

Watch Movement Specification and Drawing

SMALL SECOND

Cal. VL58A

Movement Size

13 1/2'''

Casing Diameter

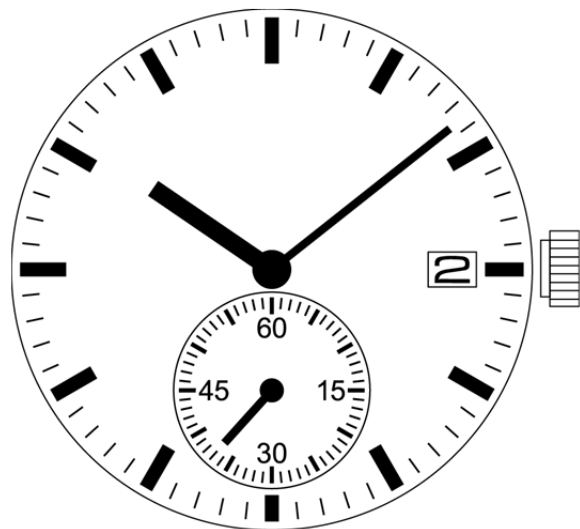
Ø 30.6mm

Height

3.97mm

Battery Life

5 years



Date: 29/Jan./'16

Cal. VL58A

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Analog Quartz 13 1/2" Small second Movement with Date

1. MOVEMENT DIMENSIONS

Outside diameter	ϕ 31.2mm × 28.0mm(3-9H)
Casing diameter	ϕ 30.6mm
Total height	3.97mm (including battery)

2. TIME STANDARD

Type of quartz oscillator	Tuning fork
Frequency of quartz oscillator	32,768 Hz
Accuracy	±20 seconds per month (on wrist)
Operating temperature range	-5°C to +50°C
Regulation device	Nil (Pre-adjusted)

3. INDICATOR / FUNCTIONS

2 Hand	Hour / Minute
Small hand	Small second (6H)
Calendar	Instant setting device for date calendar
Reset switch	
Power depletion warning function (BLD) (Small second hand moves at 2-second intervals)	
Setting mechanism	Crown at normal position : Free
	Crown pulled out 1st click : Instant date change
	Crown pulled out 2nd click : time setting / reset

4. FEATURES

Jewels	0 Jewels
Anti-magnetism	Over 1600A/m (Direct current magnetic field)
Maximum unbalance of hands	Hour hand : 0.6 μ N·m
	Minute hand : 0.9 μ N·m
	Small second hand : 0.06 μ N·m
Moment of Inertia	Small second hand : less than 0.05 μ g·m ²

5. BATTERY

Type / Size	Silver oxide battery / ϕ 9.5mm × t 2.0mm
Recommended battery	SR920SW (Maxell, Sony, Seizaiken)
Nominal voltage	1.55 V
Battery life	Approx. 5 years
Driving current consumption	Approx. 0.9 μ A
Operation stopping voltage	1.1V

6. SEPARATED PARTS (Parts code)

Hand setting stem	0351578 or 0351177
Battery	SR920SW

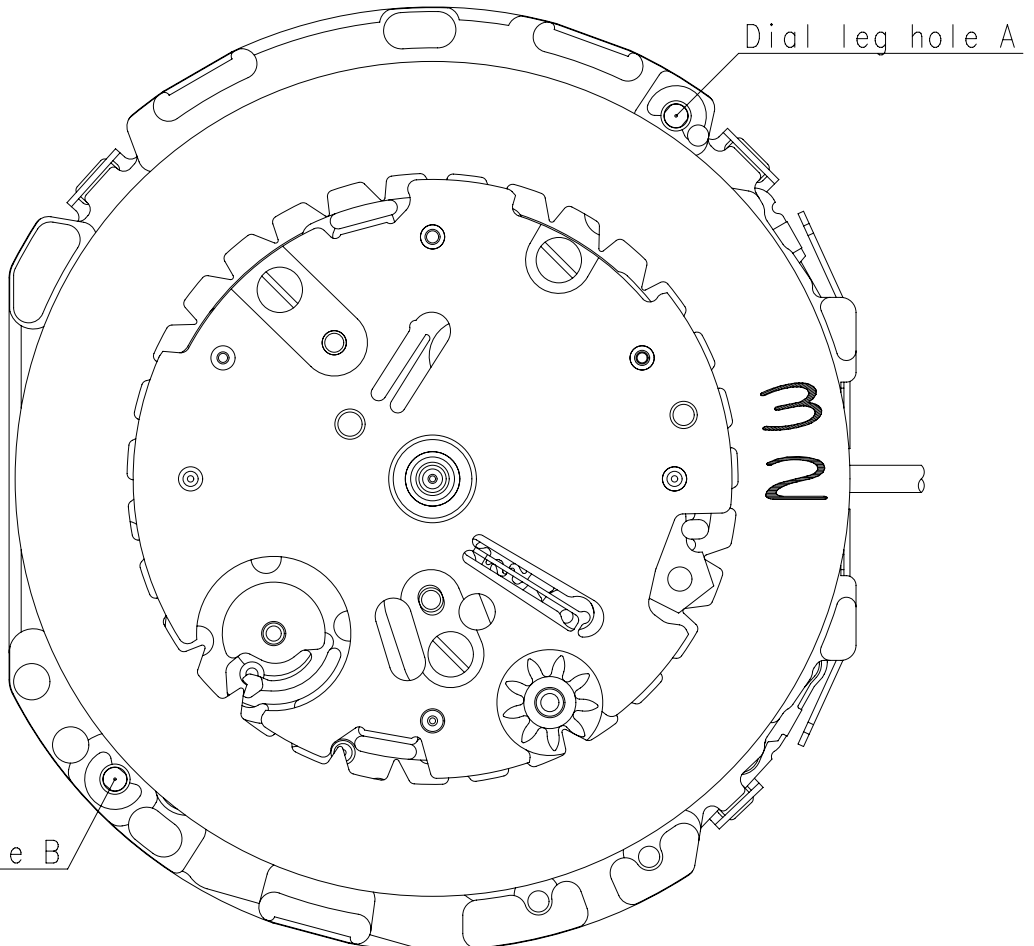
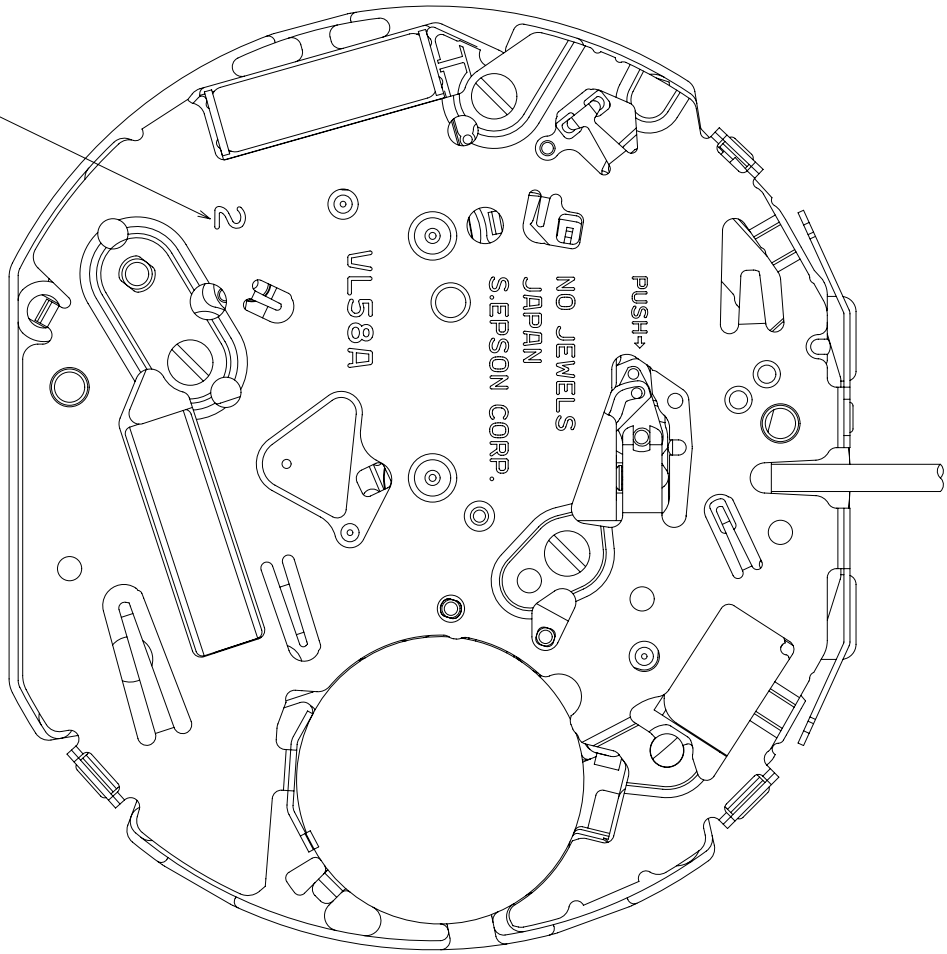
7. TEST OF ACCURACY

