Member State of OIML
Japan

National Institute of
Advanced Industrial Science
and Technology
AIST

OIML Certificate No.
R60/2000-JP1-10.14
Revision 2

# OIML CERTIFICATE OF CONFORMITY

Issuing authority

| | |
|---|---|
| Name: | National Metrology Institute of Japan / National Institute of Advanced Industrial Science and Technology (NMIJ / AIST) |
| Address: | AIST Tsukuba Central 3-9, Tsukuba Ibaraki 305-8563, Japan |
| Person responsible: | Dr. Tamotsu Nomakuchi, President of AIST |

Applicant

| | |
|---|---|
| Name: | YAMATO SCALE CO., LTD. |
| Address: | 5-22, Saenba-cho, Akashi, Hyogo, 673-8688, Japan |

Manufacturer of the certified pattern

| | |
|---|---|
| Name: | YAMATO SCALE CO., LTD. |
| Address: | 5-22, Saenba-cho, Akashi, Hyogo, 673-8688, Japan |

Identification of the certified pattern:

Beam (bending) load cell

| | |
|---|---|
| Type: | UB1-500, UB1-1T, UB1-2T, QUB1-500, QUB1-1T, QUB1-2T |
| Fraction: | Pi=0.7 |
| Temperature range | -10 ℃ / 40 ℃ |

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Characteristics:

| Model designation | | | UB1-500<br>QUB1-500 | UB1-1T<br>QUB1-1T | UB1-2T<br>QUB1-2T |
|---|---|---|---|---|---|
| Accuracy class | Class | - | C | | |
| Maximum number of load cell verification intervals | $n_{max}$ | - | 6000<br>5000<br>4000<br>3000 | | |
| Humidity symbol | | | CH | | |
| Minimum dead load | $E_{min}$ | kg | 0 | | |
| Maximum capacity | $E_{max}$ | kg | 500 | 1,000 | 2,000 |
| Safe load limit | $E_{lim}$ | kg | 1.5* $E_{max}$ | | |
| Minimum verification interval | $v_{min}$ | kg | $E_{max}$ /10000 | | |
| Apportionment factor | $p_{LC}$ | | 0.7 | | |
| Ratio of minimum LC Verification interval $Y=Emax / vmin$ | $Y$ | - | 10000 | | |
| Ratio of minimum dead load output return $Z=Emax/(2*DR)$ | $Z$ | - | 6000<br>in the case of $n_{max}$=6000 | | |
| Rated output | | mV/V | 1.8 | | |
| Maximum excitation voltage | | V DC | 15 | | |
| Input impedance | $RLC$ | | 395±10 | | |
| Cable detail | | - | 5m (maximum)<br>6 wire | | |

This certificate attests the conformity of the above-mentioned pattern (represented by the samples identified in the associated test report(s) with the requirements of the following Recommendation of the International Organization of Legal Metrology - OIML):

R60, edition 2000 (E)
For accuracy class C

This certificate relates only to the metrological and technical characteristics of the pattern of the instrument concerned, as covered by the relevant OIML International Recommendation.
This certificate does not bestow any form of legal international approval.
The conformity was established by tests described in the associated test report no. 10-16/R60:2000, that includes 19 pages.

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Revision 2

The Issuing Authority
NMIJ/AIST

Dr. T. Nomakuchi
President of AIST
2012-09-25

The CIML member

Dr. Y. Miki

2012-09-25

Important note: Apart from the mention of certificate's reference number and the name of the OIML Member State in which the certificate is issued, partial quotation of the certificate and of the associated Test Report is not permitted, although either may be reproduced in full.

National Institute of Advanced Industrial Science and Technology
AIST

NMIJ

OIML MUTUAL ACCEPTANCE ARRANGEMENT

# Evaluation Report

Load cells

Issuing Authority

Name : National Metrology Institute of Japan /National Institute of Advanced Industrial Science and Technology (NMIJ/AIST)

Address : AIST Tsukuba Central 3, Tsukuba Ibaraki 305-8563, Japan

Applicant : YAMATO SCALE CO., LTD.

Manufacturer : YAMATO SCALE CO., LTD.

Applied Type : UB1-500, UB1-1T, UB1-2T, QUB1-500, QUB1-1T, QUB1-2T

Evaluation Report Number: 24-010

This report ensures the conformity of the applied type with the requirements of the OIML R60 (edition 2000), on the basis of evaluation of the attached test report (N° 10-16/R60:2000).

