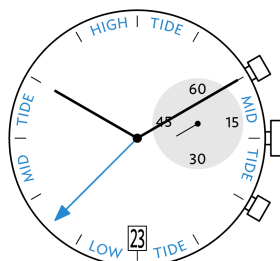
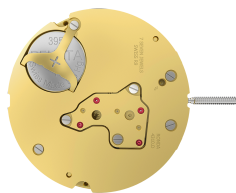
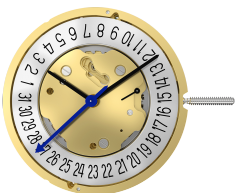


# Quartz Movements Multifunctions RONDA xtratech

Caliber 4310.D – 12½"



## Product Specifications

Analog quartz movement

Line xtratech

Caliber 4310.D

Size 12½"

Version Swiss Made 7 Jewels / gold plated

Version Swiss Parts 4 Jewels / nickel plated

Standard battery life 60 months

Standard hand fitting height 1

## Features

- Setting the tide cycles by pushers
- Very long battery life
- Repairable metal watch movement
- Power saving mechanism with pulled out stem:  
Reduction of consumption approximately 70%

## Functions

- Multifunction
- Tide by hand
- Small second
- Date
- 2 hands

# Quartz Movements Multifunctions RONDA xtratech

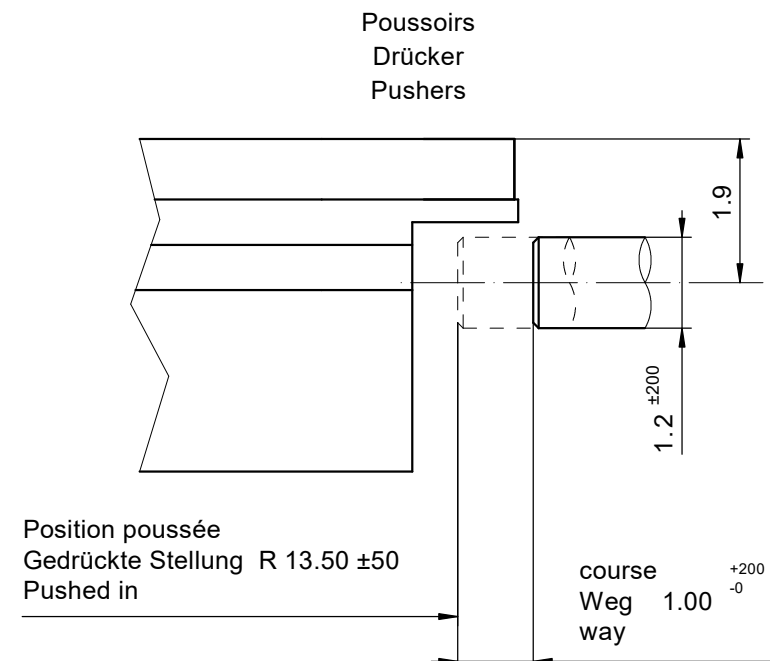
## Caliber 4310.D – 12½"

