

Electronic gravimetric filling instrument – Autopac, Autopac HS, Bigpac, Bigpac TS, Fallpac, Manpac, Optipac, Skruvpac

Issued to

VEBE Teknik AB

SE-574 95 Björköby, Sweden

Electronic automatic gravimetric filling instrument – A family of electronic automatic gravimetric filling instruments with the type designation Autopac, Autopac HS, Bigpac, Bigpac TS, Fallpac, Manpac, Optipac, skruvpac 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 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 R61, edition 2004, Automatic gravimetric filling Instruments

Further applied documents

- WELMEC 2.6, Guide for the testing of automatic catchweighing instruments

Rated operating conditions

Measurand:	Weight of bags	Electromagnetic environment class:	E2
Measurement range:	4-1200 kg		
Accuracy class:	Ref (0,5),(1), (2)	Climatic environment:	-10 to +40 °C (non-condensing)

Originally issued: 2008-03-28

Expiry date: 2028-03-05

This certificate replaces earlier issues. This issue is due to update of measurement range (error) and clarification of Accuracy class

Issued by Notified Body No. 0402.

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

Certificate No. 0402-MID-489801 | issue 4 | 2019-05-23

RISE Research Institutes of Sweden AB | Certification
Box 857, SE-501 15 Borås, Sweden
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9P04316



1. Design of the instrument

1.1 Construction

The weighing instrument is an automatic gravimetric filling instrument, a subtractive weigher, which produce predetermined mass of individual fills, including big-bags. The mechanical construction could be a platform, sack clamp, filling aggregate or a hopper scale, with or without lever system.

1.2 Sensor

The weighing is performed when the bucket or other lifting equipment is raised in weighing position and when the bucket is used it is raised in fully retracted position. The weighing is performed dynamically.

Pressure sensor

Type	Z6	HLC
Test certificate No.	TC2207 (rev. 4)	R60/2000-NL1-13.26
Manufacturer of sensor	HBM	

1.3 Measurement value processing

Hardware

An electronic unit is connected to load cells supporting a weighing hopper, sack clamp, filling aggregate or a platform, with or without lever system. The bag is filled by means of a screw feeder, vibrator-chute or other suitable construction. The filling is performed in one or several rough discharges and one or several fine discharges. The instrument must be permanently mounted in level position.

Software

The validation of software was based on the essential requirements given in MID and WELMEC Guide 7.2. A certificate DE-06-MI006-PTB002 dated 2012-07-03, DE-16-MI006-PTB011, dated 2016-11-16 was issued and is held by PTB.

The software version within the SIWAREX FTA is V 5.y.z , V 6.y.z, V 7.y.z or V 9.y.z and above (the y.z is not concerning metrological functions). The software cannot be changed after securing. Start the program "SIWATOOL FTA" and select data record DR9 (Application-ID) and the tab "Info on module" to check that an authorized software is loaded into the instrument.

Then select data record DR3 (Adjustment parameter) and the tab "Calibration param. 3" to verify that the regulations field is set to "OIML".

1.4 Indication of the measurement results

The terminal displays the gross/net weight of the material and filling status, and controls the feeding device. The indication may also be of multi-interval- or multiple range type. Via a key it is possible to view a higher resolution temporary.

The indicator is outlined as a module of the programmable logic circuit (PLC) SIMATIC S7-... and is composed of the analogue digital processing unit (A/D conversion) SIWAREX FTA which is integrated into the PLC, and a display unit Siemens SIMATIC HMI or Siebert S11 or Siebert S102. Several strain gauge load cells may be connected. The SIWAREX FTA performs the A/D conversion and forms the weight value. Manufacturer is Siemens AG.

The SIMATIC HMI is a terminal with either a touch screen monitor or with separate function keys.

The Siebert S11 or Siebert S102 is having a seven segment LED display equipped with additional display elements for signalling different indications such as NET, zero $\leq \frac{1}{4} d$, etc.it.

