

(UK/0126/0028)



MI-006

United Kingdom of Great Britain and Northern Ireland

Certificate of EC type-examination of a measuring instrument

Number: UK/0126/0028 revision 2

issued by the Secretary of State for Innovation, Universities and Skills
Notified Body Number 0126

In accordance with the requirements of the Measuring Instruments (Non-Prescribed Instruments) Regulations 2006 which implement, in the United Kingdom, Council Directive 2004/22/EC, this certificate of EC type-examination has been issued to:

**Loma Systems Group and ITW Group
Southwood
Farnborough
Hampshire
GU14 0NY
United Kingdom**

in respect of an automatic checkweigher designated the CW³ and having the following characteristics:

Maximum capacity	Max \leq 6000 g
Minimum capacity	Min \geq 50 g
Scale interval	e \geq 1 g
Number of scale intervals	n \leq 6000
Maximum belt speed	\leq 100 m/min
Accuracy class	XIII(1)

The necessary data (principal characteristics, alterations, securing, functioning etc) for identification purposes and conditions (when applicable) are set out in the descriptive annex to this certificate.

This revision replaces previous versions of the certificate.

A handwritten signature in black ink, appearing to read 'G. Jones', is written over a horizontal line.

Signatory:

for

Chief Executive
National Weights & Measures Laboratory
Department of Innovation, Universities & Skills
Stanton Avenue
Teddington
Middlesex TW11 0JZ
United Kingdom

Issue Date: 11 December 2008
Valid Until: 02 July 2018
Reference No: T1108/0040/86

Descriptive Annex

1 INTRODUCTION

This pattern of an automatic catchweighing instrument, designated the CW³, operates as an automatic checkweigher (Category X).

The instrument comprises a cabinet with user interface, weighing device, mechanical handling facilities and reject device. The instrument is designed to weigh packs dynamically.

2 FUNCTIONAL DESCRIPTION

2.1 Mechanical

2.1.1 The instrument (Figure 1) is constructed in stainless steel. The framework is a fabricated floor standing stainless steel frame on adjustable feet. On the frame are mounted the modular conveyor sections (in-feed, weigh platform, and out-feed) and the main cabinet with console. The out-feed conveyor can be equipped with one of a number of reject devices, including a flipper, drop flap, ram or air blast. The instrument is designed to be permanently installed.

2.1.2 The control cabinet, situated at the front of the instrument, houses the electrical hardware. A console, mounted above the control cabinet contains the keyboard and display in the form of a touch screen. Photocells mounted at either end and either side of the conveyor are used for pack detection. The photocells may also be over head photocells type PEC.

2.1.3 Packs are weighed as they pass over the weigh head conveyor which runs continuously at the speed of the in-feed and out-feed conveyors. The weighing system is constructed around a Vishay Tedea Huntleigh 240 C3 load cell, capacity 10 or 20 kg (see 2.4.1), located under the weigh platform. The load cell is thermostatically controlled and is housed in an oil filled box.

2.2 Electrical

2.2.1 The control cabinet is accessed from a door at the front. Inside are the PC console, load cell module, filters, circuit breakers, power supplies, motor drive cards and appropriate input/output modules type X20 for external electrical interfaces such as the out-feed mechanisms and external peripherals.

2.2.2 The load cell module type X20AI1744-3 is directly connected to the load cell with a 6-wire cable and reads and digitises the analogue load cell signal with a 24bit ADC type B&R. The CPU type Intel Geode reads this digital value and performs digital filtering and processing of the signal to produce the individual pack weight.

2.2.3 Mounted towards the top of the control cabinet is an aluminium-enclosed PC console manufactured by B&R and designated the PP420. It houses a 10.4-inch colour touch screen (Figure 2), interface ports, processor type Geode LX800 500MHz, 64Mb SDRAM, Compact Flash card, power buttons and status LED's. It communicates with the load cell and I/O modules via X20 Link.

2.2.4 The 256Mb Compact Flash card, type I, is inserted in a slot located on the side of the console and can be secured using the rotating latch. The card contains all the firmware with programs and data.

2.4 Weigh platform unit

2.4.1 The load cell is a Vishay Tedeá Huntleigh 240 C3, capacity 10 kg (Lightweight variant, maximum capacity 1500g) or 20 kg (Mid-Range variant, maximum capacity 6000g). The PC console provides the 10VDC excitation voltage.

