



# Fabrique d'Ebauches Vénus S. A.

MOUTIER

10<sup>1/2</sup> 208

23.30 mm

**Mouvement ancre, petite seconde, quantième à aiguille**  
**Lever movement, small second, with date hand device**  
**Ankerwerk, kleine Sekunde, Datumsangabe durch Zeiger**



Cal. 208



## Caractéristiques techniques

Dimensions en mm

### Cage :

Diamètre total . . . . .	23.60
Diamètre d'encadrement . . . . .	23.30
Hauteur sur ponts sans quantième . . . . .	3.80
Hauteur maximum avec quantième . . . . .	4.70
Hauteur sur filet sans quantième . . . . .	1.20
Hauteur mécanisme quantième . . . . .	0.70

### Echappement :

Distance roue - ancre . . . . .	3.15
Distance ancre - balancier . . . . .	3.40
Diamètre de la roue . . . . .	5.45
Diamètre du trou de la roue . . . . .	0.45
Hauteur du plateau . . . . .	0.85
Diamètre du trou du plateau . . . . .	0.36
Distance de cheville . . . . .	0.75

### Balancier :

Diamètre total . . . . .	10.00
Diamètre du trou . . . . .	0.90
Hauteur de la serge . . . . .	0.80

### Virole :

Diamètre total . . . . .	1.40
Diamètre du trou . . . . .	0.58
Hauteur . . . . .	0.60

### Piton :

Diamètre . . . . .	0.60
Longueur pour spiral plat . . . . .	1.35

### Ressort de barillet :

Hauteur . . . . .	1.75
Epaisseur . . . . .	0.11
Longueur . . . . .	300

### Aiguillage :

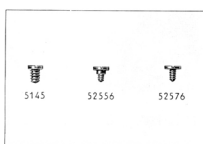
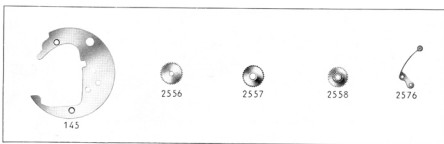
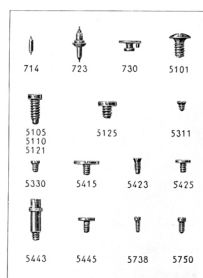
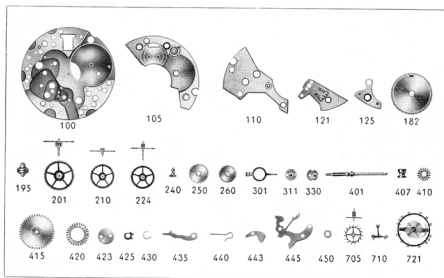
Diamètre ajustement d'aiguille de minute . . . . .	0.70
Diamètre ajustement d'aiguille d'heure . . . . .	1.30/1.32
Diamètre ajustement d'aiguille de seconde . . . . .	0.21/0.24
Diamètre ajustement d'aiguille de quantième . . . . .	2.20'2.22

### Tige de remontoir :

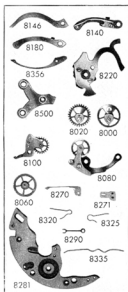
Diamètre du filetage . . . . .	1.20
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### Cadran :

