

Watch Movement Specification and Drawing

**STANDARD**

# Cal. Y121E

Movement Size

**6 3/4 × 8'''**

Casing Diameter

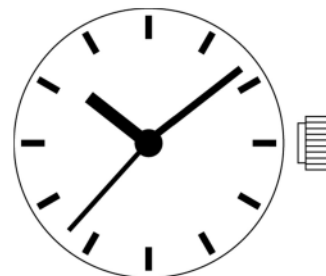
**15.3 × 17.8 mm**

Height

**2.99mm**

Battery Life

**2 years**



Date: 20/Oct./'14

# Cal. Y121E

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MOVEMENT SPECIFICATIONS

CAL. Y121E

Analog Quartz 6 3/4 × 8" Standard Series Movement / Three Hands (H/M/S)

1. MOVEMENT DIMENSIONS

*Outside diameter	15.30mm(3-9H) × 18.20mm(12-6H)
*Casing diameter	15.30mm(3-9H) × 17.80mm(12-6H)
*Total height	2.99mm

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

*3 Hands	Hour / Minute / Second
*Reset switch	
*Setting mechanism	Crown at normal position : Free Crown pulled out 1st click : Time setting / Reset

4. FEATURES

*Jewels	0 Jewel
*Anti-magnetism	Over 1600A/m ( Direct current magnetic field )
*Maximum unbalance of hands	Second hand : 6 mg·mm Minute hand : 60 mg·mm Hour hand : 50 mg·mm

5. BATTERY

*Type / Size	Silver oxide battery / φ 6.8mm × t 2.6mm
*Recommended battery	SR626SW ( Maxell, Panasonic, Sony, Seizaiken )
*Nominal voltage	1.55 V
*Battery life	Approx. 2 years
*Driving current consumption	Approx. 1.5 μ A
*Operation stopping voltage	1.1 V

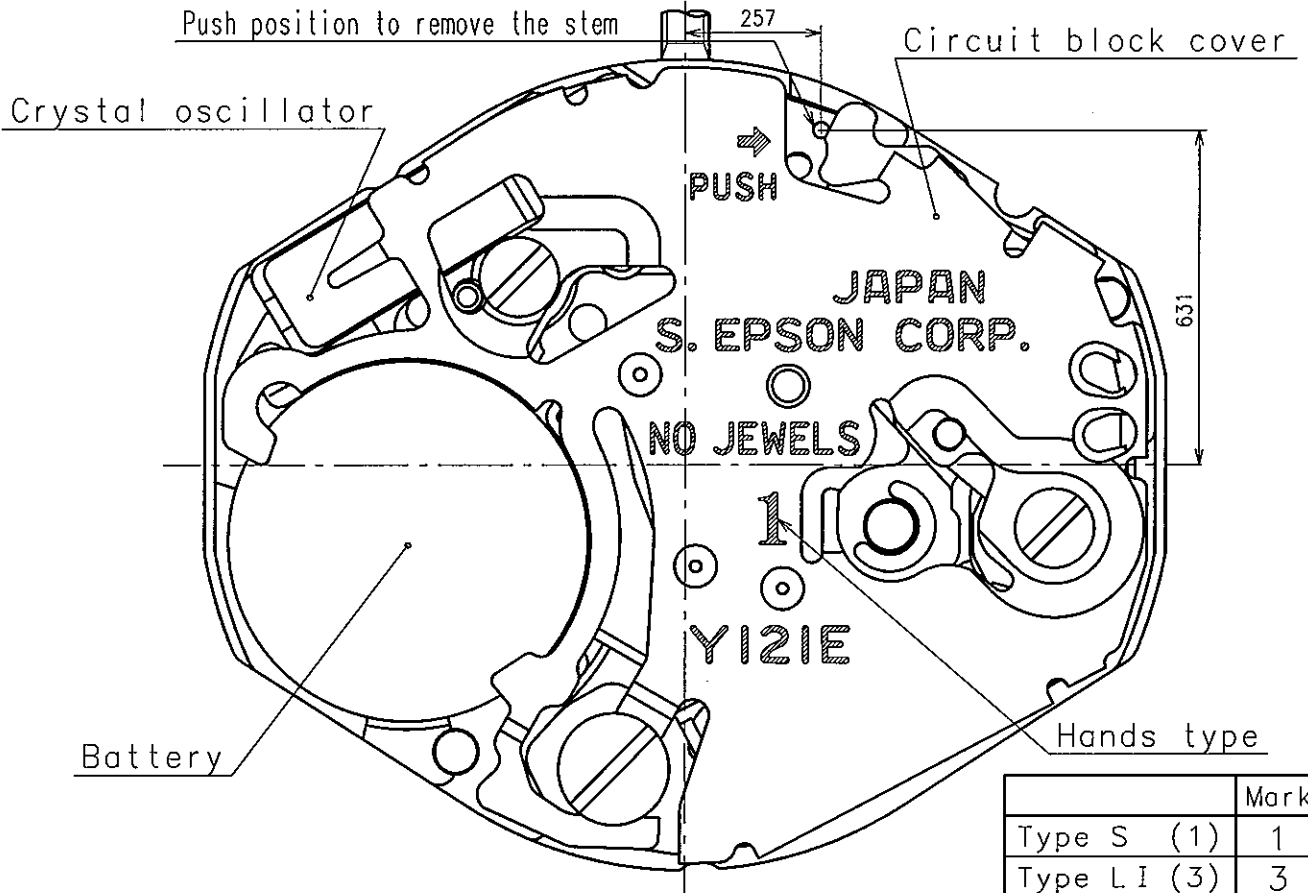
6. SEPARATED PARTS (Parts code)

*Hand setting stem	0354788 or 0354787
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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.

