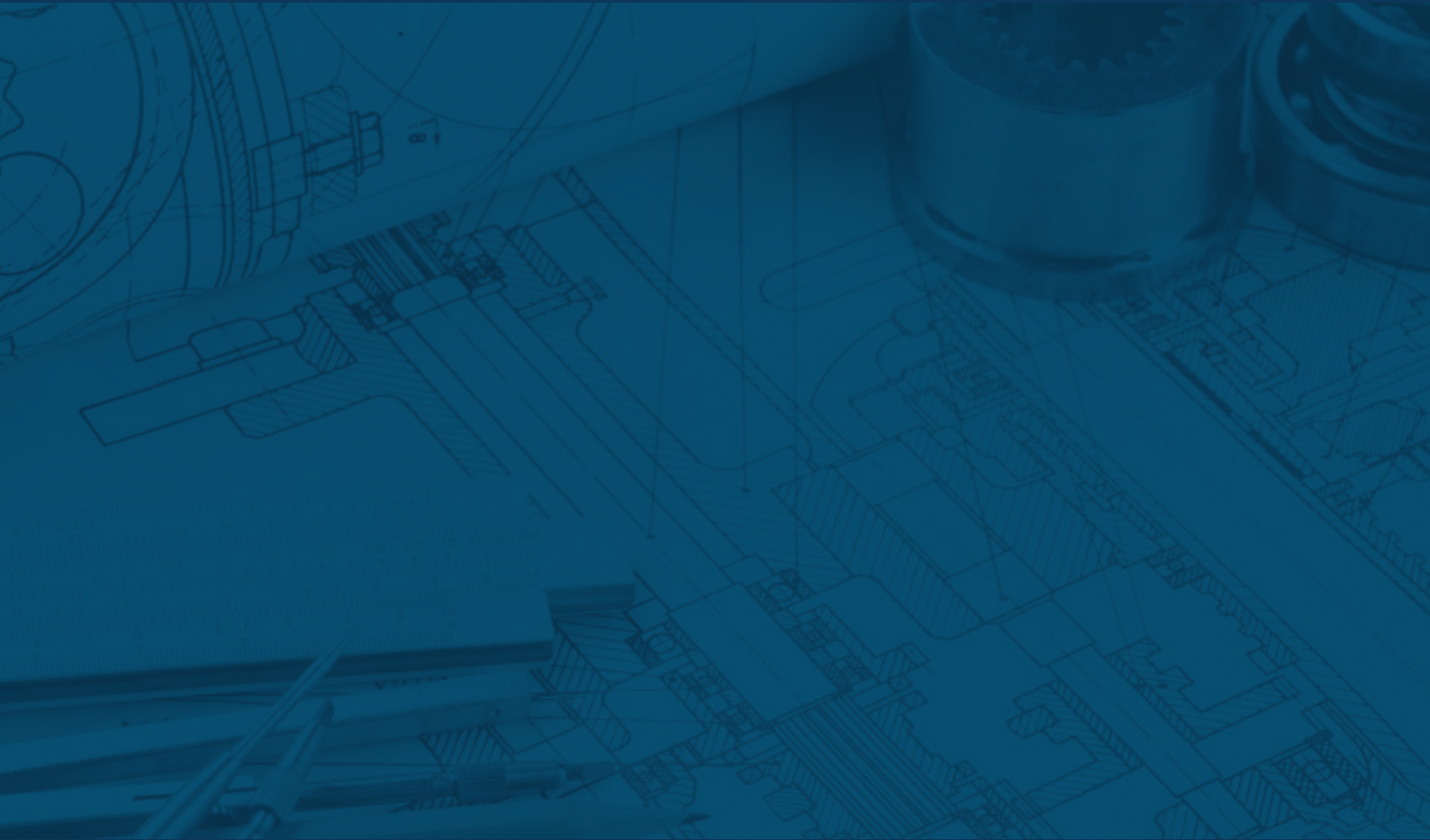


# Product guide



Advanced weighing and dosing systems for static, dynamic, and continuous weighing.