Diamètre trous de pieds dans la platine . . . . .	1.10
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No.	LISTE DES FOURNITURES	No.	LIST OF MATERIALS	Nr.	RESTANDTEILE
100	Platine	100	Plate	100	Werkplatte
105	Pont de barillet	105	Barrel bridge	105	Federhausbrücke
110	Pont de rouage	110	Train wheel bridge	110	Räderwerkbrücke
121	Coq pour spirail plat	121	Balance cock for flat hairspring	121	Unruhklöben für Flachspirale
125	Pont d'ancre	125	Pallet cock	125	Ankerklöben
145	Support de cadran	145	Dial rest	145	Zifferblatt-Stütze
182	Barillet avec couvercle	182	Barrel and cover	182	Federhaus mit Deckel
195	Arbre de barillet	195	Barrel arbor	195	Federwelle
201	Roue de centre	201	Center wheel	201	Minutenrad
210	Roue moyenne	210	Third wheel	210	Kleinbodenrad
224	Roue de seconde	224	Fourth wheel	224	Sekundenrad
240	Chaussée	240	Cannon pinion	240	Minutenrohr
250	Roue des heures	250	Hour wheel	250	Stundenrad
260	Roue de minuterie	260	Minute wheel	260	Wechselrad
301	Raquette pour spirail plat	301	Regulator for flat hairspring	301	Rücker für Flachspirale
311	Coquet	311	Upper cap jewel with end-piece, for balance	311	Rückerplättchen
330	Plaque de contre-pivot pour balancier	330	Lower cap jewel with end-piece, for balance	330	Decksteinplättchen für Unruh
401	Tige de remontoir	401	Winding stem	401	Aufzugwelle
407	Pignon coulant	407	Clutch wheel	407	Schubetrieb
410	Pignon de remontoir	410	Winding pinion	410	Aufzugtrieb
415	Rochet	415	Ratchet wheel	415	Sperrad
420	Roue de couronne	420	Crown wheel	420	Kronrad
423	Noyau de roue de couronne	423	Crown wheel core	423	Kronradring
425	Cliquet	425	Click	425	Sperkegel
430	Ressort de cliquet	430	Click spring	430	Sperkegelfeder
435	Bascule	435	Yoke	435	Wippe
440	Ressort de bascule	440	Yoke spring	440	Wippenfeder
443	Tirette	443	Setting lever	443	Stellhebel
445	Ressort de tirette	445	Setting lever spring	445	Stellhebelfeder
450	Renvoi	450	Setting wheel	450	Zeigerstellrad
705	Roue d'ancre pivotée	705	Escape wheel and pinion with straight pivots	705	Ankerad mit Trieb
710	Ancre montée	710	Jewelled pallet fork and staff	710	Anker mit Welle
714	Tige d'ancre	714	Pallet staff	714	Ankerwelle
721	Balancier avec spirail plat	721	Balance with flat hairspring, regulated	721	Unruh mit Flachspirale
723	Axe de balancier	723	Balance staff, pivoted	723	Unruhwelle
730	Plateau	730	Roller	730	Hebelscheibe
2556	Roue entraîneuse de l'étoile de quantième	2556	Date star driving wheel	2556	Datumstern-Mitnehmerrad
2557	Etoile de quantième	2557	Date star	2557	Datumstern
2558	Roue des heures double denture	2558	Double toothing hour wheel	2558	Datumrad mit Doppelzahnung
2576	Sautoir de quantième	2576	Date jumper	2576	Datumsperrle
5101	Vis de fixation	5101	Case screw	5101	Werkbefestigungs-Schraube
5105	Vis de pont	5105	Bridge screw	5105	Brücken Schraube
5110	Vis de coq	5110	Balance cock screw	5110	Unruhklöben-Schraube
5116	Vis de pont d'ancre	5116	Dial rest screw	5116	Ankerklöben-Schraube
5125	Vis de support de cadran	5125	Upper end-piece screw, for balance	5125	Schraube für Zifferblatt-Stütze
5145	Vis de coquet	5145	Lower end-piece screw, for balance	5145	Rückerplättchen-Schraube
5311	Vis de plaque de contre-pivot, pour balancier	5311	Ratchet wheel screw	5311	Decksteinplättchen-Schraube für Unruh
5330	Vis de rochet	5330	Crown wheel core screw	5330	Sperrad-Schraube
5415	Vis de noyau de roue de couronne	5415	Click screw	5415	Kronradkern-Schraube
5423	Vis de cliquet	5423	Setting lever screw	5423	Sperkegelfeder-Schraube
5443	Vis de tirette	5443	Setting lever screw	5443	Stellhebel-Schraube
5445	Vis de ressort de tirette	5445	Screw for setting lever spring	5445	Stellhebelfeder-Schraube
5450	Vis de piton	5450	Hairspring stud screw	5450	Spiralplättchen-Schraube
5738	Vis de cadran	5738	Dial screw	5738	Zifferblatt-Schraube
5750	Vis de roue entraîneuse de l'étoile de quantième	5750	Screw for date star driving wheel	5750	Schraube für Datumstern-Mitnehmerrad
52556	Vis de sautoir de quantième	52556	Date jumper screw	52556	Datumsperrle-Schraube
52576		52576		52576	



