

# Cal. NE88A

$\phi$  28 . 60 mm

H 7.62 mm

<b>Item</b>	<b>Version No.</b>
Specification - 1	Version 1
Specification - 2	Version 1
Appearance	Version 1
Casing	Version 1
Hand Fitting	Version 1
Hand Setting Stem	Version 1
Dial	Version 1
Casing Ring	Version 1
Casing Clamp	Version 1
Movement Holder	Version 1
Assembly Plan	Version 1
Hands	Version 1



## MOVEMENT SPECIFICATIONS - 1

### CAL.NE88A 12 1/2 Ligne Mechanical Movement

#### Two Hands with Center Chronograph Second,

#### Small Second, Small 30 Minutes Chronograph Minute & 12 Hours Chronograph Hour, Date

#### 1. MOVEMENT DIMENSIONS

- Outside diameter  $\phi$  28.60 mm
- Casing diameter  $\phi$  28.00 mm
- Total height 7.62 mm

#### 2. BASIC FUNCTIONS

- Winding mechanism
  - Manual winding
  - Automatic winding with ball bearing
  - Both winding with one way clutch
- Calendar
  - Date display with quick date correction
- Shock resistance
  - Shock-absorber device for balance staff
- Jewels
  - 34 jewels
- Regulation hands unbalance

	Regulation hands unbalance	The moment of inertia
Hour	Less than $1.50\mu\text{N}\cdot\text{m}$ ( $150\text{mg}\cdot\text{mm}$ )	-----
Minute	Less than $1.25\mu\text{N}\cdot\text{m}$ ( $125\text{mg}\cdot\text{mm}$ )	-----
Small second	Less than $0.05\mu\text{N}\cdot\text{m}$ ( $5\text{mg}\cdot\text{mm}$ )	-----
Chronograph hour	Less than $0.05\mu\text{N}\cdot\text{m}$ ( $5\text{mg}\cdot\text{mm}$ )	Less than $30\text{mg}\cdot\text{mm}^2$
Chronograph minute	Less than $0.05\mu\text{N}\cdot\text{m}$ ( $5\text{mg}\cdot\text{mm}$ )	Less than $30\text{mg}\cdot\text{mm}^2$
Center chronograph second	Less than $0.20\mu\text{N}\cdot\text{m}$ ( $20\text{mg}\cdot\text{mm}$ )	Less than $400\text{mg}\cdot\text{mm}^2$

- Antimagnetic
  - DC :  $\geq 4800$  A / m
- Accuracy
  - 15 ~ +25 second per day at normal temperature range
- Vibration frequency
  - 28,800 vibrations per hour
- Duration time
  - More than 45 hours (Under no chronograph function)

#### 3. DIAL FIXED METHOD

The dial is fixed by two dial leg holes with eccentric pins

#### 4. TEST OF ACCURACY

- Equipment to be used
  - Witschi WATCH EXPERT
- Duration of measurement
  - 20 seconds

#### 5. FITTING FORCE FOR HANDS

Hour, minute hand, Chronograph-second, minute & hour : Less than 50 N

Small second : Less than 30 N

#### 6. CASING

The movement is fixed by the casing clamps

\*1. Non-corresponding with Diver's watch

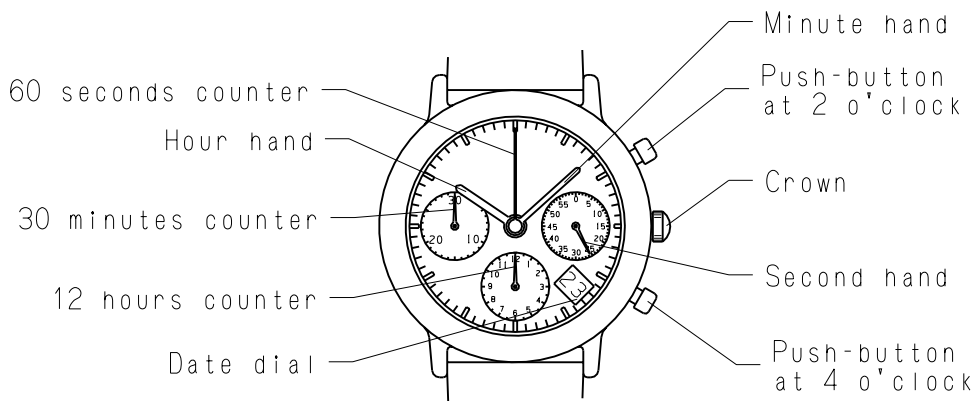
**\* All specifications are subject to change without notice.**

MOVEMENT SPECIFICATIONS - 2

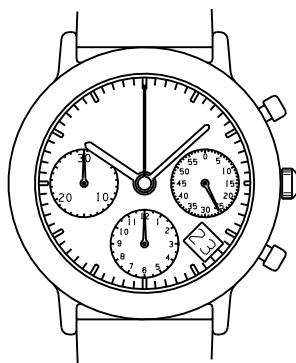
Title

CAL. NE88A

7.Operation



Crown at normal position

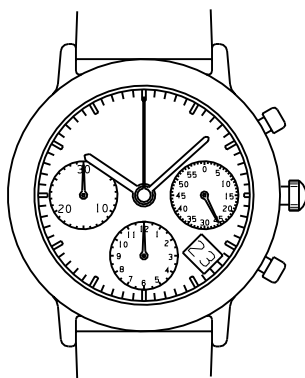


Chronograph Start/Stop

Running position and manual winding (clockwise rotation)

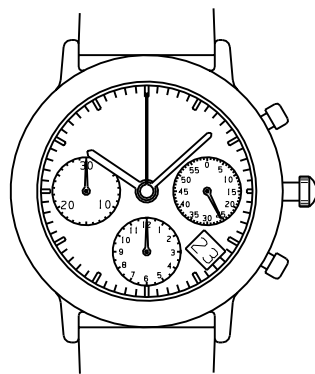
Chronograph Reset

Crown pulled out to 1st click



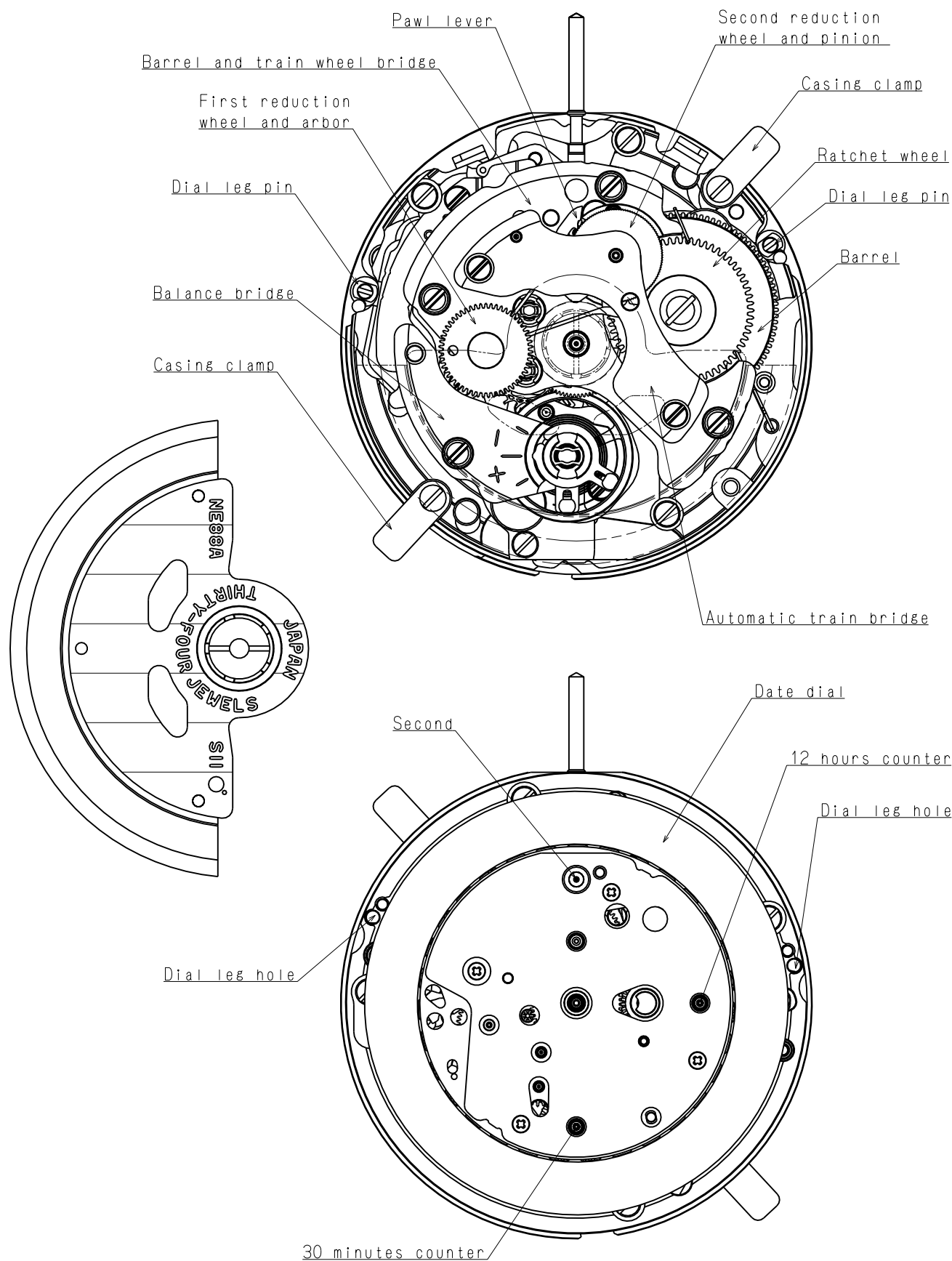
Quick date correction (counter-clockwise rotation)

