



MARSDEN

Increasing Outputs and Reducing Costs

A Guide To Weighing In The Food Industry

www.marsden-weighing.co.uk



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Weighing in the food industry - an introduction

Weighing can take place at almost every stage of the food manufacturing process. From tracking incoming raw materials, measuring out ingredients, quality control, to shipping out finished goods, highly accurate weighing solutions are a must - and can help increase revenue too.

Marsden has been providing high quality weighing equipment to British industry and around the world for over 90 years - supplying some of the most recognisable brands in the food processing sector.

Choosing the right weighing scale solution can help reduce waste, whilst enhancing quality, safety and productivity. Our scales meet and exceed industry standard and are easy to integrate - and ensure your product weights are consistent and cost-effective.

Stay hygienic

Maintaining a clean and hygienic environment is vital in food manufacturing, processing and preparation. It is paramount that businesses within the food sector comply with best practices and meet the legislation in place.

Marsden's IP65, IP67 & IP68 rated stainless steel scales help to ensure cleanliness in food processing.

IP65: This type of scale has protection from moisture when being wiped down with a damp cloth.

IP67: This type of scale is protected against being washed down.

IP68: This type of scale is fully waterproof - meaning they can survive being submerged in water. This means you can hose down the scale to keep it hygienic.

Stainless steel scales are particularly popular in the food industry because they can be easily kept hygienic. All Marsden HSS scale bases and stainless steel platforms are constructed from 304 food grade stainless steel.

Christina Herbert, Macsorsons
Fishmongers - and owner of a DS-781SS
- said:

“**Customers associate stainless steel with being clean and hygienic**”





Legal for trade weighing

Weighing scales may be used for pricing goods based on weight. If this is the case, these scales legally need to be Trade Approved.

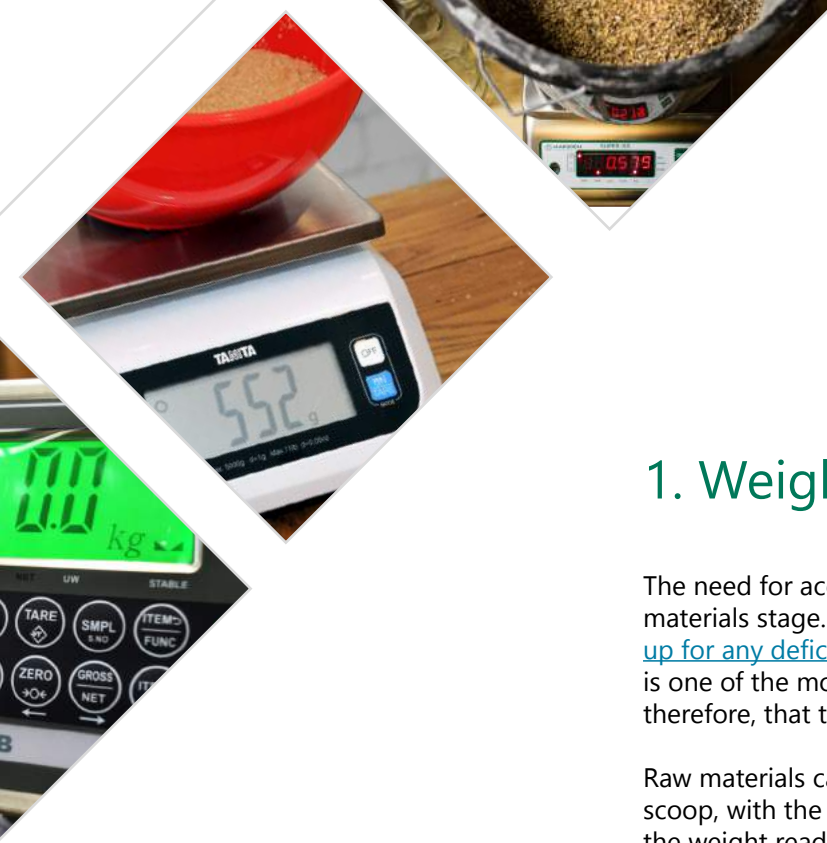
If the weight reading is not being used to determine the price of the goods, the weighing scale used does not have to be Trade Approved.

Approved solutions provide more than just a legal requirement - as this type of scale goes through more rigorous testing it provides a more dependable weight reading. Trade Approved status is a badge of reliability - proof that your scale will give you consistent, repeatable readings.

In packaged goods, the [law relating to the weight of contents](#) is designed to ensure the item has a minimum content weight. For example, a packet of crisps will feature an 'e' symbol to indicate that a packet's contents do not weigh less than the stated weight - and this will be found by weighing on a Trade Approved scale.

