TIME MODULE

Cal. YM92A

ϕ27.0 mm
H 3.7 mm

Date: 26/Dec./'11

S.EPSON Products

CAL. YM92A

Analog Quartz 12''' Center second Chronograph Movement

1. MOVEMENT DIMENSIONS

Outside diameter	φ27.60mm(12H-6H) × 24.00mm(3H-9H)
Casing diameter	φ27.00mm(12H-6H)
Total height	3.70mm (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℃ to +50℃
Regulation device	Nil (Pre-adjusted)

3. INDICATOR / FUNCTIONS

3 Hands	Hour hand / Minute hand / Second chronograph hand (Center)
Small hands	Hour and minute chronograph hand (6H) / Small second hand (9H)
	1/20 second chronograph hand (12H)
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
	: Chronograph hand reset
Stopwatch	2H button: start / stop
	4H button: sprit / reset

4. FEATURES

Jewels	0 Jewel	
Anti-magnetism	Over 1600A/m (Direct current magnetic field)	
Maximum unbalance of hands	Small second hand	: 0.03μN・m
	1/20 second chronograph hand	: 0.03μN・m
	Minute chronograph hand	: 0.03μN・m
	Second chronograph hand	: 0.06μN・m
	Minute hand	: 0.70μN・m
Inertia of second hand's moment	Second chronograph hand	: less than 0.2μg・m²

5. BATTERY

Type / Size	Silver oxide battery / φ9.5mm × t 2.73mm
Recommended battery	SR927SW
Nominal voltage	1.55 V
Battery life	Approx. 3 years
Driving current consumption	Approx. 0.80μA
Operation stopping voltage	0.9 V

6. SEPARATED PARTS (Parts code)

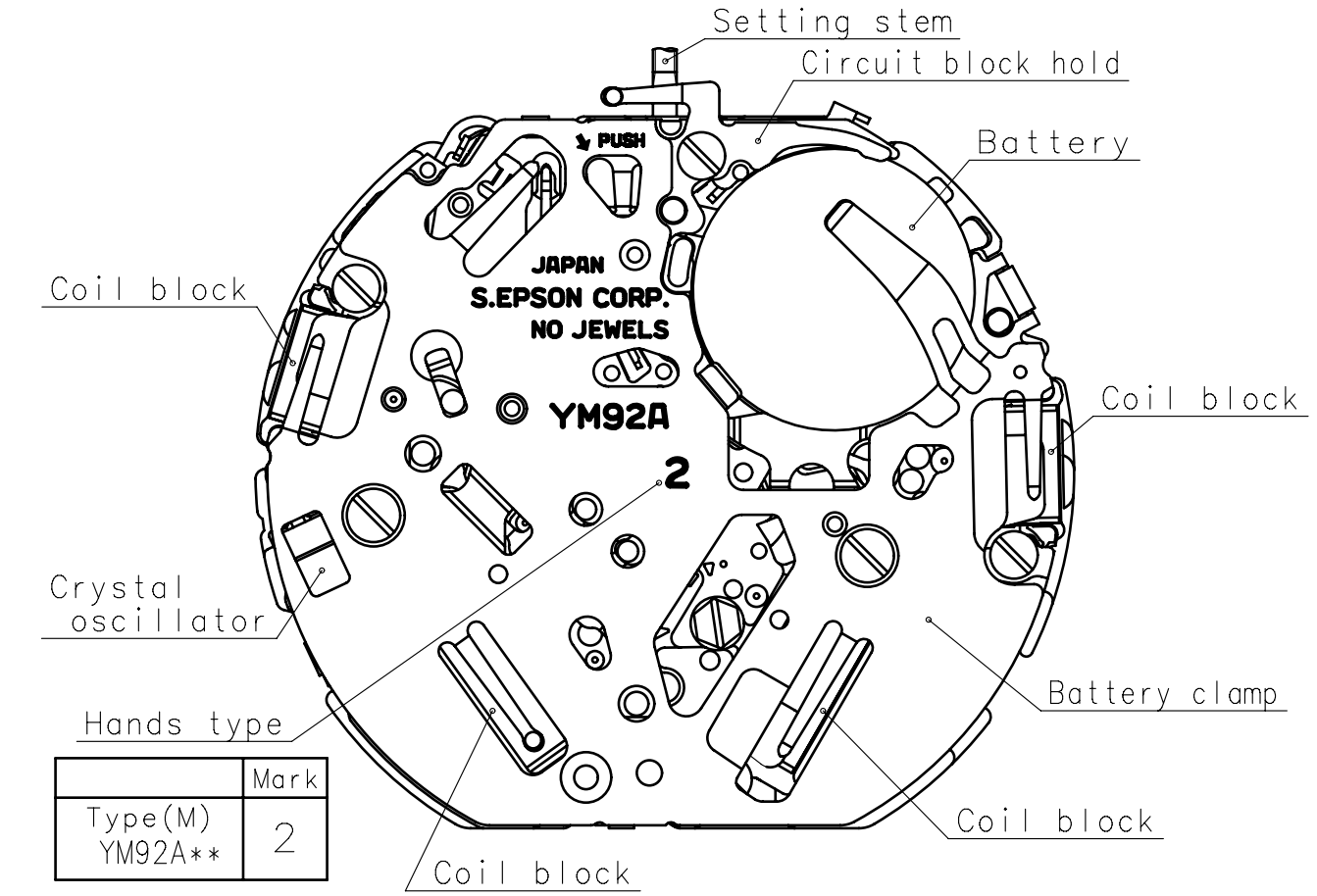
Hand setting stem	0351584 (Standard) or 0351585 (Long)
Holding ring for dial	0866650 (standard) 0866789 (special)
Battery	SR927SW

7. TEST OF ACCURACY

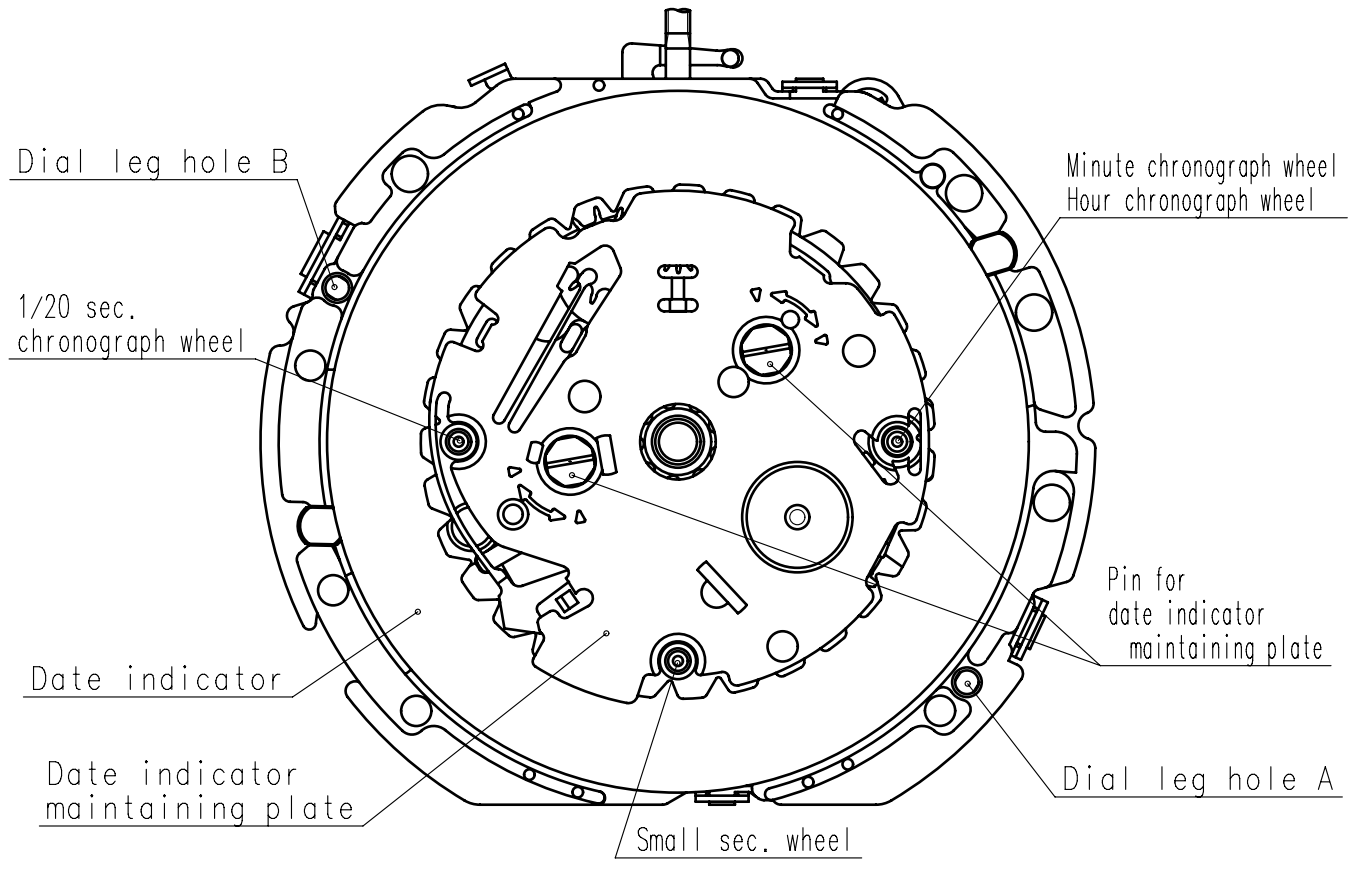
Equipment to be used	SEIKO quartz tester QT-99, QT2100
	Greiner quartz timer-C , Witschi Q-tester 4000
Duration of measurement	10 seconds
Microphone to be used	Electromagnetic detection type

