



Global Weighing Industry Newsletter Edition 7 (2/2022)

Prepared by CWIA, CECIP & JMIF

Save-the-date International Conference of Weighing 24-26 April 2023 in Hamburg

All interested stakeholders are invited you for the first edition of the International Conference of Weighing (ICW) on 24-26 April 2023 in Hamburg, Germany. The ICW is a three-day conference organised by a partnership of weighing industry associations from all over the world (Japan, South Korea, Australia, China, Europe, US, Brazil & Argentina) and international organisations OIML and BIPM. It will be a key event for everyone involved in the weighing sector by bringing together researchers, industry and authorities. During the three days there will be a large number of presentations on state of the art developments regarding scientific, legal and applied metrology. Moreover, it is an excellent opportunity to meet relevant stakeholders from all over the world. The focus of the first edition is **'Weighing in a global digital world'**.

Interested stakeholders are already encouraged to save the date in their agenda. For more information and regular updates you can visit the website www.weighingconference.com. In the beginning of September the preliminary programme will be announced and registrations will open.

Call for abstracts International Conference of Weighing

The International Conference of Weighing consists of plenary sessions and several parallel sessions where key experts will give presentations on recent developments related to weighing. These parallel sessions include a track dedicated to scientific metrology. It will be an excellent opportunity to present ideas to a global audience of experts from various backgrounds in the weighing sector. We are keen on hearing your ideas for a presentation. Interested researchers and company experts are invited to send an abstract of their papers that could be presented at the conference.

The main topics of the scientific metrology track are:

New definition of kilogram

The new definition of the kilogram became applicable in 2019. This new definition results in many changes in different related areas. Key topics related to the new definition of kilogram include: force, mass & torque.

Digitalisation

The digitalisation of weighing solutions will have an impact on a wide range of aspects. All this comes with challenges that need to be tackled and opportunities to improve processes and products. Key topics include: digital twins, digital calibration certificates, digital documentation, remote services, remote verification & machine learning.

New method development

Mass can be used for numerous measurements by using different methods. New methods can be developed for new measurements. Moreover, current measurement methods can be improved to make them easier or more reliable.

You can send your abstract of maximum two pages (in English) to info@cecip.eu by using [this template](#). The deadline for the submission of abstracts is Friday 16 September 2022. With the evaluation by the scientific metrology programme committee taking place before Friday 21 October 2022. Everyone that submitted an abstract will be contacted shortly after the evaluation and be informed about the next steps.

For questions or comments you can contact Tim Hamers via info@cecip.eu.

Publication of Automatic Weighing Instruments Manual: *Automatic Weighing Instruments—how to use and inspection—*

JMIF published the manual of Automatic Weighing Instruments (AWIs) in February 2022. In Japan, the following five types of AWIs were added to the specified measuring instruments¹ in 2017:

- Automatic catchweighing instruments
- Automatic gravimetric filling instruments
- Discontinuous totalizing automatic weighing instruments
- Continuous totalizing automatic weighing instruments
- The other AWIs.

¹ Measuring instruments used in transactions or certifications, or among measuring instruments principally for use in the lives of general consumers, those prescribed by Cabinet Order

Relevant organizations have been preparing the Japan Industrial Standards (JIS) regarding the AWIs and designation of verification laboratories for the implementation of verification except for “other AWIs,” beginning with automatic catch-weighing instruments.

Since the extension of the scope of the specified measuring instruments, users have requested more detailed explanations. This includes ways to test and inspect as former manuals for AWIs explained abilities, structures, how to use and select.

Therefore, JMIF set up the “AWIs manual editorial committee” and published the guide *Automatic Weighing Instruments—How to Use and Inspection—*, which explains all requested contents for each 10 types subdivided from above AWIs except for “other AWIs.”

The manual is designed to provide basic knowledge about all AWIs including the summary of legal control aimed at AWIs.

In addition, there are lists of companies and products at the end of the book to enrich information.

The followings are excerpts of the contents:

A hopper scale is a kind of automatic weighing instrument (AWI) that divides and weighs bulk products in pre-determined set amounts of raw materials such as powders, granules, and liquids in a hopper-shaped weight-receiving section and returns them to the bulk products again. Hopper scales are used in all industries, including grain, feed, fertilizer, food, steel, chemical, ceramic, construction, distribution, and pharmaceutical industries, where they are integrated into production lines for receiving raw materials, charging, blending, and shipping products.



