GARVENS
Checkweighing

METTLER-TOLEDO GARVENS

X-Series System Manual

METTLER TOLEDO

Version check:

Version No.	Date
Version 3.0	April 2011
Version 2.0	October 2007
Version 1.0	March 2006

Key data of the checkweigher

Type
Serial number
Year of manufacture
Your Order Number (see specification)
Our Order Number

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31180 Giesen OT Hasede
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This system manual is the original English instructions for use with the X-Series in accordance with Directive 2006/42/EC.

Text and figures in this manual were elaborated with great care. However, the company Mettler-Toledo Garvens GmbH, the translator and the author cannot accept any responsibility in a legal sense nor assume any liability for any remaining erroneous or incorrect information and its consequences.

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X-Series System Manual Part 1:

Introduction

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Table of Contents

1 About the checkweigher

METTLER TOLEDO Garvens checkweighers offer standard and customized solutions in the fields of checkweighing, material handling and data management. The range of checkweighers and the extensive range of accessories allow for the setup of a weighing system that optimally meets the user's requirements. In its simple version a checkweigher consists of a weighing terminal and a weighframe.

Companies that process and package products use checkweighers to make sure they do not sell too much or too little of the product in question to the end-user.

Checkweighers are also used for statistical analysis in the companies, strict quality control and cost reduction purposes.

The product is weighed while it is on the production line. Classification of each product is carried out in weight zones that have been defined in advance. The product is rejected if it does not lie within the weight specifications.

Checkweighers can carry out weighings while the conveyor moves either continuously or intermittently. The conveyor is not stopped when the product is being weighed in continuous mode. In intermittent mode, the product is stopped briefly on the checkweigher and weighed.

2 Using the system manual

We recommend that this system manual be read carefully before the first use to ensure trouble-free operation of the checkweigher such that you will always get the optimum benefit.

The actual equipment and the available functions of a system depends on the order-specific design of the checkweigher.

All the figures shown in this manual of checkweighers, accessories and functions are examples that are partially optional and that can deviate in your concrete system with regard to design and functional scope.

In addition to the deviations arising from the customized configuration, the further development of checkweigher components, functions and subfunctions may possibly lead to minor differences between your system and this description. These further developments serve to permanently optimize the entire system and do not have any influence on the fundamental functionality that is described in this system manual in principle. Since the functions and operations can differ slightly at a customized design, this system manual is not suitable as a validation document.

Some of the options and functions described in the system manual that do not exist at the checkweigher can be retrofitted. In this case please contact the METTLER TOLEDO Garvens after-sales service.

2.1 System manual structure

The system manual has a modular structure. The individual manual parts are self-contained documents, adapted to the design of a specific checkweigher or module.

The system manual encompasses the following manual parts:

	Chapter No.	Contents
Part 1		
Introduction	1	About the checkweigher
	2	System manual use and structure
	3	Schematic design of checkweighers
	4	Service and warranty
Part 2		
General safety notes	1	Proper use
	2	Organizational measures
	3	Selecting qualified personnel
	4	Danger identification and safety devices at the checkweigher
	5	Safety notes on certain operation phases
	6	Information on special risks
	7	Safety regulations
	8	Hazardous location use
	9	Important notes concerning the operation
Part 3		
Weighframe	1	Transportation and storage
	2	Overview of the checkweigher
	3	Installation
	4	Cleaning and maintenance
	5	Operating modes
	6	Faults/emergency run
	7	Technical data
Part 4		
Weighing terminal	1	Introduction
	2	Description
	3	Actions (login, terminal cleaning, tare)
	4	Current article (master data, limits, ejector adjustment, dynamic calibration)
	5	Article management Operator: Printing, change article Supervisor: Additionally creating, editing, copying and deleting articles, zone preassignment
	6	Production data
	7	Information (messages, status, system information)

