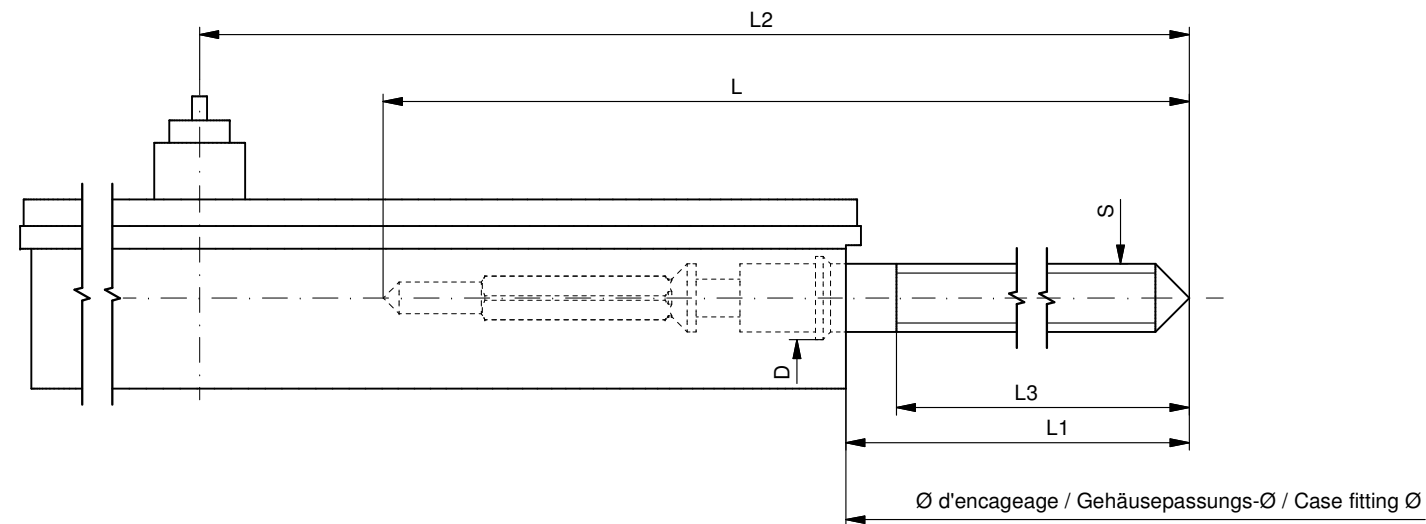
		Aig. des minutes Minutenzeiger Minute hand	Aig. des heures Stundenzeiger Hour hand	Compteur 2 aiguille 2 Zeiger Zähler 2 Hand counter		Aig. petite secondes Kleine Sekundenzeiger Small second hand	Lors de la pose d'aiguilles, le mouvement doit être soutenu. Beim Zeigersetzen muss das Werk abgestützt werden. The movement needs to be supported for hand setting.
		Aig. des minutes Minutenzeiger Minute hand	Aig. des heures Stundenzeiger Hour hand	Aig. des minutes Minutenzeiger Minute hand	Aig. des heures Stundenzeiger Hour hand	Aig. petite secondes Kleine Sekundenzeiger Small second hand	
mg	max.	30	30	10	10	10	
μNm	max.	0.80	0.80	0.03	0.03	0.07	Balourd / Unwucht / Unbalance *
gmm ²	max.	-	-	1.0	-	0.4	Inertie / Massenträgheit / Inertia *
N	max.	40	40	30	30	30	Force de chassage / Aufpresskraft / Force

Aiguillages Zeigerwerkhöhe 12½" Hand fitting heights		Issued	14 Nov 2003	mk
		Modified	15 Okt 2014 ÄA 13275	dh
		Released	Yes	
		Tolerance	μm	
		Scale	20 : 1 (A3H)	
RONDA 4120.B, 4220.B		Sous réserve de modifications Änderungen vorbehalten Modifications reserved		
		No.	3316.083	04

* 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
3000.177.CO	20.00	10.23	24.23	10.15	0.90	1.10



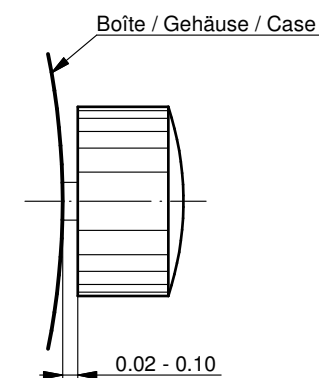
Couleur de la couronne Kronenfarbe Crown color	bleu foncé dunkelblau dark blue
Code	UN 5002

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

No. d'article Artikelnummer Part number	L	L1	L2	L3	S	D
3000.177	20.00	10.23	24.23	10.15	0.90	1.10
3000.191	32.00	22.23	36.23	22.15	0.90	1.10



