

Cal. VD51B

ϕ 29.50 mm

H 4.57 mm

Item	Version No.
Specification - 1	Version 2
Specification - 2	Version 1
Appearance	Version 2
Casing	Version 5
Hand Fitting	Version 2
Hand Setting Stem	Version 4
Dial - 1	Version 2
Dial - 2	Version 2
Assembly Plan - 1	Version 2
Assembly Plan - 2	Version 2
Hands	Version 1



MOVEMENT SPECIFICATION - 1

CAL.VD51B 12 3 / 4 Ligne Quartz Movement Three Hands with 2 Eyes / Date (Minute, 1 / 1 Second Chronograph & Calendar)

1. MOVEMENT DIMENSIONS

- Outside diameter ϕ 29.50mm (12H~6H) x 26.00mm (3H~9H)
- Casing diameter ϕ 28.80mm (12H~6H)
- Total height 4.57 mm

2. TIME STANDARD

- Type of quartz oscillator Tuning fork
- Frequency of quartz oscillator 32,768 H Z
- Accuracy Monthly rate: \pm 20 seconds per month at normal temperature range
- Regulation device Nil
- Regulation hands unbalance
 - Second : Less than 0.07 μ N·m (7mg·mm)
 - Minute : Less than 0.60 μ N·m (60mg·mm)
 - Hour : Less than 0.50 μ N·m (50mg·mm)
- Small hands unbalance Minutes / second : Less than 0.05 μ N·m (5mg·mm)
- Additional function Stopwatch : up to 60 minutes in 1 second split time

3. BATTERY

- Type Silver oxide battery
- Voltage 1.55 V
- Size ϕ 9.5 x t 2.0 (mm)
- Battery life Approx. 2 years
- Recommended battery SR920SW (SEIZAIKEN)

4. STEPPING MOTOR

- Number of units 3 pieces
- Type Two pole stepping motor
- Step 180° every second

5. JEWEL

0 jewel

6. ANTIMAGNETISM

(direct current magnetic field)

\geq 1600 A / m

7. SHOCK RESISTANCE

On equal level with general quartz movement

8. OPERATING TEMPERATURE RANGE

From - 5 °C to + 50 °C

9. 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

10. ATTACHED PARTS

Parts Name	Parts Code
Hand setting stem	0351-1770 (Normal) / 0351-1230 (Long)
Silver oxide battery	3013-1410
Sticker	0110 - 3570

*** All specifications are subject to change without notice.**

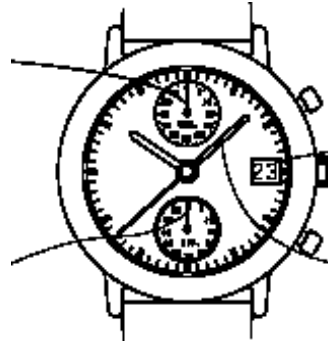
Movement Specification - 2

CAL. VD51B

OPERATION

3 step motors (3 hands with calendar, 1 / 1 sec. chrono. maximum to 60 minutes)

stopwatch
second hand

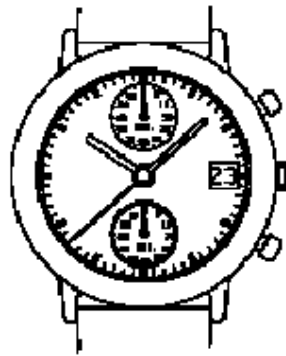


date

stopwatch
minute hand

3 hands

Normal position

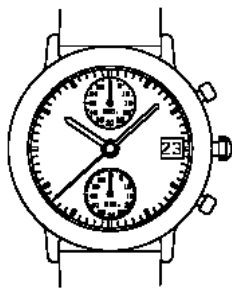


START
STOP

FREE

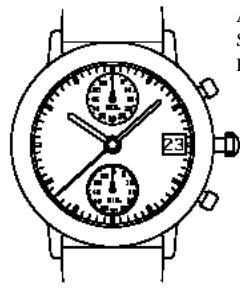
SPLIT
RESET

1st click
adjusting calendar
(clockwise)



START
STOP
ADJUSTING
CALENDAR
SPLIT
RESET

2nd click
adjusting minute, hour & chrono. hands



ADJUSTING THE
STOPWATCH SEC. HAND
POSITION (CLOCKWISE)
TIMING SETTING
RESET SWITCH
SECOND SETTING DEVICE
ADJUSTING THE
STOPWATCH MIN. HAND
POSITION (CLOCKWISE)

AC FUNCTIONS

(KEEP
BUTTONS
"A" AND "B"
PRESSED AT
THE SAME TIME
FOR 2 SECONDS,
AND THEN,
RELEASE THE
BUTTONS)

* Pull the crown to 2nd click to adjust the stopwatch hand position.

