

Cal. VK67A

ϕ 30.80 mm

H 5.10 mm

Item	Version No.
Specification - 1	Version 2
Specification - 2	Version 1
Appearance	Version 2
Casing	Version 2
Hand Fitting	Version 2
Hand Setting Stem	Version 1
Dial	Version 2
Assembly Plan - 1	Version 2
Assembly Plan - 2	Version 2
Hands	Version 1

CAL. VK67A 13 ½ Ligne Quartz Movement

Two Hands with 1/5 Center Chronograph Second,
Small Second, Small Chronograph Minute & Hour, Date

1. MOVEMENT DIMENSIONS

- Outside diameter ϕ 30.80mm (12H~6H) x 29.10mm (3H~9H)
- Casing diameter ϕ 29.00mm (12H~6H)
- Total height 5.10 mm
- Dimensions of small hands away from center 7.50 mm

2. BASIC FUNCTION

- Jewels 0 jewel
- Regulation device Nil
- Accuracy $\pm$ 20 seconds per month at normal temperature range
- Battery life Approx. 3 years
- Operation temperature range From - 5 °C to + 50 °C
- Antimagnetism $\geq$ 1600 A / m
- Shock resistance (direct current magnetic field) On equal level with general quartz movement
- Hands

	Regulation hands unbalance	The moment of inertia
Hour	Less than 0.50 μ N·m (50mg·mm)	-----
Minute	Less than 0.60 μ N·m (60mg·mm)	-----
Small second	Less than 0.05 μ N·m (5mg·mm)	-----
Center chrono. second	Less than 0.20 μ N·m (20mg·mm)	Less than 400mg·mm ²
Chrono. minute / Chrono. hour	Less than 0.05 μ N·m (5mg·mm)	Less than 30mg·mm ²

3. OSCILLATOR

- Type of quartz oscillator Tuning fork
- Frequency of quartz oscillator 32,768 Hz

4. BATTERY

- Type Silver oxide battery
- Voltage 1.55 V
- Size ϕ 9.5 x t 3.6 (mm)
- Recommended battery SR936SW (SEIZAIKEN)

5. DIAL FIXED METHOD

Dial legs fitted with holes on the main plate

6. 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.**

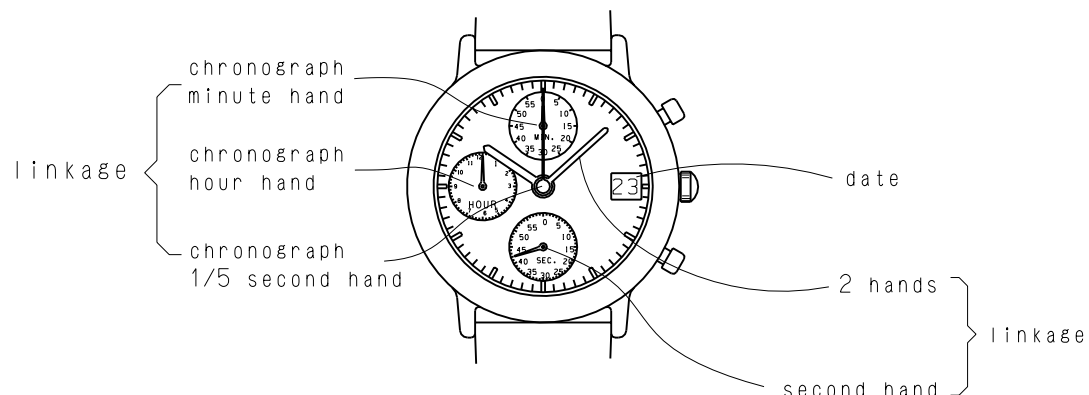
Movement Specification-2

CAL. VK67A

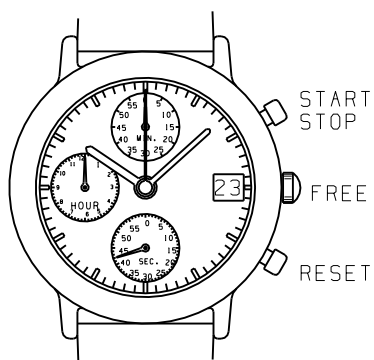
OPERATION

2 step motors

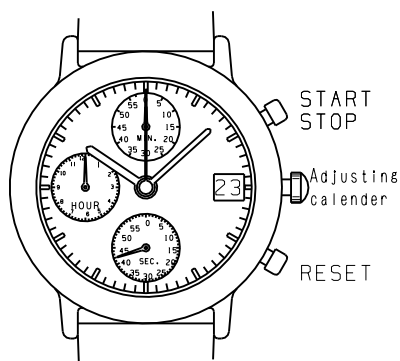
(2 hands with calender, second hand, 1/5sec. chrono. maximum 12 hours)



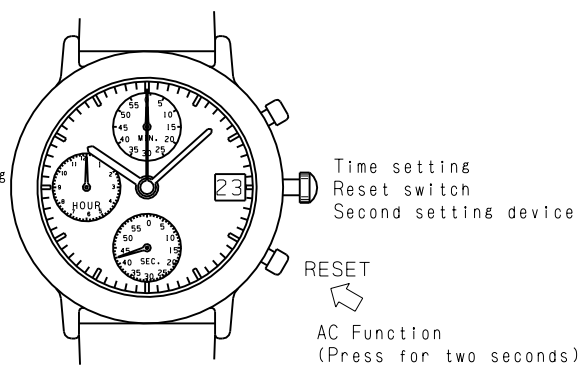
Normal Position



1st click
adjusting calendar
(clockwise)