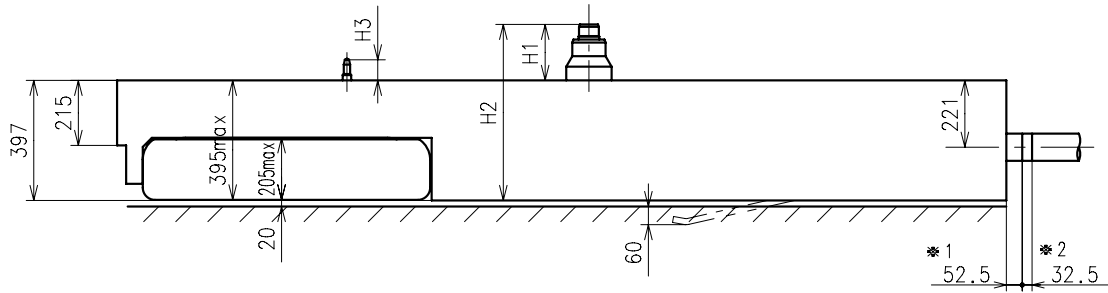
Equipment to be used	SEIKO quartz tester QT-99, Greiner quartz timer-C , Witschi Q-tester 4000
Duration of measurement	10 seconds
Microphone to be used	Electromagnetic detection type

All specifications are subject to change without notice.

