

T3B

Issued to

S-E-G Instrument AB

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T3B is fulfilling module B (Annex II) of directive 2014/32/EU on measuring instruments (MID), implemented in Swedish law by SWEDAC (The Swedish Board for Accreditation and Conformity Assessment) through STAFS 2016:1 The Measuring Instruments Regulations and STAFS 2016:7 The Regulations and Guidelines concerning Automatic Weighing Instruments. RISE Certification Rule SPCR 302 dated 2017-02-15 has been applied.

Applicable essential requirements of directive 2014/32/EU

- Annex I, Essential requirements
- Annex VIII (MI-006), Automatic weighing Instruments

Harmonised standards and normative documents used

OIML R50, edition 1997

Further applied documents

WELMEC 7.2, Software Guide (Issue 2)

Rated operating conditions

Measurand:	Any material within the measuring range	Mechanic environment class:	NA
Measurement range:	$Q_{max} \leq 10800 \text{ t/h}$ $Q_{min} \geq 20 \% \text{ of } Q_{max}$	Electromagnetic environment class:	E1
Accuracy class:	0.5 -2	Climatic environment:	-10 to +40 °C Condensing Closed (in cabinet, indicator), Open weighing unit

Originally issued: 03 September 2008

Expiry date: 03 September 2028

This certificate replaces earlier issues. The previous issues were in accordance with directive 2004/22/EC. Earlier issues are issued under the name SP Technical Research Institute of Sweden.

Issued by Notified body 0402.

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The instruments / measuring systems must correspond with the following specifications:

1. Design of the instrument

1.1 Construction

Product names

T3B

Measuring system description

The weighing instrument is a Continuous totalizing automatic weighing instrument (belt weigher). The instrument consists of an indicator connected to one or more weighing units which are parts of a belt conveyor. The displacement transducer consists of a tachometer driven by the clean side of the belt or the non-drive pulley. The weighing instrument may be a single speed or variable speed belt weigher.

1.2 Weighing unit

The weight of the transported material is measured by the weighing unit equipped with load cells KPS4-100, -200, -350, -1000 or KP4-100, -200, -350, -1000. There are four versions of the weighing units named AK, BK, CK or DK.

Displacement transducer

The motion of the conveyor belt is measured by a SEG F tachometer driven by the clean side of the belt or the non-drive pulley.

1.3 Sensor

Manufacturer of load cell: S.E.G Instruments AB

Type	KPS4-100	KPS4-200	KPS4-350	KPS4-1000
	KP4-100	KP4-200	KP4-350	KP4-1000

1.4 Indication of the measurement results

The electronic unit consists of the weight indicator SEG T3. The housing consists of a galvanized steel box and is always mounted in a cabinet. In the front there are two LCD-displays and nineteen pushbuttons. Manufacturer is S-E-G Instrument AB.

1.5 Software

The validation of software was based on the essential requirements given in MID and WELMEC Guide 7.2.

Software version

The following program versions are approved:

Type of program	Program version	Checksum
Embedded	T3B-V 1.0 - T3830	069C12B4h
Embedded	T3B-V 1.0 - T3850	0694DDC8h

The software version is displayed in the upper LCD window at each power-up. Access to the version number may also be initiated by enabling the function "cold start" via the menu system.

1.6 Optional equipment and functions subject to MID requirements

- automatic zero setting

1.7 Technical documentation

The operating manual includes technical specifications and for example how to zero set the belt.

1.8 Integrated equipment and functions not subject to MID

See operating manual.

2. Technical data

2.1 Rated operating conditions

Measurand

Any material within the measuring range, weight expressed in kg

Measurement range

Maximum flowrate	$Q_{max} \leq 10800 \text{ t/h}$
Maximum capacity	$Max = Q_{max} * W_L / 3600 * v \text{ (in kg)}$
Minimum flowrate	
-single speed	$Q_{min} \geq 20 \% \text{ of maximum flow rate}$
-variable speed	$Q_{min} \geq 20 \% \text{ of maximum capacity}$
Minimum totalized load	$\Sigma_{min} \geq \text{according OIML R50-1, article 2.3}$
Weigh length	$1 \text{ m} \leq W_L \leq 2 \text{ m}$
Minimum operating speed, v_{min}	$0,1 \text{ m/s}$
Maximum operating speed, v_{max}	$3,0 \text{ m/s}$
Temperature range	$-10^\circ\text{C to } +40^\circ\text{C.}$

