TECHNICAL GUIDE
&
PARTS CATALOGUE

Cal.NH3 Series

AUTOMATIC MECHANICAL

SII Products
**[SPECIFICATION]**

### Movement

<table>
<thead>
<tr>
<th>Movement size</th>
<th>Outside diameter</th>
<th>Casing diameter</th>
<th>Total height</th>
</tr>
</thead>
<tbody>
<tr>
<td>NH35</td>
<td>27.40mm</td>
<td>29.36mm (with dial holding spacer)</td>
<td>5.32mm</td>
</tr>
</tbody>
</table>

### Time indication

<table>
<thead>
<tr>
<th>Time indication (hour, minute, second)</th>
<th>NH35</th>
<th>NH36</th>
<th>NH37</th>
<th>NH38</th>
<th>NH39</th>
</tr>
</thead>
<tbody>
<tr>
<td>3Hands</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Date calendar</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Day calendar</td>
<td>-</td>
<td>O</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>24hour indicator</td>
<td>-</td>
<td>-</td>
<td>O</td>
<td>-</td>
<td>O</td>
</tr>
</tbody>
</table>

### Basic function

<table>
<thead>
<tr>
<th>Basic function</th>
<th>NH35</th>
<th>NH36</th>
<th>NH37</th>
<th>NH38</th>
<th>NH39</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manual winding</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Automatic winding with ball bearing</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Stop-second device</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Quick date correction</td>
<td>O</td>
<td>-</td>
<td>O</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Quick day-date correction</td>
<td>-</td>
<td>O</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Frequency

- **21,600 vibrations per hour**

### Accuracy

<table>
<thead>
<tr>
<th>Accuracy</th>
<th>Static accuracy</th>
<th>Measurement time</th>
<th>Posture difference</th>
<th>Isochronisms (24h-0h)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-20~+40 seconds per day</td>
<td>20 seconds</td>
<td>Difference is under 60 seconds within max value and minimum value.</td>
<td>-20~+40 seconds per day</td>
</tr>
<tr>
<td></td>
<td>* Measurement should be done within 10~60 minutes after fully wound up.</td>
<td>* Equipment to be used : Witschi WATCH EXPERT</td>
<td>* Measurement should be done within 10~60 minutes after fully wound up.</td>
<td>* Measurement position : Dial up</td>
</tr>
<tr>
<td></td>
<td>* All measurements are made without the calendar in function.</td>
<td>* Measurement position : Dial up</td>
<td>* Direction of 4 positions.</td>
<td>* Difference of static accuracy of 24h and 0h</td>
</tr>
<tr>
<td></td>
<td>Direction of 3 positions. (1) Dial up (2) 9 o'clock up (3) 6 o'clock up</td>
<td>* Measurement position : Dial up</td>
<td>(1) 12 o'clock up (2) 9 o'clock up (3) 6 o'clock up (4) 3 o'clock up</td>
<td></td>
</tr>
</tbody>
</table>

### Duration time

- **More than 41 hours … Mainspring after fully wound up.**
- **Posture to confirmation : Dial up**

### Winding the mainspring

**<< Movement >>**
- Fully wound up by turning the crown minimum 55 times.
- Fully wound up by turning the ratchet wheel screw 8 times.

**<< Complete Watch >>**
- A winding machine is needed to wind up the mainspring.
- Full wind up conditions:
  - Rotary speed : 30 rpm
  - Operating time: 60 minutes

### Jewels

- **24 jewels**

### Crown position

<table>
<thead>
<tr>
<th>Crown position</th>
<th>Normal position</th>
<th>Counterclockwise</th>
<th>Clockwise</th>
<th>Manual winding</th>
</tr>
</thead>
<tbody>
<tr>
<td>First click</td>
<td>Counterclockwise</td>
<td>Date setting</td>
<td>Date setting</td>
<td>Date setting</td>
</tr>
<tr>
<td></td>
<td>Clockwise</td>
<td>Free</td>
<td>Day setting</td>
<td>Free</td>
</tr>
<tr>
<td>Second click</td>
<td>Clockwise</td>
<td>Time setting</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**SII Products**
<<NH35/36/37>>