Hands type

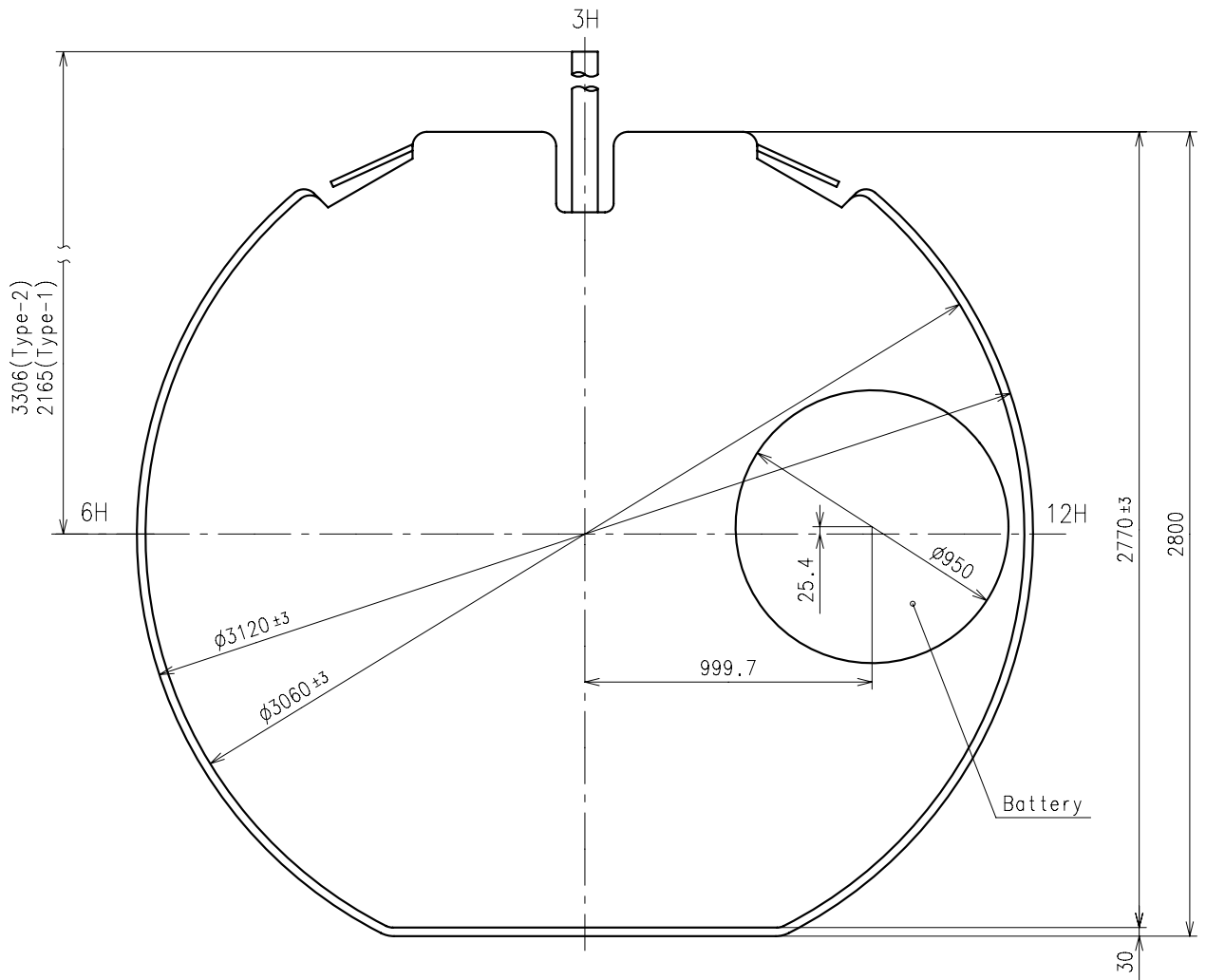
	Mark
Type M	2
Type L	3



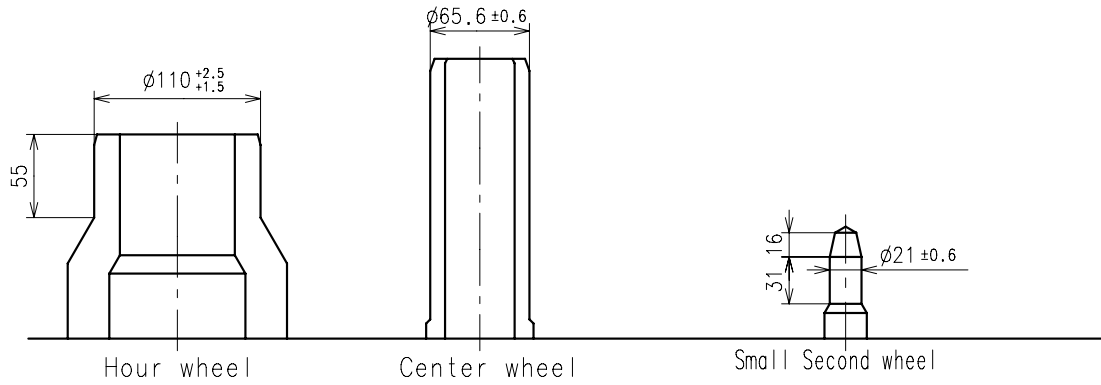


Center post		Type M (2) VL58A**	Type L (3) VL58A**
Maximum height from dial support	H1	185	255
Total height including movement	H2	582	652
Maximum height from dial support	H3	70	135

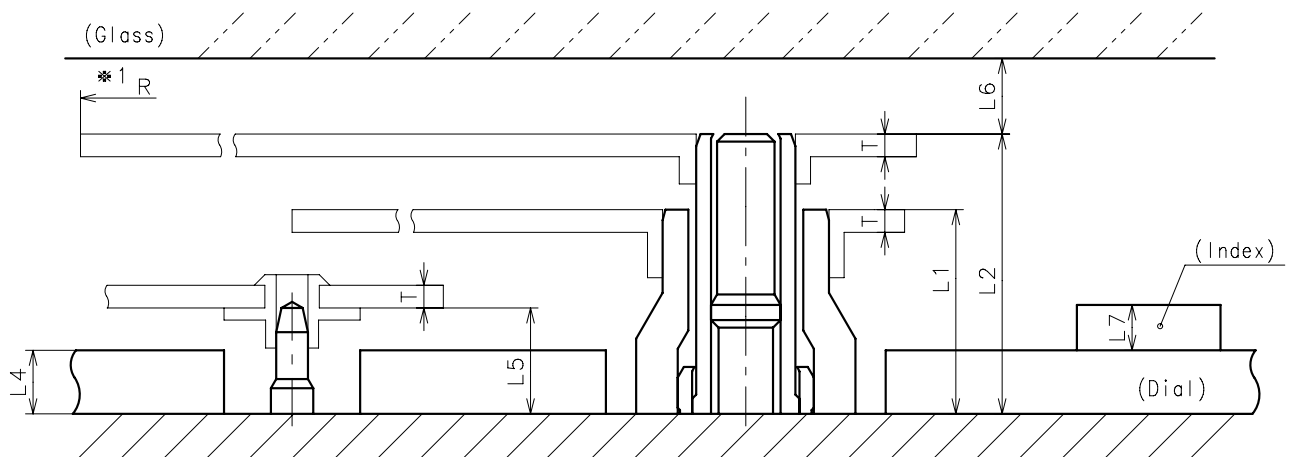
*1: First pullout stroke
*2: Second pullout stroke



- * Unbalance
 - Hour hand $\leq 0.6\mu\text{ N}\cdot\text{m}$ ($60\mu\text{ g}\cdot\text{m}$)
 - Minute hand $\leq 0.9\mu\text{ N}\cdot\text{m}$ ($90\mu\text{ g}\cdot\text{m}$)
 - Small Second hand $\leq 0.06\mu\text{ N}\cdot\text{m}$ ($6\mu\text{ g}\cdot\text{m}$)
- * Moment of inertia
 - Small Second hand $\leq 0.05\mu\text{ g}\cdot\text{m}^2$

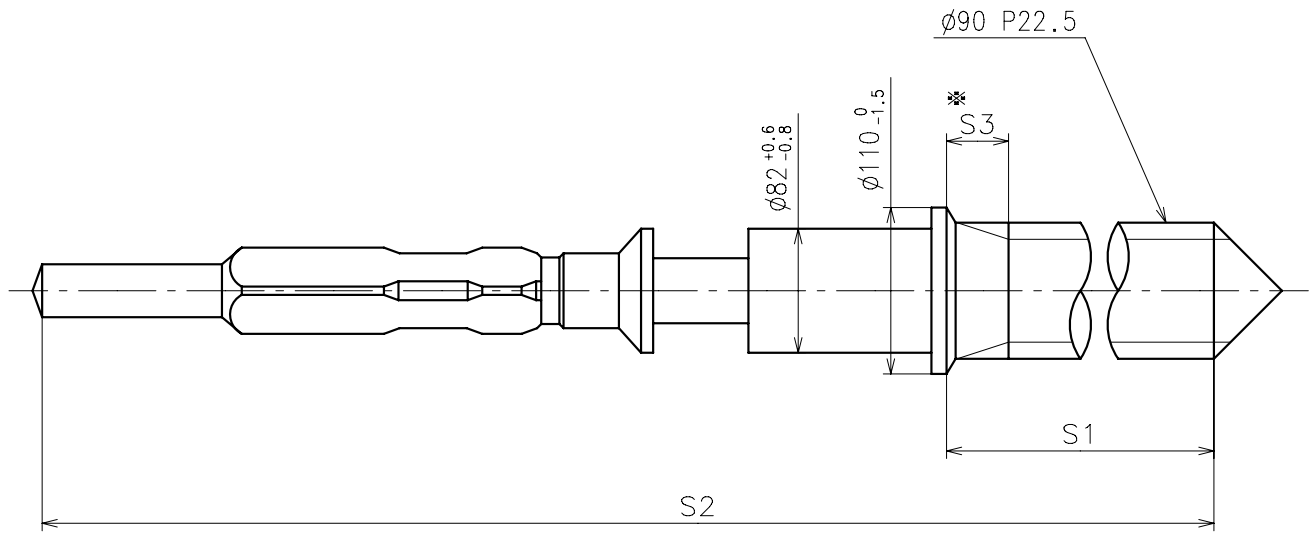


	Parts No.		
	Hour wheel	Center wheel	Small Second wheel
Type M (2) VL58A**	0271661	0221662	0888510
Type L (3) VL58A**	0271662	0221663	0888511



	L1	L2	L4	L5	L6	L7	T	*1R
Type M (2) VL58A**	135	185	40	70	MIN: 50	MAX: 50	15	MAX: 1500
Type L (3) VL58A**	205	255	105	135	MIN: 50	MAX: 50	15	MAX: 1500

*1: It is the size taken into consideration for hands attachment.
Please observe some standard value specified in unbalance and moment of inertia when using long hands.