There are five types of hopper scale weighing methods that are commonly used: quantitative weighing, non-quantitative weighing, gross weighing, cumulative weighing, and net weight calculation weighing (Table 1).

quantitative weighing	A method in which a predetermined amount is set and the set predetermined amount is repeatedly weighed.
non-quantitative weighing	A method in which the bulk product is weighed in portions of a quantity equivalent to a predetermined amount, and the total of the portions is used as the weighing value.
gross weighing,	A method in which a predetermined amount and a total set amount are set, an indefinite amount of integrated weighing near the predetermined amount is performed several times, and finally the total set amount is weighed as the target value.
cumulative weighing	A method in which different objects to be weighed are sequentially and cumulatively weighed in a single weighing hopper, each corresponding to a set predetermined amount.

net weight calculation weighing	A method in which the mass supplied to the weighing hopper and the mass remaining in the weighing hopper after discharge are weighed, and the total difference between them is used as the weighing value.
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Table 1 hopper scale weighing methods

Hopper scales consist of a feeding device, weighing hopper, discharge device, weighing device, indicating device, and control device (Figure 1). The same shape is sometimes used in the weighing sections of bagging scales, combination scales, and flexible container scales. A hopper scale is one of the basic forms of AWI.

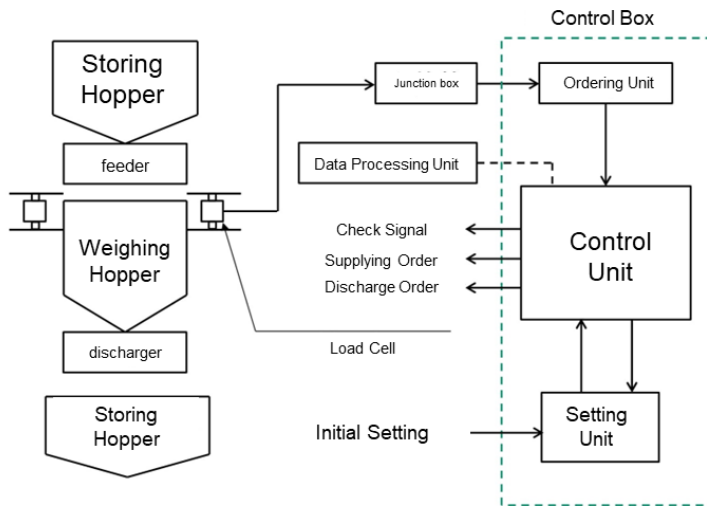


Figure 1.

Hopper scales are divided into four accuracy grades in Japanese Industrial Standards (JIS): 0.2, 0.5, 1, and 2 (Table 2). Basically, the hopper scale is tested by a material test using actual materials. The inspection procedure differs between cumulative weighing and quantitative weighing. If a material test cannot be performed, a non-automatic (static) weighing test using weights may be used. The maximum permissible errors in the case of a non-automatic weighing test are half that of a material test.

Accuracy class	Maximum permissible errors of totalized load		
	Initial verification	In-service (material test)	In-service (static weighing test)
0.2	±0.10%	±0.20%	±0.10%
0.5	±0.25%	±0.50%	±0.25%
1	±0.50%	±1.0%	±0.50%
2	±1.0%	±2.0%	±1.0%

Table 2 Maximum permissible errors for totalized values and predetermined quantities

A belt weigher is used to automatically measure the weight value of bulk products such as raw materials that are continuously transported on a conveyor belt. The value is determined by weighing the load and measuring the speed by the calculator.

In JIS (Japanese Industrial Standards), an instrument which is mainly used to supply a fixed amount, not to integrate the amount of material being transported is classified as "other automatic scales." Verification methods for Belt weighers used for trade or certification proposes require instrumental error test by a material test in accordance with OIML recommendations like other automatic scales.