'Trade Approved' can also be referred to as Trade Stamped, Verified, Class III, EC Stamped, M Class Approved, Legal For Trade or Trading Standards Approved. These scales are tested to a standard that's agreed by the Food Standards Agency (FSA), and each Trade Approved weighing machine must carry the necessary markings.





1. Weighing raw materials

The need for accurate weighing in food production begins at the raw materials stage. Since [no amount of mechanical processing can make up for any deficiencies in nutrients](#), weighing out ingredients accurately is one of the most important processes in food production. It is vital, therefore, that the correct weighing scales or systems are used.

Raw materials can be weighed out in sacks or bags, or in a container or scoop, with the weight of the container or scoop being removed from the weight reading using the Tare function.

An accurate weight is very important, as an incorrect portion balance can result in poorer quality produce and unsatisfied customers.

Scales for weighing raw materials

The scales you use for weighing raw materials will largely depend on the quantity of ingredients you need. Smaller establishments may get by with bench scales; larger operations will benefit from more automated weighing systems.

The KW-210, B-100 and AGT-C are all examples of smaller solutions for weighing ingredients up to 5kg (the KW-210), upto 30kg (the B-100) or upto 150kg (the AGT-C). The AGT-C and B-100 are both IP68 and particularly popular in food processing plants, breweries and bakeries.

The HSS-JIK-APP is a Trade Approved, IP67 rated stainless steel bench scale that has a range of base sizes, making it a more flexible choice. This scale features a hi/lo alarm which means you can customise weight targets - with a visual traffic light indicating when this target has been reached. Using this alarm, waste can be reduced.



Ingredients weighing processes can be automated with scales such as the P-SS-I-500, which is built for applications like recipe formulation. With analogue outputs (there are up to 16 inputs/outputs available) this scale can turn feeds on and off in a sequence.

This means, if you have three different feeds of ingredients that need weighing, the scale will switch off the feed of the first ingredient when it reaches a predefined weight target, starting up the next feed until the right amount has been weighed out. Finally, the third feed is then switched on until it reaches its predefined limit. This automated process will speed up weighing ingredients, reducing user input, the chance of human error and cutting product waste.



2. Checking product weight on a production line

Weight fluctuations can be caused by a number of factors - but government regulations state that weight should not fall below a stated net weight boundary. If weights are incorrect, companies can be fined by the authorities. In 2015, [supermarket giant TESCO was fined £21,000](#) for displaying incorrect weights on a packet of nuts.

The law states:

- The contents of the packages must not be less, on average, than the weight on the label
- Only a small number can fall below a certain margin of error, known as the 'tolerable negative error' (TNE)
- No package can be underweight by more than twice the TNE

At risk of customer complaints, some manufacturers overfill - but this act of generosity can be costly and result in lost revenue.

The manufacturer and consumer are protected by checkweighing processes. Manufacturers are assured that they are offering compliant products - protecting the brand and company reputation. Consumers receive a high quality product that includes the correct net content.

A process of random sampling is ideal, taking up minimal space with relatively small investment.

Food manufacturers use checkweighers to:

- Check for under and overweight
- Check volume or density (bread, yogurt)
- Ensure net content for pre-packaged goods
- Measure raw/unwrapped food prior to packaging
- Check for missing components (labels, instructions, lids, leaflets)
- Verify counts for warehouse or delivery
- Check mixes for solid-to-liquid ratio
- Reduce giveaway through filler adjustments
- Classify products for grading or portioning ensure customer or agency/consumer standards are met
- Report production line data to drive process improvement