2.4.2 The system uses the in-feed and out-feed photocells to detect the arrival and passing of any packs. The “Auto Zero” mode is active when there are no packs on the platform. The weight signal is continually monitored to find the optimal point at which to take the final product weight. The analogue output is then sent to the load cell module to be digitised and processed before it is sent to the PC.

2.5 Devices

2.5.1 The instrument has the following devices:

- Automatic zero setting device active during automatic operation (active if the time between two packs is more than 500 ms)
- Pre-set tare device (subtractive)
- Static calibration not accessible to the user
- Dynamic calibration accessible to the user
- Belt speed setting accessible to the user
- Internal memory for storage of batch reports
- Device to determine the stability of equilibrium, active during dynamic operation
- Device that acts upon significant faults
- Screen check at power-up

3 TECHNICAL DATA

3.1 The CW³ has the following technical characteristics.

Maximum capacity:	$1500 \text{ g} \leq \text{Max} \leq 6000 \text{ g}$
Minimum capacity (Min):	$\geq 50 \text{ g}$
Scale interval:	$e \geq 1 \text{ g}$
Maximum number of scale intervals:	$n \leq 6000$
Tare:	$T \leq -10\% \text{ Max} / 300\text{g}$
Load cell model	Tedeá Huntleigh 240 C3
Load cell E_{max}	10 or 20 kg
Climatic environment	0°C to +40 °C
	Non-condensing (closed)
Electromagnetic environments	E1 and E2
Power supply	100 - 240 V.a.c. 50 Hz
Accuracy class	XIII(1)

3.2 Maximum belt speed

Load	Lightweight variant	Mid-Range variant
50 g to 200 g	80 m/min	50 m/min
201 g to 1500 g	100 m/min	100 m/min
1501 g to 2000 g	-	100 m/min
2001 g to 6000 g	-	70 m/min

3.3 Documentation and drawings

Description	Drawing / Document number	Rev.	Remarks
Operating Manual	-	-	-
CW ³ Checkweigher	W007445	A	Dimensions
CW ³ Checkweigher	5550/C3/60779	A	Assembly
CW ³ wiring diagram	5550/C3/60778	A	
Load cell Model 240	12030	05-Jul-05	Data sheet
Power supply PS104	-	1.1	Data sheet
PP420 PC console	4PP420.1043 - 75	-	Dimensions

3.4 Software

3.4.1 The software is version number V02.XX.YY where 02 reflects the legally relevant part of the software and XX and YY are numbers respectively reflecting major and minor changes to the non-legally relevant part of the software. The software version is shown in the start-up window when the instrument is in warm-up mode and can also be displayed at any time upon command.

3.4.2 Security

Access to the legally relevant part of the software is password protected. Every time the metrological parameters are changed an audit counter is incremented. This counter can be displayed by selecting the “MID/R51” screen in service settings, and should be written on a tamper-evident label located on or near the rating plate. Alternatively, the counter can be written in the Metrology Book accompanying the instrument, or displayed in a non-editable table gathering the legally relevant information for the instrument (see 5.1.2).

4 PERIPHERAL DEVICES AND INTERFACES

4.1 Interfaces

4.1.1 The instrument may have a number of the following interfaces:

- RS 232
- USB
- Ethernet

4.2 Peripheral devices

4.2.1 The instrument may be connected to any peripheral device that has been issued with a test certificate by a Notified Body responsible for Annex B (MI-006) under Directive 2004/22/EC in any Member State and bears the CE marking of conformity to the relevant directives; or

A peripheral device without a test certificate may be connected under the following conditions:

- it bears the CE marking for conformity to the EMC Directive 89/336/EEC;
- it is not capable of transmitting any data or instruction into the weighing instrument, other than to release a printout, checking for correct data transmission or validation;
- it prints weighing results and other data as received from the weighing instrument without any modification or further processing; and
- it complies with the applicable requirements of Paragraph 8.1 of Annex I.

4.2.2 The instrument may be connected to either the Loma OPC or LomaEnet systems for the collection of batch reports.

5 APPROVAL CONDITIONS

The certificate is issued subject to the following conditions:

5.1 Legends and inscriptions

5.1.1 The instrument bears the following legends:

‘CE’ marking
Supplementary metrology marking
Notified body identification number
Accuracy class
Serial number
Manufacturers mark or name
Certificate number

5.1.2 The legends and inscriptions can be found in two formats: three rating plates located on the side of the console (Figure 3), or one rating plate and screen displays (Figure 4).