## DISASSEMBLING :

1. Release mainspring by pressing on click indicated by arrow.
2. Remove balance wheel and pallet fork.
3. Remove reverser 8146, then mounted operating lever 8140 and fly-back lever 8180 (the screws of both of these have left-hand threads).
4. Remove winding stem.
5. If the pushers are grooved, remove them before taking the movement out of the case; if the pushers are of the spring or lug type, remove the movement first and the pushers afterwards. Then, in either case, remove hands and dial.
6. Remove mounted hammer 8220 by unscrewing the large screw and cam jumper 8356.
7. Remove chronograph bridge 8500, minute-recording runner 8020 and chronograph runner 8000.
8. Remove mounted sliding gear 8100, mounted coupling clutch 8080 and, by means of a fork-shaped lever, driving wheel 8060.
9. Remove minute-recording jumper 8270, leaving its rest 8271 on the barrel bridge.
10. Remove coupling clutch spring 8320, sliding gear spring 8325 and friction spring 8290.
11. Remove plate 8281 of chronograph mechanism and operating lever spring 8335.
12. Disassemble the movement and clean all its parts in the ordinary way.

## CHECKING A :

Check condition of finger and teeth of chronograph runner, coupling wheel and driving wheel. Remove bridge of coupling wheel, clean the bushings of the latter and see that it runs freely. Do the same for the sliding gear wheel, if necessary. Also clean center wheel tube and see that the inner bushing is in position.

Reassemble the watch movement proper, oil all runners and wind mainspring one turn and a half to check the running.

It is advisable to remove the balance wheel and pallet fork before reassembling the chronograph mechanism.

## ASSEMBLING :



1. Fit operating lever spring 8335 and screw on plate 8281 of chronograph mechanism.
2. Screw on friction spring 8290.
3. Fit mounted sliding gear 8100 and its spring 8325.
4. Replace minute-recording runner 8020 and chronograph runner 8000, after oiling the long pivot of the latter (make sure that friction spring 8290 exerts normal pressure under runner 8000), then replace chronograph bridge 8500.
5. Screw on minute-recording jumper 8270; see that it is under slight tension.
6. Fit mounted operating lever 8140 and fly-back lever 8180 (screws with left-hand threads), then screw on reverser 8146.
7. Fit mounted hammer 8220, remembering to grease the tube, then screw on cam jumper 8356.
8. Check position of the end of reverser 8146 by looking through the hole in hammer 8220. Each time operating lever 8140 is pressed, the rotary motion of hammer 8220 is reversed.
9. Oil short pivot of chronograph runner 8000 and both pivots of coupling wheel; then fit mounted coupling clutch 8080, with its screw, and screw on coupling clutch spring 8320. (Never oil pivots of minute-recording runner or of sliding gear wheel.)
10. Fit driving wheel 8060, which should be flush with the coupling wheel.
11. Make sure that all runners are perfectly free-acting, then replace pallet fork and balance wheel.

## CHECKING B :

Check depth of gears (driving wheel - coupling wheel; coupling wheel - chronograph wheel) and penetration of finger into sliding gear toothing.

When operating the fly-back action through pressure of the hammer on the hearts, see that the chronograph runner is blocked; on the other hand, the minute-recording runner should have slight side-shake (the hammer is not pressing on the heart). Also make sure that the sliding gear wheel is away from the finger, that the hammer arms do not foul the wheels or the bridge, and that the uncoupling eccentric of the coupling clutch keeps the coupling wheel disconnected from the chronograph wheel. Slightly grease the hammer where it comes into contact with the fly-back lever pin, with the uncoupling eccentric of the coupling clutch and with the cam at its point of contact with the sliding gear and cam jumper.

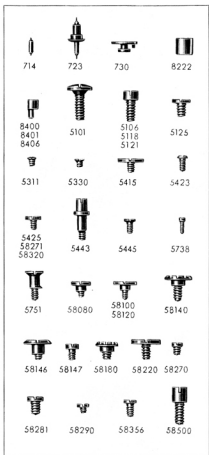
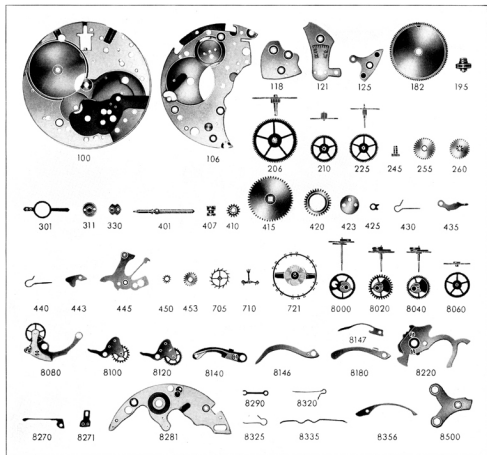
## CASING :

Spring or lug pushers should be placed in position before casing the movement, but grooved pushers should be placed in position after casing, the operating lever and, if necessary, the fly-back lever having been unscrewed. Then, in either case, replace the winding stem, fit the 2 case screws and check the working by means of the pushers. Fit the dial and the hour, minute and second hands, then, with the hammer pressed against the hearts by the zero-action pusher, fit the sweep second and minute-recording hands.

