

Watch Movement Specification and Drawing

STANDARD

Cal. AL21E

Movement Size

6 3/4 × 8'''

Casing Diameter

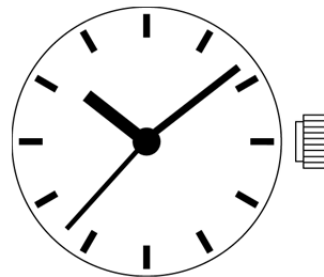
15.3 × 17.8 mm

Height

2.99mm

Battery Life

2 years



Date: 7/Apr./'17

Cal. AL21E

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| Casing | 06 | 3 |
| Hand fitting | 09 | 4 |
| Hand setting stem | 07 | 5 |
| Dial | 03 | 6 |
| Casing ring | 02 | 7 |

Analog Quartz 6 3/4 × 8''' Standard Series Movement / Three Hands (H/M/S)

1. MOVEMENT DIMENSIONS

| | |
|------------------|--------------------------------|
| Outside diameter | 15.30mm(3-9H) × 18.20mm(12-6H) |
| Casing diameter | 15.30mm(3-9H) × 17.80mm(12-6H) |
| Total height | 2.99mm |

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°C to +50°C |
| Regulation device | Nil (Pre-adjusted) |

3. INDICATOR / FUNCTIONS

| | |
|-------------------|--|
| 3 Hands | Hour / Minute / Second |
| Reset switch | |
| Setting mechanism | Crown at normal position : Free Crown pulled out 1st click : Time setting / Reset |

4. FEATURES

| | |
|----------------------------|--|
| Jewels | 0 Jewels |
| Anti-magnetism | Over 1600A/m (Direct current magnetic field) |
| Maximum unbalance of hands | Second hand : 0.06 μ N·m |
| | Minute hand : 0.6 μ N·m |
| | Hour hand : 0.5 μ N·m |

5. BATTERY

| | |
|-----------------------------|--|
| Type / Size | Silver oxide battery / φ 6.8mm × t 2.6mm |
| Recommended battery | SR626SW (Maxell, Sony, Seizaiken) |
| Nominal voltage | 1.55 V |
| Battery life | Approx. 2 years |
| Driving current consumption | Approx. 1.5 μ A |
| Operation stopping voltage | 1.1 V |

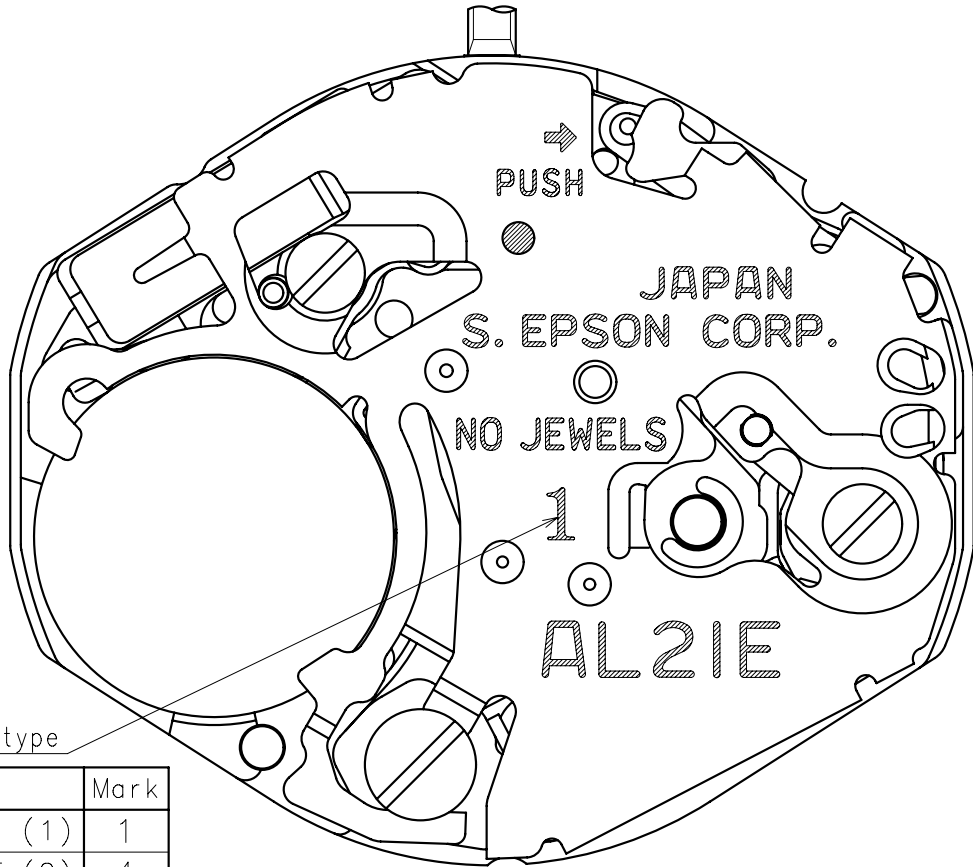
6. SEPARATED PARTS (Parts code)