All specifications are subject to change without notice.

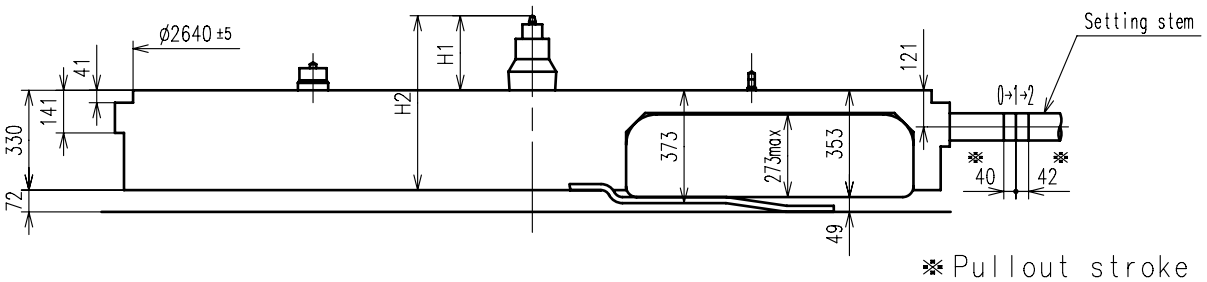
Cal. YM92A	Appearance	Date:20/Apr./'01
		Rev.:00



	Mark
Type(M) YM92A**	2

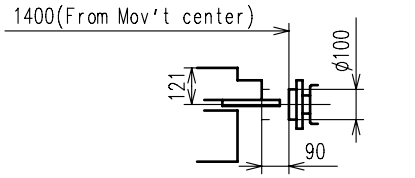


Casing

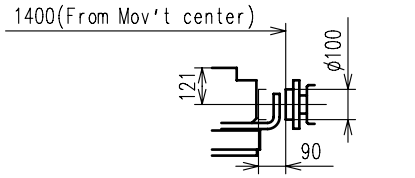


※Pullout stroke

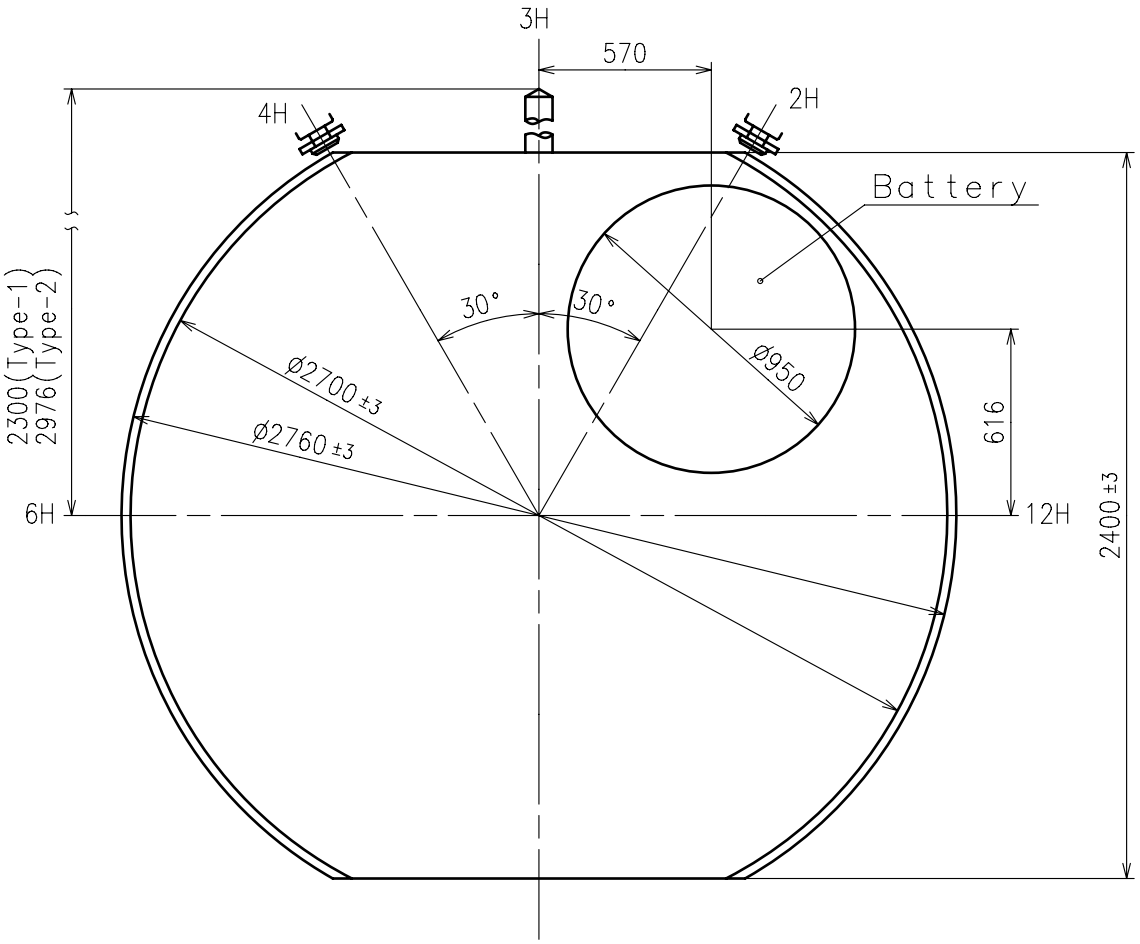
Center post		Type M (2) YM92A**
Maximum height from dial support	H1	246.5
Total height incl.movement	H2	576.5



4H Button stroke



2H Button stroke



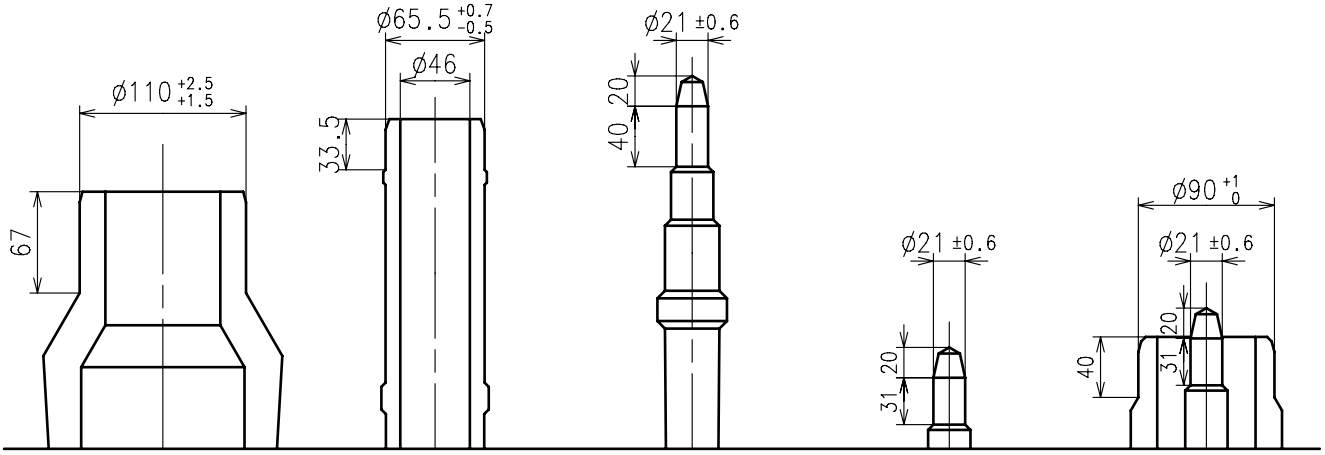
Cal. YM92A	Hand fitting	Date:26/Dec./'11 Rev.:01