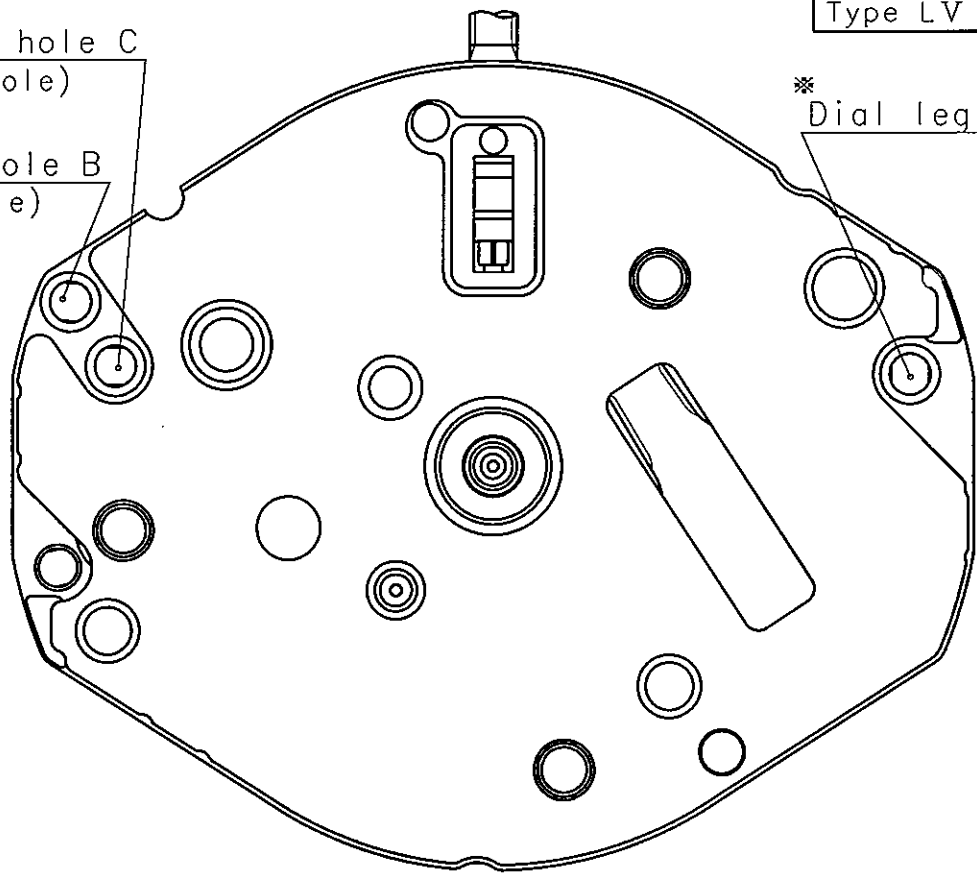


	Mark
Type S (1)	1
Type L I (3)	3
Type L II (4)	4
Type L III (6)	6
Type L IV (7)	7
Type L V (8)	8

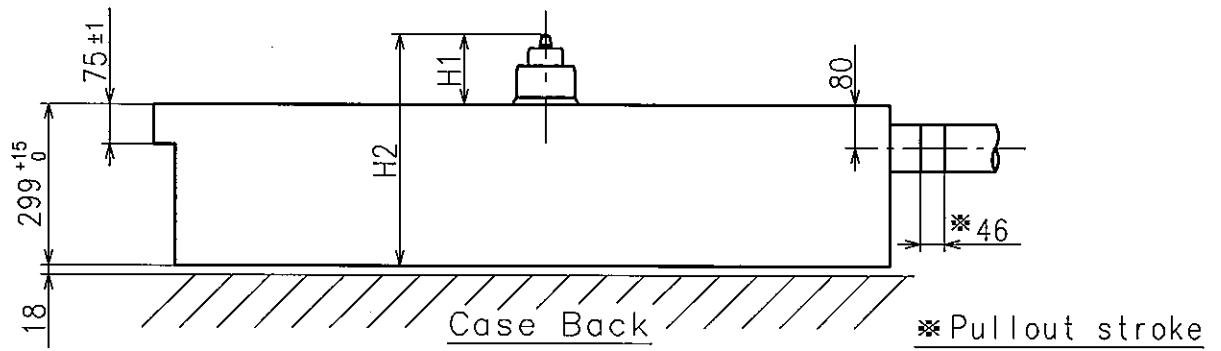
\* Dial leg hole C  
(Sub hole)

\* Dial leg hole B  
(Main hole)