| | |
|-------------------|--------------------------|
| Hand setting stem | 0354788 : AL21E1, AL21E2 |
| | 0354787 : AL21E4 |
| Battery | SR626SW |

7. TEST OF ACCURACY

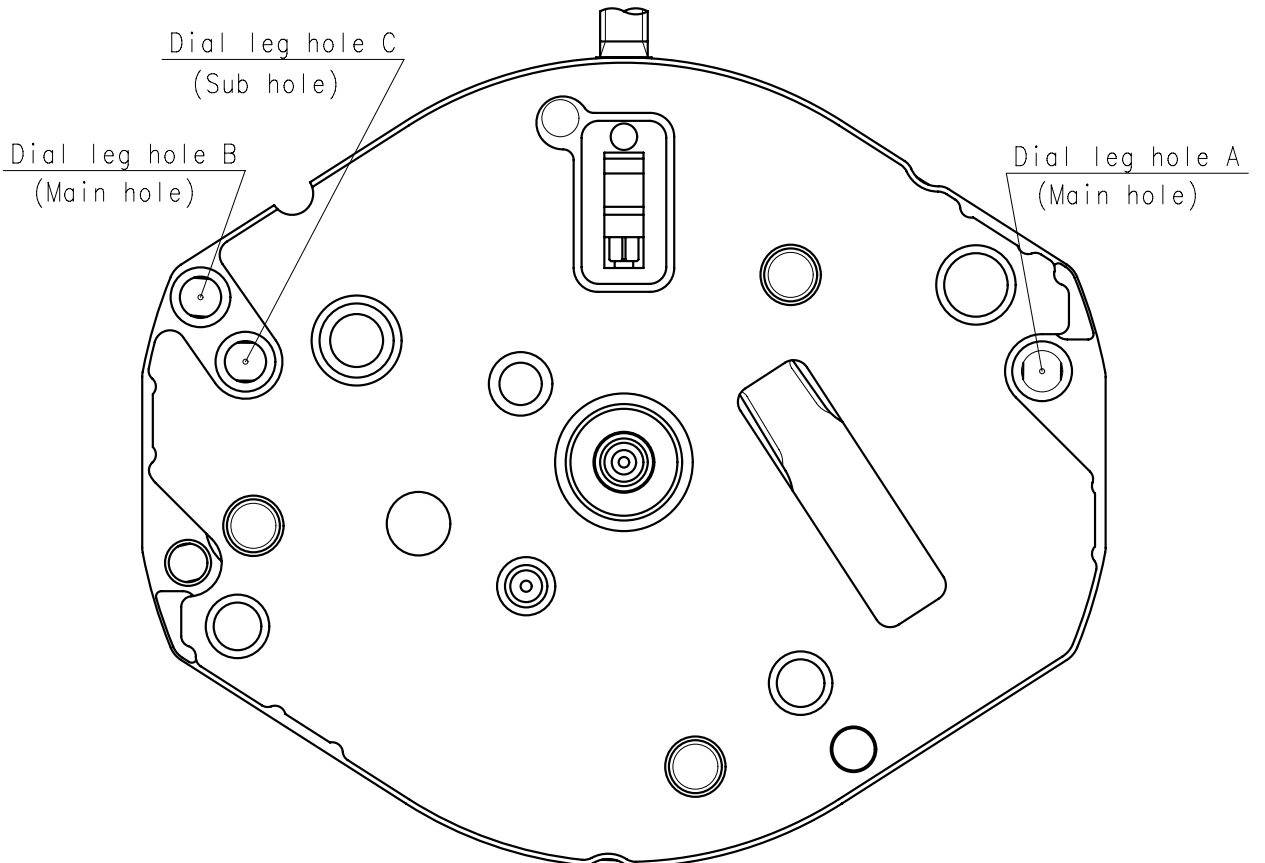
| | |
|-------------------------|--|
| Equipment to be used | SEIKO quartz tester QT-99, Greiner quartz timer-C , Witschi Q-tester 4000 |
| Duration of measurement | 10 seconds |
| Microphone to be used | Electromagnetic detection type |

