

Cal. VD53B

ϕ 29.50 mm

H 4.57 mm

Item	Version No.
Specification - 1	Version 4
Specification - 2	Version 1
Appearance	Version 5
Casing	Version 7
Hand Fitting - 1	Version 6
Hand Fitting - 2	Version 1
Hand Setting Stem	Version 5
Dial - 1	Version 4
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Dial - 3	Version 3
Dial - 4	Version 3
Dial - 5	Version 2
Assembly Plan - 1	Version 3
Assembly Plan - 2	Version 3
Assembly Plan - 3	Version 1
Assembly Plan - 4	Version 1
Hands	Version 2

CAL.VD53B 12 3 / 4 Ligne Quartz Movement

Three Hands with 3 Eyes / Date (Minute, 1 / 1 Second Chronograph, 24H Indicator & 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
- Dimensions of small hands away from center 7.50 mm

2. TIME STANDARD

- Type of quartz oscillator Tuning fork
- Frequency of quartz oscillator 32,768 Hz
- Accuracy Monthly rate: Less than 20 seconds per month at normal temperature range
- Regulation device Nil
- Regulation hands unbalance
 - Second : Less than 0.09 μ N·m (9mg·mm)
 - Minute : Less than 0.60 μ N·m (60mg·mm)
 - Hour : Less than 0.50 μ N·m (50mg·mm)
 - Chronograph hands : Less than 0.05 μ N·m (5mg·mm)
 - 24 hour indicator : Less than 0.07 μ N·m (7mg·mm)
 - 24 hour indicator (Disc hand) : Less than 0.40 μ g·m² (400mg·mm²)
- The moment of inertia
- Additional function
 - Stopwatch : up to 60 minutes in 1 second split time
 - 24 hour indicator (synchronized regular hour-hand)

3. BATTERY

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

4. STEPPING MOTOR

- Number of units 2 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

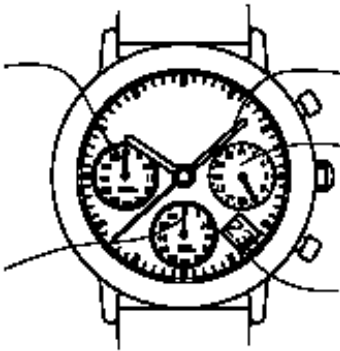
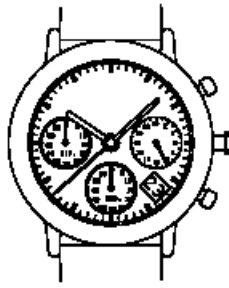
- Equipment to be used
 - SEIKO Quartz Tester QT - 99
 - Greiner Quartz Timer - C
 - Witschi Q-Tester 4000
- Duration of measurement 10 seconds
- Microphone to be used Electromagnetic detection type

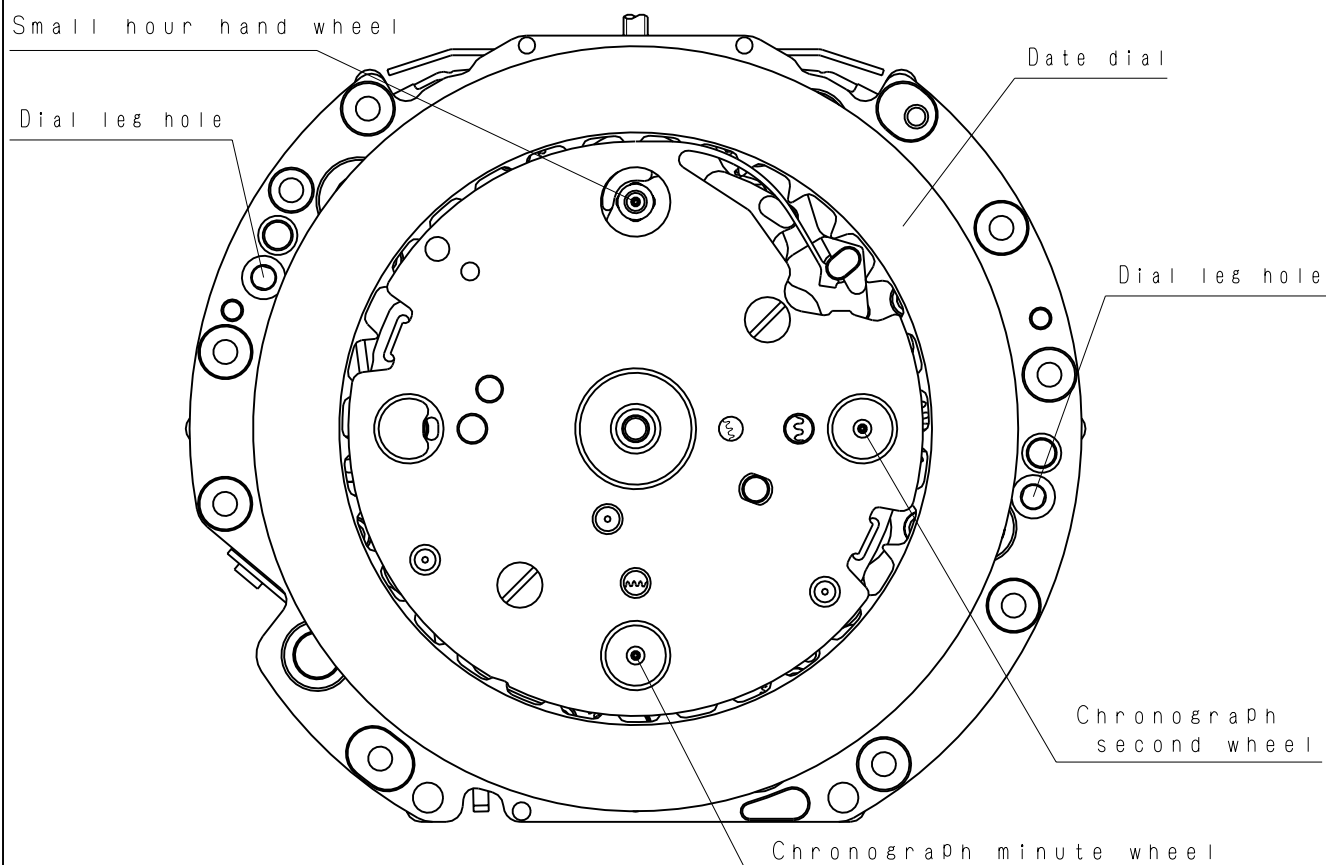
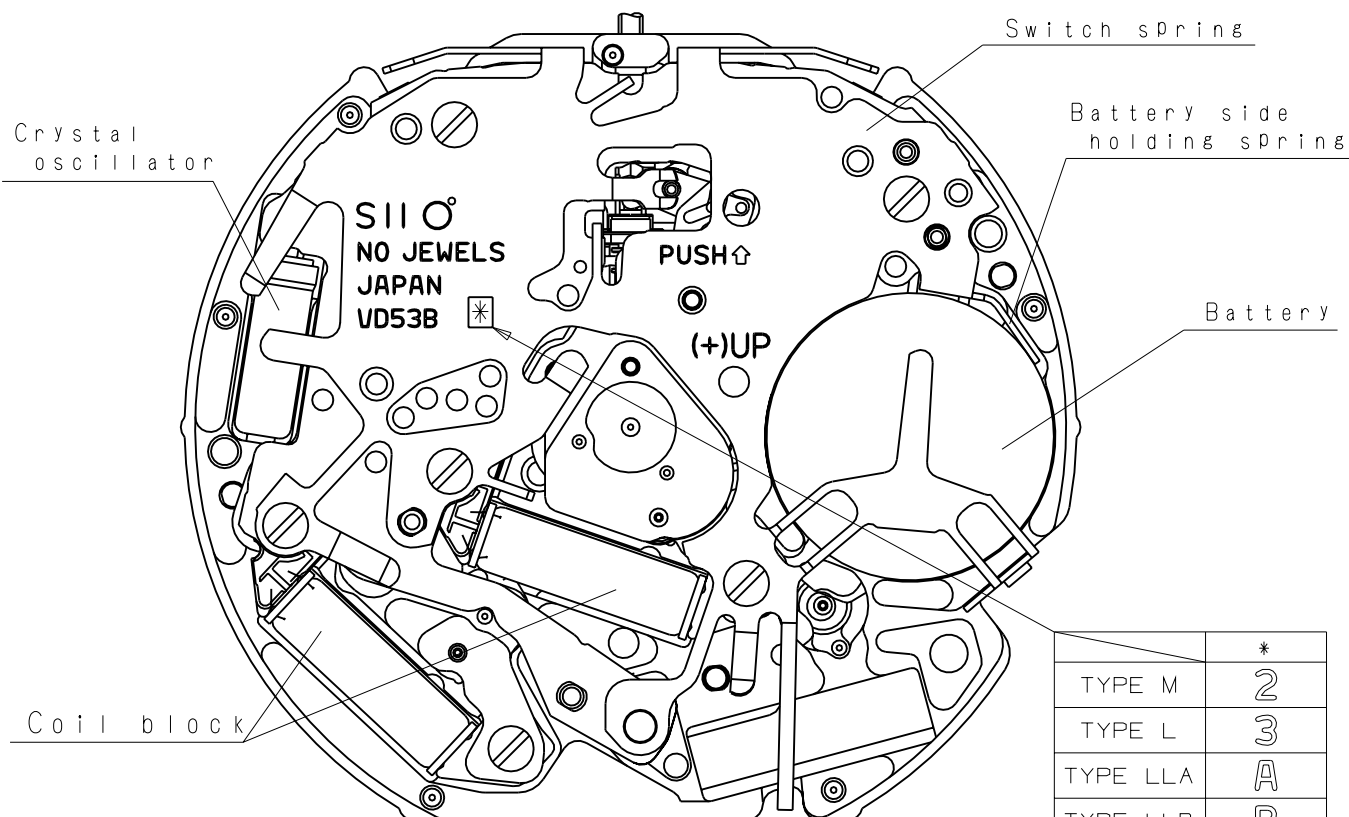
10. ATTACHED PARTS

Parts Name	Parts Code
Hand setting stem	0351-1770 (Normal) / 0351-1220 (Long)
Silver oxide battery	3013-14G0
Sticker	0110 - 3570

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

Movement Specification - 2

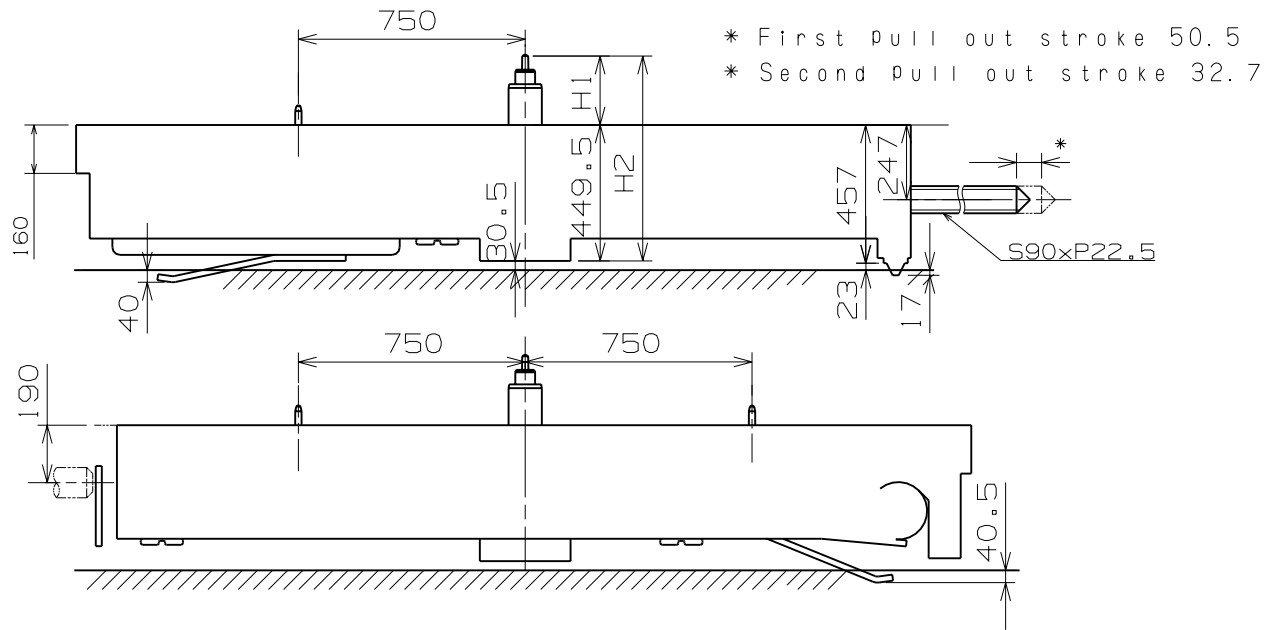
	CAL. VD53B	
OPERATION	2 step motors (3 hands with calendar, 1 / 1 sec. chrono. maximum to 60 minutes)	
	linkage stopwatch minute hand stopwatch second hand  3 hands 24h hands date linkage	
	Normal position  START STOP FREE SPLIT RESET	
	1st click adjusting calendar (clockwise)  START STOP ADJUSTING CALENDAR SPLIT RESET 2nd click adjusting minute, hour & chrono. hands  ADJUSTING THE STOPWATCH SEC. & MIN. HAND POSITION (COUNTERCLOCKWISE) TIMING SETTING RESET SWITCH SECOND SETTING DEVICE ADJUSTING THE STOPWATCH SEC.& 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 (second hand moves 1/2 circle counterclockwise and 1/2 circle clockwise)	
		Version 1



