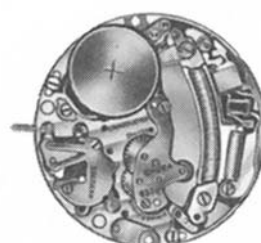


CALIBRE
1378
Q 8 jewels (20 x 0.98)

Ø 20.00 mm	
Movement height	0.98 mm
Jewel number Frequency	8 32'768 A/h

**GENERAL DESCRIPTION**

A new design in quartz watches with its reduced height.

DISPLAY analogue with hands

FUNCTIONS hours, minutes

CORRECTIONS hours, minutes : by 2nd stem position

VARIATION DURING WEAR better than ± 15 seconds per month

RESISTANCE TO SHOCKS NIHS 91-10

RESISTANCE TO MAGNETIC FIELDS better than 20 Oe

TEMPERATURE FUNCTIONING RANGE from 0° to 50° C

RUNNING TIME typical 1.5 years

CONSUMPTION maximum 0.65 µA

YEAR OF CONSTRUCTION 1983

DIMENSIONS

Diameter 20.00 mm
height on movement 0.98 mm
height on battery clamp 1.20/1.45 mm

MINIMUM FUNCTIONING VOLTAGE

≥ 1.35 V

BATTERY

REFERENCE 9940/9942

TYPE silver oxide-zinc (low drain)

DIAMETER 7.90 mm

HEIGHT 1.05/1.30 mm

VOLTAGE 1.55 V

CAPACITY 7 mAh

ELECTRONIC MODULE

TYPE OF RESONATOR quartz tuning-fork

FREQUENCY 32768 Hz

MOTOR COIL adjacent to the module

FREQUENCY CORRECTOR without

MOTOR

TYPE electromagnetic with radial field, coil on the same level, step-by-step (180° / 20 sec., LAVET type)

DESIGN integrated, can be disassembled

1. DIAGNOSIS

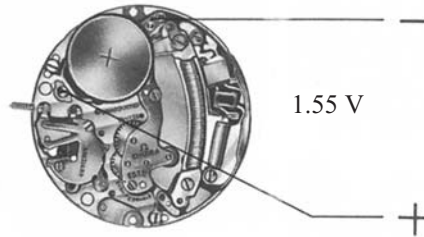
Important : for all these measurements, do not pull the crown to the time-setting position. A strong light source can disturb the functions of the integrated circuit and therefore falsify the measurements.

CONTROLS

MEASUREMENTS

INSTRUMENTS

BATTERY VOLTAGE, battery fitted



CHECKER 1

ALITEST

FREQUENCY, battery fitted

(no frequency corrector)

between

- 0.4 and

+ 0.5 s/d

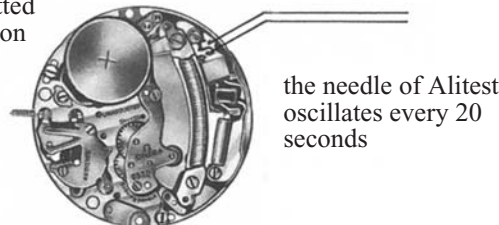
CHECKER 1

Measurement time 20 seconds

DELTATEST

MOTOR IMPULSES, battery fitted

Warning : coil wires are soldered on these two contact areas.



CHECKER 1

Measurement time 20 seconds

ALITEST

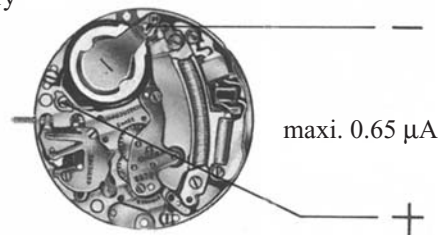
MOTOR COIL RESISTANCE, without battery



CHECKER 1

Measurement tension less than 0.4 Volt

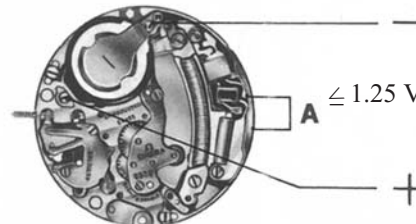
CONSUMPTION, without battery



CHECKER 1

Measurement tension 1.55V
Measurement time 20 seconds

MINIMUM FUNCTIONING VOLTAGE, without battery, in rapide advance 32Hz (connect contact "A" to the ground using tweezers)



CHECKER 1

ALITEST

2. DISASSEMBLY

Order of operations battery

hands, dial

electronic module (4 screws)

wheel train, stator

mechanism

double-function spring

minute train

Warning stator 1378.9402 can be taken apart, but in no case should it be deformed nor bent.

For all the disassembly and assembly operations, it is required to use the special piece-holder cal. 1378.