Crown pulled out to 2nd click



Time setting with stop-second

Version : 1



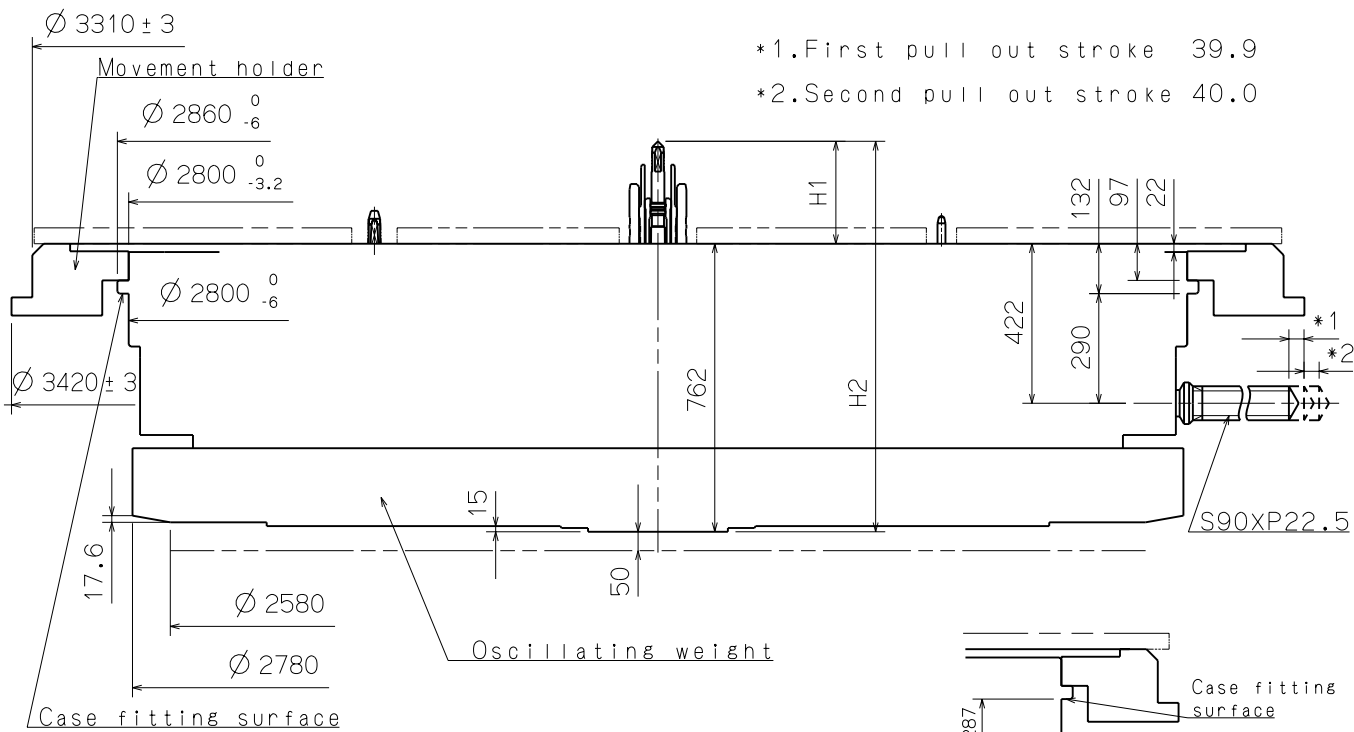
Scale : 3/1

Version : 1

Unit : 1=1/100mm

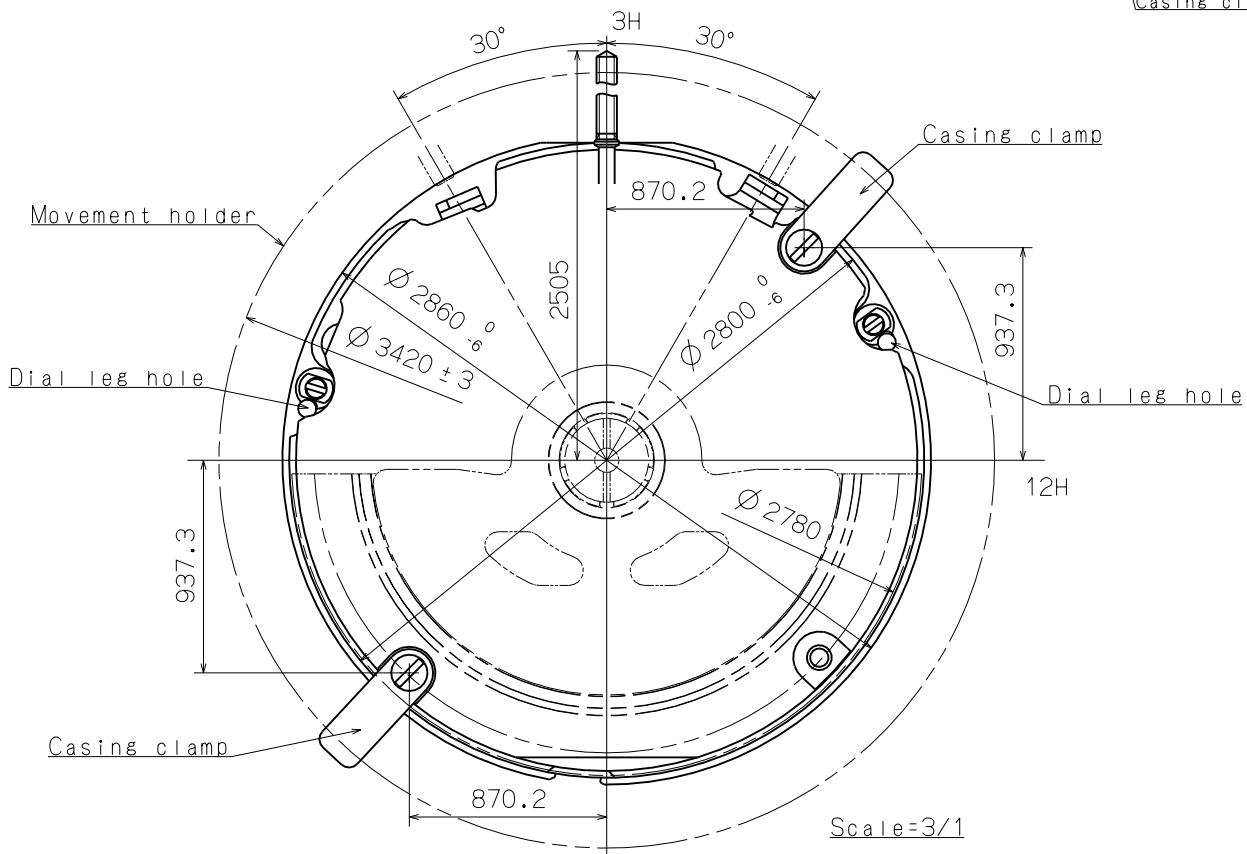
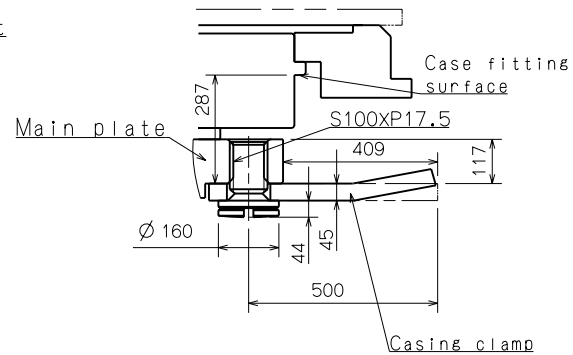
# Casing

