Cal. VH31A

ϕ 23. 70 mm

H 3. 45 mm

Item	Version No.
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
Assembly Plan	Version 1
Hands	Version 1

TMI
TIME MODULE

MOVEMENT SPECIFICATION - 1

CAL. VH31A 10 ½ Ligne Quartz Movement

Three Hands (1/4 Center Second)

1. MOVEMENT DIMENSIONS

・Outside diameter	φ23.70mm { 22.60mm (12H~6H) x 22.60mm (3H~9H) }
・Casing diameter	φ23.30mm { 22.10mm (12H~6H) x 21.40mm (3H~9H) }
・Total height	3.45 mm

2. BASIC FUNCTION

・Jewels	2 jewels
・Regulation device	Nil
・Accuracy	± 15 seconds per month at normal temperature range
・Battery life	Approx. 2 years
・Operation temperature range	From - 5 ℃ to + 50 ℃
・Antimagnetism (direct current magnetic field)	≧1600 A / m
・Shock resistance	On equal level with general quartz movement
・Hands	Regulation hands unbalance
	Hour : Less than 0.50μN·m (50mg·mm)
	Minute : Less than 0.80μN·m (80mg·mm)
	Second : Less than 0.30μN·m (30mg·mm)

3. OSCILLATOR

・Type of quartz oscillator	Tuning fork
・Frequency of quartz oscillator	32,768 Hz

4. BATTERY

・Type	Silver oxide battery
・Nominal voltage	1.55 V
・Size	φ9.5 x t 2.0 (mm)
・Recommended battery	SR920SW (SEIZAIKEN)

5. DIAL FIXED METHOD

Dial legs fitted with holes on the main plate

6. 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.**

SII Products

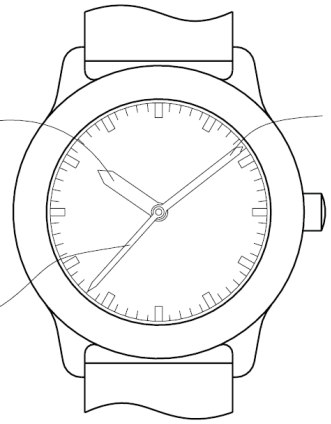
Version: 1

Movement Specification - 2

CAL. VH31A

OPERATION

[Normal position]

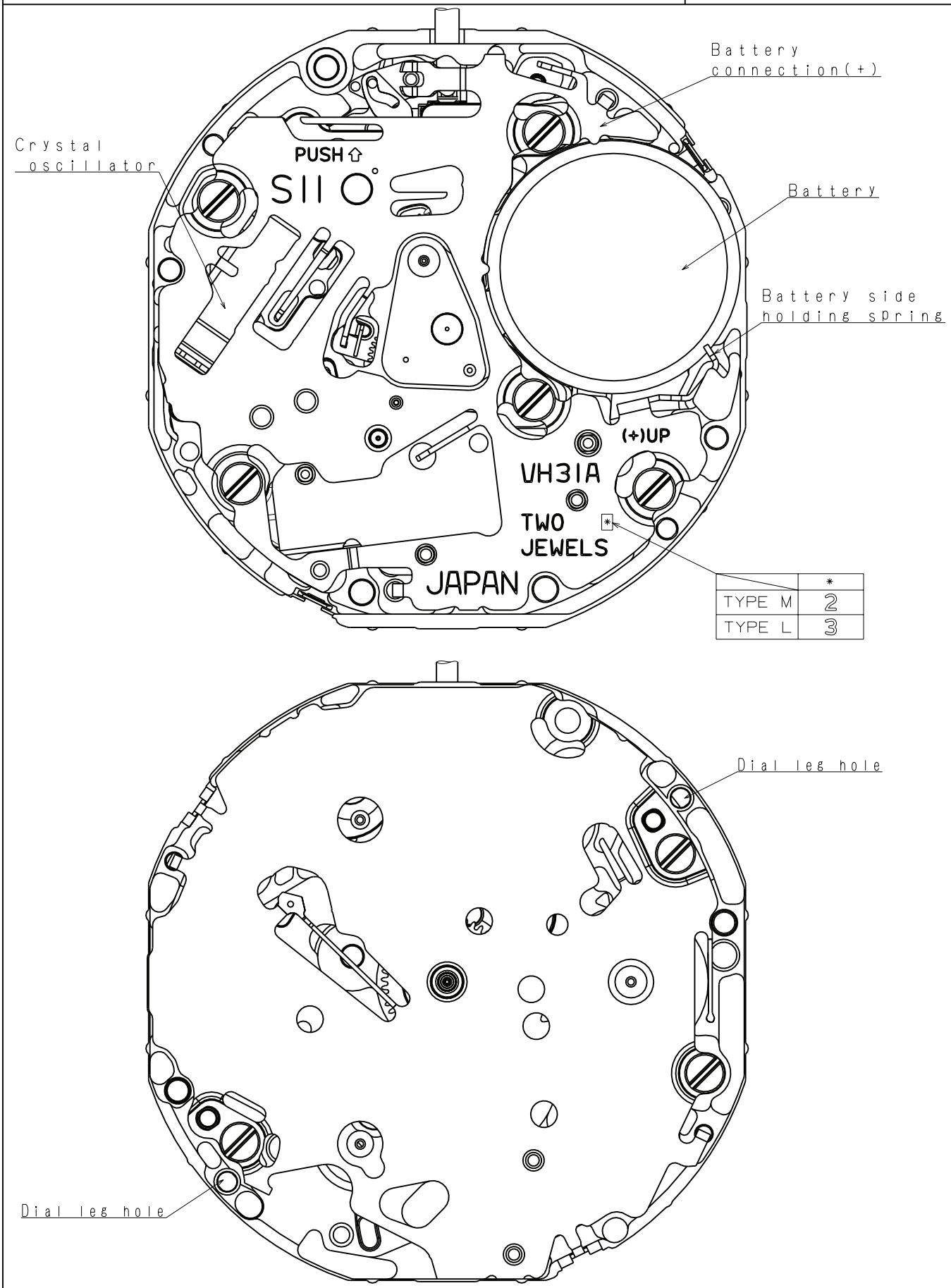


[1st click position]