6 LOCATION OF SEALS AND VERIFICATION MARKS

6.1 The ‘CE’ marking, supplementary metrology marking and certificate number are located on the side of the control cabinet. The CE mark shall be impossible to remove without damaging it. The data plate shall be impossible to remove without it being destroyed.

The markings and inscriptions shall fulfil the requirements of Paragraph 9 of Annex I of the Directive 2004/22/EC.

6.2 The load cell is secured to the frame by a tamper-evident sticker (Figure 5).

6.3 Removal of the Compact Flash card is prevented by a tamper-evident sticker on the holding latch (Figure 6).

6.4 Components that may not be dismantled or adjusted by the user will be secured by either a wire and seal or tamper evident label and securing mark. The securing mark may be either:

- a mark of the manufacturer and/or manufacturer's representative, or
- an official mark of a verification officer.

7 ALTERNATIVES

7.1 Having the instruments configured for multi-lane operation (up to 6 lanes).

7.2 Having the instrument fitted with a transport system designated "Drag Link" and consisting of three, ¼ inch, plastic chains instead of rollers to support and drive the conveyor belts (Figure 7). The chains slide on three plastic bars held in position by metallic rods fixed to the instrument. Gaps in the plastic bars ensure the central part of the weigh conveyor is only connected to the live part of the instrument supported by the load cell (Figure 8).

8 ILLUSTRATIONS

- Figure 1 CW³ Checkweigher
Figure 2 Typical display in Run mode
Figure 3 Rating plates
Figure 4 Rating plate and screen displays
Figure 5 Load cell sealing
Figure 6 Compact Flash card sealing
Figure 7 Drag Link transport system
Figure 8 Separation of live part of transport system

9 CERTIFICATE HISTORY

ISSUE NO.	DATE	DESCRIPTION
UK/0126/0028	03 July 2008	Type examination certificate first issued.
UK/0126/0028 rev 1	16 September 2008	6000 division variant added to the certificate. Maximum belt speed table added in section 3.2.
UK/0126/0028 rev 2	11 December 2008	Section 7.2 added.