※Unbalance

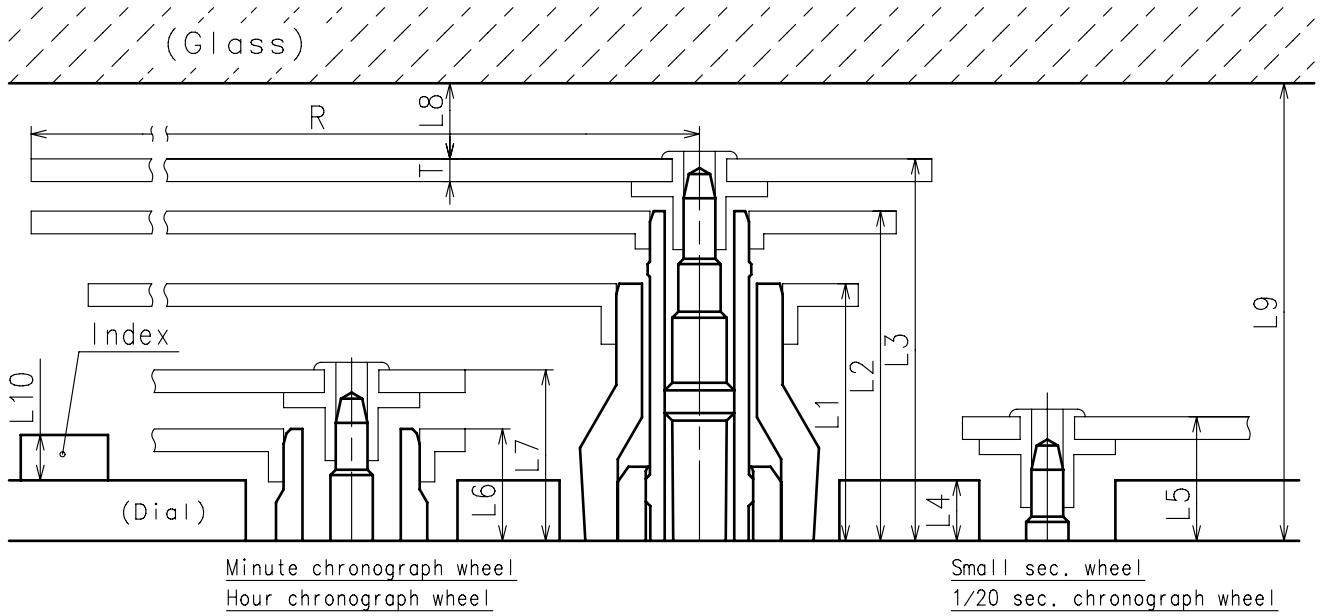
- Small sec. hand ≦ 0.03μ N・m (3μ g・m)
- 1/20 sec. chronograph hand ≦ 0.03μ N・m (3μ g・m)
- Minute chronograph hand ≦ 0.03μ N・m (3μ g・m)
- Sec. chronograph hand ≦ 0.06μ N・m (6μ g・m)
- Minute hand ≦ 0.70μ N・m (70μ g・m)

※Moment of inertia

- Sec. chronograph hand ≦ 0.2μ g・m²



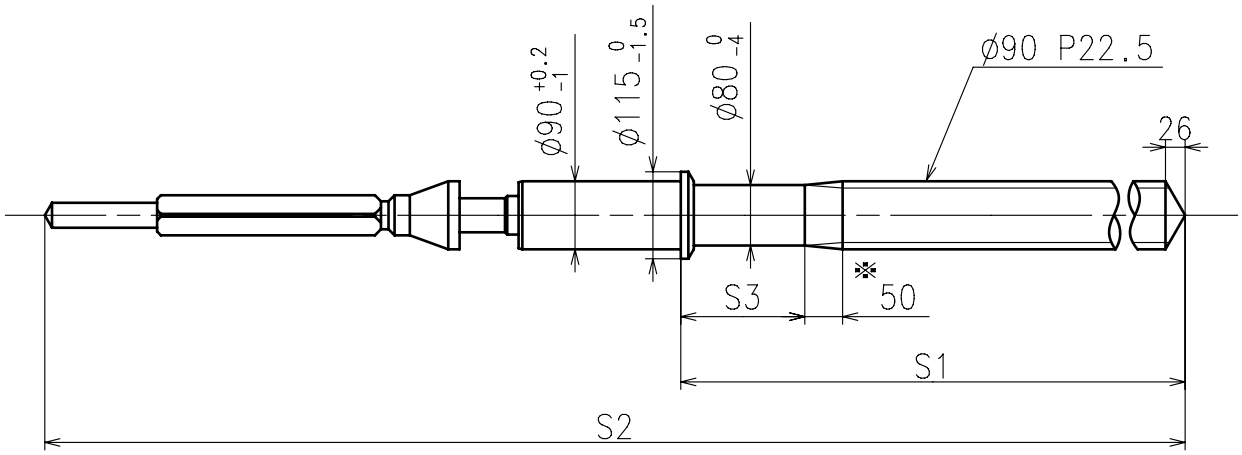
	Parts No.						
	Hour wheel	Center wheel	Sec. chronograph wheel	Small sec. wheel	1/20 sec. chronograph wheel	Minute chronograph wheel	Hour chronograph wheel
Type M (2) YM92A**	0271588	0221583	0888582	0240580	0902580	0270582	0271583



	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	T	R
Type M (2) YM92A**	170	218	252.5	40	77	74	113	MIN: 50	MIN: 302.5	MAX: 50	15	MAX: 1250