Cal. NE88A



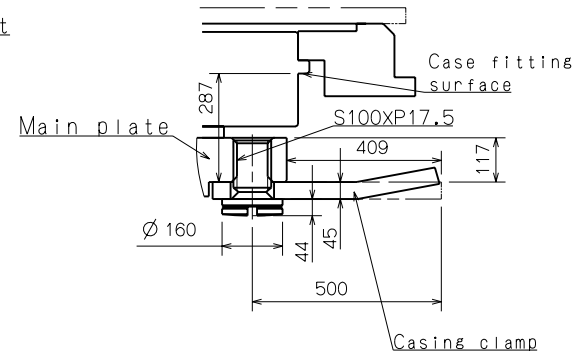
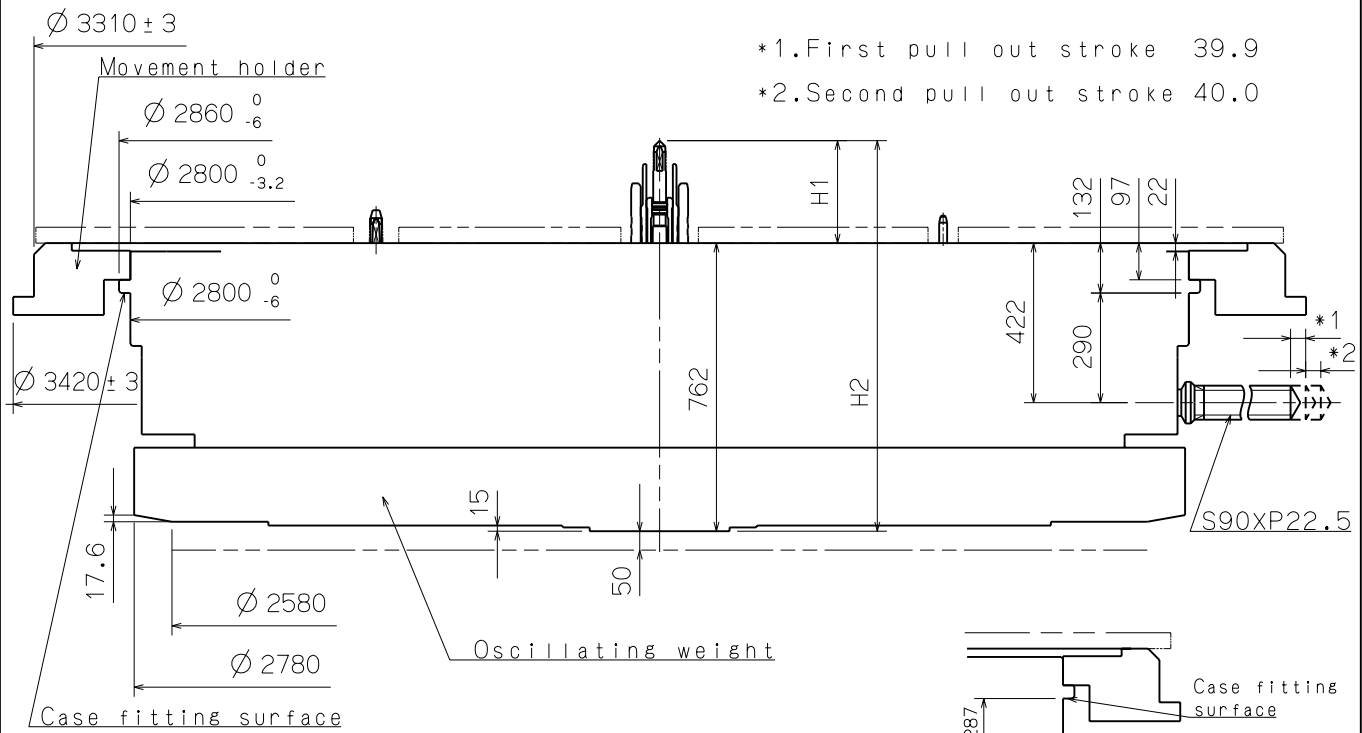
\*1. First pull out stroke 39.9  
\*2. Second pull out stroke 40.0

Center post	Type	M
Maximum height from dial support surface	H1	271.0
Total height incl. movement	H2	1033.0

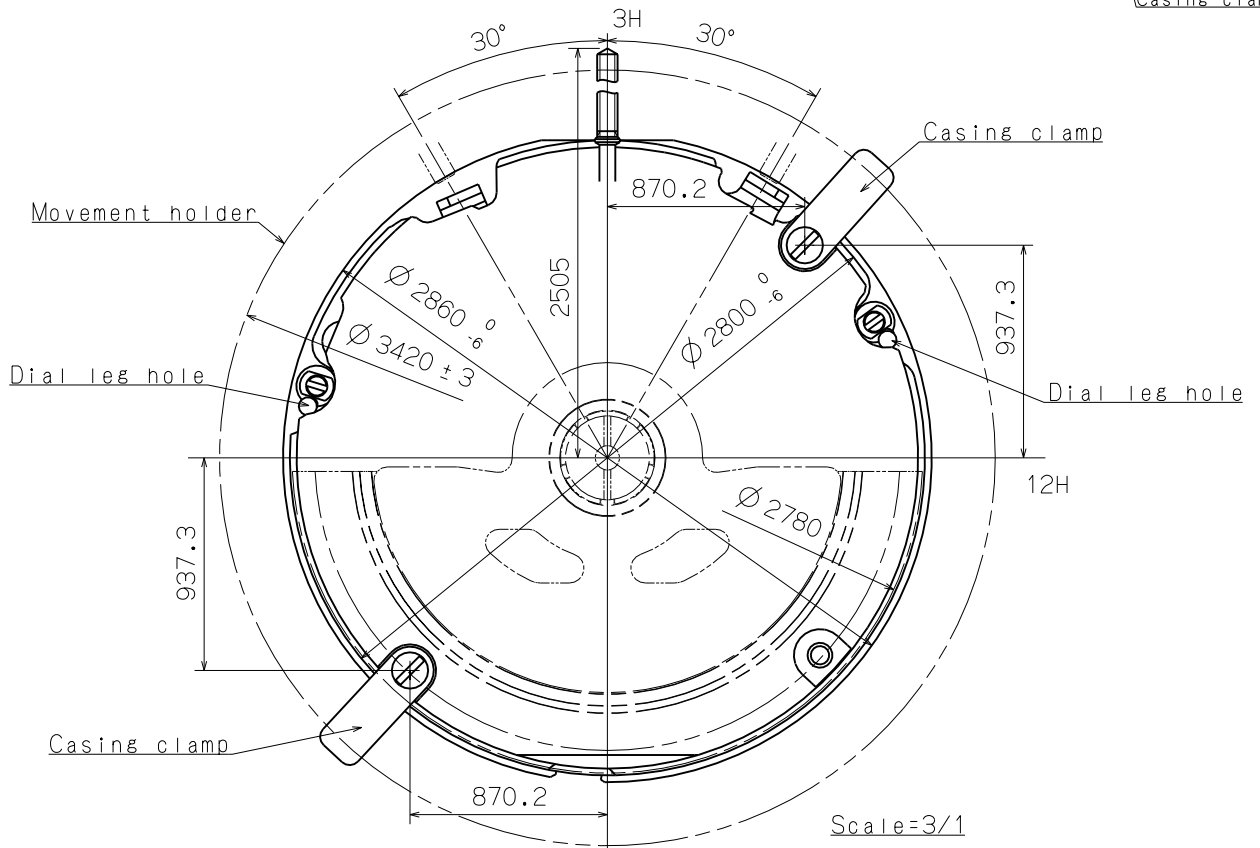


Scale : 5/1 (3/1)  
Unit : 1=1/100mm

Version : 1



Center post 中心柱位	Type M 一般針高
Maximum height from main plate surface 與機芯平面之最大高度	H1 271.0
Total height incl. movement 機芯總高度	H2 1033.0



Scale : 5/1 (3/1)