### Technical Specifications

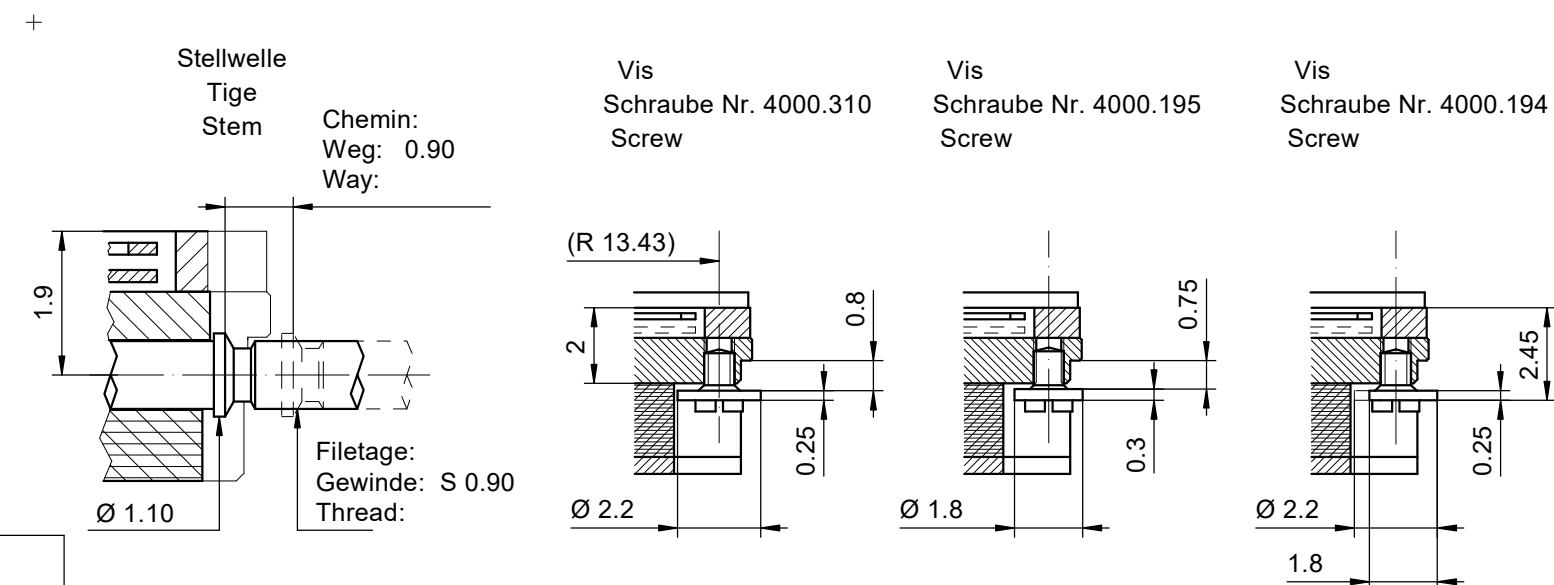
Diameter Total	28.60 mm
Case fitting	28.00 mm
Movement height	4.40 mm
Height over standard battery	4.40 mm
Movement rest	0.60 mm
Height over stem	1.90 mm
Length of stem travel	0.90 mm
Stem thread	0.90 mm
Useful torque second – typical	6 µNm
Useful torque minute – typical	300 µNm
Useful torque center stop second – typical	7 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	60 months
Battery voltage	1.5 V
Current consumption – typical	1.19 µA (Date Mechanism not in Gear)
Current consumption – maximum	1.65 µA (Date Mechanism not in Gear)