1.5 Optional equipment and functions subject to MID requirements

- preset tare
automatic fill correction
big-bag function
- For protection against stroke of lightning and surge a device designated BXT ML4 BE12 may be used. Manufacturer is Dehn & Söhne.
- An optional data storage device may be used. The equipment consists of an insertable multi-media-card and each data set has an identification code and is protected by a checksum. The communication is done via the serial interface

1.6 Technical documentation

The operating manual includes technical specifications and for example how to get access to the checksum. Dynamic settings is protected by a hardware switch.

1.7 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

Type	Capacity	d	No. loadcells	Gross/Net
Autopac	4-51 kg	10-20 g	3	Gross
Optipac	4-51 kg	10-20 g	3	Gross
Skruppac	4-51 kg	10-20 g	1	Gross
Manpac	4-51 kg	10-20 g	1	Gross
Fallpac	4-51 kg	10-20 g	1	Gross
Bigpac	400-1200 kg	0,5 kg	4	Gross
Nettovåg	4-51 kg	10-20 g	3	Net

Maximum rate of operation ≤ 1000 fills per hour

Number of loads per fill 1

Power supply 24 DC

Maximum length of the load cell cable from the junction box to the evaluation unit is 500 meter (6-wire, ≥ 0,75 mm²).

Durability period under rated operating conditions estimated by the manufacturer

Durability period estimated to be 12 months.

2.2 Other operating conditions

Not applicable.

3. Interfaces and compatibility conditions

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

- front plug with 40 screws fixed contacts for load cells, digital I/O, analog I/O
- RS422 for remote display (Siebert S11 or S102)
- RS232, 9 pins D-sub plug for connection of printer or PC
- Current loop, 20 mA
- PLC-bus
- Multi-media card

4. Requirements on production, putting into use and utilisation

4.1 Requirements on production

No special requirements identified.

4.2 Requirements on putting into use

Verification at the place of use is required.

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.