Unit : 1=1/100mm

Cal. YM92A	Hand setting stem	Date:26/Dec./'11 Rev.:01



※ Not threaded

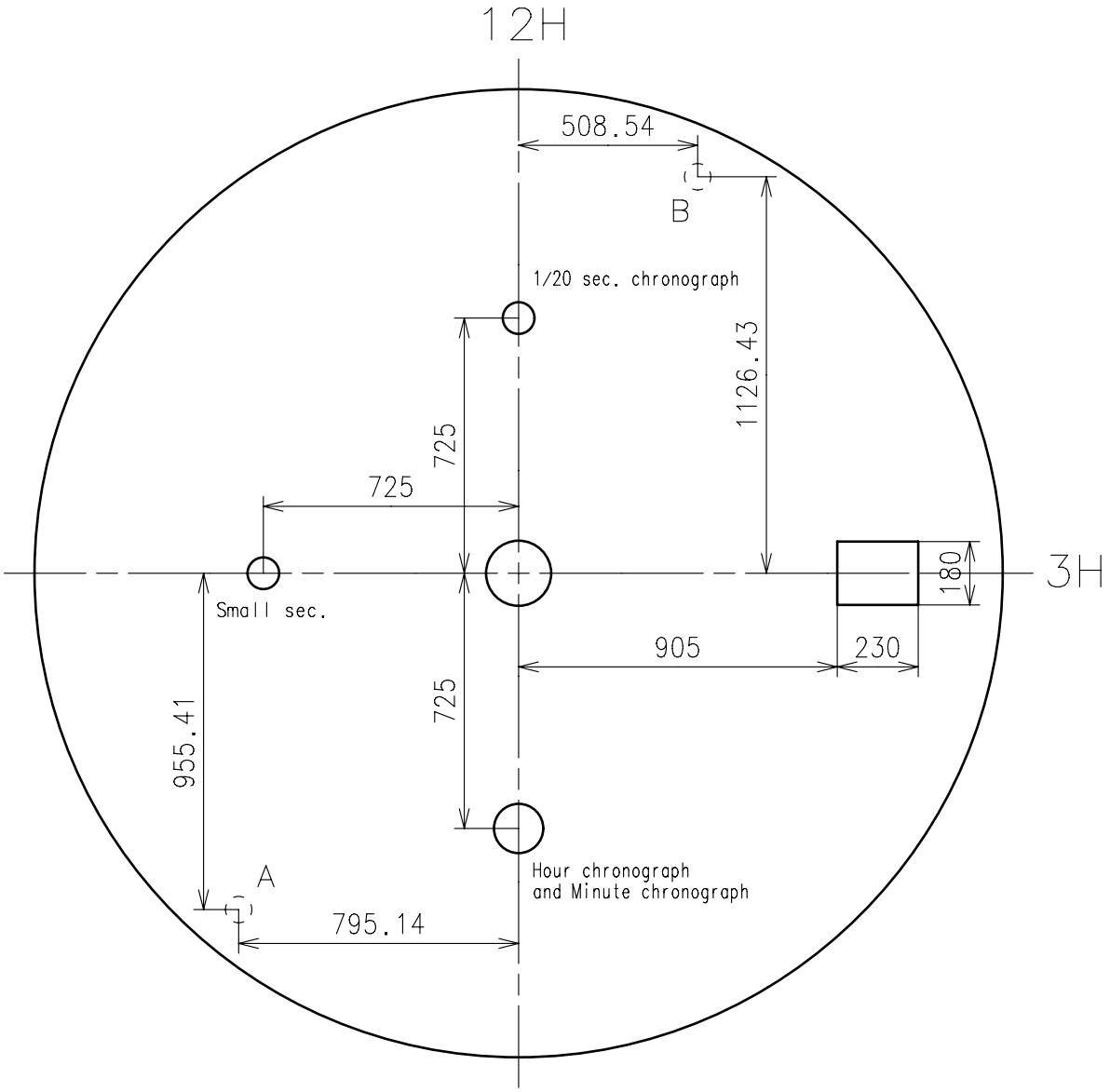
	Part No.	S1	S2	S3
Type-1 (Standard)	0351584	1164	2005.5	164
Type-2 (Long)	0351585	1840	2681.5	750

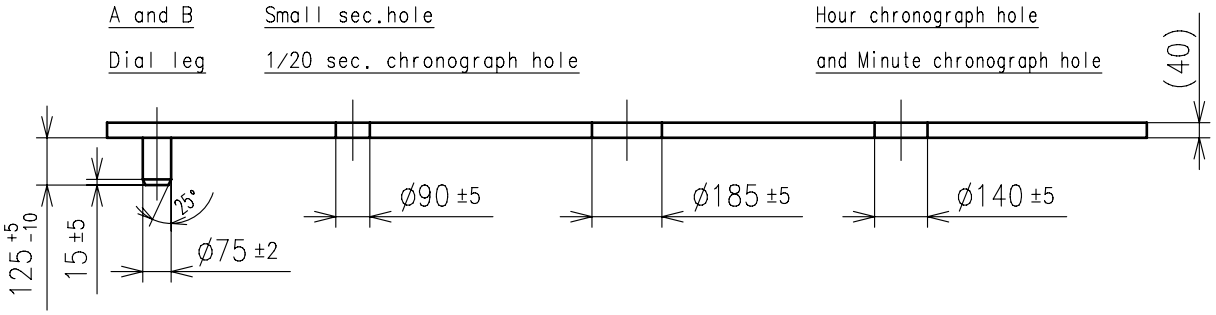
Material : Steel

Hardness : Vickers 600±50

Unit : 1=1/100mm

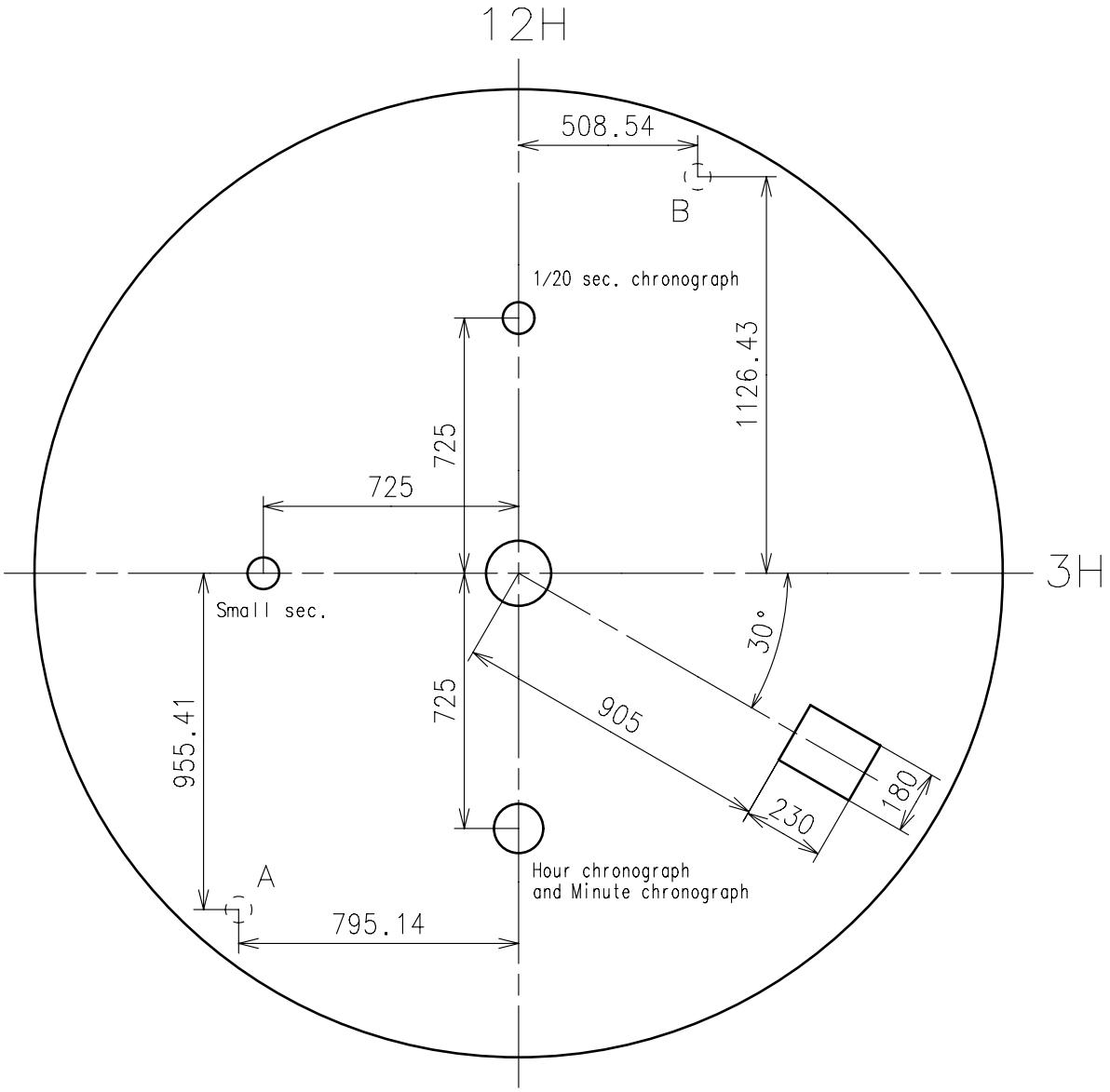
Cal. YM92A	Dial-01	Date:22/Oct./'04
		Rev.:01