Scale : 4/1

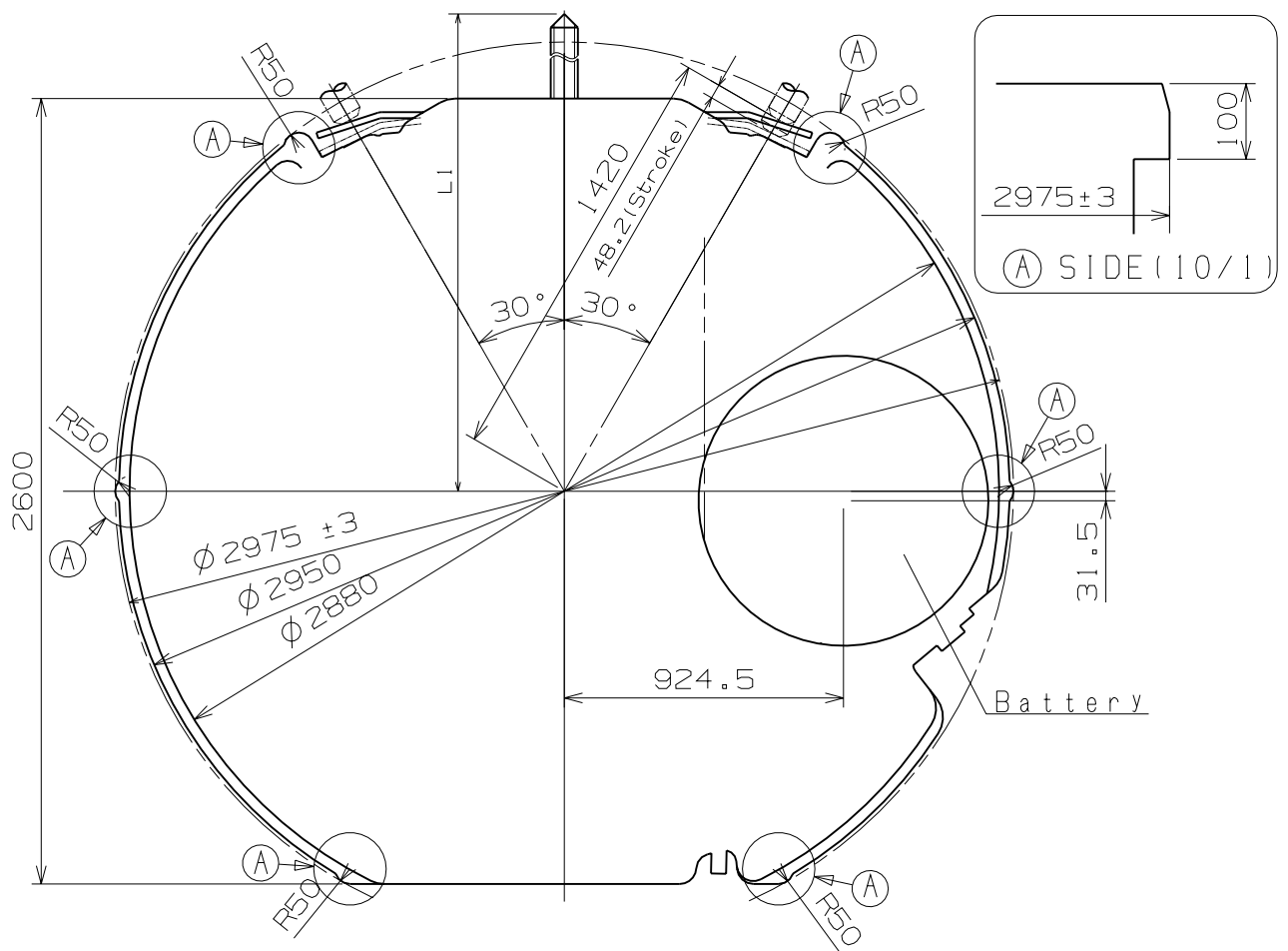
Unit : 1=1/100mm

Version:5



Center Post		TYPE M	TYPE L	TYPE LLA/LLB
Maximum height from main Plate surface	H1	228	273	354
Total height incl. movement	H2	677.5	722.5	803.5

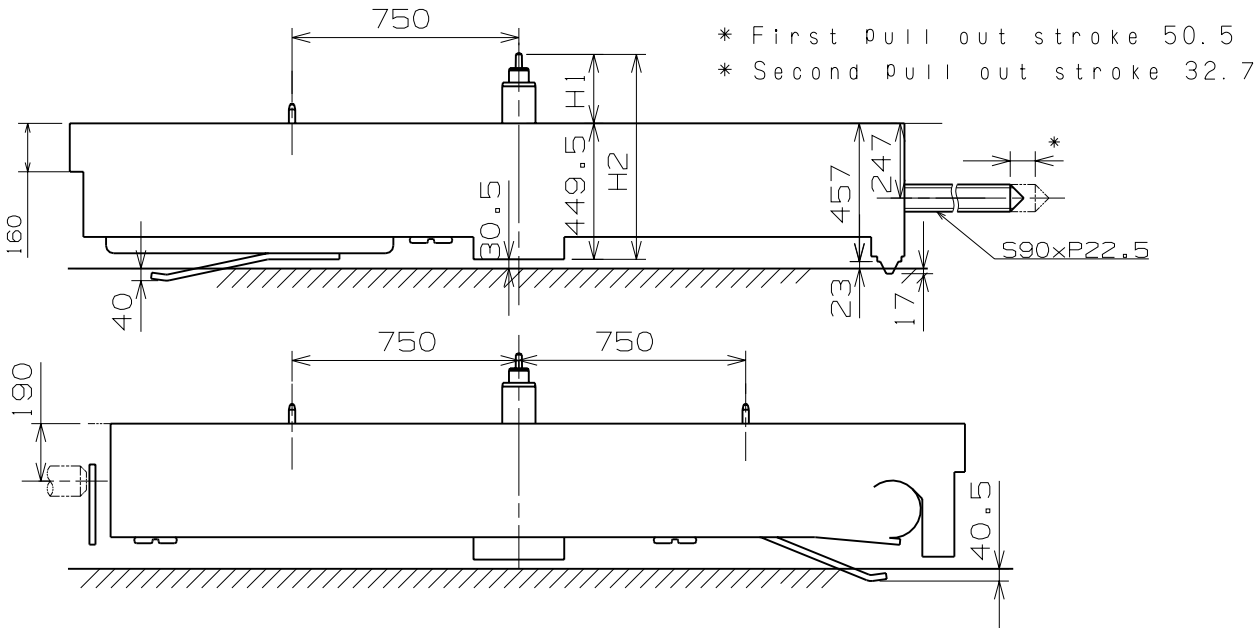
Hand Setting Stem	TYPE A	TYPE B
L1	2285	2861



Scale : 4/1

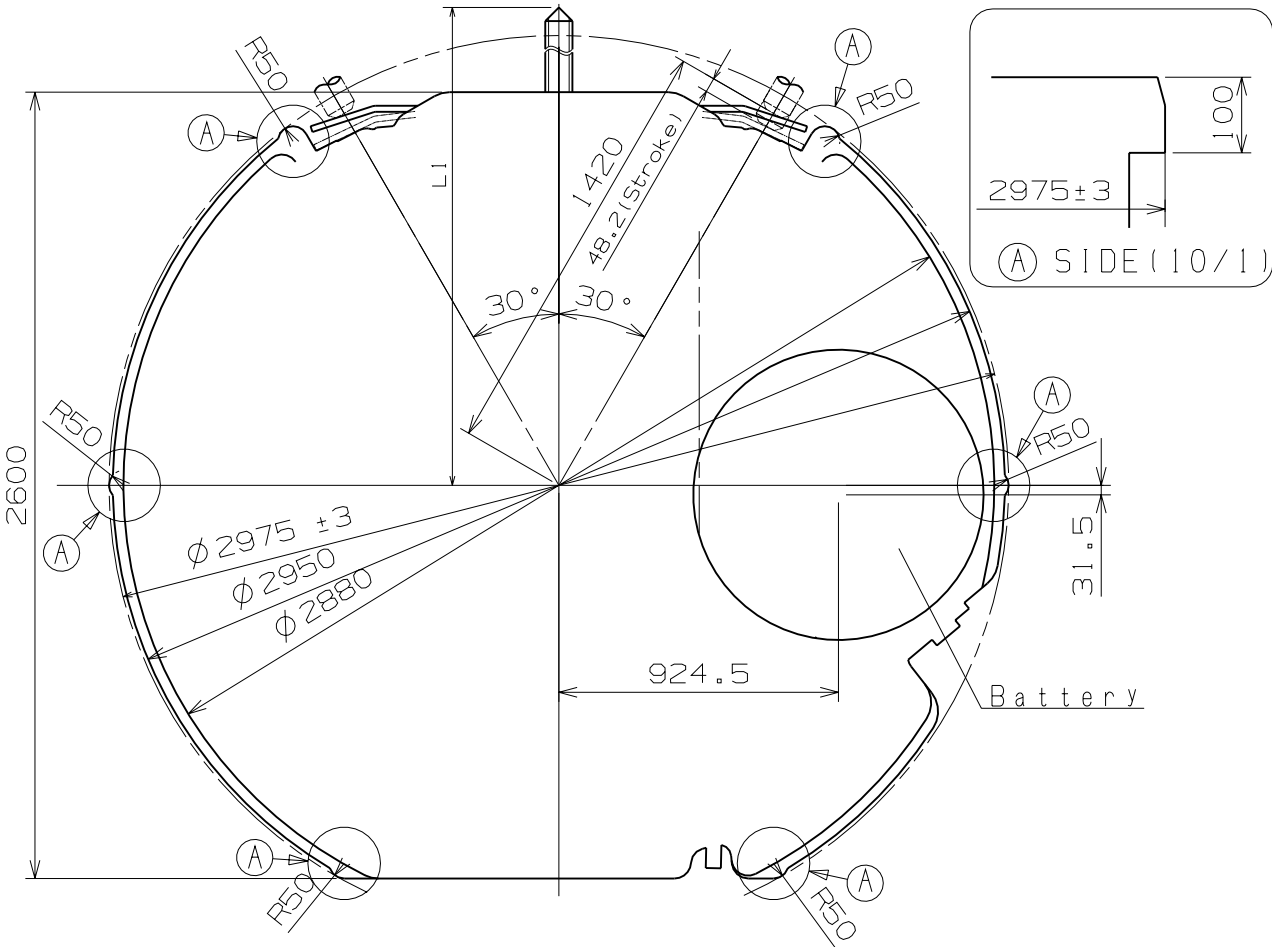
Unit : 1=1/100mm

Version:7



Center post		Type M 一般針高	Type L 高針	Type LLA/LLB 特高針A特高針B
Maximum height from main plate surface 與機芯平面之最大高度	H1	228	273	354
Total height incl. movement 機芯總高度	H2	677.5	722.5	803.5