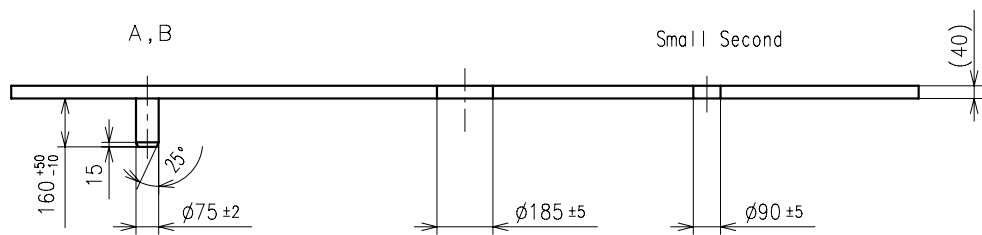
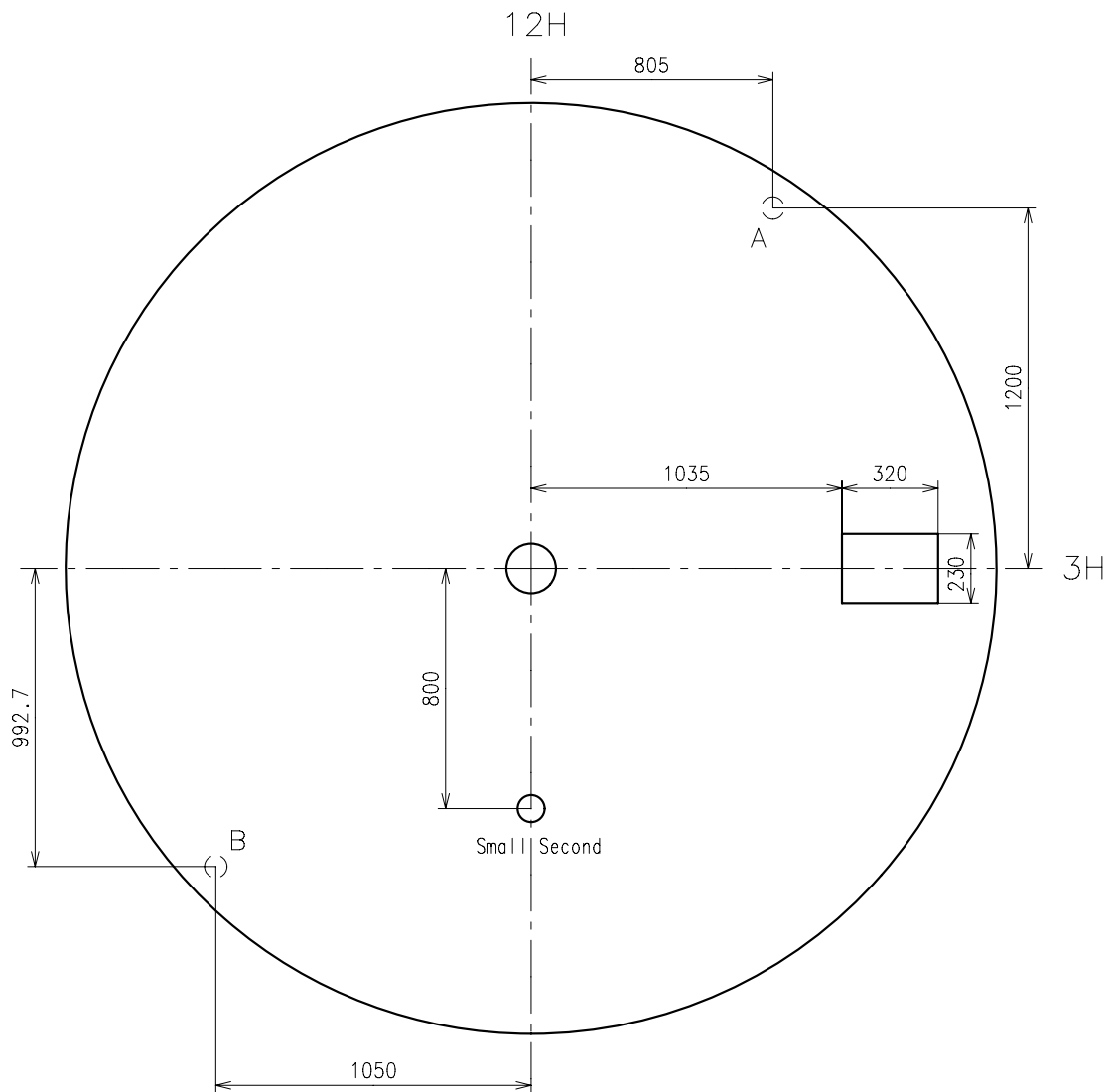