	Chapter No.	Contents
Weighing terminal (contd.)	8	Administration (supervisor access authorization)
	9	Configuration (supervisor access authorization)
	10	Error messages/faults/emergency run
	11	Technical data
Part 5		
Information for administrators	ONLY FOR ADMINISTRATORS:	
	1	Access code conventions
	2	Touch screen calibration
	3	Changing the IP address
	4	Certification test simulation (only for certified check-weighers)
	5	Display of the MID values (only for certified check-weighers)
Part 6		
Options	**Mechanical options** (e.g. lateral guide railings, top and bottom belt, covers for weighing conveyors, catch bins, pressure-operated switches, paper roll printer, metering disk)	
	Software options (e.g. statistics, tendency regulation, Free-weigh, mean value monitoring, successive errors detection, tare-gross, crosscheck, login server, gliding limits)	
	Note The after-sales service of METTLER TOLEDO Garvens will be pleased to inform you about all the available options.	
Part 7		
Interfaces and data communication	1	Interfaces (weighing terminals and XRTC)
	2	Selection of the data formats
Part 8		
Spare parts list	Overview graphic for localizing the spare parts, list of spare parts with order number and consumables	
Part 9		
Wiring diagrams	Graphics representation of all the connections of the specific weighframe	
Part 10		
Appendix	Documentation of installed subsupplier components such as metal detectors	
Part 11		
Additional operating instructions (if applicable)	Documentation of additional devices, if present	

2.2 Orientation aids

The parts of the system manual are separated by dividers that are followed by the table of contents of the respective part. The page number in the footer is preceded by the number of the respective part. For example, 4–23 corresponds to Page 23 in Part 4 of the system manual of the X-Series.

2.2.1 Warnings

In order to avoid injuries of the user or a third party as well as considerable damages to the metal detection system warnings are emphasized by one of the warn words DANGER, WARNING or CAUTION and by a warning symbol.

CAUTION

... warns of possible slight injury or minor damage to property.

WARNING

... warns of possible severe injury or serious damage to property.

DANGER

... warns of severe injury with fatal consequences if not observed.

DANGER TO LIFE BY ELECTROCUTION

... warns of electrical hazards.

▲ ... indicates general safety notes that have to be considered for ensuring a safe and regular operation of the weighing unit.

2.2.2 Indicators and symbols

The following signs and symbols are used in this system manual:

Symbol	Explanation
➔ or 1. ...	Action step; you have to do something.
✓	Action requirement; condition that has to be fulfilled before you can do something.
Note	Useful information that helps you to operate the weighframe economically or to avoid operating errors.

The names of menus and designations standing in the menu fields are highlighted in **bold** in order to improve the reading flow and identify them clearly.

2.2.3 Example character of screen images and menus

All the screens shown in this system manual are only examples and can deviate from the customized checkweigher that was configured in accordance with your order.

The design of screens and specific sections in the **basic screen** depends on the activation of the associated options. Menu entries depend on the access rights (profiles) and also on the activated software options.

3 Schematic design of checkweighers

In view of the differing requirements a variety of customer-specific device types are possible. E.g. the start/stop push-buttons for the transport belts and the main power switch can be in a different location as shown below, depending on the weighframe design. Usually those weighframes for lightweight goods are equipped with their own infeed and outfeed conveyors.

The following illustrations show the design of checkweighers in various sizes in a simplified manner. Since the checkweighers are configured customer-specifically, there are variants within the sizes that are shown as an example. At Sizes 2 and 3 there are both variants with a wide support frame and belt conveyors and sorting devices built onto it as well as slim variants with columnar control cabinet.

Note
Information about the installation and connection of weighframes is available in the X-Series System Manual Part 3, Chapter 4 "Installation".