Version : 1

Unit : 1 = 1/100mm

# Hand fitting

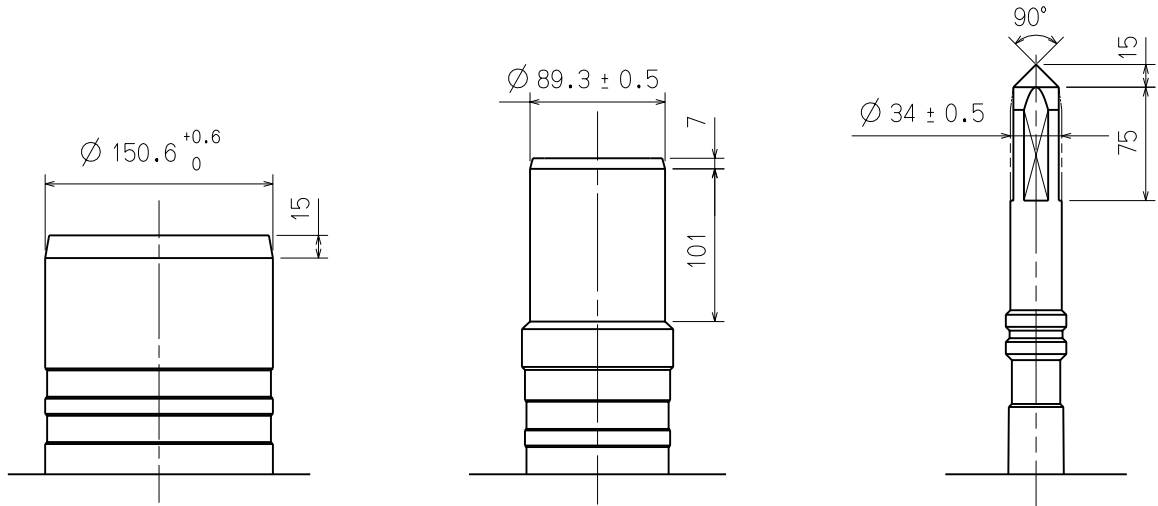
Cal. NE88A

Hour hand unbalance	$\leq 1.50\mu\text{N}\cdot\text{m}$ (150mg·mm)	12 hours counter hand unbalance	$\leq 0.05\mu\text{N}\cdot\text{m}$ (5mg·mm)
Minute hand unbalance	$\leq 1.25\mu\text{N}\cdot\text{m}$ (125mg·mm)	30 minutes counter hand unbalance	$\leq 0.05\mu\text{N}\cdot\text{m}$ (5mg·mm)
60 seconds counter hand unbalance	$\leq 0.20\mu\text{N}\cdot\text{m}$ (20mg·mm)	Second hand unbalance	$\leq 0.05\mu\text{N}\cdot\text{m}$ (5mg·mm)

HOURLY HAND FITTING  
Hour wheel: 0273 277

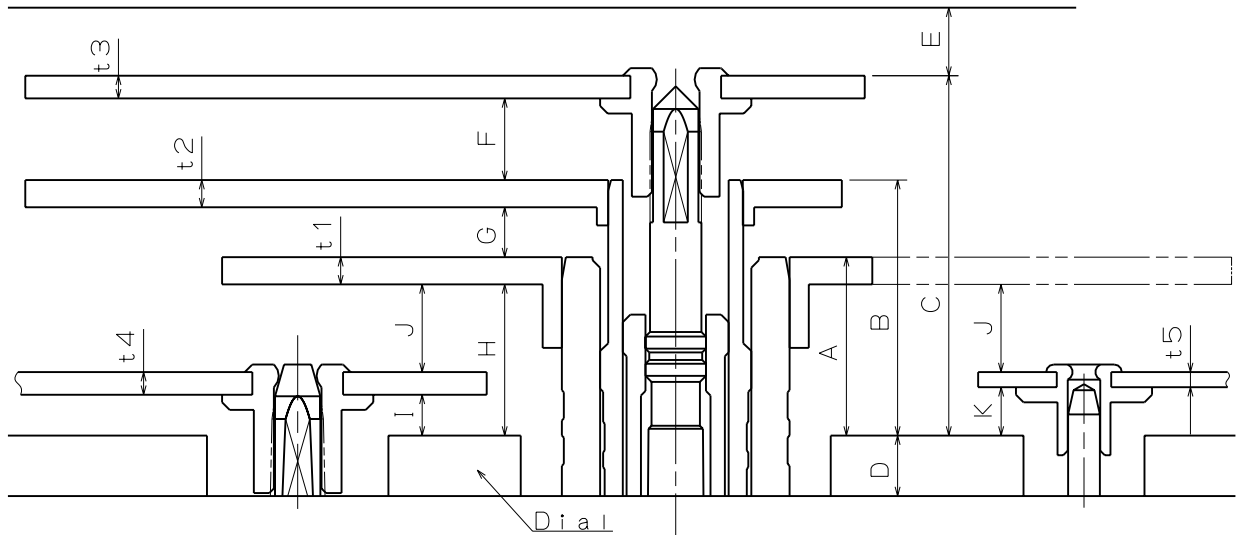
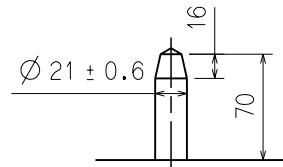
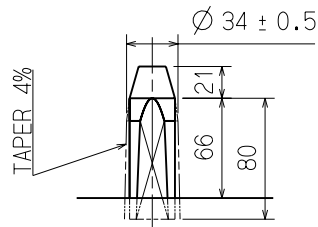
MINUTE HAND FITTING  
Center wheel: 0270 443

60 SECONDS COUNTER HAND FITTING  
Seconds counting wheel: 0888 181



30 MINUTES COUNTER HAND FITTING  
12 HOURS COUNTER HAND FITTING  
Minute/Hour counting wheel: 0902 184

SECOND HAND FITTING  
Second wheel: 0240 178



	A	B	C	D	E	F	G	H	I	J	K	t1	t2	t3	t4	t5
TYPE M	118	169	238	40	45	54	33	100	27	58	32	18	18	15	15	10

Scale : 20/1

Version : 1

Unit : 1=1/100mm

# Hand fitting

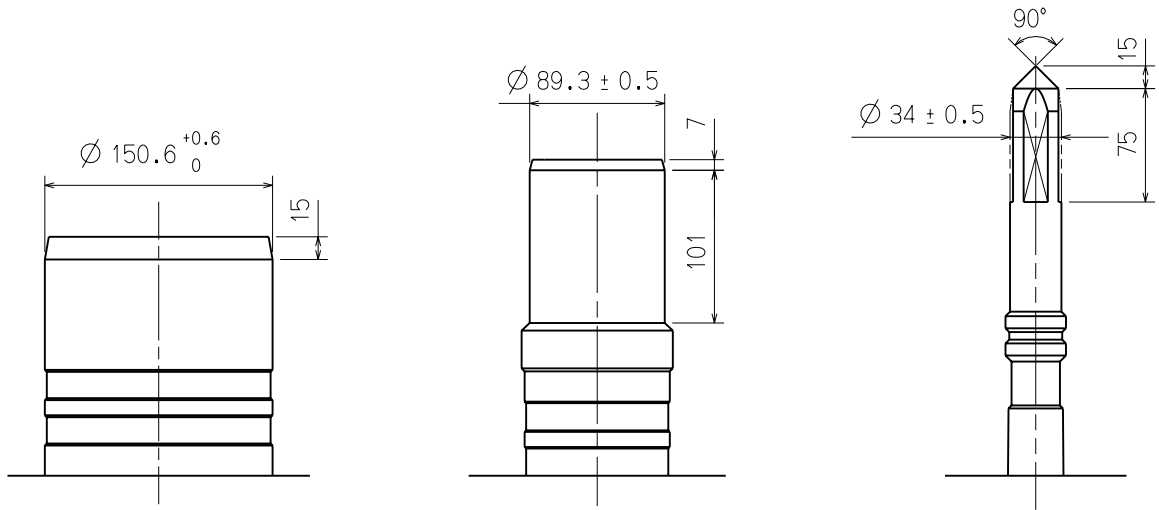
Ca l. NE88A

Hour hand unbalance	$\leq 1.50\mu\text{N}\cdot\text{m}(150\text{mg}\cdot\text{mm})$	12 hours counter hand unbalance	$\leq 0.05\mu\text{N}\cdot\text{m}(5\text{mg}\cdot\text{mm})$
Minute hand unbalance	$\leq 1.25\mu\text{N}\cdot\text{m}(125\text{mg}\cdot\text{mm})$	30 minutes counter hand unbalance	$\leq 0.05\mu\text{N}\cdot\text{m}(5\text{mg}\cdot\text{mm})$
60 seconds counter hand unbalance	$\leq 0.20\mu\text{N}\cdot\text{m}(20\text{mg}\cdot\text{mm})$	Second hand unbalance	$\leq 0.05\mu\text{N}\cdot\text{m}(5\text{mg}\cdot\text{mm})$