\* Dial leg hole A

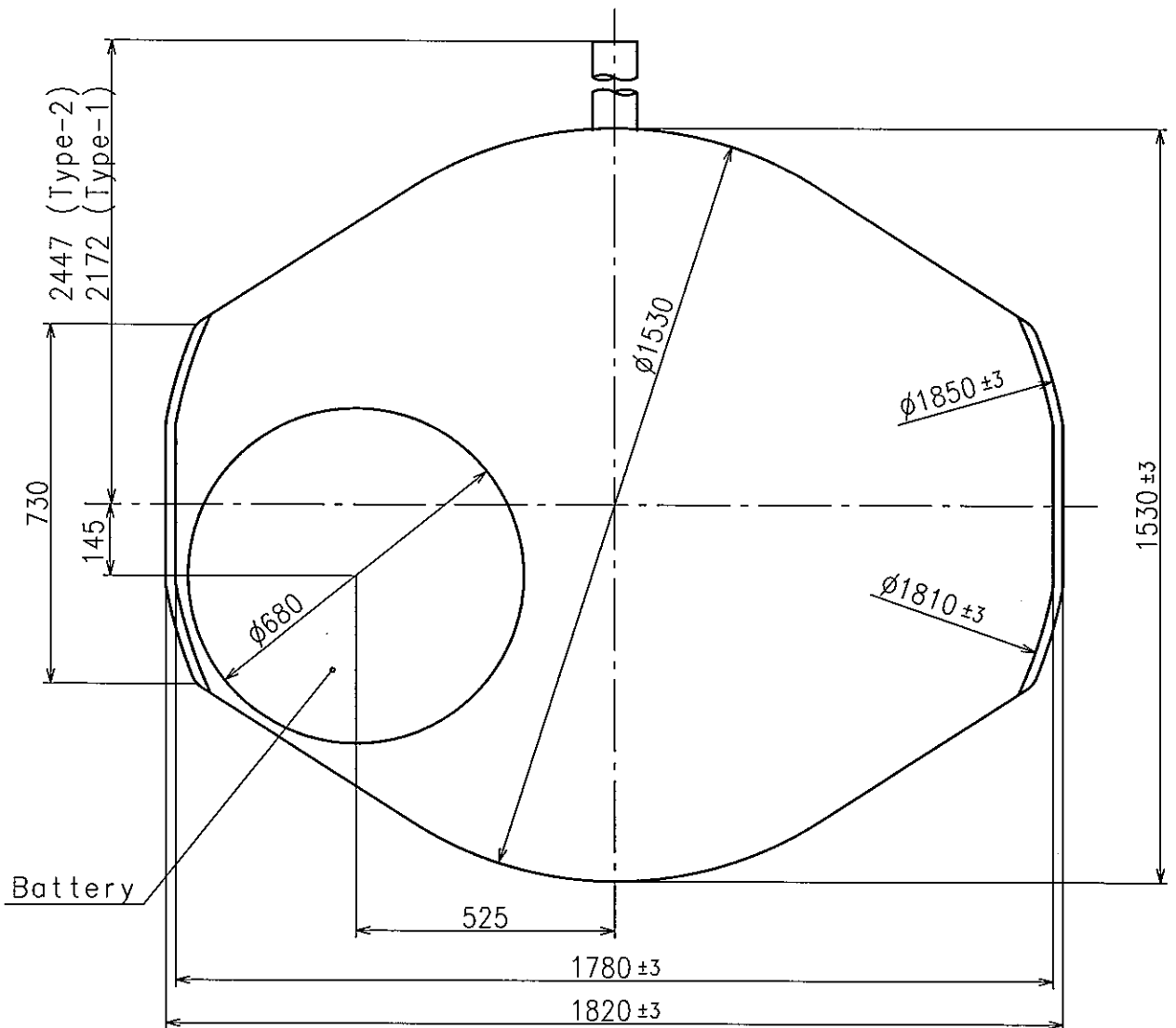


\* :Combination of dial leg hole A-B, (A-C)

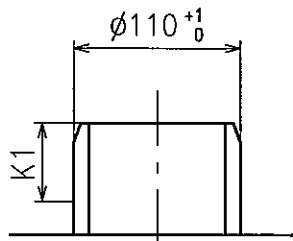


\* Pullout stroke

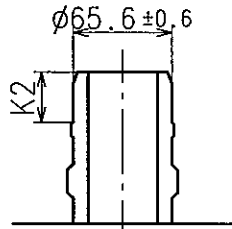
Center post		Type S(1) Y121E1 Y121ER	Type LI(3) Y121E3	Type LII(4) Y121E2	Type LI(6) Y121E5	Type LIV(7) Y121E4	Type LV(8) Y121E6
Maximum height from dial support	H1	143	191	251	309	371	403
Total height incl. movement	H2	442	490	550	608	670	702



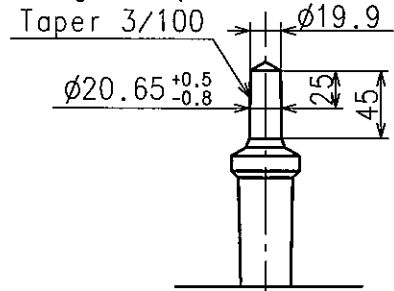
- \* Second hand unbalance  $\leq 6\mu\text{g} \cdot \text{m} (0.06\mu\text{N} \cdot \text{m})$
- \* Minute hand unbalance  $\leq 60\mu\text{g} \cdot \text{m} (0.6\mu\text{N} \cdot \text{m})$
- \* Hour hand unbalance  $\leq 50\mu\text{g} \cdot \text{m} (0.5\mu\text{N} \cdot \text{m})$