Sizes 2 and 3, variant with wide support frame

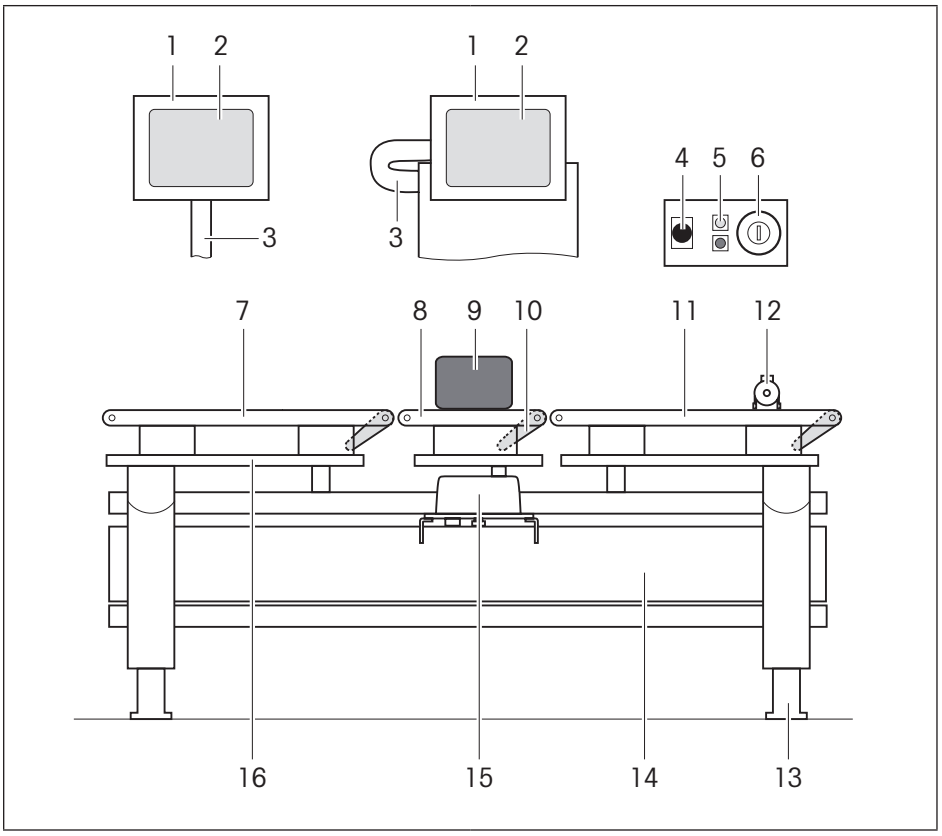

Fig. 1: Schematic design of a checkweigher with wide support frame

1	Weighing terminal	9	Product being weighed
2	Display	10	Motor/drive
3	Mounting options for the monitor	11	Outfeed conveyor
4	Emergency-off switch (optional)*	12	Sorting device (e.g. pusher)
5	Conveyor Start/Stop push-button*	13	Foot
6	Main power switch*	14	Baseframe
7	Infeed conveyor	15	Load cell
8	Weighing conveyor	16	Conveyor support

* Depending on device type may be mounted at different positions

Sizes 2 and 3, variant with columnar control cabinet

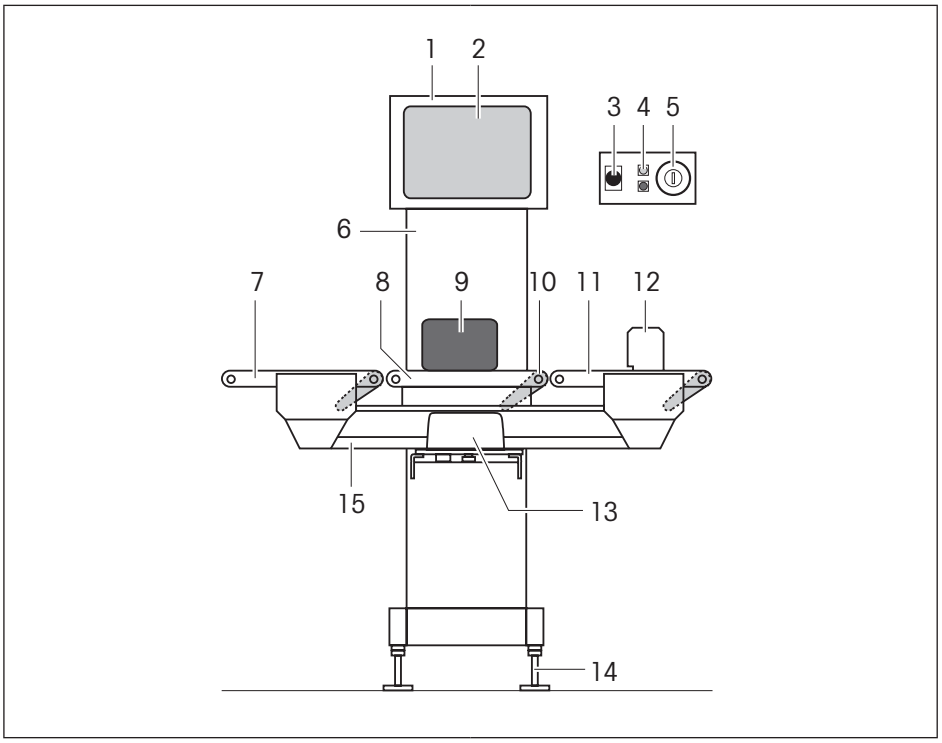

Fig. 2: Schematic design of a checkweigher, (may deviate from order-specific design)

1 Weighing terminal
2 Display
3 Emergency-off switch (optional)*
4 Conveyor Start/Stop push-button*
5 Main power switch*
6 Base frame with control cabinet
7 Infeed conveyor
8 Weighing conveyor
9 Product being weighed
10 Motor/drive
11 Outfeed conveyor
12 Sorting device (e.g. pusher)
13 Load cell
14 Footscrew, adjustable
15 Conveyor support