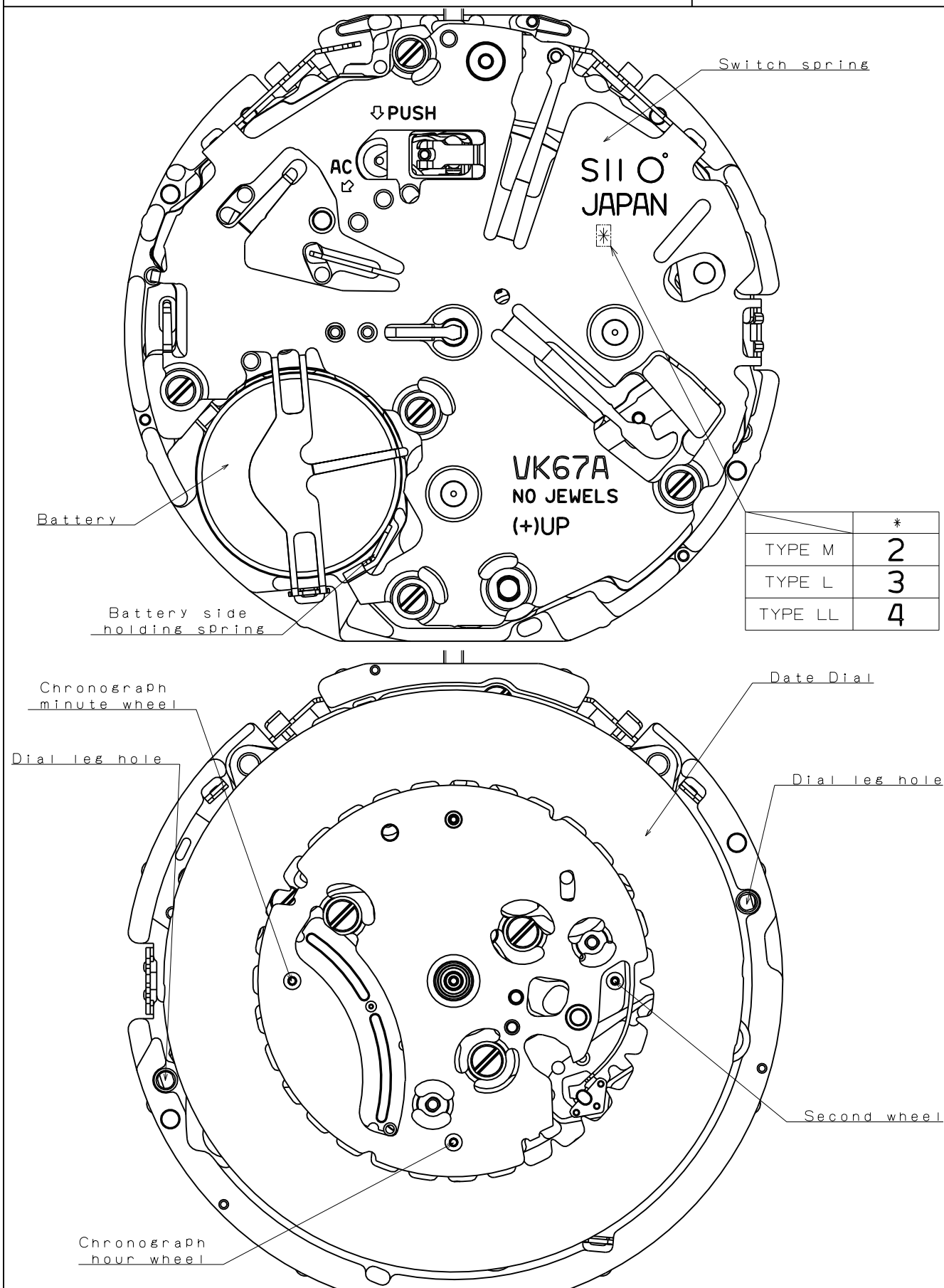
2nd click
adjusting time



*After AC and the crown is returned to normal position, the second hand will move at two-second interval for 10 seconds.

*If the chronograph hand positions are incorrect, pushing the RESET button will return the hands to their appropriate positions.

