



# Cal. AL21E

**15.3 × 17.8 mm**  
**H 2.99 mm**

Items	Rev.	Page
Specifications	02	1
Appearance	09	2
Casing	05	3
Hand fitting	07	4
Hand setting stem	05	5
Dial	02	6
Casing ring	01	7

Date: 13/Apr./'12

**S.EPSON Products**

**CAL. AL21E**

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 Jewel
Anti-magnetism	Over 1600A/m (Direct current magnetic field)
Stepping motor	Type : Two poles stepping motor Step : 180° every second
Maximum unbalance of hands	Second hand : 0.06 μ N·m (6mg·mm) Minute hand : 0.6 μ N·m (60mg·mm) Hour hand : 0.5 μ N·m (50mg·mm)

**5. BATTERY**

Type / Size	Silver oxide battery / φ 6.8mm × t 2.6mm
Recommended battery	SR626SW ( Maxell, Panasonic, 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

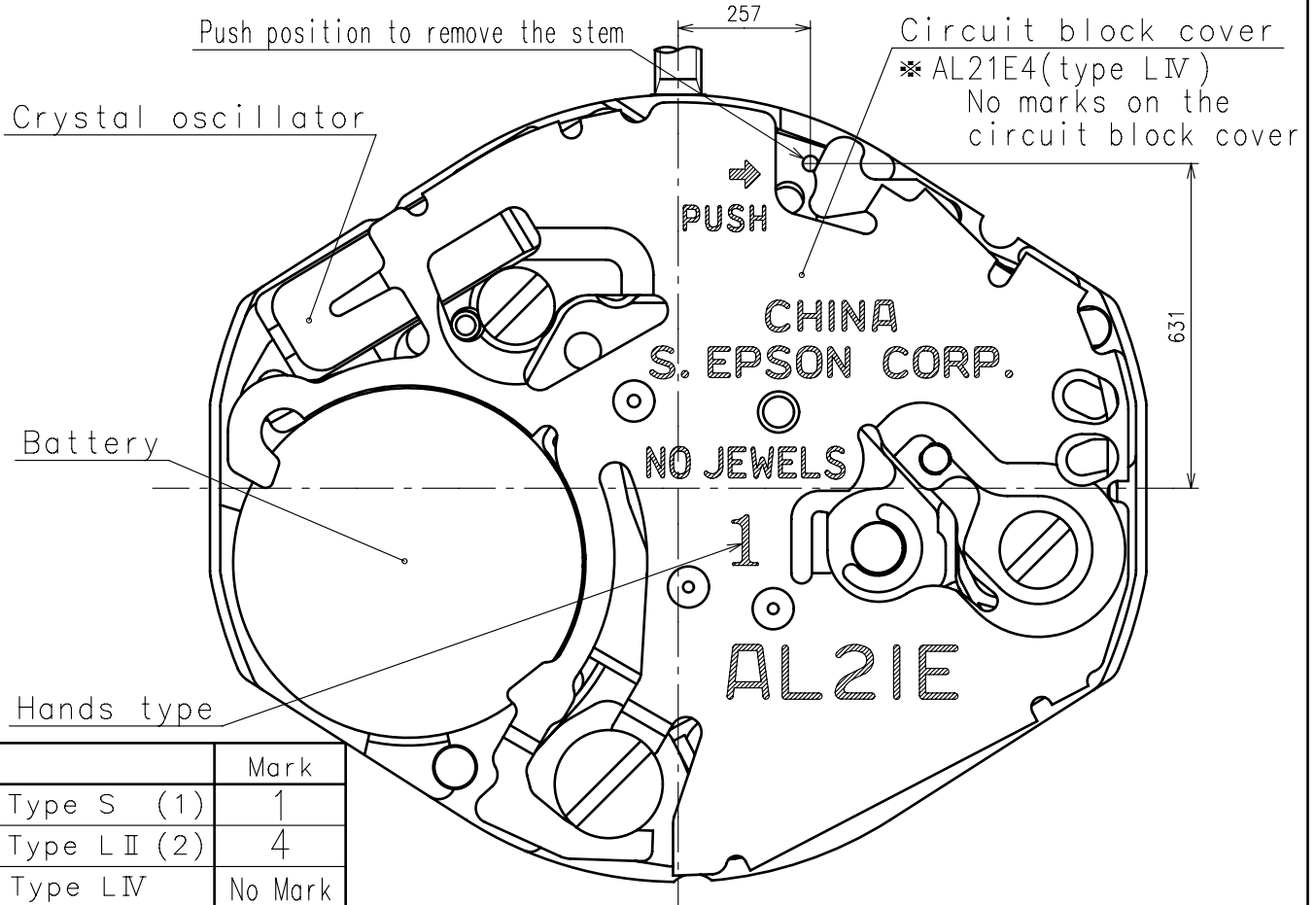
**6. SEPARATED PARTS (Parts code)**

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

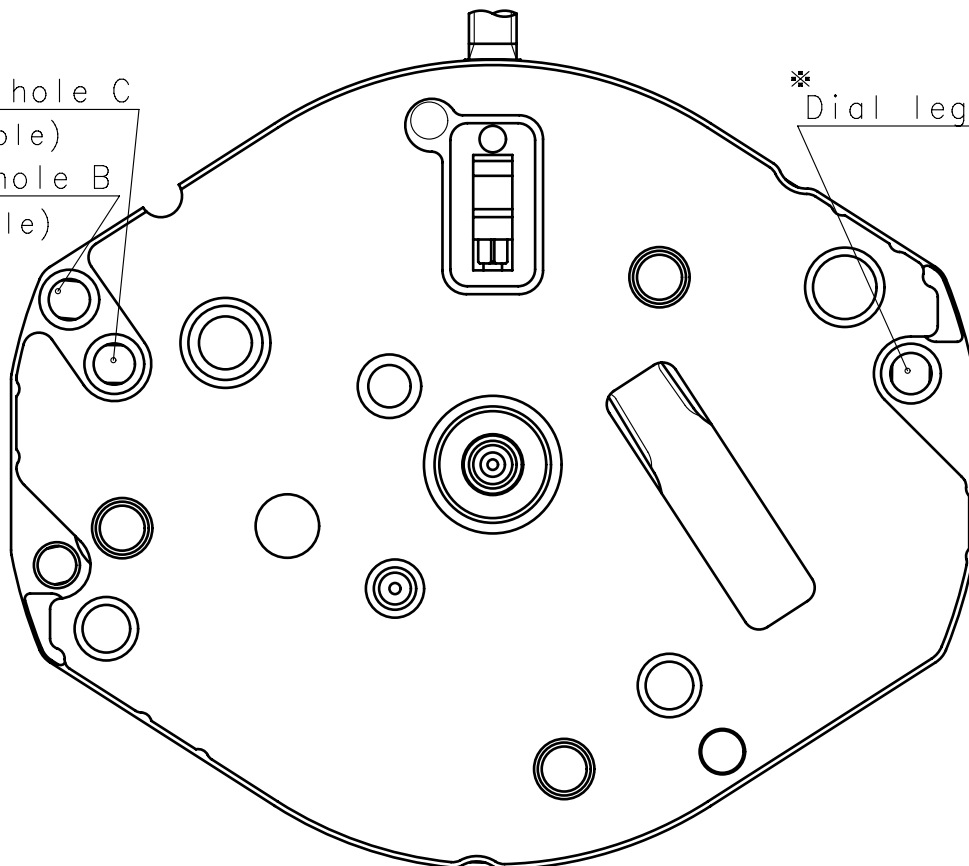
All specifications are subject to change without notice.



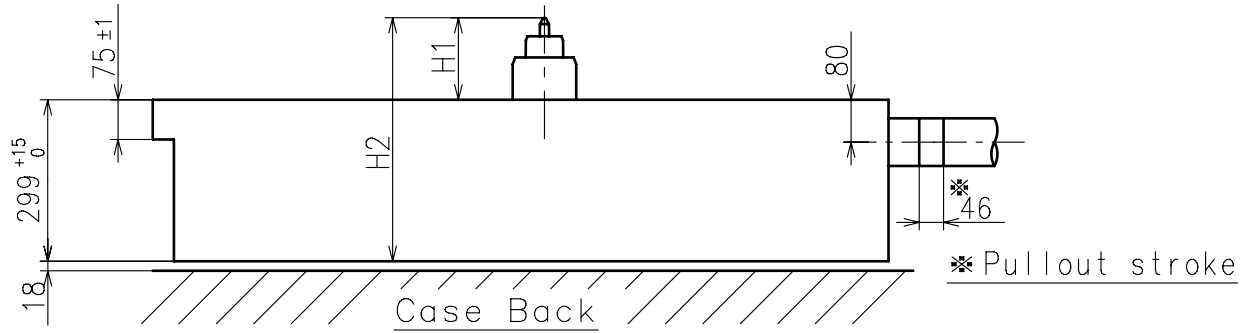
	Mark
Type S (1)	1
Type LII (2)	4
Type LIV	No Mark