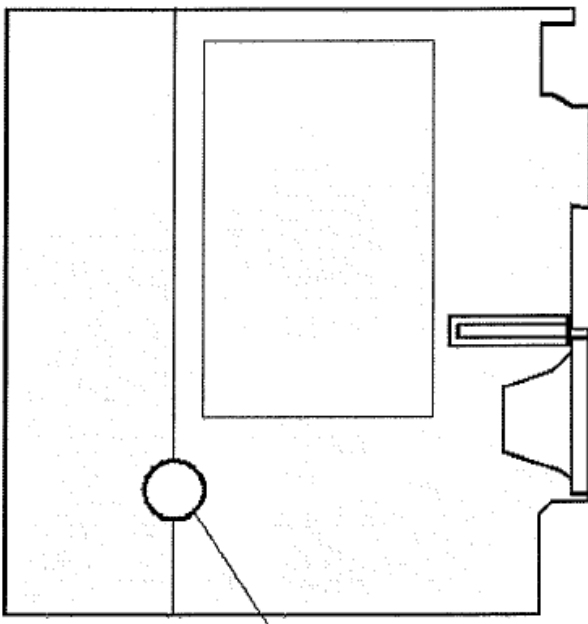
6. Security measures

6.1 Sealing Interfaces

No sealing of interfaces is necessary

Indicator

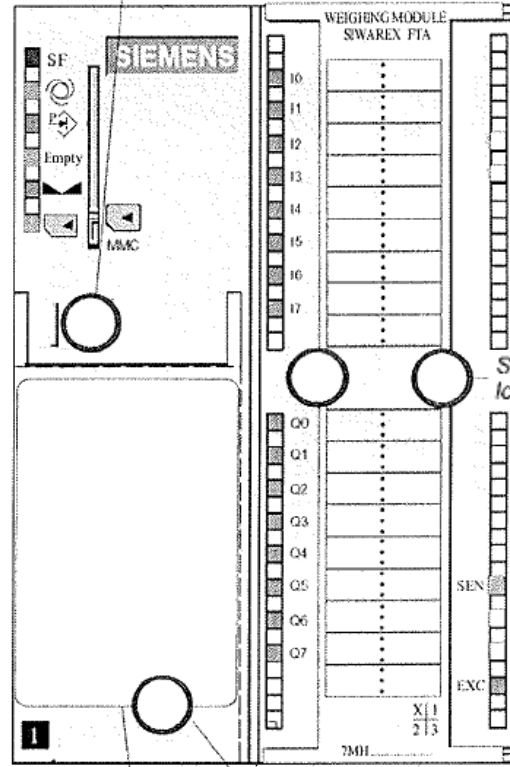
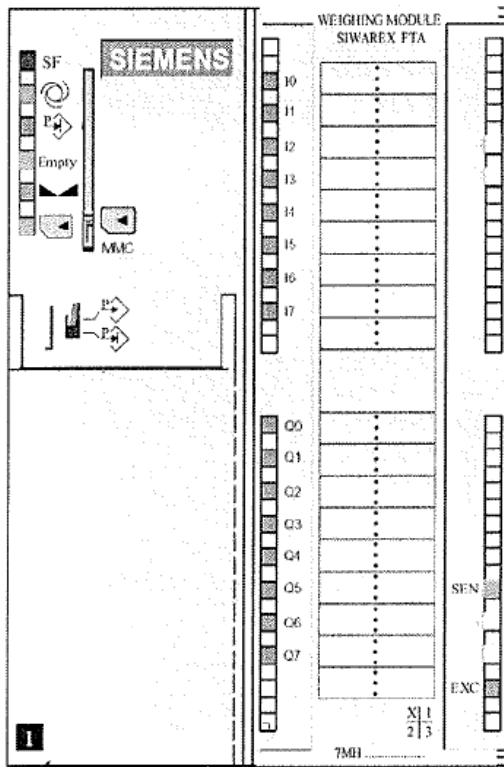
The indicator shall be sealed with stickers on the edge of the front panel and one on the edge of bottom panel. The verification switch on the front covers shall be sealed.



Note: The program checksum shall be checked and noted.

Load cells / pressure sensors

The cable connections should be sealed with sealing stickers or wire



Sticker for securing the load cell connection

Descriptive plate

The descriptive plate (plates) shall be secured with sealing stickers unless the plate cannot be removed without being destroyed.

6.2 Data logger.

The weighing results subject to legal control is considered as being documented by the fillings contained in separate batches designated by the fill weight

7. Labelling and inscriptions

7.1 Information to be borne by the instrument

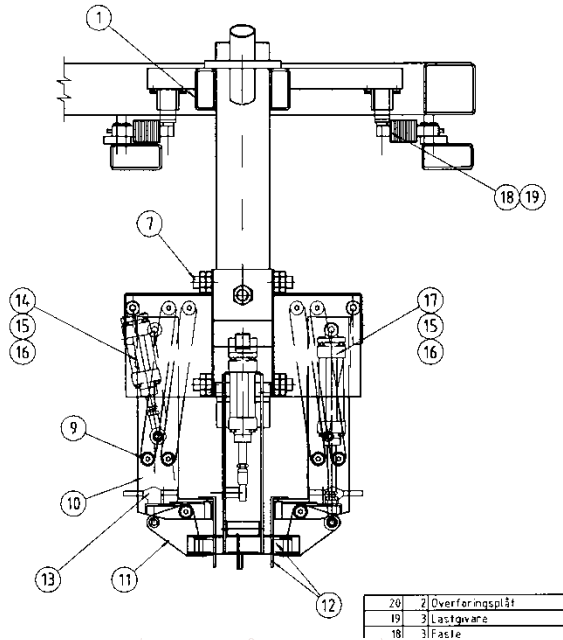
The descriptive plate mounted on the instrument shall contain the following information:

- name or identification mark of the manufacturer
- serial number and type designation
- number of EC type examination certificate
- accuracy class, X(x) and reference value for accuracy class, Ref (x)
- scale interval, d
- maximum capacity, Max
- minimum capacity, Min
- maximum subtractive tare, T = -Max
- temperature range
- electrical supply
- 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



8. Testing and examination

All the plans, schematic diagrams and documentations are recorded under reference file 8P00274.