Evaluator :
Wataru Kaminaga
Legal Metrology Division
NMIJ/AIST
Signature :
W. Kaminaga
Date: 2012. 9. 18

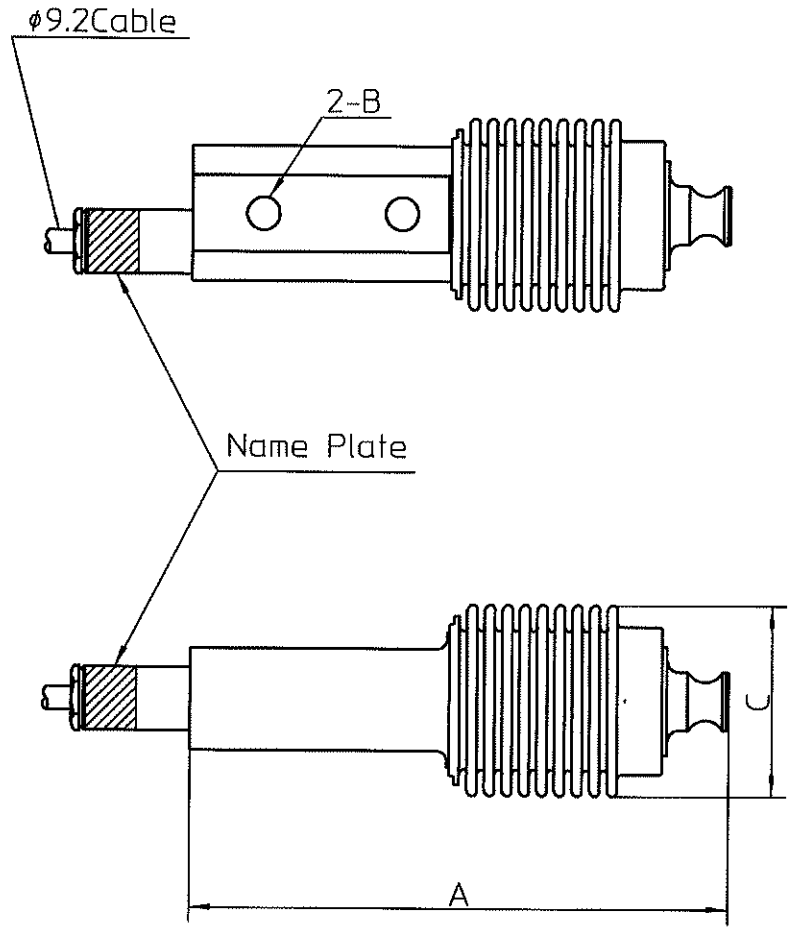
Supervisor :
Shigeki Yamaguchi
Head of Legal Metrology Division
NMIJ/AIST
Signature :
Shigeki Yamaguchi
Date: 2012. 9. 18

# *Description*

## *Technical data*

| Model designation | | | UB1-500<br>QUB1-500 | UB1-1T<br>QUB1-1T | UB1-2T<br>QUB1-2T |
|---|---|---|---|---|---|
| Accuracy class | Class | - | C | | |
| Maximum number of load cell verification intervals | $n_{max}$ | - | 6000<br>5000<br>4000<br>3000 | | |
| Humidity symbol | | | CH | | |
| Minimum dead load | $E_{min}$ | kg | 0 | | |
| Maximum capacity | $E_{max}$ | kg | 500 | 1,000 | 2,000 |
| Safe load limit | $E_{lim}$ | kg | 1.5* $E_{max}$ | | |
| Minimum verification interval | $v_{min}$ | kg | $E_{max}$ /10000 | | |
| Apportionment factor | $p_{LC}$ | | 0.7 | | |
| Ratio of minimum LC Verification interval $Y=E\max / v\min$ | $Y$ | - | 10000 | | |
| Ratio of minimum dead load output return $Z=E\max/(2*DR)$ | $Z$ | - | 6000<br>in the case of $n_{max}$=6000 | | |
| Rated output | | mV/V | 1.8 | | |
| Maximum excitation voltage | | V DC | 15 | | |
| Input impedance | $RLC$ | | 395±10 | | |
| Cable detail | | - | 5m (maximum)<br>6 wire | | |

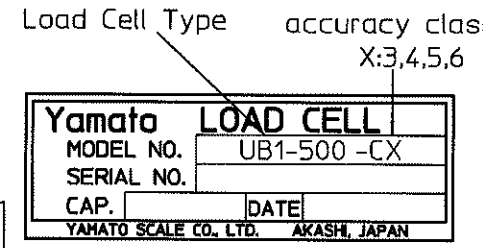
| Type | UB1、QUB1 Series |
|---|---|



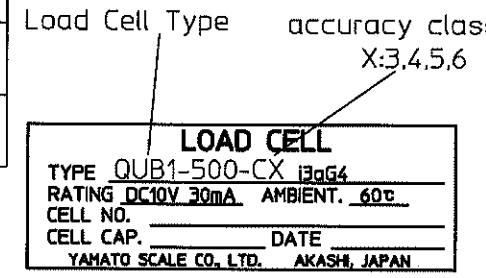

| | A | B | C |
|---|---|---|---|
| UB1、QUB1-500 | 214.5 | φ13 | φ75 |
| UB1、QUB1-1T | 214.5 | φ13 | φ75 |
| UB1、QUB1-2T | 230 | φ18 | φ75 |