Hand Setting Stem	TYPE A	TYPE B
L1	2285	2861



Scale : 4/1

Unit : 1=1/100mm

Version:7

Hand fitting - 1

Cal. VD53B

*Unbalance

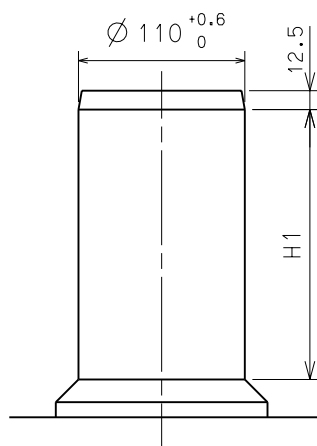
· Hour hand	$\leq 0.5 \mu\text{N} \cdot \text{m} (50\text{mg} \cdot \text{mm})$
· Minute hand	$\leq 0.6 \mu\text{N} \cdot \text{m} (60\text{mg} \cdot \text{mm})$
· Second hand	$\leq 0.09 \mu\text{N} \cdot \text{m} (9\text{mg} \cdot \text{mm})$
· Chronograph hand	$\leq 0.05 \mu\text{N} \cdot \text{m} (5\text{mg} \cdot \text{mm})$
· Small hour hand	$\leq 0.07 \mu\text{N} \cdot \text{m} (7\text{mg} \cdot \text{mm})$

*Movement of inertia

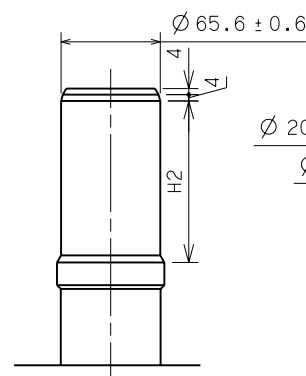
· 24hour indicator	$\leq 0.4 \mu\text{g} \cdot \text{m}^2 (400\text{mg} \cdot \text{mm}^2)$ (Disc hand available)
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TYPE M/L

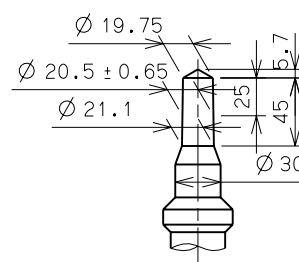
	H1	H2
TYPE M	178.5	109
TYPE L	223.5	154



Hour wheel

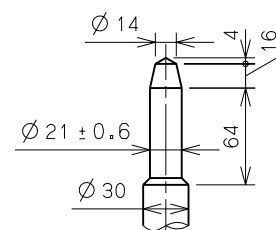


Center wheel



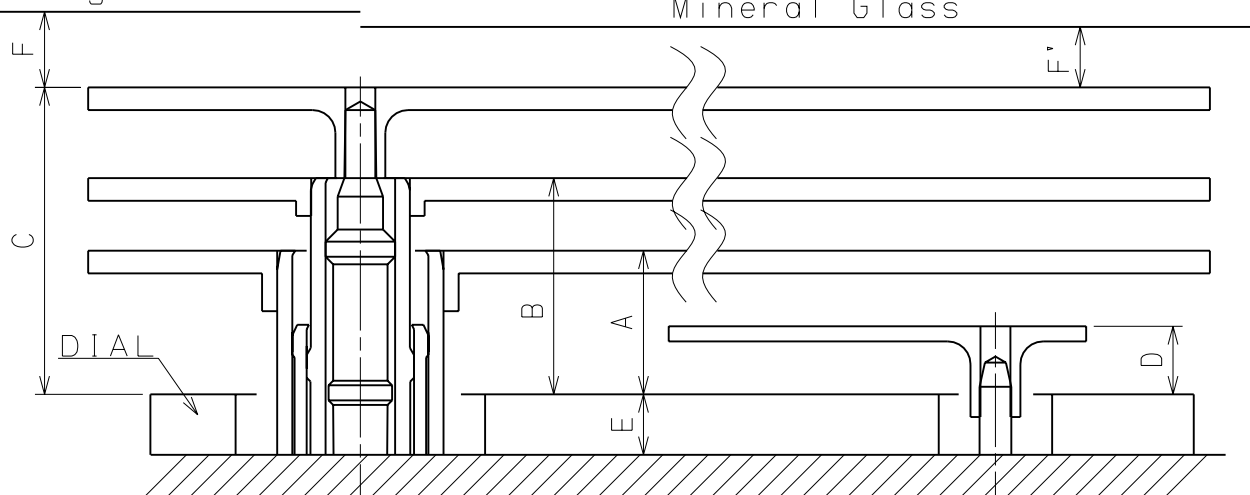
Fourth wheel

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	0902 0080	0902 0040
Chronograph second wheel	0888 0090	0888 0110
Small hour hand wheel	0157 0060	0157 0070


 Chronograph minute wheel
 Chronograph second wheel
 Small hour hand wheel

Acrylic Glass

Mineral Glass



	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 : 6

Hand fitting - 1

Cal. VD53B

※Unbalance

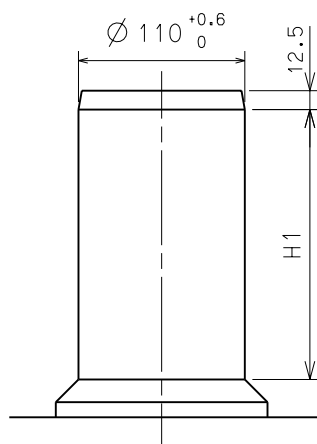
· Hour hand	≤ 0.5 μN·m (50mg·mm)
· Minute hand	≤ 0.6 μN·m (60mg·mm)
· Second hand	≤ 0.09 μN·m (9mg·mm)
· Chronograph hand	≤ 0.05 μN·m (5mg·mm)
· Small hour hand	≤ 0.07 μN·m (7mg·mm)

※Movement of inertia

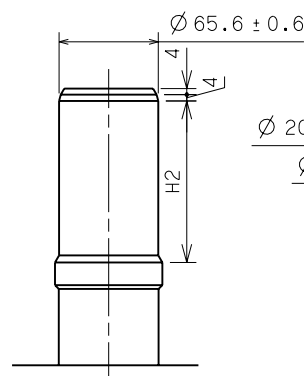
· 24hour indicator	≤ 0.4 μg·m ² (400mg·mm ²) (Disc hand available)
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TYPE M/L

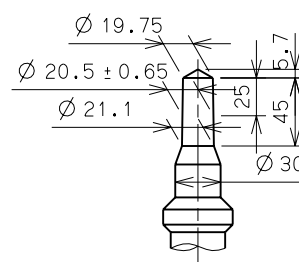
	H1	H2
TYPE M 一般針高	178.5	109
TYPE L 高針	223.5	154



Hour wheel

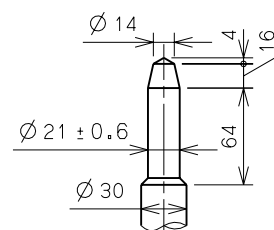


Center wheel



Fourth wheel

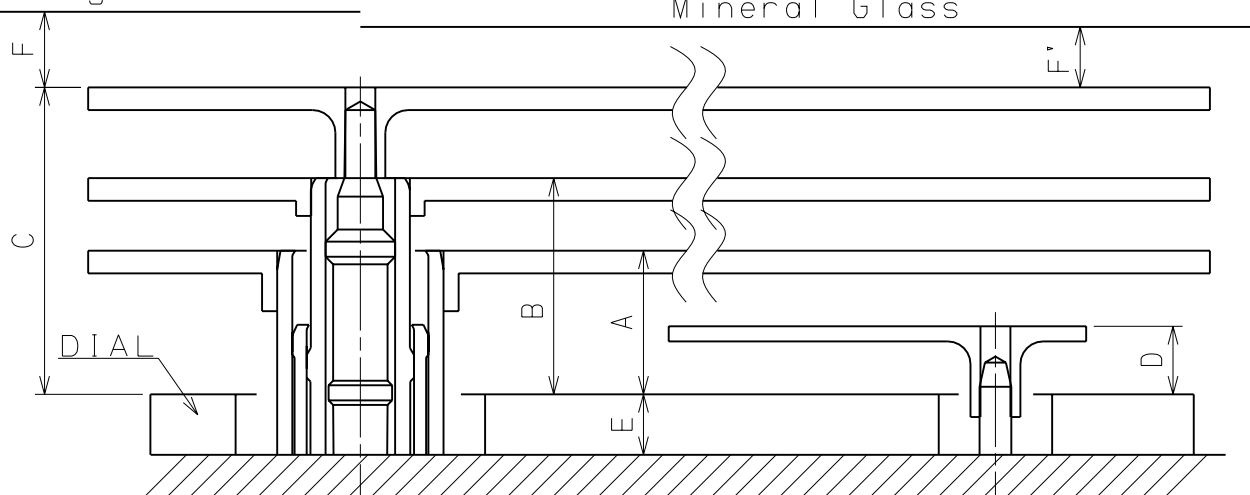
Part name	Part No.	
	TYPE M 一般針高	TYPE L 高針
Hour wheel 時針輪	0271 4070	0273 0370
Center wheel 分針輪	0221 1570	0221 0780
Fourth wheel 秒針輪	0241 1780	0241 4890
Chronograph minute wheel 計時分輪	0902 0080	0902 0040
Chronograph second wheel 計時秒輪	0888 0090	0888 0110
Small hour hand wheel 小時針輪	0157 0060	0157 0070



Chronograph minute wheel
Chronograph second wheel
Small hour hand wheel

Acrylic Glass

Mineral Glass



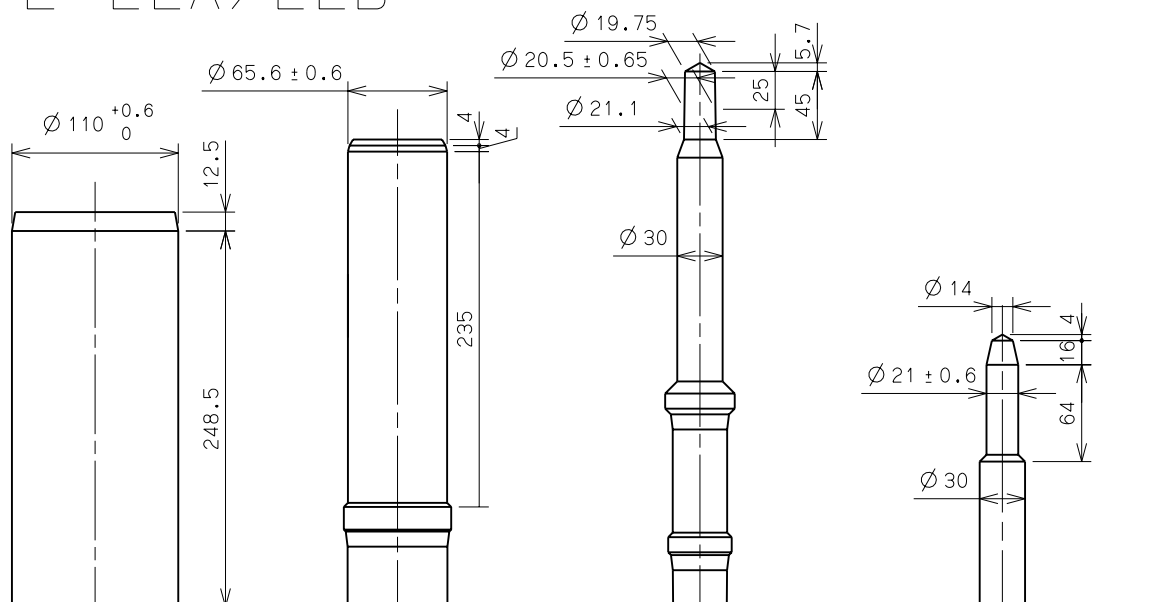
	A	B	C	D	E	F	F'
TYPE M 一般針高	95	143	203	45	40	50	40
TYPE L 高針	95	143	203	45	85	50	40