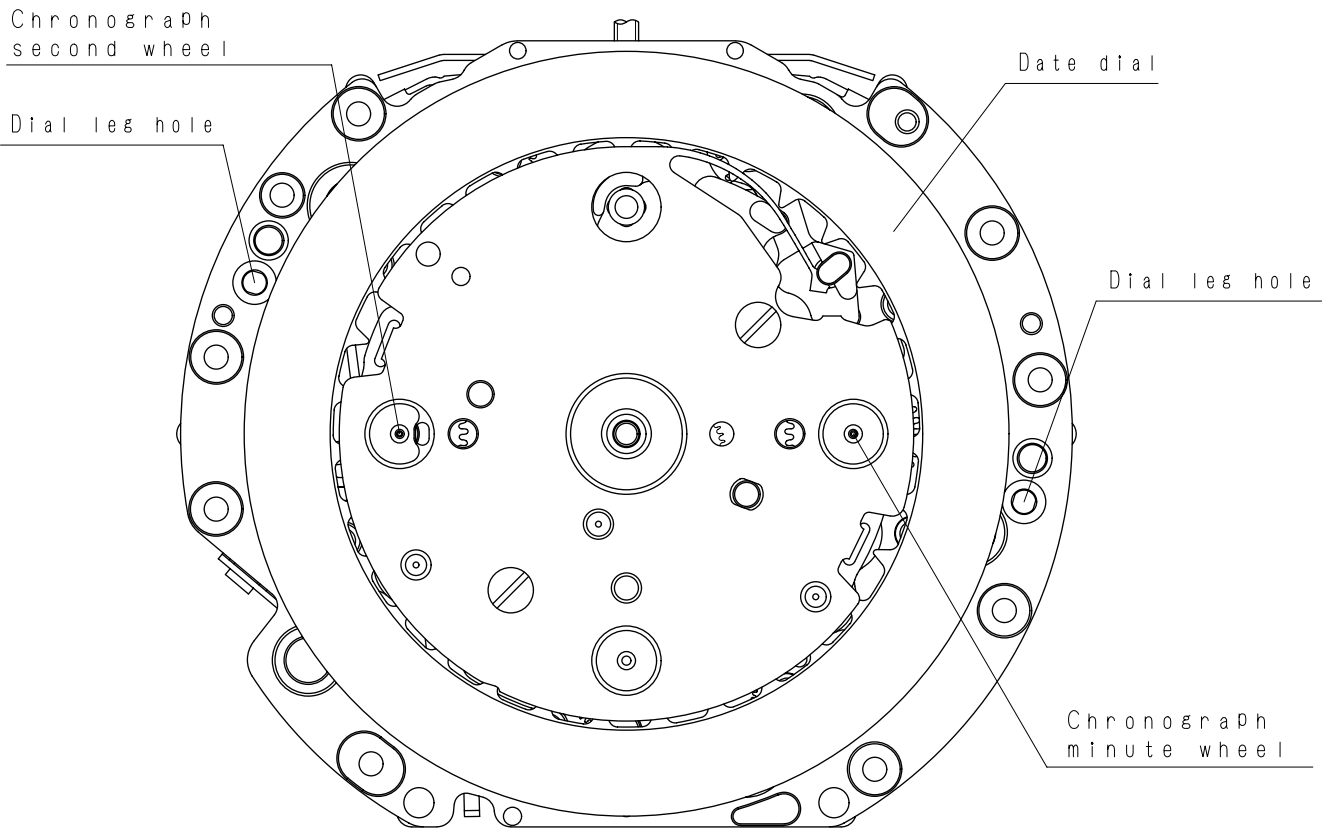
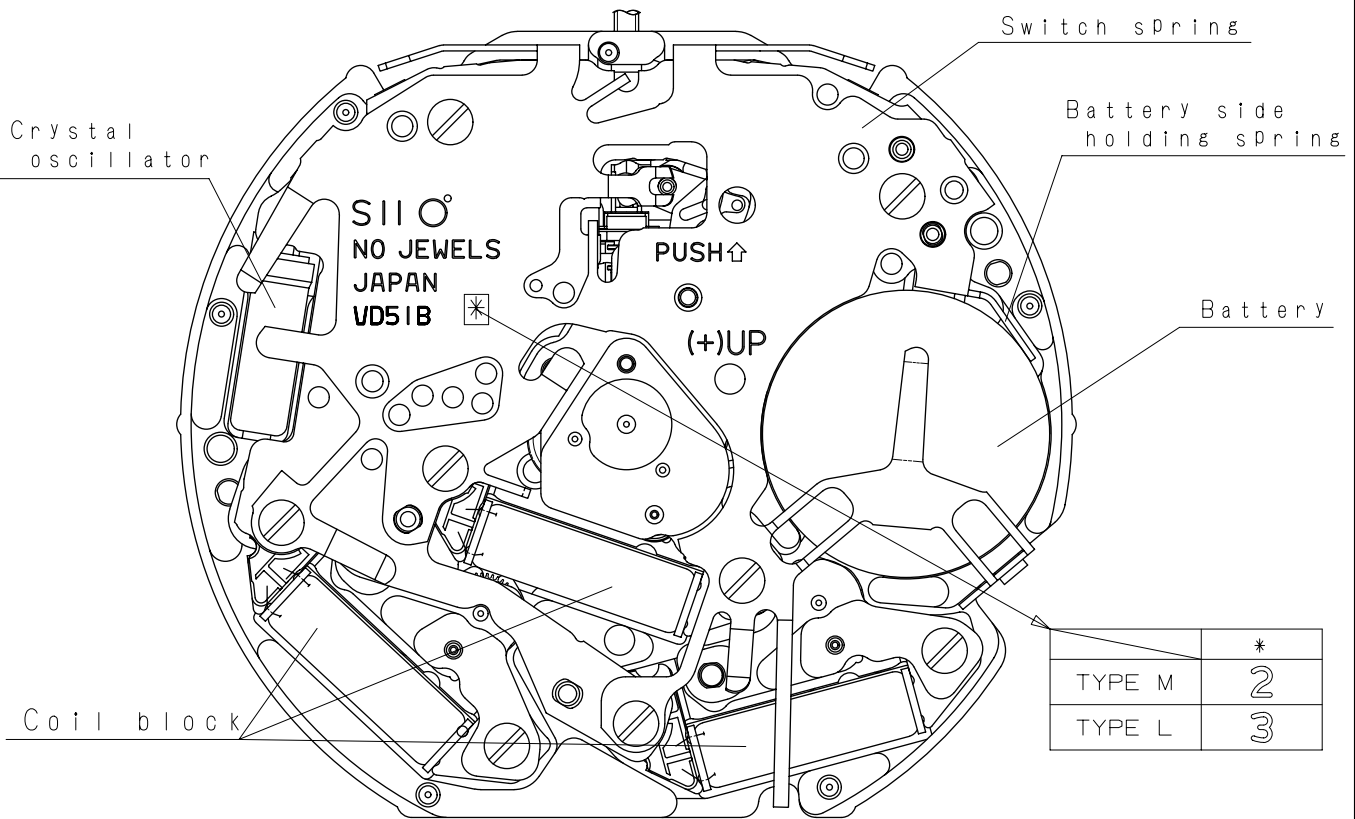
* AC functions is available if stopwatch hand position is disorderly.

* When using AC functions, stopwatch hand moves back and returned to where it was (minute hand moves 1/2 circle counterclockwise and 1/2 circle clockwise, second hand moves 1 circle clockwise)