Figure 1 CW³ Checkweigher

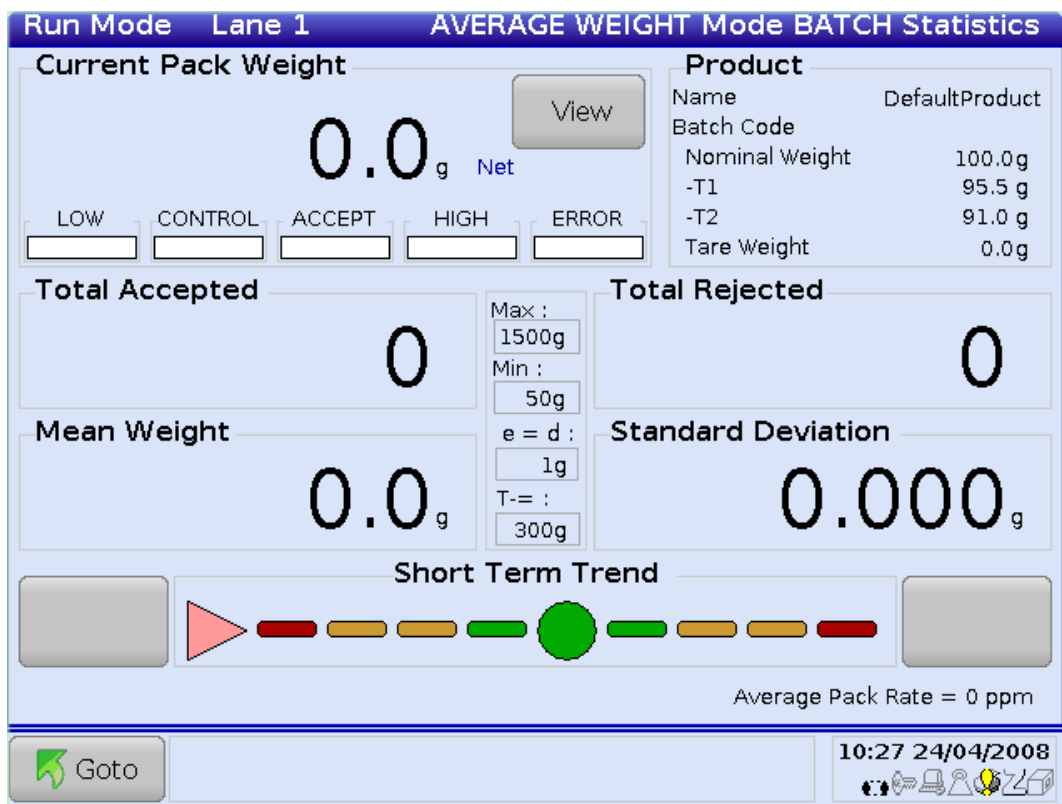


Figure 2 Typical display in Run mode

MANUFACTURED IN THE EUROPEAN UNION

ICMA SYSTEMS

SOUTHWOOD, FARNBOROUGH, HAMPSHIRE, GU14 0NY UNITED KINGDOM. TEL: +44 (0)1252 893300

V ∅ Hz A
 YEAR OF MANUFACTURE / ANNEE DE FABRICATION / SAUJAHN / PRODUCTIE JAAR / AÑO DE FABRICACION / ANO DE FABRICO
 PART No / SERIAL No / No DE PIECE / No DE SERIE / MODELL -/SERIENUMMER / UNDERDEELNR / SERIENR / PIEZA No / No de SERIE REFERENCIA
 Max Bar
 Approval Number

CE

M08

Manufactured by

ICMA SYSTEMS