Scale : 20/1

Unit : 1=1/100mm

Version : 6

TYPE LLA/LLB



Hour wheel

Center wheel

Fourth wheel

Chronograph minute wheel

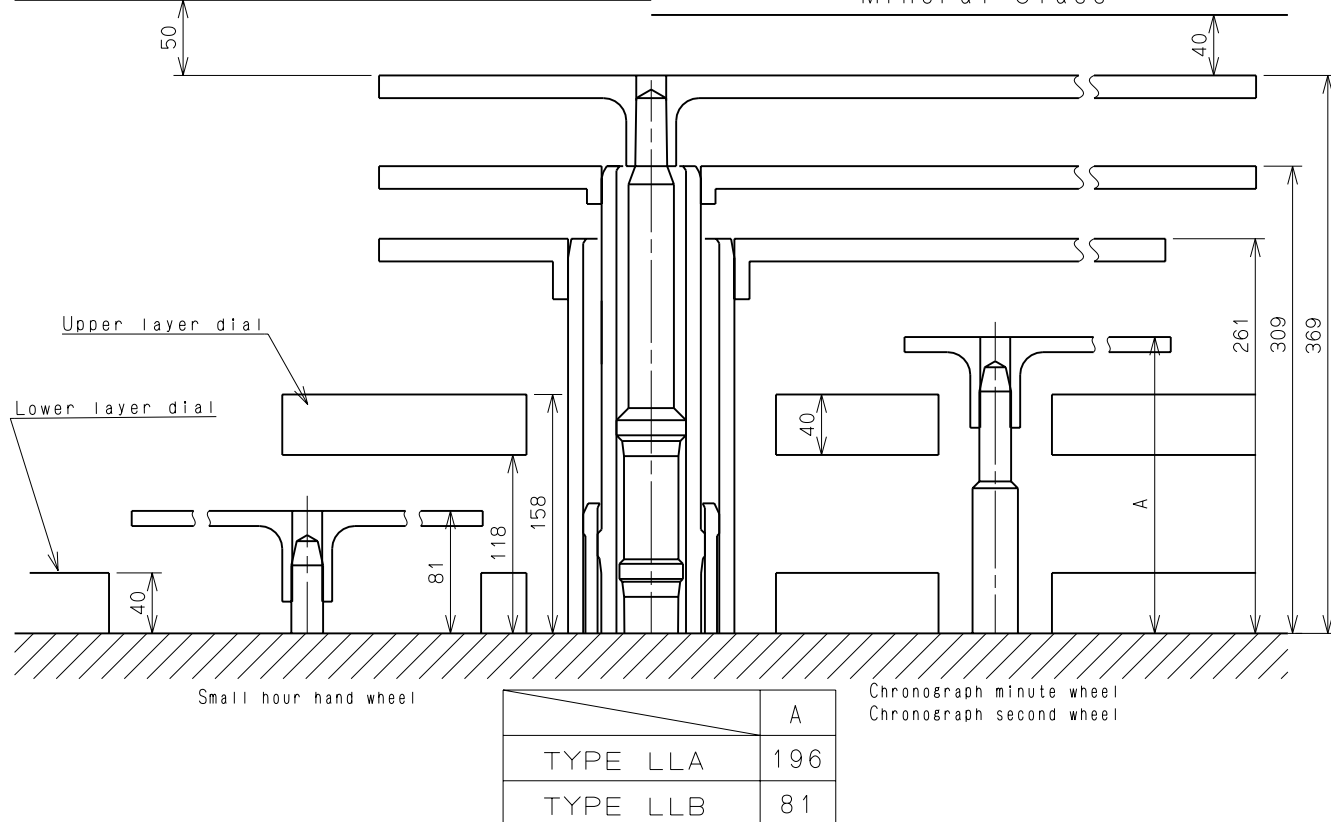
Chronograph second wheel

Small hour hand wheel

	Parts No.					
	Hour wheel	Center wheel	Fourth wheel	Chronograph minute wheel	Chronograph second wheel	Small hour hand wheel
TYPE LLA	0273 1990	0221 1990	0144 1990	0902 1990	0888 1990	0157 0060
TYPE LLB				0902 0080	0888 0090	

Acrylic Glass

Mineral Glass

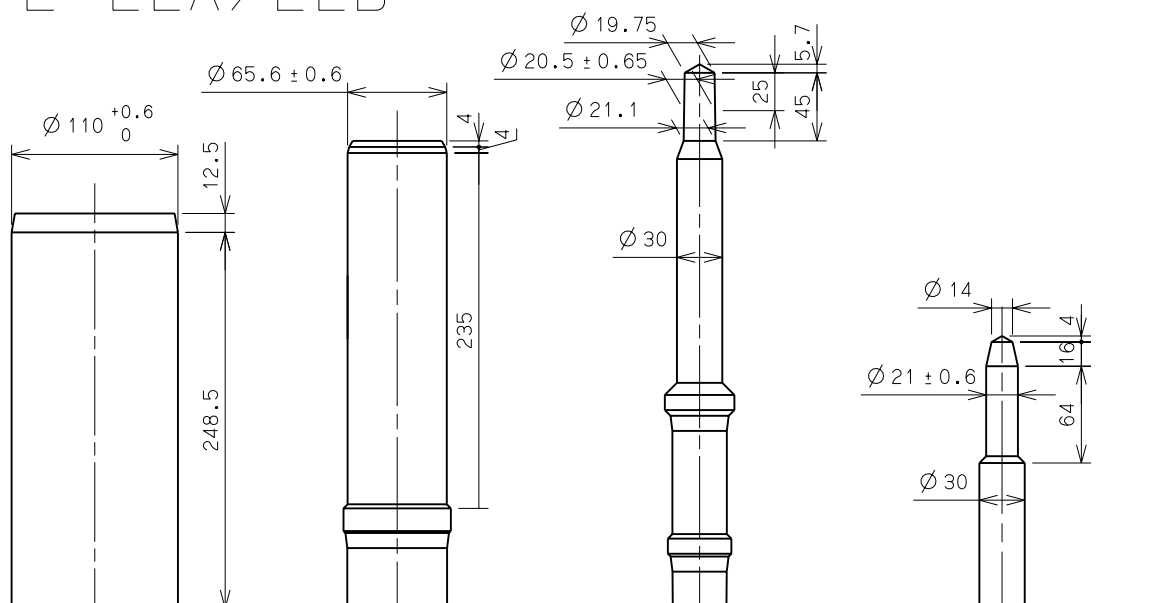


Scale : 20/1

Unit : 1=1/100mm

Version : 1

TYPE LLA/LLB



Hour wheel

Center wheel

Fourth wheel

Chronograph minute wheel

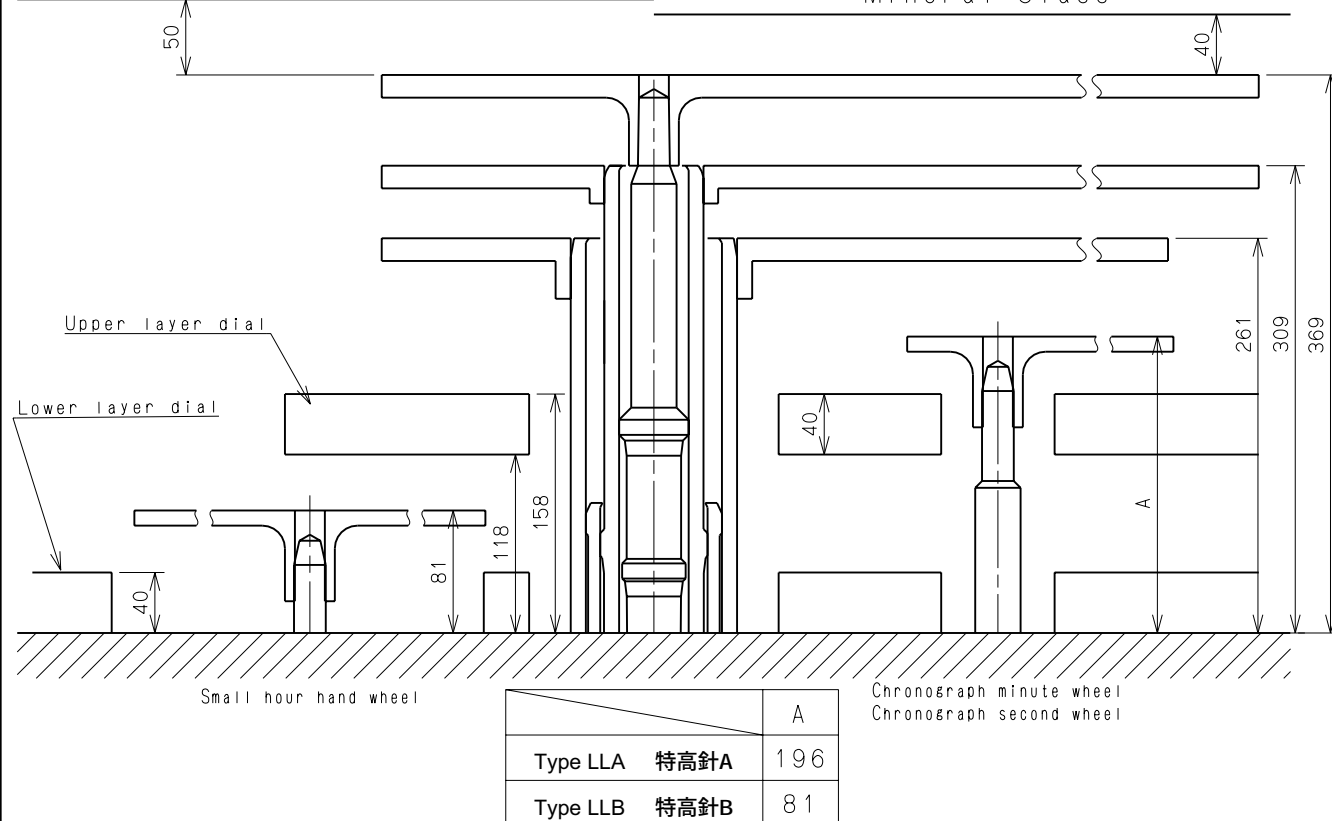
Chronograph second wheel

Small hour hand wheel

	Parts No.					
	Hour wheel 時針輪	Center wheel 分針輪	Fourth wheel 秒針輪	Chronograph minute wheel 計時分針輪	Chronograph second wheel 計時秒針輪	Small hour hand wheel 小時針輪
Type LLA 特高針A	0273 1990	0221 1990	0144 1990	0902 1990	0888 1990	0157 0060
Type LLB 特高針B				0902 0080	0888 0090	