TMI
TIME MODULE

Appearance

Cal. VH31A



	*
TYPE M	2
TYPE L	3

Scale : 5/1

Unit : 1=1/100mm

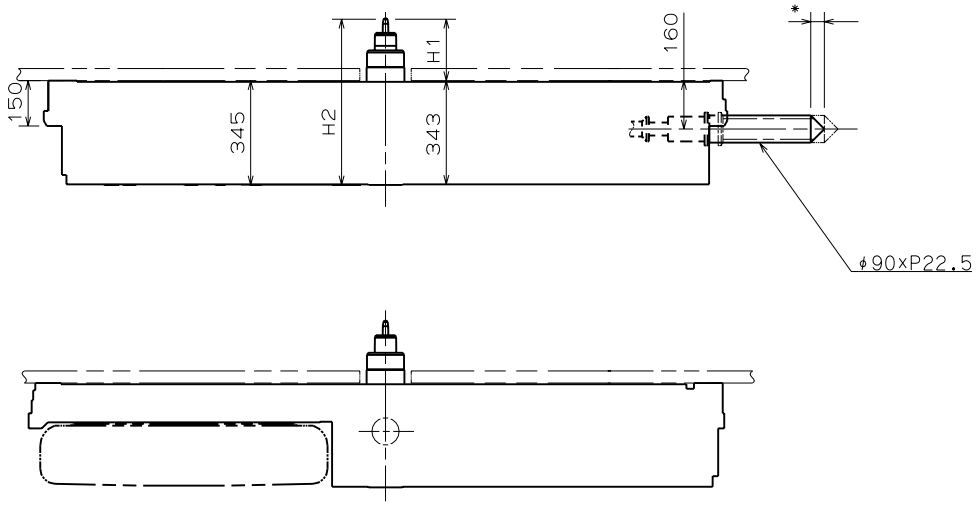
Version:1

SII Products

Casing

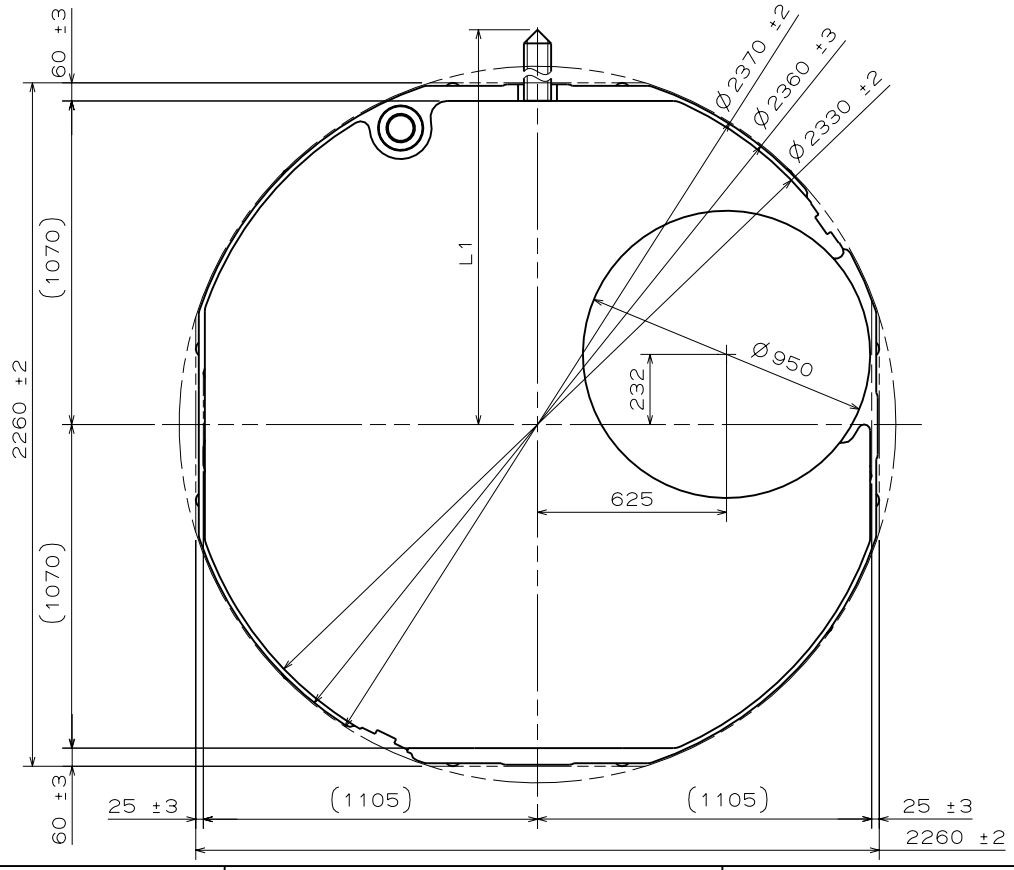
Cal. VH31A

＊ First pull out stroke 44.1



Center post		TYPE M	TYPE L
Maximum height from main plate surface	H1	203	238
Total height incl. movement	H2	548	583

Hand setting stem	TYPE A	TYPE B
L1	2436	3012



Scale : 4/1

Unit : 1=1/100mm

Version:1

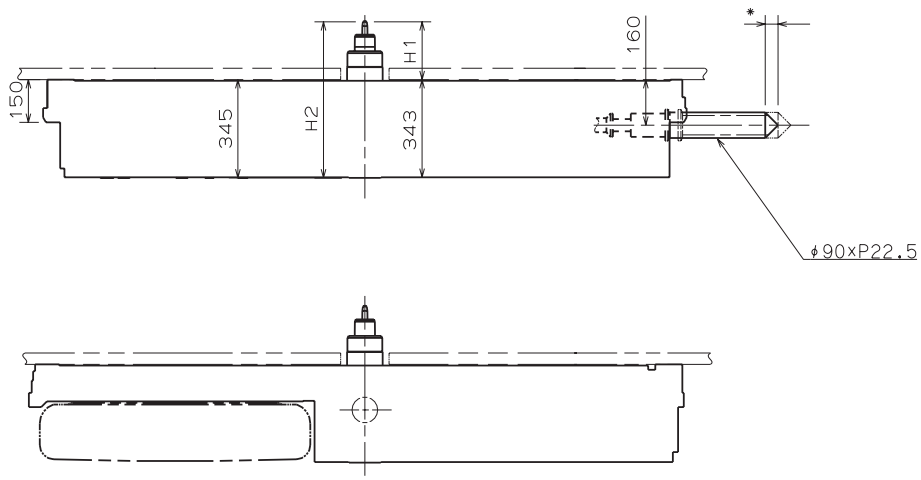
SII Products

TIME MODULE

Casing

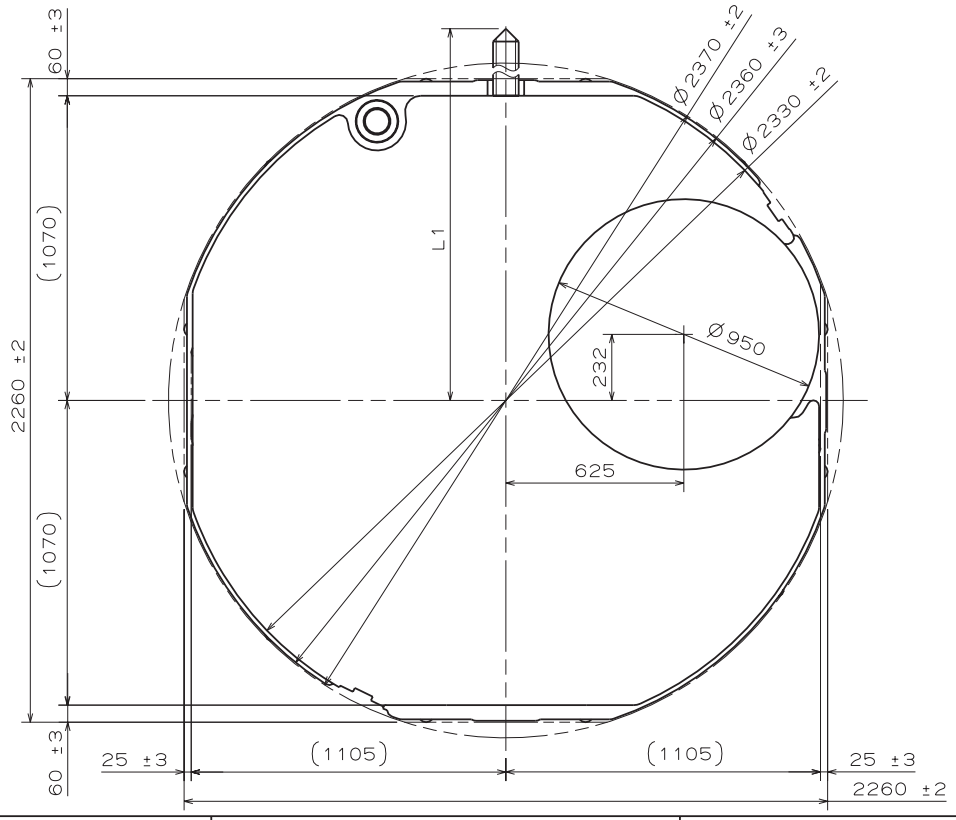
Cal. VH31A

＊ First pull out stroke 44.1



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	203	238
Total height incl. movement 機芯總高度	H2	548	583