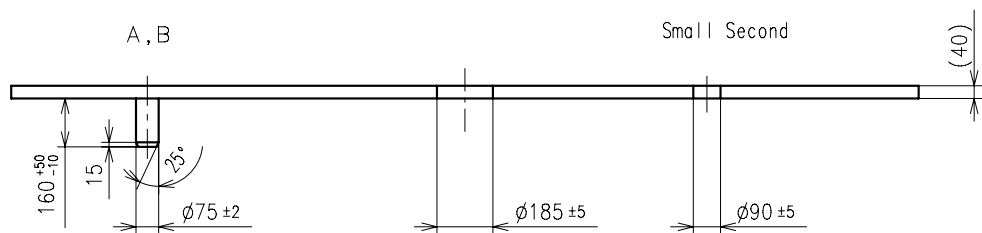
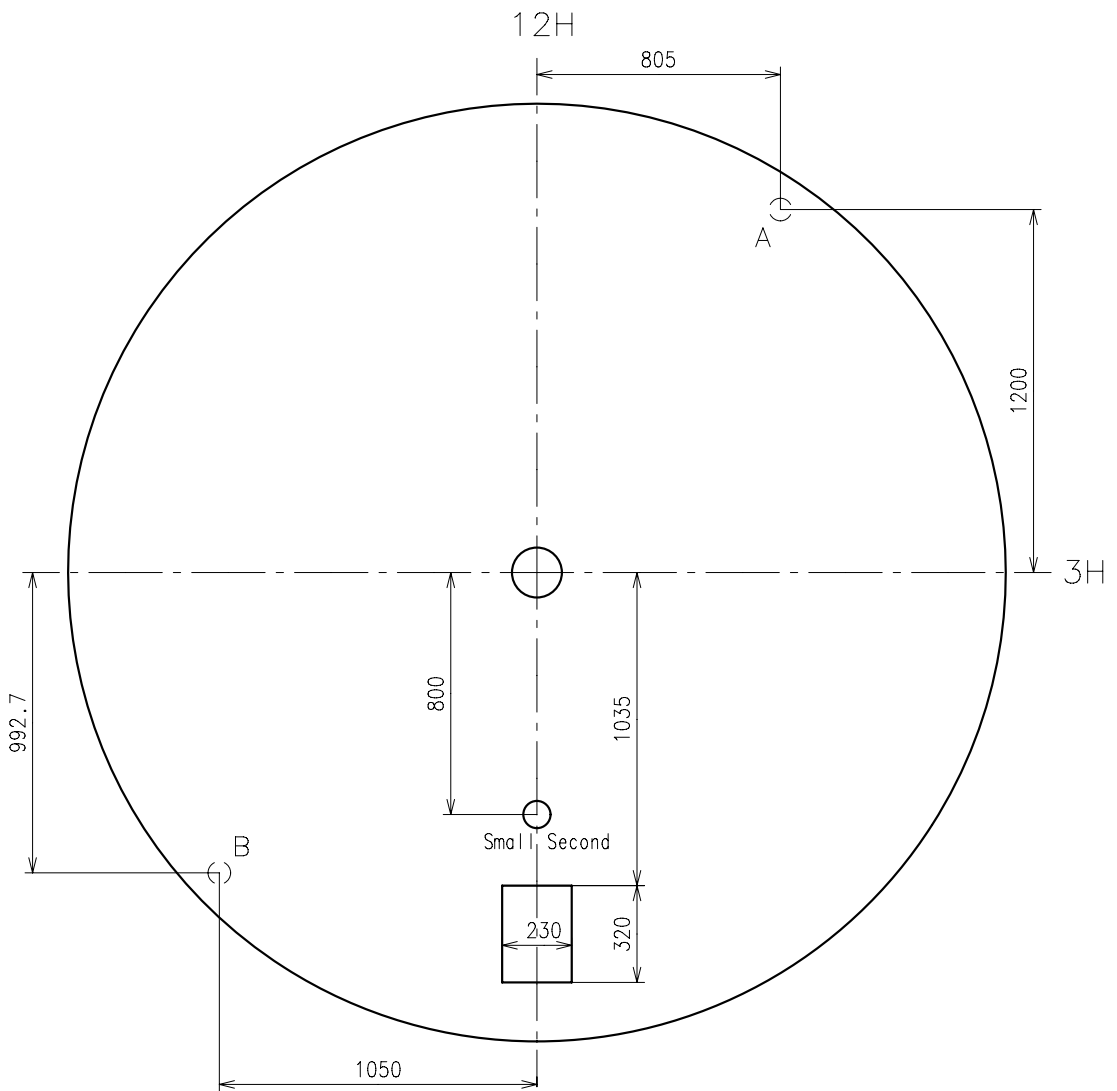
* Not threaded

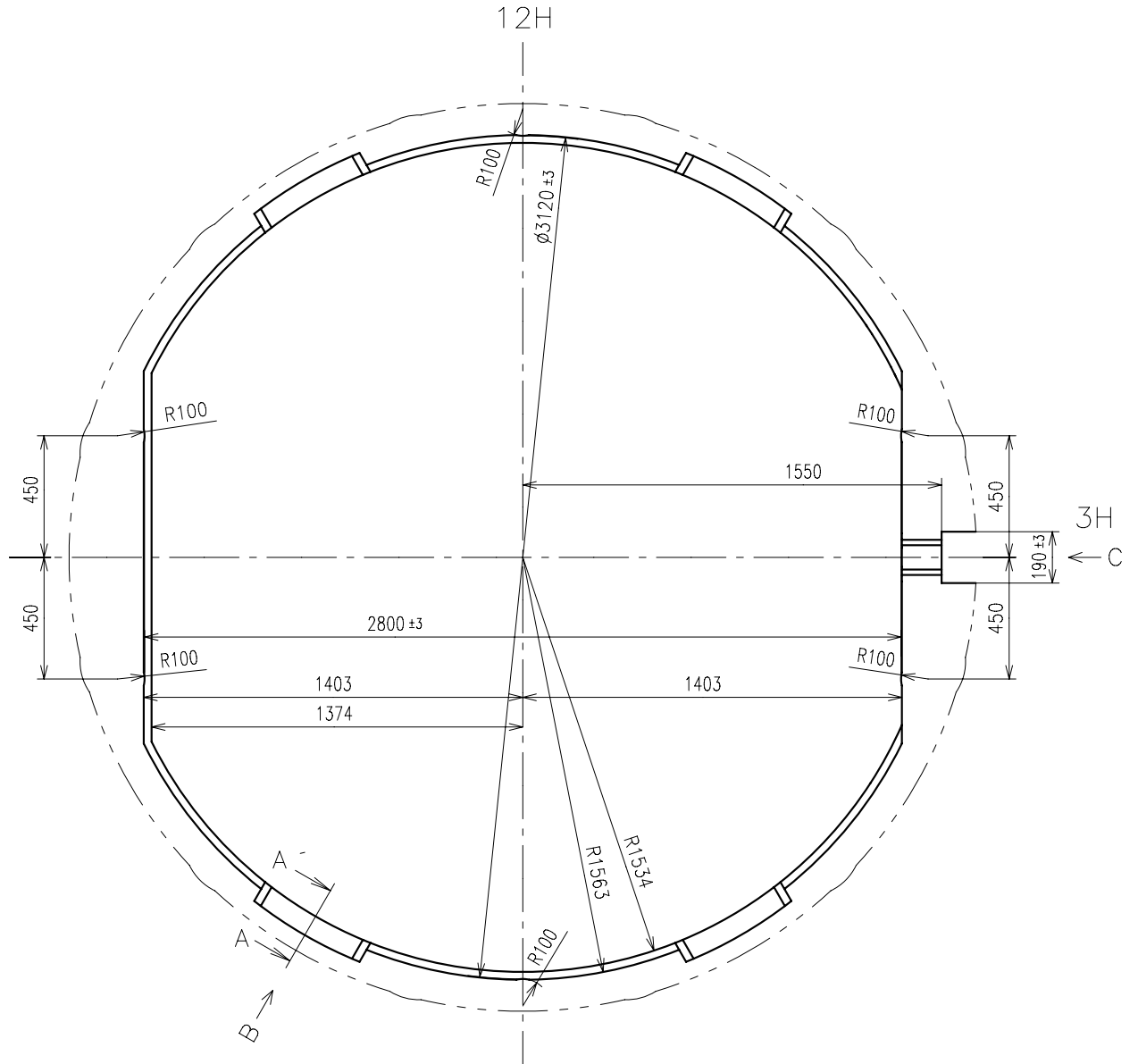
	Part No.	S1	S2	* S3
Type-1	0351177	1366	1964	60
Type-2 (Standard)	0351578	2507	3105	650