\* Dial leg hole C  
(Sub hole)  
Dial leg hole B  
(Main hole)

\* Dial leg hole A

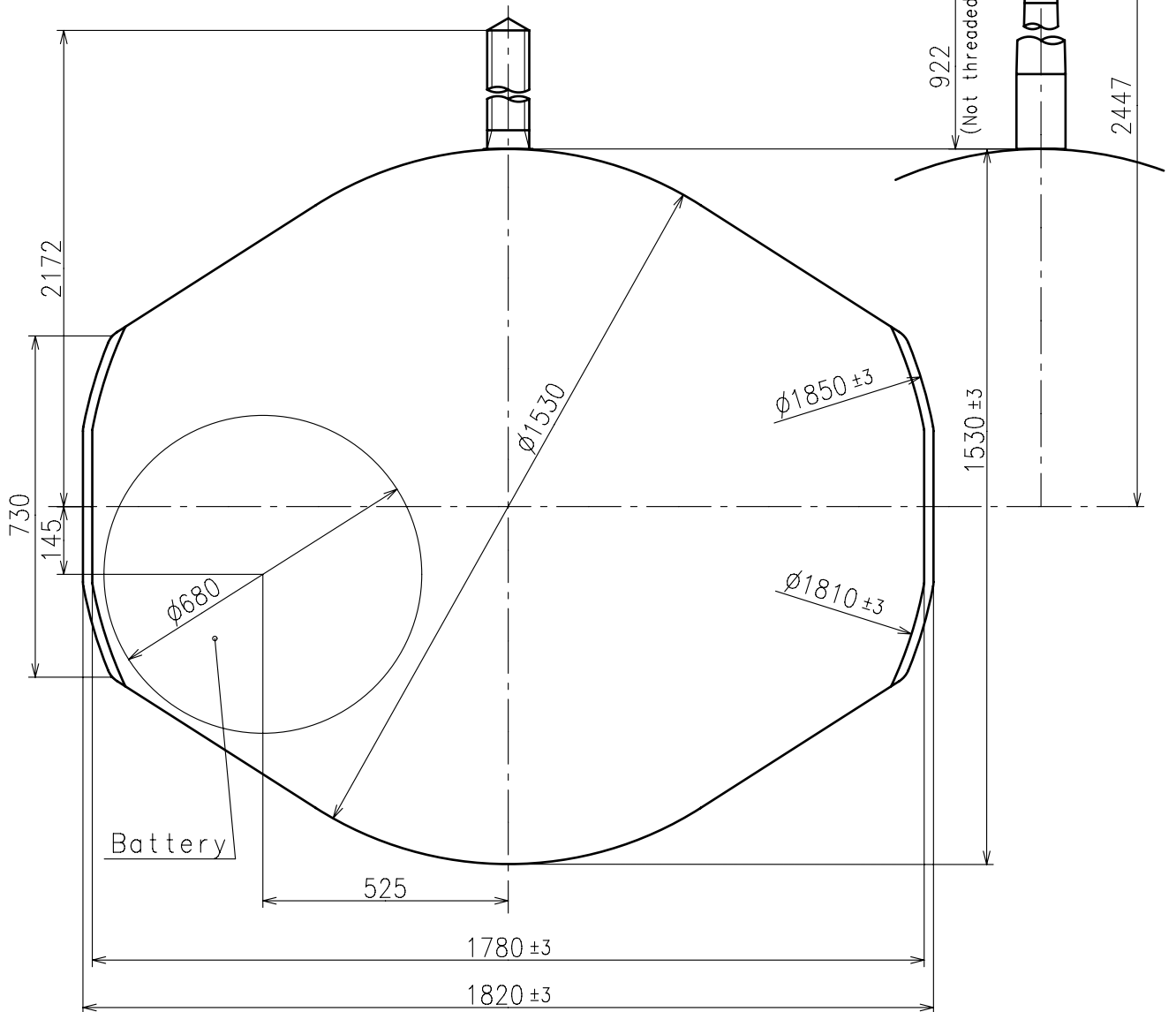
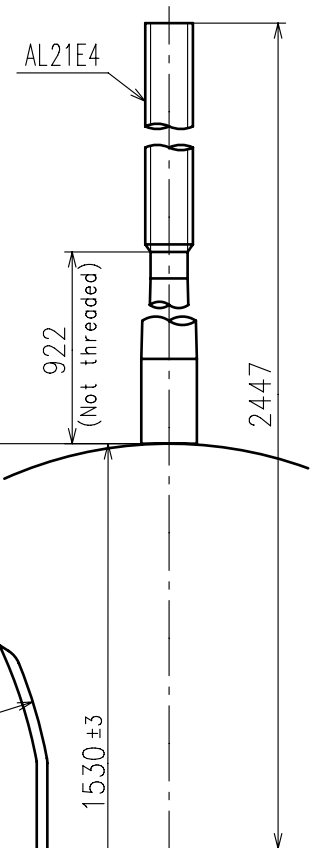