Unit: mm

material:steel



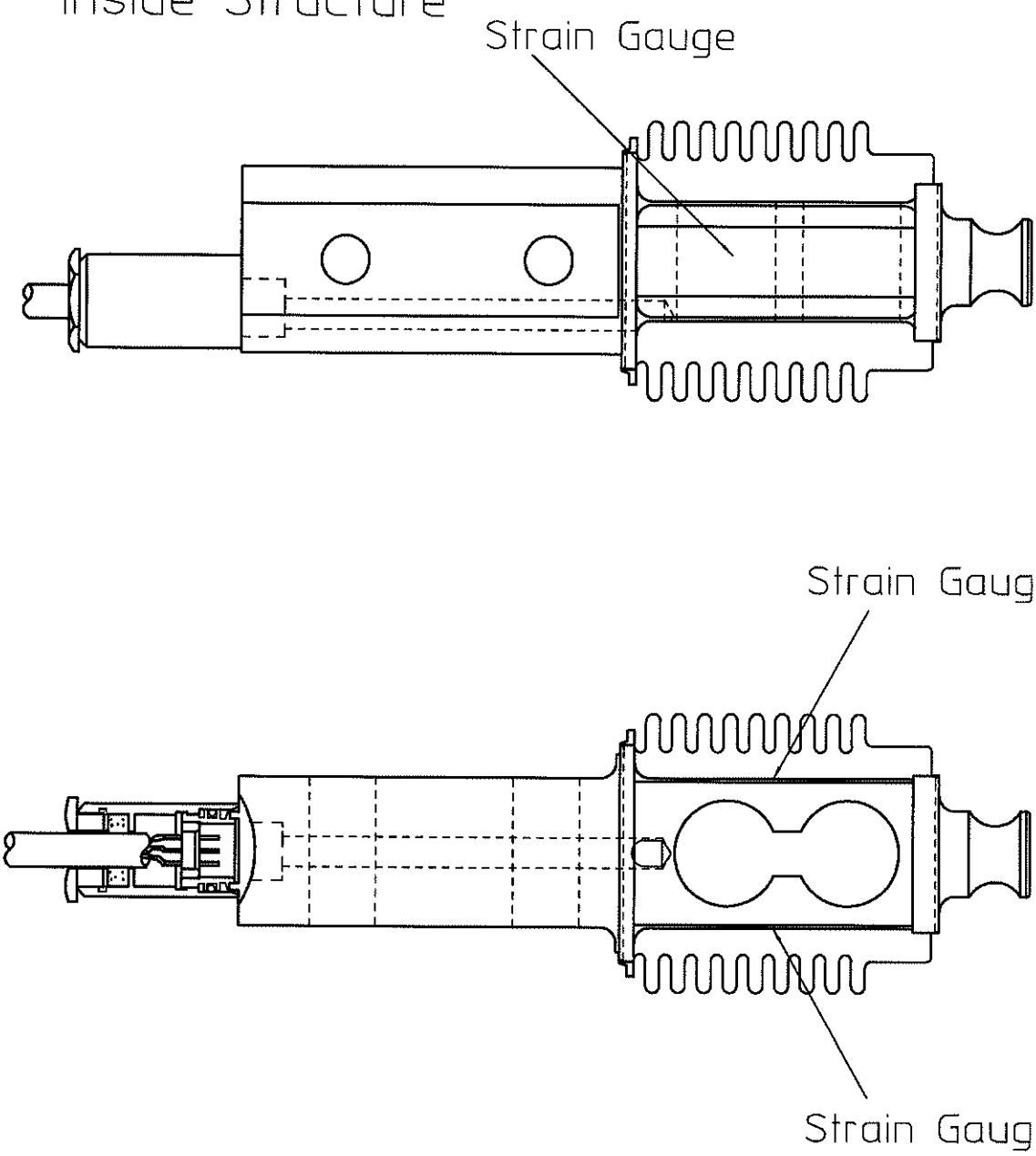

UB1 Name Plate




QUB1 Name Plate

| Type | UB1, QUB1 Series |
|---|---|

Inside Structure



| Type | UB1, QUB1 Series |
|---|---|