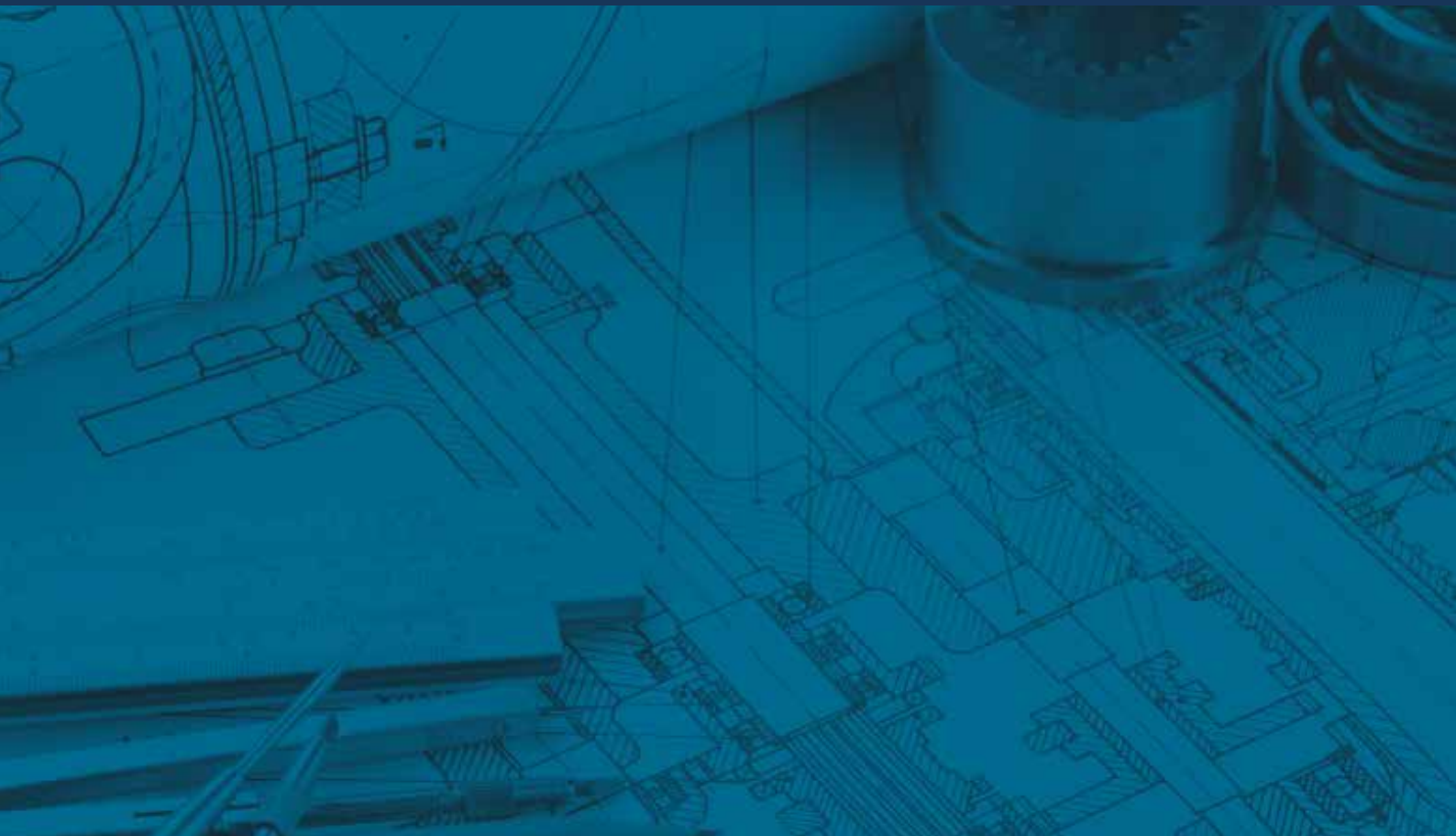


# PRODUCT GUIDE

Advanced weighers and weighing systems for static, dynamic and continuous weighing



**jesma**<sup>®</sup>  
weighing solutions

# WELCOME TO JESMA A/S



Jesma is a visionary Danish company working with the development, production and sales of weighers and weighing 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 know how 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 TO NEW LEVELS

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 centre 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.