Hand setting stem	TYPE A	TYPE B
L1	2436	3012



Scale : 4/1

Unit : 1=1/100mm

Version:1

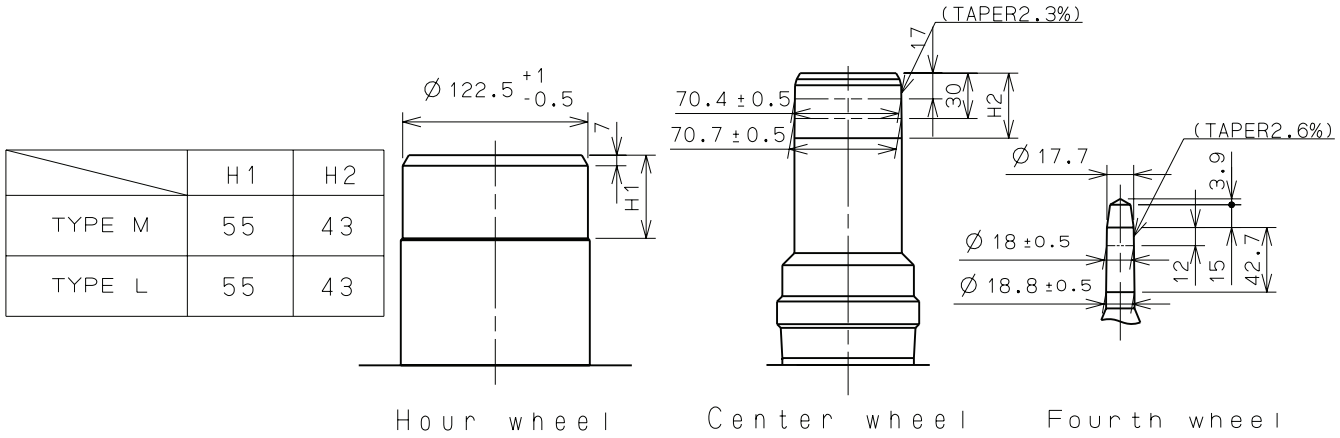
SII Products

Hand Fitting

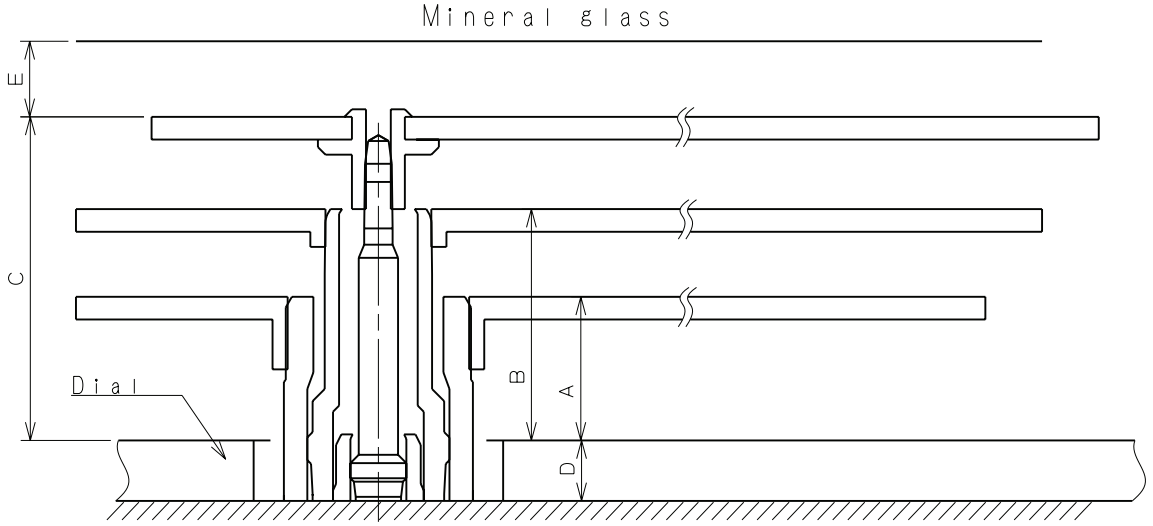
Cal. VH31A

*Hour hand unbalance ≦ 0.5μN·m(50mg·mm)
*Minute hand unbalance ≦ 0.8μN·m(80mg·mm)
*Second hand unbalance ≦ 0.3μN·m(30mg·mm)

	H1	H2
TYPE M	55	43
TYPE L	55	43



Parts name	Parts No.	
	TYPE M	TYPE L
Hour wheel	0273 0460	0273 0430
Center wheel	0221 0950	0221 0890
Fourth wheel	0144 0060	0144 0040



	A	B	C	D	E
TYPE M	60	118	179	40	50
TYPE L	50	108	169	85	50

Scale : 20/1

Unit : 1=1/100mm

Version:1

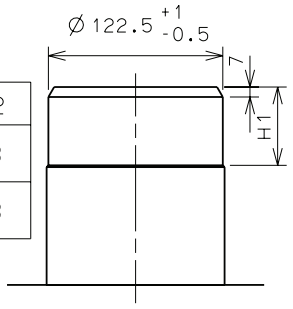
SII Products

Hand Fitting

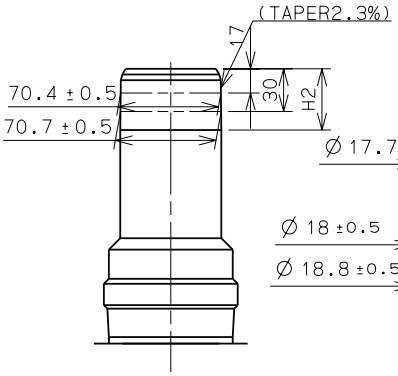
Cal. VH31A

*Hour hand unbalance ≦ 0.5μN·m(50mg·mm)
*Minute hand unbalance ≦ 0.8μN·m(80mg·mm)
*Second hand unbalance ≦ 0.3μN·m(30mg·mm)

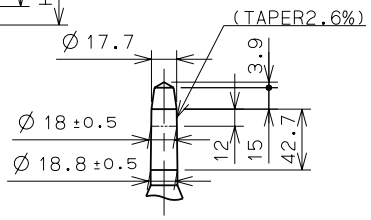
	H1	H2
Type M 一般針高	55	43
Type L 高針	55	43



Hour wheel

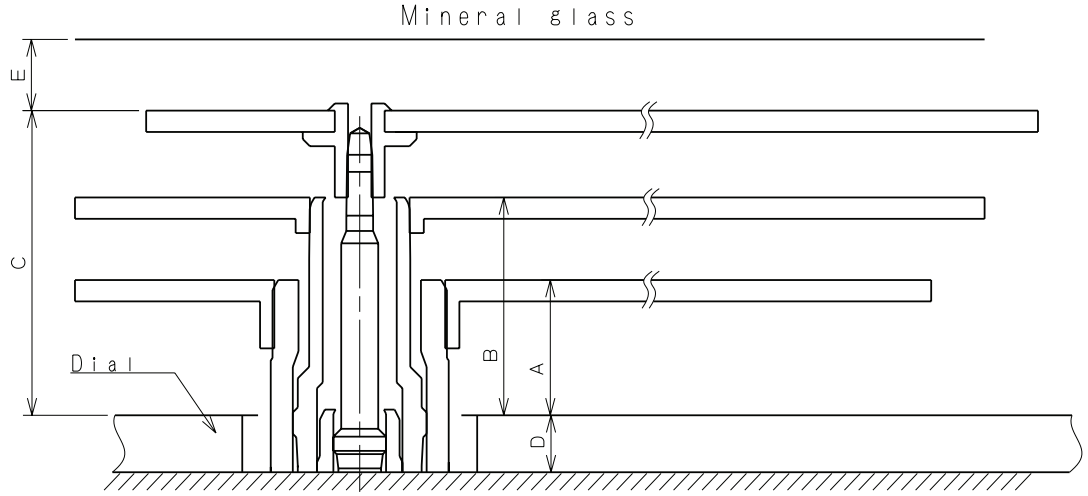


Center wheel



Fourth wheel

Parts name	Parts No.	
	Type M 一般針高	Type L 高針
Hour wheel 時針輪	0273 0460	0273 0430
Center wheel 分針輪	0221 0950	0221 0890
Fourth wheel 秒針輪	0144 0060	0144 0040