Couronne normale
Normale Krone
Normal crown

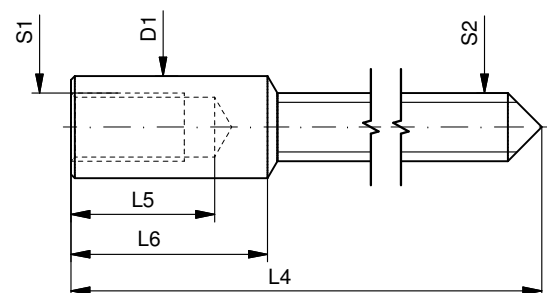


Couronne vissée
Geschraubte Krone
Screwed crown

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 (Dimensionen / Kräfte)
Stem (dimensions / forces)

RONDA

4002.B, 4003.B, 4120.B,
4210.B, 4220.B

Issued	05 Sep 2012	ds5222
Modified	17 Mär 2017 ÄA 34582	mg5224
Released	YES	
Tolerance	---	
Scale	10:1 (A3)	
Sous réserve de modifications Äenderungen vorbehalten Modifications reserved		
No.	5030.018	02



Movement holder
Removing setting stem
H5XXX.1T



Movement holder
Setting hands
H5XXX.1A

Fitting dial and hands

- Crown in position II
- Wind crown, until date 02 appears
- Crown in position III
- Wind hour hand forwards, until date changes to 03
- Remove working stem
- Fit dial
- Point all hands towards 12 o'clock
- Set time
- Crown in position II
- Set date
- Install second time zone**
- Crown in position I

Date switching duration:

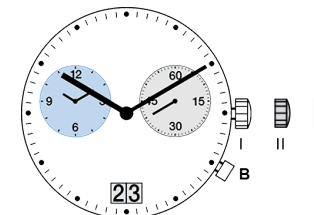
First and tenth digit discs

~2hrs

**Installing second time zone

- Activate pusher B for at least 2 seconds
(You are in active mode, if small minute hand jumps forward 1 min.)
- Install second time zone, using pusher B:
 - Short press (< 1 sec.) → +1 minute
 - Medium press (1-2 secs.) → +1 hour
 - Long press (> 2 secs.) → continuous time display

Details: See Instruction Manual



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.

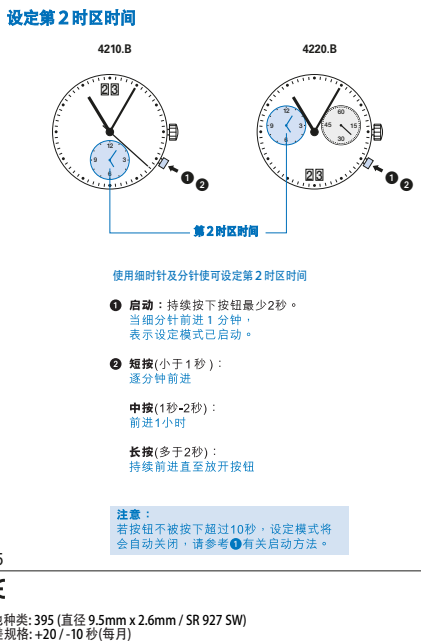
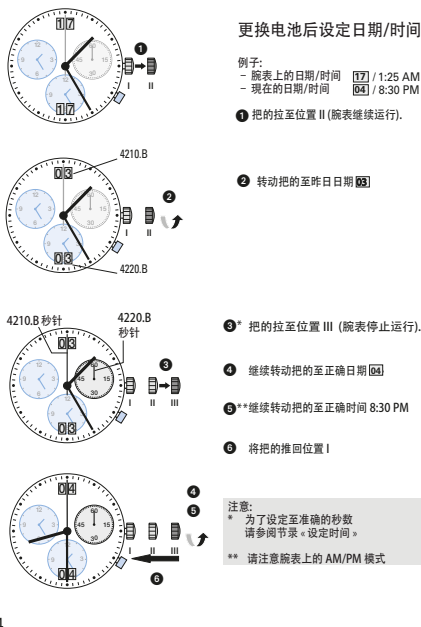
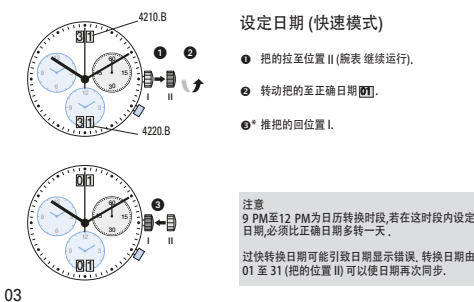
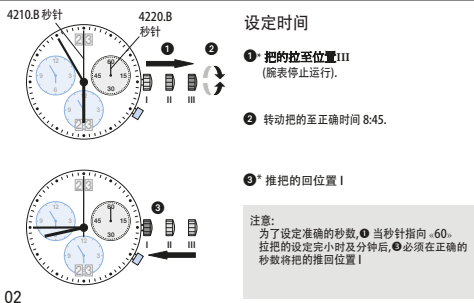
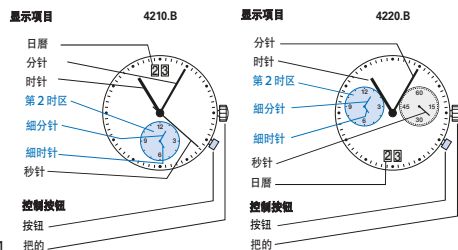
朗达 明星系列 - 机芯型号 4210.B & 4220.B