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

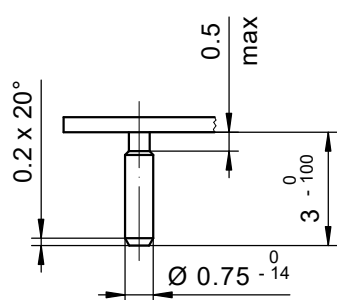
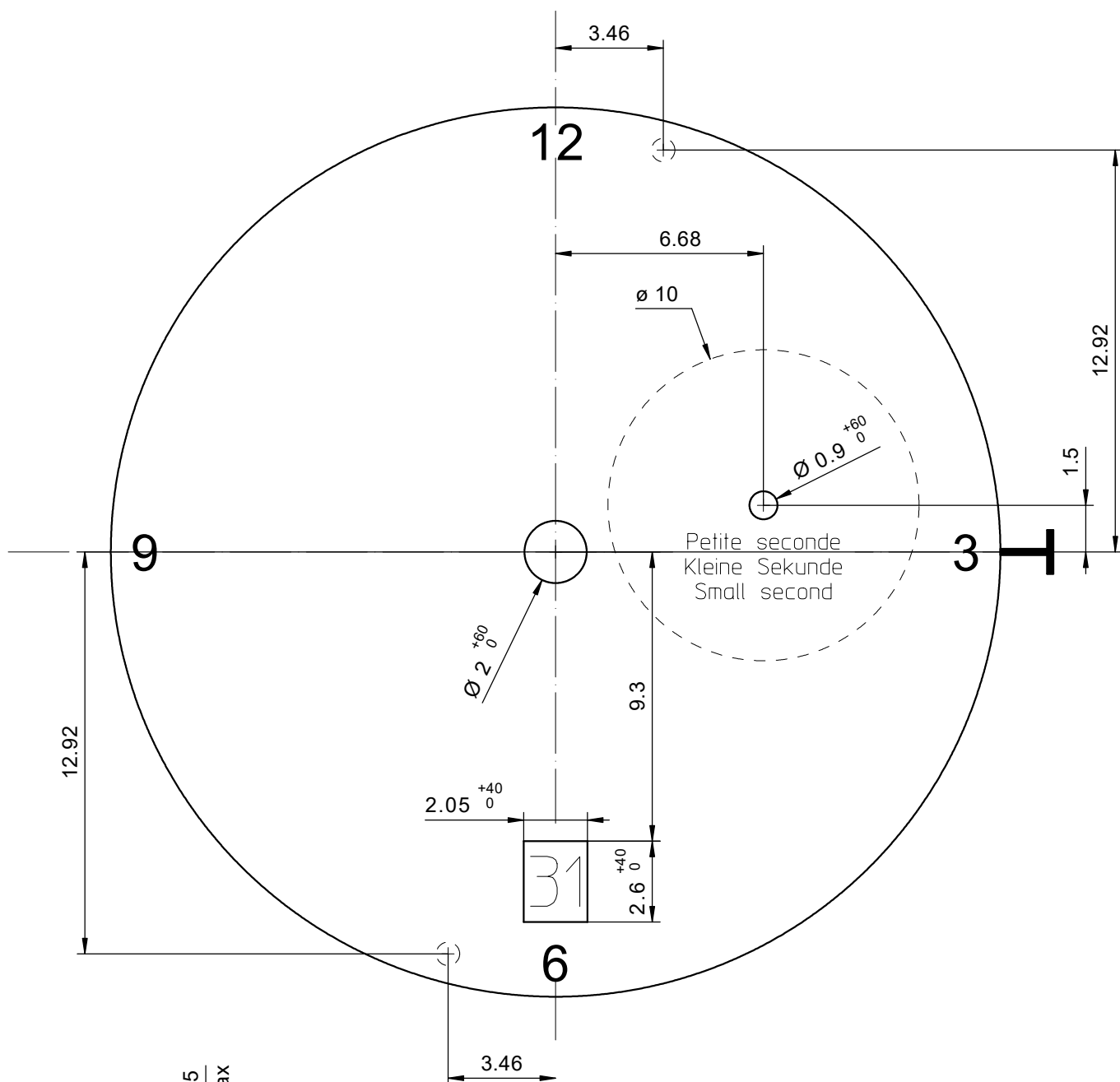


The indicated angle of the pusher direction and the position must be fulfilled. For pusher angles of 0° (pusher A and B), see drawing 5000.345.



RONDA 4310.D

Issued	16.08.2019	dh5221
Modified	06.05.2021	dh5221
Released	YES	
Mod. No.	40472	
Tolerance	±20 µm	
Scale	10 : 1	Page 1/1 A3
<p>Sous réserve de modifications  Aenderungen vorbehalten  Modifications reserved</p>		
No.	5000.434	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