However, instrumental error test with a test chain is also permitted only when it is difficult to perform a material test on a Belt weigher that has already been installed and used. In that case, verification with a test chain requires greater accuracy than the material test, and the tolerance shall always equal the maximum permissible error (MPE).

In addition, the criteria for each test item are clarified, such as repeatability, fluctuation of zero-point, discrimination ability of the integrated display device used for zero-point setting, and maximum fluctuation of display when no load is set.

A difference between a result of verification with a test chain and actual volume can be adjusted by the compensation device when the equivalent results to the actual weight are not obtained from testing with a test chain.

InterWEIGHING2022 Postponed Again to September 16th for Opening

InterWEIGHING 2022 will be held on September 16-18 in Nanjing International Expo Center, Hall N6-7. Considering the China Dynamic Zero COVID-19 policy, there still won't be any overseas exhibitors and visitors in the event.

Sponsor opportunities at ICW

The International Conference of Weighing will attract a global audience of industry representatives and authorities from the weighing sector. It is a unique event which brings together both authorities and industry. This makes it possible to raise the profile of your company and promote your products, services or ideas to the experts in the weighing industry. Therefore, there are a range of options to sponsor the event from the basic package with advertisements on the website to sponsoring the gala dinner or have a table top at the small exhibition. Besides the visibility in front of the delegates, you support the initiative to bring the global weighing industry together for this event.

[Here](#) you can find the full overview of sponsoring possibilities and the forms to register. All sponsoring packages can be booked based on the first come first serve principle. For more questions you can always contact Nicole Potz from the organising agency VDMA Services via Nicole.potz@vdma.org.

Weighing Instruments Import and export Data 2021.

(Released by China Custom)

According to the China Custom statics for weighing instrument 2021 the following data is available:

1. Total volume import-export 2021: 2.57 billion USDs, increased 25.07% in comparison to the number in 2020.
2. China weighing instrument products export volume 2.37 billion USDs, increased 23.9% in comparison to the number in 2020.
3. Import volume 209 million USDs, increased 39.92% in comparison to the number in 2020.
- 4.

Item	Weighing Products Export Volume (USD)	Compare with the Number in 2020	Take up the total Export Volume for Weighing Products
Region			
Asia	759 Million	+17.73%	32.08%
Europe	702 Million	+31.48%	29.7%
North America	606 Million	+24.47%	25.62%
Africa	120 Million	+29.29%	5.08%
South America	139 Million	+23.48%	5.87%
Oceania	38.96 Million	+2.85%	1.65%

5. Main export markets:

1. USA & Canada (Export 543 Million USDs);
2. EU (Export 510 Million USDs);
3. ASEAN (Export 273 Million USDs);
4. East Asia (Export 204 Million USDs)

6. Main import markets:

1. Germany, total volume: 67.59 million USDs, +48.25% compared with the number of 2020.
2. Swiss, total volume: 31.37 million USDs, +19.53% compared with the number of 2020.
3. Japan, total volume: 23.62 million USDs, +10.84% compared with the number of 2020.

Further easement of transition to UKCA marking

The UK government updated again the legislation on UKCA marking necessary to access to the UK market. In short, there is an extension to use EU type-approvals and easing of marking requirements.

The main changes are:

- Re-testing costs for UKCA certification will be reduced by allowing conformity assessment activities for CE marking completed by the 31 December 2022 to be used by manufacturers as the basis for UKCA marking. This will reduce the immediate costs faced by manufacturers and will be valid until the expiry of their certificate or for 5 years (31 December 2027), whichever is sooner. This will reduce duplication and costs for businesses and by extension, consumers.
- It is made clear there is no need to re-test existing imported stock, as these products will be considered already placed on the market in Great Britain (GB). This will prevent the costly, and unnecessary re-labelling of existing stock for businesses.
- It is made clear that spare parts that repair, replace or maintain goods already on the GB market can meet the same requirements that were in place at the time the original product or system was placed on the GB market. This will allow products and goods requiring spare parts to continue to be maintained.
- Businesses can continue to affix the UKCA marking, and to include importer information for products from EEA countries (and in some cases Switzerland), on an accompanying document or label until 31 December 2025. This will allow business to adjust their product design to accommodate marking changes at a convenient and cost-effective time.

The official information and the full guidance can be found [here](#).