3. CLEANING

3.1. Dry cleaning battery

electronic module

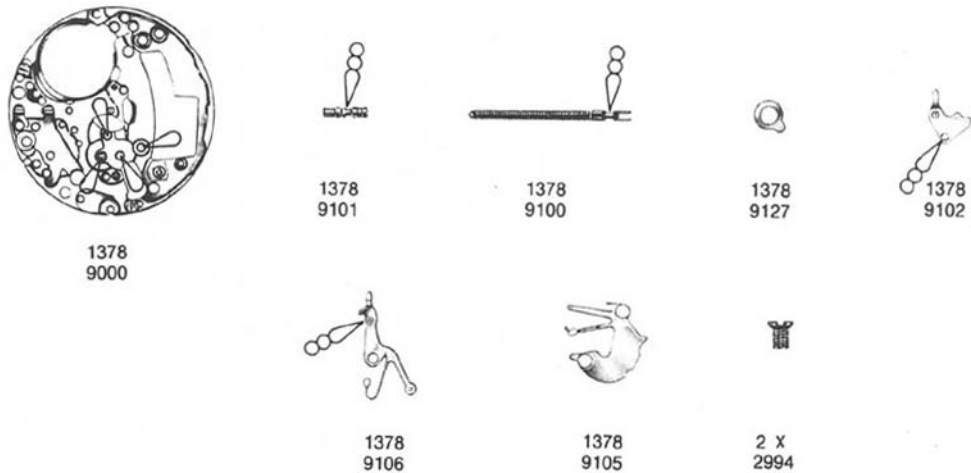
rotor (or in a very clean bath)

3.2. Cleaning in usual baths

all other components

4. ORDER OF ASSEMBLY

4.1. Mechanism



Remark The main plate exists in two different versions:

1. No. 1378.9000 the center axle 9030 exceeds the main plate by 0.13 mm.
2. No. 1378.9001 the center axle 9066 exceeds the main plate by 0.41 mm.

4.2. Wheel train



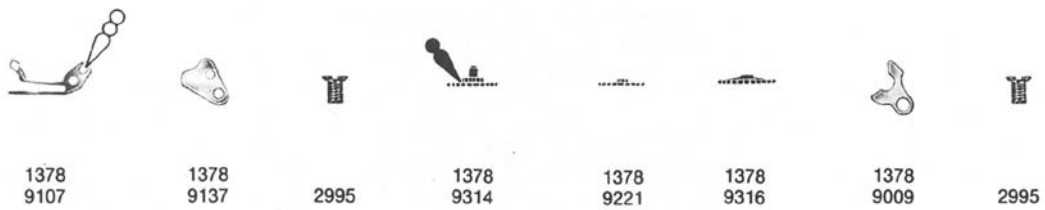
Owing to the magnetic force existing between the magnet and the stator, the rotor (1378.9415) remains suspended between its two bearings.

Control the axial clearance of the rotor above and below.

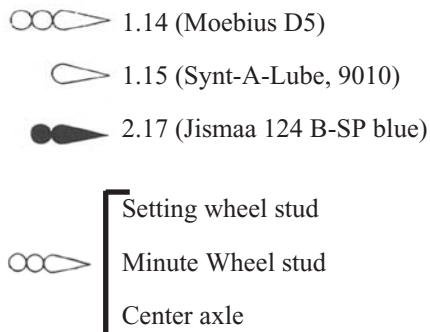
4.3. Electronic module



4.4. Double-function spring + minute train



4.5. Lubrication



4.6. Control and adjustment (see 1. Diagnosis)

Movement consumption, maxi 0.65 μ A

Reduced consumption, handset stem pulled out, maxi 0.45 μ A.

Minimum functioning voltage \leq 1.25 V.

Frequency between -0.4 and + 0.5 s/day. Check at a temperature of 20° C to 25° C after 30 minutes' run without interruption.

Torque on minute hand (at 1.55 V), minimum 15 μ Nm.

4.7. Fitting the battery

Insert a fresh, checked battery taking care to place it in the movement with the positive pole on top (bridge side).

Battery No. Omega

9940 height 1.00 mm

9942 height 1.29 mm

Warning : to insert a new battery in the movement, it is necessary to unscrew the screw for battery clamp.

5. CASING COMPONENTS

5.1. Fitting of hands

To fit the hands, a simple 9" piece-holder with a support at the center of the main plate is enough.

5.2. Time-setting stem

The handsetting stems with very small crowns which equip certain watch references are supplied as spare parts with the crowns mounted. In these cases the handsetting stems are classed as casing components and bare the crown numbers.

6. TIME-SETTING

2 position stem

1. neutral position
2. stop + correction of hours and minutes in both directions.

6.1. Storage

Stem in second position recommended during storage.