1. 0963 300 ... Cal.NH36 only
   Snap for day star with dial disk

2. Day star with dial disk ... Cal.NH36 only
   Refer to page 8 for each parts code

3. 0989 070 ... Cal.NH36 only
   Intermediate wheel for day corrector

4. 0012 354
   Date indicator maintaining plate screw

5. 0808 183
   Date indicator maintaining plate

6. Date dial
   Refer to page 8 for each parts code

7. 0810 183
   Date jumper

Disassembling procedures Figs.
NH35/37 4 → 19 NH36 1 → 19
Reassembling procedures Figs.
NH35/37 19 → 4 NH36 19 → 1

Type of oil
Moebius 9010
NORMAL QUANTITY
S-6
SUFFICIENT QUANTITY
S-4
PARTS CATALOGUE

<<NH35/36/37>>

14 Hour wheel
Refer to page 9 for each parts code

15 0261 190
Minute wheel and pinion

16 Refer to page 9 for each parts code

17 Refer to page 9 for each parts code

18 Cannon pinion
Refer to page 8 for each parts code

8 0962 025
Day-date corrector setting transmission wheel E

9 0012 485
Guard for day-date corrector setting transmission wheel screw

10 0836 183
Guard for day-date corrector setting transmission wheel

11 0962 185
Day-date corrector setting transmission wheel C

12 0962 023
Day-date corrector setting transmission wheel B

13 0737 183
Day-date corrector wheel

19 4408 170
Dial holding spacer

1 37-1
Lower shock absorbing spring

2 37-2
Lower shock absorbing cap jewel

3 37-3
Lower hole jewel frame for shock-absorber

Type of oil

Moebius 9010

Oil quantity mark

NORMAL QUANTITY

SUPEFICIENT QUANTITY
<<NH38/39>>

1. 0012 354  Hour wheel guard screw
2. 0376 184  Hour wheel guard
3.  Hour wheel  Refer to page 9 for each parts code
4. 0261 190  Minute wheel and pinion
5. 0817 300  Intermediate 24hour wheel and pinion
6. 0157 184  Cal.NH39 only 24hour wheel
7. Cannon pinion  Refer to page 8 for each parts code
8. 4408 172  Dail holding spacer

*1 Lower shock absorbing spring
*2 Lower shock absorbing cap jewel
*3 Lower hole jewel frame for shock-absorber

Type of oil
- Moebius 9010

Oil quantity mark
- NORMAL QUANTITY
- S-6
- S-4

Disassembling procedures Figs. NH38/39  ① → ⑧
Reassembling procedures Figs. NH38/39  ⑧ → ①
Oscillating weight with ball bearing
Refer to page 8 for each parts code

1. Oscillating weight with ball bearing
2. Automatic train bridge screw
3. Automatic train bridge
4. Second reduction wheel and pinion
5. Ratchet wheel screw
6. Ratchet wheel
7. Balance bridge screw
8. Balance cock
9. Pallet bridge screw
10. Pallet bridge
11. Pallet fork
8-1. Balance complete with stud
8-2. Upper shock absorbing spring
8-3. Upper shock absorbing cap jewel
8-4. Upper hole jewel frame for shock-absorber

Type of oil
- Moebius 9010
- S-6
- S-4

Oil quantity mark
- NORMAL QUANTITY
- SUFFICIENT QUANTITY

Disassembling procedures Figs.
1 → 37
Reassembling procedures Figs.
37 → 1

SII Products
0511 010
First reduction wheel
Refer to page 10 for oiling spot

0831 183
Pawl lever

0836 002
Reduction wheel holder

16-1
Cap jewelled spring

16-2
Cap jewel

0120 100
Barrel and train wheel bridge screw

0114 183
Barrel and train wheel bridge with hole jewel frame
Refer to page 10 for oiling spot