\* :Combination of dial leg hole A-B,(A-C)

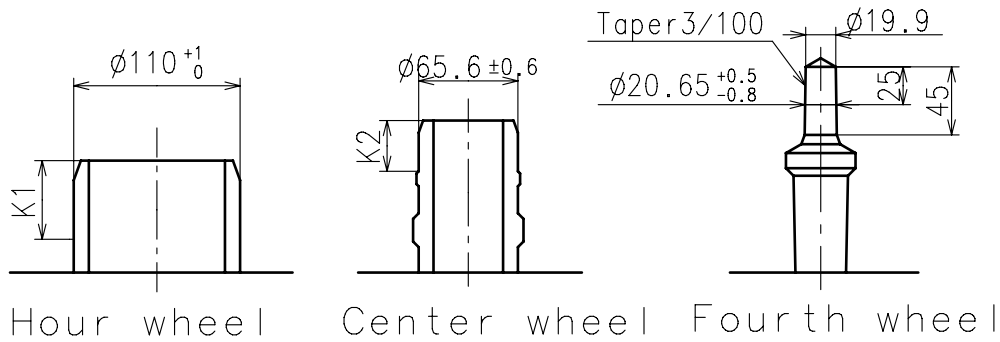


$\ast$  Pullout stroke

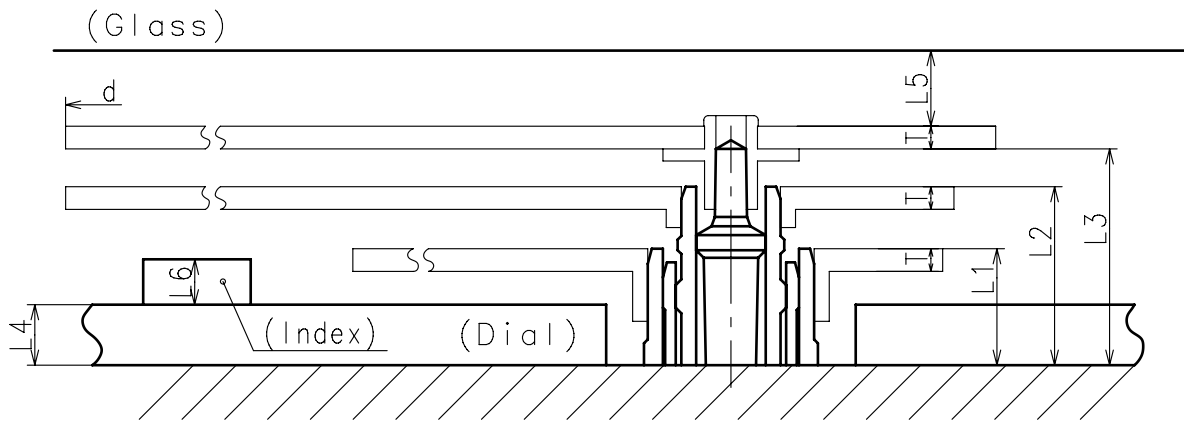
Center post		Type S AL21E1	Type LII AL21E2	Type LIV AL21E4
Maximum height from dial support	H1	143	251	371
Total height incl. movement	H2	448	556	676