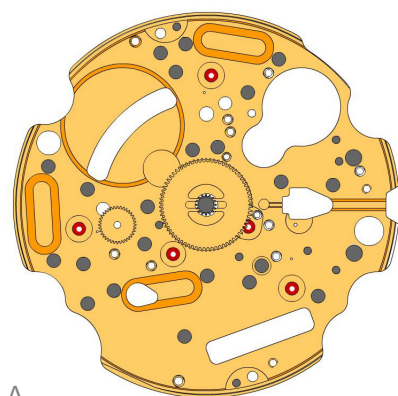
中文使用手册

瑞士朗达是一个机芯供应商, 没有参与制造或分销成表。

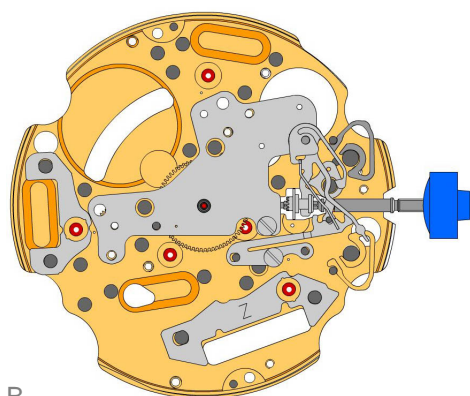
若有任何手表相关之疑问, 如维修、保证期内投诉或手表功能问题, 请联络手表零售商、服务中心或制造商。所有联络资料可向您的销售员查询或参考保证文件。

显示和控制按钮描述

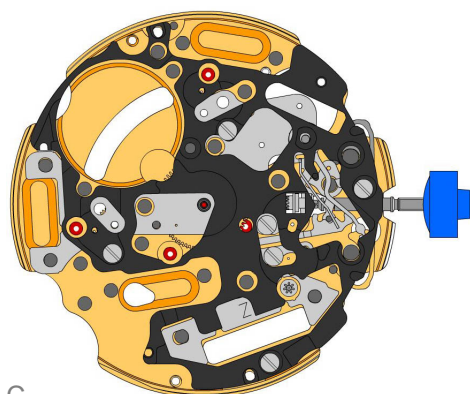







A



















B

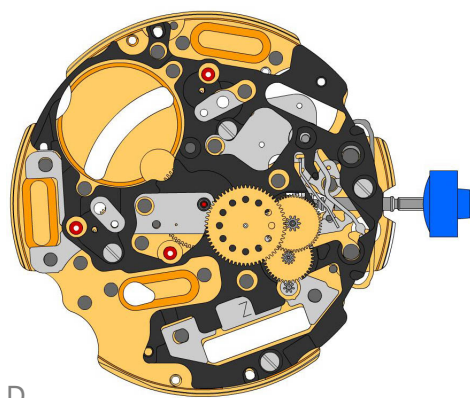


C

2000.574.G 1.		Main plate
3305.290.CO 2.		Cannon pinion with driver (Aig.2, closed)
3301.243 3.		Hour wheel (counter 12h)

2030.017.CO 4.		Centre bridge Centre bridge held by 1 screw 4000.250. Parts 2030.017.CO, 3004.223 and 3500.059 must be exchanged together.
4000.250 5.		Screw
3001.055.FI 6.		Sliding pinion
3000.177.CO 7.		Setting stem
3017.049 8.		Setting lever
3905.049 9.		Setting lever jumper (3 positions) Setting lever jumper tenue par 1 vis 4000.250.
4000.250 10.		Screw
3015.081 11.		Yoke (3 positions)
3905.067 12.		Yoke spring Tensioning the spring arm. Parts 3015.081 and 3905.067 must be exchanged together.
3406.030 13.		Pusher jumper B Put the grey jumper between the two posts on the further side.
3406.038 14.		Pusher jumper A Put the yellow jumper between the two posts on the closer side.
3622.040 15.		Stator Mark [Z] on stator.
3622.039 16.		Stator (counter 6h, 9h, chrono)

3603.079 17.		Plastic bracket Plastic bracket held by 1 screw 4000.250.
4000.250 18.		Screw
3715.094.RK 19.		Rotor




D

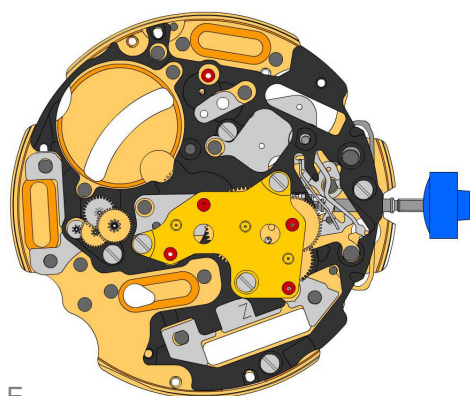
3147.046.CO
20.  Intermediate wheel

3136.142.CO
21.  Second wheel (long)

3122.056.CO
22.  Third wheel


2020.148.G
23.  Train wheel bridge
Train wheel bridge held by 3 screws 4000.250.