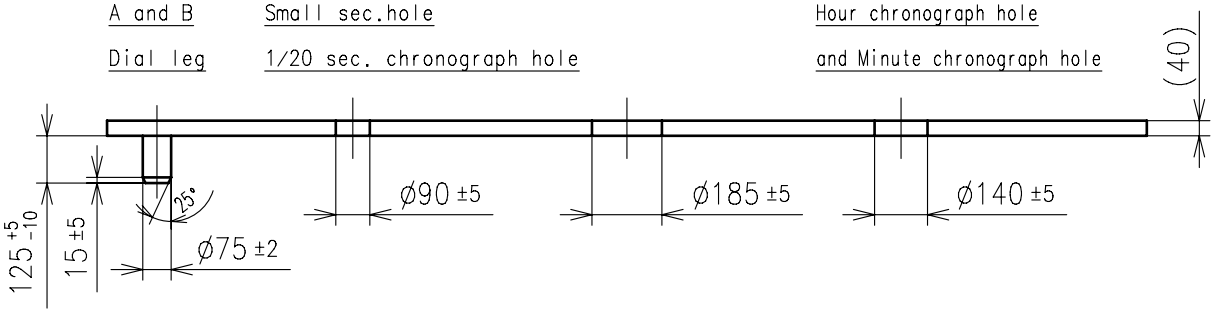




Unit : 1=1/100mm

Cal. YM92A	Dial-02	Date:22/Oct./'04
		Rev.:00

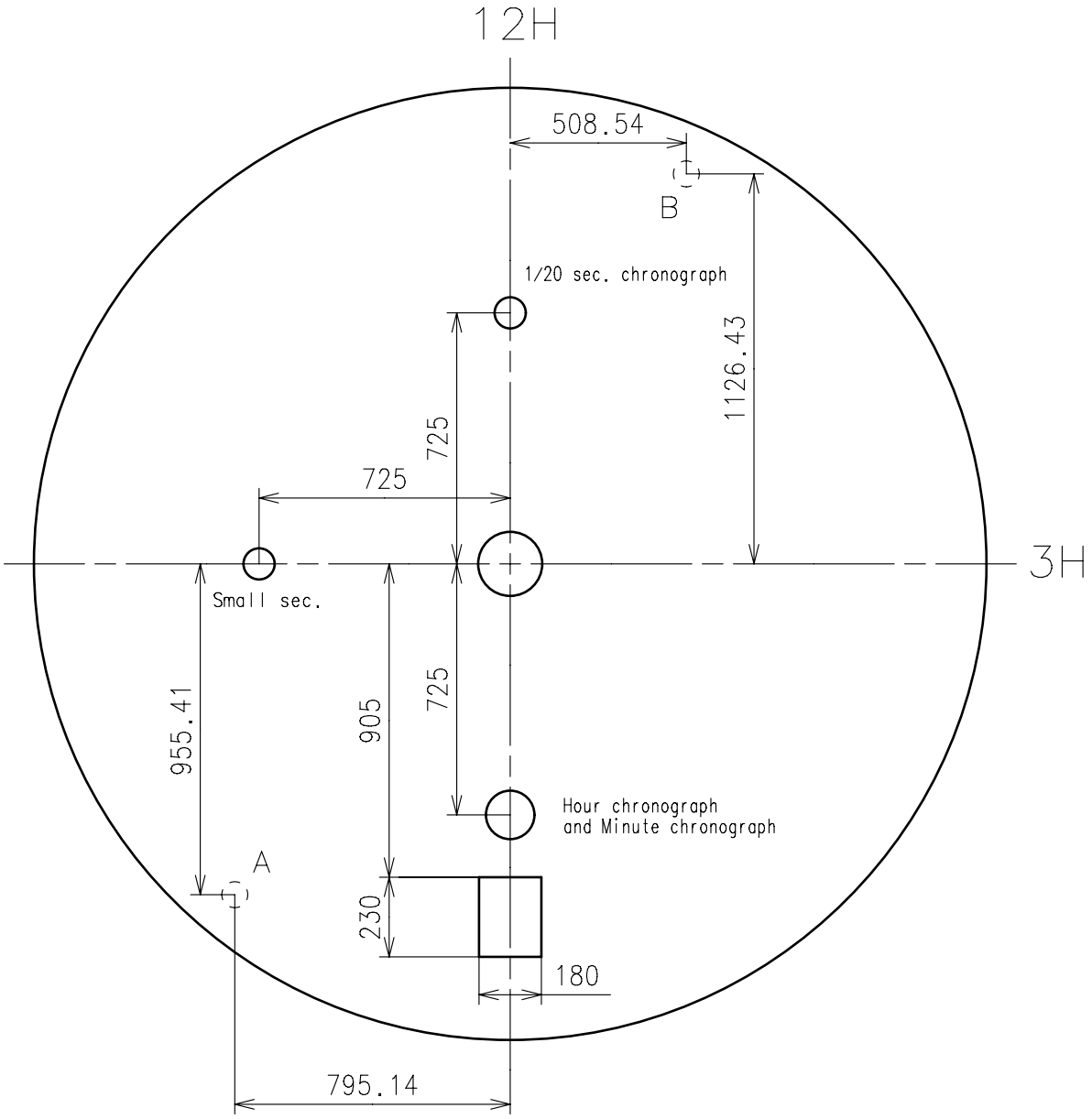


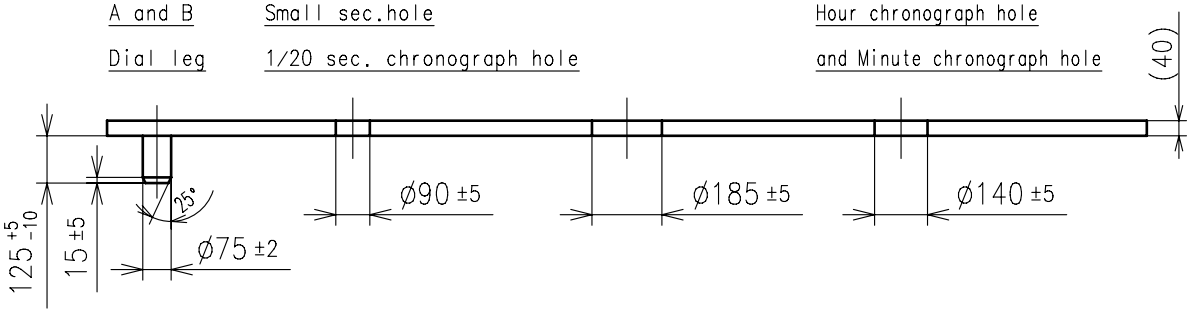


Unit : 1=1/100mm

Cal. YM92A	Dial-03	Date:14/Mar./'05
		Rev.:00

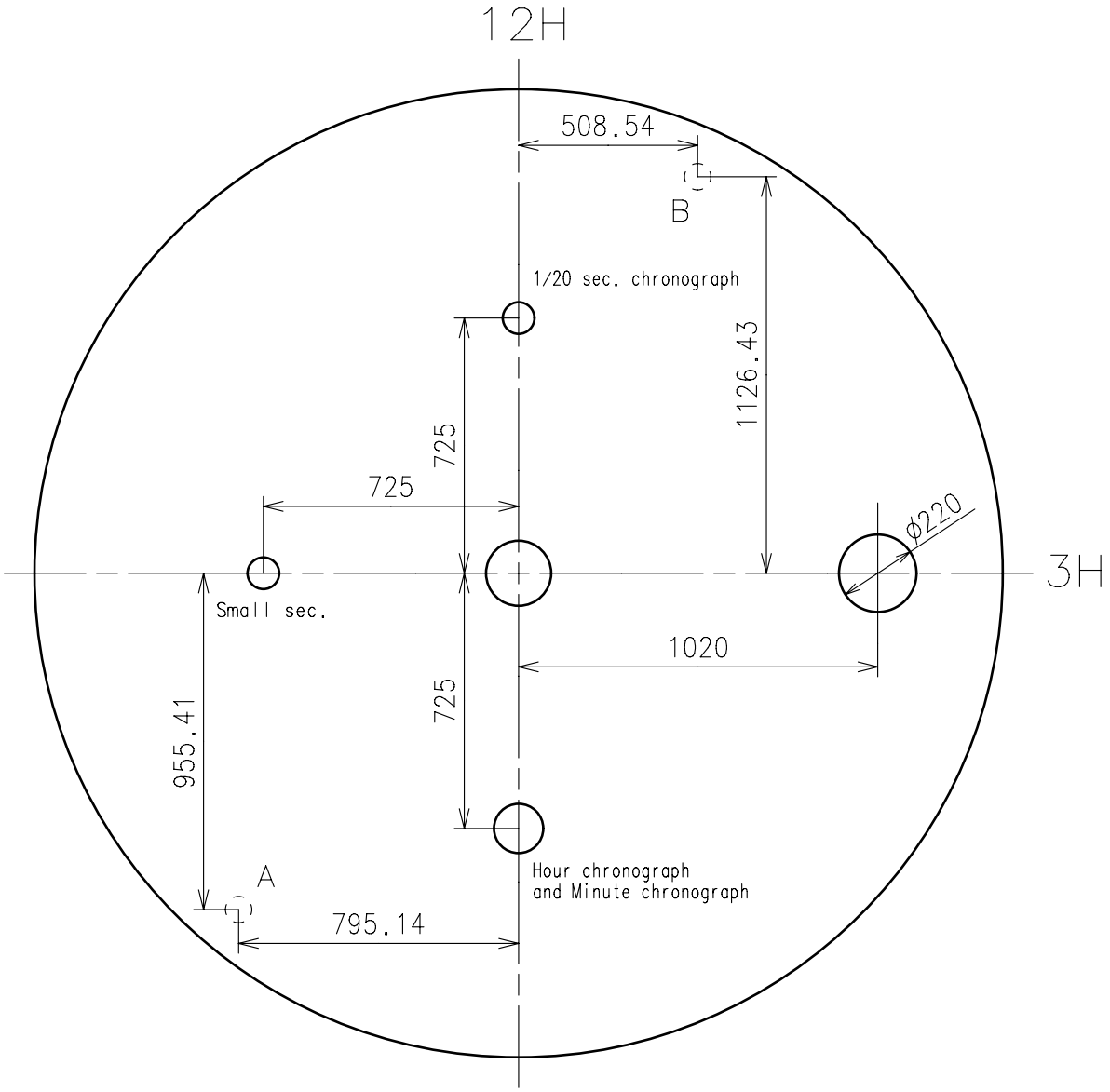
Ref. No.