	A	B	C	D	E
Type M 一般針高	60	118	179	40	50
Type L 高針	50	108	169	85	50

Scale : 20/1

Unit : 1=1/100mm

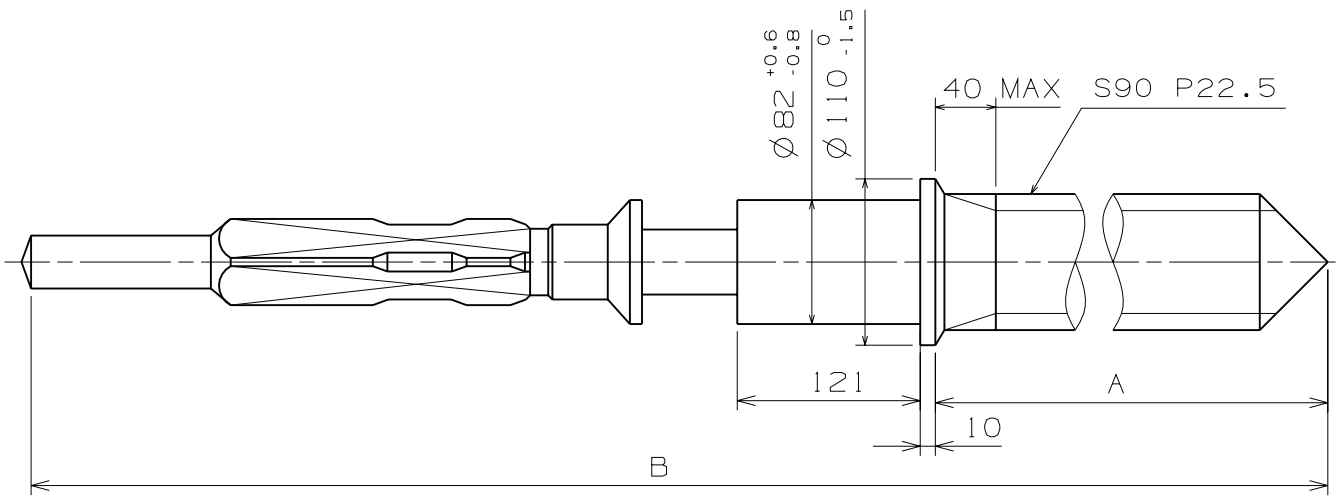
Version:1

SII Products

TMI
TIME MODULE

Hand Setting Stem

Cal. VH31A



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

Scale : 20/1

Unit : 1=1/100mm

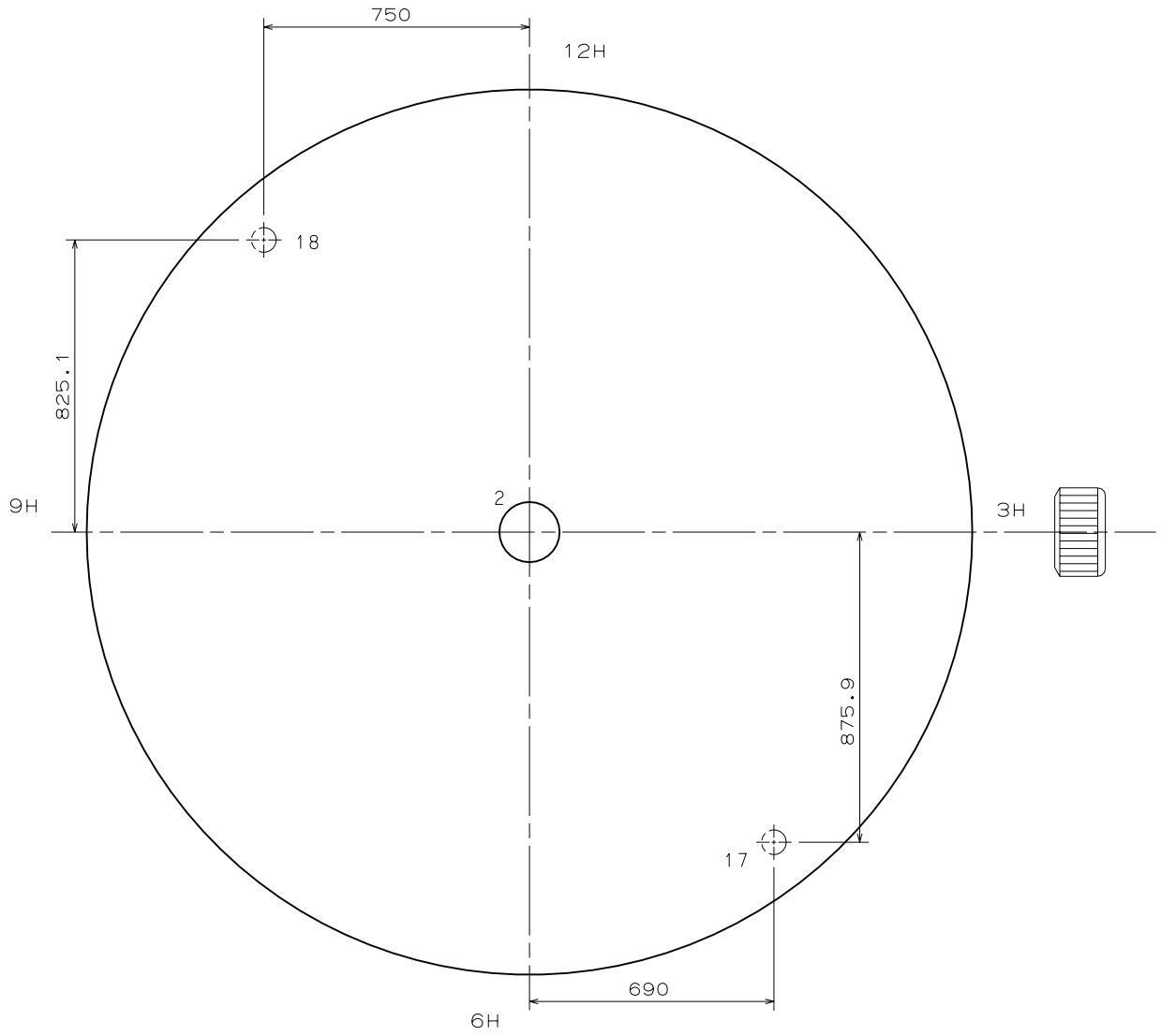
Version:1

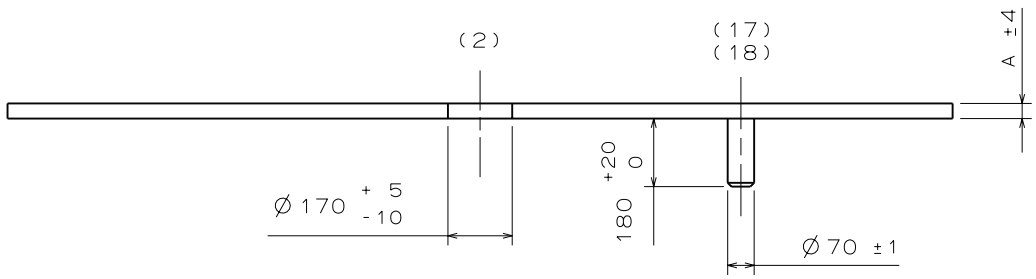
SII Products

TIME MODULE

Dial

Cal. VH31A





	TYPE M	TYPE L
A	40	85

Scale : 5/1

Unit : 1=1/100mm

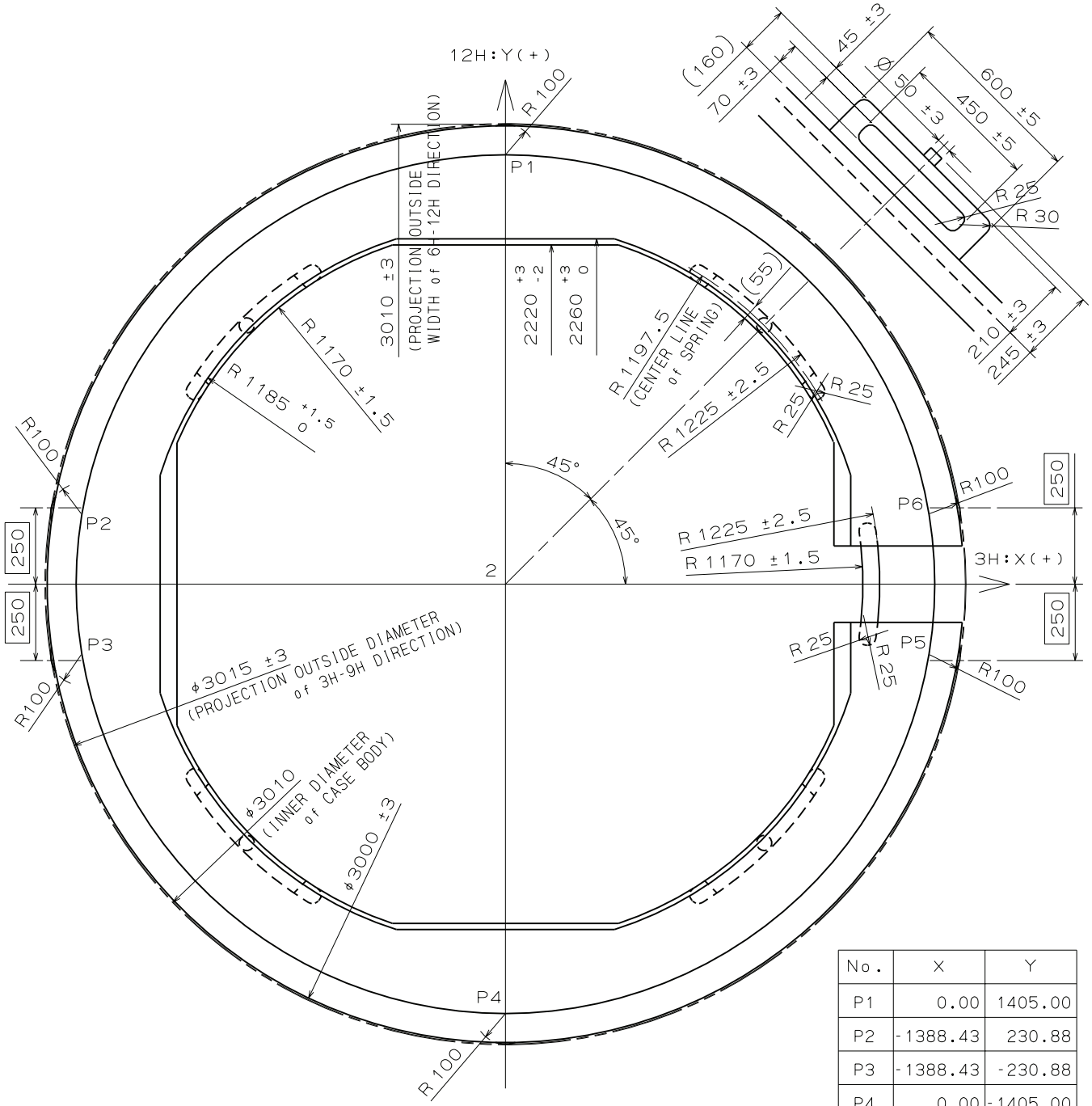
Version:1

SII Products

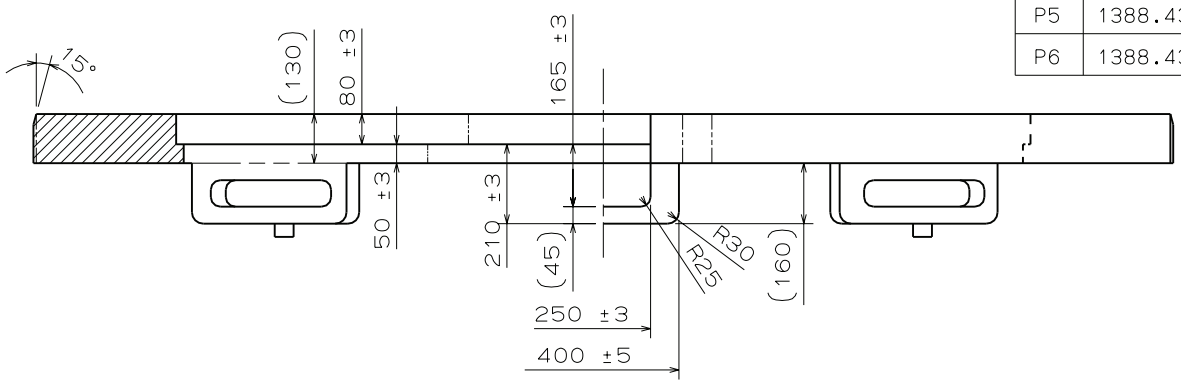
TMI
TIME MODULE

Casing Ring

Cal. VH31A



No.	X	Y
P1	0.00	1405.00
P2	-1388.43	230.88
P3	-1388.43	-230.88
P4	0.00	-1405.00
P5	1388.43	-230.88
P6	1388.43	230.88



SECTIONAL VIEW of 6H(12H) DIRECTION

SIDE VIEW of 3H DIRECTION

Scale : 5/1

Unit : 1=1/100mm