Hour wheel



Center wheel

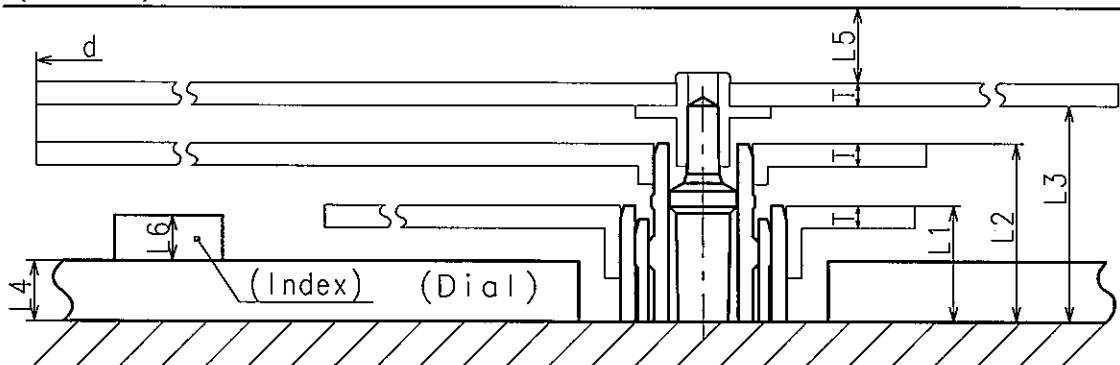


Fourth wheel

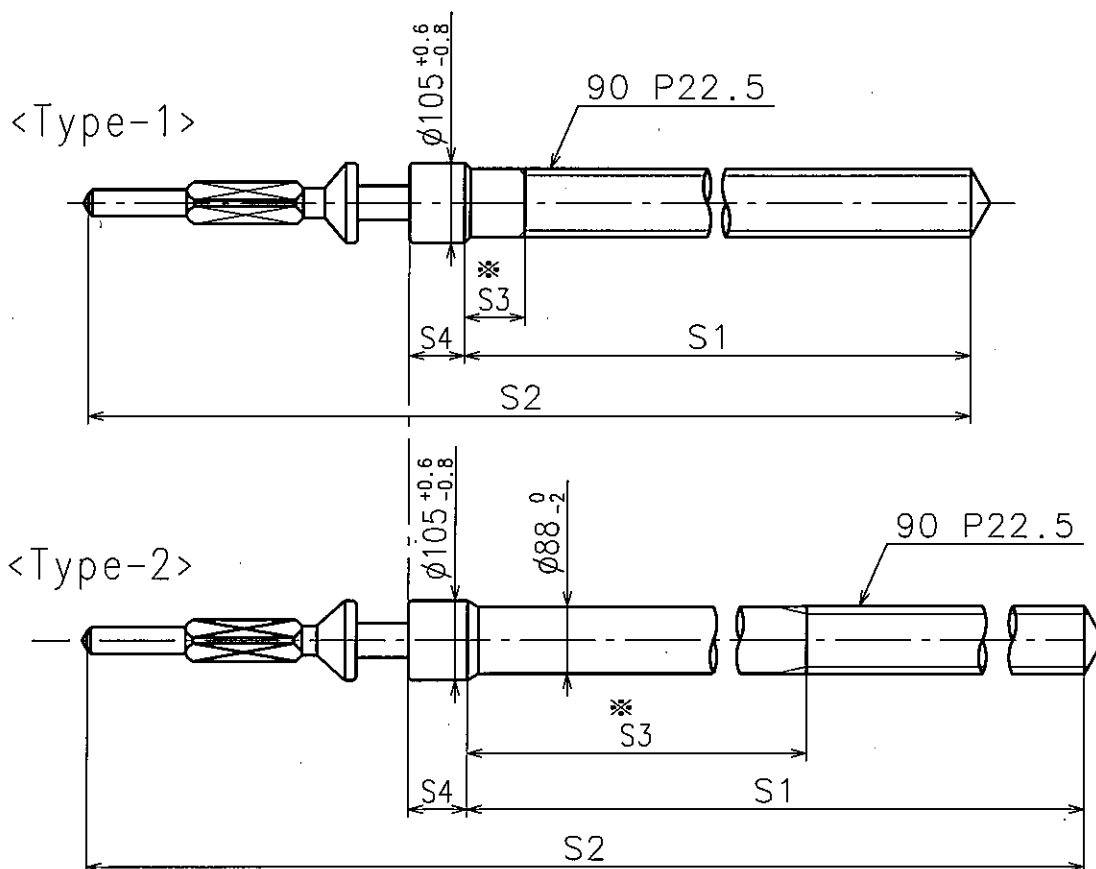
	Parts No.			Dimension	
	Hour wheel	Center wheel	Fourth wheel	K1	K2
Type S (1) Y121E1/Y121ER	0271796	0221797	0241798	52	33.5
Type L I (3) Y121E3	0271764	0221764	0241764	60	33.5
Type L II (4) Y121E2	0271797	0221779	0241777	60	33.5
Type L III (6) Y121E5	0271775	0221766	0241757	60	33.5
Type L IV (7) Y121E4	0271756	0221765	0241756	60	33.5
Type L V (8) Y121E6	0271778	0221767	0241758	60	33.5

" " " " " " " " " "

(Glass) " " " " " " " " " "



	L1	L2	L3	L4	L5	L6	T	d
Type S (1) Y121E1/Y121ER	80	118	143	40	MIN: 50	MAX: 30	15	MAX: $\phi 2500$
Type L I (3) Y121E3	128	166	191	90	MAX: 50	MIN: 30	15	MAX: $\phi 2500$
Type L II (4) Y121E2	185	226	251	150	MAX: 50	MIN: 30	15	MAX: $\phi 2500$
Type L III (6) Y121E5	235	281	309	200	MAX: 50	MIN: 35	15	MAX: $\phi 2500$
Type L IV (7) Y121E4	297	343	371	250	MAX: 50	MIN: 45	15	MAX: $\phi 2500$
Type L V (8) Y121E6	329	375	403	280	MAX: 50	MIN: 45	15	MAX: $\phi 2500$