Version : 1

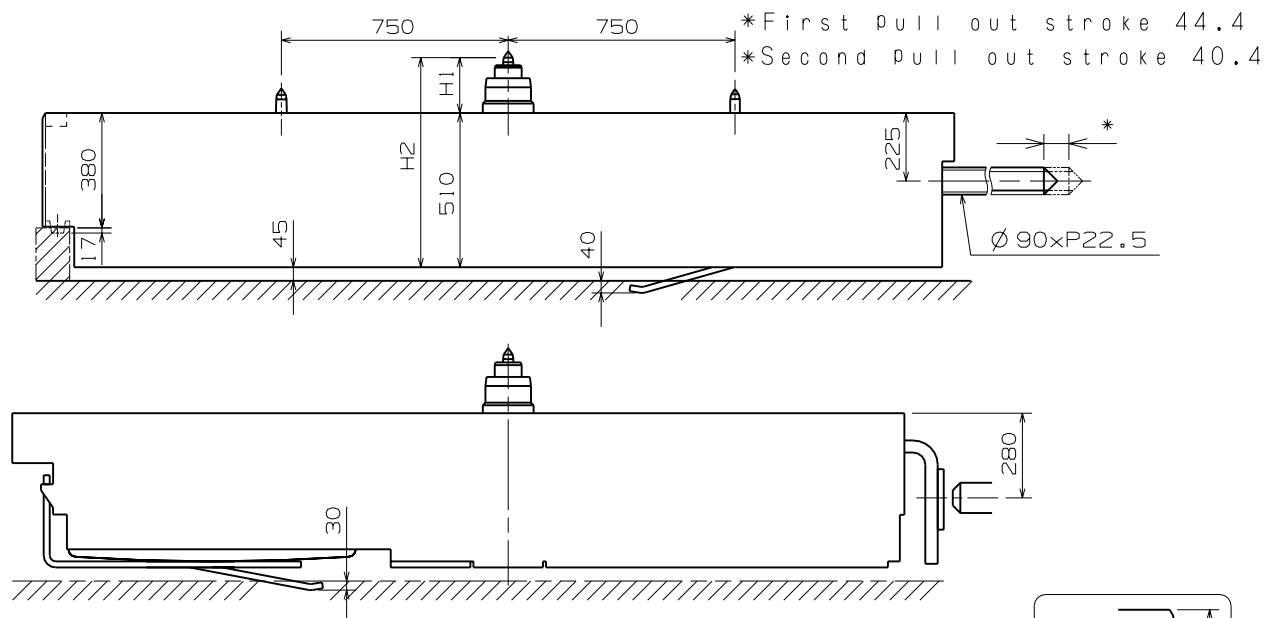


Modification

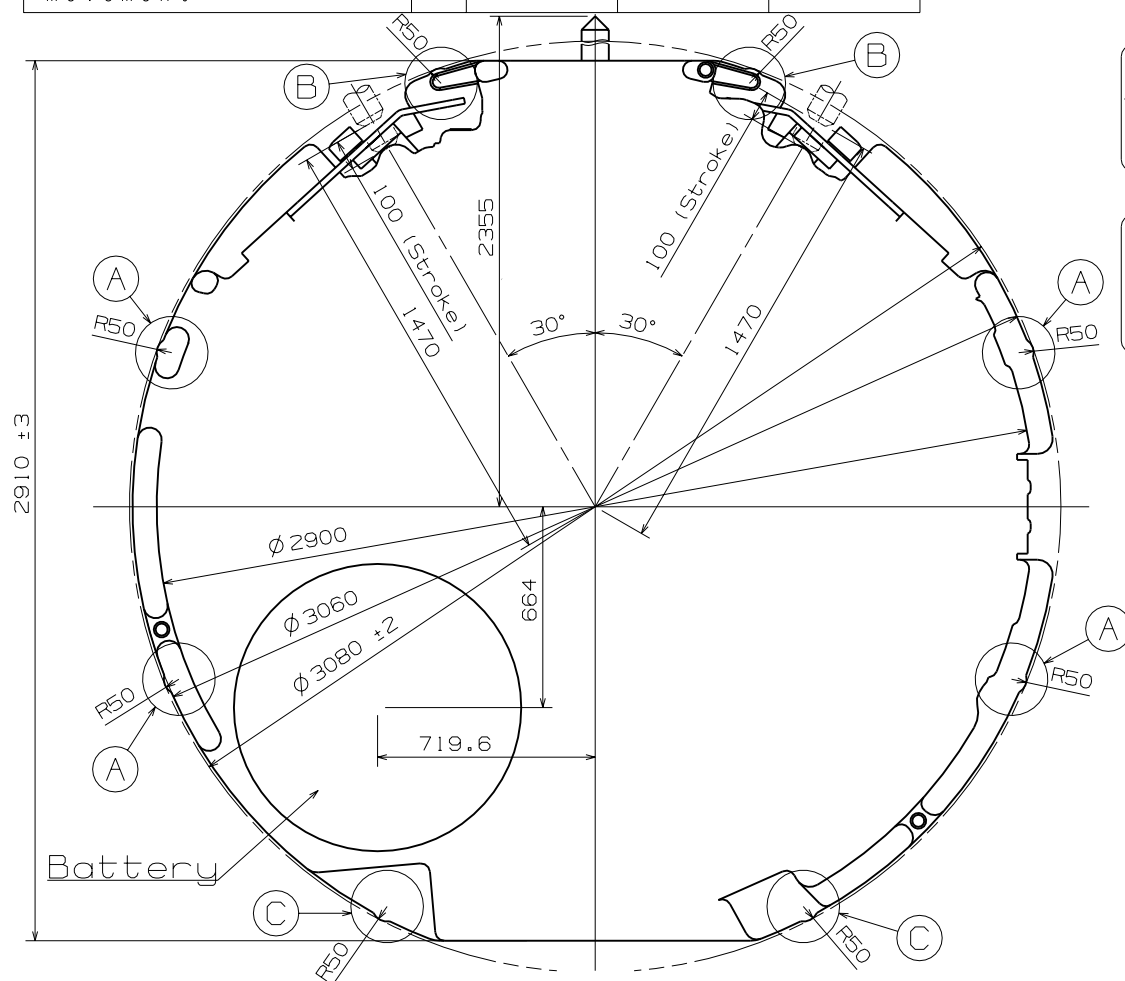
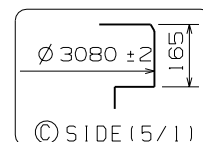
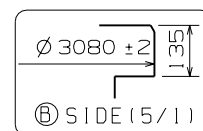
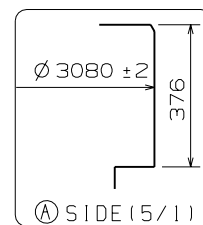
Scale : 4/1

Unit : 1=1/100mm

Version:2



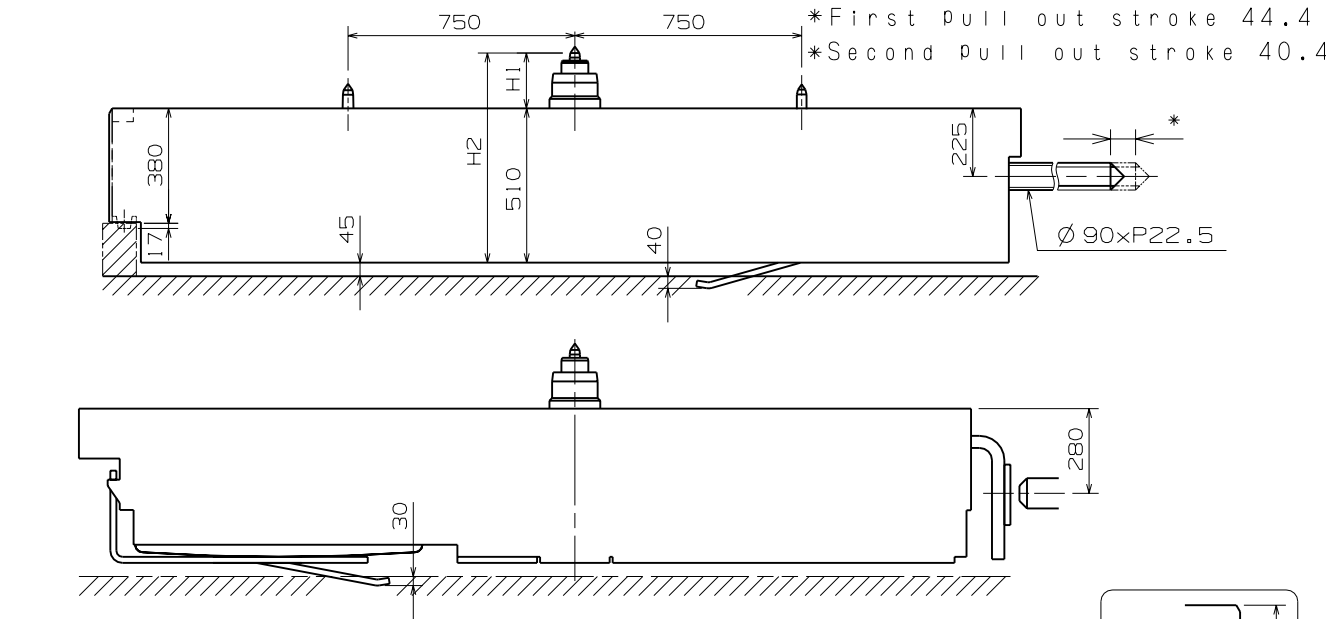
Center post		TYPE M	TYPE L	TYPE LL
Maximum height from main Plate surface	H1	183	214	259
Total height incl. movement	H2	693	724	769