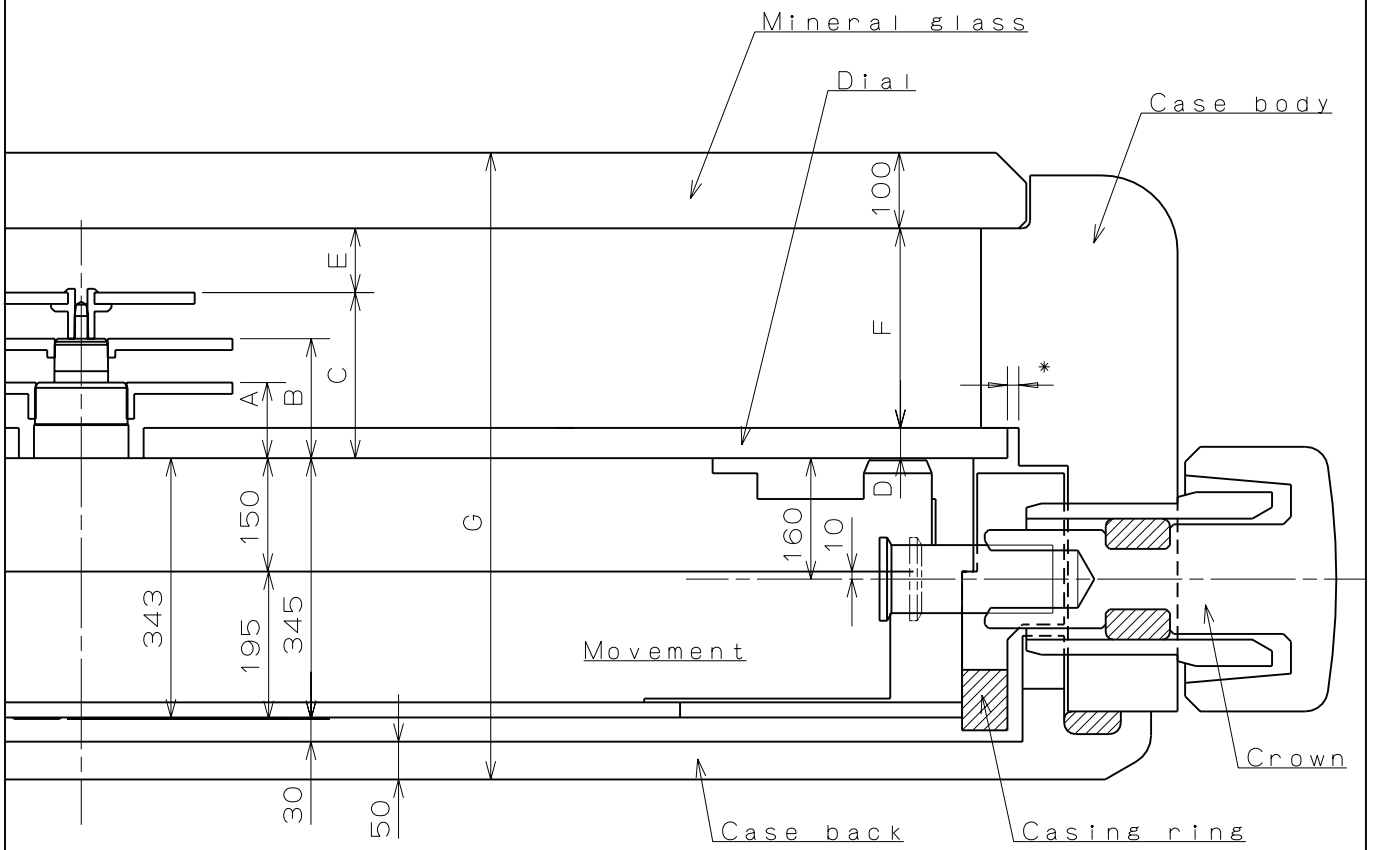
Version:1

SII Products

TMI
TIME MODULE

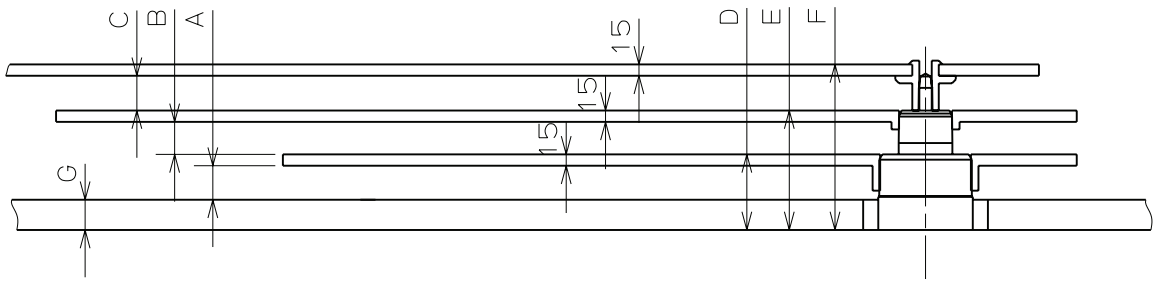
Assembly Plan

Cal. VH31A



	A	B	C	D	E	F	G
TYPE M	100	158	219	40	50	229	794
TYPE L	135	193	254	85	50	219	829

*Recommended dimension(Clearance of dial and case body):15



	A	B	C	D	E	F	G
TYPE M	45	43	46	100	158	219	40
TYPE L	35	43	46	135	193	254	85

Scale : 10/1

Unit : 1=1/100mm

Version:1

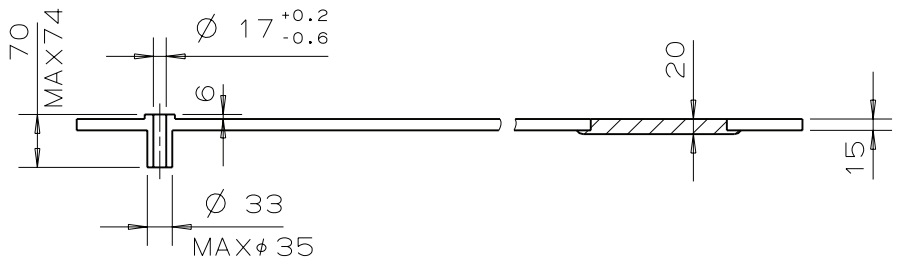
SII Products

TIME MODULE

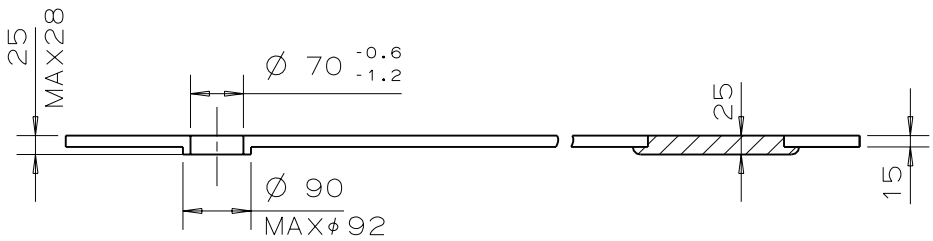
Hands

Cal. VH31A

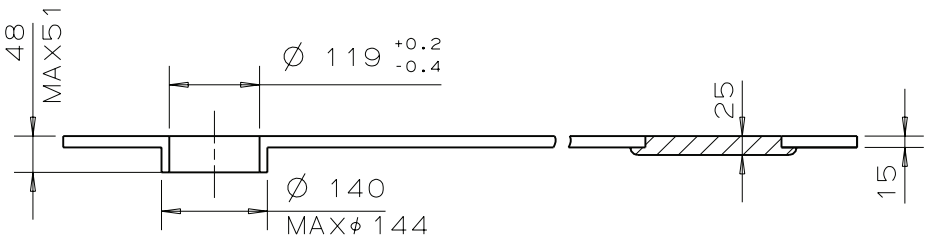
SECOND



MINUTE



HOUR



	Scale : 10/1 Unit : 1=1/100mm	Version:1

SII Products

TIME MODULE

Issued on : 16. Jun. 2016

TECHNICAL GUIDE
&
PARTS CATALOGUE

Cal.VH31

ANALOGUE QUARTZ

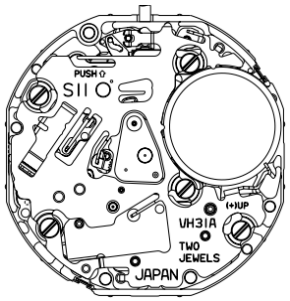
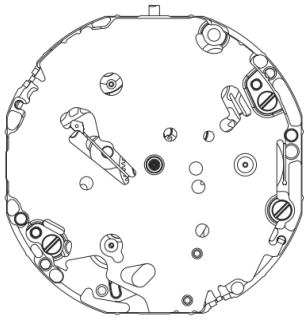
SII Products