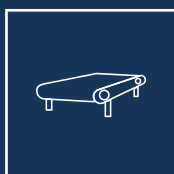
Jesma's product range within dynamic weighing consists of:

- Weigh feeders & Belt Scales
- Throughput weighers
- Flow Scales
- Loss in Weight Systems
- Micro and Nano dosing Systems
- Hopper Scales
- Big Bag Handling
- Check Weighing



## JESMA DEVELOPS, MANUFACTURES AND SELLS WEIGHERS AND WEIGHING SYSTEMS FOR STATIC, DYNAMIC AND CONTINUOUS WEIGHING.

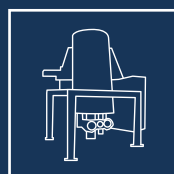
The company continuously strives to improve products and service to customers, by means of a targeted education policy and ongoing product development. The success of Jesma is based on knowledge and innovation combined with theoretical and practical skills, and by means of this combination, Jesma is 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



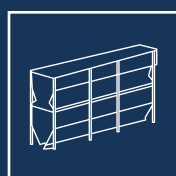
Loss in Weight  
System



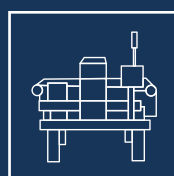
Micro and Nano  
dosing System



Throughput weigher



Hopper Scale



Check Weighing



Big Bag Handling

# We are a development, production and distribution company. We manufacture weighers and weighing systems for static, dynamic and continuous 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.

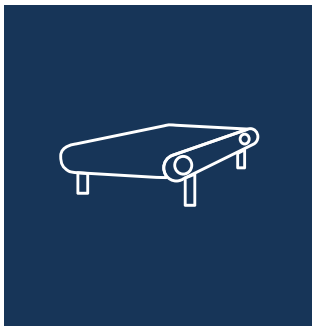
Jesma has established a unique and acknowledgeable service and calibration concept. The essence of the service concept is to reduce the company's individual costs in connection with unforeseen production breakdowns and unintended wear of the weighers and weighing systems.

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.

Focusing on optimum reliability, long lifetime, and high accuracy. With a weigh feeder from Jesma you gain the following advantages:

- An incremental encoder (tacho) is mounted on the idle roller which improves continuous monitoring of the belt, and ensures immediate alarm signal on belt drive irregularities.
- Over dimensioned load cells securing high accuracy even with an uneven material flow.
- A crowned driving roller facilitates tracking of the belt during operation and reduces the risk of belt slide.



## Jesbelt A

- Approved for trade applications according to OIML R-50, WELMEC and MID guidelines class 0,5 , 1 and 2.
- Weighing accuracy from 0,25% (Approved version) (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, scrapers.



## JesBelt S

- Weighing accuracy +/- 1-2% (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, scrapers.



## JesBelt D

- Weighing accuracy from 1.0%.
- 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

- 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.
- With a construction around a sturdy steel frame, the JesBelt F is suitable for heavy duty industries.



## VIB Belt scale

- Weighing accuracy from 0.25%.
- Available as standard units and project adapted equipment.
- Constructed to fit the existing conveyor and thereby reducing the commissioning period.
- VIB is available as trade approved equipment according to OIML R-50, Welmec and MID guidelines class 0.5.



## JesBuffer

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



# JESMA AQUA LINE

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

## JesBelt-A FISH

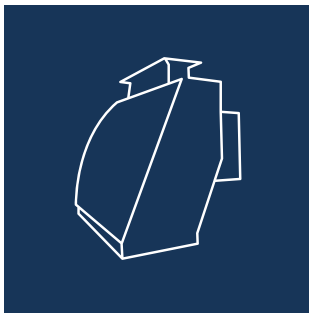
- Stainless steel construction with electrical components supplied in IP65, with option to upgrade to a higher class.
- Built around a mechanically isolated weigh bridge with 4 pcs load cells.
- Special JesBelt-A version for weighing of fish, pieces of fish etc.