4000.250
24.  Screw




E

3715.095.RK
25.  Rotor

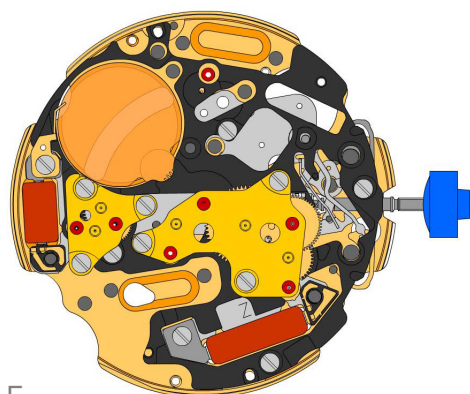
3147.048.CO
26.  Intermediate wheel (counter)

3007.055.CO
27.  Minute wheel (counter 12h)


3402.007.CO
28.  Minute counting wheel (12h)


2020.149.G
29.  Counter train wheel bridge
Counter train wheel bridge held by 3 screws 4000.250.

4000.250
30.  Screw



F

3621.053.RK
31.  Coil
Attention: Please hold the coil only on the grey coil core. Coil held by 1 screw 4000.250.

3621.054.RK
32.  Coil (counter 9h, chrono)
Attention: Please hold the coil only on the grey coil core.

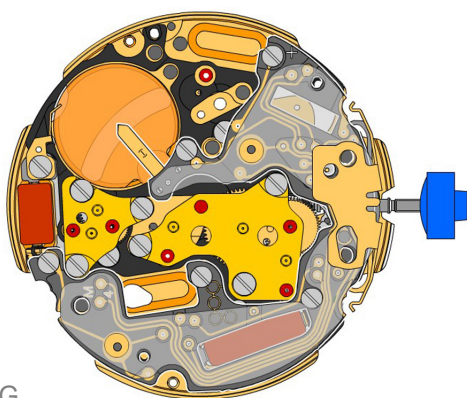
3601.118
33.  Contact strip
Contact strip held by 1 screw 4000.250.

4000.250
34.  Screw





3503.054
35.  Tube

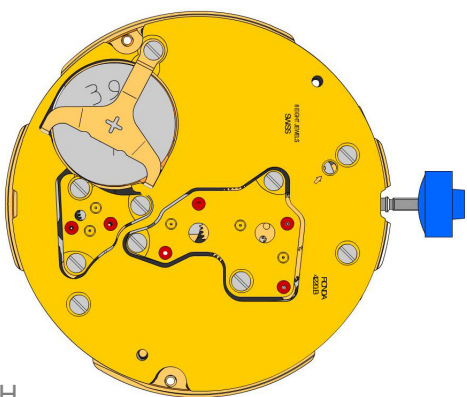
3503.054
36.  Tube

3603.034
37.  Battery insulator







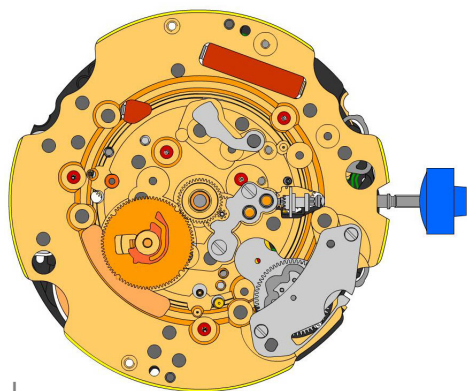
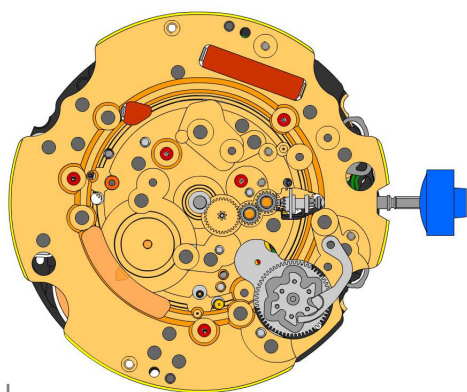
G















3612.144.4220 38.		Electronic module Electronic module held by 5 screws 4000.248. Electronic measurements may be realised now.
4000.248 39.		Screw
3603.069 40.		Circuit insulator
3601.107.G 41.		Pusher contact spring

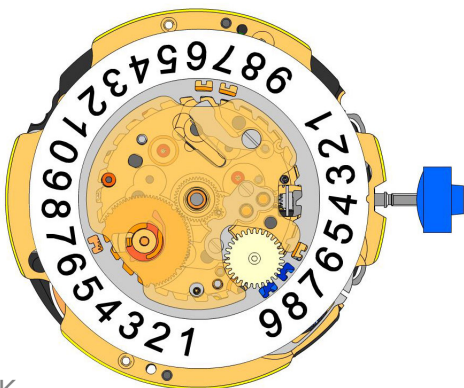


H

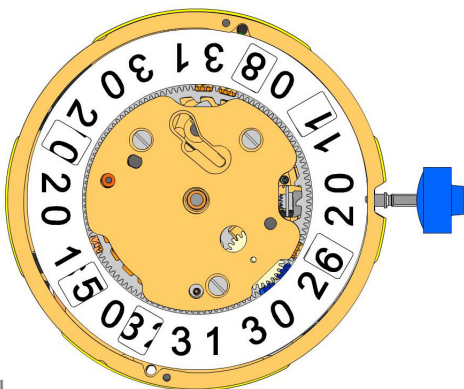
2130.138.G.M01.4220B 42.		Electronic module cover Electronic module cover held by 3 screws 4000.250.
3600.010.HGF 43.		Battery 395
3601.109.G 44.		Bridle + Bridle held by 1 screw 4000.250.
4000.250 45.		Screw