HOURLY HAND FITTING  
Hour wheel 時針輪 : 0273 277

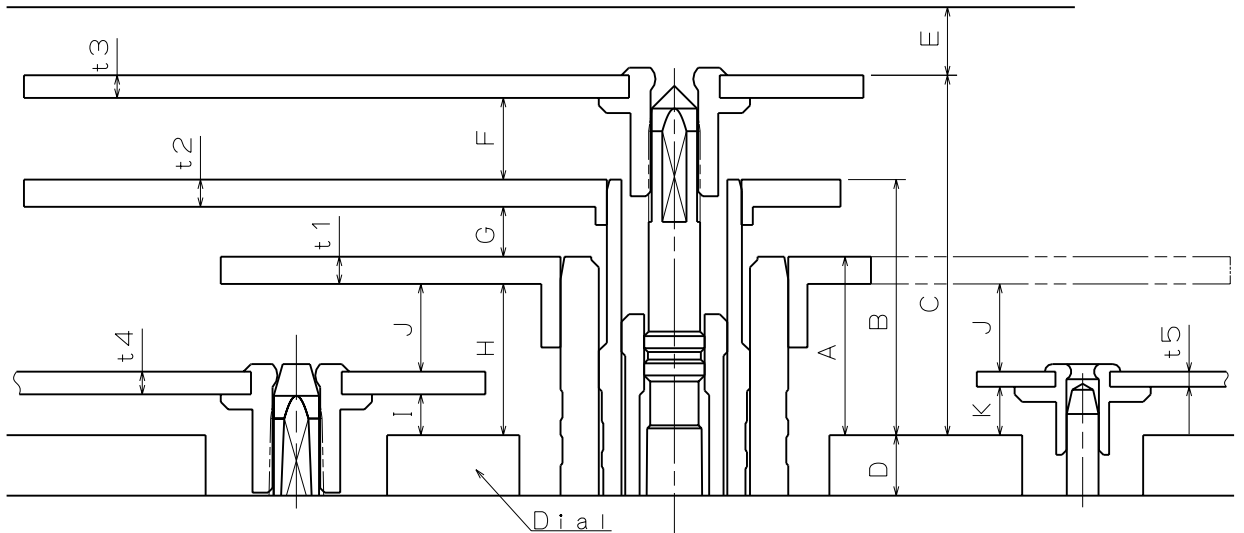
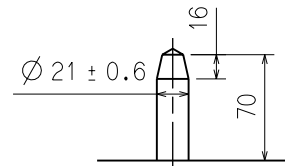
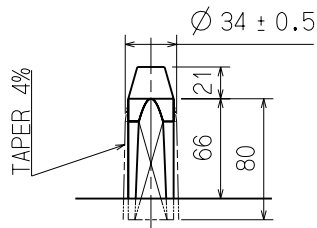
MINUTE HAND FITTING  
Center wheel 分針輪 : 0270 443

60 SECONDS COUNTER HAND FITTING  
Second counting wheel 計時秒針輪 : 0888 181



30 MINUTES COUNTER HAND FITTING  
12 HOURS COUNTER HAND FITTING  
Minute/Hour counting wheel 計時分/時針輪 : 0902 184

SECOND HAND FITTING  
Second wheel 秒針輪 : 0240 178



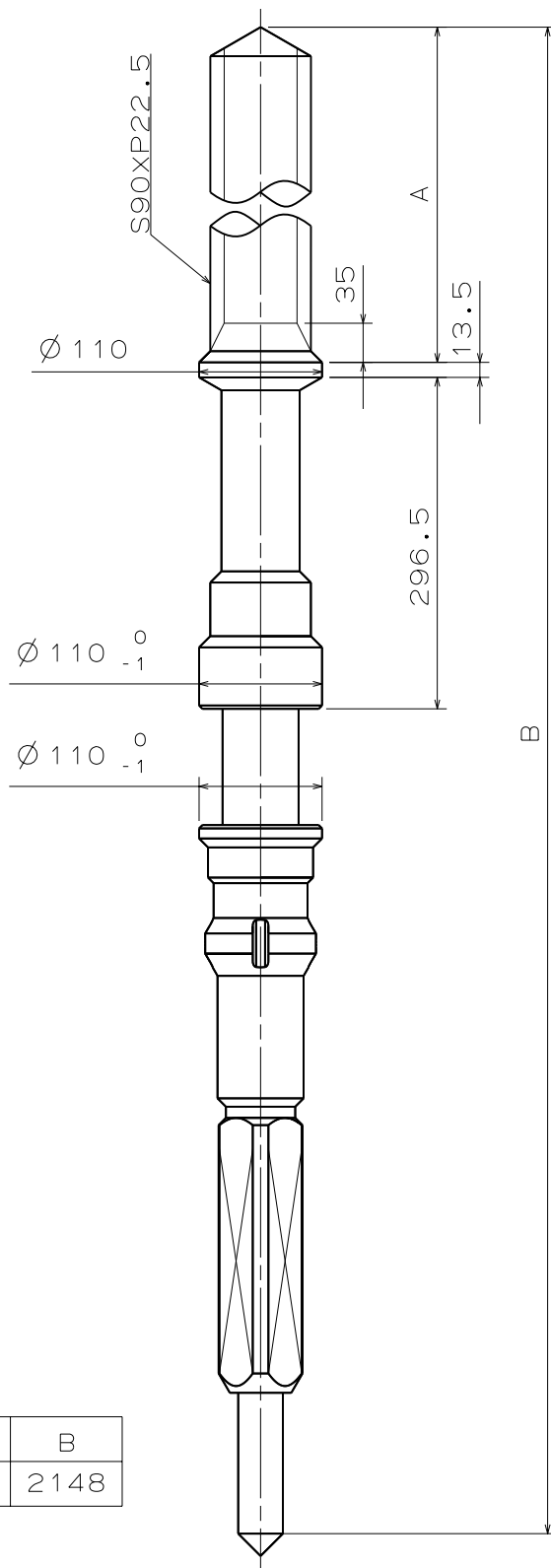
	A	B	C	D	E	F	G	H	I	J	K	t1	t2	t3	t4	t5
Type M 一般針高	118	169	238	40	45	54	33	100	27	58	32	18	18	15	15	10

Scale : 20/1

Version : 1

Unit : 1 = 1/100mm



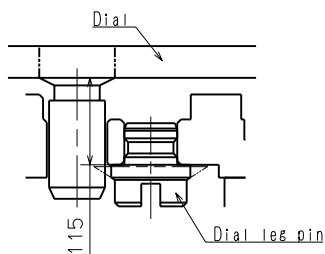
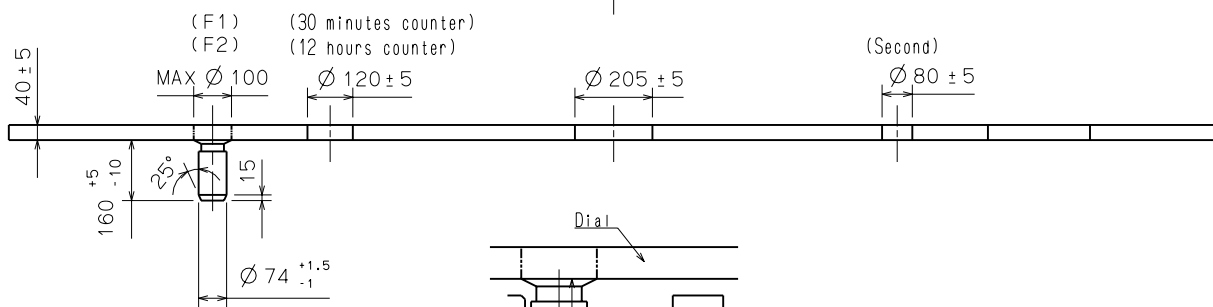
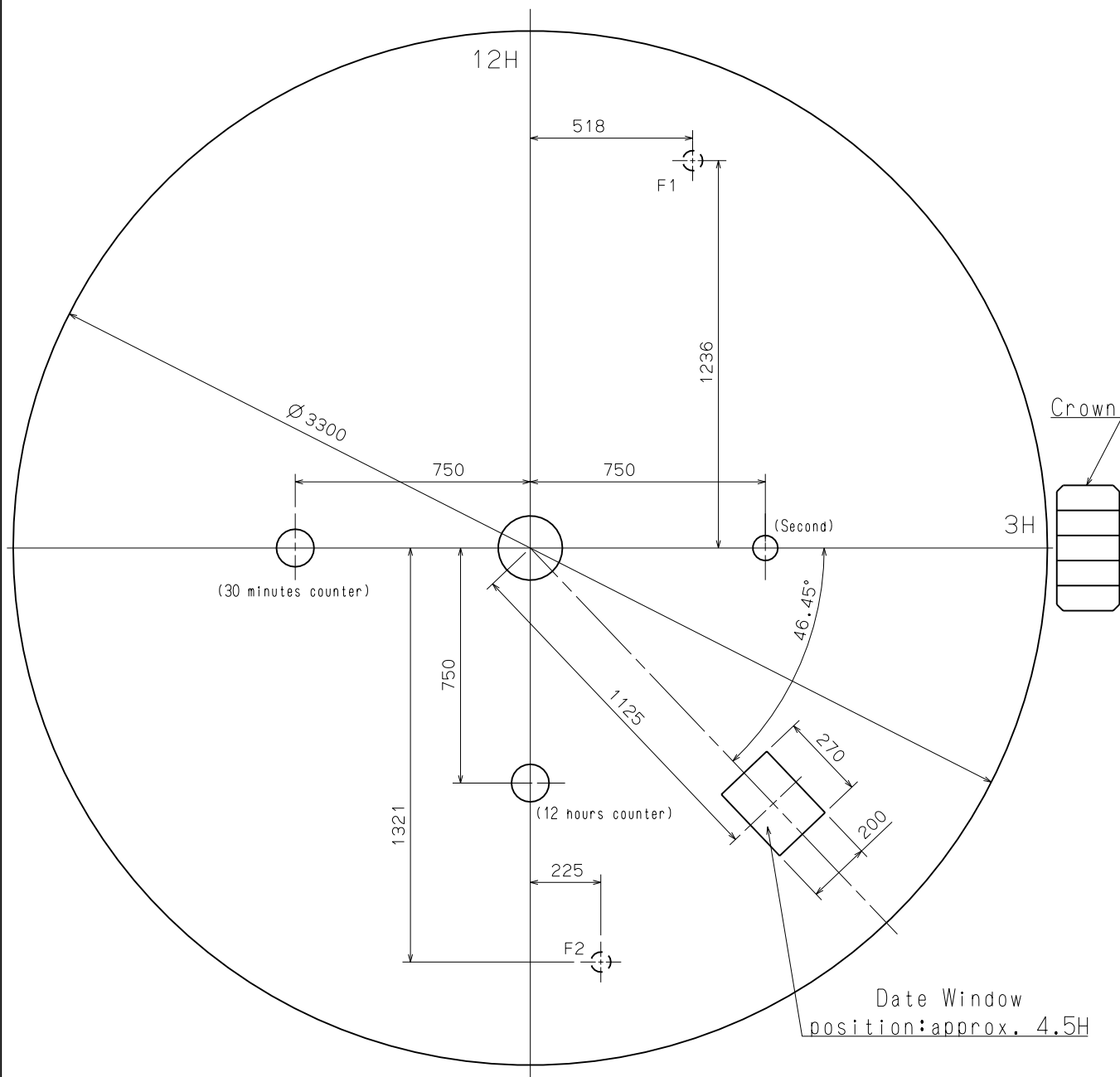


