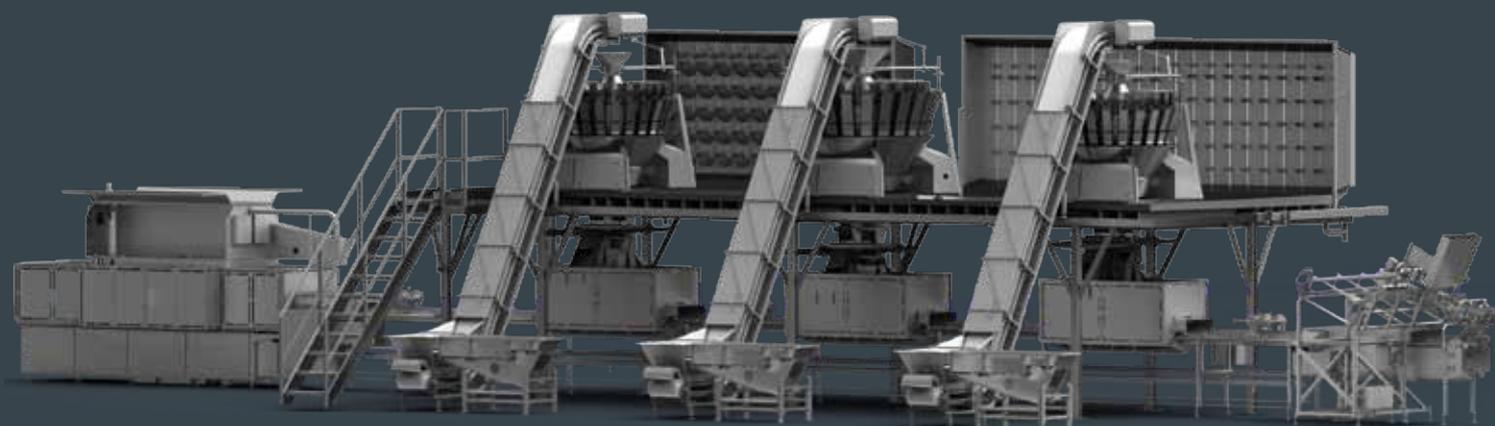




Weighing and packing solutions

No products are
too difficult to handle

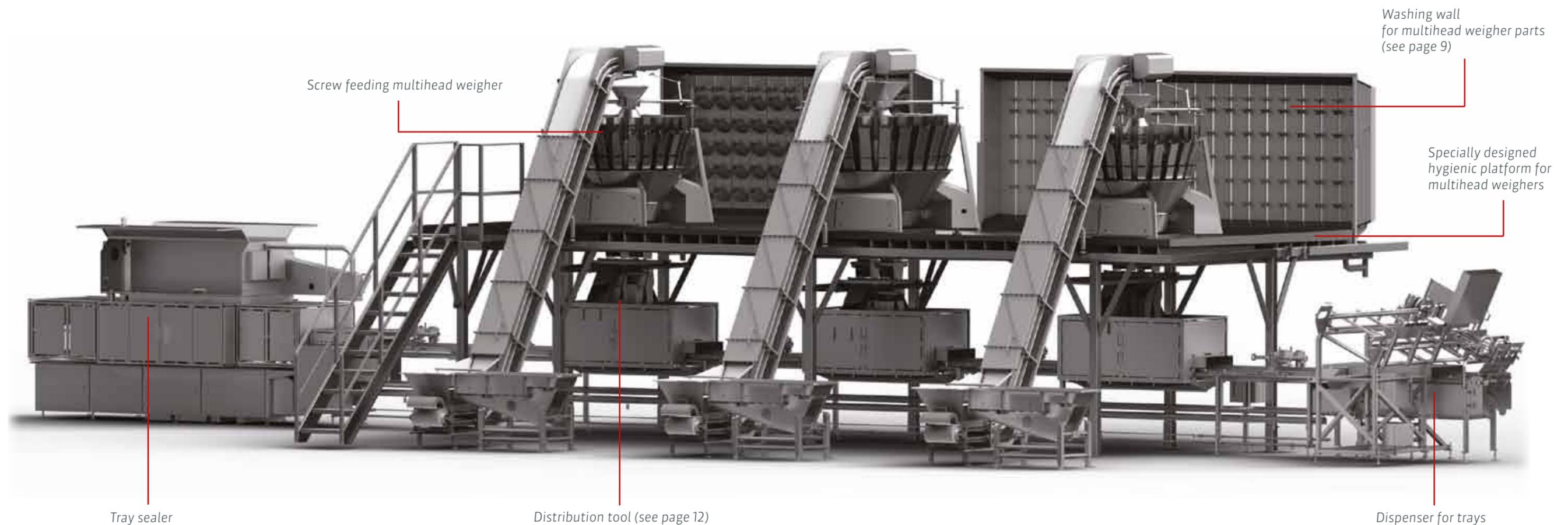


Cabinplant customized weighing and packing solutions



Packing of ready meals in trays of fixed weight.
Total capacity of 120 trays per minute.

Together,
we design your complete solution



"Cabinplant's screw feeding principle is an excellent solution for our many applications. We are very pleased with the flexibility and the weighing accuracy we have achieved with our ready meal line from Cabinplant"

Jorgen Dissing, managing director at Tulip

Speed, flexibility and accuracy are key parameters to optimize your production economy

The line weighs and fills a wide range of ready meal products into trays. These may include traditional dishes or new developments, focusing on convenience and health. The line has two lanes and a total capacity of 120 single or multi-compartment trays per minute. So far, the line runs 40 different recipes.

The multihead weigher can be supplied on a platform from which it can be moved on rails to different positions on a packing line as needed. This makes production considerably more flexible without the increasing investment.

Cabinplant turnkey solutions

Cabinplant offers turnkey solutions that incorporate various machines into one production line – machines that can also be integrated with existing machinery.

Benefit from 40 years of experience

Cabinplant's experience in weighing technology dates back as far as 1991. The ability to solve complicated portion weighing tasks by providing simple solutions is our specialty. Our solutions are developed by combining our weighing technology experience with our 40 years of experience within other areas of the food industry.

We tailor-make solutions to match individual requirements, and we provide complete solutions for weighing, filling and packing products into bags, buckets, cans, glass jars, cups and trays; premade, thermoformed etc. We also provide complete solutions.



Weighing line for chicken meat

Screw feeding multihead weigher, type 40-24

Example of products:

- 340 – 720 g natural fillet
- 560 – 900 g marinated fillet
- 700 g thigh muscle
- 700 g inner fillet, natural
- 900 g wings
- 900 g drumsticks
- 1300 g whole legs – 3 pcs – no fixed weight

Portion size: 340 – 1300 g

Capacity, weighings: 72/min.
based on natural breast fillet 720 g.



Weighing/filling line for various anti-pasti

Screw feeding multihead weigher, type 10-28 with rotor filler, type VRF 14

Capacity: Up to 160 jars/min.



Weighing/filling line for mussels

Multihead weigher with vibratory feeding, type 10-32

Capacity: Approx. 180 cans/min.

Example of line flexibility:

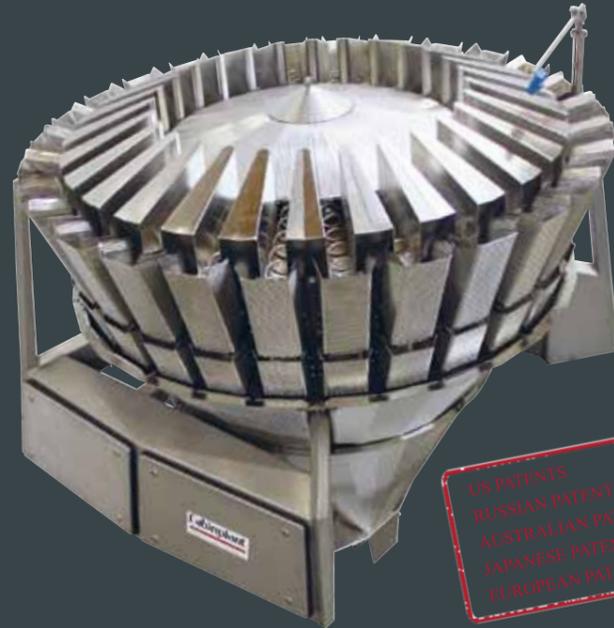
Mussels per can	6 - 8
	8 - 12
	12 - 16



No products are too difficult to handle

For fresh meat and sticky products

Cabinplant provides various multihead weighing solutions, using either vibration or our patented screw feeding system for wet and sticky products.



Patented multihead weigher with screw feeding

US PATENTS - 12,534,652
 RUSSIAN PATENT - 2435145 C2
 AUSTRALIAN PATENT - 2006220135
 JAPANESE PATENT - 5106218
 EUROPEAN PATENT - EP 1592237



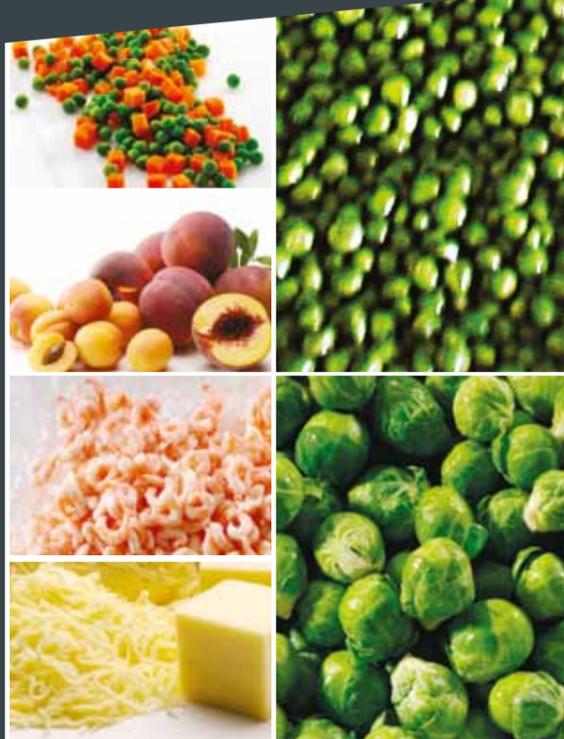
For fresh, frozen and dry products

The Cabinplant multihead weigher can handle most types of products

- Fresh
- Frozen
- Fragile
- Sticky
- Single
- Mixed
- Large
- Small



Multihead weigher with vibratory feeding



The principle behind multihead weighing

Top cone

By means of vibration or rotation, the top cone distributes the product into the chutes/screw feeders.

Feeding system

The product is fed to the top cone by a feeding system designed for the particular flow properties of the specific product.

Assembling pans (step motor driven)

The product is discharged from the assembling pans into the weighing pans.

Vibratory chutes/screw feeders

Feed the product evenly into the assembling pans.

Weighing pans (step motor driven)

The product is recorded as partial portions. The computer selects the most suitable weighing pan(s) to obtain accurate portion weight.

Computer

State-of-the-art technology for optimum output, flexibility and accuracy.

Timing hopper

The timing hopper opens a synchronisation signal, which indicates that the distribution tool or the packaging machine placed below the weigher is ready to receive product.

Assembling hopper

The partial portions closest to the preset weight are dropped from the weighing pans and slide through the assembling hopper to the timing hopper.



Advantages

- Few-piece portions
- Reduced give-away
- Easy to wash down
- Excellent weighing accuracy
- Dismantling without tools
- Retro-fit into existing lines
- Fast return of investment

Unique and functional design



Cabinplant has developed various product contact surfaces to ensure easy product flow throughout the weighing process - irrespective of whether the weigher handles extremely sticky products (e.g. dates), highly fragile products (e.g. cookies), or hard objects (e.g. nails, screws or bolts).