2000.574.G 46.		Main plate
3004.164 47.		Setting wheel
3004.164 48.		Setting wheel
3007.054.CO 49.		Minute wheel
2130.143 50.		Minute train bridge Minute train bridge held by 2 screws 4000.305.
4000.305 51.		Screw
3004.223 52.		Tens indicator driving wheel Parts 2030.017.CO, 3004.223 and 3500.059 must be exchanged together. The short tooth of the tens indicator driving wheel must point to the center of the movement.
3500.059 53.		Tens jumper Parts 2030.017.CO, 3004.223 and 3500.059 must be exchanged together.
2130.142 54.		Tens jumper maintaining plate Tens jumper maintaining plate held by 2 screws 4000.306. Tensioning the spring arm.
4010.306 55.		Screw
3301.242 56.		Hour wheel (Fig.2)
3315.016 57.		Friction spring
3004.224.CO 58.		Date indicator driving wheel
3500.049 59.		Date jumper



K



L

3504.214.AD.1.A
60.



Units indicator (standard)
Nick of the indicator at 3 o'clock.

3147.054
61.



Tens intermediate wheel

2130.141
62.



Date indicator maintaining plate
Date indicator maintaining plate held by 1 screw 4000.250.

3905.070
63.



Date jumper spring
Insert the date jumper spring in the provided opening.

3504.215.AD.1.A
64.



Tens indicator (standard)
Nick of the indicator at 3 o'clock

2130.140.G
65.



Date mechanism maintaining plate
Date mechanism maintaining plate held by 2 screws 4000.250.

4000.250
66.



Screw

3506.072.G
67.



Dial support

8200
68.



Moebius 8200

9014
69.



Moebius 9014

124
70.

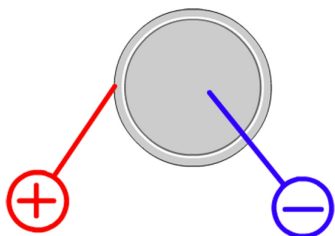


Jismaa 124

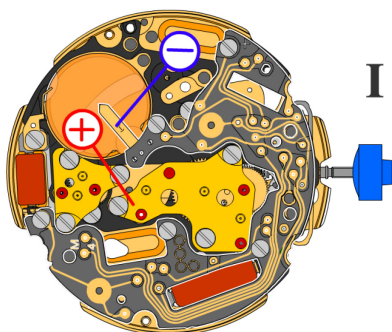
9020
71.



Moebius 9020

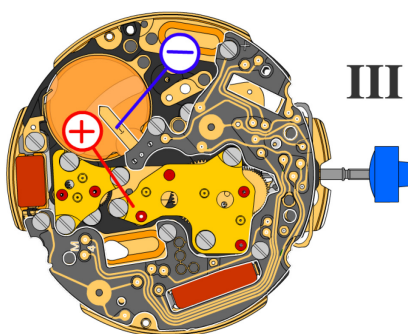


Battery	395
Voltage	1.55 V



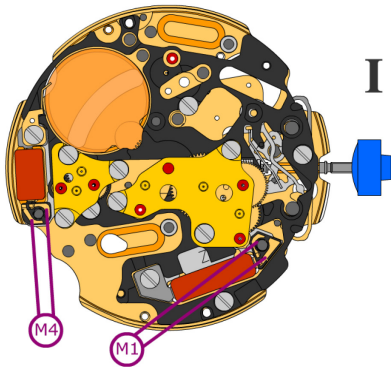
*Setting stem in position I, calendar not in gear,
60 s measuring interval for rate and consumption:*

Typical consumption	1.32 μA
Maximal consumption	1.65 μA
Rate	-10s/M. .. +20s/M.
Lower working voltage limit	1.20 V



Setting stem in position III, 60 s measuring interval:

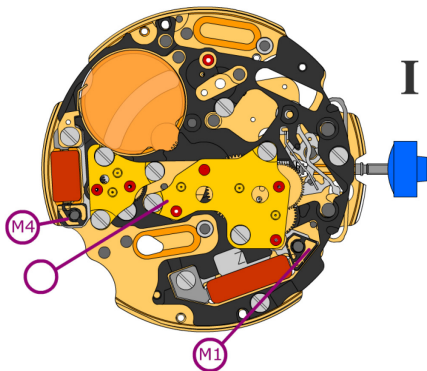
Typical consumption	0.10 μA
Maximal consumption	0.30 μA