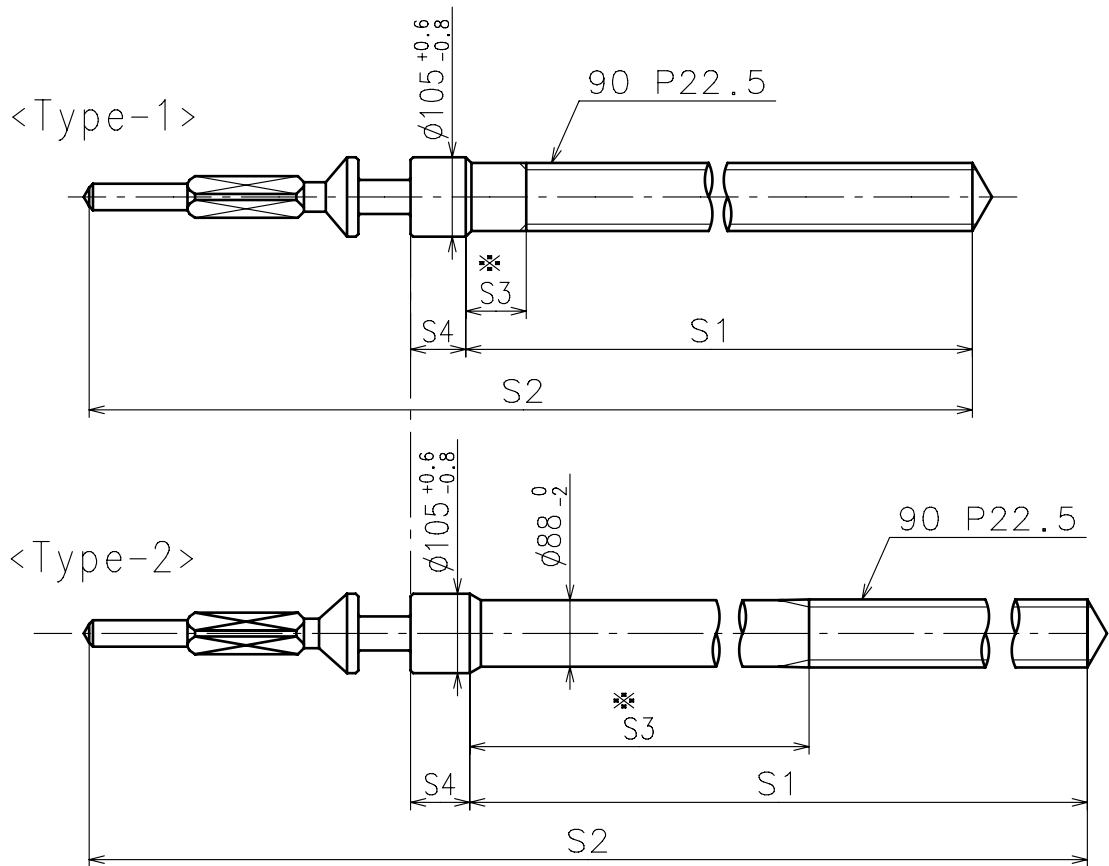
- \* Second hand unbalance  $\leq 0.06\mu N \cdot m$  (  $6\mu g \cdot m$  )
- \* Minute hand unbalance  $\leq 0.6\mu N \cdot m$  (  $60\mu g \cdot m$  )
- \* Hour hand unbalance  $\leq 0.5\mu N \cdot m$  (  $50\mu g \cdot m$  )



	Parts No.			Dimension	
	Hour wheel	Center wheel	Fourth wheel	K1	K2
Type S AL21E1	0271796	0221797	0241798	52	33.5
Type L II AL21E2	0271797	0221779	0241777	60	33.5
Type L IV AL21E4	0271756	0221765	0241756	60	33.5



	L1	L2	L3	L4	L5	L6	T	d
Type S AL21E1	80	118	143	40	MIN: 50	MAX: 30	15	MAX: $\phi 2500$
Type L II AL21E2	185	226	251	MAX: 150	MIN: 50	MAX: 30	15	MAX: $\phi 2500$
Type L IV AL21E4	297	343	371	MAX: 250	MIN: 50	MAX: 45	15	MAX: $\phi 2500$