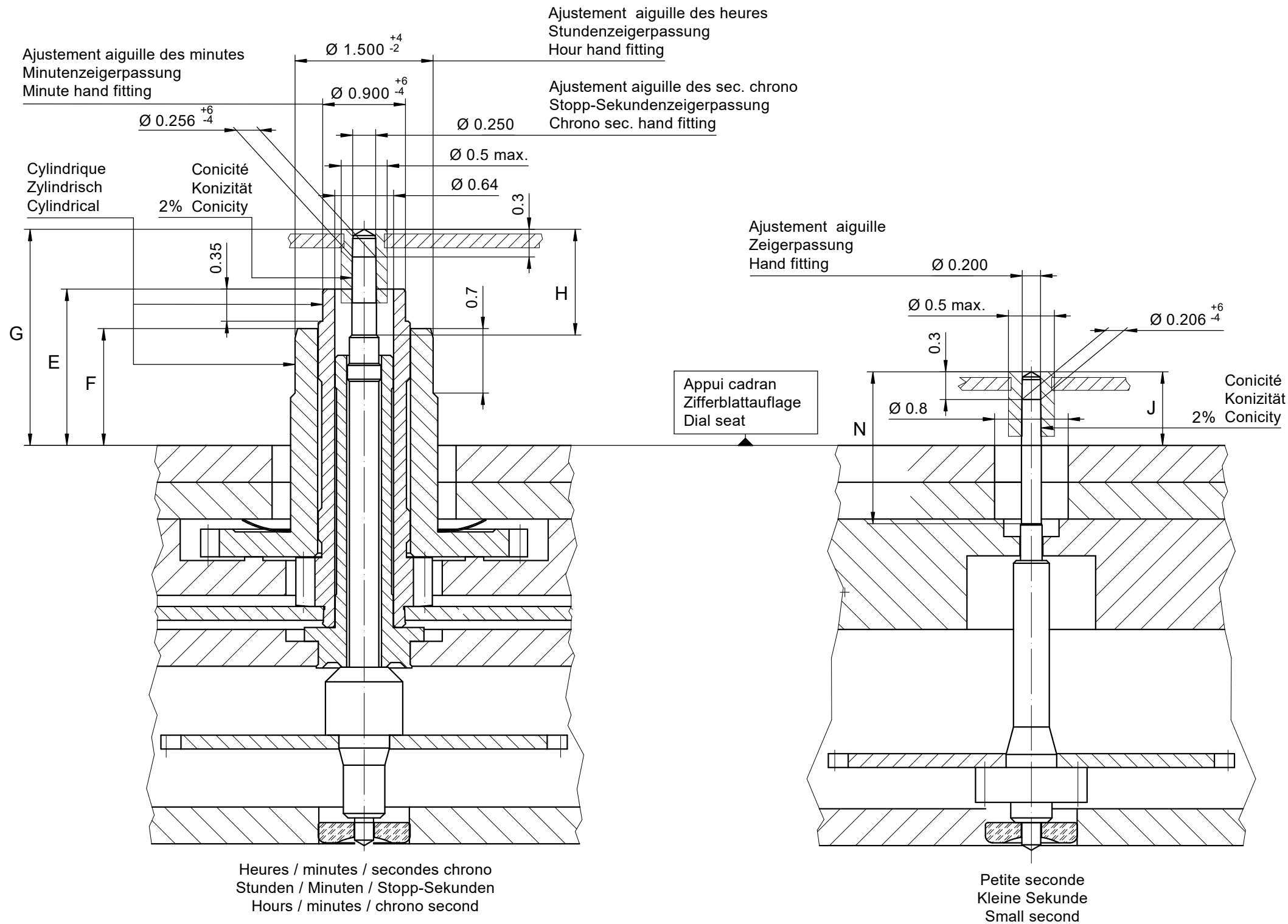
Cadran  
Zifferblatt 12½"  
Dial

Issued	16.08.2019	dh5221
Modified	06.05.2021	dh5221
Released	YES	
Mod. No.	ÄA 43820	
Tolerance	±20 µm	
Scale	10 : 1	Page 1/1 A4