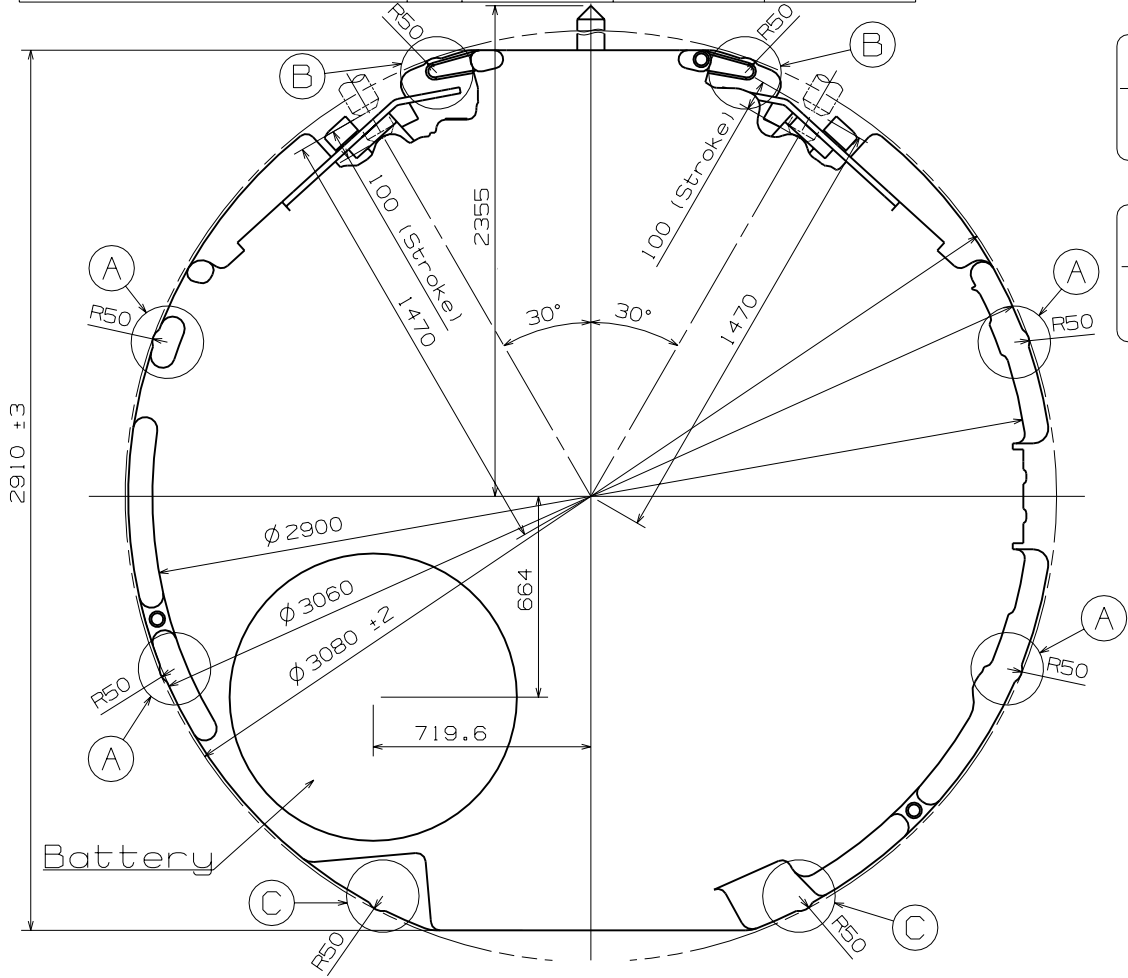
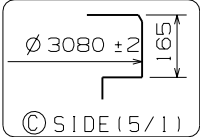
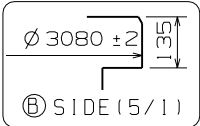
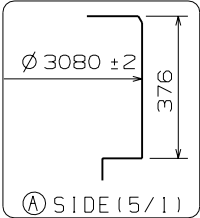
Scale : 4/1

Unit : 1=1/100mm

Version : 2



Center post 中心柱位		Type M 一般針高	Type L 高針	Type LL 特高針
Maximum height from main plate surface 與機芯平面之最大高度	H1	183	214	259
Total height incl. movement 機芯總高度	H2	693	724	769



Scale : 4/1
Unit : 1=1/100mm

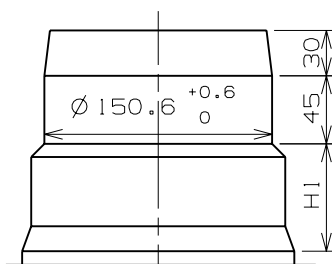
Version:2

Hand Fitting

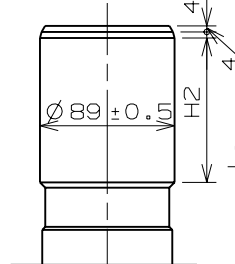
Cal. VK67A

- *Hour hand unbalance $\leq 0.5 \mu\text{N}\cdot\text{m}$ (50mg·mm)
- *Minute hand unbalance $\leq 0.6 \mu\text{N}\cdot\text{m}$ (60mg·mm)
- *Second hand unbalance $\leq 0.05 \mu\text{N}\cdot\text{m}$ (5mg·mm)
- *Chronograph 1/5 second hand unbalance $\leq 0.20 \mu\text{N}\cdot\text{m}$ (20mg·mm)
- *Chronograph minute hand unbalance $\leq 0.05 \mu\text{N}\cdot\text{m}$ (5mg·mm)
- *Chronograph hour hand unbalance $\leq 0.05 \mu\text{N}\cdot\text{m}$ (5mg·mm)

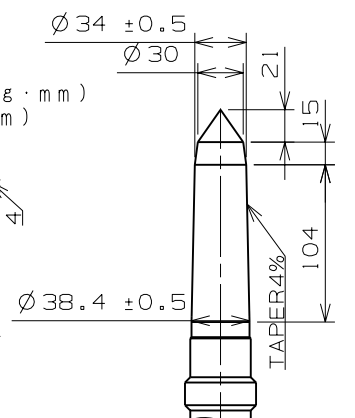
	H1	H2
TYPE M	71	95.5
TYPE L	91	122.5
TYPE LL	136	167.5



Hour wheel

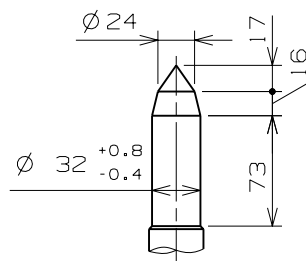


Center wheel

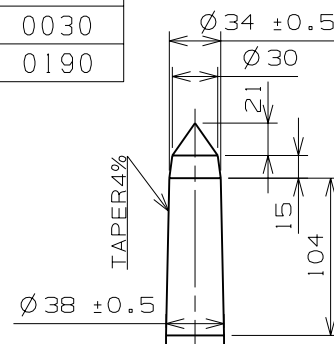
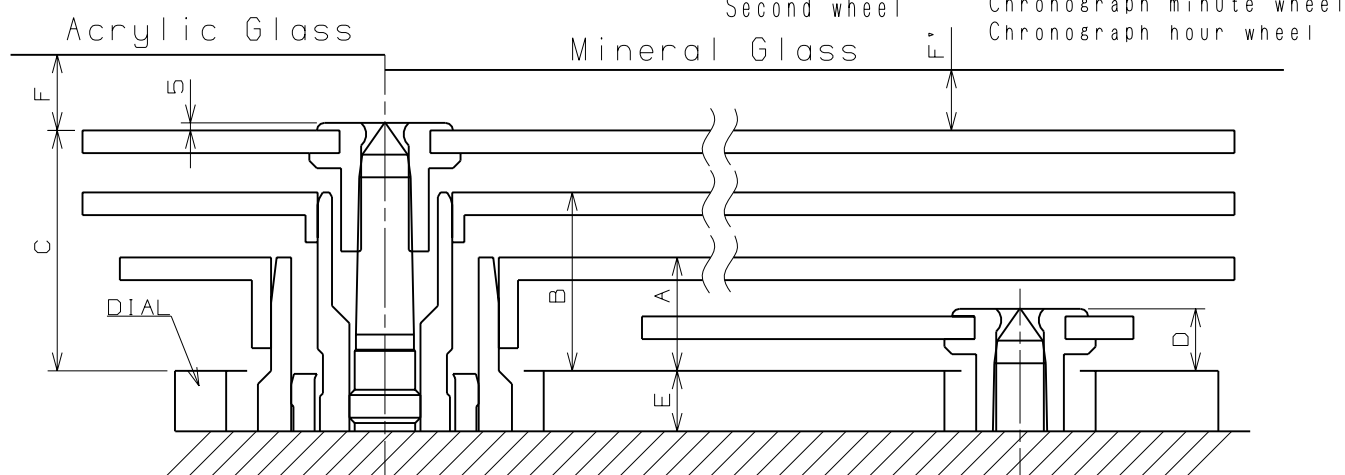