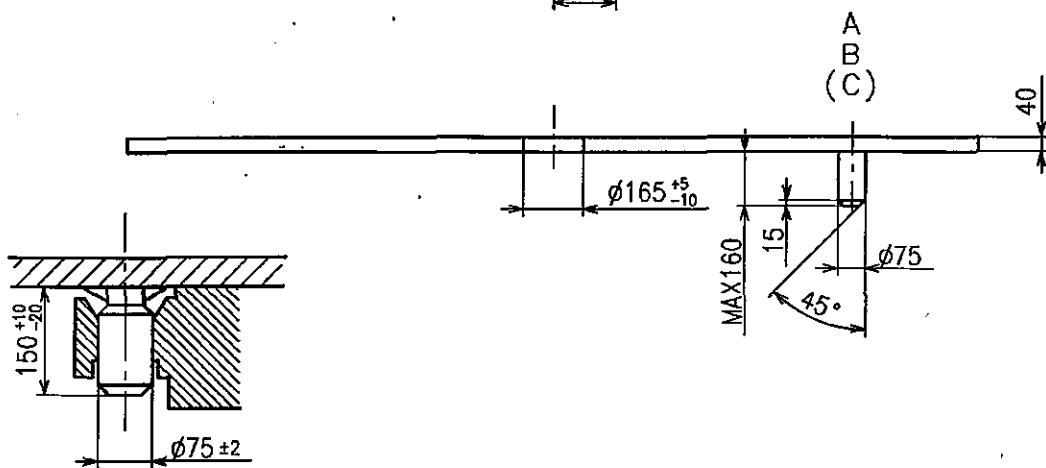
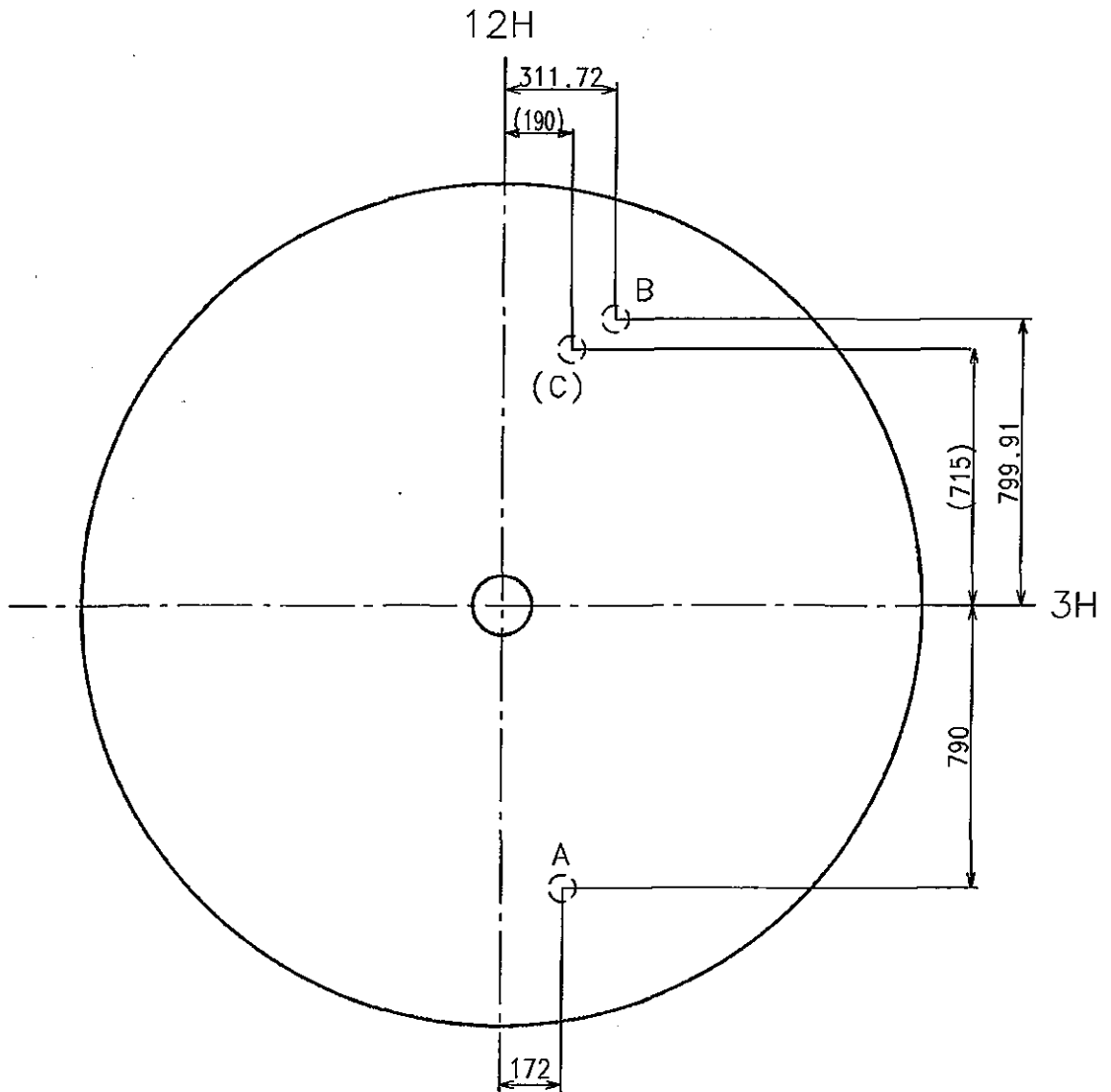


\* Not threaded

	Part No.	S1	S2	* S3	S4
Type-1 (Standard)	0354788	1427	1925	80	73
Type-2	0354787	1697	2200	887	78