Summit Avenue, Southwood, Farnborough, Hampshire, GU14 0NY United Kingdom Tel. +44(0)1252 893300

CE

Type |
 Serial Number |
 Date Manufacture |
 Certificate N°. |
 Temperatures | 0°C./40°C
 Dimensions |

Automatic Measurement Only allowed for

PACK TYPE	NOMINAL WEIGHT (g)	PACK (P/MIN)	PACK (M/min)	CLASS (X(1))	EVENT	COUNTER
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XIII(1)

Max | g
 Min | g
 e=d | g
 T= | ≤300g/10% Max

Figure 3 Rating plates

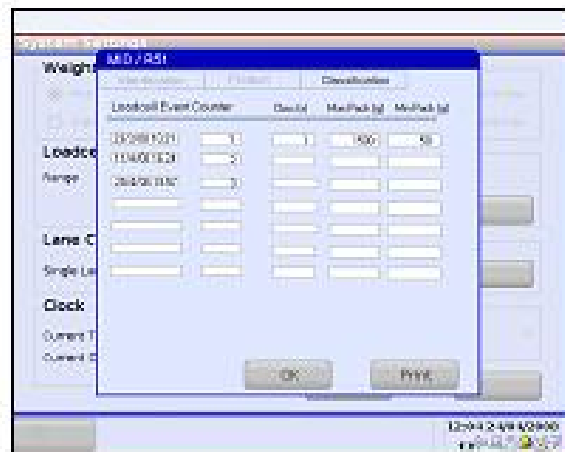
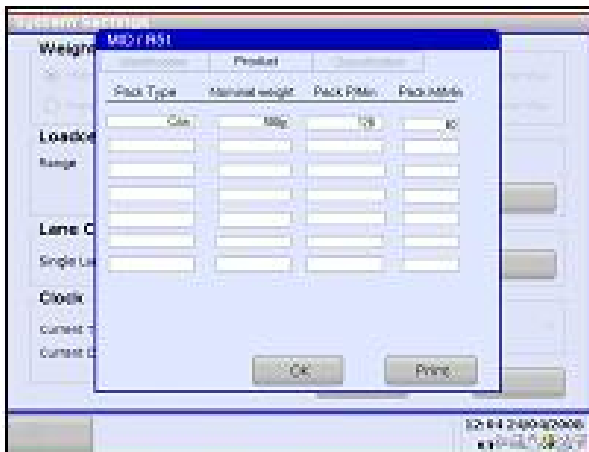
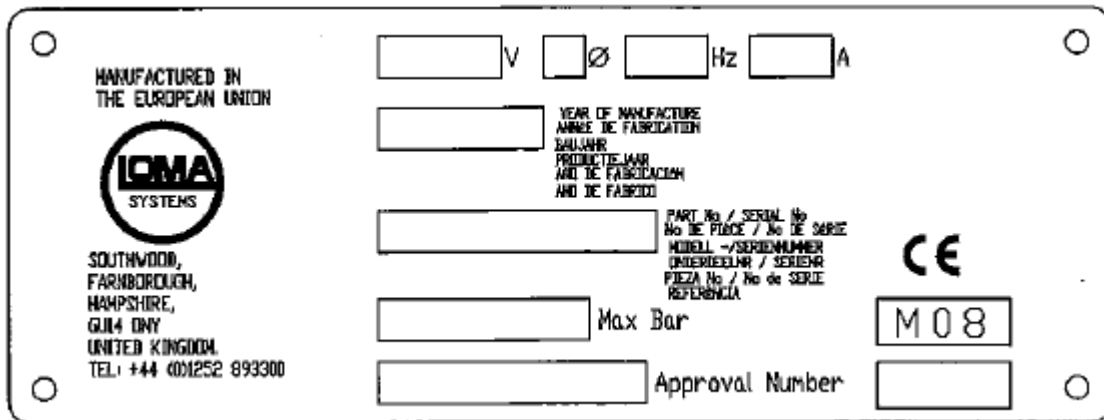