Chronograph 1/5 second wheel

Parts name	Parts No.		
	TYPE M	TYPE L	TYPE LL
Hour wheel	0273 0380	0273 0410	0273 0420
Center wheel	0221 0870	0221 0910	0221 0920
Second wheel	0240 0180	0240 0180	0240 0190
Chronograph minute wheel	0902 0110	0902 0110	0902 0120
Chronograph hour wheel	0740 0020	0740 0020	0740 0030
Chronograph 1/5 second wheel	0888 0170	0888 0180	0888 0190



Second wheel


 Chronograph minute wheel
 Chronograph hour wheel


	A	B	C	D	E	F	F'
TYPE M	75	118	159	41	40	50	40
TYPE L	95	145	190	41	40	50	40
TYPE LL	95	145	190	45	85	50	40

*Do not reuse the chronograph hands once detached.
 Please change and use new hands.

Scale : 20/1

Unit : 1=1/100mm

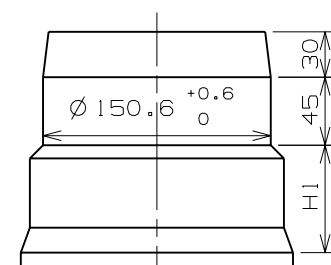
Version : 2

Hand Fitting

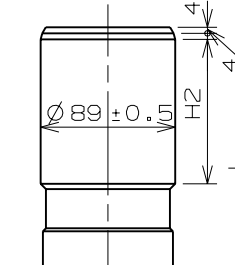
Cal. VK67A

- * Hour hand unbalance $\leq 0.5 \mu\text{N}\cdot\text{m}$ (50mg·mm)
- * Minute hand unbalance $\leq 0.6 \mu\text{N}\cdot\text{m}$ (60mg·mm)
- * Second hand unbalance $\leq 0.05 \mu\text{N}\cdot\text{m}$ (5mg·mm)
- * Chronograph 1/5 second hand unbalance $\leq 0.20 \mu\text{N}\cdot\text{m}$ (20mg·mm)
- * Chronograph minute hand unbalance $\leq 0.05 \mu\text{N}\cdot\text{m}$ (5mg·mm)
- * Chronograph hour hand unbalance $\leq 0.05 \mu\text{N}\cdot\text{m}$ (5mg·mm)

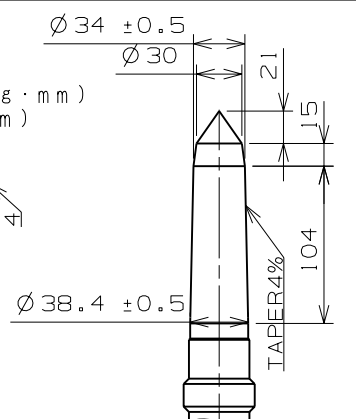
	H1	H2
Type M 一般針高	71	95.5
Type L 高針	91	122.5
Type LL 特高針	136	167.5



Hour wheel

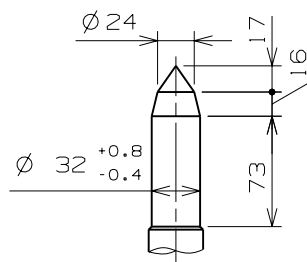


Center wheel

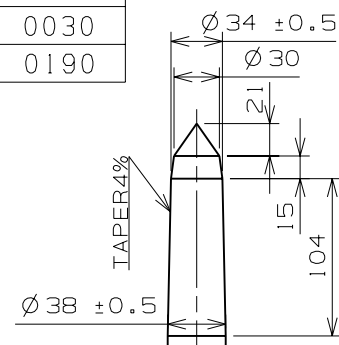


Chronograph 1/5 second wheel

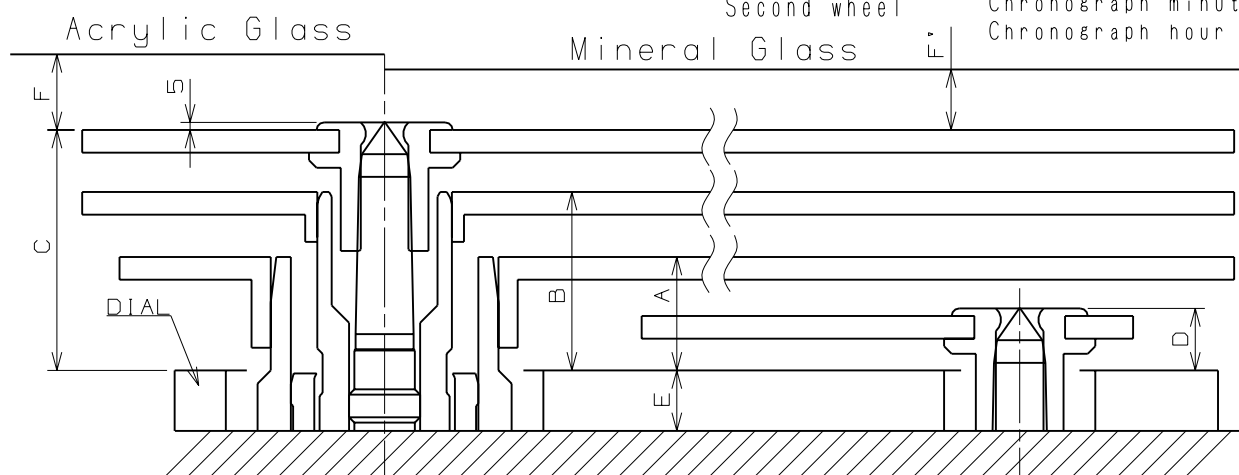
Parts name	Parts No.		
	Type M 一般針高	Type L 高針	Type LL 特高針
Hour wheel 時針輪	0273 0380	0273 0410	0273 0420
Center wheel 分針輪	0221 0870	0221 0910	0221 0920
Second wheel 秒針輪	0240 0180	0240 0180	0240 0190
Chronograph minute wheel 計時分針輪	0902 0110	0902 0110	0902 0120
Chronograph hour wheel 計時時針輪	0740 0020	0740 0020	0740 0030
Chronograph 1/5 sec. wheel 1/5計時秒針輪	0888 0170	0888 0180	0888 0190