YM92A12

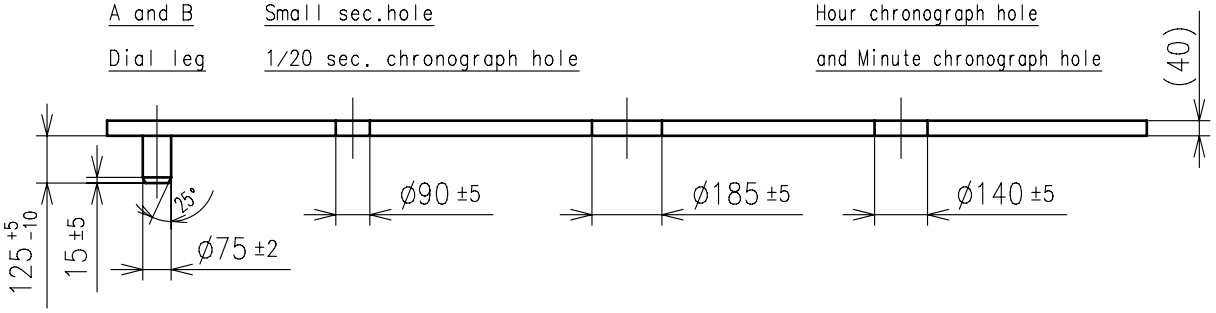




Unit : 1=1/100mm

Cal. YM92A	Dial-04	Date:30/Nov./'10
		Rev.:00

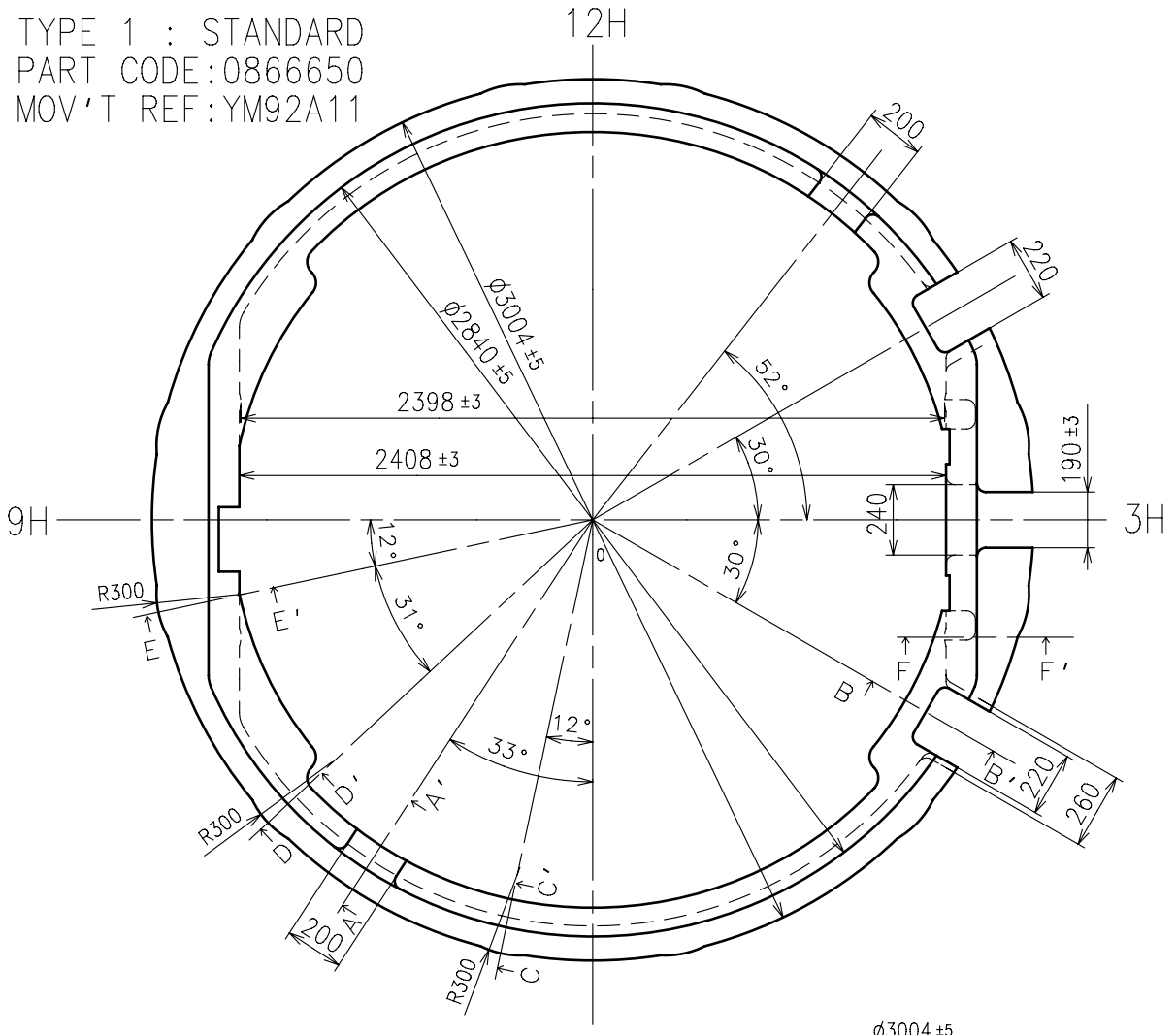


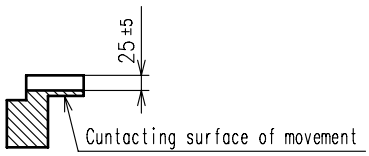


Unit : 1=1/100mm

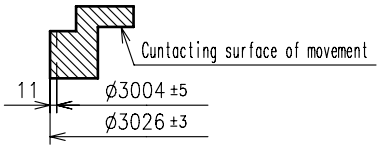
Cal. YM92A	Casing ring-01	Date:31/Aug./'01
		Rev.:01