# Welcome to Jesma Weighing Solutions



Jesma is a visionary Danish company working with the development, production and sales of weighing and dosing solutions for static, dynamic and continuous weighing. Weighing and dosing technique is our speciality and all products are designed and constructed to market leading reliability and user-friendliness. Jesma was founded in 1917 as "Standard weight company" and has since that time developed into one of the leading suppliers for industries in which optimum reliability and high accuracy are important qualities.

Through our many years of experience, Jesma has achieved a wide knowhow within all types of weighing solutions and we are therefore able to advise our customers at an early stage in the projecting phase.

This brochure provides an overview of our qualifications and products, emphasizing the benefits in choosing a weighing or gravimetric dosing solution from Jesma. We wish you joyful reading and if you require further more information regarding the possibilities and advantages of choosing Jesma as your supplier, you are always welcome to contact our sales department.



# We Lift your company

Our products are offered in an extensive standard program and thereby cover a considerable part of the market demand. Jesma also offers a wide range of customer and project adapted solutions. We are therefore able to meet almost all wishes and demands our customers may have since our products are designed to handle capacities from 1 kg/h to more than 2.000 t/h.

No matter if the project is a complete dosing system or special software to a static weighing solution, Jesma can provide a solution. Our skilled engineers in the construction department continuously develop new products with the purpose of improving operational reliability, user-friendliness and accuracy in the weighing process of our customers.

Before a new product is launched it is thoroughly tested in our test center to make sure that the product meets market demands and our own quality control. Besides from development projects, our test center is also used to test customer's own materials, so a project adapted weighing solution can be constructed with the actual product properties in mind. This provides the customer with the optimal weighing solution.

## Cooperation

Jesma has a close cooperation with customers, suppliers and research institutes, and strives to offer our customers the most efficient and productive weighing solution, where quality is a natural part of the delivery.

Jesma's product range within dynamic weighing consists of:

- Weigh feeders & Belt scales
- Throughput weighers
- Flow scales
- Loss in weight systems
- Micro and Nano dosing systems
- Hopper scales
- Big Bag handling





## Jesma Weighing Solutions - a leading global supplier of weighing and dosing solutions for a wide range of industries worldwide.

The company continuously strives to improve products and service to customers, by means of a targeted education policy and ongoing product development.

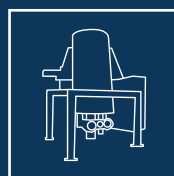
The success of Jesma is based on knowledge and innovation combined with theoretical and practical skills, and by means of this combination, Jesma is in the forefront with the development and is able to guarantee a highly professional weighing solution living up to any system requirements.



Weigh feeder  
& Belt scale



Flow scale



Loss in weight system



Micro and Nano  
dosing system



Throughput weigher



Hopper scale



Big Bag handling



Mass flow meter

## Jesma develops, manufactures, supplies, and services standard range and customized high quality solutions for static, continuous, and dynamic weighing.

Jesma has a close cooperation with customers, suppliers and research institutes, and strives to offer customers the most efficient and productive weighing solution, where quality is a natural part of the delivery.

Weighing and dosing technique is Jesma's specialty, and products are designed with focus on reliability, flexibility and usability.

Jesma offers standard- as well as customer specific solutions whether it is a complete dosing system or just special software for a static weighing solution.