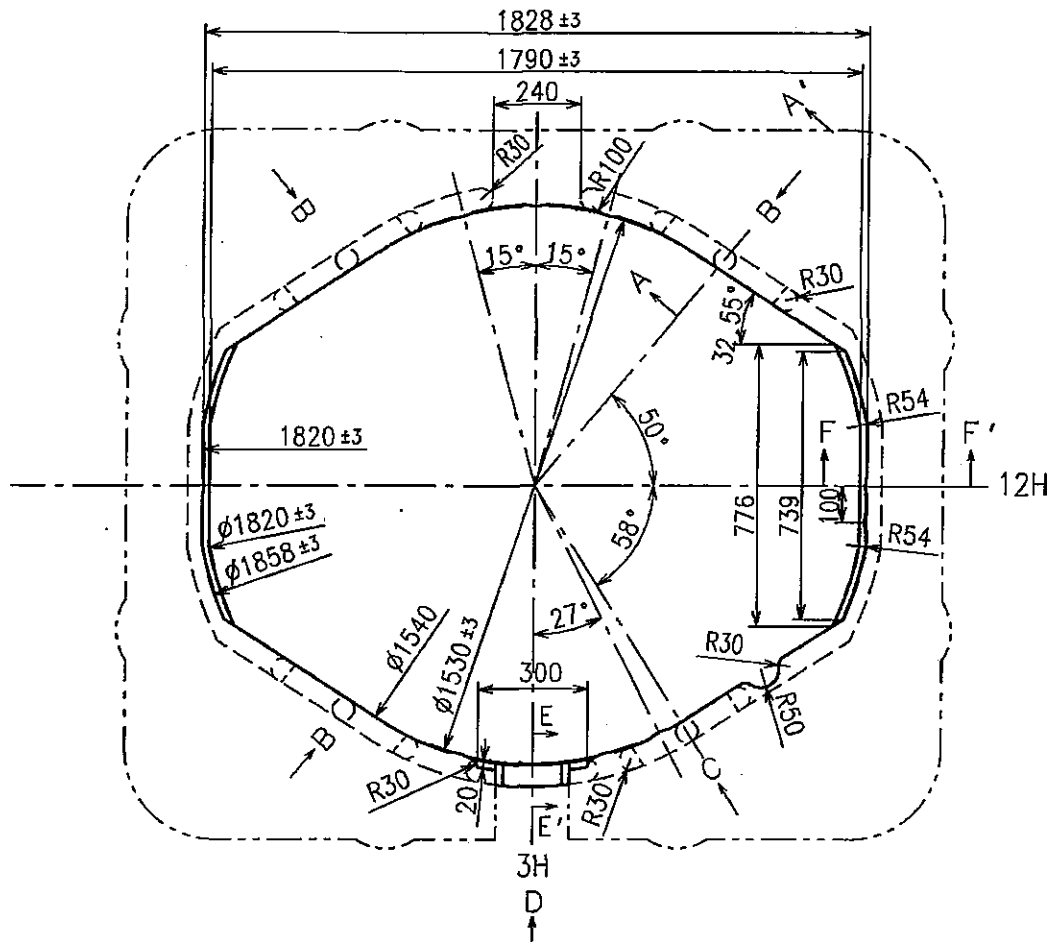
Material : Steel

Hardness : Vickers 530±50



Use dial leg hole as like below A-B(Main hole) , A-C(Sub hole)



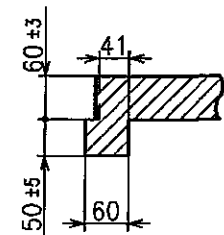
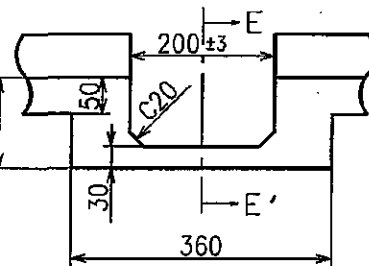
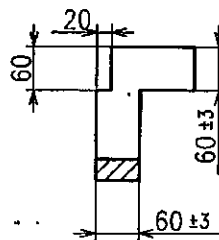
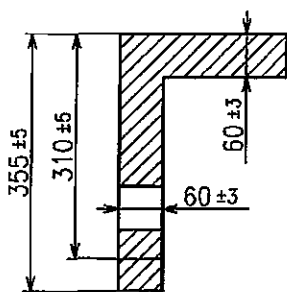


A-A' section

E-E' section

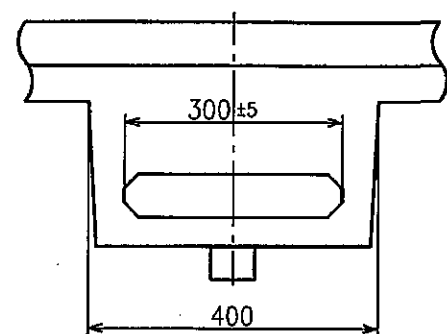
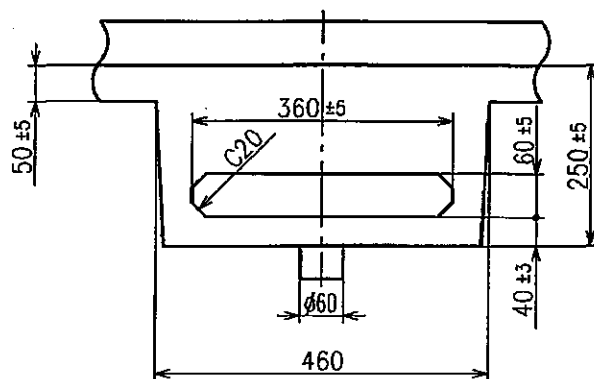
D view