0363 184
Ratchet sliding wheel spring

0012 354
Lower plate for barrel and train wheel bridge

0231 070
Third wheel and pinion

0381 004
Click

0201 083
Barrel complete with mainspring

0436 166
Lower plate for barrel and train wheel bridge screw

0436 186
Barrel and train wheel bridge with hole jewel frame
Refer to page 10 for oiling spot

Moebius 9010
S-6
NORMAL QUANTITY
S-4
SUFFICIENT QUANTITY

Type of oil

Oil quantity mark

*1

*1

*1

*1

*1

*1

*1

*1

Type of oil

Oil quantity mark

Moebius 9010
S-6
NORMAL QUANTITY
S-4
SUFFICIENT QUANTITY

SII Products
**PARTS CATALOGUE**

**Cal.NH3 series**

<table>
<thead>
<tr>
<th>Type of oil</th>
<th>Oil quantity mark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moebius 9010</td>
<td>Normal Quantity</td>
</tr>
<tr>
<td></td>
<td>S-6</td>
</tr>
<tr>
<td></td>
<td>S-4</td>
</tr>
</tbody>
</table>

- **0012 354**  Center wheel bridge screw
- **0122 302**  Center wheel bridge
- **0251 300**  Escape wheel and pinion
- **0012 168**  Yoke spring screw
- **0388 177**  Yoke spring
- **0388 177**  Yoke
- **0282 183**  Clutch wheel
- **0283 020**  Winding pinion
- **0351 200**  Winding stem
- **0962 183**  Cal.NH3/35/36/37 Day-Date corrector setting transmission wheel A
- **0601 183**  Balance stop lever
- **0351 200**  Winding stem

---

**SII Products**
### Day star with dial disk …Cal.NH36 only (P-2)

<table>
<thead>
<tr>
<th>Parts code</th>
<th>Position of crown</th>
<th>Position of day frame</th>
<th>Color of letters</th>
<th>Color of background</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>0160 495</td>
<td>3H</td>
<td>3H</td>
<td>MON~FRI: Black</td>
<td>White</td>
<td>English &amp; Spanish</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SAT: Blue</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SUN: Red</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Date dial … Cal.NH35 / NH36 / NH37 (P-2)

<table>
<thead>
<tr>
<th>Cal.</th>
<th>Parts code</th>
<th>Position of crown</th>
<th>Position of day frame</th>
<th>Color of letters</th>
<th>Color of background</th>
</tr>
</thead>
<tbody>
<tr>
<td>NH35</td>
<td>0878 208</td>
<td>3H</td>
<td>3H</td>
<td>Black</td>
<td>White</td>
</tr>
<tr>
<td>NH36</td>
<td>0878 206</td>
<td>3H</td>
<td>3H</td>
<td>Black</td>
<td>White</td>
</tr>
</tbody>
</table>

### Cannon pinion …NH35/36/37 (P-3)

### Cannon pinion …NH38/39 (P-4)

### Oscillating weight with ball bearing (P-5)

<table>
<thead>
<tr>
<th>Cal.</th>
<th>Parts code</th>
<th>Marking</th>
<th>Cal.</th>
<th>Parts code</th>
<th>Marking</th>
</tr>
</thead>
<tbody>
<tr>
<td>NH35</td>
<td>0509 467</td>
<td>Japan mark</td>
<td>NH36</td>
<td>0509 463</td>
<td>Japan mark</td>
</tr>
<tr>
<td></td>
<td>0509 468</td>
<td>Malaysia mark</td>
<td></td>
<td>0509 464</td>
<td>Malaysia mark</td>
</tr>
</tbody>
</table>