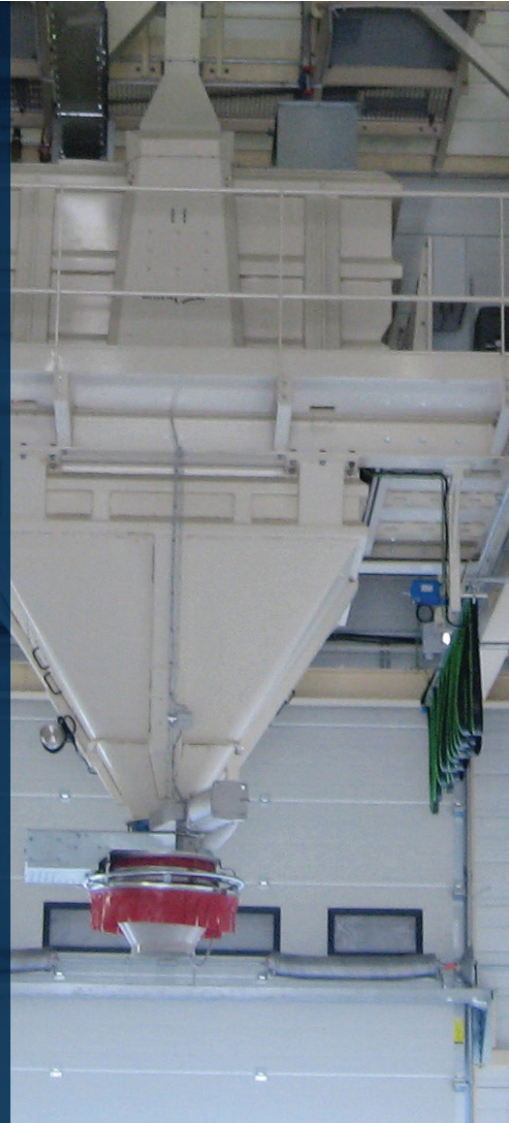
Jesma has established a unique and acknowledgeable service and calibration concept. The essence of the service concept is to reduce the company's individual costs in connection with unforeseen production breakdowns and unintended wear of the weighers and weighing systems.

The concept includes service, maintenance, traceable calibration and verification of all types of weighers and weighing systems, and is adjusted to the individual company's requirements for documentation.



Accuracy  
and  
repetition

That's  
our  
domain







# Weigh feeders & Belt scales

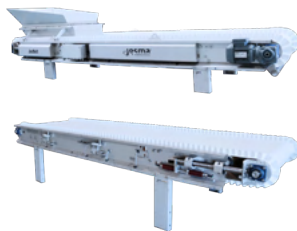
Jesma has a wide selection of weigh feeders for use in the food industry, the grain and feed milling industry as well as the chemical and technical industries.

## JesBelt® A



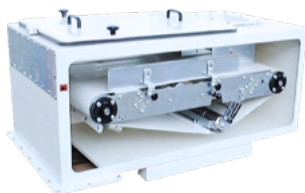
- Approvable according to OIML R50, Welmec and MID for purchase and sales. Class 0,5 , 1 and 2.
- Weighing accuracy from 0,25% (Subject to final design and product characteristics).
- Built around a weighbridge with 4 pcs load cells and automatic belt tension ensuring stability and high accuracy.
- Available in special version for heavy duty and fish.
- Open/closed version.
- Available with options such as dust tray, automatic cleaning bottom and scrapers.

## JesBelt® S



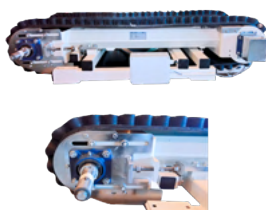
- Weighing accuracy from 1% (Subject to final design and product characteristics).
- Built around a weighbridge with 2 pcs load cells and automatic belt tension providing excellent stability.
- Standard range/project designed equipment.
- Open/closed version.
- Available with options such as dust tray, automatic cleaning bottom and scrapers.

## JesBelt® D



- Weighing accuracy +/- 1-2% within 20-100% of max. capacity depending on capacity and product characteristics.
- Compact construction which can be mounted where very little space is available.
- The quick belt change reduces the service time for planned service stops.
- The automatic belt tightening reduces the requirement for planned service stops.

## JesBelt® F



- Weighing accuracy +/- 1-2% within 20-100% of max. capacity depending on capacity and product characteristics.
- Available with durable belt suitable for high temperature materials and for sharp materials such as glass and rocks.
- Simple and strong construction provides easy maintenance and reduced service costs.
- Suitable for heavy duty industries.