Acrylic Glass

Mineral Glass

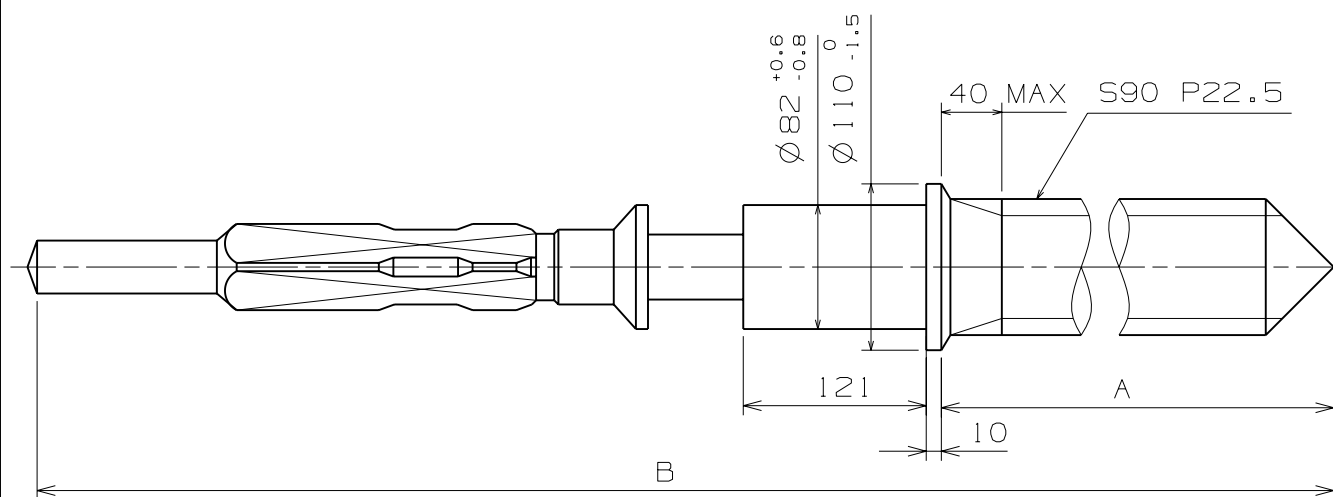


	A
Type LLA 特高針A	196
Type LLB 特高針B	81

Scale : 20/1

Unit : 1=1/100mm

Version : 1

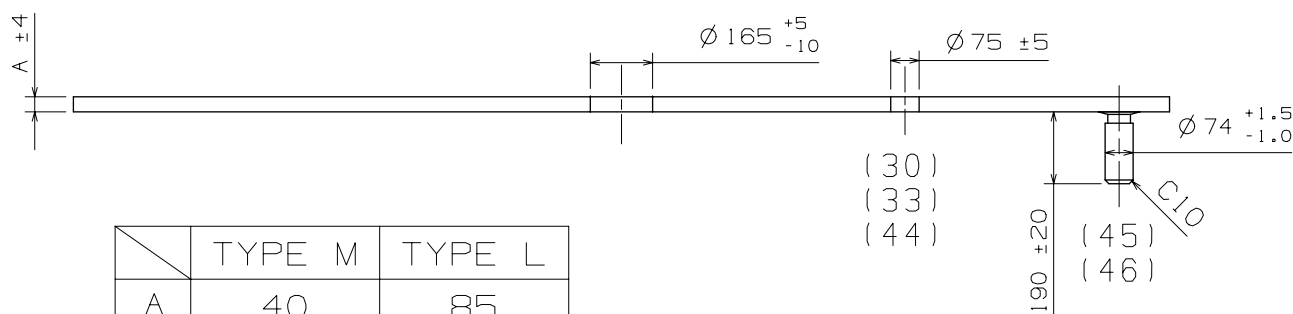
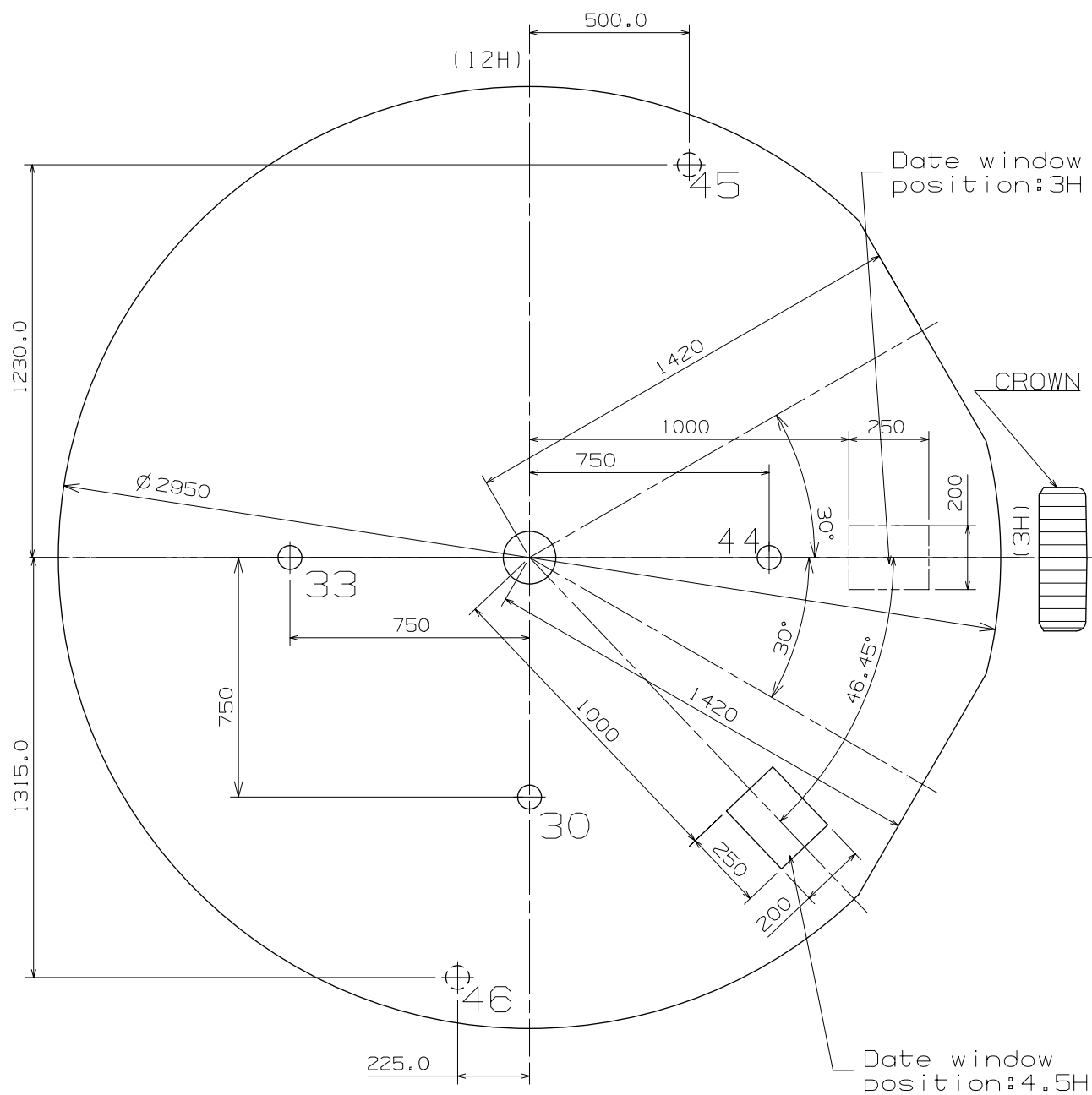


	Part. No.	A	B
TYPE A	0351 1770	1371	1969
TYPE B	0351 1220	1947	2545

Scale : 20/1

Unit : 1=1/100mm

Version:5

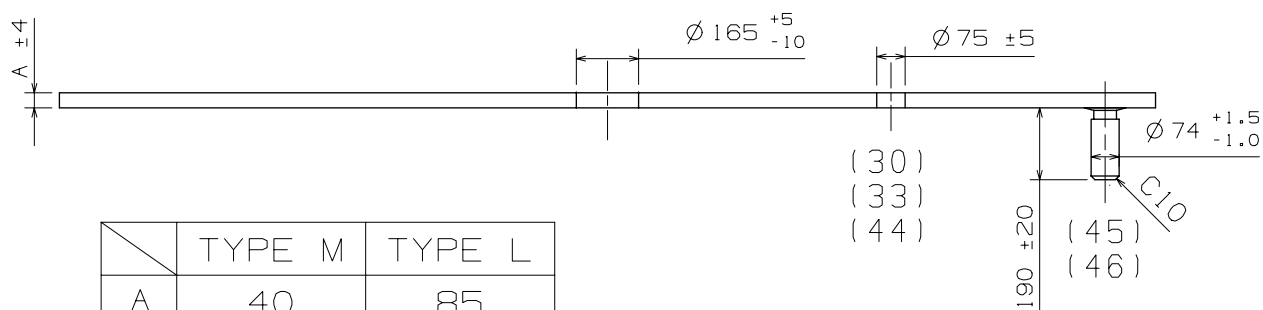
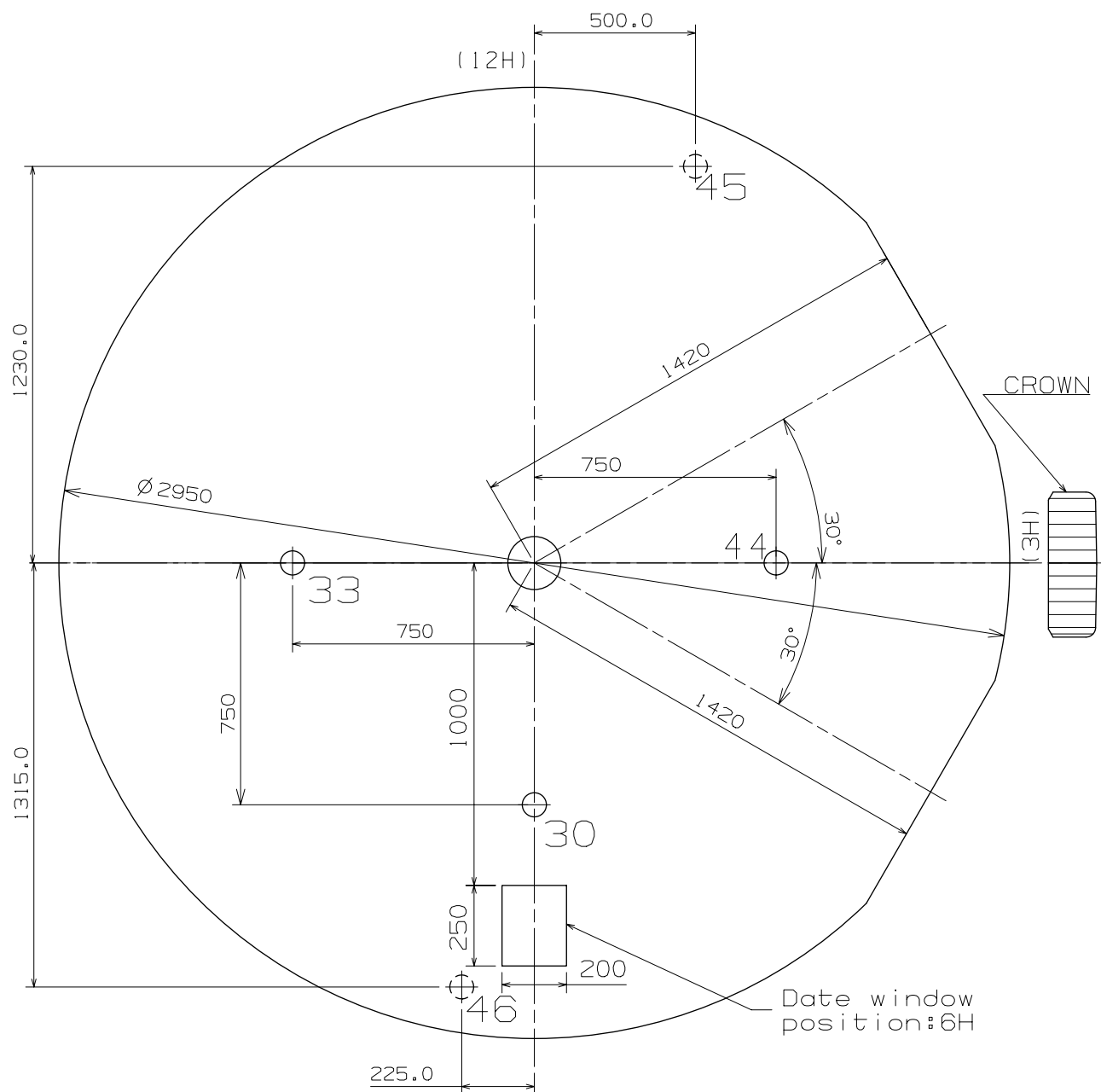