Parts No.	A	B
0351 200	1100	2148

Scale : 15/1

Unit : 1=1/100mm

Version : 1



Scale : 10/1

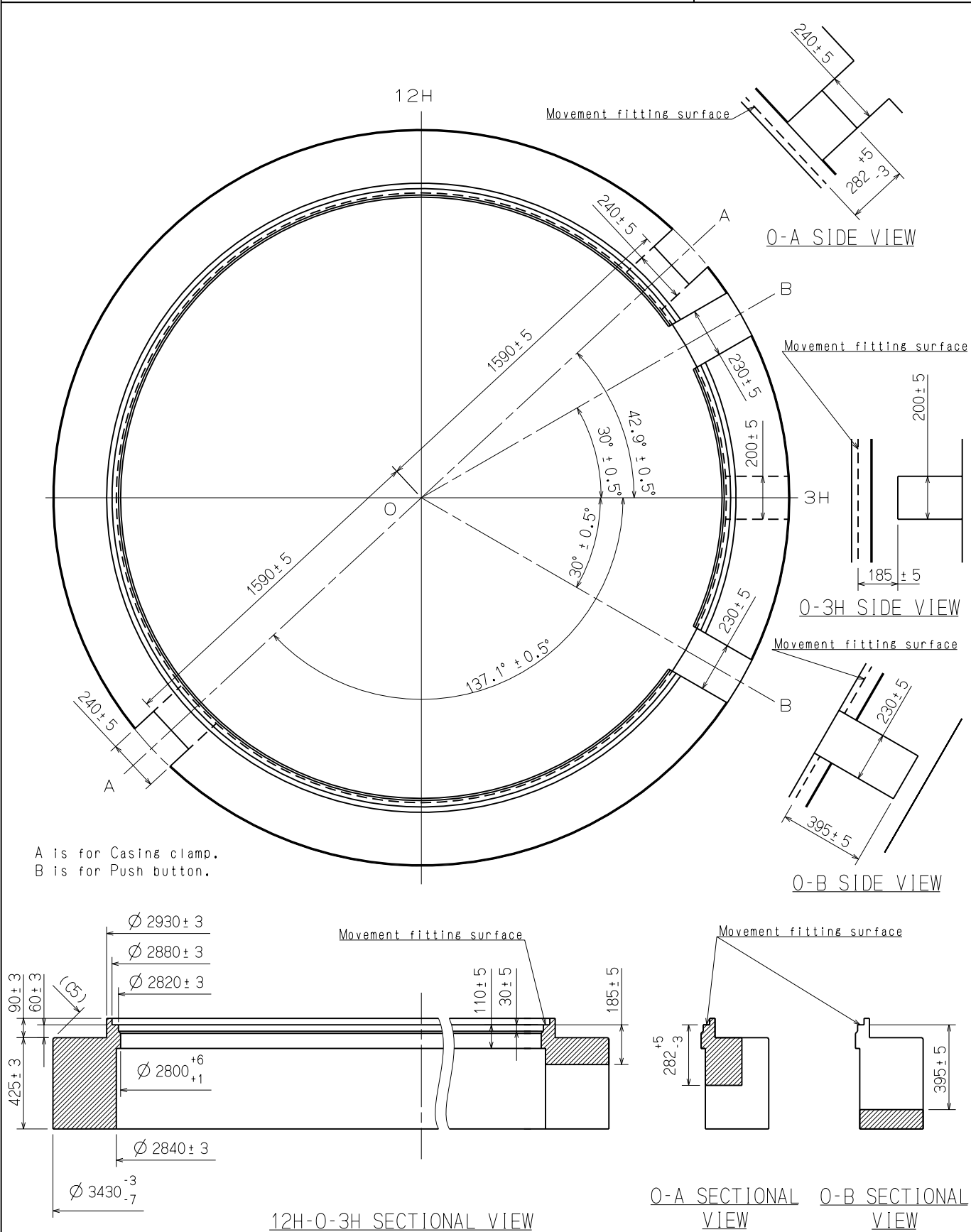
Scale : 5/1 (10/1)

Unit : 1 = 1/100mm

Version : 1

# Casing ring

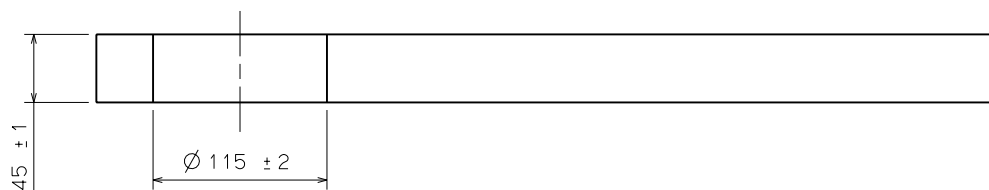
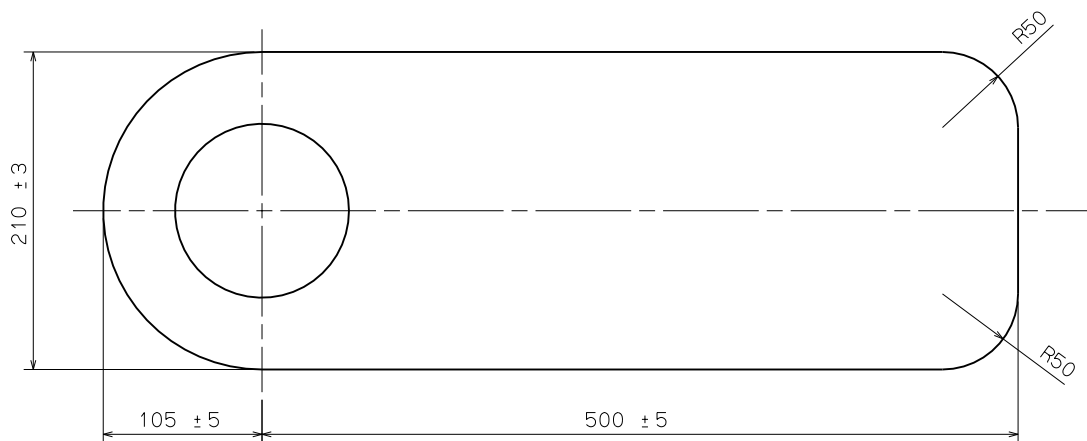
Cal. NE88A



