

## Hopper scales with SysTec IT8000E weighing electronics

High throughput with automatic discontinuous totalizers for bulk weighing of grain



Totalizing hopper scales are designed for accurate and versatile monitoring of material flows. Various process steps can be managed efficiently, such as raw material receiving, unloading, and dosing. **FLINTAB** is an expert in this field and has been using **SysTec IT8000E weighing electronics** and customized **BULK E software** for years to master these demanding applications flawlessly. Recently, FLINTAB has successfully realized two projects with automatic discontinuous totalizers in Romania for the companies **AMEROPA / CHIMPEX** and **TTS**. The goal was to carry out the loading of ships/barges with bulk material with high throughputs and metrological accuracy.

### Key facts: AMEROPA / CHIMPEX project

- 4 hopper scale systems located in Constanța
- Up to 1,200 cubic meters of grain per hour are weighed with the totalizing hopper scales and then transported to the final destination by sea

### Key facts: TTS project

- 3 hopper scale systems located in cities near Danube river (Giurgiu, Braila)
- Up to 400 cubic meters of grain per hour are weighed with the totalizing hopper scales and then transported to the final destination by Danube river

### Products

- IT8000E: W&M approved and robust SysTec weighing indicators
- SysTec application software *BULK E (customized)*
- Hopper scale design, construction and maintenance by SysTec partner FLINTAB

### Customer benefits

- The electronic system controls the entire dosing process, and monitors the states of the component parts
- Excellent weighing accuracy below 0.1%
- SysTec weighing electronics are suitable for harsh environments
- Maximum throughput due to fast signal processing with integrated digital filters
- Easy integration of the weighing electronics into the overall system thanks to various interfaces

# AMEROPA

## The end customer AMEROPA /CHIMPEX

Founded in 1948, AMEROPA is a privately owned international agri-business. The company produces, originates and markets fertilisers and grains. In the chemicals sector, all types of nitrogen, phosphate and potash fertilizers are traded worldwide.

## In 2012, CHIMPEX became part of AMEROPA Group.

Since 1971, CHIMPEX has been one of the leading and most dynamic port operating and stevedoring companies in the Port of Constanța, being the main port operator for solid chemical products (bulk, big bags and others) and grains, with a total storage capacity of 600,000 MT.

## Process description

The hopper scale system is placed in an existing feeder. After opening the supply flap, the material flows into the weighing vessel (the drain flap under the weighing vessel is closed). When the default weight in the weighing vessel is reached, the feed flap closes, the weight value is stored, and the drain flap opens to discharge the weighed content from the weighing vessel into the draining vessel.

The emptying vessel unloads the product into the existing transporting system (e.g. another buffer hopper, elevator, conveyor belt, truck, wagon, ship) with a lower flow rate than that at which it unloads the weighing vessel, thus preventing overloading of the downstream transporting systems.

The electronic system controls the entire dosing process, monitoring the states of the various component parts and signaling any error that may occur during this process.

When the weighing vessel has emptied, the emptying flap is closed and the weight value of the material that may have remained in the vessel is stored.

During this time, the material continues to flow and accumulates in the feeding vessel, and so the feed is made in continuous flow, without interruption.



## The end customer TTS

Founded in 1997, TTS is specialized in the maritime and land transport of bulk and packed commodities goods. Complete transport solutions and capacity to accommodate significant quantities of cargo enabled TTS to become a reliable service provider for top commodity traders.

TTS is member of PRO DANUBE Vienna who is running new projects to develop the infrastructure for logistics on the inland waterways of Europe (TEN-T).