TYPE 1 : STANDARD
PART CODE:0866650
MOV'T REF:YM92A11

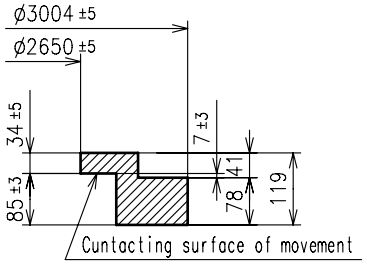




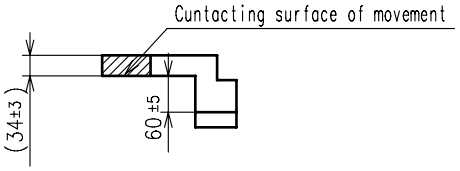
A-A' section



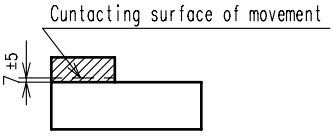
D-D' section
E-E' section



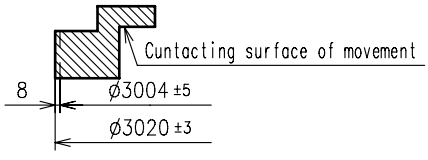
O-12H section



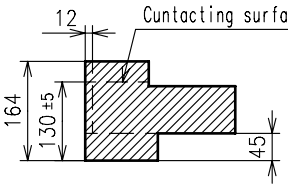
B-B' section



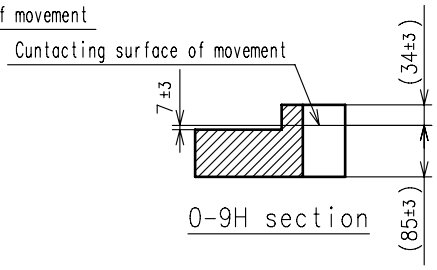
O-3H section



C-C' section



F-F' section

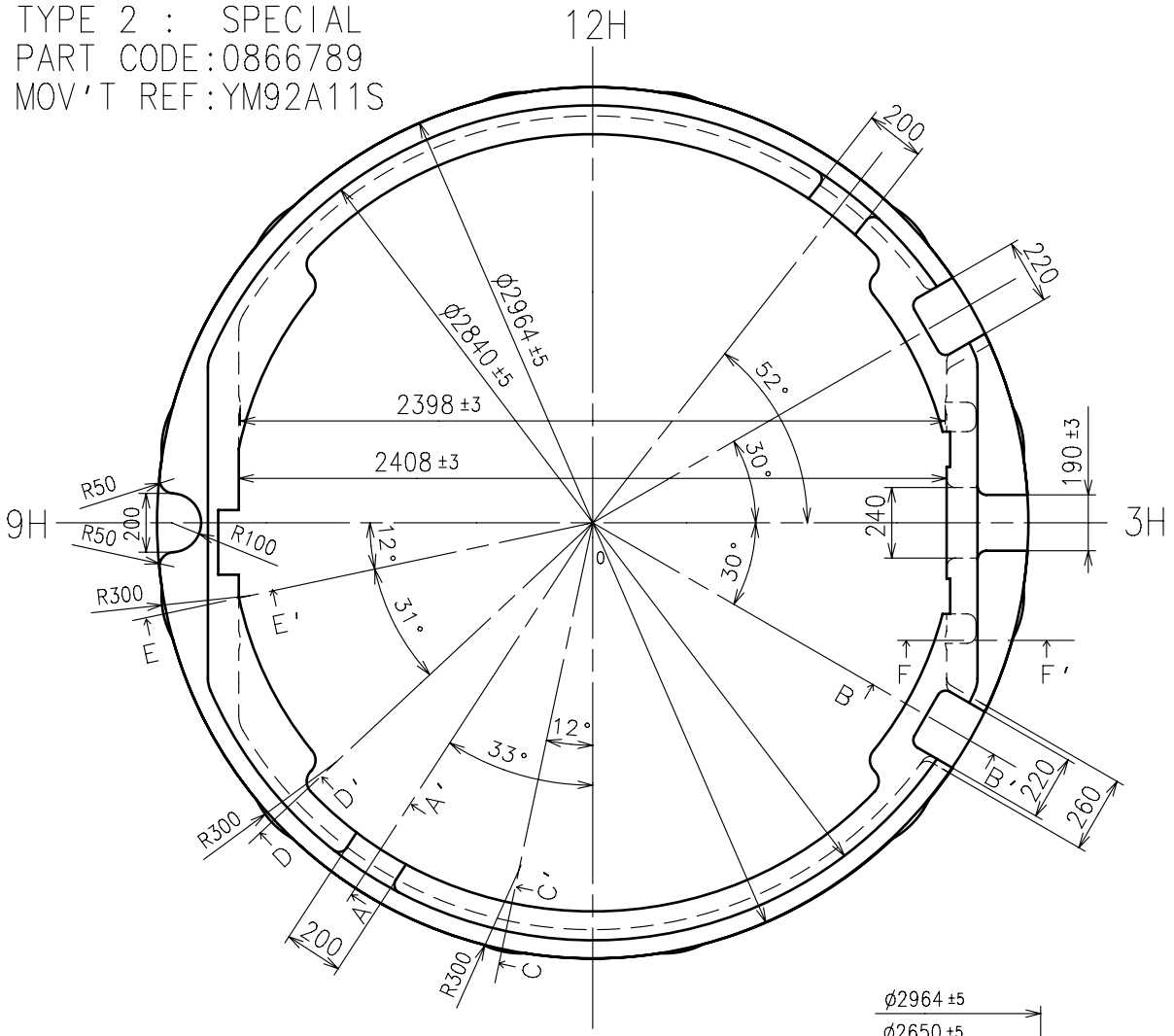


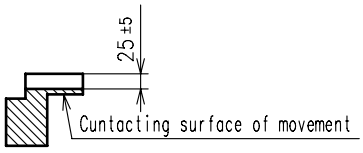
O-9H section

Unit : 1=1/100mm

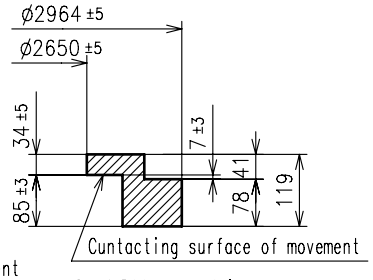
Cal. YM92A	Casing ring-02	Date:31/Aug./'01
		Rev.:00

TYPE 2 : SPECIAL
PART CODE:0866789
MOV'T REF:YM92A11S

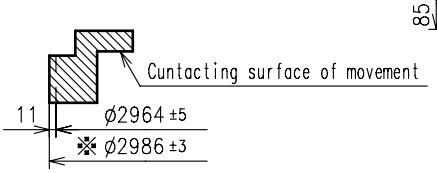




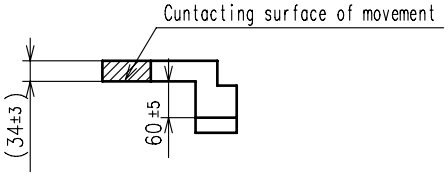
A-A' section



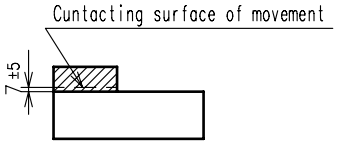
0-12H section



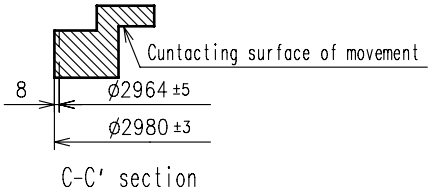
D-D' section
E-E' section



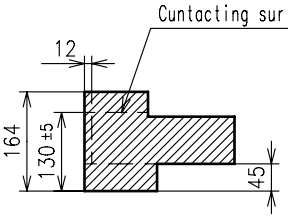
B-B' section



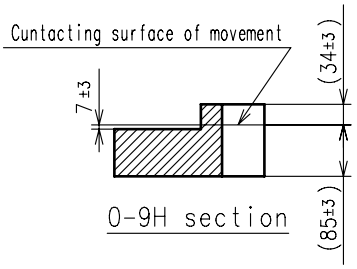
0-3H section



C-C' section



F-F' section



0-9H section

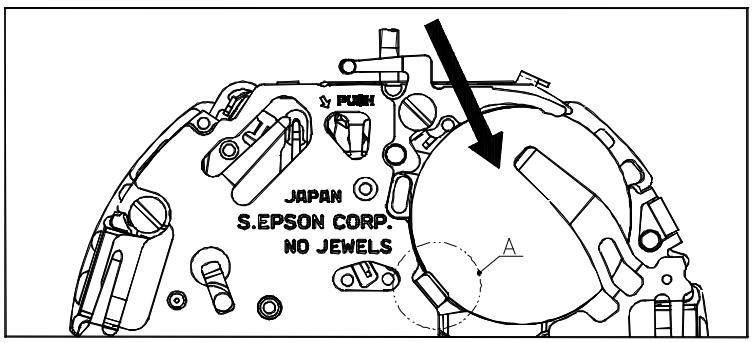
※"DIAMETER OF INSIDE CASE IS SAME AS YM5 SERIES"