Second wheel



Chronograph minute wheel
Chronograph hour wheel



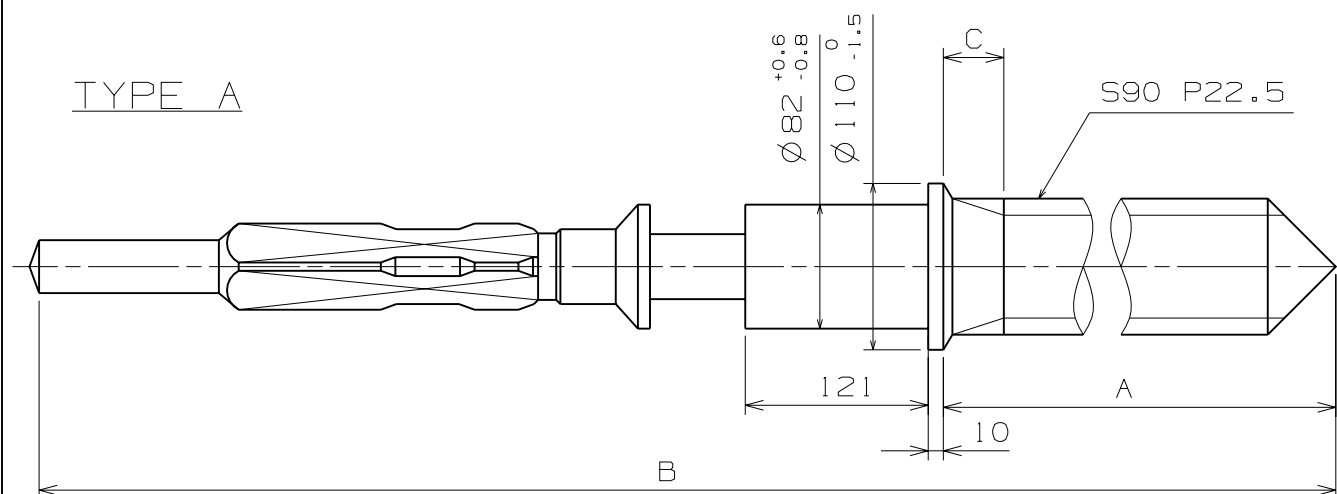
	A	B	C	D	E	F	F'
Type M 一般針高	75	118	159	41	40	50	40
Type L 高針	95	145	190	41	40	50	40
Type LL 特高針	95	145	190	45	85	50	40

*Do not reuse the chronograph hands once detached.
Please change and use new hands.

Scale : 20/1

Unit : 1=1/100mm

Version : 2

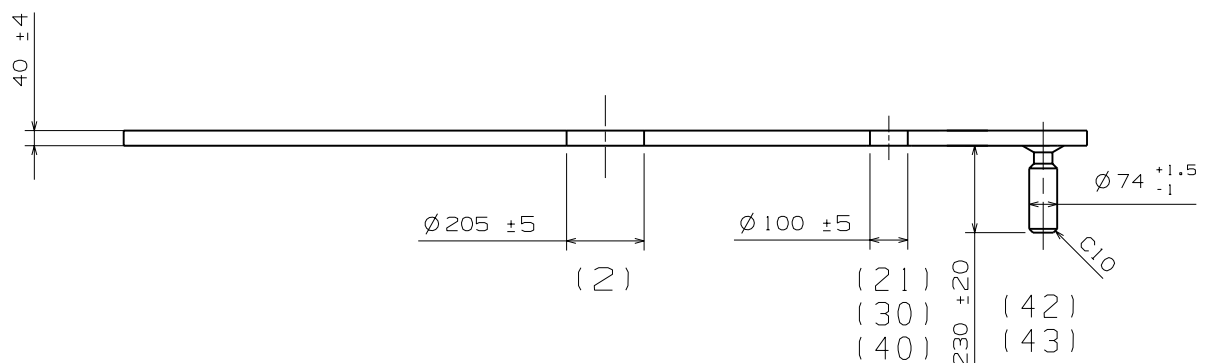
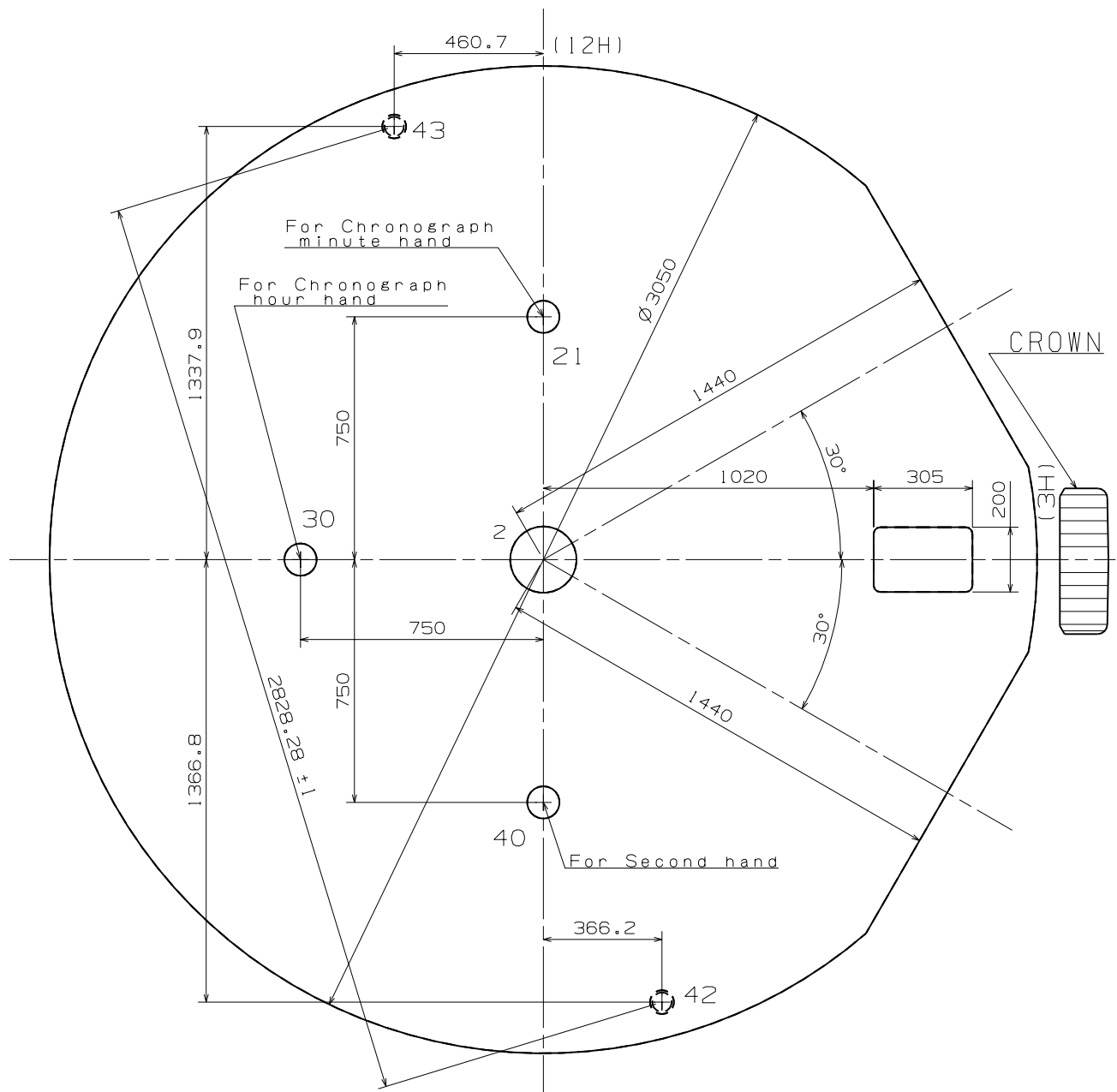