	TYPE M	TYPE L
A	40	85

Scale : 5/1

Unit : 1=1/100mm

Version: 4

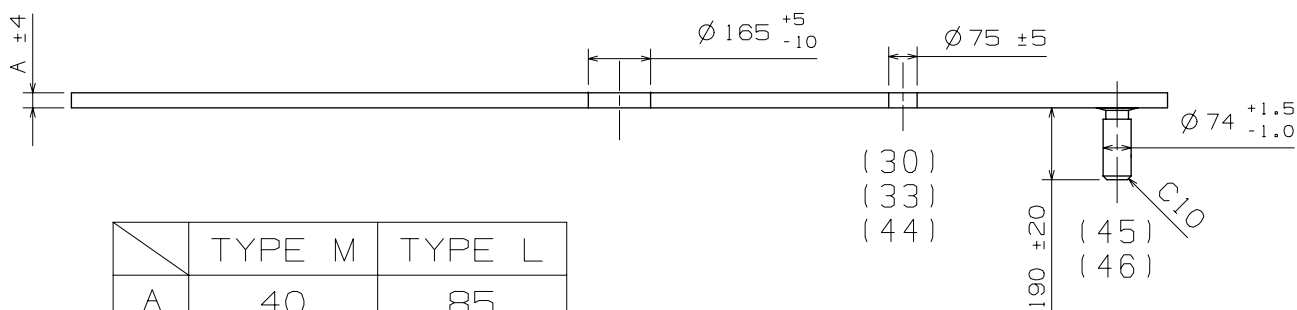
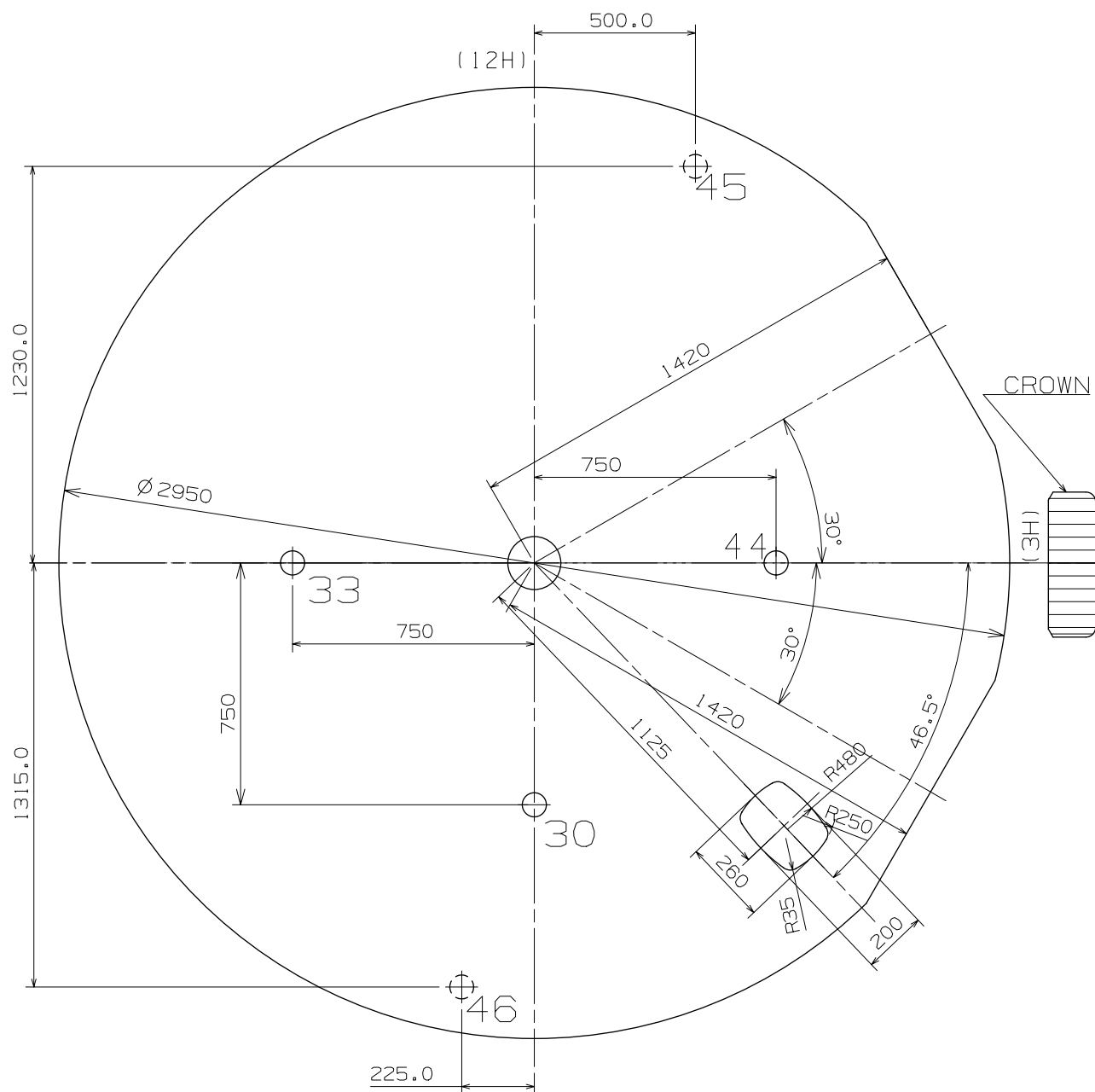


	TYPE M	TYPE L
A	40	85

Scale : 5/1

Unit : 1=1/100mm

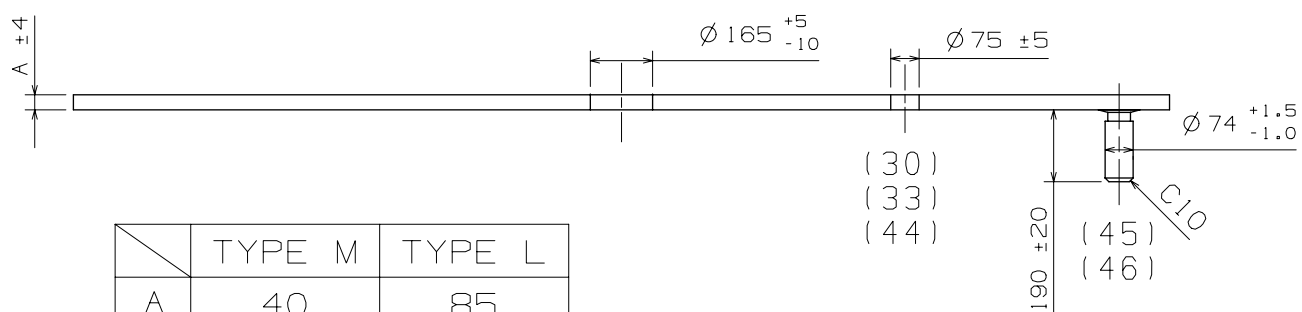
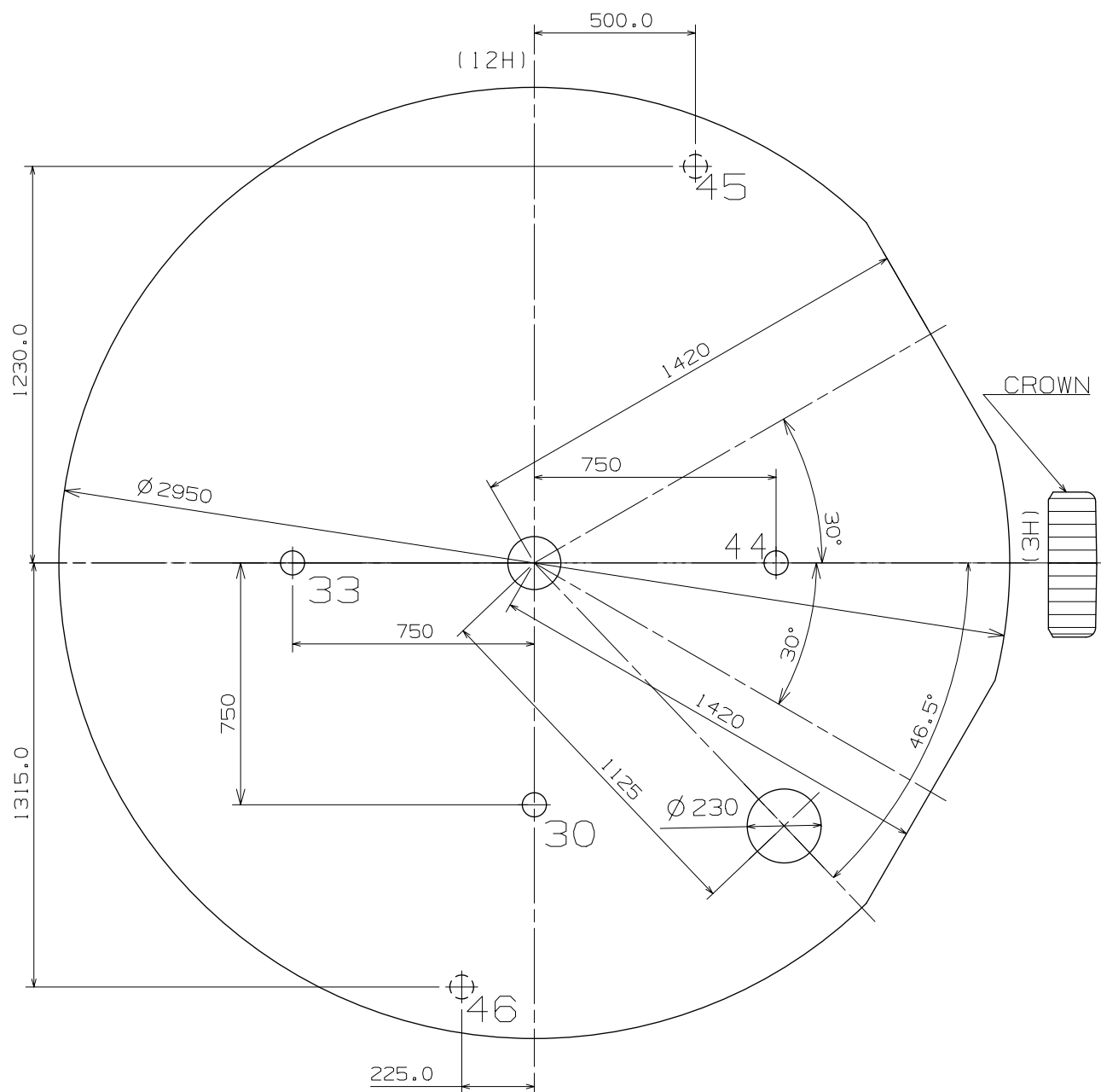
Version: 3



	TYPE M	TYPE L
A	40	85

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

Version:3

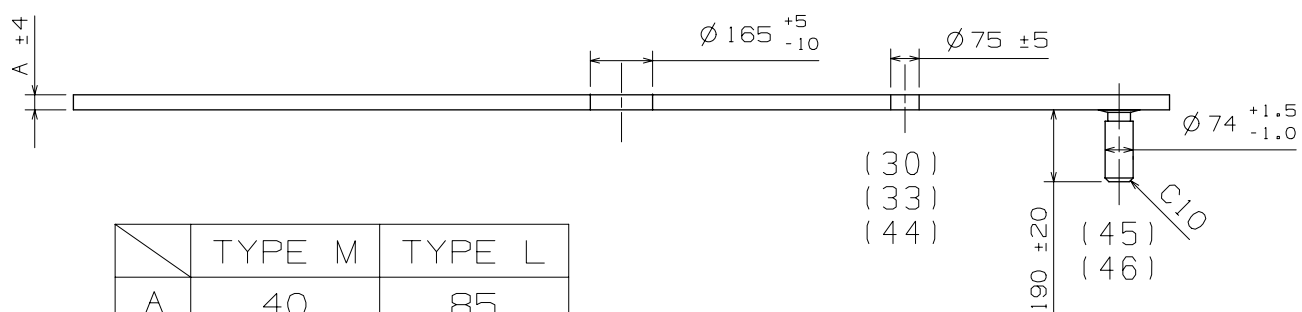
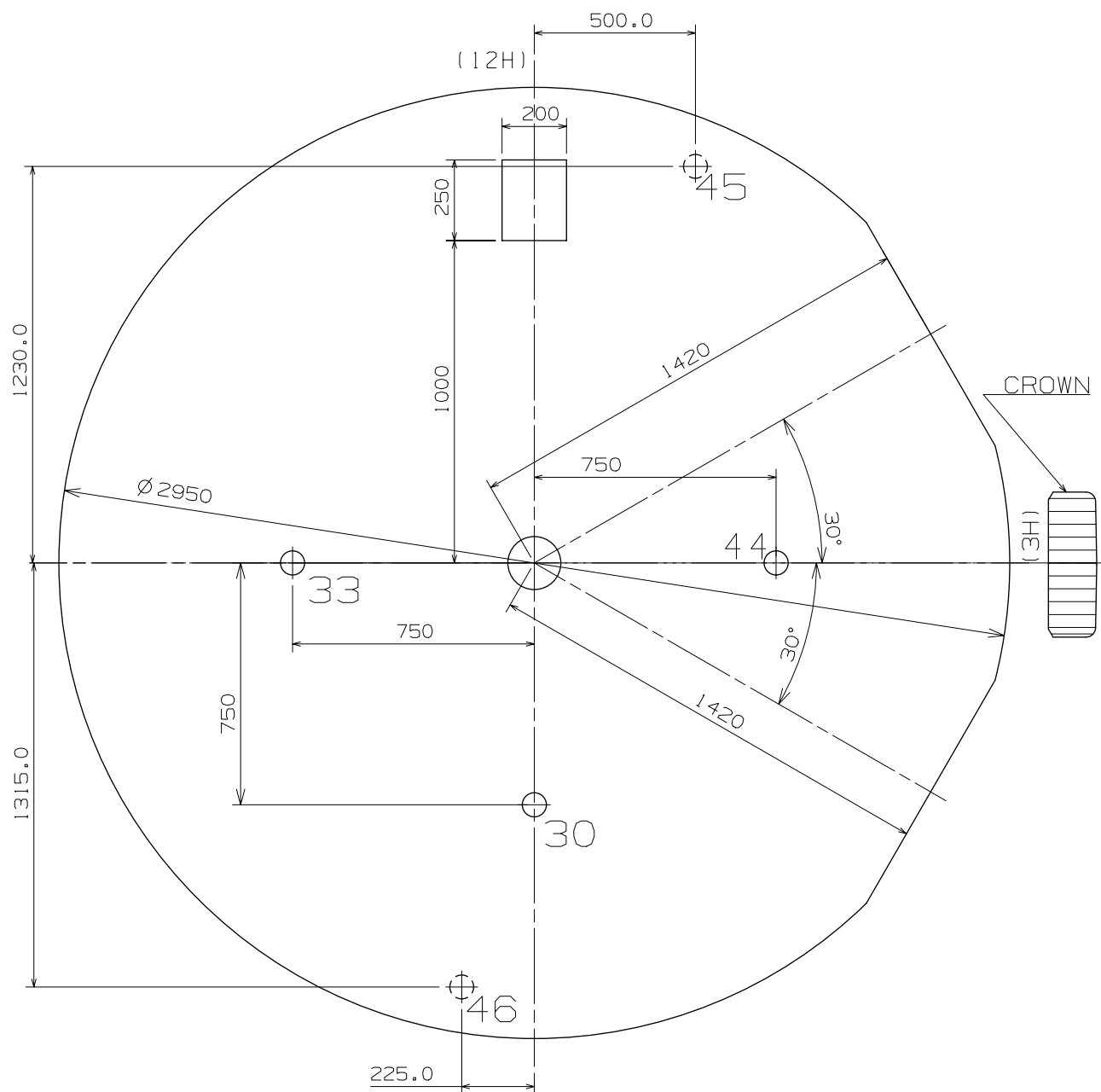