PARTS CATALOGUE / TECHNICAL GUIDE

Cal.VH31

[SPECIFICATION]

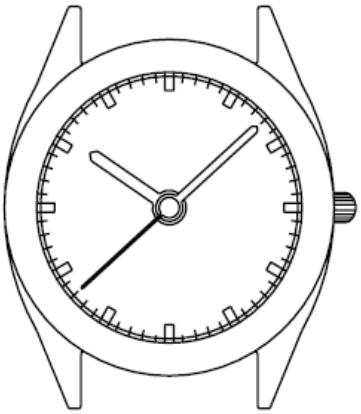
Version-01

Item \ Cal. No.		VH31A
Movement		 
Movement size	Outside diameter	φ23.70 mm 22.60 mm : between 12 o'clock and 6 o'clock sides 22.60 mm : between 3 o'clock and 9 o'clock sides
	Casing diameter	φ23.30 mm 22.10 mm : between 12 o'clock and 6 o'clock sides 21.40 mm : between 3 o'clock and 9 o'clock sides
	Total height	3.45 mm
Time indication		3Hands (hour,minute,second)
Driving System		Step motor
Additional mechanism		Electronic circuit reset switch Second setting device
Antimagnetic		≧1600 A/m
Accuracy		Less than ±15seconds : Monthly rate at normal temperature range
Battery		SR920SW (Silver oxide battery) Battery life is approximately 2 years
Measuring gate by quartz tester		Use 10-second gate * Set the winding stem with crown at the normal position
Jewels		2 Jewels

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

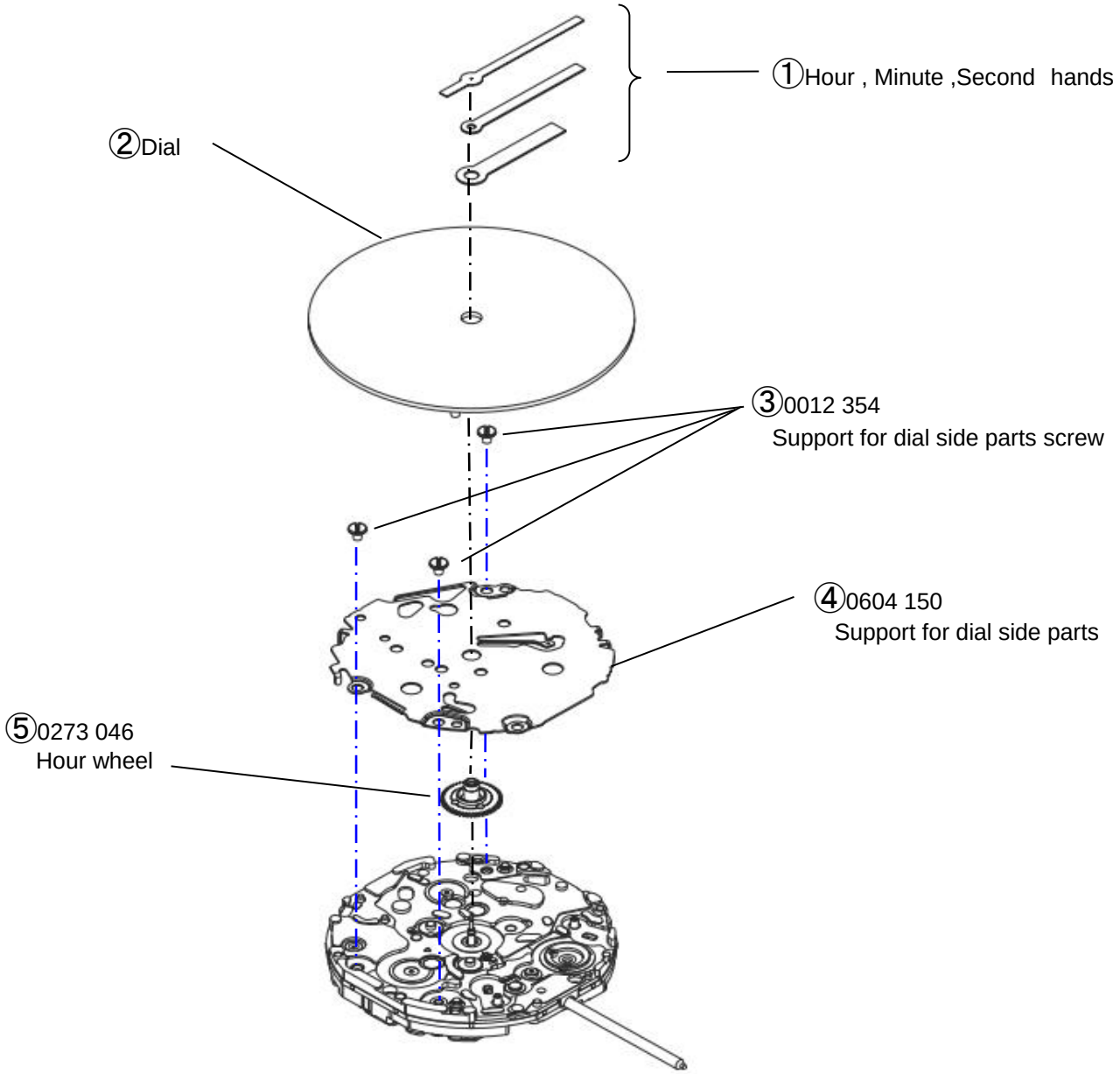
SII Products

VH31

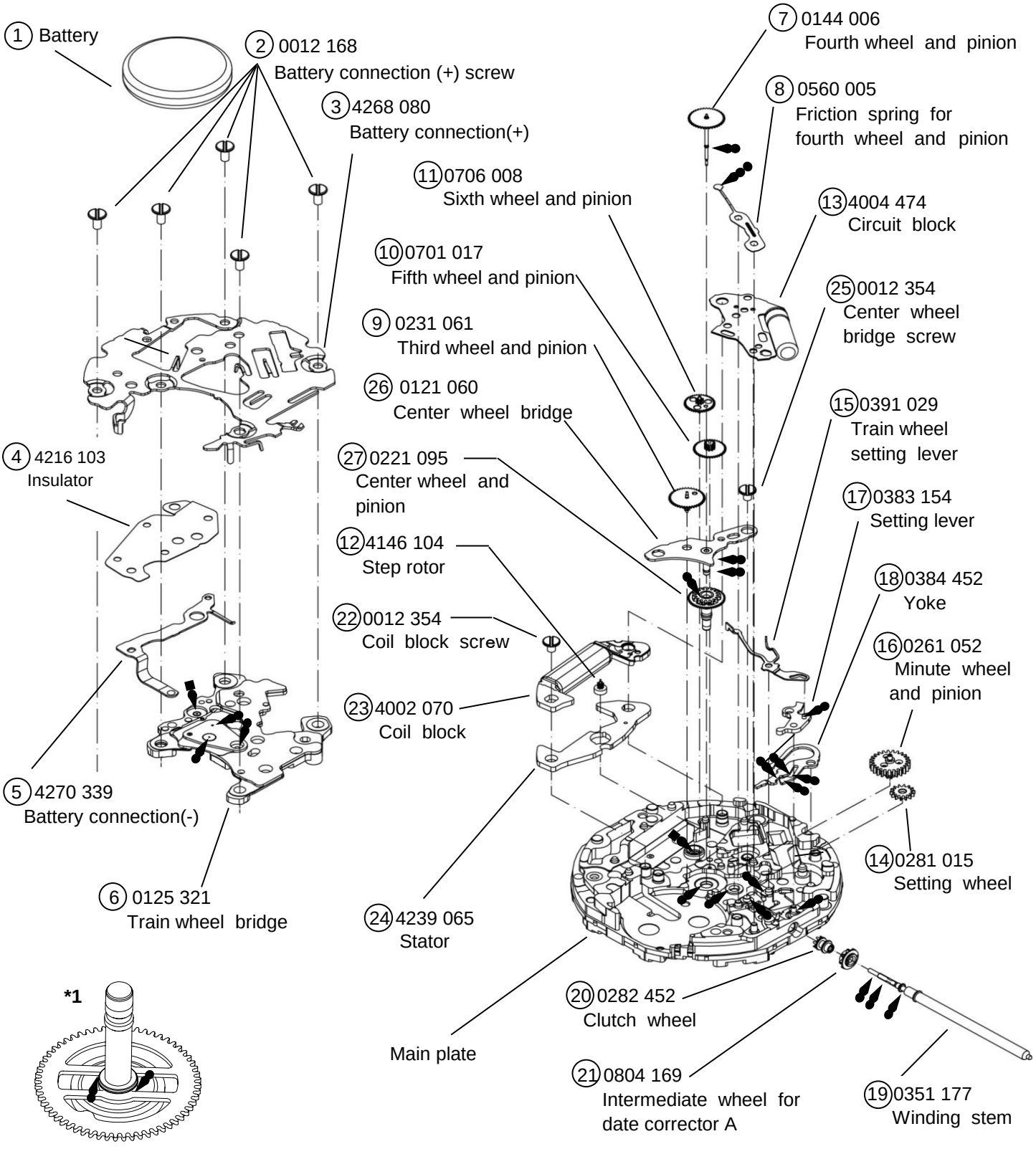


Disassembling procedures Figs.	①	⇒	⑤
Reassembling procedures Figs.	⑤	⇒	①

<<VH31A>>



Disassembling procedures Figs.	(1)	⇒	(27)	Lubricating : Types of oil	Oil quantity
Reassembling procedures Figs.	(27)	⇒	(1)	Moebius A / Moebius F	Normal quantity / Liberal quantity



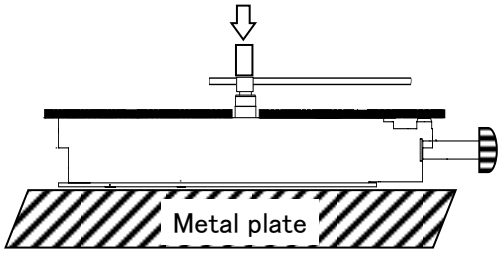
・The explanation here is only for the particular point of Cal.VH31A

1.REMARKS ON DISASSEMBLING AND REASSEMBLING

(1)HAND

・How to install hands:

Place the movement directly on a flat metal plate or such a hard plate when you install the hands.