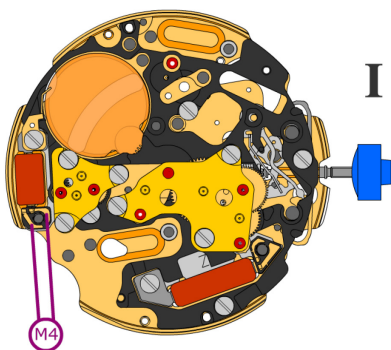
Coil resistance M1

1.90 k Ω .. 2.10 k Ω

Coil resistance M4

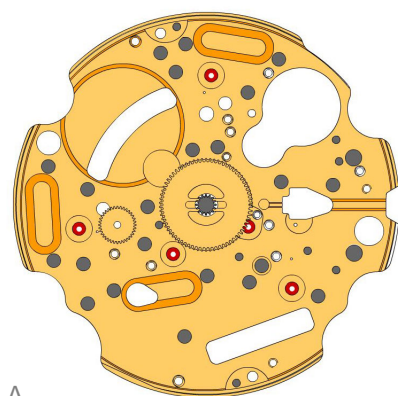
1.68 k Ω .. 1.88 k Ω


Coil isolation M1/M4

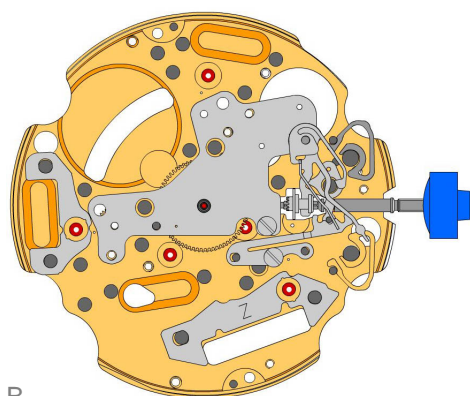
 ∞ k Ω

Signal generator (4.9 ms, 8 Hz):

Lower working voltage limit M4

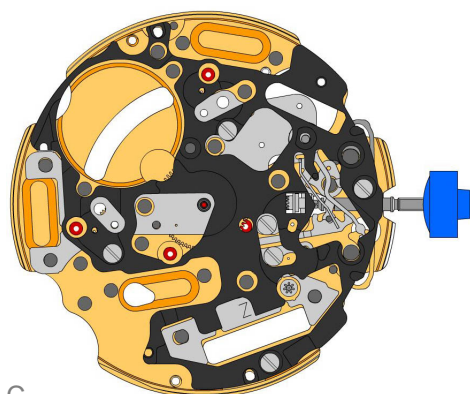
1.20 V






A



















B

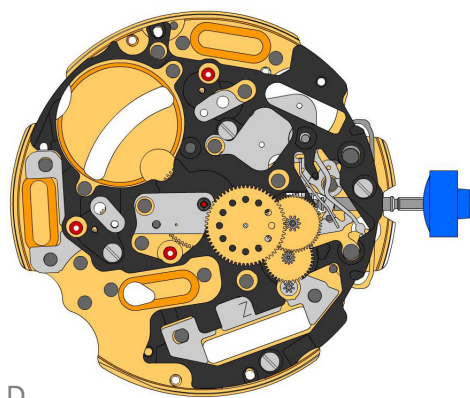


C

2000.574.G 1.		Main plate
3305.290.CO 2.		Cannon pinion with driver (Aig.2, closed)
3301.243 3.		Hour wheel (counter 12h)

2030.024.CO 4.		Centre bridge Centre bridge held by 1 screw 4000.250.
4000.250 5.		Screw
3001.055.FI 6.		Sliding pinion
3000.177.CO 7.		Setting stem
3017.049 8.		Setting lever
3905.049 9.		Setting lever jumper (3 positions) Setting lever jumper tenue par 1 vis 4000.250.
4000.250 10.		Screw
3015.081 11.		Yoke (3 positions)
3905.067 12.		Yoke spring Tensioning the spring arm.
3406.030 13.		Pusher jumper B Put the grey jumper between the two posts on the further side.
3406.038 14.		Pusher jumper A Put the yellow jumper between the two posts on the closer side.
3622.040 15.		Stator Mark [Z] on stator.
3622.039 16.		Stator (counter 6h, 9h, chrono)

3603.079 17.		Plastic bracket Plastic bracket held by 1 screw 4000.250.
4000.250 18.		Screw
3715.094.RK 19.		Rotor




D

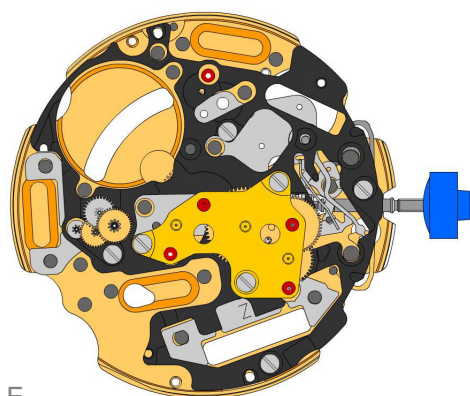
3147.046.CO
20.  Intermediate wheel

3136.142.CO
21.  Second wheel (long)

3122.056.CO
22.  Third wheel


2020.148.G
23.  Train wheel bridge
Train wheel bridge held by 3 screws 4000.250.