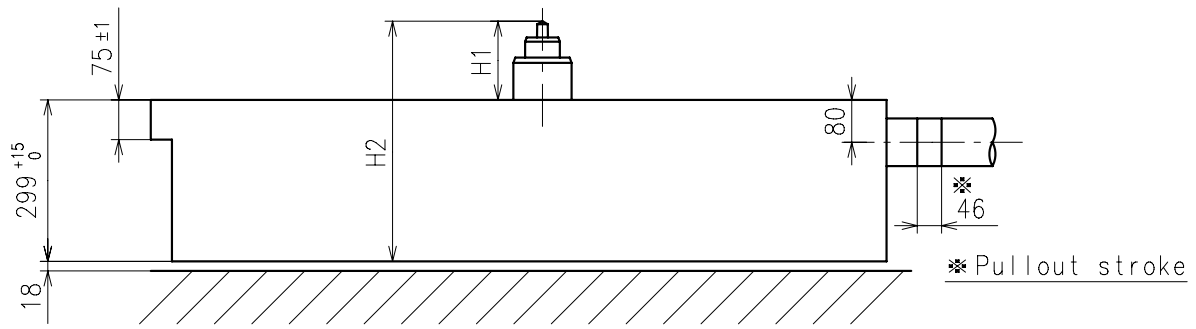
All specifications are subject to change without notice.