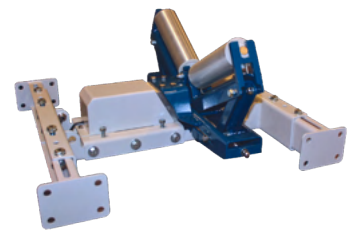
## JesBuffer

- Designed for the accurate and reliable dosing of low density materials like straw, paper, fibres and mineral wool.
- Consists of a buffer unit which ensures an accurate material thickness on the weigh feeder where the dosing capacity is controlled and regulated.
- The automatic belt tightening on the weigh feeder unit reduces the requirement for planned service stops and improves the reliability of the JesBuffer.



## Belt scale

- Weighing accuracy from 0,25% (Depending on final design).
- Available as standard units and project adapted equipment.
- Constructed to fit the existing conveyor and thereby reducing the commissioning period.
- Available as trade approved equipment according to OIML R50, Welmec and MID for purchase and sales. Class 0,5, 1 and 2.

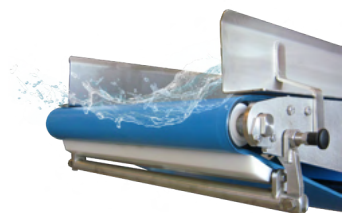


## Jesma Aqua Line

Jesma Aqua Line's weigh feeders are geared towards the hygienic, wet, fresh food industries, focusing on a service friendly design where hygienic, cleaning, and accuracy is in focus.

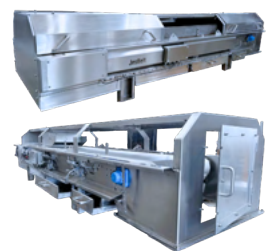
### JesBelt® K

- Wet and sticky products.
- Stainless steel modular construction.
- Easy-to-clean construction and design.
- Capacity range from 0,5 - 15.000 kg/h.
- Weighing accuracy +/- 1-2% within 20-100% of max. capacity depending on capacity and product characteristics.



### JesBelt® A-FG

- Food grade solution.
- Weighing accuracy +/- 0,5% (Subject to final design and product characteristics).
- Stainless steel modular construction chosen to meet food contact requirement.
- Special construction ensuring no product can build up on surfaces hole.



### JesBelt® A-FG Flex

- Wet and sticky products.
- Stainless steel modular construction.
- Easy access to all parts and easy cleaning.
- Weighing accuracy +/- 1% within 20-100% of max. capacity. (The accuracy will depend on having a clean and flexible belt. Due to the modular belt construction more frequent taring routine must be expected and prepared by pausing production flow to the belt scale.)





# Flow scales

Flow scales from Jesma are primarily used for process weighing of bulk materials such as powder or granulated products. Furthermore flow scales are the correct choice when limited space is available, but a measurement of the actual product flow is required. This could be in connection with the dosing of other products or general product regulation.



## JesFlow

- The JesFlow is available in 4 sizes with capacities up to 25 m<sup>3</sup>/h.
- The weighing principle by using the centrifugal forces of the material secures a good weighing accuracy compared to traditional impact weighers.
- With its limited build height, the JesFlow is perfect for retrofit into system lines and projects where limited space is available.
- The inspection window allows easy access and supervision.



## JesImpact

- The JesImpact is available in 3 different sizes with capacities up to 150 m<sup>3</sup>/h.
- By using only horizontal forces any material deposits on the weighing plate will not affect the weighing accuracy.
- With its limited build height the JesImpact is perfect for retrofit into system lines and projects where limited space is available.
- Overload protection on the load cell secures a long lifetime.
- Inspection hatches with dust proof sealing and the inspection window allows easy access and supervision.



## VPR JesImpact

- The VPR JesImpact is available in 4 different sizes for the larger capacities up to 400 m<sup>3</sup>/h.
- Overload protection of the load cell.
- Access door on each side for easy access to vital parts.
- Maintenance free weighing construction with load cell suspended out of product flow.
- Easy removable cover for the load cell for quick access for service and maintenance.
- Dust tight construction with thick rubber sealing.
- The flow scale is supplied in mild steel or in stainless steel AISI304.