4000.250
24.  Screw




E

3715.095.RK
25.  Rotor

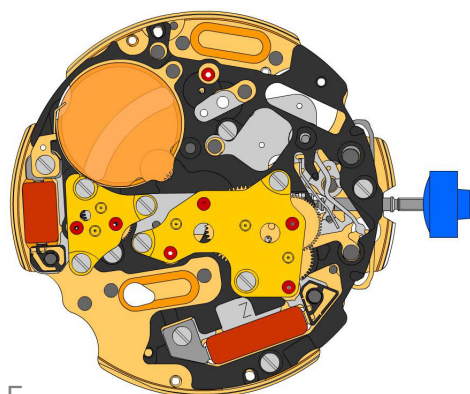
3147.048.CO
26.  Intermediate wheel (counter)

3007.055.CO
27.  Minute wheel (counter 12h)


3402.007.CO
28.  Minute counting wheel (12h)


2020.149.G
29.  Counter train wheel bridge
Counter train wheel bridge held by 3 screws 4000.250.

4000.250
30.  Screw



F

3621.053.RK
31.  Coil
Attention: Please hold the coil only on the grey coil core. Coil held by 1 screw 4000.250.

3621.054.RK
32.  Coil (counter 9h, chrono)
Attention: Please hold the coil only on the grey coil core.

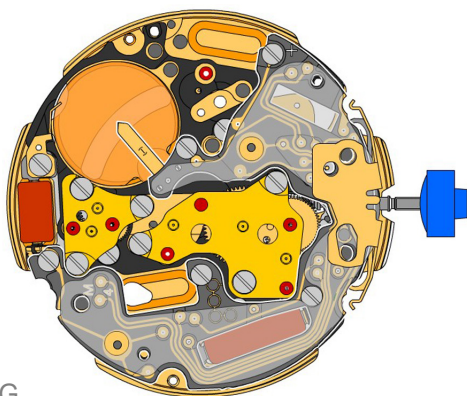
3601.118
33.  Contact strip
Contact strip held by 1 screw 4000.250.

4000.250
34.  Screw





3503.054
35.  Tube

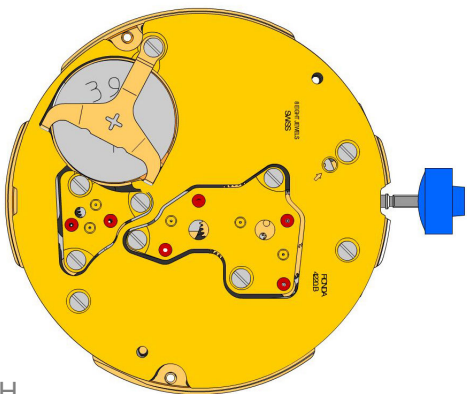
3503.054
36.  Tube

3603.034
37.  Battery insulator







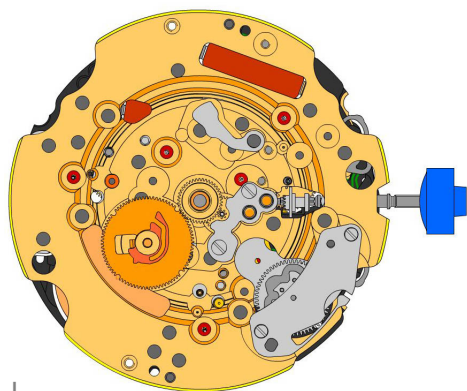
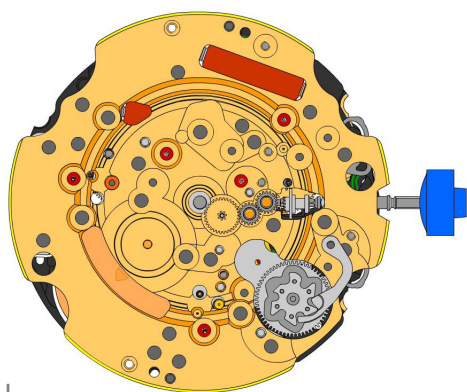
G















3612.144.4220 38.		Electronic module Electronic module held by 5 screws 4000.248. Electronic measurements may be realised now.
4000.248 39.		Screw
3603.069 40.		Circuit insulator
3601.107.G 41.		Pusher contact spring

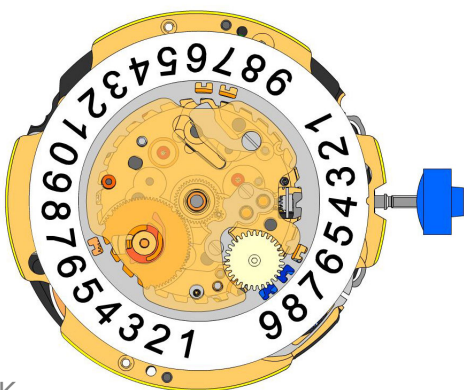


H

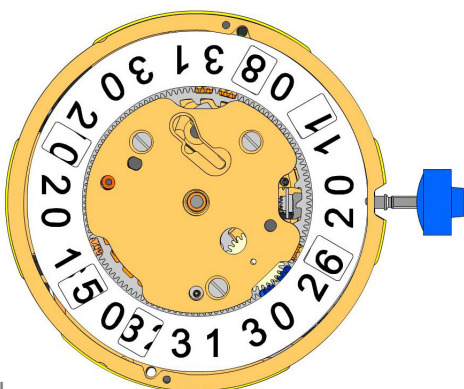
2130.138.G.M01.4220B 42.		Electronic module cover Electronic module cover held by 3 screws 4000.250.
3600.010.HGF 43.		Battery 395
3601.109.G 44.		Bridle + Bridle held by 1 screw 4000.250.
4000.250 45.		Screw