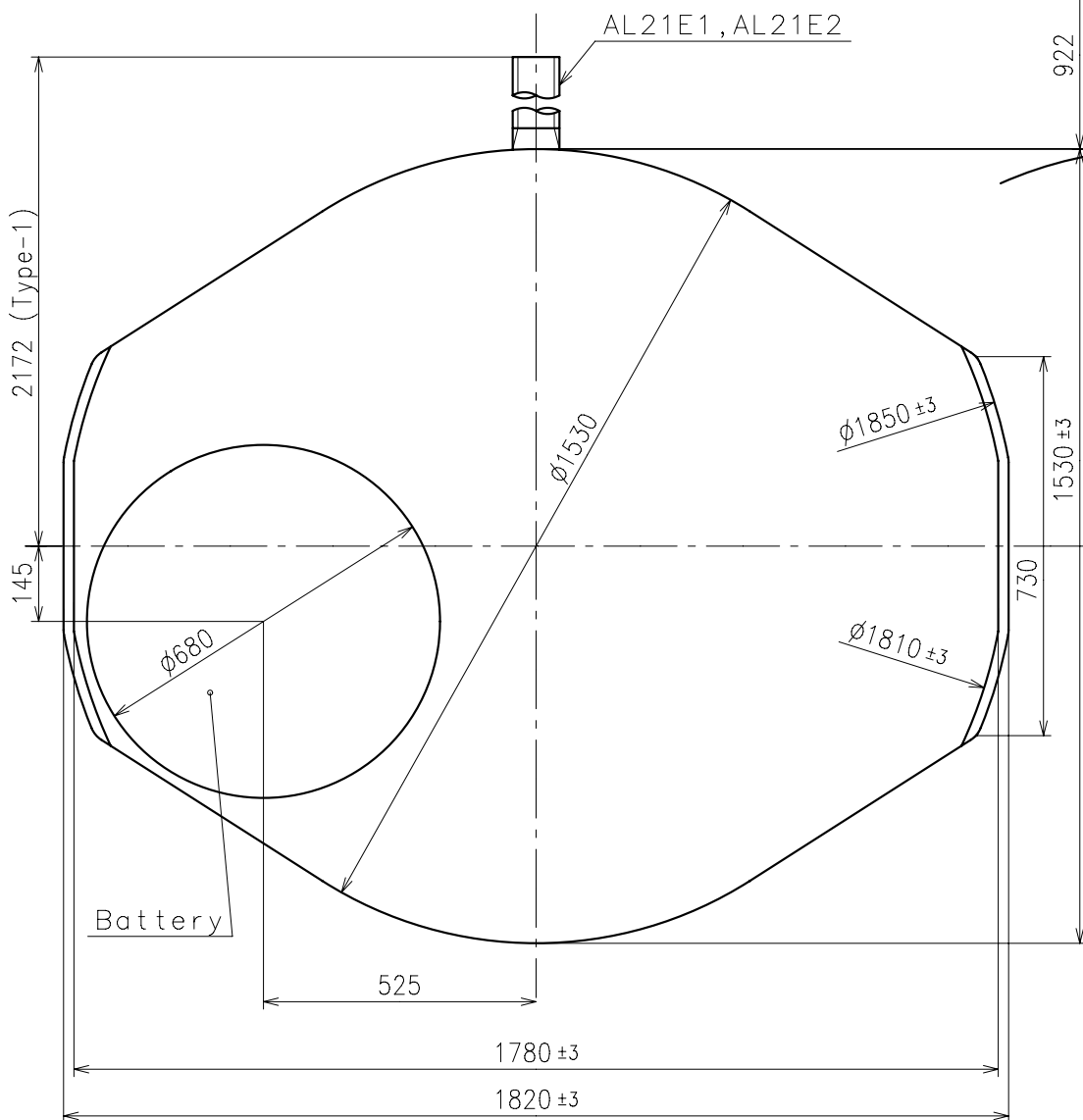
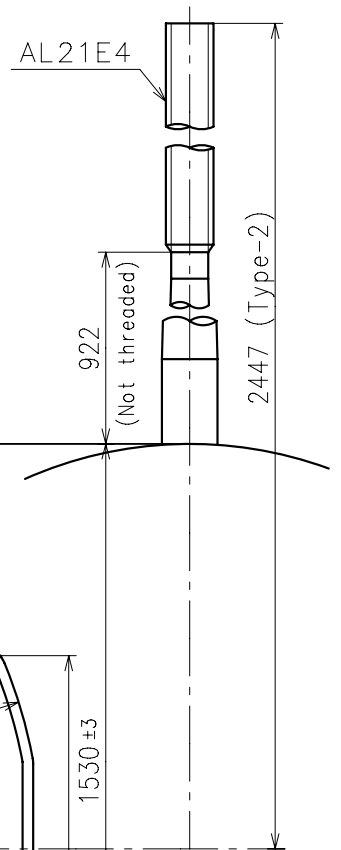
Hands type

| | Mark |
|--------------|------|
| Type S (1) | 1 |
| Type LII (2) | 4 |
| Type LIV | 7 |