Version 1

Appearance

Cal. VD51B



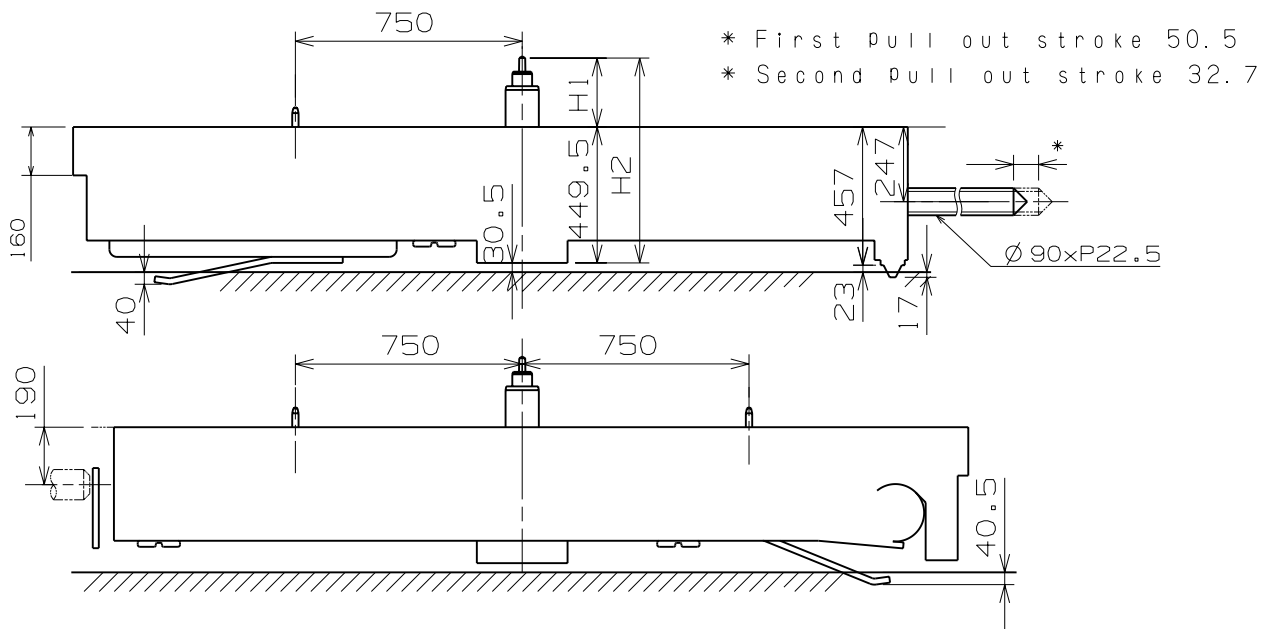
Scale : 4/1

Version:2

Unit : 1=1/100mm

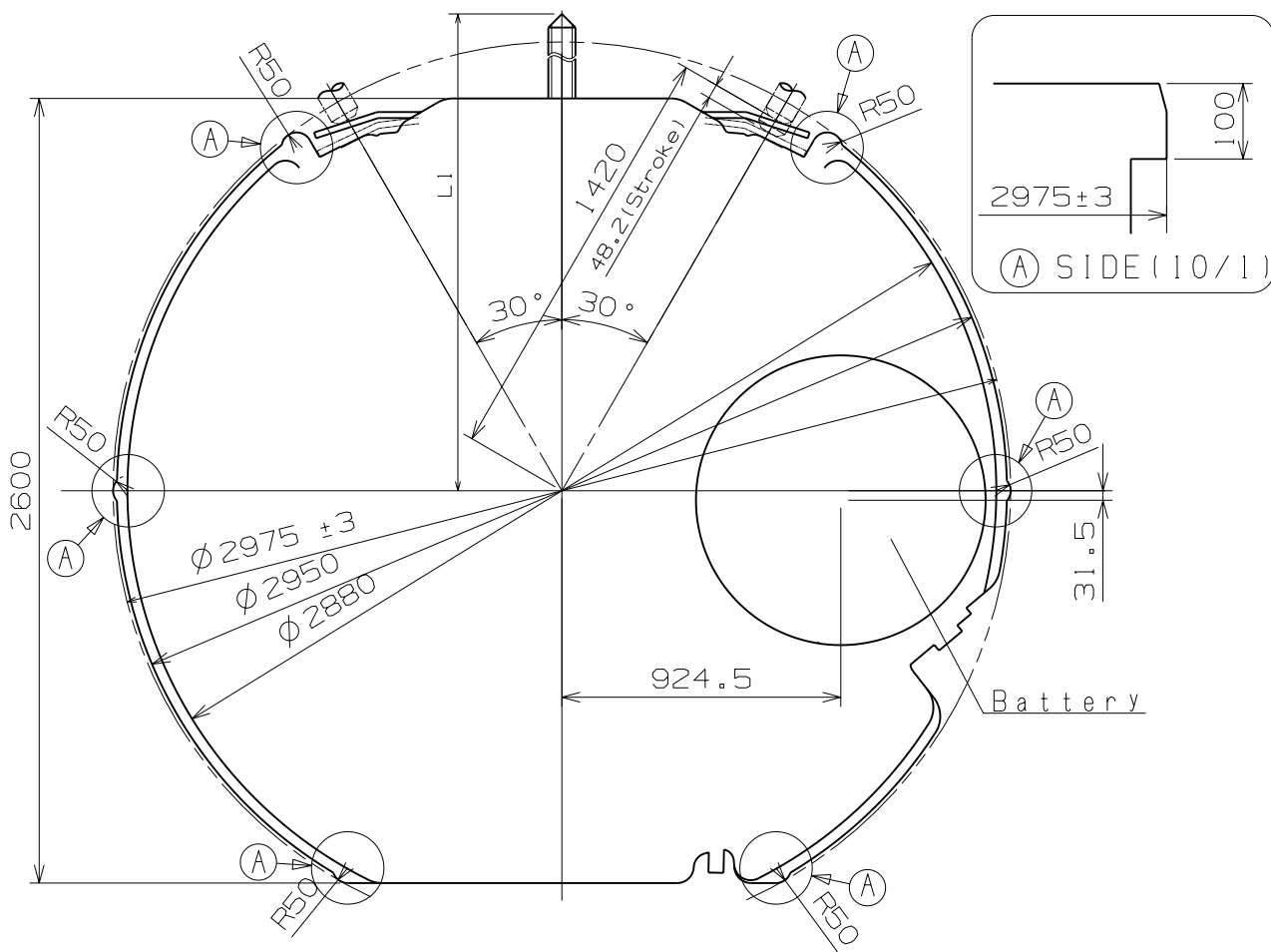
Casing

Cal. VD51B



Center Post		TYPE M	TYPE L
Maximum height from main plate surface	H1	228	273
Total height incl. movement	H2	677.5	722.5

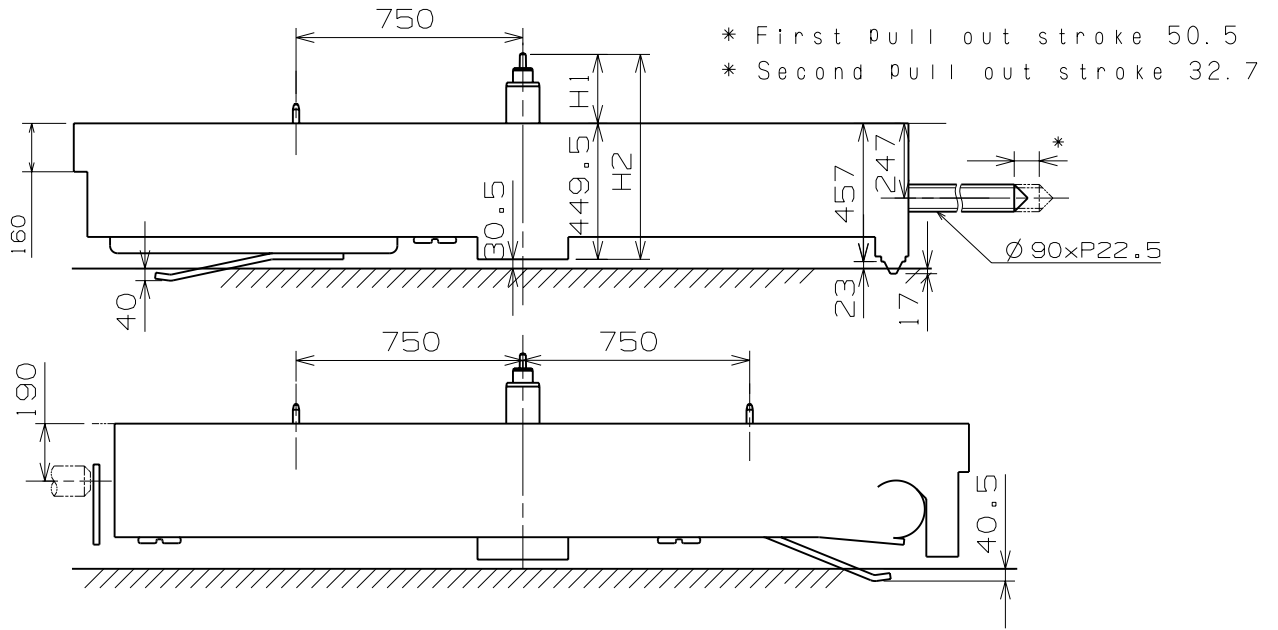
Hand Setting Stem	TYPE A	TYPE B
L1	2285	2861