No use of tools when dismantling for cleaning

Low risk of contamination due to the hygienic construction



Vibration type



Screw feeding type



Hygiene and safety

Fast and efficient cleaning is important in any food production. Hygiene requirements are becoming increasingly strict, which means higher cleaning costs and loss of valuable production time.

A thorough cleaning is vital in order to eliminate microbiological growth.

Cabinplant multihead weighers are designed to reduce cleaning time and eliminate contamination risk due to the hygienic construction.

The mechanical part of the weigher is constructed entirely of stainless steel, and the tilted and smooth surfaces together with closed units rule out the risk of product deposits.

The multihead weigher product zone is dismantled completely without tools, and all detachable parts can be washed on the specially designed Cabinplant washing wall using high-pressure water.

The parts can also be cleaned in a hopper cleaner. Both washing wall and hopper cleaner can be placed on the weigher platform.



We are experienced in the nuances of designing factory layouts for optimum cleaning.

Advantages

- Easy to wash down
- Quick dismantling
- IP65
- Step motors

Washing wall minimizes the damages of the parts due to the fixation during cleaning.



Fixation of parts during cleaning.



Multihead weigher with special features

Cabinplant screw feeding multihead weigher has been granted several patents for its unique way of handling difficult products (fragile, wet, sticky etc.)

The screw feeding multihead weigher has quickly gained a foothold in the poultry and fish industries.

As Cabinplant tailor-makes additional solutions, features for our patented multihead weigher have been invented to match individual requirements and optimize customers' weighing and packing processes.

Rollers

The rollers were specifically designed to ensure gentle transfer of fragile, wet, long or sticky products.

They ease transfer of difficult products from the top cone into the vibratory chutes.

The rollers are positioned above and between the vibratory chutes and are driven by the top cone.

They prevent long products, e.g. fish fillets, from "hanging" between two channels instead of reaching the assembling pans.

Combined with the screws, the rollers are superb for products such as spaghetti, etc.

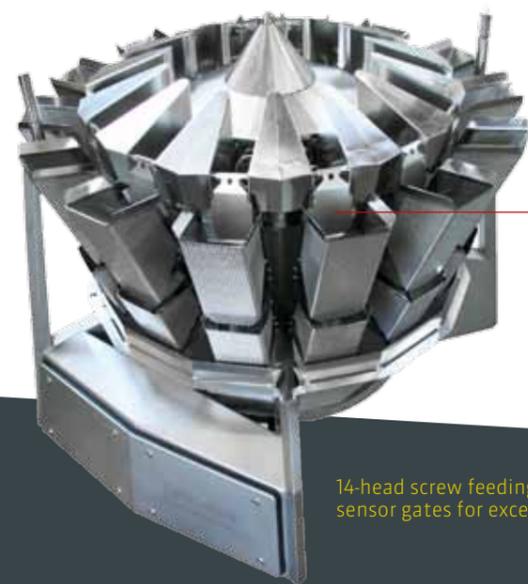
Sensor gates PATENT PENDING

The sensor gates are designed for accurate weighing of few-piece portions (e.g. 450 g chicken breast, 3 pieces in a tray).

The sensor gates ensure optimum feeding to each assembling pan – i.e. feeding of only one piece of product into each pan, thus obtaining the highest possible number of combinations and the highest degree of accuracy.

With its new revolutionary technology, Cabinplant multihead weigher is the only weigher on the market capable of accurately weighing few-piece portions.

The latest tests of this feature show a significant give-away reduction compared to the give-away of previous Cabinplant screw feeding multihead weighers and other multihead weighers on the market.



14-head screw feeding multihead weigher with sensor gates for excellent accuracy.