2000.574.G 46.		Main plate
3004.164 47.		Setting wheel
3004.164 48.		Setting wheel
3007.054.CO 49.		Minute wheel
2130.143 50.		Minute train bridge Minute train bridge held by 2 screws 4000.305.
4000.305 51.		Screw
3004.227 52.		Tens indicator driving wheel The short tooth of the tens indicator driving wheel must point to the center of the movement.
3500.075 53.		Tens jumper
2130.142 54.		Tens jumper maintaining plate Tens jumper maintaining plate held by 2 screws 4000.306. Tensioning the spring arm.
4010.306 55.		Screw
3301.242 56.		Hour wheel (Aig.2)
3315.016 57.		Friction spring
3004.224.CO 58.		Date indicator driving wheel
3500.049 59.		Date jumper



K



L

3504.214.AD.1.A
60. Units indicator (standard)
Nick of the indicator at 3 o'clock.



3147.054
61. Tens intermediate wheel



2130.141
62. Date indicator maintaining plate
Date indicator maintaining plate held by 1 screw 4000.250.



3905.070
63. Date jumper spring
Insert the date jumper spring in the provided opening.



3504.215.AD.1.A
64. Tens indicator (standard)
Nick of the indicator at 3 o'clock



2130.140.G
65. Date mechanism maintaining plate
Date mechanism maintaining plate held by 2 screws 4000.250.



4000.250
66. Screw



3506.072.G
67. Dial support



8200
68. Moebius 8200



9014
69. Moebius 9014



124
70. Jismaa 124

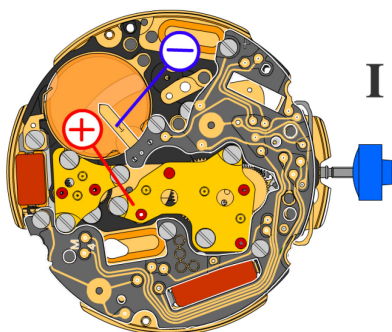


9020
71. Moebius 9020



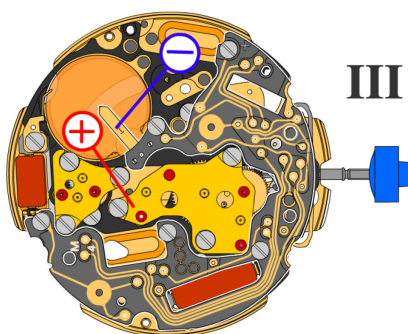


Battery	395
Voltage	1.55 V



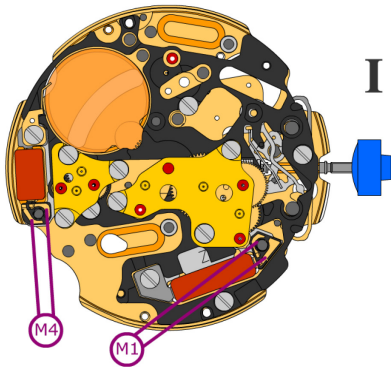
*Setting stem in position I, calendar not in gear,
60 s measuring interval for rate and consumption:*

Typical consumption	1.32 μA
Maximal consumption	1.65 μA
Rate	-10s/M. .. +20s/M.
Lower working voltage limit	1.20 V



Setting stem in position III, 60 s measuring interval:

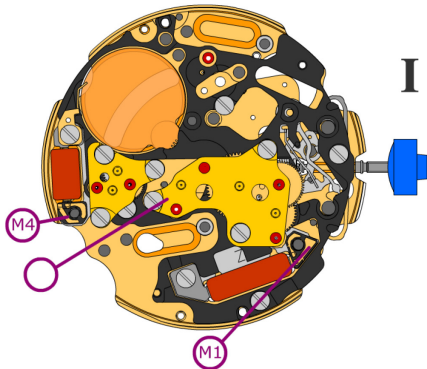
Typical consumption	0.10 μA
Maximal consumption	0.30 μA



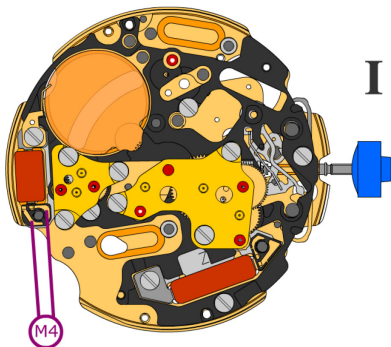
Coil resistance M1

1.90 k Ω .. 2.10 k Ω

Coil resistance M4

1.68 k Ω .. 1.88 k Ω


Coil isolation M1/M4

 ∞ k Ω

Signal generator (4.9 ms, 8 Hz):

Lower working voltage limit M4

1.20 V