## 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
- Accuracy from 0,5 %





# 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 5 sizes with capacities up to 50 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.
- To improve the reliability and the life time of the JesFlow, the weighing unit and its load cell is separated from the product flow.
- No moving parts secure a long lifetime and reduce the service requirements.



## JesImpact

- The JesImpact is available in 5 different sizes with capacities up to 300 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
- To improve the reliability and the life time of the JesImpact, the weighing unit and its load cell is separated from the product flow.
- No moving parts secure a long lifetime and reduce the service requirements.



## VPR JesImpact

- The VPR JesImpact is available in 3 different sizes for the larger capacities up to 800 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 painted steel ST37.2 or in Stainless steel AISI304.





# THROUGHPUT WEIGHERS

Jesma provides a complete program of intake- and out-loading scales consisting of 11 standard sizes with capacities up to 1600 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 OIML R-107, Welmec and MID guidelines class 0.2 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 painted 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 EEK

- 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 EEB

- The double hopper scale is designed to accommodate the hardest demands for production efficiency.
- The double hopper construction allows the weighing bin to be filled while the unloading bin is emptied thus increasing the batch/hour capacity.

# 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 driver enters the order number into the control system. This can be a part of the overall control system or an IT8000E recipe handling solution from Jesma. Note: the overall control is not part of Jesma's delivery.
- The JesLoader will position itself correctly below the pre-programmed silo by navigating via an incremental encoder (Tacho counter).
- When the Jesloader is positioned under the silo, the correct amount of product is released into the scale as ordered through the recipe handling system.
- After completed filling, the JesLoader is guided into the correct position above the truck inlet by means of a remote-control unit. The product will be released into the truck by accept from the operator.

## Technical specifications

- The Static weighing accuracy is  $\pm 0.1\%$ .
- Weigh bin has a capacity of up to 15 m<sup>3</sup> gross.
- Adjustable inlet +100 mm vertical to ensure dust tight loading from the silos.
- Tacho controlled positioning feature to ensure correct placement of the JesLoader.
- Designed for connecting different outlet devices for correct truck filling.
- Remote control to position the Jesloader correctly above the truck inlet.
- Driving speed up to 25 m/min .
- Closed construction to minimize dust emission to the surroundings.
- Service friendly and easy maintenance.
- Removal of excess air during emptying by leading the air through air channels and through the filter unit.





# 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 1 500 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 +/- 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 VSS/ EE 30 – 200 kg

- The micro scale VSS/EE 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 +/- 5 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: **200-1000 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: 500-1500 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 straps 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 VDI 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 centre – secures that the right construction is chosen to the actual material.





# WEIGHT CONTROL UNITS

Jesma has a large selection of weigh control section 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.



## 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.
- Approvable for mounting in areas with ATEX.
- Different data communications are available depending on the customers need.
- Up to 64 I/O.



## WC-9604

The WC 9604 is an advanced computer-based control unit for automatic weighers. The WC 9604 is well-suited for static and dynamic weighing processes with continuous weighers like belt scales, impact scales and LIW units.

### **WC-9604 from Jesma has the following advantages:**

- Built with guide text in the display and international recognized function keys according to EU standard - this increases user friendliness.
- Complies with the market's demand for speed, safety and precision.
- Automatic after run correction.
- Approvable according to OIML R-50 and MID standards.
- Data communication through RS422 or RS485 including PLC protocol.
- Possibility for communication with different fieldbuses by fieldbus converters, as an example Profibus.