## Mass flow meter - CO series

- Mass acceleration for accurate flow measurement.
- It uses mass acceleration instead of gravity to weigh, and can weigh many traditionally difficult materials, specially with fluctuating densities, with very high accuracy and repeatability.
- It can measure a flowrate from 1 t/h to 100 t/h with a maximum flow rate of 100 m<sup>3</sup>/h.
- Accuracy down to 0,5% and a repeatability of 0,1% (Depending on capacity and/or material).



# Throughput weighers

Jesma provides a complete program of intake- and out-loading scales consisting of 13 standard sizes with capacities up to 2.500 m<sup>3</sup>/h.

The Jesma intake-and out-loading scale can be installed anywhere in a production where there is a need to weigh directly in a dynamic product flow.



## JesIntake®

- Weighing accuracy better than 0,1%.
- The JesIntake is available as trade approved equipment according to MID, OIML R107 and R61 class 0,2, 0,5 and higher.
- Carefully selected components secure an optimum weighing result.

- The high slide angles in the hoppers secure the total emptying and thereby providing optimum accuracy.
- Removable lids secure easy access for service and cleaning.
- Available in mild steel or stainless steel.
- Available with Hardox plates reinforcements.
- The standard JesIntake is supplied including pre-bin and weighing hopper.
- Optional, the JesIntake is also available with discharge hopper.





# Hopper scales

A hopper scale from Jesma is the flexible solution for batch weighing, and it meets the market requirements for optimum reliability and improved environment.

The hopper scales are designed for installation in modern process industries where the high degree of automation requires a solid and reliable construction. The JesHopper is available in many standard sizes and with batch capacities up to 10.000 kg, and with accuracies from just +/- 200 g.

The hopper scales are modular built in a dust-proof and flexible steel sheet construction, and the length can be adapted to fit any requirement.

The scales are as standard supplied for mounting of customer chain conveyor. However Jesma also offer the hopper scales including chain conveyor according to customer and project requirement.



## Single hopper scale JesHopper

- The single hopper scale is available as low height batch weigher.
- The modular construction allows easy extension in the future for accommodating increased number of ingredients.
- The scale is supplied including adjustable guide plate above the chain conveyor. The guide plate allows a perfect product flow into the chain conveyor thus ensuring complete and optimum emptying.



## Double hopper scale JesHopper

- The double hopper scale is designed to accommodate the hardest demands for production efficiency.
- The combination of a weighing bin and after-bin allows the weighing to happen, while the previous batch is being emptied.



# JesLoader®

The new unique development in truck loading scales.

The Jesma JesLoader is designed for loading a pre-set amount of bulk material into a truck from multiple silos. The JesLoader is mounted on rails so it can be moved from one silo to another, loading the required amount of material from each silo. The JesLoader eliminates the need for mounting a scale below each silo and the need for repeated trips to a bridge scale after the filling from each silo.

## The functionality of the JesLoader

After the truck has been positioned correctly, the operator enters the target loads into the control system. Jesma delivers a controller especially developed for the JesLoader. The absolute JesLoad HMI controller consists of 2 cabinets. One placed on the JesLoader containing weighing amplifiers, PLC and positioning hardware from Siemens. The second cabinet is an operator cabinet with the SIEMENS touch HMI 9" for operator information, adjustment of parameters, current status and diagnostics.

The JesLoader will position itself correctly below the pre-programmed silo by navigating via encoder and positioning hardware from Siemens. When the Jesloader is positioned under the silo, the entered amount of product is released into the scale as ordered through the receipt handling system. After completed filling, the JesLoader is guided into the correct position above the truck inlet. The product will be released into the truck after accept from the operator.



## Technical specifications

- The static weighing accuracy is +/- 0,1%.
- Two models with capacity of 8,5 or 12 m<sup>3</sup>.
- Adjustable inlet +100 mm vertical to ensure dust tight loading from the silos.
- Controlled positioning using Siemens SINAMIC positioning controller to ensure correct placement of the JesLoader.
- Can be designed for connecting different outlet devices for correct truck filling, depending on clients requirement.
- Standard version with guide rails and energy chain for a driving length of 20 m.
- Driving speed up to 25 m/min.
- Closed construction to minimize dust emission to the surroundings.
- Service friendly and easy maintenance.