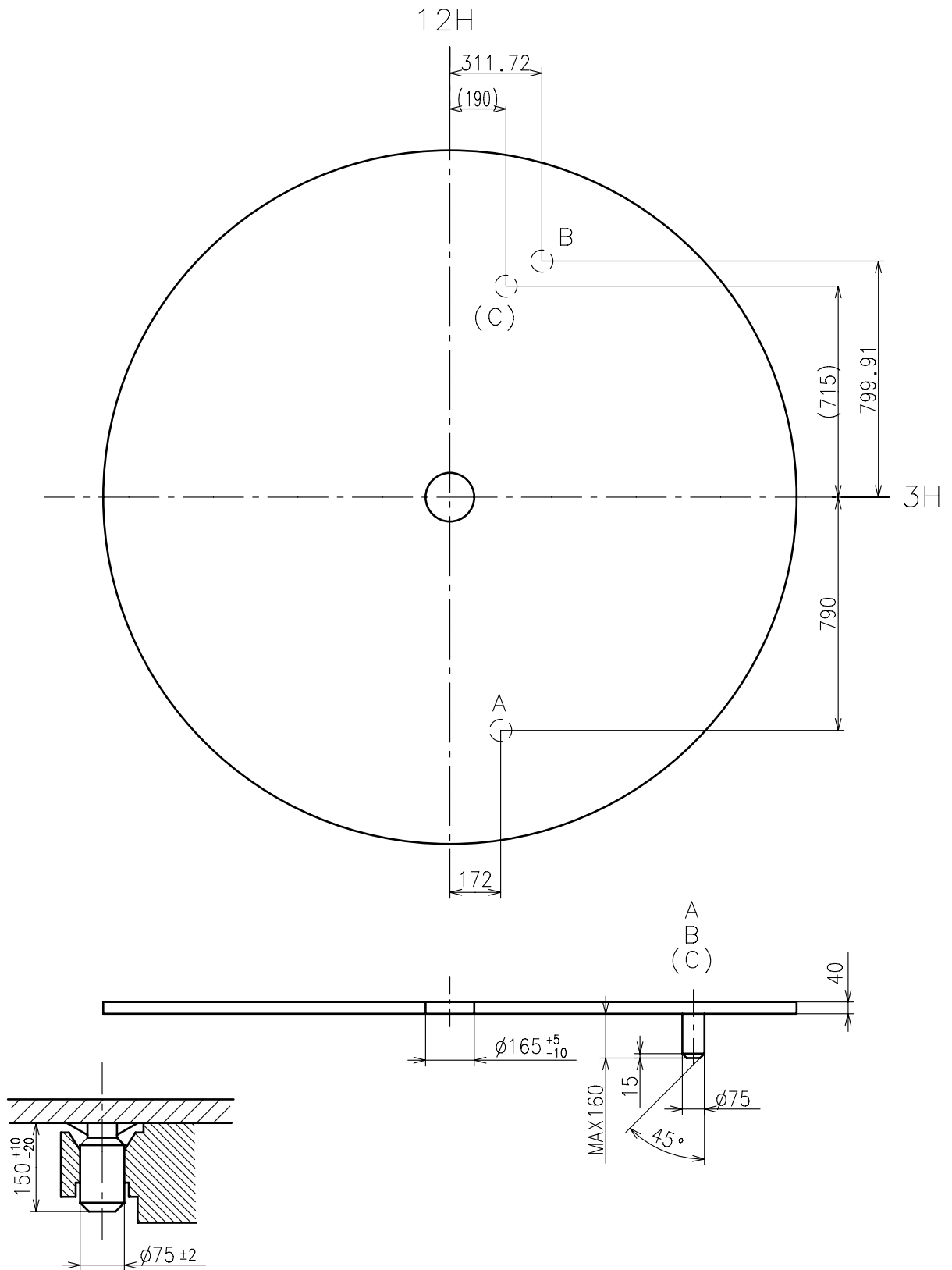


\* Not threaded

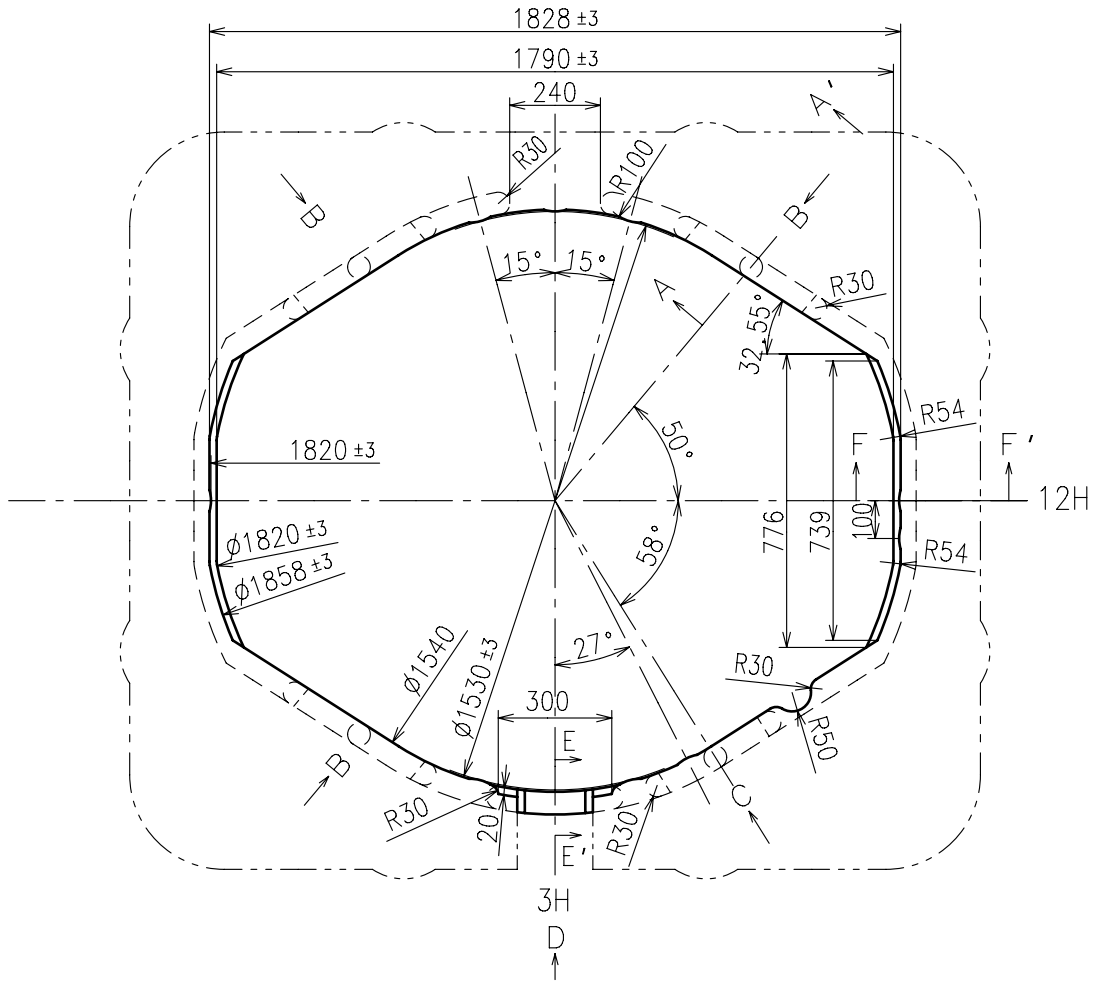
	Part No.	S1	S2	* S3	S4
Type-1 (Standard)	0354788	1427	1925	80	73
Type-2	0354787	1697	2200	887	78

Material : Steel

Hardness : Vickers 530±50



Use dial leg hole as like below A-B(Main hole) , A-C(Sub hole)

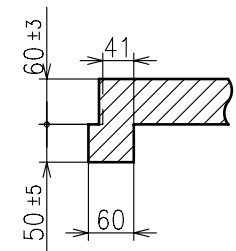
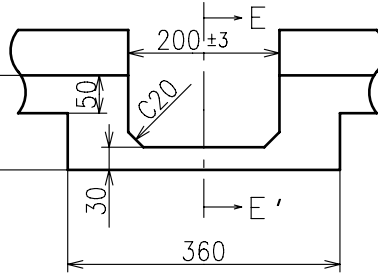
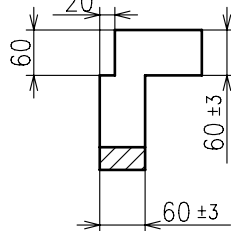
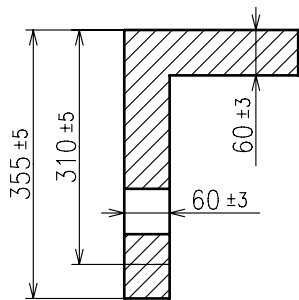


A-A' section

E-E' section

D view

F-F' section



B view

C view