Scale : 4/1

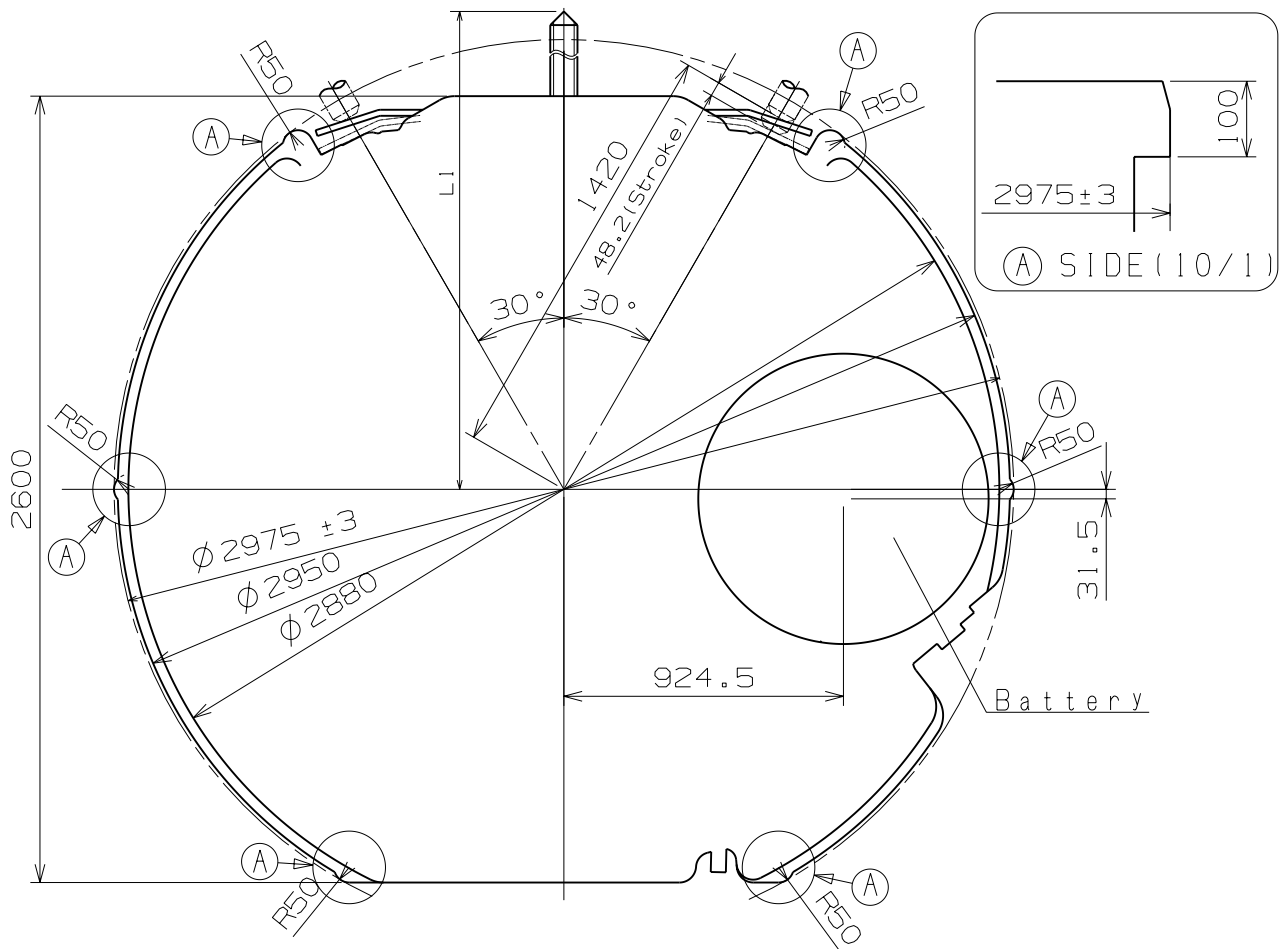
Unit : 1=1/100mm

Version:5



Center post 中心柱位		Type M 一般針高	Type L 高針
Maximum height from main plate surface 與機芯平面之最大高度	H1	228	273
Total height incl. movement 機芯總高度	H2	677.5	722.5

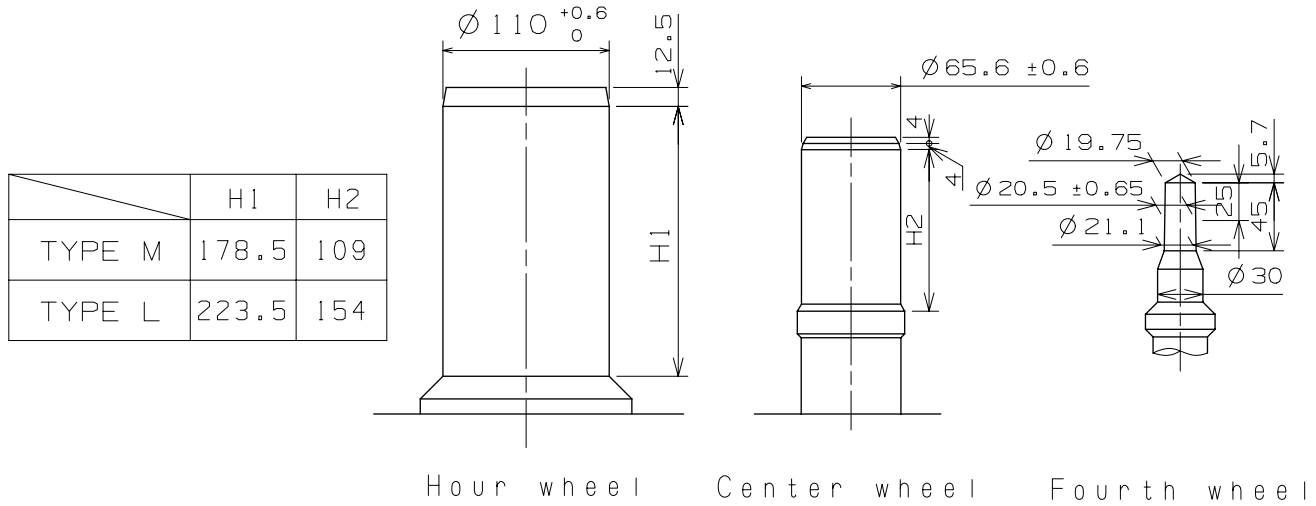
Hand Setting Stem	TYPE A	TYPE B
L1	2285	2861



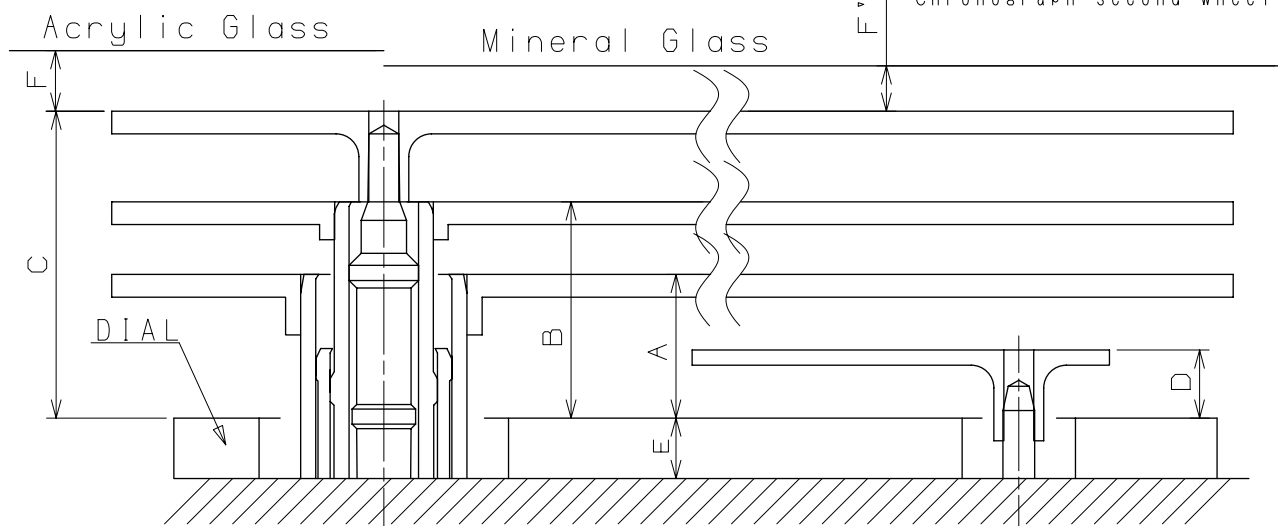
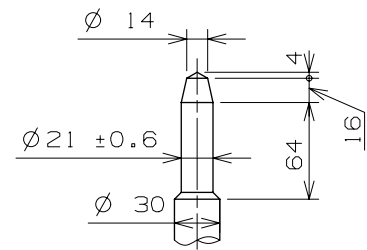
Scale : 4/1
Unit : 1=1/100mm