# Micro and Nano dosing system

Jesma offer a wide variety of micro and lab dosing scales for weighing of ingredients. Which scale is best suitable for the task, depends on the required capacity and the characteristics of the product. Jesma offers scale for micro dosing from 2 kg to 1.000 kg per batch.



## Nano scale JesBatch 0 – 30 kg

- Capacity from < 2 kg with a static accuracy of +/- 0,5 g.
- Capacity up to 30 kg with a static accuracy of +/- 5-10 g.
- Teflon coated bin secures optimal emptying and minimal cross contamination.
- The dosing bin turns 180 degrees and optimum emptying and minimal cross contamination is secured by means of a pneumatic hammer.
- An inspection door allows easy access for maintenance and supervision.



## Micro scale JesBatch 30 – 200 kg

- The micro scale JesBatch is a fully electronic scale specially developed for use in micro dosing systems.
- The static weighing capacity of the scales range from 50 kg to 200 kg.
- The entire bottom is turned when emptied, thus securing optimum emptying of the weighing bin and eliminating cross contamination.
- Capacity from 50 kg with a static accuracy of +/- 10 g.
- Capacity up to 200 kg with a static accuracy of +/- 40 g.
- An inspection door allows easy access for maintenance and supervision.

## Medi scales JesBatch 200 – 1.000 kg

Together with the lab dosing and micro dosing scales, Jesma completes the range of dosing scales with 3 conical scales for dosing and batching of medium sized ingredients.

Types of conical scales:

### JesBatch-400

- Static capacity: 200-400 kg
- Static weighing accuracy: +/- 100 g
- Hopper volume: 900 litres
- Diameter: 1.200 mm

### JesBatch-600

- Static capacity: 200-600 kg
- Static weighing accuracy: +/- 200 g
- Hopper volume: 1.400 litres
- Diameter: 1.400 mm

### JesBatch-1000

- Static capacity: 200-1.000 kg
- Static weighing accuracy: +/- 250 g
- Hopper volume: 2.100 litres
- Diameter: 1.600 mm

# Micro and Nano dosing system

A condition of a high quality end-product is a controlled and accurate dosing of the ingredients. Micro and lab dosing systems from Jesma are specially developed for fine dosing of ingredients, additives and raw materials, where over-dosing can be harmful and/or expensive.

At Jesma each system is adapted to the requirements of the customer. By carefully taking the product characteristics into consideration, Jesma is making it possible accurately to dose even poorly flowing products.

## Micro dosing system

A micro dosing system from Jesma can be delivered with up to 24 silos. The silos can be placed in a circle or a square depending on the customer requirements and available space.

- Silos can be equipped with scraper and lifting screw in the bottom, hereby ensuring optimum emptying of difficult materials and a uniform filling of the dosing screw.
- The dosing screws can be equipped with decompressing propeller and pneumatically operated dosing caps in order to ensure optimum dosing and minimum spilling of product.
- The silo and dosing system is designed according to filling method, necessary silo size, silo bottom and requirement for coarse and fine dosing. These considerations allow us to optimize the system for all types of materials and capacities.
- All components are designed for optimum user-friendliness both the scales and silos are supplied including inspection doors for easy service and maintenance access.
- The system and its components are designed according to a very simple principle. This secures easy cleaning and trouble-free maintenance.
- All components are designed and constructed to obtain an optimum operational reliability and minimal cross contamination.

## Nano dosing systems

A nano dosing system from Jesma is designed for very accurate dosing of vitamins and other micro nutrients that must be managed through an overall recipe management.

- Jesma offers a solution where screws and hoppers can easily be taken out of the frame construction and replaced, hereby allowing a quick and easy change of material. It can also be with fixed silos as our standard micro dosing systems.
- The risk of dosing errors is eliminated as each individual material has its own hopper which can be clearly labelled.
- The dosing screws can be supplied including a spring-loaded cap on the screw outlet and can also be supplied with pneumatic dosing caps for the optimum dosing. This ensures that no material can drizzle down into the scale unintendedly in the event of vibration.