	Part. No.	A	B	C
TYPE A	0351 1770	1401	1999	40MAX

Scale : 20/1

Unit : 1=1/100mm

Version : 1

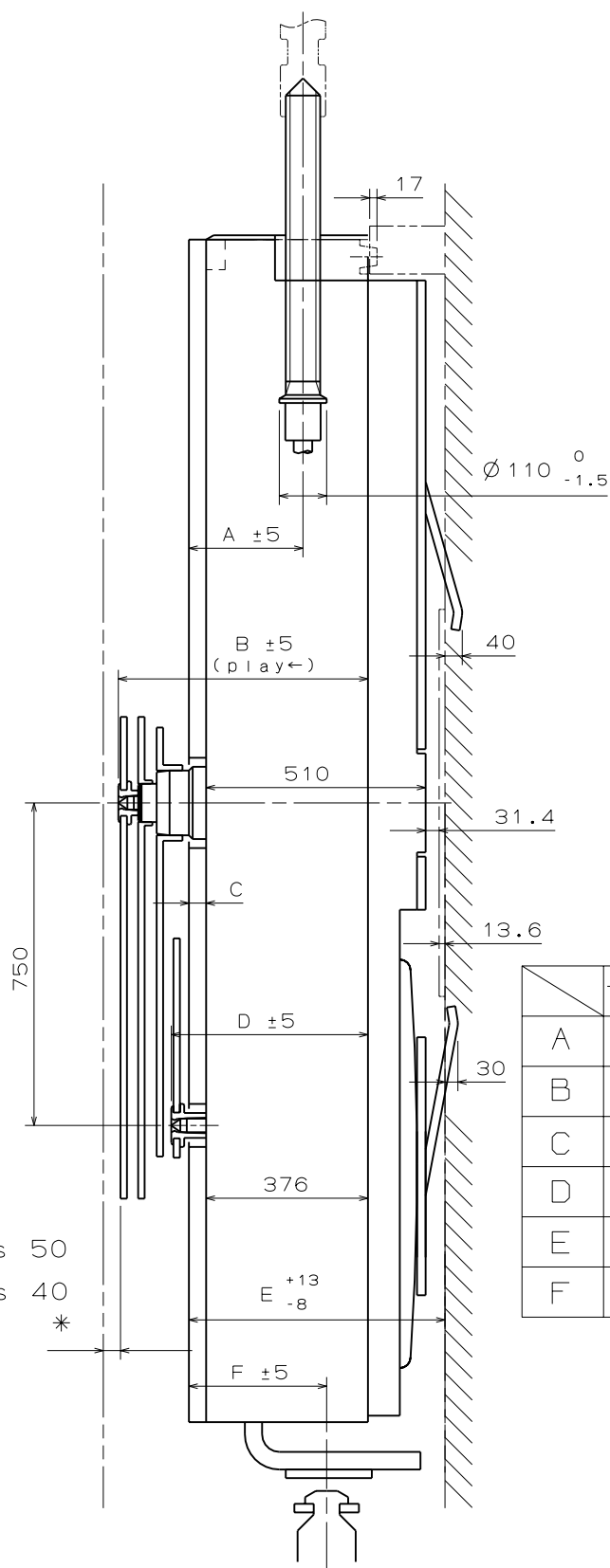


The tolerance of 2# hole position should be under 5 (Standard is 42#-43#)

Scale : 5/1

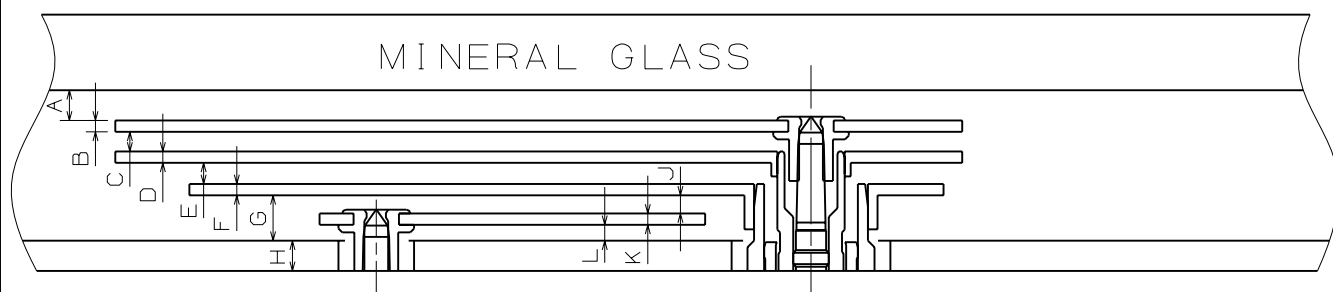
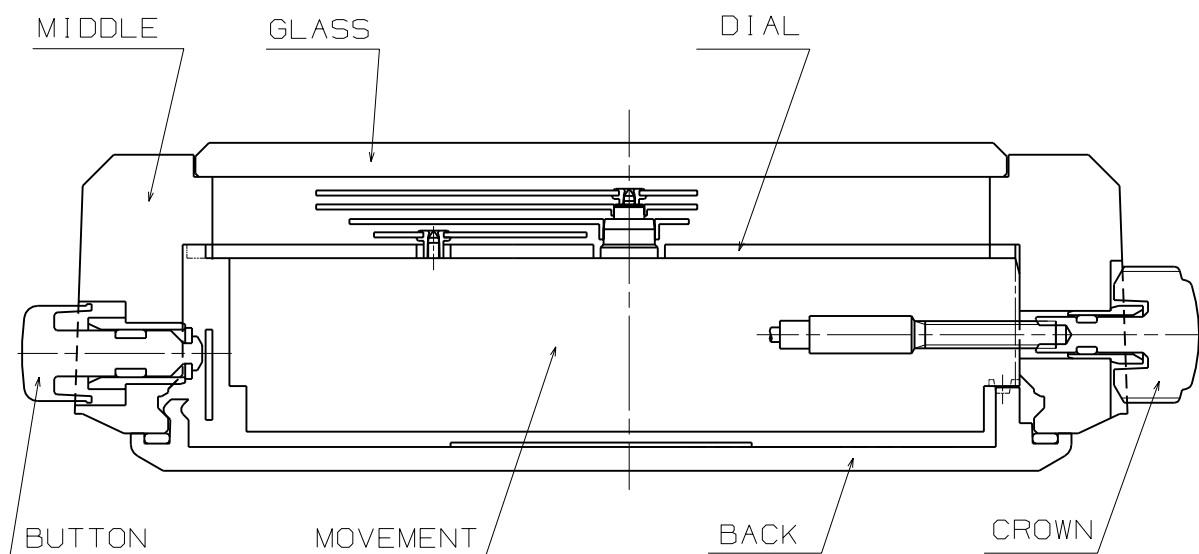
Unit : 1 = 1/100 mm