### Balance complete with stud (P-5)

### Fourth wheel and pinion (P-6)

<table>
<thead>
<tr>
<th>Cal.</th>
<th>Parts code</th>
<th>Marking</th>
<th>Cal.</th>
<th>Parts code</th>
<th>Marking</th>
</tr>
</thead>
<tbody>
<tr>
<td>NH35</td>
<td>0310 183</td>
<td></td>
<td>NH36</td>
<td>0310 184</td>
<td></td>
</tr>
<tr>
<td>NH36</td>
<td>0310 183</td>
<td></td>
<td>NH37</td>
<td>0310 184</td>
<td></td>
</tr>
</tbody>
</table>

### Center wheel and pinion with cannon pinion (P-7)

### Yoke (P-7)

### Setting lever (P-7)

### SII Products
### Remarks: Different parts for each CAL.

<table>
<thead>
<tr>
<th>Page No</th>
<th>Parts code</th>
<th>Parts name</th>
<th>Parts form</th>
</tr>
</thead>
<tbody>
<tr>
<td>P-3</td>
<td>0273 182</td>
<td>Hour wheel</td>
<td>0273 182 &amp; 184</td>
</tr>
<tr>
<td></td>
<td>0273 183</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0273 184</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Page No</th>
<th>Parts code</th>
<th>Parts name</th>
<th>Parts form</th>
</tr>
</thead>
<tbody>
<tr>
<td>P-4</td>
<td>0273 183</td>
<td></td>
<td>0273 183 &amp; 185</td>
</tr>
<tr>
<td></td>
<td>0273 185</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Page No</th>
<th>Parts code</th>
<th>Parts name</th>
<th>Parts form</th>
</tr>
</thead>
<tbody>
<tr>
<td>P-3</td>
<td>0817 300</td>
<td>Intermediate date driving wheel and pinion</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Intermediate 24hour wheel and pinion</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Page No</th>
<th>Parts code</th>
<th>Parts name</th>
<th>Parts form</th>
</tr>
</thead>
<tbody>
<tr>
<td>P-3</td>
<td>0802 183</td>
<td>Date indicator driving wheel</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Page No</th>
<th>Parts code</th>
<th>Parts name</th>
<th>Parts form</th>
</tr>
</thead>
<tbody>
<tr>
<td>P-3</td>
<td>0157 182</td>
<td>24hour wheel</td>
<td></td>
</tr>
</tbody>
</table>

### List of screw

<table>
<thead>
<tr>
<th>Page No</th>
<th>Parts code</th>
<th>Parts name</th>
<th>Parts form</th>
</tr>
</thead>
<tbody>
<tr>
<td>P-2</td>
<td>0012 354</td>
<td>Date indicator maintaining plate screw (x4)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0273 182</td>
<td>Hour wheel guard screw (x4)</td>
<td></td>
</tr>
<tr>
<td>P-4</td>
<td>0012 485</td>
<td>Guard for day-date corrector setting transmission wheel screw (x2)</td>
<td></td>
</tr>
<tr>
<td>P-5</td>
<td>0012 919</td>
<td>Ratchet wheel screw</td>
<td></td>
</tr>
<tr>
<td>P-6</td>
<td>0012 100</td>
<td>Balance bridge screw</td>
<td></td>
</tr>
<tr>
<td>P-7</td>
<td>0012 168</td>
<td>Yoke spring screw (x2)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0157 182</td>
<td>24hour wheel</td>
<td></td>
</tr>
</tbody>
</table>
1. Oiling spot

- Barrel and train wheel bridge with hole jewel frame

**Note**

- After oiling, set lower plate for barrel and train wheel bridge & screw.

- After oiling, set first reduction wheel & pawl lever & reduction wheel holder.