# Big Bag handling

## JesFill

The big bag unit for filling is an electronic weighing system specially designed for filling and weighing big bags. The big bag weighing unit from Jesma can be used for various free flowing product types, such as animal feed, flour, grain, pellets, granulates, wood pellets etc.

The JesFill unit consists of a dosing valve, a bag clamp which can be adjusted manually in height, a roller path or weighing belt (weighing section), a blower and piping for aspiration and a local control panel.

The operator places the big bag on the bag clamp which is activated by the capacitive sensors on each side of the filling tube. The blower blows up the big bag to ensure even filling and the dosing valve opens. When the acquired weight is reached the big bag can be removed from the front by pallet lifter or rolled onto a belt or roller conveyor for later removal.

Charge size: 500-1.500 kg

Division: 500 g

## JesBag 1000

### Big bag filling unit - general

The JesBag 1000 big bag filling solution is a complete unit designed for filling and weighing big bags. The system consists of a pallet magazine, roller conveyor, big bag filling station incl. weighing of the bags and a storage conveyor for up to 16 filled bags. The unit is delivered complete with electrical control. It can be used for various product types, such as feedstuff, flours, pellets, granulates, wood pellets etc.

### Functional description

The pallet is released from the pallet magazine and stops at the weighing unit. The operator places the 4 straps on the pneumatic hooks and the bag nozzle is fixed by the clamp by activating the sensors on each side of the bag clamp.

For safety reason the bag clamp can only be activated when both sensors are activated. When the bag has been placed correctly, the system is operational and can be activated on the control panel. The big bag is filled with air before the product is filled into the bag. When the big bag is almost full the vibration bottom will vibrate the material in the bag, so air is eliminated and there is room for more material.

The filling is continued until the desired weight is reached. When the weighing is done, the bag clamp and the stops are released. The roller conveyor starts and the bag moves onwards in the process.





# Loss in weight system

A loss in weight system from Jesma can be used everywhere where continuous dosing is required with high accuracy.

Regulation of mixing proportions using a weighing system makes the end-product more accurate compared to other available techniques. The result is a more uniform end-product and thereby a higher product quality.



## JesDos

The loss in weight system JesDos from Jesma is designed according to the specific requirements of the customer. This could be a “master-slave” addition of an additive in relation to the main flow, or continuous dosing of a pre-set amount.

With the market leading dosing technology of the Jesma control system, the JesDos secures an optimum and reliable dynamic dosing accuracy. Even in the critical phase of re-filling the hopper during operation, the control system maintains a high and reliable dosing accuracy.

- The JesDos is designed and constructed to accommodate the specific characteristics of any product.
- For example are JesDos units for non-flowing materials supplied including a lifting screw in the hopper for elimination of material bridging and thereby optimizes the material flow.
- Conveyor screws with increasing windings and decreasing shaft diameter reduces the risk of compressing the material and thereby provides a higher operational reliability.
- The removable extraction screw allows easy and simple service and cleaning.
- Possibility of testing the material in the Jesma test center – secures that the right construction is chosen to the actual material.





# Weight control units

Jesma has a large selection of weigh control units for every need. Both in standard- and customer specific solutions. We offer control units and special software adapted to functionality of the specific production setting.

## System A2

### A2 - For belt-, batch-, and flow weighing

Our A2 controller is used for various types of non-approved weighing. This versatile controller is designed for totalising and indication of flowrate for belt conveyors, batch- and flow scales.



## IT E-series

Weighing terminals from Systec are flexible and stable, while giving a great overview of the processes. They are fully programmable, and almost any weighing task can be controlled - static weighing, batch weighing, recipe handling, dosing- and check weighing.

A Systec indicator from Jesma has the following advantages:

- New software can be downloaded at all times.
- Approvable according to OIML standards.
- Large colour graphic display – this makes the indicator very user-friendly.
- Different data communications are available depending on the customers need.
- Up to 64 I/O.