Version: 2



Scale : $\neq$
Unit : 1=1/100mm

Version:2

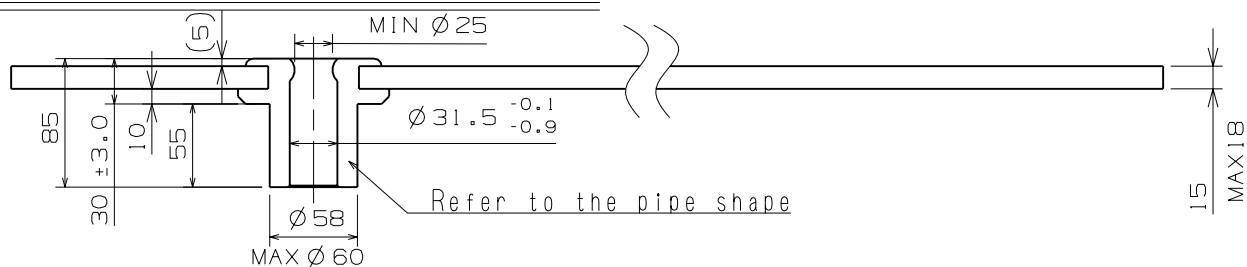


	TYPE M	TYPE L	TYPE LL
A	40	40	40
B	15	15	15
C	26	30	30
D	15	15	15
E	28	35	35
F	15	15	15
G	60	80	80
H	40	40	85
J	24	44	40
K	15	15	15
L	21	21	25

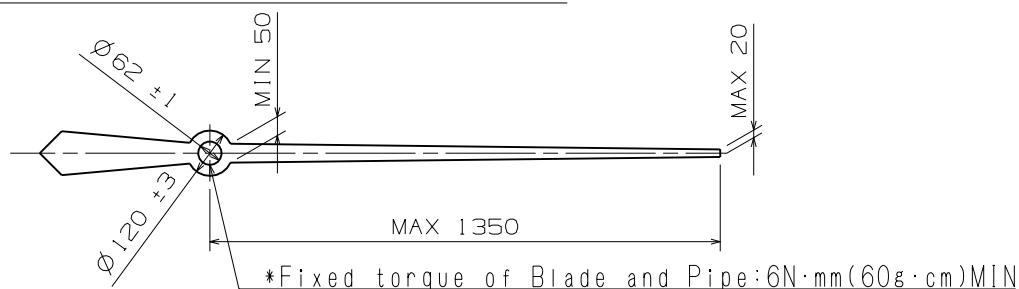
Scale : $\neq$
 Unit : 1=1/100mm

Version : 2

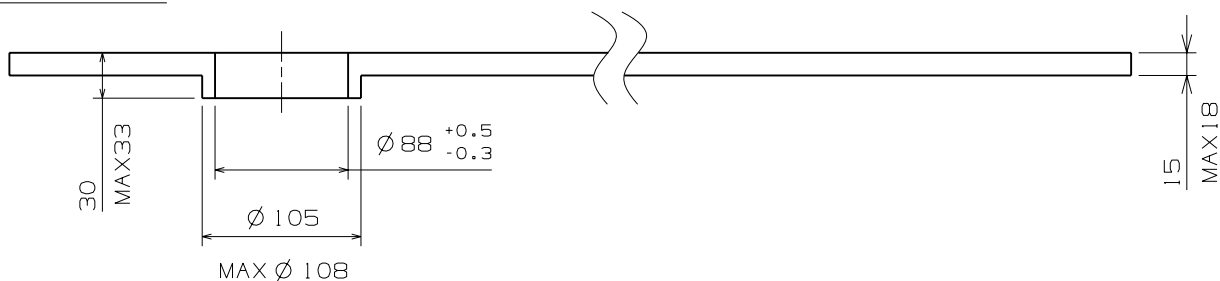
CHRONOGRAPH 1/5SECOND



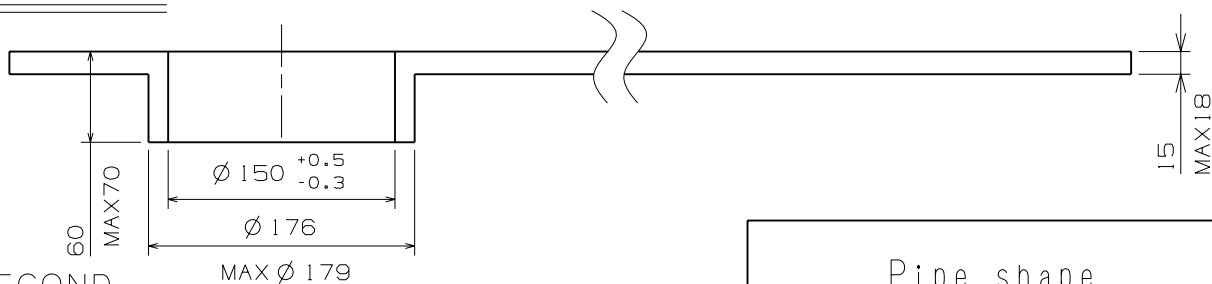
Recommended shape (Straight hand) SCALE: 5/1



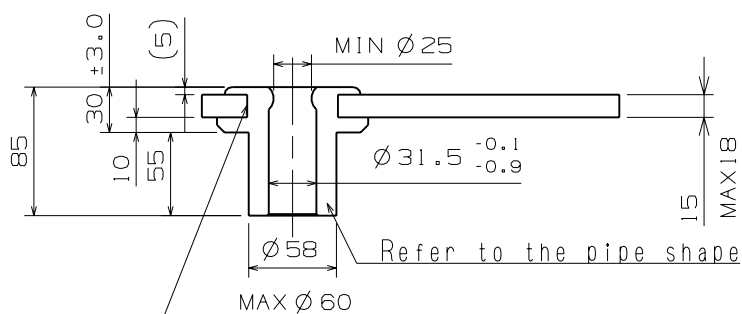
MINUTE



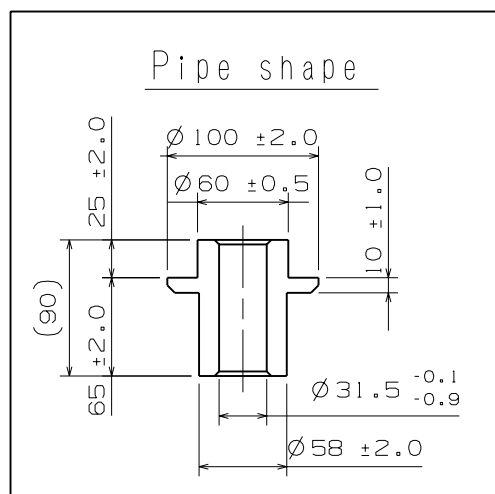
hour



SECOND
CHRONOGRAPH MINUTE
CHRONOGRAPH HOUR



*Fixed torque of Blade and Pipe: 6N·mm (60g·cm) MIN



Material : Bs
Scale : 20/1
Unit : 1 = 1/100mm

Version : 1