Material : Steel

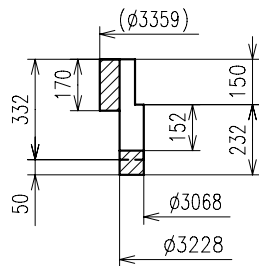
Hardness : Vickers 600±50



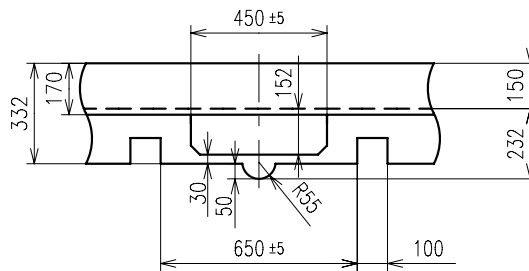




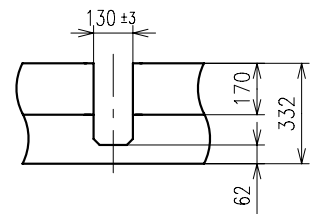
A-A' section



B view



C view

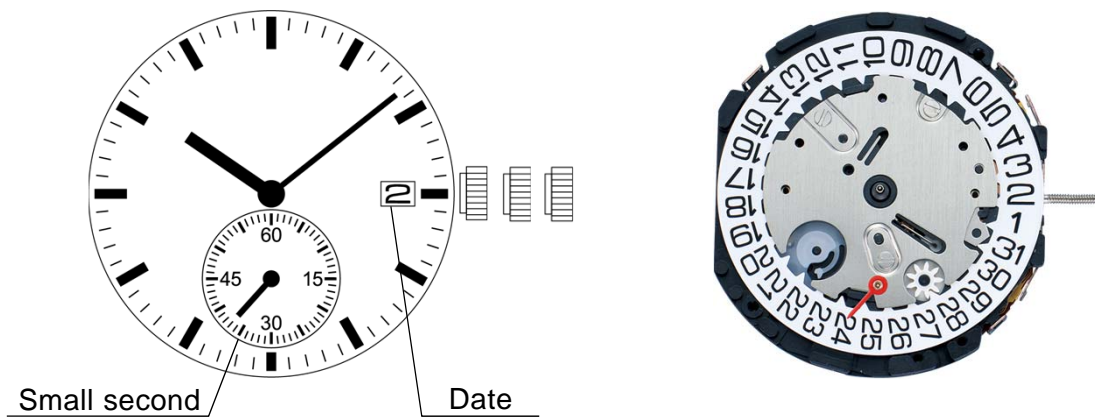


Watch Movement Parts List and Disassemble Guide

Cal. VL58A

SMALL SECOND

- 2 hands / Date
- Small second



MOVEMENT SPECIFICATIONS

Movement Size 13 1/2'''