---

**Type of oil**
- Moebius 9010

**Oil quantity mark**
- NORMAL QUANTITY
- SUFFICIENT QUANTITY

**Chart**

<table>
<thead>
<tr>
<th>Type of oil</th>
<th>Oil quantity mark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moebius 9010</td>
<td>NORMAL QUANTITY</td>
</tr>
<tr>
<td></td>
<td>SUFFICIENT QUANTITY</td>
</tr>
</tbody>
</table>

**Legend**
- Moebius 9010
- NORMAL QUANTITY
- SUFFICIENT QUANTITY

**SII Products**
32. Balance stop lever

Main plate

Contact part of main plate and balance stop lever

2. Setting position of oscillating weight

- Before assembling oscillating weight.
  Match the center of the oscillating weight and winding stem. Set the hole of first reduction wheel gear on the imaginary line toward the balance bridge guide pin.

3. To remove the winding stem

1) Set the winding stem to normal position.
2) Pull out the winding stem, while pushing "A"
4. Disassembling / assembling of the First reduction wheel
<< Disassembling >>

17 First reduction wheel
15 Reduction wheel holder
13 Barrel and train wheel bridge (back side)

<< Assembling >>

5. Disassembling / assembling of the Ratchet sliding wheel spring.
<< Disassembling >>

14 Ratchet sliding wheel spring
13 Barrel and train wheel bridge with hole jewel frame

<< Assembling >>

Remove the hook of the ratchet sliding wheel spring from barrel and train wheel bridge with hole jewel frame.
The hooks of ratchet sliding wheel spring are hung up on barrel and train wheel bridge with hole jewel frame.
6. Accuracy adjustment

Note:
- Regulator … Time adjustment
- Stud support … Beat error adjustment
- Regulator pin … Gap adjustment of balance spring and regulator pin

*(+) side
*(+) side

Anticlockwise rotation
No clockwise rotation
7. To wind up the mainspring
<<Movement>>
The mainspring would be fully wound up by turning the ratchet wheel screw 8 times clockwise. (Manual winding or Screwdriver)
Manual winding … Rotate crown clockwise at normal position by minimum 55 times. (Equal to ratchet wheel screw 8 times )
Screwdriver winding … Turn the ratchet wheel screw 8 times clockwise.

8. How to attach hands
Place the movement directly on a flat metal plate or something similar to attach the hands.
For hands attachment, please use a special equipment.
When the movement receives a strong shock, it may be damaged.
*Install the 24hour hand. … Cal.NH37 & NH39
Pull out the crown to the second click position and rotation it clockwise to install 24hour hand.

9. Accuracy measurement condition
Static Accuracy: -20~+40 seconds per day
Measurement Conditions
1) Measurement should be done within 10~60 minutes after fully wound up.
2) Lift angle: 53 deg
3) Measurement position: (1) Dial up (2) 9 o'clock up (3) 6 o'clock up
4) Minimum measurement Time: 20 seconds
5) Stabilizing Time:
   Leave the watch for at least 20 seconds to stabilize after you change its measurement position.

10. About the handling … Cal.NH38 & 39
- Part is processed as a mirror surface. It is damaged when touching with tweezers.
Please be careful about the handling.
### How to set the time

1) Pull out the crown to the second click position. …Cal.NH35 & NH36 & NH37
   - Pull out the crown to the first click position. …Cal.NH38 & NH39
2) Turn the crown to set hour and minute hands.
   - (Check that AM / PM is set correctly.)
3) Push the crown back into the normal position.

### How to set the Date …Cal.NH35 & NH36 & NH37

1) Pull out the crown to the first click position.
2) Turn the crown to left for date setting.
3) Turn the crown to right for day setting. …Cal.NH36 only
   *Do not set the date between 9:00 P.M. and 4:00 A.M. as this will cause a malfunction.
3) Push the crown back into the normal position.

### To wind up the mainspring

a) Manual winding … Rotate the crown clockwise at normal position.
   - Wind turning the ratchet wheel screw 8 times. It will start to move naturally after shaking slightly.

b) To wind up with winding machine.
   - Full wind up conditions:
     - Rotary speed : 30 rpm
     - Operating time : 60 minutes