Necessary procedure to setting hands:

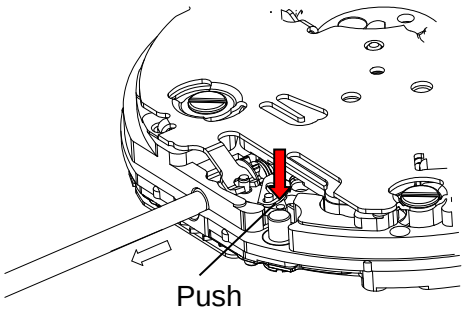
①Set the dial.

②Install the hour and minute and second hands at the 12 o'clock position.

(2)Winding stem

・How to remove:

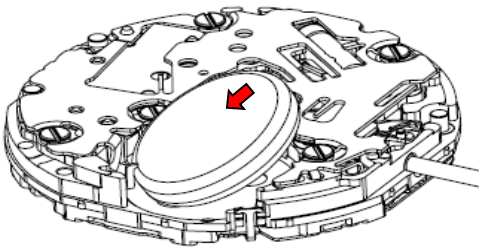
Pull out the winding stem while pushing the indented portion of the arrow.



(3)Battery

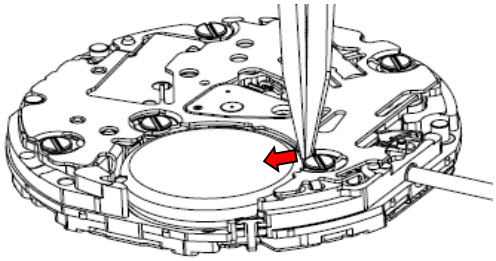
・How to install:

Insert the battery in the aslant direction as shown by the arrow.
Check the battery connection (+) securely touches the side face of the battery.



・How to remove:

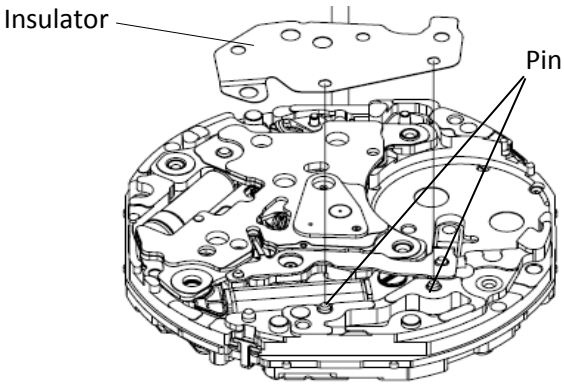
Firstly slide the battery in the direction of the arrow with tweezers, and then lift the battery.



(4)Insulator

・How to set:

To insulate between the battery connection (+) and the battery connection (-), the insulator should be put at the two pins securely as bellow.



・How to set the support of dial side parts:
There are two hooks on the support for dial side parts. (Fig.1)
First , assemble the two hooks on the support for dial side parts
to the position of the built-in height A of the base plate. (Fig.2)
Second , assemble the two hooks on the position of the built-in height B of the base plate. (Fig.3)

example VH31A

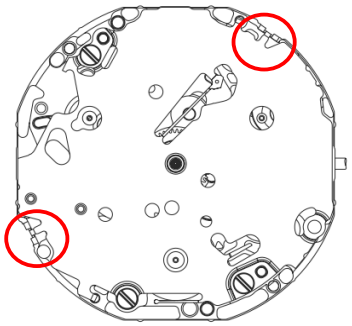


Fig.1

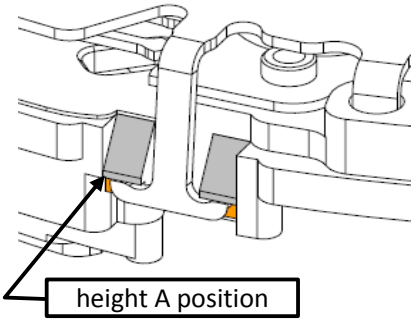


Fig.2 (built-in height A)

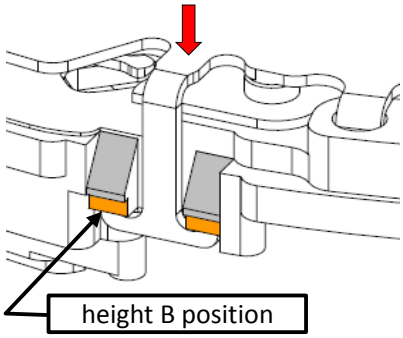
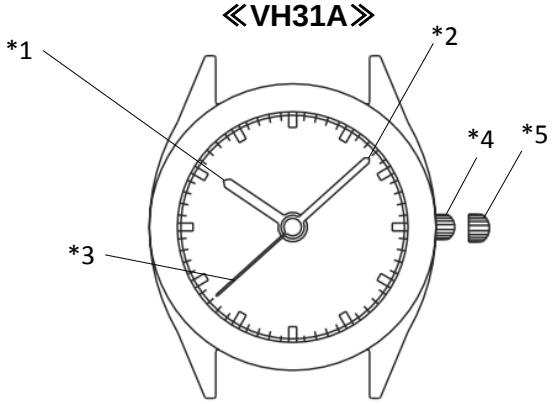


Fig.3 (built-in height B)

DISPLAY AND CROWN OPERATION

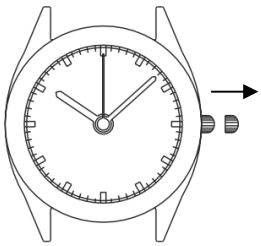
≪VH31A≫



Note:

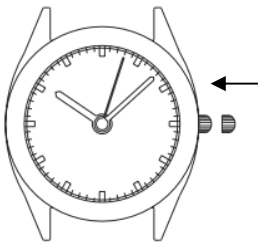
*1: Hour hand
*2: Minute hand
*3: Second hand
*4: Crown at normal position
*5: First click
・Time setting

TIME SETTING



1.Pull out the crown to the first click when the second hand is at the 12 O'clock position.

Turn the crown to set the hour and minute hands to the time.



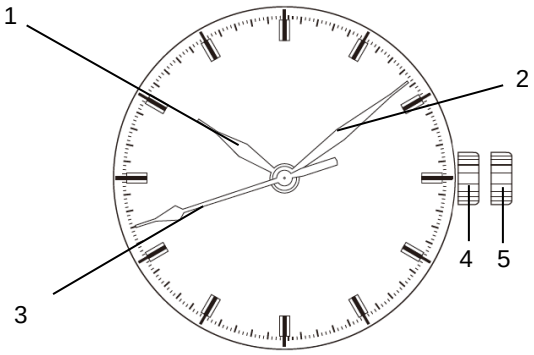
2.Push the crown back into the normal position in signal.