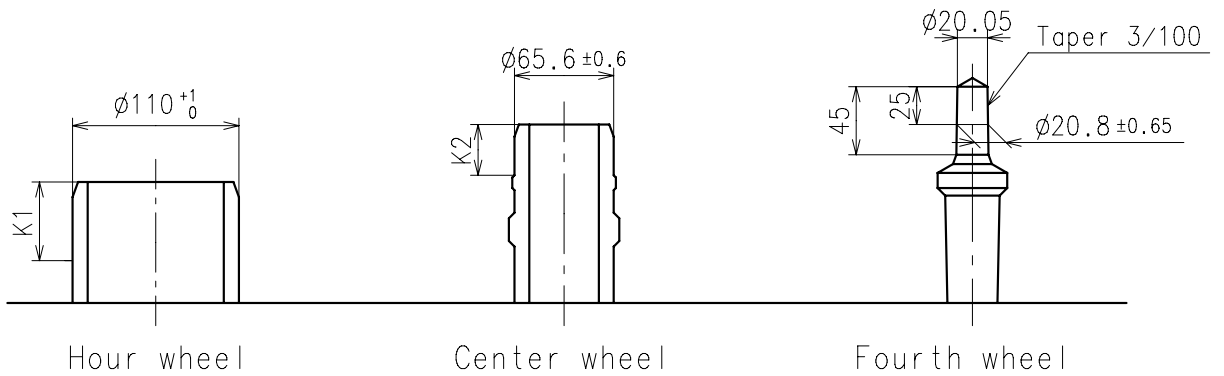




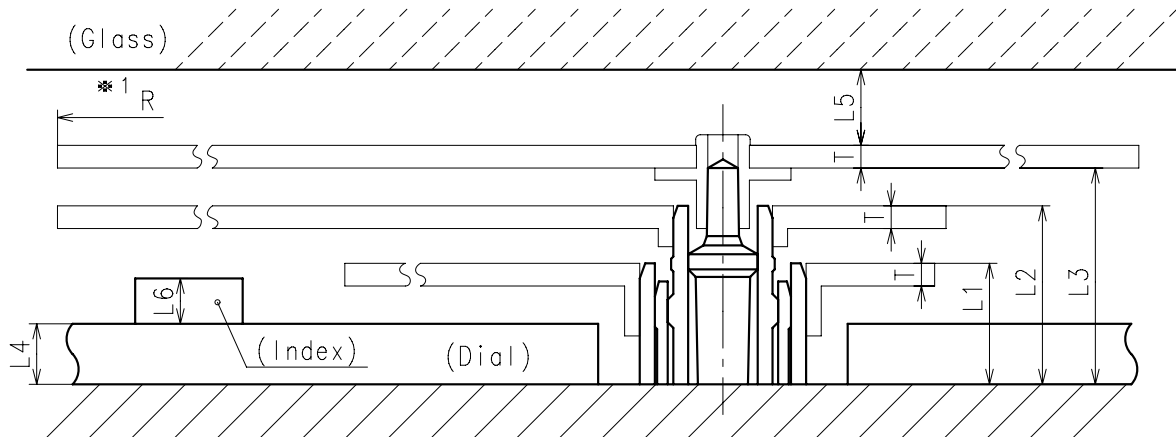
| Center post | | Type S AL21E1 | Type LII AL21E2 | Type LIV AL21E4 |
|----------------------------------|----|------------------|--------------------|--------------------|
| Maximum height from dial support | H1 | 143 | 251 | 371 |
| Total height including movement | H2 | 448 | 556 | 676 |



- * Second hand unbalance $\leq 0.06\mu N \cdot m$ ($6\mu g \cdot m$)
- * Minute hand unbalance $\leq 0.6\mu N \cdot m$ ($60\mu g \cdot m$)
- * Hour hand unbalance $\leq 0.5\mu N \cdot m$ ($50\mu g \cdot m$)