Version:5

- *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 $\leq 0.07 \mu\text{N}\cdot\text{m}$ (7mg·mm)
- *Chronograph hand unbalance $\leq 0.05 \mu\text{N}\cdot\text{m}$ (5mg·mm)



Part name	Part No.	
	TYPE M	TYPE L
Hour wheel	0271 4070	0273 0370
Center wheel	0221 1570	0221 0780
Fourth wheel	0241 1780	0241 4890
Chronograph minute wheel	0888 0090	0888 0110
Chronograph second wheel	0888 0090	0888 0110



	A	B	C	D	E	F	F'
TYPE M	95	143	203	45	40	50	40
TYPE L	95	143	203	45	85	50	40

Scale : 20/1

Unit : 1=1/100mm

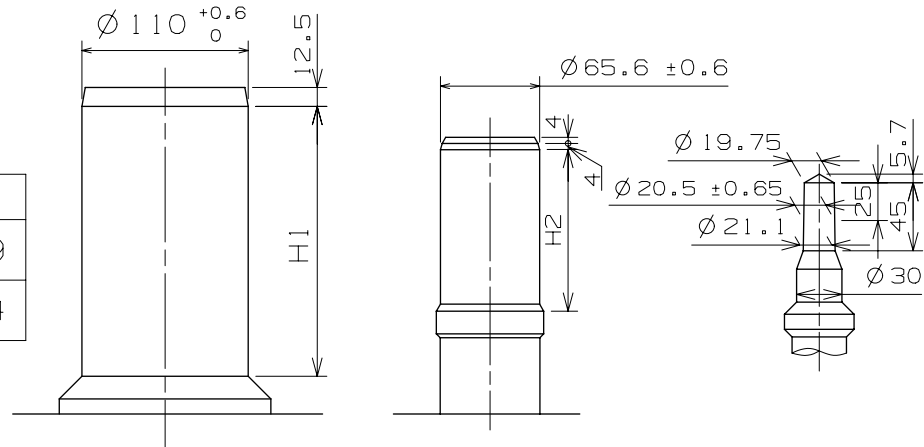
Version : 2

Hand fitting

Cal. VD51B

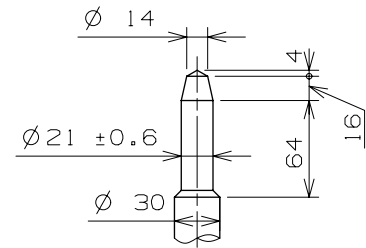
- * Hour hand unbalance $\leq 0.5 \mu\text{N}\cdot\text{m}$ (50mg·mm)
- * Minute hand unbalance $\leq 0.6 \mu\text{N}\cdot\text{m}$ (60mg·mm)
- * Second hand unbalance $\leq 0.07 \mu\text{N}\cdot\text{m}$ (7mg·mm)
- * Chronograph hand unbalance $\leq 0.05 \mu\text{N}\cdot\text{m}$ (5mg·mm)

	H1	H2
TYPE M 一般針高	178.5	109
TYPE L 高針	223.5	154

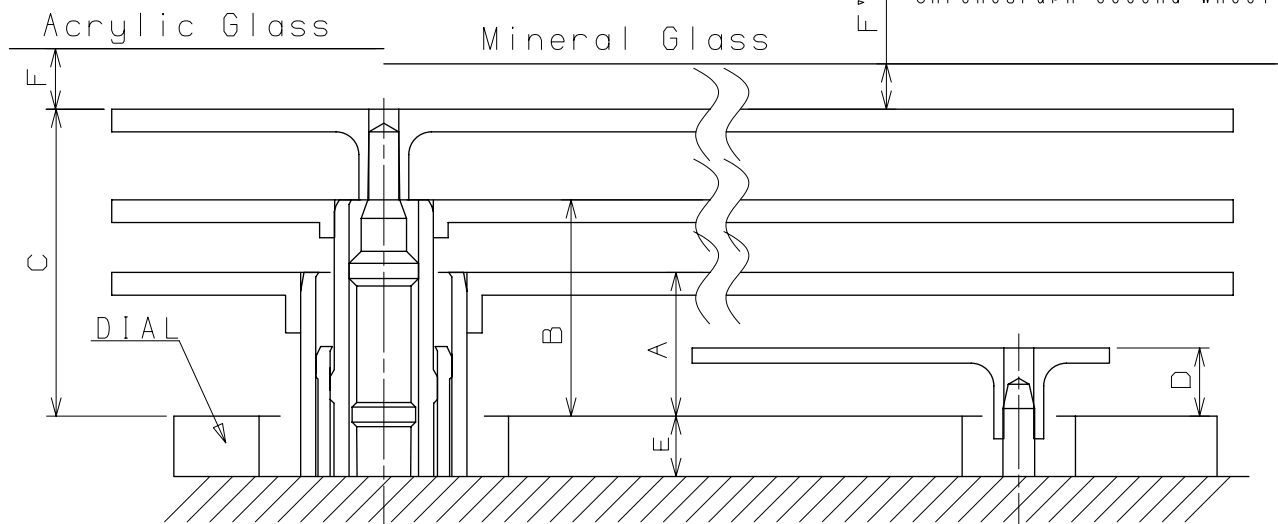


Hour wheel Center wheel Fourth wheel

Part name	Part No.	
	TYPE M 一般針高	TYPE L 高針
Hour wheel 時針輪	0271 4070	0273 0370
Center wheel 分針輪	0221 1570	0221 0780
Fourth wheel 秒針輪	0241 1780	0241 4890
Chronograph minute wheel 計時分輪	0888 0090	0888 0110
Chronograph second wheel 計時秒輪	0888 0090	0888 0110



Chronograph minute wheel
Chronograph second wheel

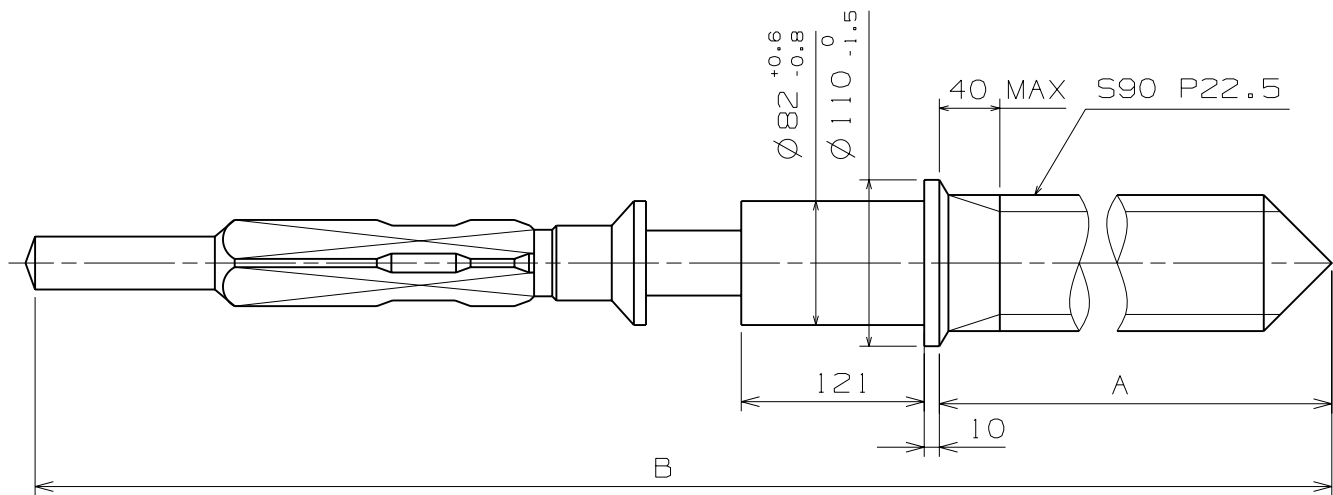


	A	B	C	D	E	F	F'
TYPE M 一般針高	95	143	203	45	40	50	40
TYPE L 高針	95	143	203	45	85	50	40