* Depending on device type may be mounted at different positions

Sizes 40 and 100

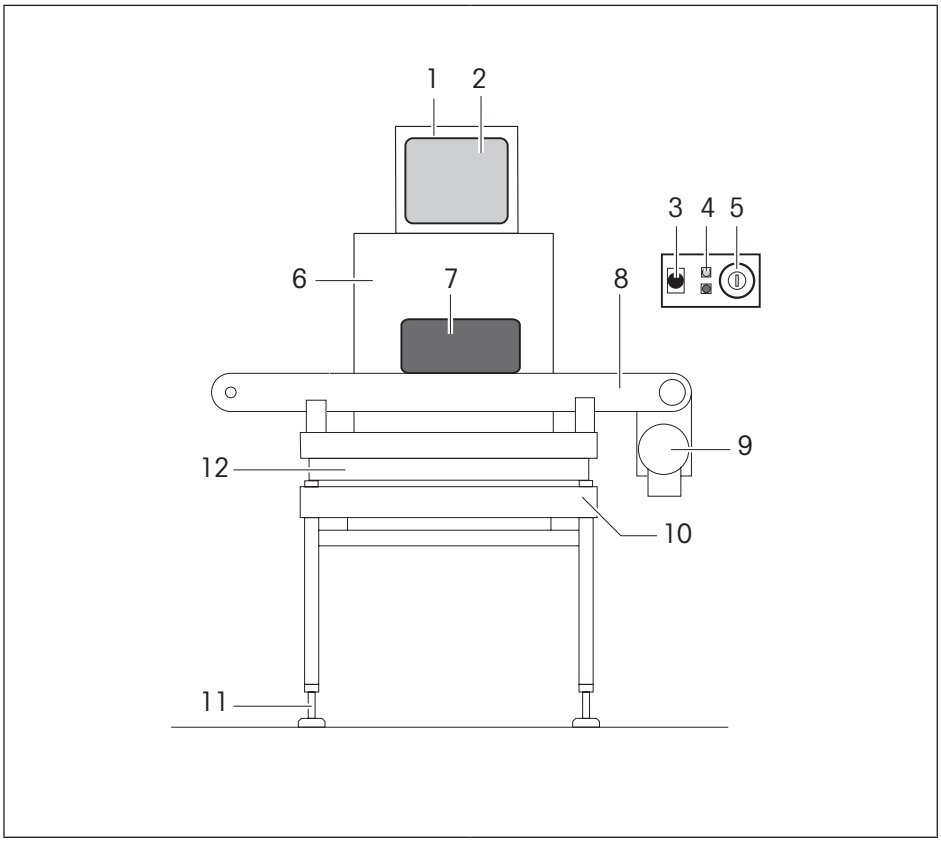

Fig. 3: Schematic design of a checkweigher of the Sizes 40 and 100

1	Weighing terminal	7	Product being weighed
2	Display	8	Weighing conveyor
3	Emergency-off switch (optional)*	9	Motor/drive
4	Conveyor Start/Stop*	10	Baseframe
5	Main power switch*	11	Footscrew
6	Control cabinet*	12	Load cell

* Depending on device type may be mounted at different positions

NOTE

For detailed information about the interfaces see the **X-Series System Manual Part 7: "Interfaces".**

4 Service and warranty

4.1 Service

If you wish to contact the after-sales service or the ServiceLine due to persistent problems, please have as much information at hand as possible:

- Type (model)
- Serial number
- Year of manufacture
- METTLER TOLEDO Garvens order number and date (if known)
- Displayed software version of the weighing terminal
- Precise wording of the displayed error message or detailed fault description, respectively

This helps us to avoid delays in helping you.

The following numbers are available for contacting the after-sales service of METTLER TOLEDO Garvens directly:

Phone:	+49-5121-933-0
Fax:	+49-5121-933-456
ServiceLine:	+49-5121-933-160
Service e-mail:	service.garvens@mt.com

Further service offers are available on the Internet under:

www.mt.com/garvens

4.2 Spare parts and warranty

CAUTION

For reasons of safety and warranty the replacement of a motor, of the weighing terminal or the weighcell must be carried out only by the after-sales service or qualified technical personnel authorized by METTLER TOLEDO Garvens.

➜ Please contact our ServiceLine for information concerning appropriate training, if you want to carry out such maintenance works yourself.

Note

Keeping spare parts in stock – i.e. in particular those parts which are normally subject to wear – can help to reduce downtime in the case of a failure. Contact us for advice.