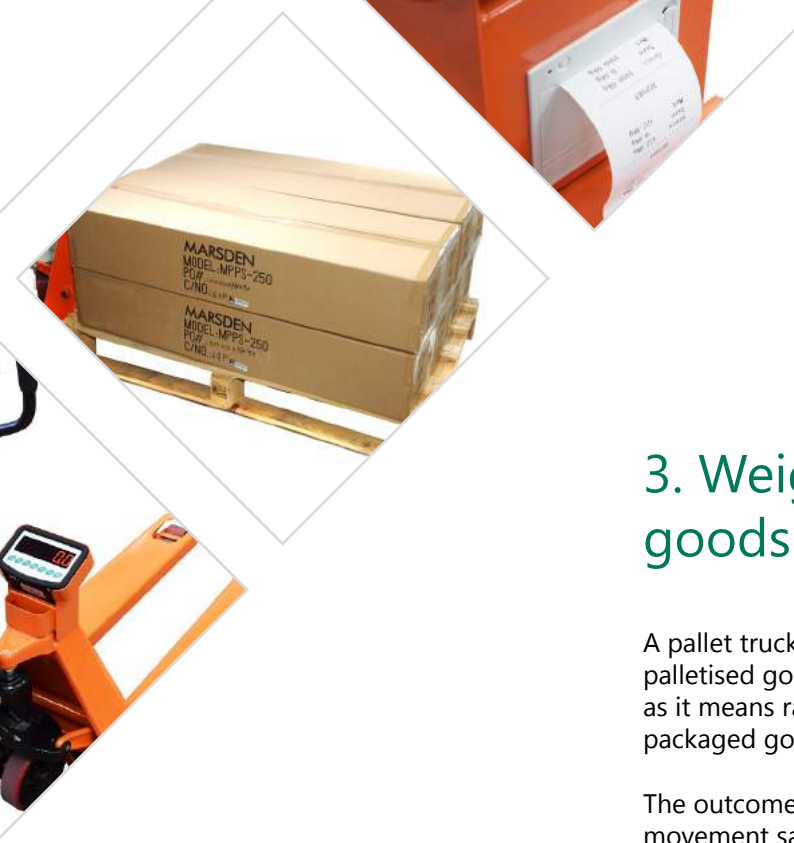
Scales for checkweighing produce

The Jadever JWE is a highly precise check weighing bench scale - perfect for production lines with hold, zero, accumulation and count functions. The scale features a hi/lo alarm which will sound when weighing outside a predetermined range. The weighing pan is stainless steel, and the keypad water-resistant.



Alternatively there are a number of scales in our HSS and MSS ranges that are perfect for checking weights. The MSS-JIK has a multifunctional checkweighing indicator for weighing or counting. An RS232 interface board comes as standard with this model, so that data can be sent from the scale to a printer. Data can also be recorded automatically in a spreadsheet, direct from the scale.





3. Weighing and moving your goods

A pallet truck scale allows factory operatives to move and weigh palletised goods at the same time. This speeds up the weighing process as it means raw ingredients can be taken directly to storage, and packaged goods to dispatch areas.

The outcome of weighing and moving palletised goods in one movement saves time and staffing - as only one member of staff is needed to complete the two tasks.

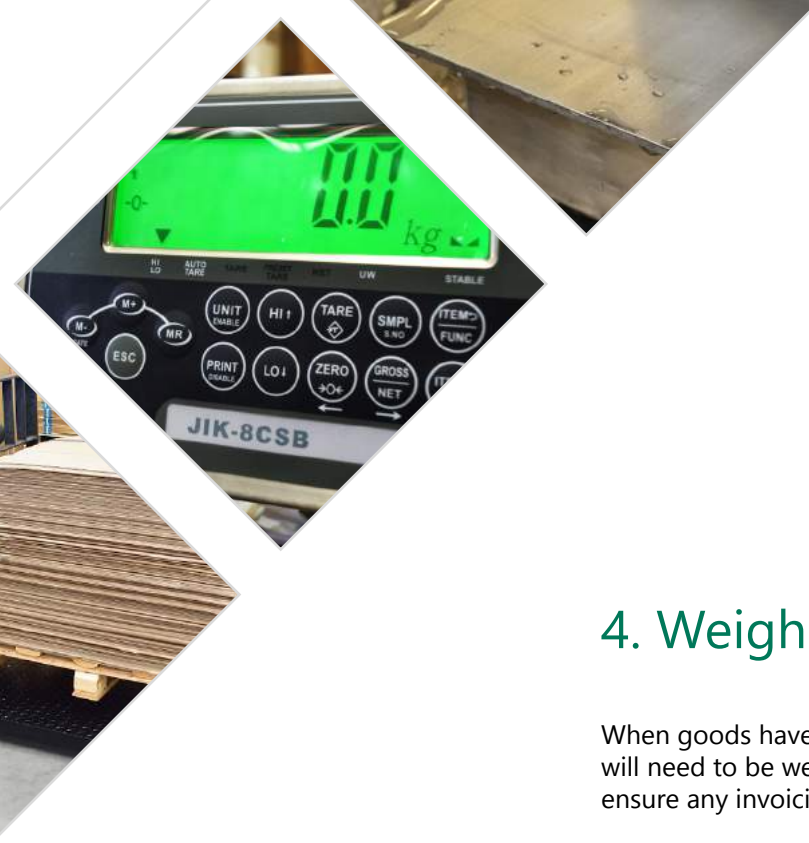
Scales for weighing and moving your goods



The PT-400 is our stainless steel pallet truck scale. Because the scale is IP67 rated it can withstand use in wet and humid environments - and to keep it hygienic it can be washed down after use.

Alternatively, the PT-600 is perfect for dark environments with a bright LED indicator. This pallet truck scale also features a unit button so can weigh in kg or lb. An onboard printer provides you with a hard copy of each pallet weight.