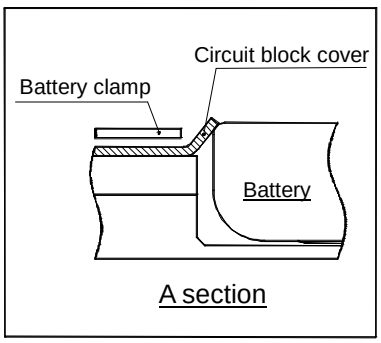
YM92 Attention on assembly

Date: 20/Apr./'01
Rev.: 00

1.How to change the battery

- Please use the exclusive battery to keep the stable performance for a long time.
- Please set the battery with the minus part toward the inside of the watch.
- When you assemble or change the battery, it is recommended to pull out two battery clamp screws first, and then take out the battery clump in order not to add the damage to the movement part.
- When you assemble the battery without taking out the battery clump, please refer to the picture in below and set the battery from the [→] direction.
- Regarding the [A] part of the following chart, it is recommended that the battery must be under the circuit holder.
- It is not necessary to do system-reset.
- Please set the 1/20 second CG hand, hour CG hand and minute CG hand at 12H position.

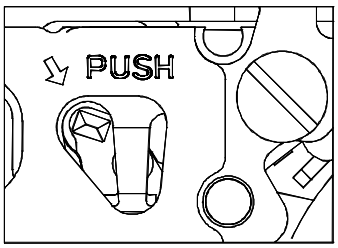




2.How to pull out the stem

- Please pull out the crown at 1st click and then pull out the stem while you are pressing the hollow part of the setting lever by tweezers. If the stem is not at 1st position, it is impossible to be pulled out.

(Crown pulled out at 1st click)



3.Attention to set each hand

- Hand moves at one-second interval. Please set the each hand at correct position according to the scale of the dial in order not to make a mistake.
- Please do not turn the hour hand forcibly.

4.How to take off the hand

- When you take off the hand, please use the fork-shaped exclusive tools.
- Please do not take off the dial when any hands are assembled.

5.How to test the accuracy

- Measure the timing with Quartz Tester in 10 second's gate.

YM92　Attention of casing part structure

Date: 30/Nov./'10
Rev.: 01

1.Minute hand

・In order not to push the minute hand too much, the second wheel have a safety stopper structure.　However, please pay attention for the friction between hour hand and minute hand.

2.Casing ring

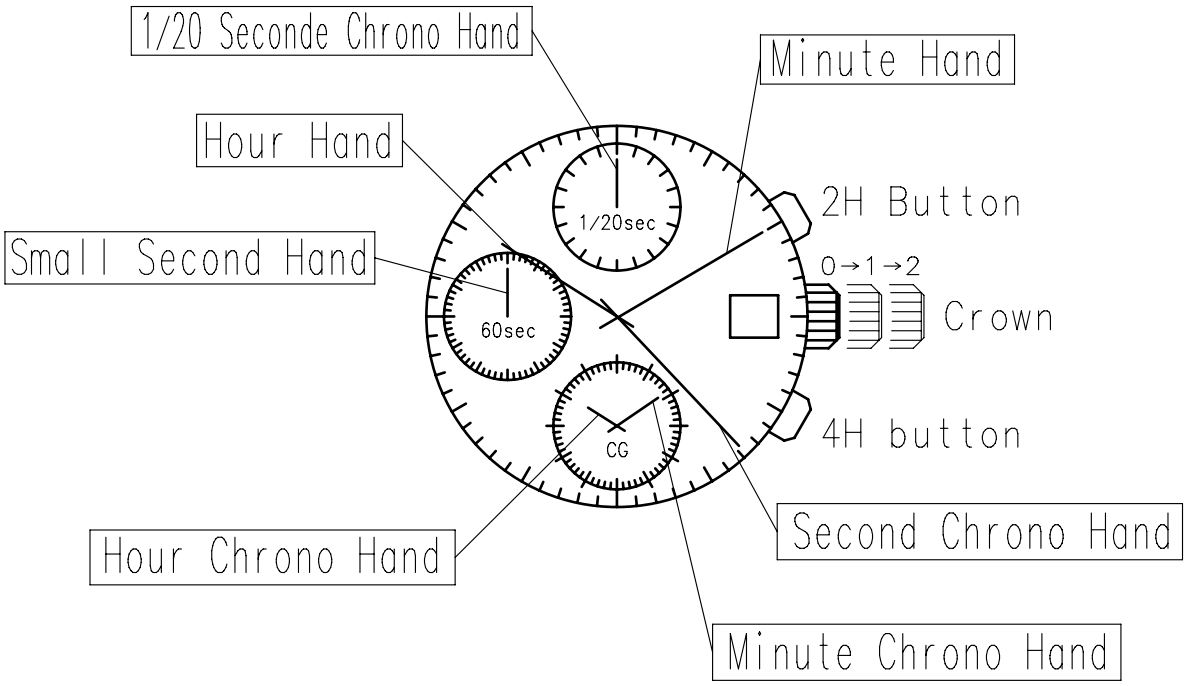
・Please use the exclusive casing ring to fix the movement tightly inside of the case, and to stabilize the button switching stroke.　As to the shape and tolerance, please refer to the [Casing ring] page instruction.

3.Case

・Please use the metal case to prevent movement from being mal-functioned by static electricity.

4.Hour wheel

・The hour wheel is made by plastic.　If you re-assemble the hour hand repeatedly, it may reduce the hand fixing torque.　To keep the enough fixing torque, please do not change the hour hand more than 5 times.



- Crown
  - 0 Click
    - Turning — Free
    - Push Buttons
      - 2H:Chronograph Start/Stop
      - 4H:Chronograph Reset Split Start/Stop
  - 1st Click
    - Turning — Turn Clockwise for Date change
    - Push Buttons
      - 2H:Chronograph Start/Stop
      - 4H:Chronograph Reset Split Start/Stop
  - 2st click
    - Turning — Time Adjustment

※CG Reset

Push 2H button(2sec) → 4H Button Push for 1/20 Second Chronograph Hand 0-setting

1/20 Second Chronograph Hand moves, then Time Ajustment is available

Push 2H button(2sec) ↓

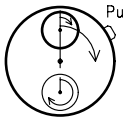
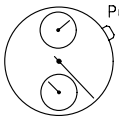
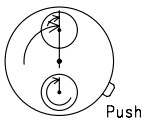
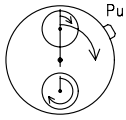
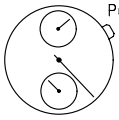
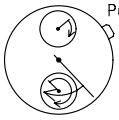
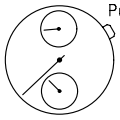
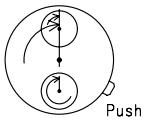
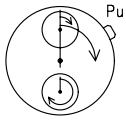
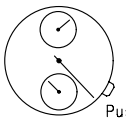
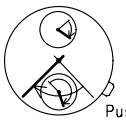
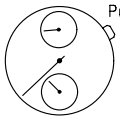
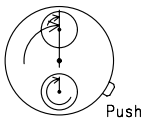
4H Button Push for Second Chronograph Hand 0-setting

Second Chronograph Hand moves, then Time Adjustment is available

Push 2H button(2sec) ↓

4H Button Push for Minute/Hour Chronograph Hand 0-setting

Minute/Hour Chronograph Hand moves, then Time adjustment is available

Chronograph Operation (Crown 0-Click)					
Total Time	START	STOP			RESET
					
Accumlated Time	START	STOP	RESTART	STOP	RESET
					
Split Time	START	SPLIT	RESPLIT	STOP	RESET
					

1/20sec chrono hand stop running after 10 minutes.
(inside mechanism continues caliculating)