F-F' section



B view

C view

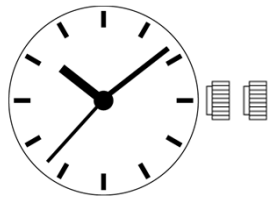


Watch Movement Parts List and Disassemble Guide

# Cal.Y121E

STANDARD

- 3 hands



## MOVEMENT SPECIFICATIONS

**Movement Size** 6 3/4 × 8 ”

**Height** 2.99mm

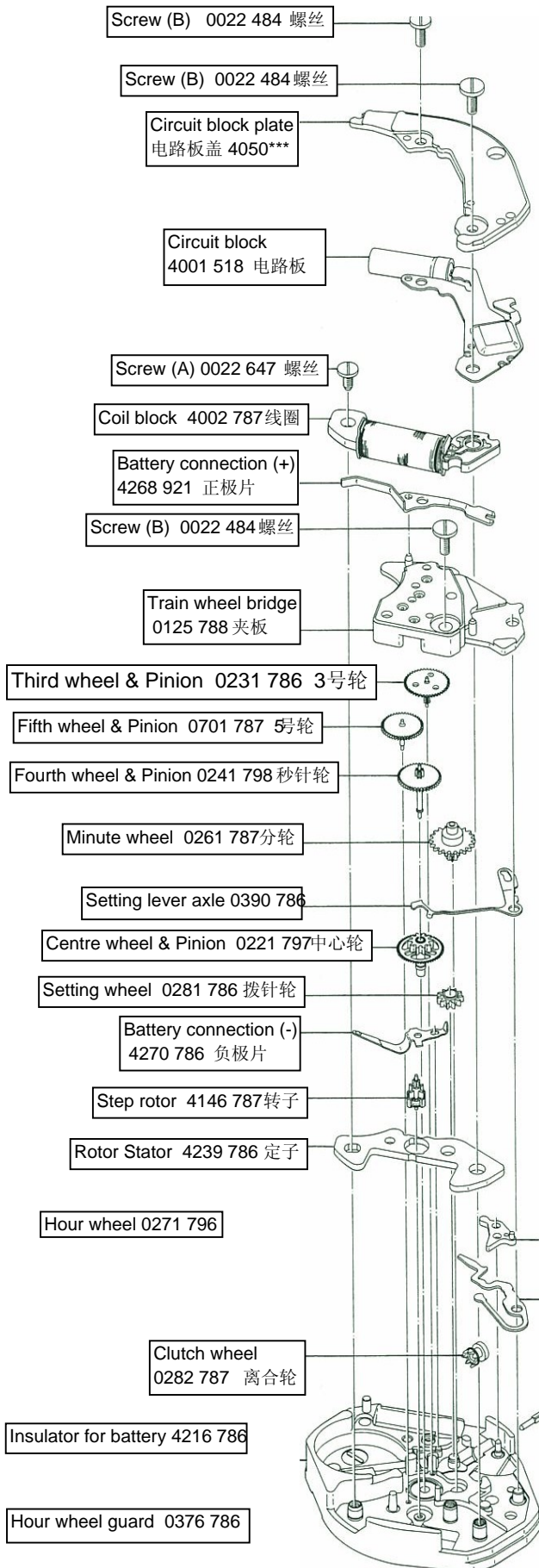
**Casing Diameter** 15.3 × 17.8mm

**Battery Life** 2 years

## Cal.Y121E Parts List 零件一覽表

PARTS NAME	CHINESE	QTY	Y121E1
Battery connection (-)	負極片	1	4270 786
Battery connection (+)	正極片	1	4268 921
Centre wheel & pinion	中心輪	1	0221 797
Circuit block	電路板	1	4001 518
Circuit bridge plate	電路板蓋	1	4050 760
Clutch wheel	豬籠輪/離合輪	1	0282 787
Coil block	線圈	1	4002 787
Fifth wheel & pinion	5號輪	1	0701 787
Fourth wheel & pinion	秒針輪	1	0241 798
Hour wheel	時輪	1	0271 796
Hour wheel guard	時輪	1	0376 786
Insulator for battery	電池絕緣片	1	4216 786
Minute wheel	度數輪/分輪	1	0261 787
Rotor stator	轉子甲板/定子	1	4239 786
Screw	螺絲	1	0022 647
Screw	螺絲	2	0022 484
Setting lever	押掣竿	1	0383 785
Setting wheel	撥針輪	1	0281 786
Step rotor	轉子/步步馬達	1	4146 787
Third wheel & pinion	3號輪	1	0231 786
Train wheel bridge	夾板	1	0125 787
Train wheel setting lever	輪組止動竿	1	0391 787
Setting stem	柄軸/巴心	1	0354 788
Yoke	橫擔/換日竿	1	0384 785
Battery	電池	1	3016 180

# Y12,AL21,AL35 Disassemble Chart



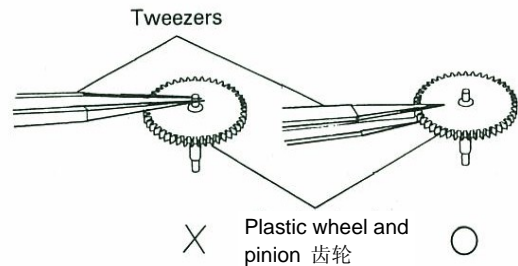
● Lubricating 润滑油  
Moebius A

Center wheel and pinion	Fourth wheel and pinion	Step rotor

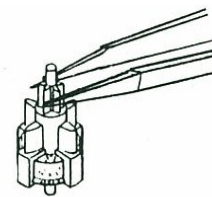
- Lubricate the above points. It is not necessary to lubricate the other points.  
请把润滑油点于上图所示之位置即可。

### Notes on handling plastic wheel and pinion

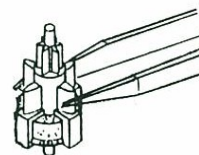
- When removing/fitting the plastic wheel and pinion, do not clamp the shaft with tweezers, etc. Clamp the center of the wheel as illustrated below.  
安装或取出齿轮时，不可用镊子夹其轴柱位置，要夹住轮片的位置，如下图。



- If the wheel of the rotor is clamped with tweezers, the wheel might be deformed. Clamp the cam or magnetic part with tweezers.  
如用镊子夹住转子顶部，转子会变形。要夹住凹轮或带磁的部份。