## 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 12" 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
- Certificates and 24/7 online access
- Installation and start-up.
- Support

**WE SERVICE YOUR WEIGHING EQUIPMENT.  
WE ADAPT OUR SERVICE SOLUTION TO YOUR NEEDS.**



SERVICE  
AGREEMENT



CALIBRATION AND  
VERIFICATION



SPARE PARTS AND  
REPAIR



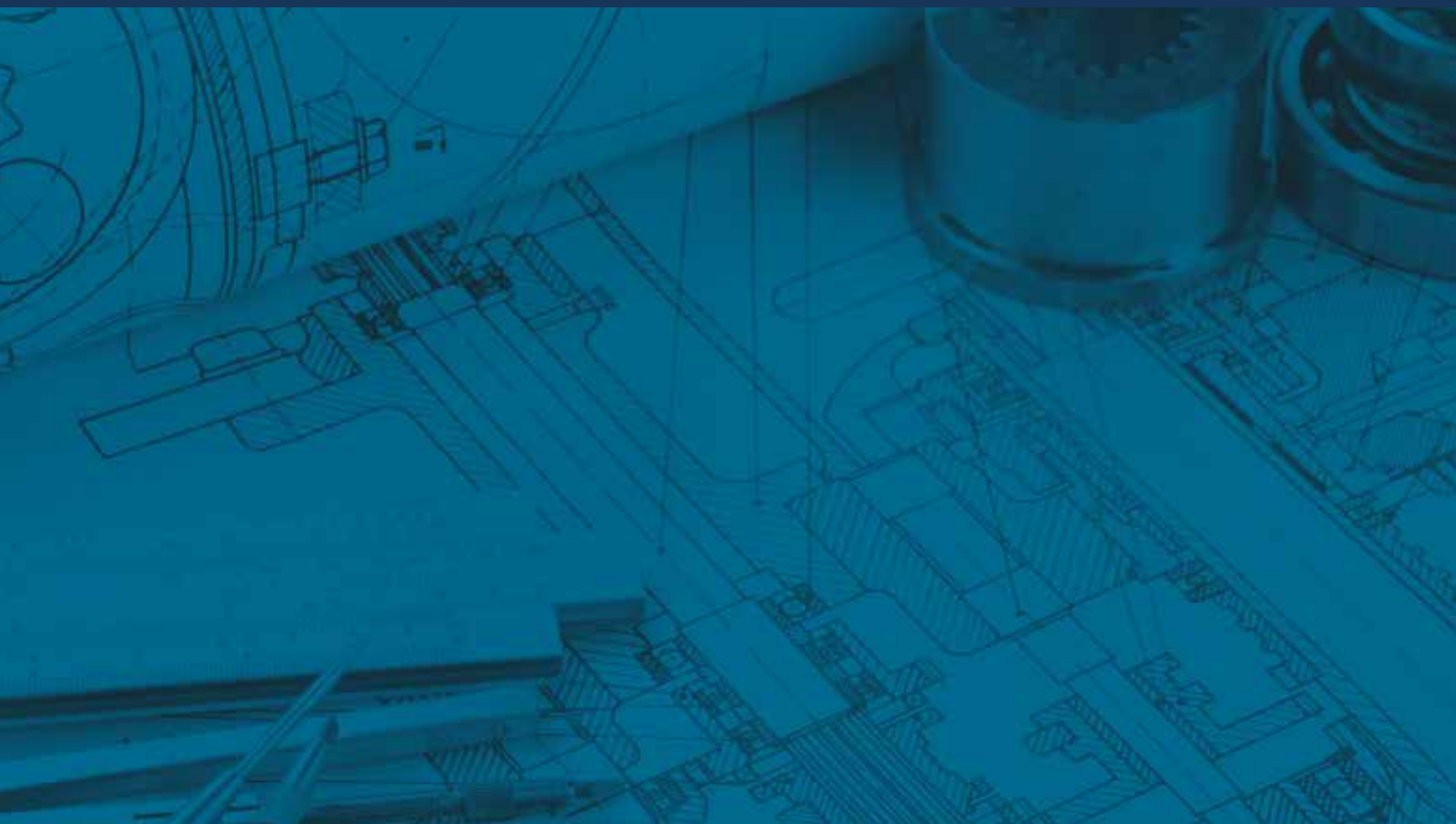
CERTIFICATES



SUPPORT



INSTALLATION



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