Among the IT E-Series solutions from Jesma are:

### IT8000E BULK - For universal bulk and batch weighing

Our BULK version is normally used in connection with our JesIntake-Series. The controllers captures the weight of incoming material and fills outgoing shipments to a pre-set target weight. The IT8000E BULK can be approved according to OIML R76-1 and R107 as well as as MID regulations.



### IT2000M FW - Flow weighing software

For high precision weighing and filling, Jesma's IT2000M FW includes software for non-approved flow weighing. Can easily be used in industrial environments where high demands are placed on strength and ease of cleaning on strength.

### IT3 BW - Belt weighing software

The BW-software version is used for our weigh feeders and belt scales for process weighing (approved and non-approved). The IT3 is delivered as either Desk/Wall/ Panel-mount version and has options for different interface.





# Weight control units

## Special HMI controller

Jesma's special HMI controller can be used for controlling of several weigh feeders, for automatic control of complete micro dosing systems and much more.

The system is delivered with 12" Siemens HMI touch panel with a SIEMENS PLC system, that can connect to the customers overall control system.

### HMI controller

- Can be used for multiple systems\*
- SIEMENS touch HMI 9" for operator information, adjustment of parameters, current status and diagnostics.
- Customized HMI images for intuitive operator recognition of units.
- HMI service screen for local test and troubleshooting on the system.
- Built according to European electrical norms.
- Rittal cabinet in Mild steel IP54.

*\* Standard solution contains 1 cabinet with HMI touch that can control all systems and additional cabinet with PLC system for extra dosing systems. The additional cabinets can be placed near the extra systems in order to minimize cable lengths and make installation easier.*







# Project management

The key-stone in successful projecting is the ability to develop, design and control a project from idea to operation. To offer the best optimum solution it is essential to have a good insight into the customer's requirements to the project. Because of our many years of experience we are able to ask the right questions in the projecting phase and thereby create a clear basis for the specific system. In close dialogue with the customer we prepare a specific offer taking the specific system requirements into consideration. Jesma is responsible for the entire process; this provides a great degree of flexibility, which means we can customize the system specifically to any customer requirements.

With a skilled staff of technicians and engineers, Jesma offers professional guidance and advice in the design of your individual weighing system.

In addition to Jesma's wide range of weighing solutions, we also offer a number of products that complements the system and thereby we can provide a turn-key solution.

## Reliable accuracy

This includes amongst other things:

- Complete steel structure.
- Filling system for manual, mechanical or vacuum-/pressure transport.
- Transport system from weigher to mixer.
- Weight control unit and complete dosing computer system.

Development and construction is a core competence at Jesma. We guarantee a high quality level and guidance from Jesma's competent and experienced employees to ensure an optimal solution to cover the customer's actual need.



# Service

We understand that downtime is not an option, so we assist you in keeping your equipment running smoothly and in top condition. Keeping your weighing and dosing solution in good condition helps avoid costs related to unforeseen production breakdowns and unintended wear on the weighing solutions and equipment. In case of downtime and breakdowns, our educated service personnel are ready to take care of you.

Through dialogue and close collaboration with our customers, Jesma service helps identify needs, wishes and requirements to keep the equipment in good condition through its lifetime.

We take pride in good service, and we are here to help keep our customers solutions running.

## We offer

- Calibration and verification.
- Spare parts, repair and maintenance.
- Installation and start-up.
- Support.

**We service all your weighing equipment from small scales to large weighing equipment. We adapt our service solution to your needs.**



Service  
agreement



Calibration  
and  
verification



Spare parts  
and repair



Support



Installation



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**Jesma Poland**  
Ul. Firmowa 18  
PL-62-023 Robakowo  
(+48) 722 011 022  
(+48) 61 8 383 787  
mtr@jesma.com

**Jesma HQ**  
Helsingørvej 18  
DK-7100 Vejle  
+45 75 72 11 00  
Jesma@jesma.dk

**Jesma Latam**  
Zapiola 574, Chacabuco  
Buenos Aires, Argentina  
+54 9 23 64 41 88 99  
dc@jesma.com



Part of Jesma Group

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**[www.jesma.com](http://www.jesma.com)**