	TYPE M	TYPE L
A	40	85

Scale : 5/1

Unit : 1 = 1/100 mm

Version: 3

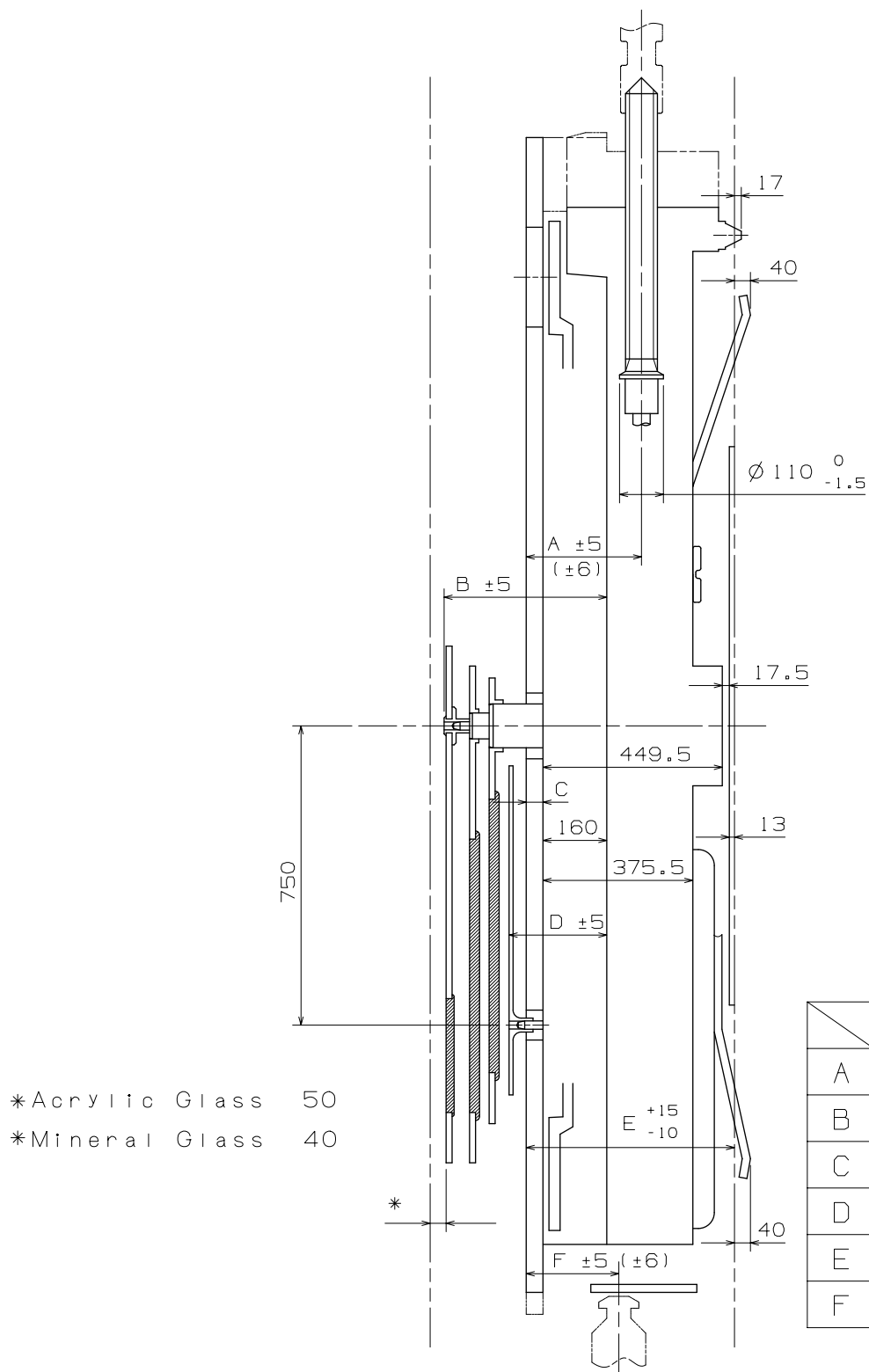


	TYPE M	TYPE L
A	40	85

Scale : 5/1

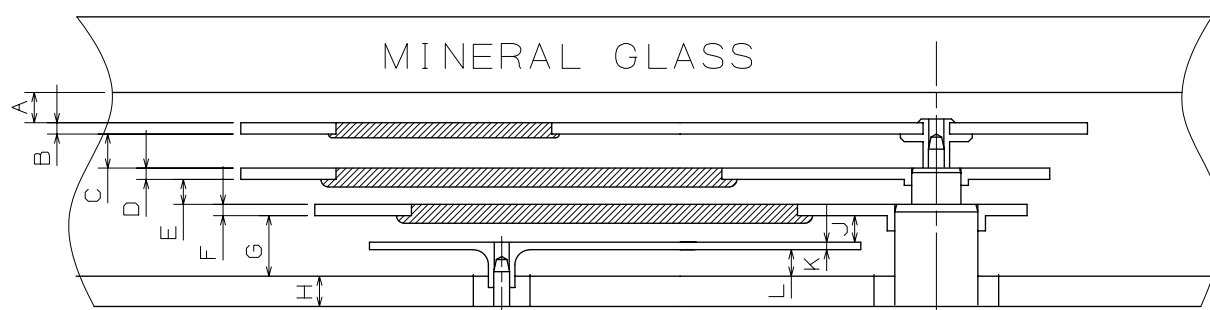
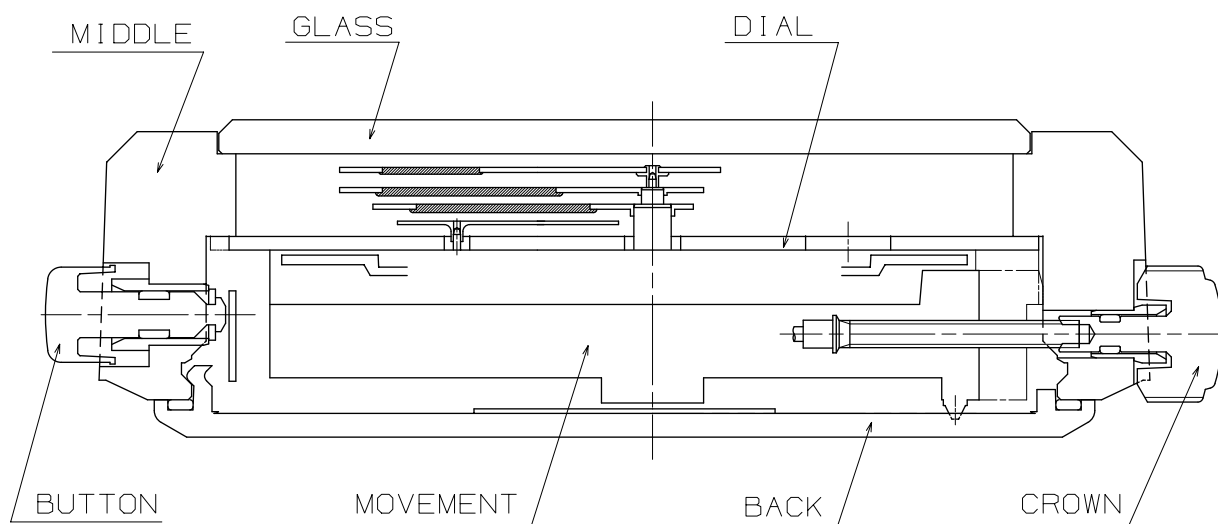
Unit : 1 = 1/100 mm