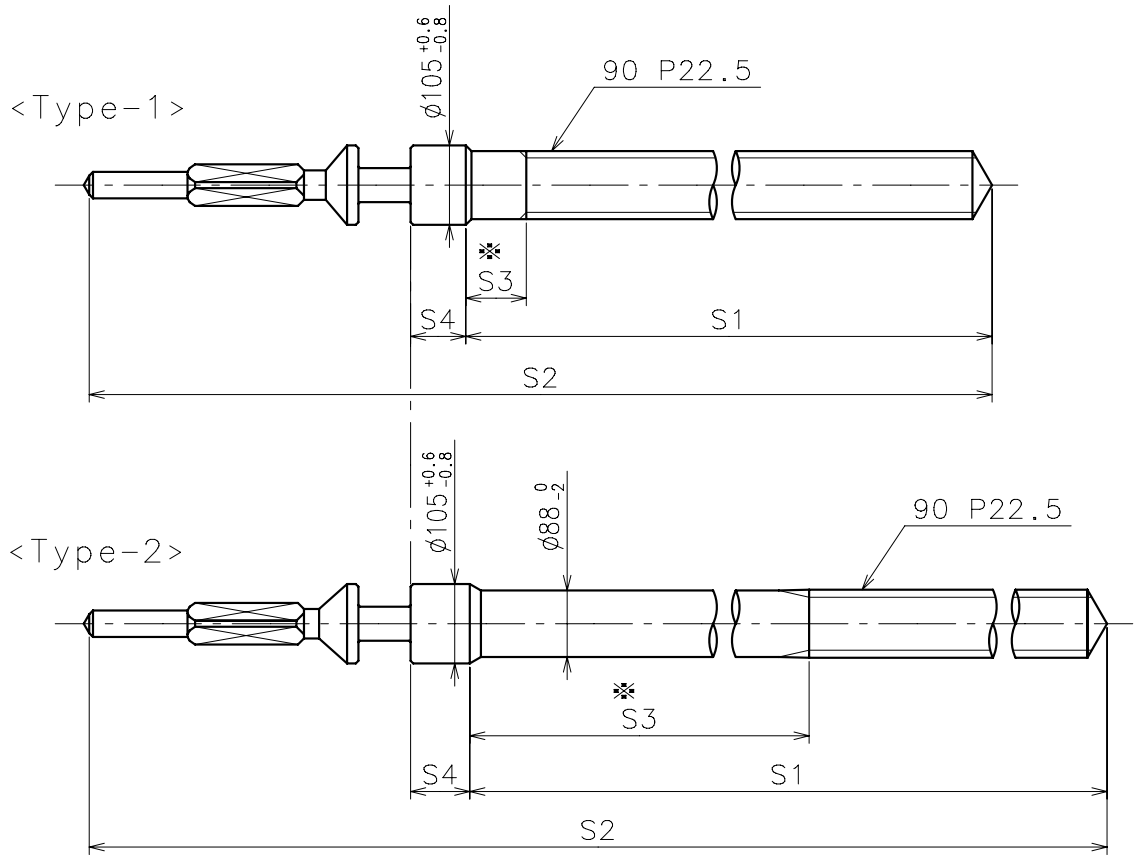


| | Parts No. | | | Dimension | |
|--------------------|------------|--------------|--------------|-----------|------|
| | Hour wheel | Center wheel | Fourth wheel | K1 | K2 |
| Type S AL21E1 | 0271796 | 0221797 | 0241798 | 52 | 33.5 |
| Type LII AL21E2 | 0271797 | 0221779 | 0241777 | 60 | 33.5 |
| Type LIV AL21E4 | 0271756 | 0221765 | 0241756 | 60 | 33.5 |



| | L1 | L2 | L3 | L4 | L5 | L6 | T | *1 R |
|--------------------|-----|-----|-----|-------------|------------|------------|----|--------------|
| Type S AL21E1 | 80 | 118 | 143 | 40 | MIN: 50 | MAX: 30 | 15 | MAX: 1250 |
| Type LII AL21E2 | 185 | 226 | 251 | MAX: 150 | MIN: 50 | MAX: 30 | 15 | MAX: 1250 |
| Type LIV AL21E4 | 297 | 343 | 371 | MAX: 250 | MIN: 50 | MAX: 45 | 15 | MAX: 1250 |

*1: It is the size taken into consideration for hands attachment.
Please observe some standard value specified in unbalance when using long hands.