Height 3.97mm

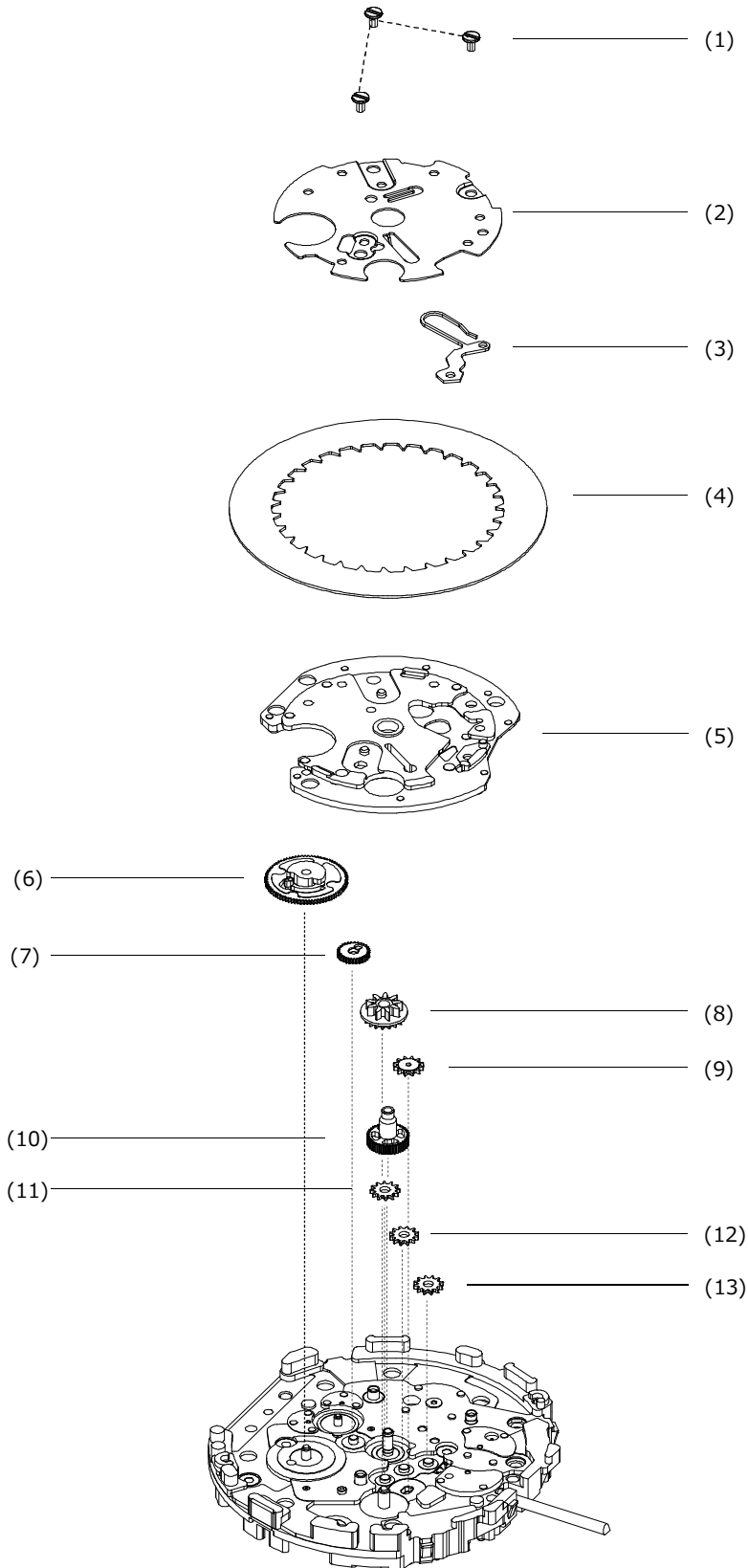
Casing Diameter Ø 30.6mm

Battery Life 5 years

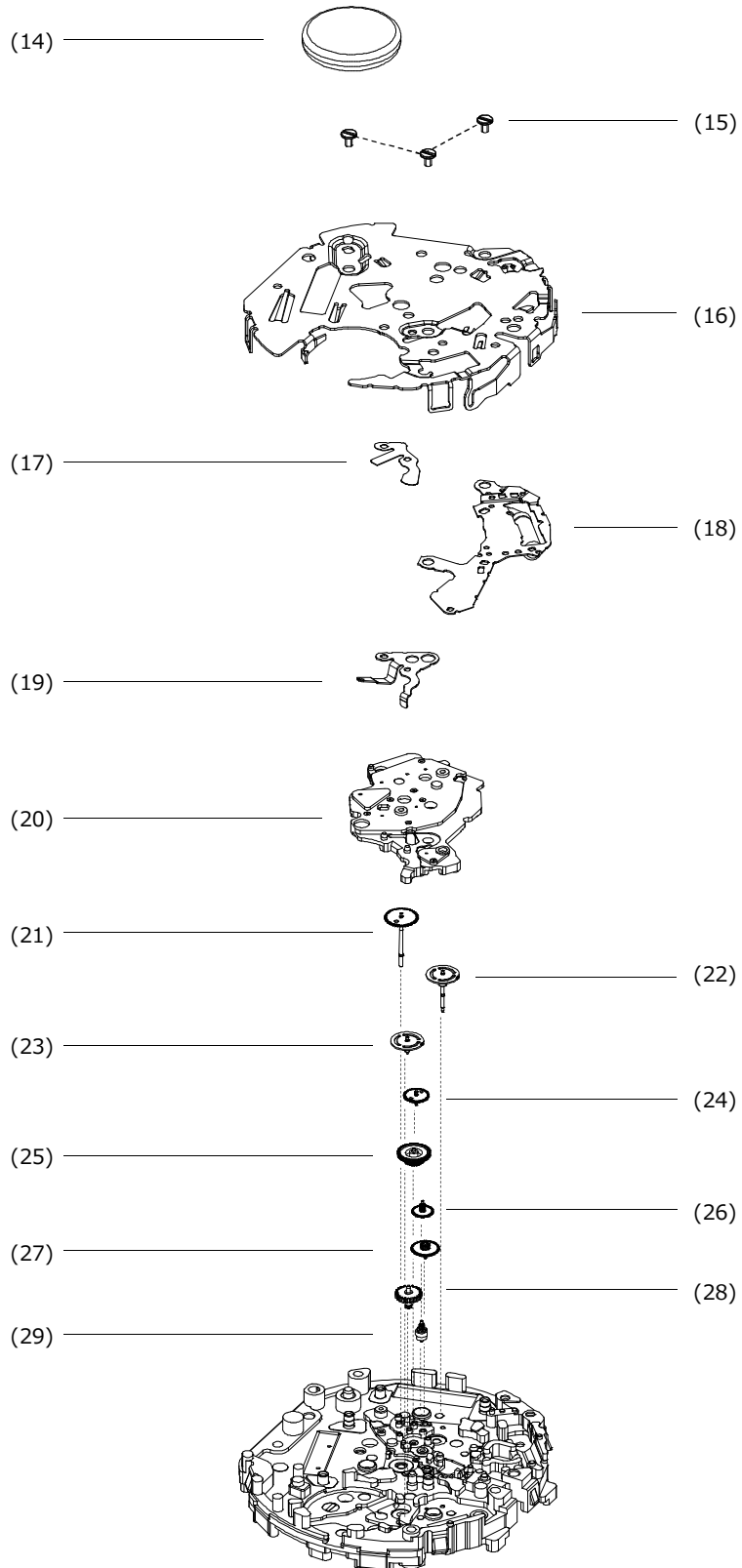
Cal.VL58A Parts List 零件一覽表

No	PARTS NAME	中文名	QTY	VL58A1	VL58A2
(1)	Screw	螺丝	3	0022 247	←
(2)	Date indicator maintaining plate	日历夹板	1	0808 528	←
(3)	Date jumper	日历跳掣	1	0810 507	←
(4)	Date indicator	日历盘	1	0878 ***	←
(5)	Date indicator guide plate	日历盘导向板	1	0712 509	←
(6)	Date indicator driving wheel	日历驱动轮	1	0802 520	←
(7)	Intermediate date wheel	日历中间轮	1	0817 553	←
(8)	Date corrector wheel	日历修正轮	1	0806 500	←
(9)	5th date corrector transmission wheel	第5日历修正驱动中间轮	1	0962 900	←
(10)	Hour wheel	时轮	1	0271 661	0271 662
(11)	2nd date corrector transmission wheel	第2日历修正驱动中间轮	1	0962 891	←
(12)	3rd date corrector transmission wheel	第3日历修正驱动中间轮	1	0962 891	←
(13)	4th date corrector transmission wheel	第4日历修正驱动中间轮	1	0962 891	←
(14)	Battery	电池	1	3013 140	←
(15)	Screw	螺丝	3	0022 247	←
(16)	Circuit cover	电路夹板	1	4461 606	4461 607
(17)	Connection (-) insulating plate	负极绝缘片	1	4216 567	←
(18)	Circuit block	电路板	1	4000 968	←
(19)	Battery connection (-)	负极片	1	4270 518	←
(20)	Train wheel bridge	轮列夹板	1	0125 521	←
(21)	Fourth wheel spacer	4号轮间隔片	1	0439 518	0439 519
(22)	Small second wheel	小秒轮	1	0888 510	0888 511
(23)	1st minute intermediate wheel	第1分中间轮	1	0885 510	←
(24)	4th minute intermediate wheel	第4分中间轮	1	0817 552	←
(25)	2nd minute intermediate wheel	第2分中间轮	1	0817 550	←
(26)	3rd minute intermediate wheel	第3分中间轮	1	0817 551	←
(27)	Small second intermediate wheel	小秒中间轮	1	0701 904	←
(28)	Minute wheel	度数轮	1	0261 904	←
(29)	Small second rotor	小秒转子	1	4146 524	←
(30)	Train wheel setting lever	轮列止动竿	1	0391 505	←
(31)	Screw	螺丝	2	0022 247	←
(32)	Spacer	间隔片	1	0439 520	←
(33)	Coil block	线圈	1	4002 923	←
(34)	Stator	定子	1	4239 564	←
(35)	Setting wheel	小铁车	1	0281 904	←
(36)	Setting lever	压制竿	1	0383 891	←
(37)	Yoke	横担	1	0384 890	←
(38)	Setting stem	把芯	1	0351 578	←
(39)	Clutch wheel	猪笼轮	1	0282 890	←
(40)	1st date corrector transmission wheel	第1日历修正驱动中间轮	1	0962 890	←
(41)	Center wheel & pinion	中心轮	1	0221 662	0221 663