Scale : 20/1

Unit : 1=1/100mm

Version : 2

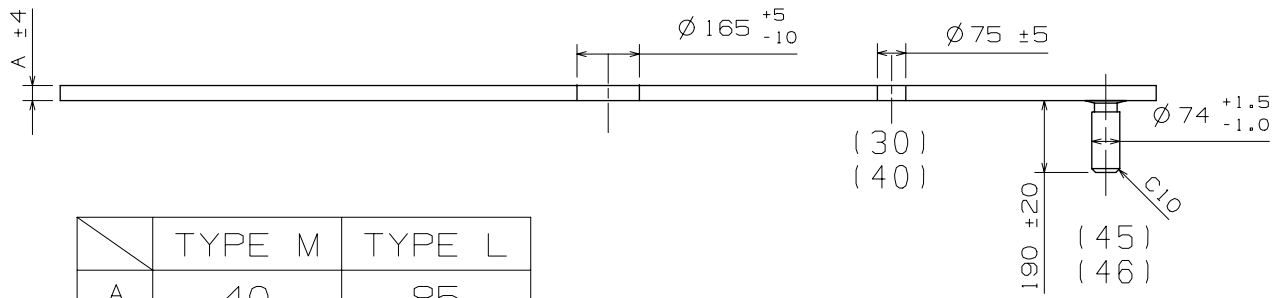
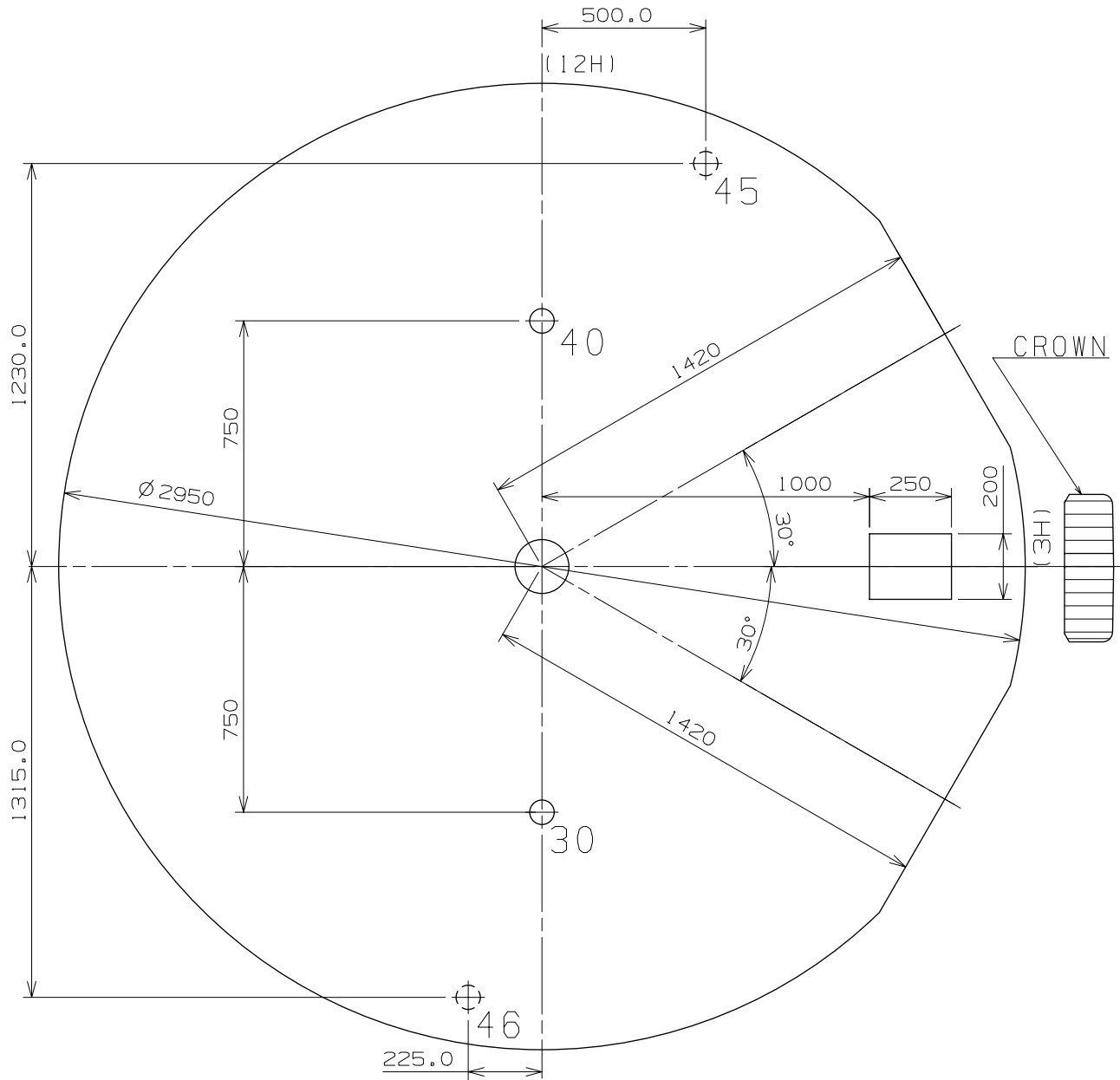