Load cell capacity	Maximum flow rate, Q_{max}
160 kg	1,8 to 1080 t/h
320 kg	3,6 to 2160 t/h
560 kg	6,3 to 3780 t/h
1600 kg	18 to 10800 t/h

Accuracy

0,5	with two or more weighing units
1	with two weighing units
2	with one or two weighing units

Environments classes / influence quantities

Mechanic:	NA
Electromagnetic class:	E1
Ambient temperature limits:	$-10^\circ\text{C to } +40^\circ\text{C}$
Humidity:	condensing
Location:	closed Indicator T3, Open weighing unit

2.2 Other operating conditions

None applicable

3. Interfaces and compatibility conditions

The instrument may use the following protective interfaces for data communication:

- data cable, serial current loop (for printouts etc.)
- data cable, serial RS232C (for printouts etc.)
- data cable, serial RS485/RS422 (for external pulse counter or printouts etc.)
- signal cable, digital I/O (for ordering printouts etc./for manage (on/off) of relays etc.)
- signal cable, analogue I/O (0/4-20 mA, flowrate etc.).

4. Requirements on production, putting into use and utilization

4.1 Requirements on production

No special requirements identified.

4.2 Requirements on putting into use

No special requirements identified.

4.3 Requirements for consistent utilisations

No special requirements identified.

5. Control of the measuring tasks of the instrument in use

No special measuring tasks are identified

6. Security measures

6.1 Sealing

Interfaces

No sealing of interfaces is necessary

Indicator

Metrological data is secured when the needle switch S1A is open (on the rear of the display board of the SEG T3 system), see fig 1. At least one of the edges of the housing shall be sealed by wire or sticker.

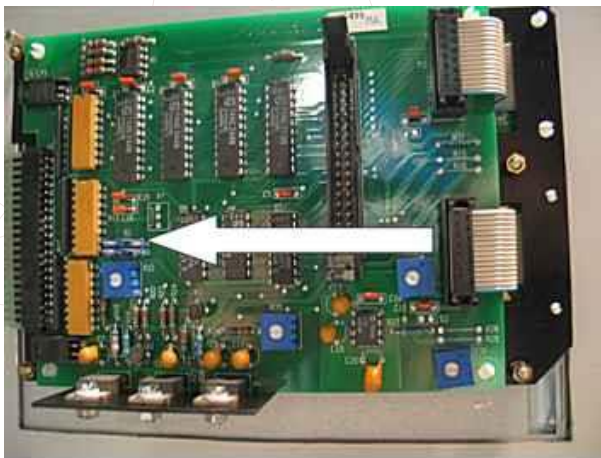


Figure 1. Metrological data is secured when the needle switch S1A is open.

Load cells

The connection box for the load cells must be sealed.

The load cells shall have a clearly visible serial number. The serial number shall be marked on the descriptive plate

6.2 Data logger

There is no mandatory requirement to have a data storage device

7. Labelling and inscriptions

7.1 Information to be borne by the instrument

The marking on the instrument shall contain the following information:

- name or identification mark of the manufacturer
- serial number and type designation
- the inscription "Zero testing shall have a duration of at least xx revolutions",
- electrical supply
- certificate number
- accuracy class
- totalization scale interval, d=
- speed or range of speeds (v),
- maximum flowrate, Q_{max} =
- minimum flowrate, Q_{min} =
- minimum totalized load, Σ_{min} =
- product description
- maximum capacity, Max=
- Weigh length, W_L =
- control value
- temperature range
- load cell numbers

7.2 Conformity marking in accordance to MID article 21

The instrument shall be marked in accordance to MID article 21 which e.g. describes the CE-marking together with M, year of marking and the notified body number.

7.3 Further inscriptions, if necessary

No further inscriptions considered necessary.

8. Manuals

The following manuals are to accompany the different systems in the official language of the country of use (the manufacturer is responsible for the translation of approved documents).

<i>Program version</i>	<i>Title of manual</i>	<i>Document version</i>
V 1.0	S42-830E Instruction System T3000	06-08-10
V 1.0	S42-850E Instruction System T3000	06-08-10

9. Testing and examination

All the plans, schematic diagrams and documentations are recorded under reference files P806384 and MTm P702831-2.