Version: 2



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

Version:3

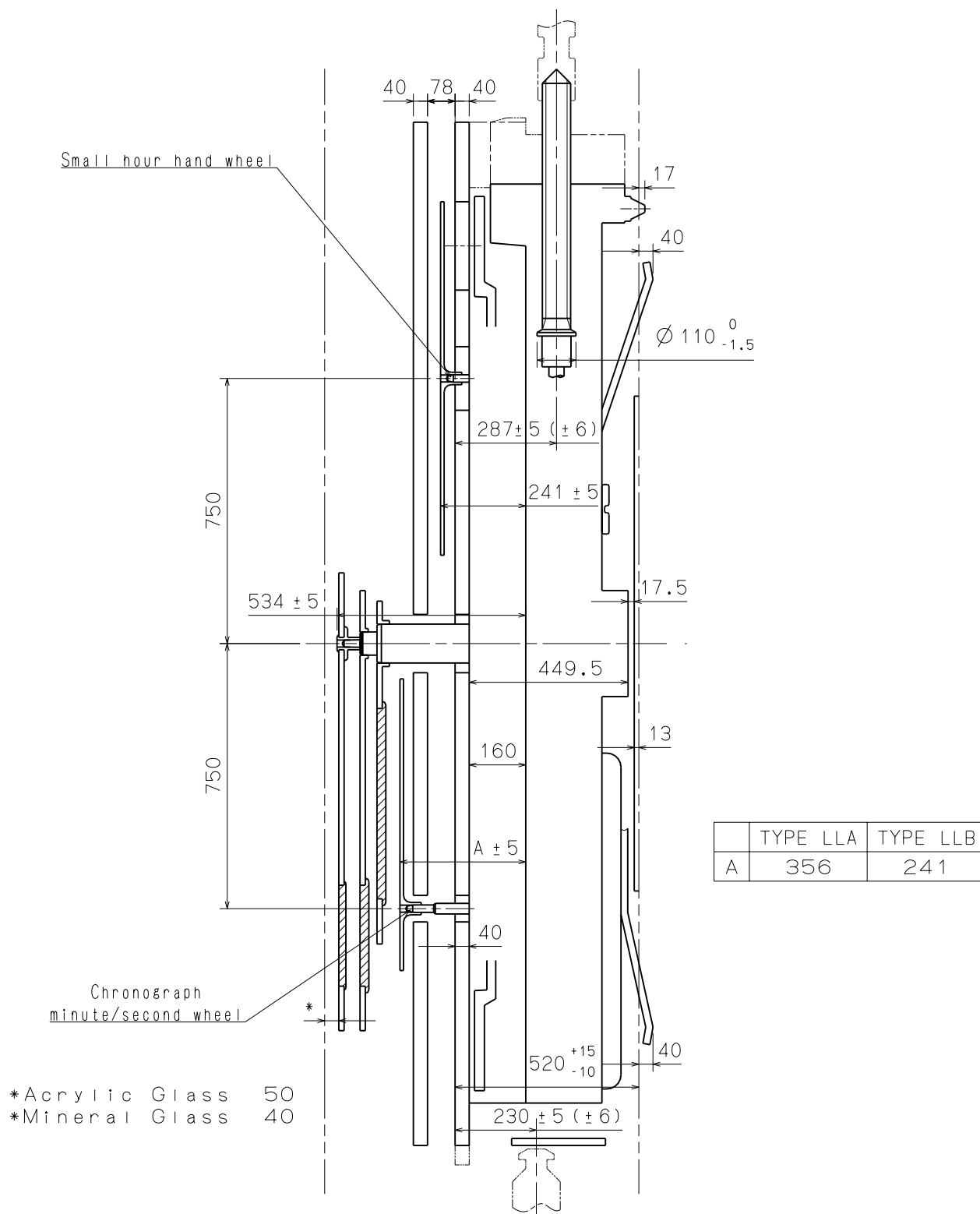


	TYPE M	TYPE L
A	40	40
B	15	15
C	45	45
D	15	15
E	33	33
F	15	15
G	80	80
H	40	85
J	35	35
K	10	10
L	35	35

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

Version:3

TYPE LLA/LLB

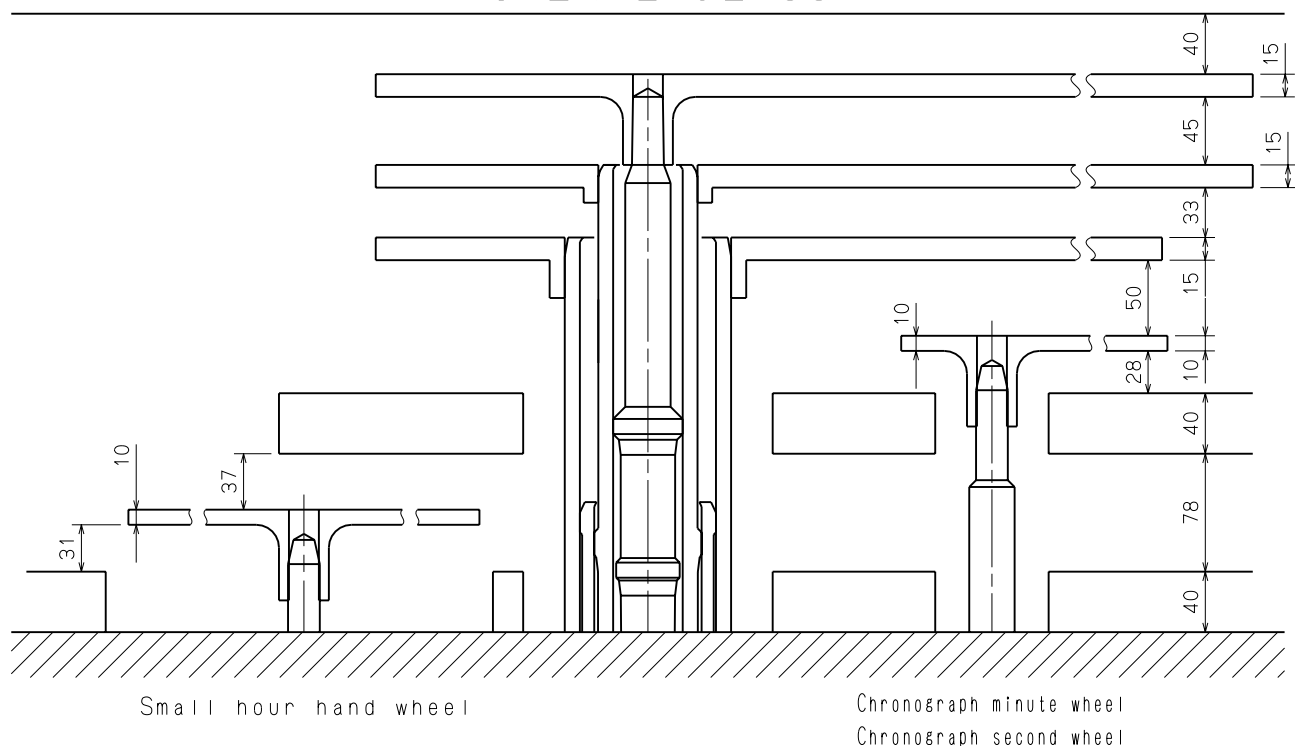


Scale : $\neq$
Unit : 1=1/100mm

Version:1

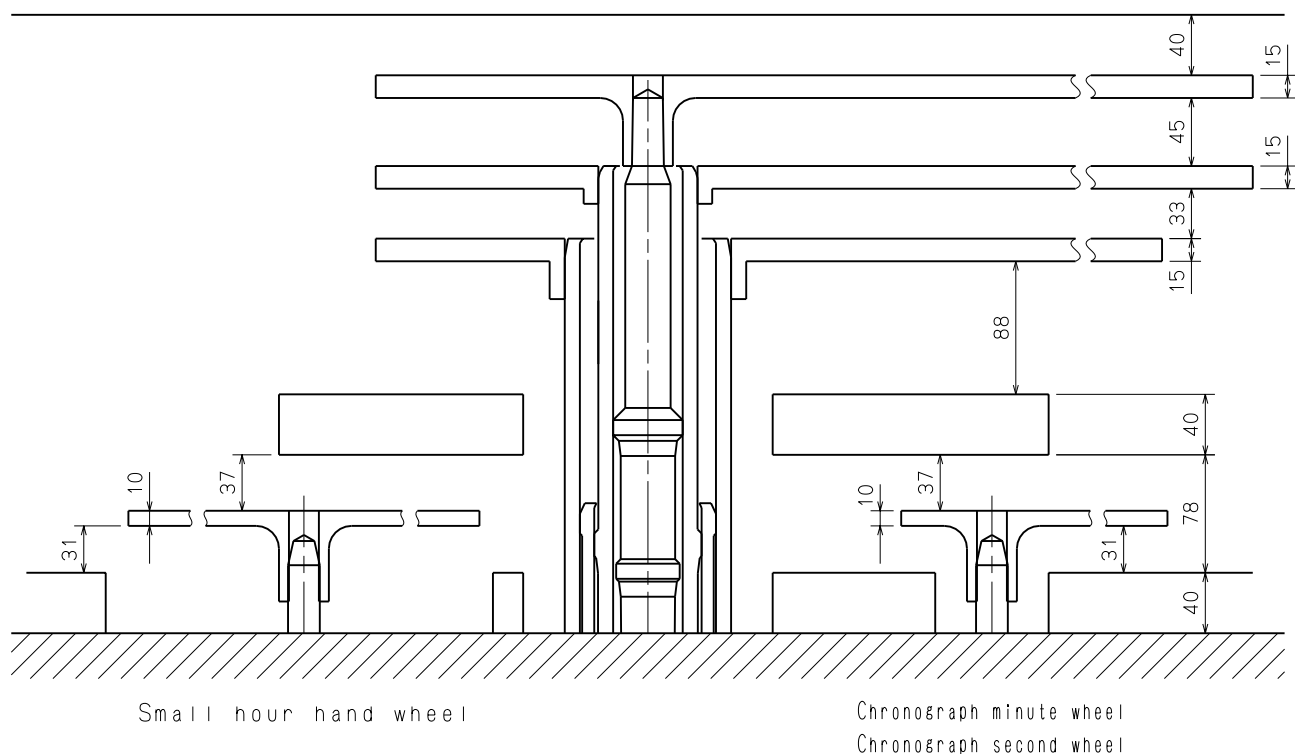
TYPE LLA

MINERAL GLASS



TYPE LLB

MINERAL GLASS



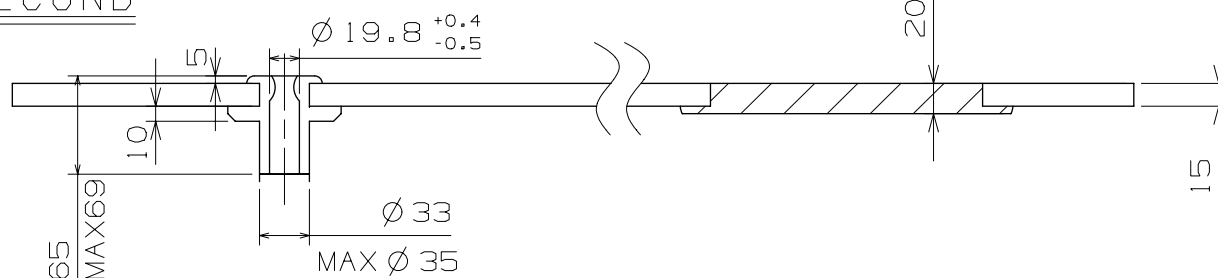
Scale : $\neq$
Unit : 1=1/100mm

Version : 1

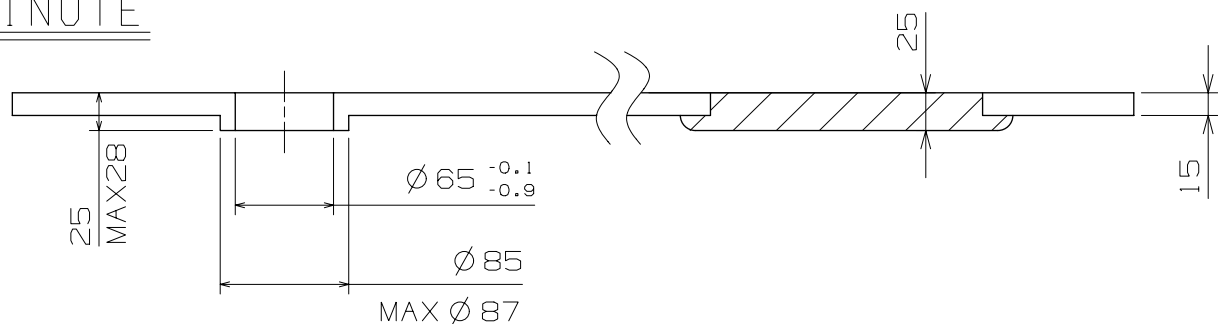
Hands

Cal. VD53B

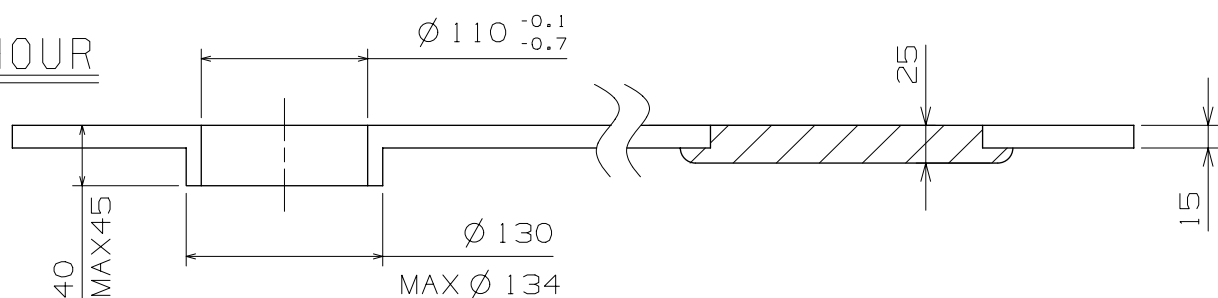
SECOND



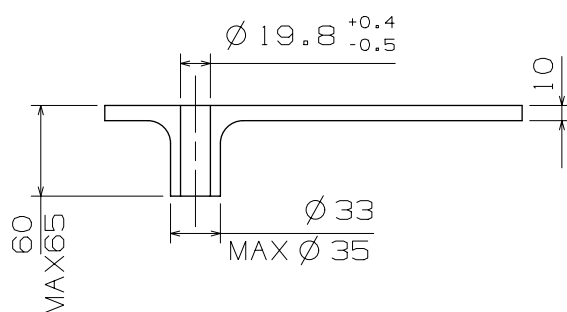
MINUTE



HOUR



CHRONO SMALL HOUR



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

Version:2