RONDA 4310.D

Sous réserve de modifications  
Änderungen vorbehalten  
Modifications reserved

No. 5010.841 01



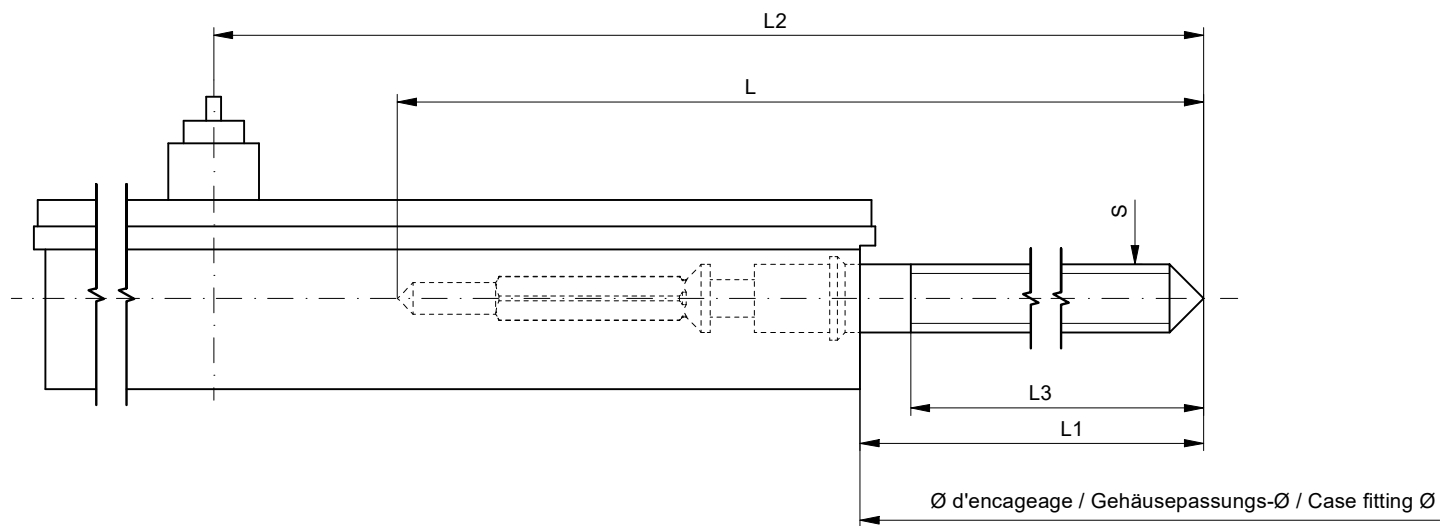
Aiguillages Zeigerwerkhöhe Hand fitting height						
Dépassement Höhe über Zifferblattaufgabe Height over dial seat						
	Pignon des marée Tide-Trieb Tide pinion	Chaussée Minutenrohr Cannon-pinion	Roue des heures Stundenrad Hour wheel		Petite seconde Kleine Sekunde Small second	
No	G	E	F	H	N	J
1	2.35	1.70	1.27	1.15	1.65	0.80
-						

Aiguillages Zeigerwerkhöhe Hand fitting height					
Peinture comprise / inkl. Farbe / Paint included					
Epaisseur maximum du cadran Maximale Zifferblattstärke Maximum dial thickness					Epaisseur des aiguilles Zeigerdicke Hands 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	
1	1.85	1.30	0.85	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	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	Masse / Masse / Weight *
µNm	max.	0.06	0.80	0.80	0.07	Balourd / Unwucht / Unbalance *
gmm <sup>2</sup>	max.	1.0	-	-	0.4	Inertie / Massenträgheit / Inertia *
N	max.	30	40	40	30	Force de chassage / Aufpresskraft / Force