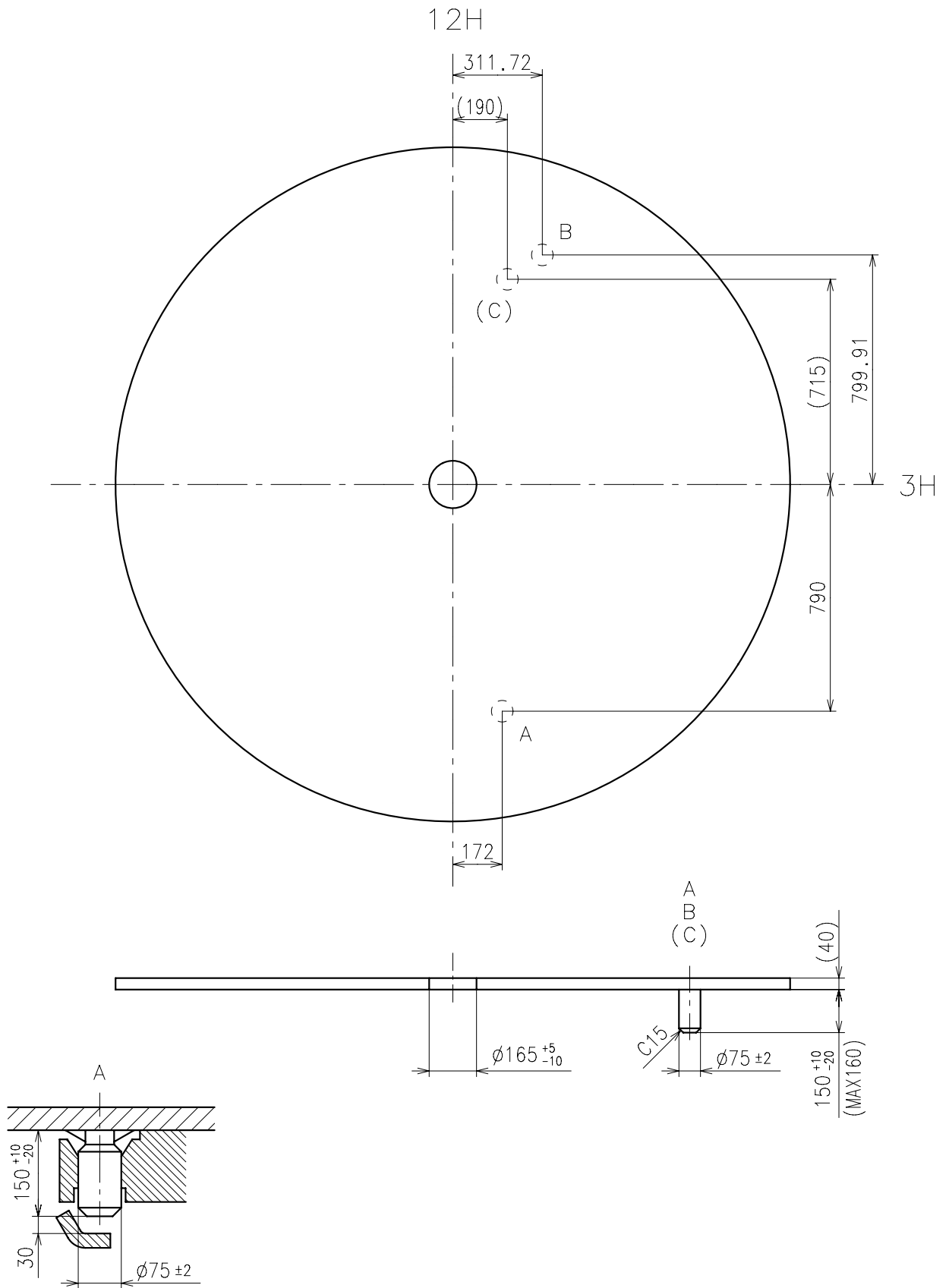


* Not threaded

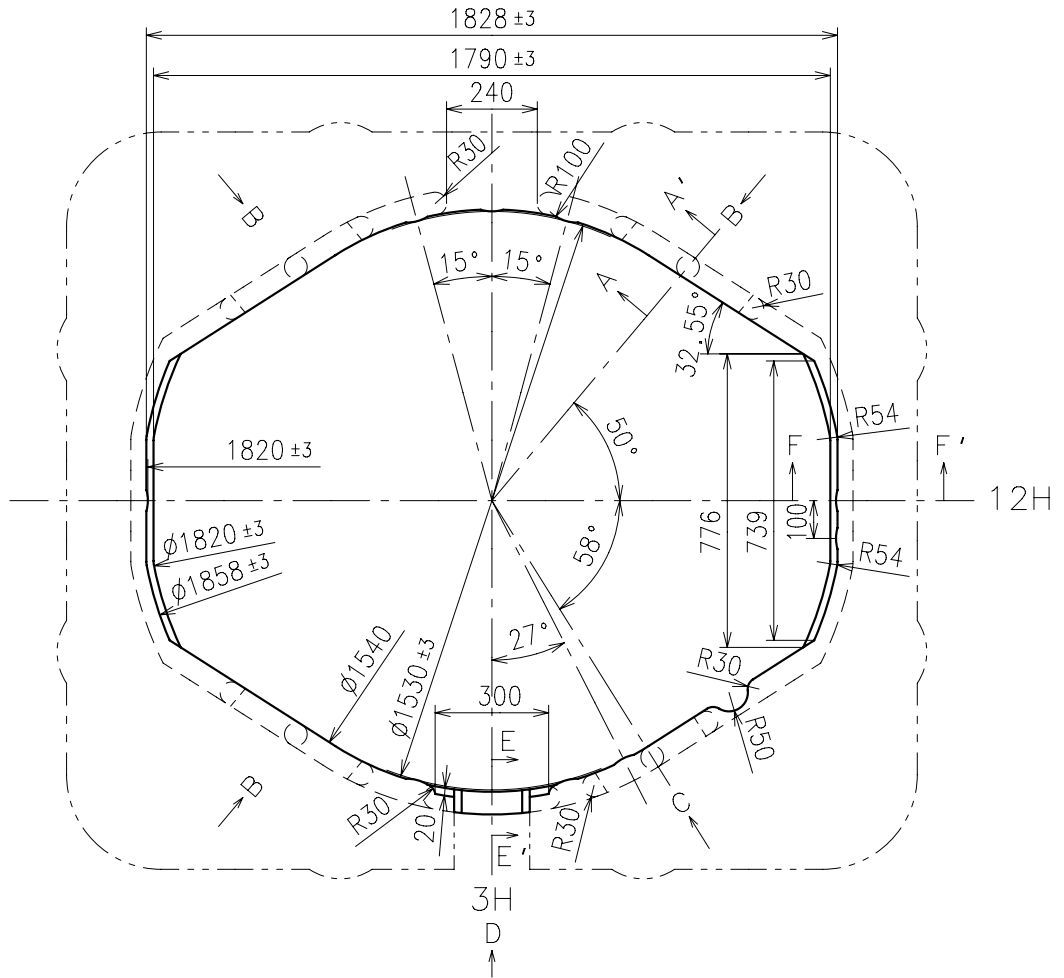
| | Part No. | S1 | S2 | * S3 | S4 |
|----------------------|----------|------|------|------|----|
| Type-1 (Standard) | 0354788 | 1473 | 1971 | 80 | 73 |
| Type-2 | 0354787 | 1743 | 2246 | 887 | 78 |