	Part. No.	A	B
TYPE A	0351 1770	1371	1969
TYPE B	0351 1220	1947	2545

Scale : 20/1

Unit : 1=1/100mm

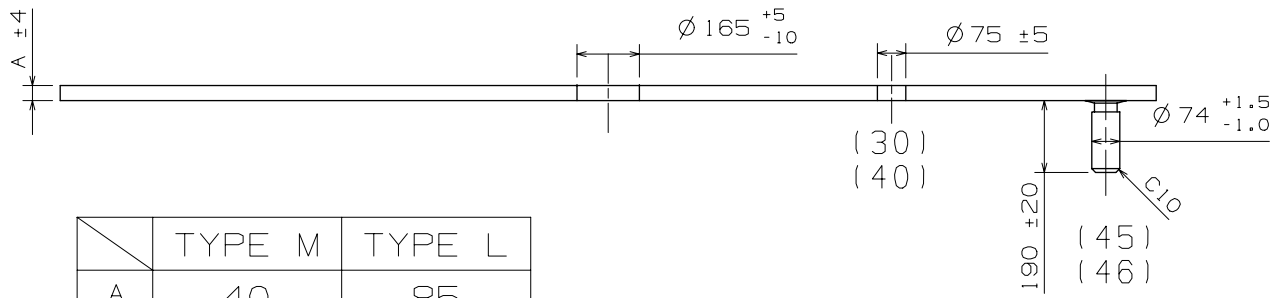
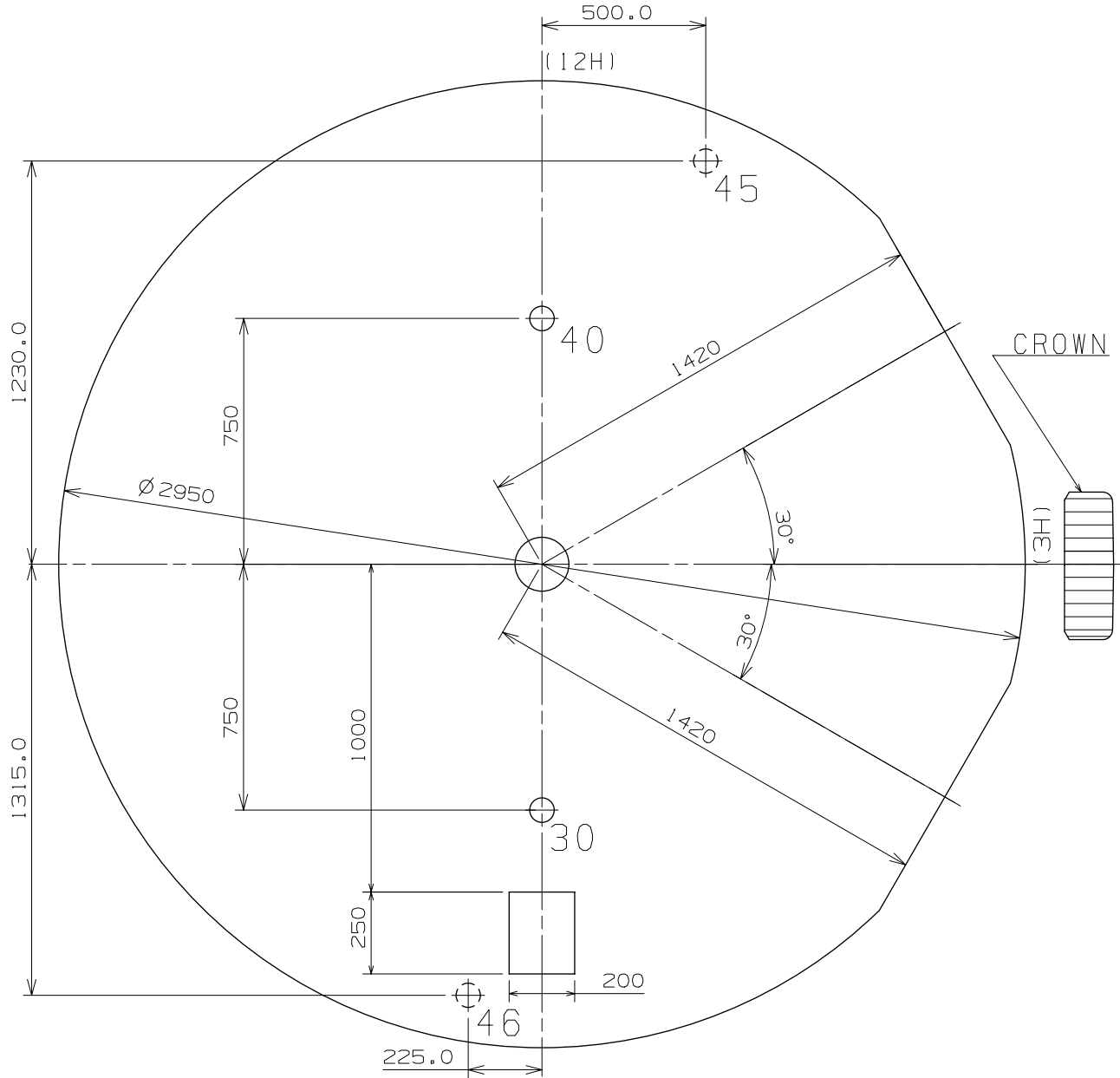
Version:4