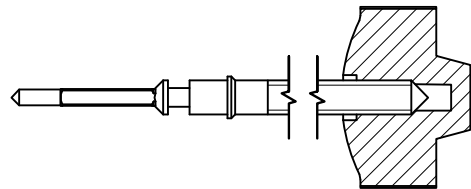
Aiguillages Zeigerwerkhöhen 12½" Hand fitting heights		Issued	16.08.2019	dh5221
		Modified	06.05.2021	dh5221
		Released	YES	
		Mod. No.	43820	
		Tolerance	---	
		Scale	20 : 1	Page 1/1 A3
RONDA 4310.D		Sous réserve de modifications Änderungen vorbehalten Modifications reserved		
		No.	3316.187	01

\* 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)

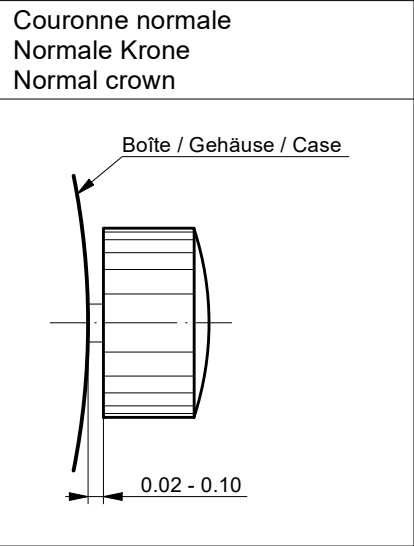
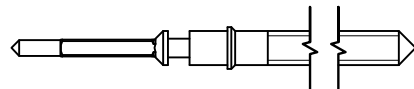
No. d'article Artikelnummer Part number	L	L1	L2	L3	S	D
3000.177.CO	20.00	10.23	24.23	10.15	0.90	1.10



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

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

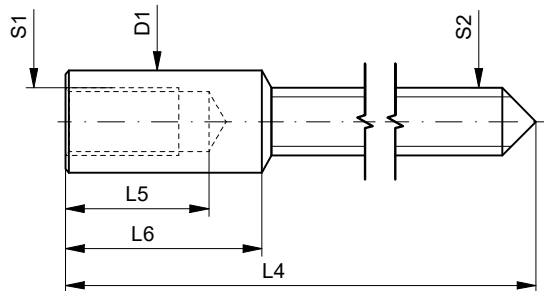
No. d'article Artikelnummer Part number	L	L1	L2	L3	S	D
3000.177	20.00	10.23	24.23	10.15	0.90	1.10
3000.191	32.00	22.23	36.23	22.15	0.90	1.10



Couronne 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 Stellwelle Stem		(dimensions / forces) (Dimensionen / Kräfte) (dimensions / forces)		Issued	16.08.2019	dh5221
				Modified	06.05.2021	dh5221
				Released	YES	
				Mod. No.	43820	
				Tolerance	---	
				Scale	---	Page 1 / 1 A3
RONDA		4310.D		Sous réserve de modifications Aenderungen vorbehalten Modifications reserved		
				No.	5030.053	01



**Movement holder**  
Removing setting stem  
H5XXX.1T



**Movement holder**  
Setting hands  
H5XXX.1A

## Fitting dial and hands

- Crown in position III
- Wind hour hand forward, until the date changes
- Remove working hand
- Fit the dial
- Place all hands toward 12 o'clock
- Wind hands forward to set actual time
- Crown in position II
- Set date
- Crown in position I

## Setting the tide

- Keep one of the two pushers pressed for at least one second (tide hand jumps forward).
- Press one of the two pushers briefly; the hand jumps forward each time one 30th (12min 24.4s) of the level for high or low tide.
- Press one of the two pushers for a long time; continuous correction.
- By leaving the pushers pressed for at least 10 s; the hand position is automatically maintained and a correction mode is quitted.

**Date switching duration:**

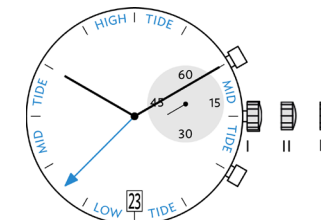
**~1¼hrs**

## Characteristics of electronics

The function configurations in the movement are identical for both pusher positions independent from the position the pusher is positioned in the watch case.