Material : Steel

Hardness : Vickers 530±50



Use dial leg A-B(Main) or A-C(Sub)

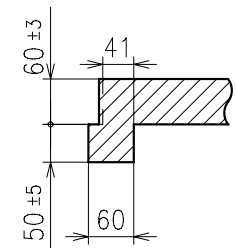
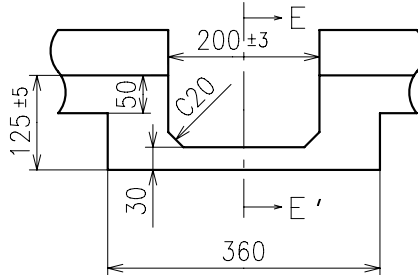
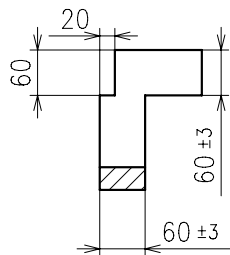
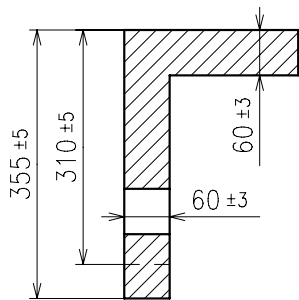


A-A' section

E-E' section

D view

F-F' section



B view

C view