English

OPERATION MANUAL

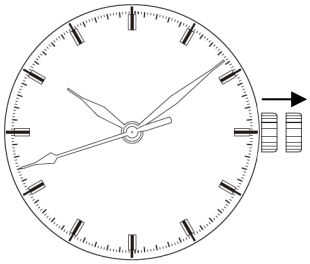
VH31

DISPLAY AND CROWN OPERATION



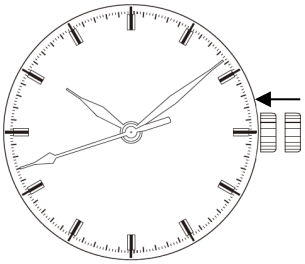
1. Hour hand
2. Minute hand
3. Second hand
4. Crown at normal position
5. First click : Time setting

TIME SETTING



1. Pull out the crown to the first click when the second hand is at the 12 o'clock position

   Turn the crown to set the hour hand and minute hand to the correct time



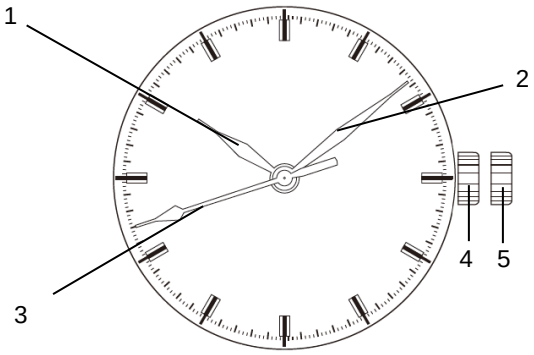
2. Push the crown back to the normal position in accordance with a time signal

German

BEDIENUNG

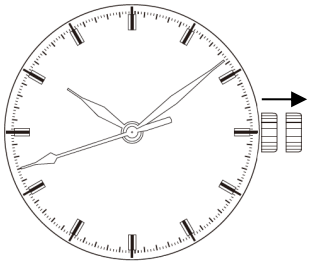
VH31

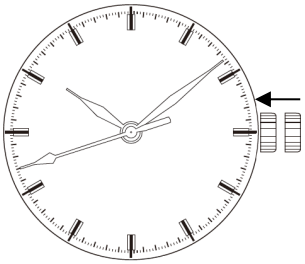
ANZEIGE- UND KRONENBEDIENUNG



1. Stundenzeiger
2. Minutenzeiger
3. Sekundenzeiger
4. Krone in der normalen Position
5. Erster Klick : Zeiteinstellung

ZEITEINSTELLUNG





1. Ziehen Sie Krone bis zum ersten Klick heraus, wenn die zweite Hand an der 12-Uhr-Position liegt.

   Drehen Sie die Krone, um den Stundenzeiger und den Minutenzeiger auf die korrekte Zeit umzustellen

2. Schieben Sie die Krone bis zur normalen Position entsprechend einem Zeitsignal zurück

VH Sweep Second Quartz Series - Calibre List

Date : 08.11.2016

Reference		VH31A1	VH31A1L	VH31A3	VH31A3L
Product Line		VH Sweep Second Quartz Series	VH Sweep Second Quartz Series	VH Sweep Second Quartz Series	VH Sweep Second Quartz Series
Function		3 Hands	3 Hands	3 Hands	3 Hands
Appearance					
Size		10 1/2‴	10 1/2‴	10 1/2‴	10 1/2‴
*Category		A	B	B	B
Spec Sheet Dial Drawing No.		VH31 Dial - 1	VH31 Dial - 1	VH31 Dial - 1	VH31 Dial - 1
Postion	Stem	3H	3H	3H	3H
Hands Fitting Type		Hands : TYPE M	Hands : TYPE M	Hands : TYPE L	Hands : TYPE L
Stem Type		Standard	Long	Standard	Long
Remarks					

***Category A : Ordinary Production (Stock Item) ; Category B : Order Based Production**

VH Sweep Second Quartz Series - Calibre List

Date : 08.11.2016

Reference		VH61A1	VH61A3	VH63A1	VH63A1L
Product Line		VH Sweep Second Quartz Series	VH Sweep Second Quartz Series	VH Sweep Second Quartz Series	VH Sweep Second Quartz Series
Function		Multi-eye	Multi-eye	Multi-eye	Multi-eye
Appearance					
Size		10 1/2‴	10 1/2‴	10 1/2‴	10 1/2‴
*Category		A	B	A	B
Spec Sheet Dial Drawing No.		VH61 Dial - 1	VH61 Dial - 1	VH63 Dial - 1	VH63 Dial - 1
Postion	Stem	3H	3H	3H	3H
Hands Fitting Type		Hands : TYPE M	Hands : TYPE L	Hands : TYPE M	Hands : TYPE M
Stem Type		Standard	Standard	Standard	Long
Remarks					

***Category A : Ordinary Production (Stock Item) ; Category B : Order Based Production**

VH Sweep Second Quartz Series - Calibre List

Date : 08.11.2016

Reference		VH63A3	VH63A3L	VH64A1	VH64A3
Product Line		VH Sweep Second Quartz Series	VH Sweep Second Quartz Series	VH Sweep Second Quartz Series	VH Sweep Second Quartz Series
Function		Multi-eye	Multi-eye	Multi-eye	Multi-eye
Appearance					
Size		10 1/2‴	10 1/2‴	10 1/2‴	10 1/2‴
*Category		B	B	A	B
Spec Sheet Dial Drawing No.		VH63 Dial - 1	VH63 Dial - 1	VH64 Dial - 1	VH64 Dial - 1
Postion	Stem	3H	3H	3H	3H
Hands Fitting Type		Hands : TYPE L	Hands : TYPE L	Hands : TYPE M	Hands : TYPE L
Stem Type		Standard	Long	Standard	Standard
Remarks					

***Category A : Ordinary Production (Stock Item) ; Category B : Order Based Production**

VH Sweep Second Quartz Series - Calibre List

Date : 08.11.2016

Reference		VH65A1	VH65A3	VH67A1	VH67A1L
Product Line		VH Sweep Second Quartz Series	VH Sweep Second Quartz Series	VH Sweep Second Quartz Series	VH Sweep Second Quartz Series
Function		Multi-eye	Multi-eye	Multi-eye	Multi-eye
Appearance					
Size		10 1/2‴	10 1/2‴	10 1/2‴	10 1/2‴
*Category		A	B	A	B
Spec Sheet Dial Drawing No.		VH65 Dial - 1	VH65 Dial - 1	VH67 Dial - 1	VH67 Dial - 1
Postion	Stem	3H	3H	3H	3H
Hands Fitting Type		Hands : TYPE M	Hands : TYPE L	Hands : TYPE M	Hands : TYPE M
Stem Type		Standard	Standard	Standard	Long
Remarks					

***Category A : Ordinary Production (Stock Item) ; Category B : Order Based Production**

VH Sweep Second Quartz Series - Calibre List

Date : 08.11.2016

Reference		VH67A3	VH67A3L	VH68A1	VH68A1L
Product Line		VH Sweep Second Quartz Series	VH Sweep Second Quartz Series	VH Sweep Second Quartz Series	VH Sweep Second Quartz Series
Function		Multi-eye	Multi-eye	Multi-eye	Multi-eye
Appearance					
Size		10 1/2‴	10 1/2‴	10 1/2‴	10 1/2‴
*Category		B	B	A	B
Spec Sheet Dial Drawing No.		VH67 Dial - 1	VH67 Dial - 1	VH68 Dial - 1	VH68 Dial - 1
Postion	Stem	3H	3H	3H	3H
Hands Fitting Type		Hands : TYPE L	Hands : TYPE L	Hands : TYPE M	Hands : TYPE M
Stem Type		Standard	Long	Standard	Long
Remarks					

***Category A : Ordinary Production (Stock Item) ; Category B : Order Based Production**

VH Sweep Second Quartz Series - Calibre List

Date : 08.11.2016

Reference		VH68A3	VH68A3L	VH83A1	VH83A1L
Product Line		VH Sweep Second Quartz Series	VH Sweep Second Quartz Series	VH Sweep Second Quartz Series	VH Sweep Second Quartz Series
Function		Multi-eye	Multi-eye	Retrograde	Retrograde
Appearance					
Size		10 1/2‴	10 1/2‴	10 1/2‴	10 1/2‴
*Category		B	B	A	B
Spec Sheet Dial Drawing No.		VH68 Dial - 1	VH68 Dial - 1	VH83 Dial - 1	VH83 Dial - 1
Postion	Stem	3H	3H	3H	3H
Hands Fitting Type		Hands : TYPE L	Hands : TYPE L	Hands : TYPE M	Hands : TYPE M
Stem Type		Standard	Long	Standard	Long
Remarks					

***Category A : Ordinary Production (Stock Item) ; Category B : Order Based Production**

VH Sweep Second Quartz Series - Calibre List

Date : 08.11.2016

Reference		VH83A3	VH83A3L	VH88A1	VH88A1L
Product Line		VH Sweep Second Quartz Series	VH Sweep Second Quartz Series	VH Sweep Second Quartz Series	VH Sweep Second Quartz Series
Function		Retrograde	Retrograde	Retrograde	Retrograde
Appearance					
Size		10 1/2‴	10 1/2‴	10 1/2‴	10 1/2‴
*Category		B	B	A	B
Spec Sheet Dial Drawing No.		VH83 Dial - 1	VH83 Dial - 1	VH88 Dial - 1	VH88 Dial - 1
Postion	Stem	3H	3H	3H	3H
Hands Fitting Type		Hands : TYPE L	Hands : TYPE L	Hands : TYPE M	Hands : TYPE M
Stem Type		Standard	Long	Standard	Long
Remarks					

***Category A : Ordinary Production (Stock Item) ; Category B : Order Based Production**

VH Sweep Second Quartz Series - Calibre List

Date : 08.11.2016

Reference		VH88A3	VH88A3L		
Product Line		VH Sweep Second Quartz Series	VH Sweep Second Quartz Series		
Function		Retrograde	Retrograde		
Appearance					
Size		10 1/2‴	10 1/2‴		
*Category		B	B		
Spec Sheet Dial Drawing No.		VH88 Dial - 1	VH88 Dial - 1		
Postion	Stem	3H	3H		
Hands Fitting Type		Hands : TYPE L	Hands : TYPE L		
Stem Type		Standard	Long		
Remarks					

***Category A : Ordinary Production (Stock Item) ; Category B : Order Based Production**