After inserting the battery, the tide hands jumps the first time after 60 s and continues with a jump every 12 min. 24 s.

Pulling the stem causes an interruption of the tide counter in the IC. When the crown is pushed back, the counting continues from as from the last position. A reset can only be achieved when removing the battery.



## 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.

# RONDA xtratec – Movement Cal. 4310.D

## User's Manual English

You have decided to buy a watch, which was assembled by a watchmaker 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

Small  
Second hand  
Minute hand  
Hour hand  
Tide cycle hand  
Date

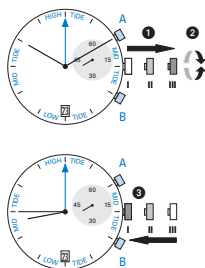
#### Control buttons

Push button A  
Crown  
Push button B

#### Please note:

The Tide function is set and controlled by either push button A or B (depending on which one is available on the watch.)

01



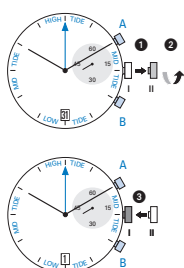
### Setting the time

- 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.

02



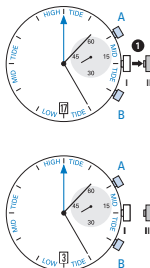
### Setting the date (quick mode)

- 1 Pull out the crown to position II (the watch continues to run).
- 2 Turn the crown until the correct date 11 appears.
- 3 Push the crown back into position I.

#### Please note:

During the date changing phase between approx. 9 PM and midnight; the date must be set to the date of the following day.

03

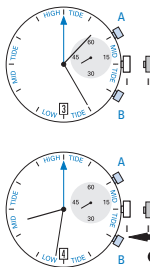


### Setting the date/time following a battery change

#### Example:

- Date / time on the watch: 11 / 1:25 AM  
- Present date / time: 11 / 8:32 PM

- 1 Pull out the crown to position II (the watch continues to run).
- 2 Turn the crown until yesterday's date appears 11.

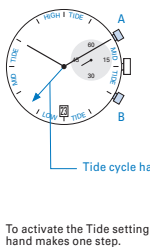


- 3\* Pull out the crown to position III (the watch stops).
- 4 Turn the crown until the correct date 11 appears
- 5\*\* Continue to turn the crown until the correct time 8:32 PM appears.
- 6 Push the crown back into position I.

#### 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.

04



### How to set the actual Tide state

- 1 Set the actual time.
- 2 Find the current Tide state for your actual location from a trusted data source, website or tide guide.
- 3 Calculate the Tide height for the actual time from your Tide chart. Generally, Tide extremes are approx. 6 hours apart (e.g. if your chart says that HIGH TIDE is 3 hours from your set local time, set your watch to - MID TIDE, rising).

To activate the Tide setting mode press Pusher A or B for approx. 1 second until the hand makes one step.

Press the pusher again to move the Tide hand forward step-by-step until the desired Tide state is reached.

Keeping the pusher pressed the Tide hand will run continuously until the pusher is released.

The Tide setting function is stopped after 10 seconds without actuating the pusher.

#### Please note:

The Tide hand steps forward every 12 minutes 24.4 seconds, one full turn takes 12 hours, 24 minutes and 24 seconds (one high tide and one low tide).

Please be aware that the Tide state differs from location to location. Changing your location may require an adjustment of the Tide state.

After inserting the battery, the first pulse for the Tide hand occurs after 60 seconds. Next pulses follow at the interval of 12 minutes, 24.4 seconds.

Adjusting the Tide state by the pusher has no effect to the interval of the motor pulses, nor will the Tide function be re-initialized.

05

Battery type: 395 / SR927SW  
Accuracy: +20 / -10 seconds per month