### SysTec IT8000E with customized *BULK E* software

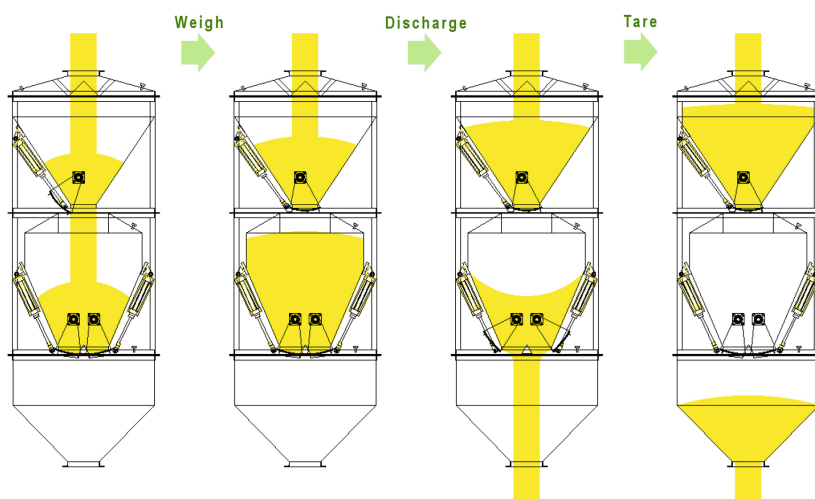
The SysTec weighing indicator IT8000E is equipped with the customized application software *BULK E*. It calculates the net weight value (NET= GROSS-TARE) of the load, adds it to the cumulative value of the previous load and initiates a new one by resuming the process.

After weighing the entire quantity of material (in cargo receiving/delivering operations) or after reaching a predefined quantity of material, the operation is automatically stopped.

Manual take over or stopping for various reasons is possible anytime, with resuming from the point where it was interrupted. The integrated sensors track the maximum level in the vessels and the position of the flaps, resulting in interlocking of the supply or emptying.

### At a glance: weighing indicator IT8000E

- W&M approved bulkweighing controller for shipping and receiving systems
- Fast and accurate filling (resolution of 10,000 d with a max. preload of 80%, internal resolution 524,000 d)
- Robust devices (IP69K)
- Data capture of all relevant data
- Optional duplex scale operation
- High operational safety, extensive monitoring functions, data backup in case of power failure
- Monitoring functions for tolerance, flow rate, filling time
- Optional PLC control over fieldbus
- Adjustable to customer-specific operations and controls





*“At FLINTAB we are dedicated to performance - for our challenging projects, we have carefully chosen powerful weighing electronics. For years, we have been using SysTec’s weighing indicators and application software. They offer excellent performance and weighing accuracy. Furthermore, the robust devices are very versatile and can be adjusted for every project.”*

## Further information regarding the project service providers



### SysTec Systemtechnik und Industrieautomation GmbH

Since 1994 SysTec has been developing and producing W&M approved industrial weighing indicators and filling controllers for static and dynamic scales.

More than 180,000 installations are successfully in use worldwide. The innovative SysTec weighing systems work reliably in numerous applications: These include filling systems for liquids and bulk materials, shipping / receiving scales, beltweighers, vehicle scales, checkweighers, piece counting scales, mobile weighing systems and all kinds of customer-specific applications. In addition to standard products, SysTec also offers customer-specific system solutions and custom-made hardware and software. Comprehensive technical advice completes the range of services.

The production and development site for SysTec weighing terminals and software solutions is Germany. The company is located in Bergheim-Glessen, near Cologne. The production of the weighing terminals and software is subject to international OIML standards.

Discover more: [www.systemecnet.com](http://www.systemecnet.com)

## FLINTAB

### FLINTAB S.R.L.

Founded in 1992, FLINTAB is specialized in the design, manufacture, installation, commissioning and service of electronic weighing systems. The company is located in Ploiești, Romania.

The product portfolio includes standard and special truck scales, static and moving, for vehicles and trains, railway scales, discontinuous totalizers, belt scales, platform scales and industrial automation solutions for weighing processes (filling, dosing, recipes, etc.).

In more than 30 years of existence, FLINTAB is offering high-impact products and development capacity for high-capacity electronic weighing systems.

FLINTAB is considered one of the leading companies in the field of industrial weighing in Romania, with over 2000 scales for trucks and almost 250 railway scales installed.

Thus, FLINTAB continues to achieve new goals, always focused on the company’s vision: “dedicated to performance”.

Discover more: [www.flintab.ro](http://www.flintab.ro)