Figure 4 Rating plate and screen displays

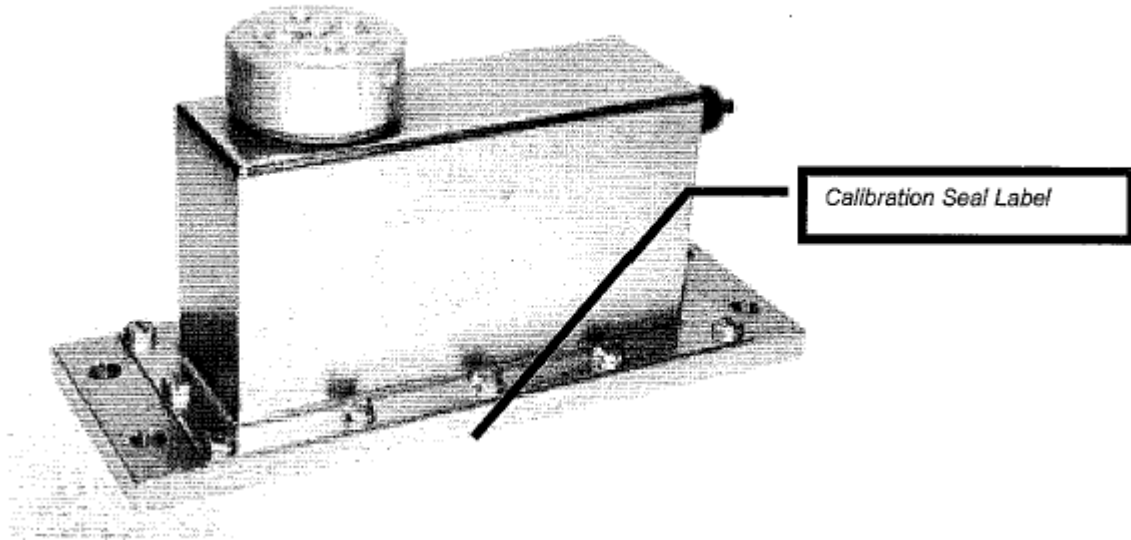


Figure 5 Load cell sealing

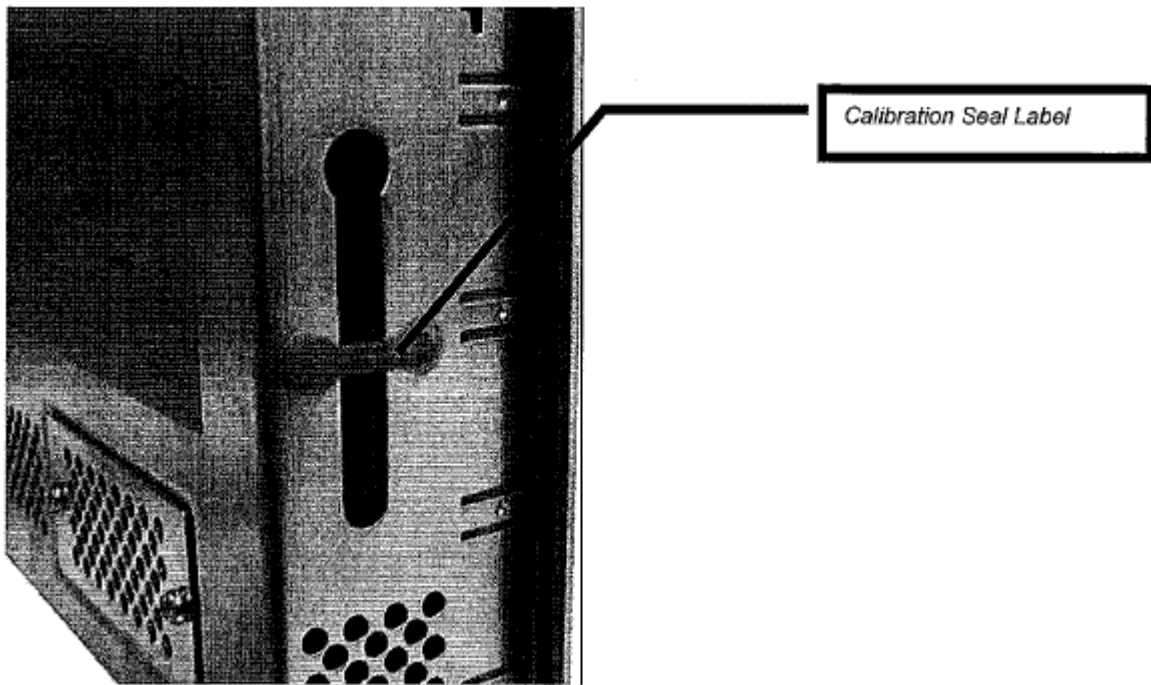


Figure 6 Compact Flash sealing



Figure 7 Drag Link transport system

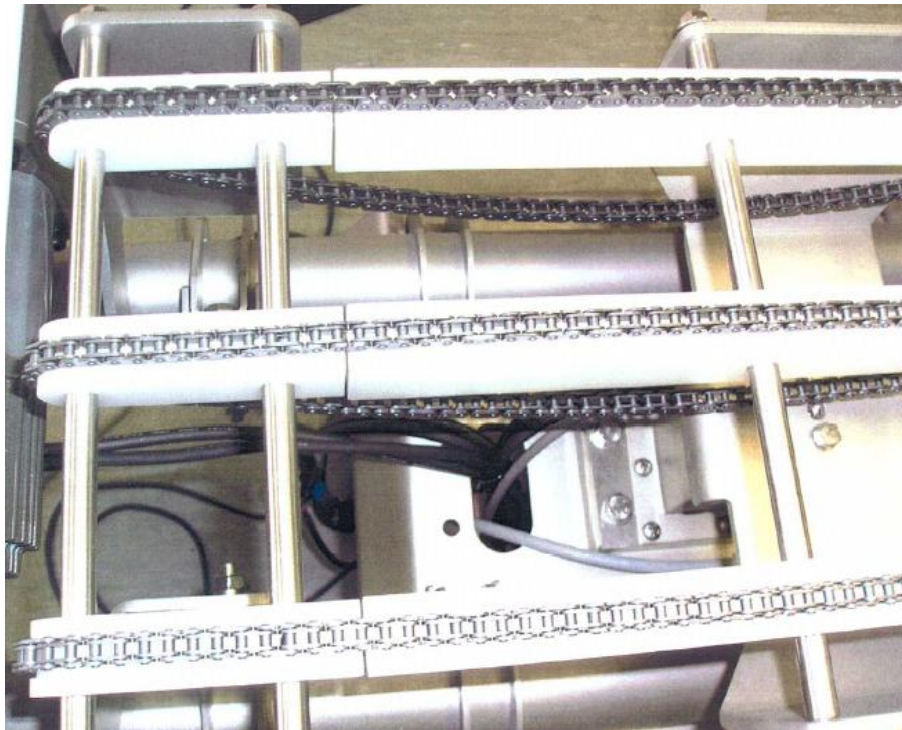


Figure 8 Separation of live part of transport system

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