	TYPE M	TYPE L
A	40	85

Scale : 5/1
Unit : 1=1/100mm

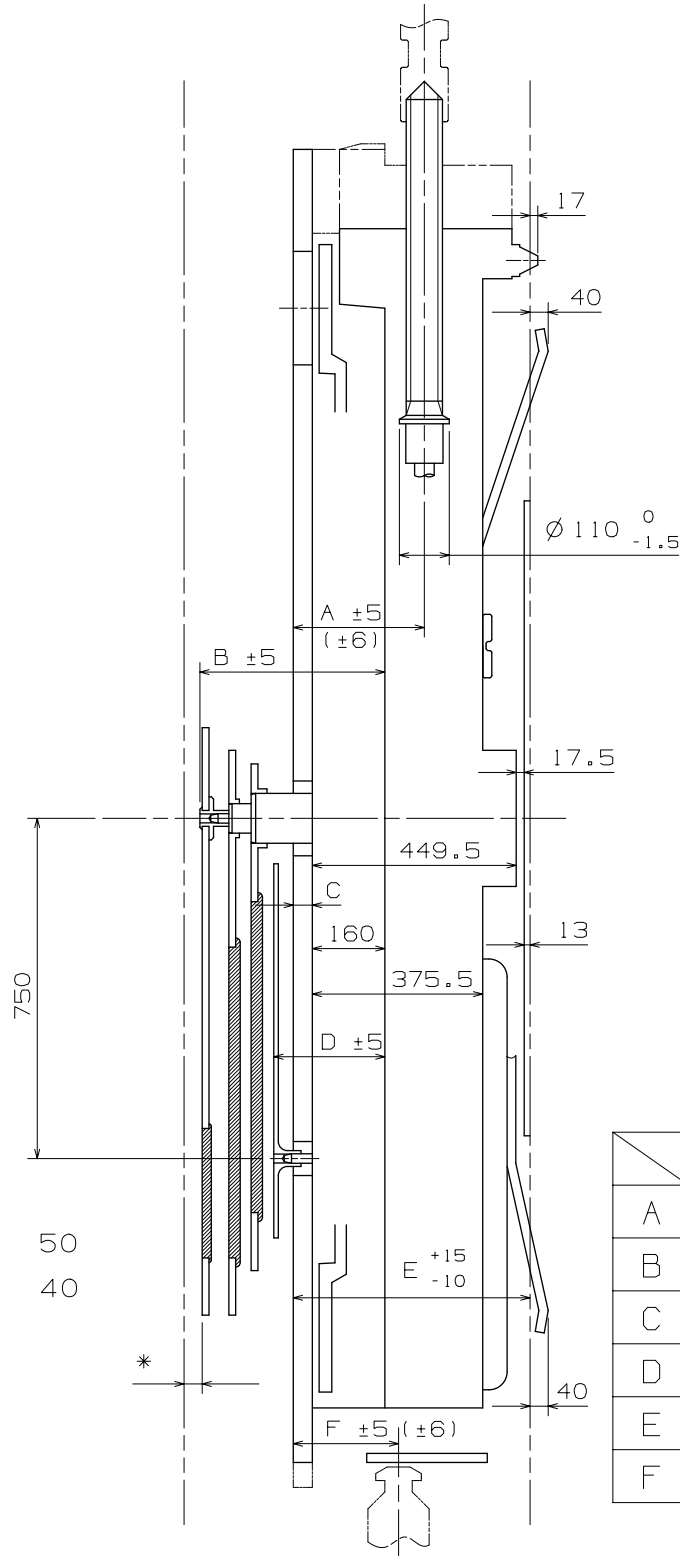
Version:2



	TYPE M	TYPE L
A	40	85

Scale : 5/1
Unit : 1=1/100mm

Version:2

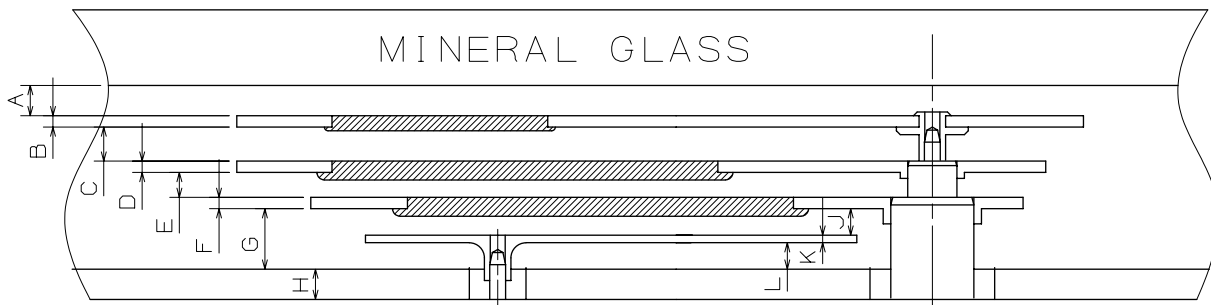
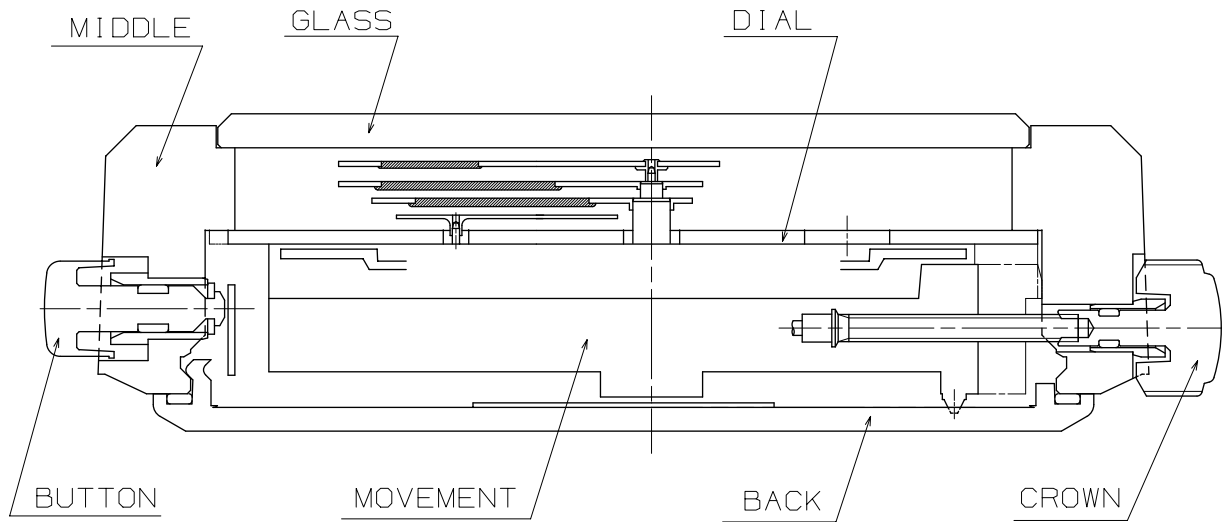


*Acrylic Glass 50
*Mineral Glass 40

	TYPE M	TYPE L
A	287	332
B	403	448
C	40	85
D	245	290
E	520	565
F	230	275

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

Version:2

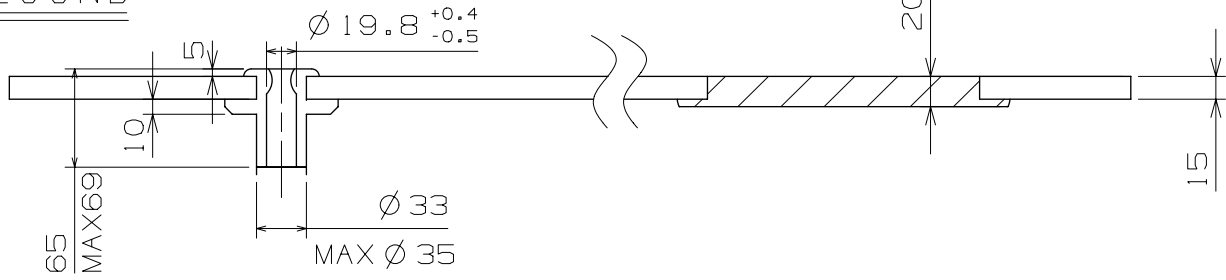


	TYPE M	TYPE L
A	40	40
B	15	15
C	45	45
D	15	15
E	33	33
F	15	15
G	80	80
H	40	85
J	35	35
K	10	10
L	35	35

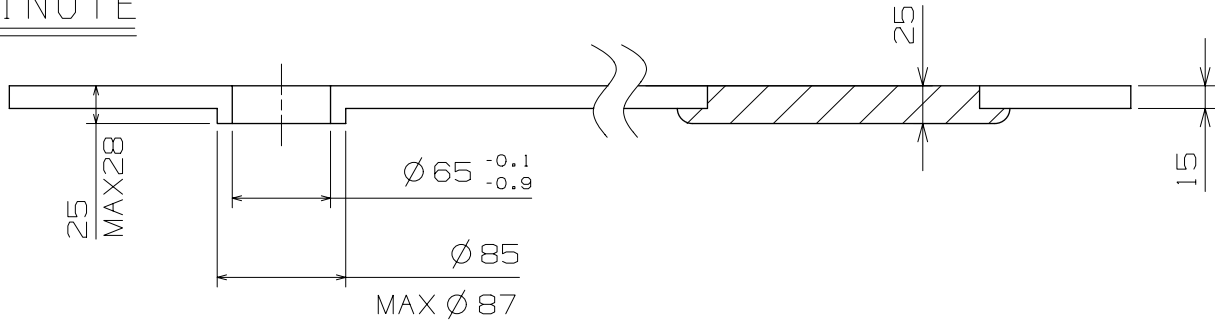
Scale : \neq
Unit : 1=1/100mm

Version:2

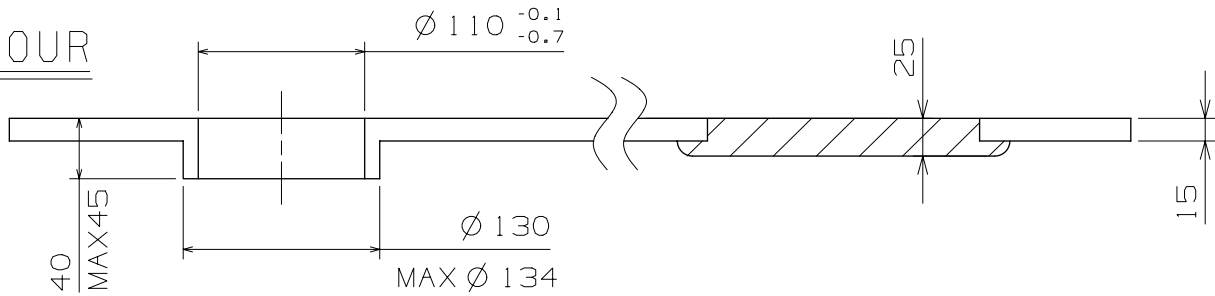
SECOND



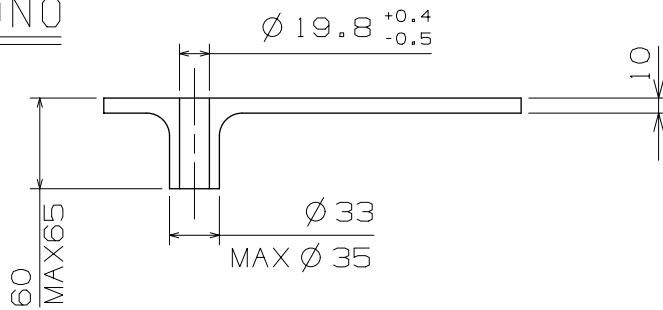
MINUTE



HOUR



CHRONO



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

Version : 1