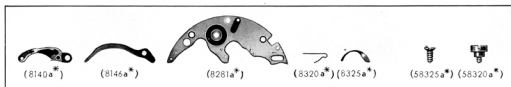
Description and numbering of spare parts according to the "Technological Dictionary of Watch Parts", 2nd edition.

100 Plate	415 Ratchet wheel	8080 Coupling clutch, mounted
106 Barrel and train wheel bridge	420 Crown wheel	8100 Sliding gear, mounted, 30 m.
118 Combined bridge	423 Crown wheel core	8120 Sliding gear, mounted, 45 m.
121 Balance cock for flat hairspring	425 Click	8140 Operating lever, mounted
125 Pallet cock	430 Click spring	8146 Reverser
182 Barrel and cover	435 Yoke	8147 Reverser spring
195 Barrel arbor	440 Yoke spring	8180 Fly-back lever
206 Center wheel and pinion	443 Setting lever	8220 Hammer, mounted
210 Third wheel and pinion	445 Setting lever spring	8222 Hammer tube
225 Fourth wheel and pinion	450 Setting wheel	8270 Minute-recording jumper
245 Cannon pinion	453 Additional setting wheel	8271 Minute-recording jumper rest
255 Hour wheel for sweep second	705 Escape wheel and pinion	8281 Plate for chronograph mechanism
260 Minute wheel	710 Jewelled pallet fork and staff	8290 Friction spring for chronograph runner
301 Regulator for flat hairspring	714 Pallet staff	8320 Coupling clutch spring
311 Upper cap jewel with end-piece, for balance	721 Balance with flat hairspring	8325 Sliding gear spring
330 Lower cap jewel with end-piece, for balance	723 Balance staff	8335 Operating lever spring
401 Winding stem	730 Roller	8356 Hammer cam jumper
407 Clutch wheel	8000 Chronograph runner, mounted	8400 Pivoting eccentric for coupling clutch
410 Winding pinion	8020 Minute-recording runner, mounted, 30 m.	8401 Banking eccentric for coupling clutch
	8040 Minute-recording runner, mounted, 45 m.	8406 Finger-depth eccentric
	8060 Driving wheel	8500 Chronograph bridge

5101 Case screw - 5106 Screw for barrel and train wheel bridge - 5118 Screw for combined bridge - 5121 Balance cock screw - 5125 Pallet cock screw - 5311 Upper end-piece screw - 5330 Lower end-piece screw - 5415 Ratchet wheel screw - 5423 Crown wheel core screw - 5425 Click screw - 5443 Setting lever screw - 5445 Screw for setting lever spring - 5738 Hairspring stud screw - 5751 Dial key - 58080 Coupling clutch screw - 58100 Screw for sliding gear, 30 m. - 58120 Screw for sliding gear, 45 m. - 58140 Operating lever screw - 58146 Reverser screw - 58147 Screw for reverser spring - 58180 Fly-back lever screw - 58220 Hammer screw - 58270 Minute-recording jumper screw - 58271 Screw for minute-recording jumper rest - 58281 Screw for plate of chronograph mechanism - 58290 Screw for friction spring - 58320 Screw for coupling clutch spring - 58356 Hammer cam jumper screw - 58500 Chronograph bridge screw.



As a result of technical improvements, certain parts of this caliber have been modified in the successive series manufactured. There are therefore several different types; to distinguish between them, letters have been added to the basic numbers of the parts in question. Special signs used in conjunction with the numbers give the necessary explanations. If the number is followed by \*, the types are not interchangeable. If the number is between brackets, the part in question is no longer manufactured.



When ordering parts for a shock-protecting device, make certain to specify its exact type. For further details of the description and numbering of spare parts, see the "Technological Dictionary of Watch Parts", 2nd edition, published by Ebauches S.A.

Order repair parts through your jobber, giving the numbers and designations, thus insuring prompt and efficient deliveries.