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Guidelines for statutory order on measurement control provisions for multidimensional measuring instruments

1. The statutory order covers measuring instruments used to measure the dimensions (length, height and width) of the smallest “box” (parallelepiped) which can enclose a product, where the measurement result is to be used to determine pricing for shipment of the product.

NB.

- Example application areas covered by this statutory order:
 - o Packages to be mailed or freighted
 - o Air freight
 - o Storage charges
- The statutory order does not apply where the measurements are not used as the basis for payment, for example:
 - o dimension measurements for warehouse logistics (optimising space in a warehouse)
 - o stowage of vehicles or containers
 - o electronic freight information (EDI)

If a customer declares freight based on their own measuring instrument, but payment is still determined by the carrier’s measuring instrument, the latter is covered by the statutory order, whereas the former is not.

2. The statutory order pertains to

- Under this statutory order, instrument suppliers are those parties who market, sell or supply measuring instruments used to measure the dimensions (length, height and width) of the smallest “box” (parallelepiped) which can enclose a product, where the measurement result is to be used to determine pricing for shipment of the product. Instrument suppliers can be producers of measuring instruments (including manufacturers in the sense of the framework statutory order), importers or dealers.

Under the MID Directive, a manufacturer is someone who is responsible for ensuring a measuring instrument to be marketed in relation to the MID Directive complies with the Directive. The manufacturer markets the measuring instrument in their own name, or uses it for their own purposes. It therefore does not have to be the party which makes the measuring instrument. Manufacturers not based in the EU must have an approved representative within the EU.
- Under the statutory order, instrument owners are companies or individuals who own or have access to measuring equipment, and who use the equipment for the purposes covered by the statutory order.
- Under the statutory order, consumers are companies or individuals who are the party to the transaction who does not have the equipment at their disposal.
- Under the statutory order, designated bodies are third-party bodies authorised to carry out the tasks described in the framework statutory order, for the module (B, D, D1, E, E1, F, F1, G, H or H1) covered by the body's authorisation. The work of the designated bodies is carried out by requisition from the manufacturers. Designated bodies can work for manufacturers in all countries, including countries outside of Europe.
- Under the statutory order, authorised laboratories are laboratories authorised to carry out reverification of measuring instruments which have been repaired, and periodic reverification. The work of the authorised laboratories is carried out by requisition from the manufacturers or instrument owners.

3. Provisions covering new instruments

This order will enter into force on 30 October 2006. It implements the requirements of the Measuring Instrument (MID) Directive in Danish legislation. Instruments marketed or taken into use for the applications covered by this order after 30 October 2006 must fulfil the provisions of the order. This involves:

3.1 Manufacturer's obligations:

The manufacturer must provide a compliance declaration and compliance mark (CE + M – year (2 digits) + designated body number (4 digits)) for multidimensional measuring instruments prior to marketing or selling them. This entails that the manufacturer must:

- 3.1.1 declare the properties of measuring instruments:
 - climatic environment (temperature range, humidity, open or closed position)
 - mechanical environment
 - electromagnetic environment
 - power supply and other factors which can influence the precision of the instrument
 - operating conditions
- 3.1.2 produce the measuring instruments
- 3.1.3 select the compliance module (B+D or B+F or G or H1)¹
 - if module B is selected, choose a designated body and requisition type testing
 - if module F is selected, choose a designated body and requisition product verification
 - if module D is selected, choose a designated body and ask it to approve the quality control system for production, and regularly monitor it
 - if module G is selected, choose a designated body and requisition unit verification
 - if module H1 is selected, choose a designated body and ask it to approve the total quality control system and regularly monitor it, and perform a design investigation
- 3.1.4 issue a written compliance declaration (stating that the multidimensional measuring instrument complies with all relevant EU directives) and affix a CE mark
- 3.1.5 market the measuring instruments

3.2 Instrument owner's obligations:

The instrument owner must purchase and install multidimensional measuring instruments which are suited to precise measurement under the given application conditions and monitor the condition of the measuring instruments after they are taken into use. This entails that the instrument owner must:

- 3.2.1 select measuring instruments based on the values declared by the manufacturer (see section 3.1.1) suited to the application conditions the measuring instruments will be exposed to:

- Climatic environment. When purchasing multidimensional measuring instruments it is important to define the temperature range within which the measuring instrument has to operate. The MID Directive works with upper and lower temperatures as specified in the table below.

	Temperature limits			
Upper temperature limit	30 °C	40 °C	55 °C	70 °C
Lower temperature limit	5 °C	- 10 °C	- 25 °C	- 40 °C

¹ For mechanical or electromechanical instruments, these modules may also be chosen: B+E or D1, E1, F1 or H

The maximum and minimum temperatures between which the measuring instrument has to operate are critical to the choice of instrument. Indoor temperatures are seen as always lying within the range + 5 °C to +30 °C. However, if the measuring instrument is installed in an unheated location, the ambient temperature can often lie outside this range.

Installation outdoors can often lead to quite different temperature conditions for measuring instruments. The possibility of exposure to direct sunlight must be taken into consideration. In addition to influencing the temperature, sunlight can interfere with measurement.

Instrument owners must also specify whether condensation can arise in the given environment, for example where multidimensional measuring instruments are installed in cool rooms or used to measure frozen products.

- Mechanical environment. Under the directive, the manufacturer must specify what mechanical impacts the measuring instrument can tolerate.

- Electromagnetic environment. The EMC class must be selected based on the environment the instrument will be used in. Class E1 may be chosen for instruments used in locations where the power supply is the public 230/240 V net, such as in supermarkets. Class E2 is for other applications.

- Operating conditions. The operating conditions under which the measuring instrument is to be used must also be specified. E.g.

- the speed at which the items pass the instrument
- dimensions (and shape, if applicable) the instrument is suitable for measuring

Note that if the items are wrapped in film or plastic, the instrument must be suited to this type of item.

3.2.2 establish procedures to ensure that the multidimensional measuring instrument constantly complies with the usage tolerances, and ensure that the measuring instrument is reverified at least once every four years (see section 4)

4. Provisions covering measuring instruments in use

Under the statutory order, responsibility for ensuring the measuring instrument never exceeds usage tolerances rests with the instrument owner. As part of this responsibility, the instrument owner must have the measuring instrument periodically reverified at least once every four years

5. Continued use of measuring instruments already in use

Measuring instruments legally put into use prior to 30 October 2006 may continue to be used legally. This is the case even if these measuring instruments have not been type approved or verified or otherwise been subject to (metrological) control by an authority. The provisions of the statutory order covering instruments in use do not apply to such instruments.

The Danish Accreditation and Metrology Fund – DANAK

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