MATERIAL: SUS304

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

Version: 1

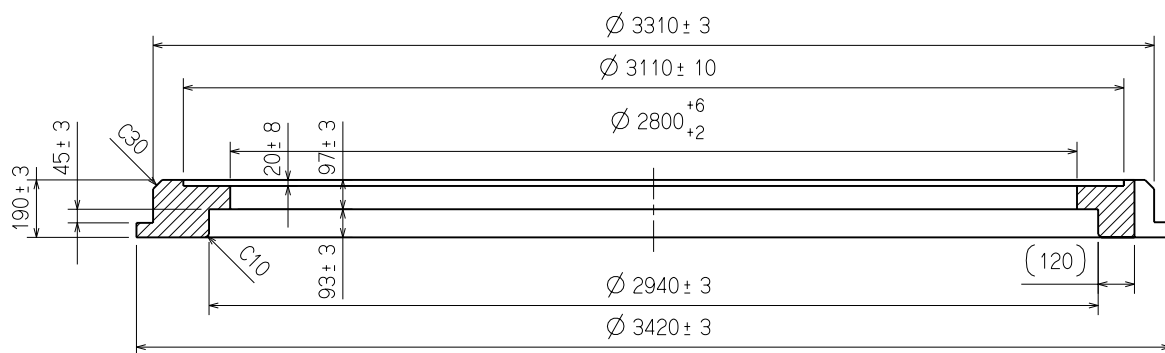
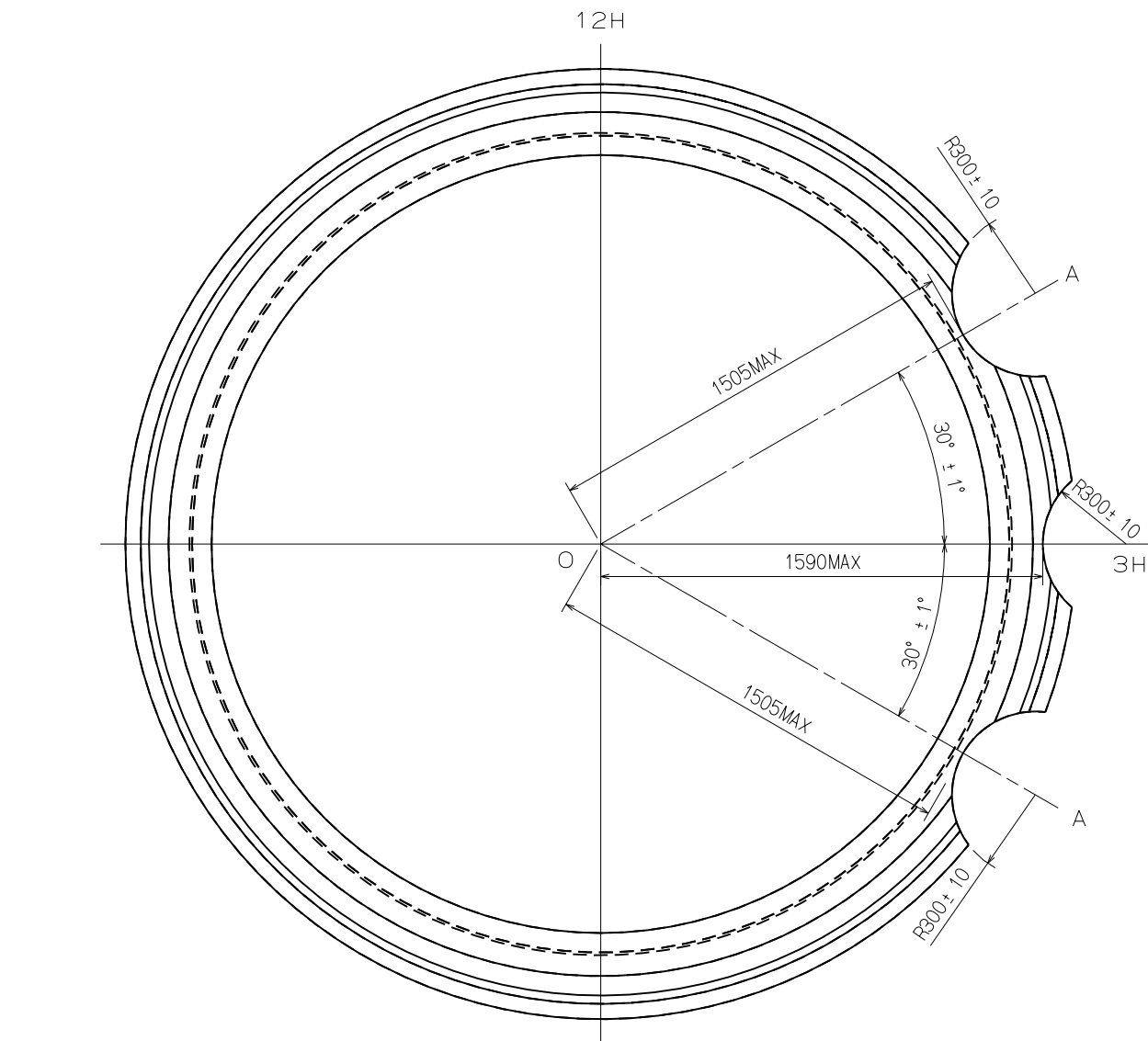