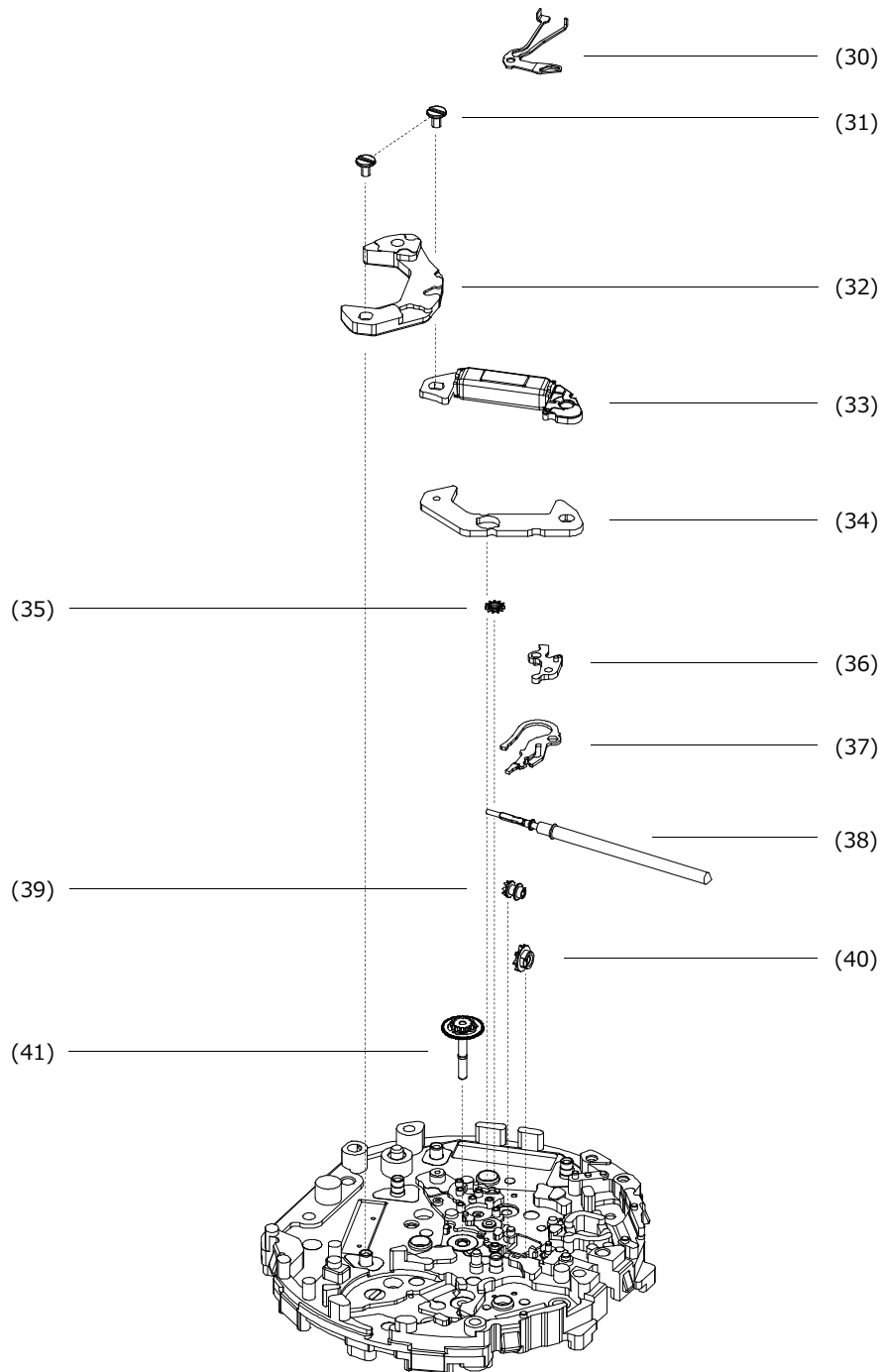
Cal.VL57A,VL58A DISASSEMBLE CHART(1)



Cal.VL57A,VL58A DISASSEMBLE CHART(2)



Cal.VL57A,VL58A DISASSEMBLE CHART(3)

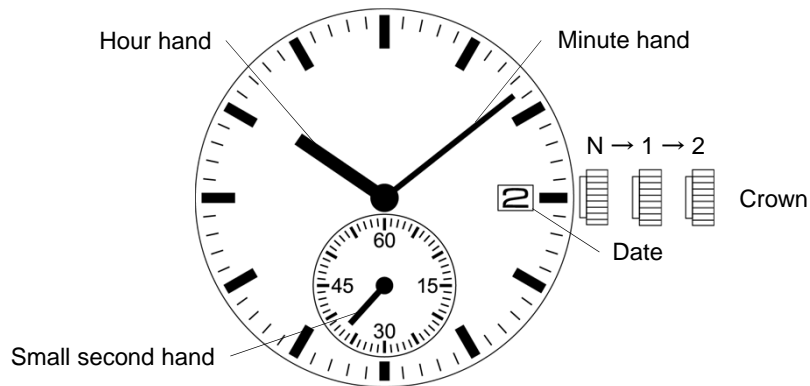


Cal. VL58A

SMALL SECOND

- 2 hands / Date
- Small second

◆ Display



◆ Crown operation

	Crown position		
	N : normal	1 : 1st click	2 : 2nd click
Crown	Free	Turn counterclockwise for date change	Time setting

◆ How to set time

- (1) Pull the crown out to the 2nd click position when the small second hand is at the 12 o'clock position.
- (2) Turn the crown to set the hour and minute hands.
Take a.m./p.m. into consideration when setting the hour and minute hands to the desired time.
 - When setting the minute hand, advance it 4 to 5 minutes ahead of the desired time and then turn it back to the exact time.
- (3) Push the crown back to the normal position.

◆ How to set date

- (1) Pull the crown out to the 1st click position.
- (2) Turn the crown to set the date.
 - Do not set the date between 9:00 p.m. and 1:00 a.m..
- (3) Push the crown back to the normal position.

Tips: When the date change during daytime, it happens when a.m./p.m. is wrongly set. Advance the hour hand by 12 hours.

◆ Power depletion warning function

When the battery nears its end, the small second hand moves at two-second intervals instead of the normal one-second intervals. In that case, have the battery replaced with a new one as soon as possible.

- The watch remains accurate while the small second hand is moving at two-second intervals.