4. Weighing outgoing goods

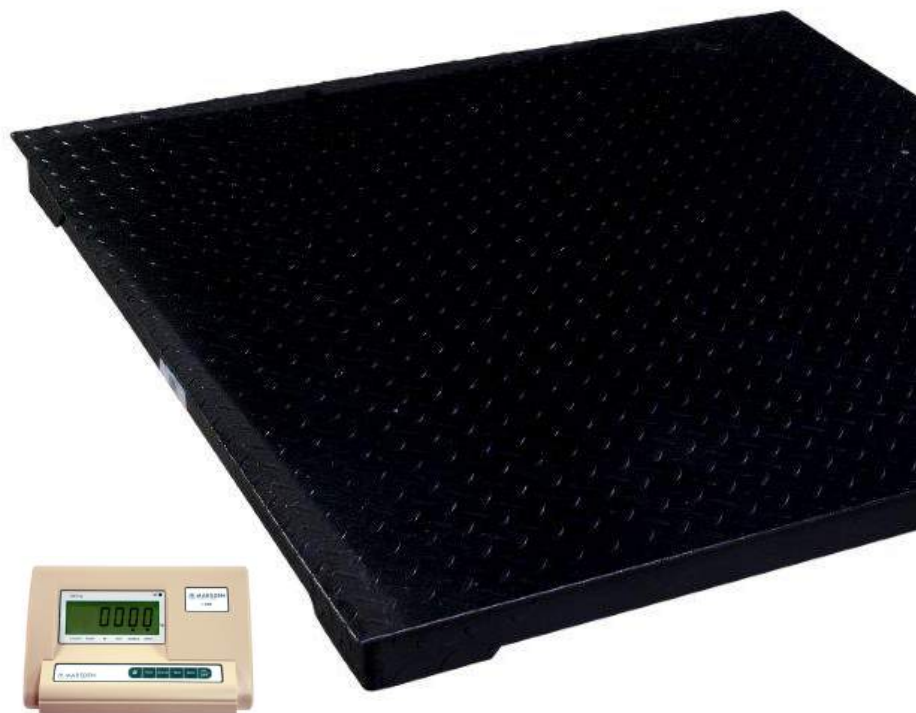
When goods have been packed and are ready to leave your premises, they will need to be weighed to ensure they are safe for transportation, and to ensure any invoicing is correct.

A robust, durable, high capacity scale is needed to withstand regular weighing of large goods - meaning a platform, drive thru, u-frame, weigh beam or pit mounted scale is best suited. A pallet truck scale is also appropriate at this stage.

Scales for checkweighing produce

The P-I-100-APP is a Trade Approved mild steel platform scale with a choice of graduations and capacities - up to 3000kg. This platform scale has a solid, hard-wearing durbar surface - alternatively, stainless steel platform scales are available.

Our new PD-JIK-APP Pit Mounted Scale is also perfect for weighing outgoing goods. As the scale is mounted securely into a pit it is discreet and can remain in a fixed location all year round. This scale features a hi/lo alarm and is suitable for weight data transfer, to a printer or PC.





5. Weighing your vehicles

[The Road Traffic Act](#) makes it an offence to drive on a public road in an overloaded vehicle. These provisions exist as an overloaded vehicle can cause excessive wear and damage to roads and bridges, as well as making the vehicle unsafe.

Failure to adhere to this law can result in [heavy penalties](#), so it is important that the vehicle is weighed to ensure it is within weight boundaries - axle weigh pads are the best solution for weighing vehicles.

Scales for weighing vehicles

One solution for ensuring that vehicles are the correct weight is to weigh pallets before they are loaded - most scales for weighing pallets will have an Accumulation function so several pallet weights can be added up and totalised by the scale. Alternatively, axle weigh pads can weigh the whole vehicle.

The AP-100 Axle Weigh Pads are hard wearing with a high capacity. They display a clear weight reading on the scale display when a vehicle moves over the pads, and powered by 6x AAA batteries they can be used anywhere.

The AP-200 consists of axle weighing pads with an easy-to-use touchscreen indicator and integral printer. These pads have a capacity to 20,000kg.





Transfer weight readings to a PC or print out readings

At various stages of the food production process, you may wish to record your weights - either for your own records or for Trading Standards.

Recording weights will provide you with evidence of quantities of ingredients used and consistency of produce - which in turn will give you insight on whether money can be saved at any point in the production process.

A scale with an RS-232 interface means that data can be transferred directly to a PC or connected to a printer. This means that a spreadsheet can be instantly populated with records that you can save, print or email.

Ensure your scales stay accurate

Over time a scale may lose its accuracy due to natural causes, or it could be in need of repair due to overuse.

Keeping your scale accurate via regular maintenance keeps your equipment working to full potential and reduces the likelihood of breakdowns occurring, which can halt production.

Choosing a Marsden service contract means a highly trained engineer will ensure the scale remains accurate, safe and maintained. An annual service visit is recommended to keep the scale safe and compliant.

For more information on service contracts, call 01709 364296 or visit our website.





Accuracy Assured


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