×



○

Parts List - Standard 6\*8 series 标准机芯

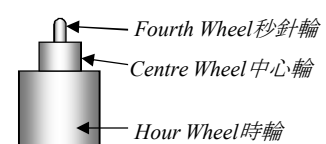
Name	Chinese Name	Qty	Y121E1	AL21E1	Y121G1	Y120E1	Y120G1	AL20E1
Battery Connection (-)	負極片	1	4270 786	←	←	←	←	←
Battery Connection (+)	正極片	1	4268 921	←	←	←	←	←
Centre Wheel	中心輪	1	0221 797	←	←	←	←	←
Circuit Block	電路板	1	4001 518	←	4000 560	4000 518	4000 560	←
Circuit Bridge Plate	電路板蓋	1	4050 ***	←	←	←	←	←
Clutch Wheel	豬籠輪/離合輪	1	0282 787	←	←	←	←	←
Coil Block	線圈	1	4002 787	←	4002 784	4002 787	←	←
Fifth Wheel	5號輪	1	0701 787	←	←	←	←	←
Fourth Wheel	秒針輪	1	0241 798	←	←	0241 778	0241 798	0241 778
Hour Wheel	時輪	1	0271 796	←	←	←	←	←
Hour Wheel Guard	時輪	1	0376 786	←	←	←	←	←
Insulator For Battery	電池絕緣片	1	4216 786	←	←	←	←	←
Minute Wheel	度數輪/分輪	1	0261 787	←	←	←	←	←
Rotor Stator	轉子甲板/定子	1	4239 786	←	4239 784	4239 786	4239 784	4239 786
Screw	螺絲	1	0022 647	←	←	←	←	←
Screw	螺絲	2	0022 484	←	←	←	←	←
Setting Lever	押掣竿	1	0383 785	←	←	←	←	←
Setting Wheel	撥針輪	1	0281 786	←	←	←	←	←
Step Rotor	轉子/步步馬達	1	4146 787	←	←	←	←	←
Third Wheel	3號輪	1	0231 786	←	←	←	←	←
Train Wheel Bridge	夾板	1	0125 787	←	0125 788	0125 787	0125 788	0125 787
Train Wheel Setting Lever	輪組止動竿	1	0391 787	Non	0391 787	Non	Non	Non
Winding Stem	柄軸/巴心	1	0354 788	←	←	←	←	←
Yoke	橫擔/換日竿	1	0384 785	←	←	←	←	←

Name	Chinese Name	Qty	AL35E1	Y127E1	YR67A1
Battery Connection (-)	負極片	1	4270 786	←	←
Battery Connection (+)	正極片	1	4268 921	←	←
Centre Wheel	中心輪	1	0221 752	0221 797	←
Circuit Block	電路板	1	4001 518	←	←
Circuit Bridge Plate	電路板蓋	1	4050 ***	4050 838	4050 674
Clutch Wheel	豬籠輪/離合輪	1	0282 787	←	←
Coil Block	線圈	1	4002 787	4002 788	4002 787
Fifth Wheel	5號輪	1	0701 787	←	←
Fourth Wheel	秒針輪	1	0241 752	0241 763	←
Hour Wheel	時輪	1	0271 752	0271 796	←
Hour Wheel Guard	時輪	1	0376 786	0376 786	0376 674
Insulator For Battery	電池絕緣片	1	4216 786	←	4216 674
Minute Wheel	度數輪/分輪	1	0261 787	←	←
Rotor Stator	轉子甲板/定子	1	4239 786	4239 529	4239 674
Screw	螺絲	1	0022 647	←	0022 247
Screw	螺絲	2	0022 484	←	←
Setting Lever	押掣竿	1	0383 785	←	←
Setting Wheel	撥針輪	1	0281 786	←	←
Step Rotor	轉子/步步馬達	1	4146 787	4146 787	←
Third Wheel	3號輪	1	0231 786	←	←
Train Wheel Bridge	夾板	1	0125 787	0125 788	0125 674
Train Wheel Setting Lever	輪組止動竿	1	Non	Non	Non
Winding Stem	柄軸/巴心	1	0354 788	←	←
Yoke	橫擔/換日竿	1	0384 785	←	←

Hands Height Variety

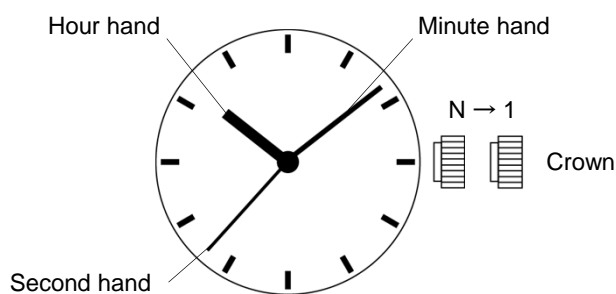
			Y121E1 Y121ER Y121G1	Y121E2 AL21E2	Y121E3 AL21E3	Y121E4 AL21E4	Y121E5	Y121E6	Y121Gk
Hour Wheel	時輪	1	0271 796	0271 797	0271 764	0271 756	0271 775	0271 778	0271 798
Centre Wheel	中心輪	1	0221 797	0221 779	0221 764	0221 765	0221 766	0221 767	0221 798
Fourth Wheel	秒針輪	1	0241 798	0241 777	0241 764	0241 756	0241 757	0241 758	0241 763

			Y120E1 Y120G1	Y120E2 Y120G2	Y120G3
Hour Wheel	時輪	1	0271 796	0271 797	0271 764
Centre Wheel	中心輪	1	0221 797	0221 779	0221 764
Fourth Wheel	秒針輪	1	0241 778	0241 804	0241 803



# 3 hands

◆ Display



◆ Crown operation

		Crown position	
		N : normal	1 : 1st click
Crown		Free	Time setting

◆ How to set time

- (1) Pull the crown out to the 1st click position when the second hand is at the 12 o'clock position.
- (2) Turn the crown to set the hour and minute hands.
  - 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.

◆ Power depletion warning function

When the battery nears its end, the 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 second hand is moving at two-second intervals.

Note : The availability of this function is different depending on the caliber.