MATERIAL : SUS631-CSP3/4H  
HARDNESS : Hv500±30

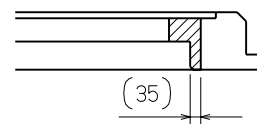
Scale : 20/1

Version : 1

Unit : 1=1/100mm



12H-O-3H SECTIONAL VIEW



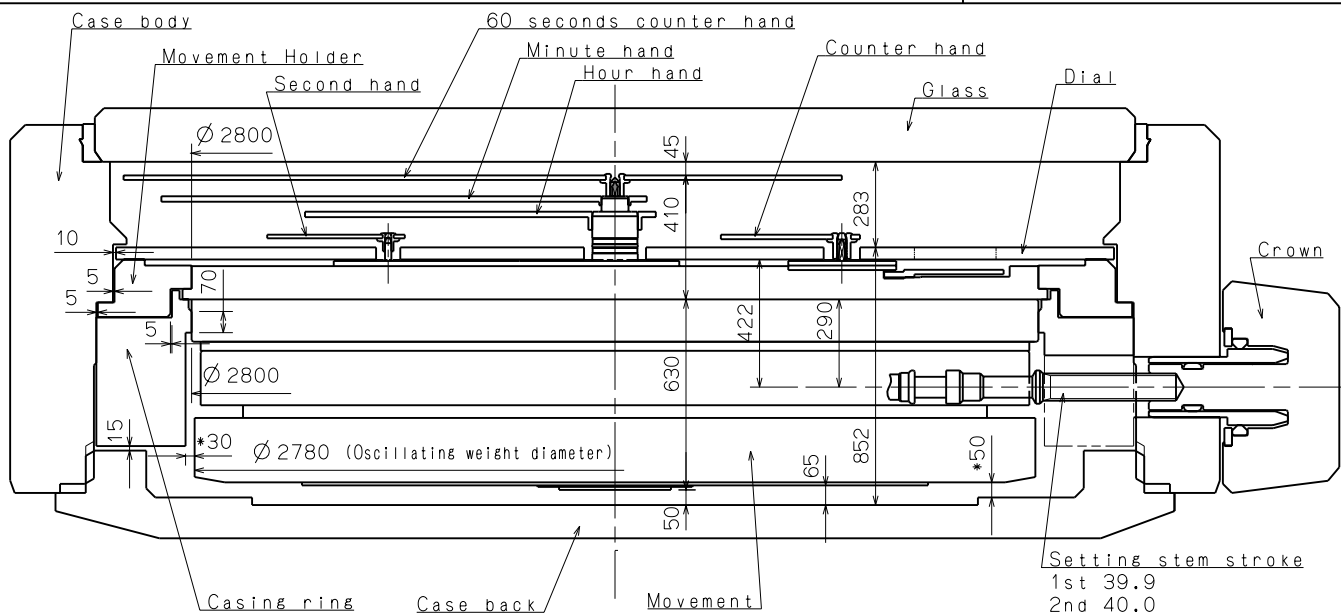
O-A SECTIONAL VIEW

MATERIAL: SUS304

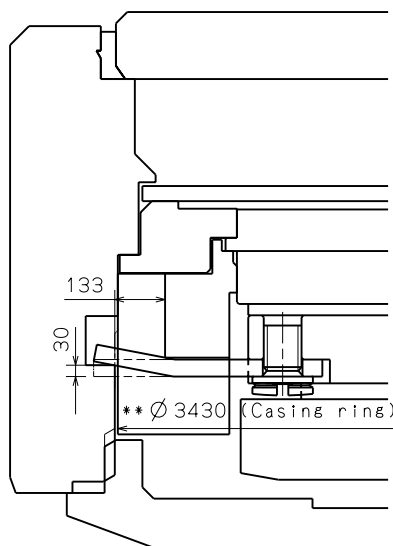
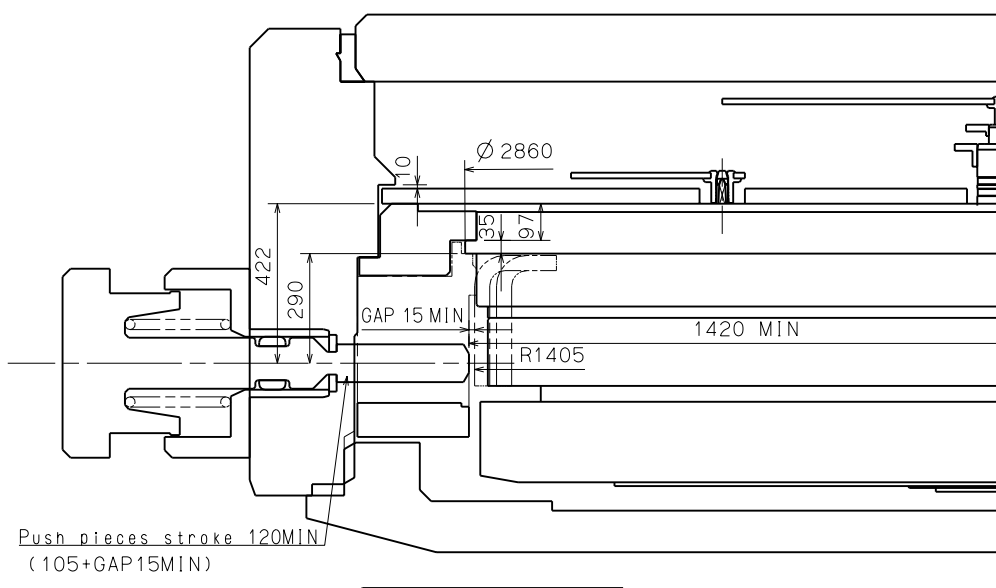
Scale : 4/1

Version : 1

Unit : 1 = 1/100mm



(Note for clearance \*30 and \*50)  
It is STRONGLY RECOMMENDED that these clearance should be applied without modification.



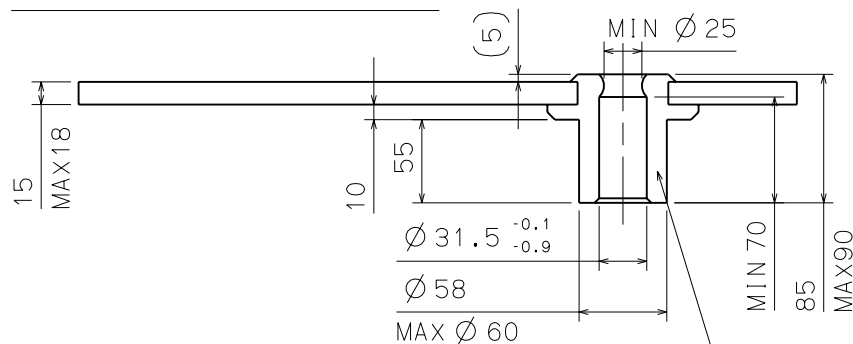
(Note for maximum diameter of casing ring \*\*)  
To ensure the best condition of casing clamp, it is encouraged that the diameter of casing ring does not exceed the indicated dimension.

Scale : -

Version : 1

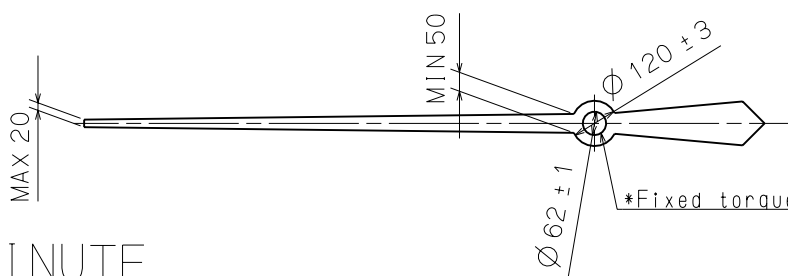
Unit : 1=1/100mm

## SECOND COUNTER

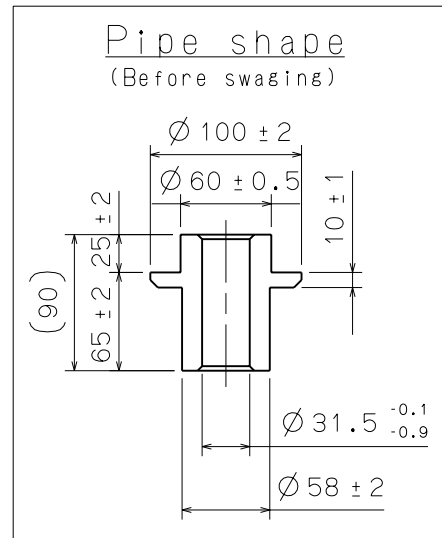


Refer to "Pipe shape" for more details

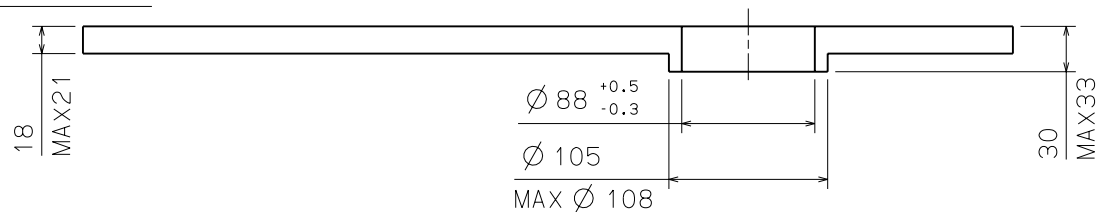
Recommended shape (SCALE: 5/1)



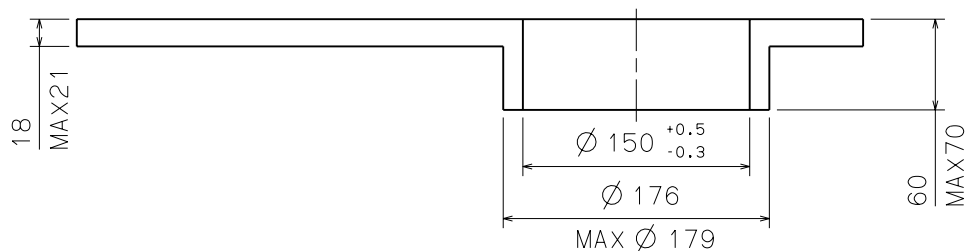
\*Fixed torque of Blade and Pipe: 6N·mm (60g·cm) MIN



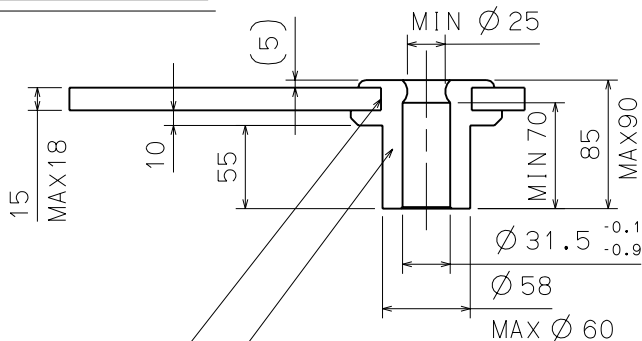
## MINUTE



## HOUR



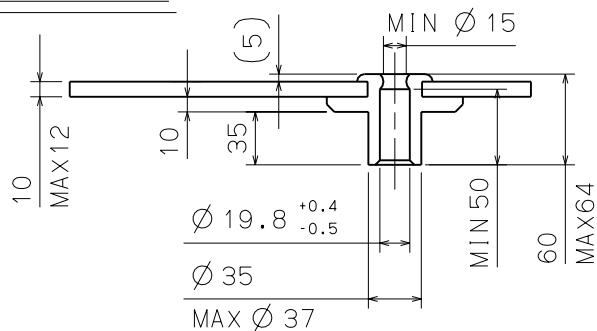
## COUNTER



Refer to "Pipe shape" for more details

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

## SECOND



Scale : 20/1

Unit : 1 = 1/100mm

Version : 1