PATENT PENDING

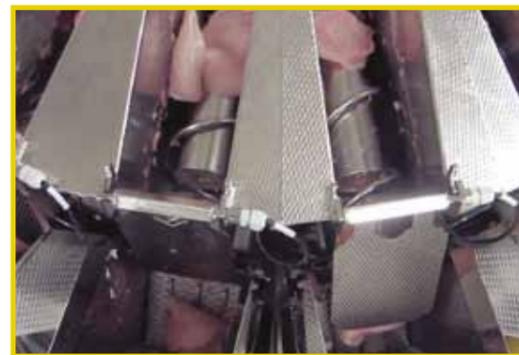
Latest innovation
Sensor gates for few-piece portions.



Multihead weighing of accurate mixes of four different seafood products: Two types of mussels, shrimp and squid.



Screw feeding multihead weigher, type 30-14. Core and rollers ensure gentle transfer of fragile product.



Sensor gates reduce no. of empty weighing pans as well as duplets and triplets in the weighing pans.



Cabinplant screw feeding multihead weigher is specially designed to handle delicate thread-like products, e.g. shredded marinated vegetables.



Assembling hopper with anti-sticky surface.

"With our two complete lines we can now use multihead weighing for fresh fish fillets, resulting in a considerable reduction of give-away and labour cost".

Klaus Wraa, production manager at Aker Seafoods Denmark – part of the Norwegian group Aker Seafoods ASA.



Product mixes - built-in flexibility

The multihead weigher can be divided in up to four separate product zones. Consequently, the same weigher can work as an individual weighing unit for different products, or it can be used for making accurate mixes of the chosen products (mixed weighing with one machine).

Another option is to combine several multihead weighers in one line, e.g. for ready meals of fixed weight (mixed weighing between two or more machines). In this case the product from the last multihead weigher is used to top up the portion weight to set point final weight.

Finally, the multihead weigher can be used to top up a given predosed portion. This portion is e.g. defined on a check weigher, and the multihead weigher adds the required extra quantity to match the final target weight (floating set point weighing).

Due to Cabinplant's philosophy of built-in flexibility, many of these different weighing principles can be combined.

Counting

From the average product weight the multihead weigher can determine the number of products in a given pan with a very high degree of accuracy.

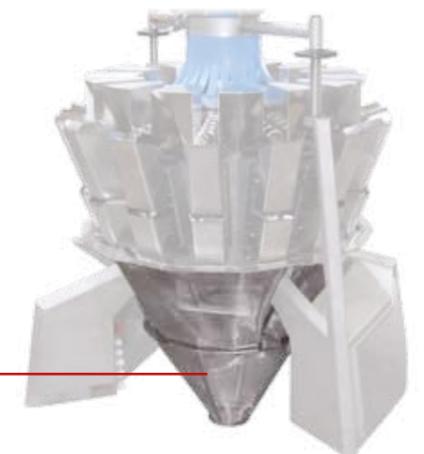
Naturally, this accuracy depends on the homogeneity of the product, but since the number is based on the weight in the individual pan, standard deviations, and thus the risk of counting errors, are reduced to a minimum.

The multihead weigher can be programmed to perform counting only or to use a single product zone for counting while weighing other products at the same time.

Assembling hopper with anti-sticky surface

Cabinplant has developed a unique multihead weigher solution for highly sticky products e.g. shredded fresh or marinated vegetables. Previously, these products could not be weighed/filled on a traditional multihead weigher.

Cabinplant's new development opens completely new doors within the food industry. By combining the anti-sticky surface of the assembling hopper with the unique filling cassette, it is now possible to weigh/fill the above-mentioned products into bags, trays, cups, glass jars, cans etc. This process ensures that voluminous product can be compressed to the requested packing size.



Screw feeding multihead weigher, type 30-14.

Tailor-made details

Irrespective of whether the product is to be filled into pots, bags, trays, buckets, etc., Cabinplant develops tools capable of performing the task.

Especially where thermoforming packaging machines are involved, careful consideration of product distribution to the required number of trays is required at the design stage.

The distribution tool is designed to meet individual requirements.

Cabinplant develops distribution tools for virtually all kinds of packing lines, and the tools are often exchangeable, allowing various tools to be used on the same packing machine for different container sizes or quantities.



In many cases, the challenge of using multihead weighing is the combination of the multihead weigher with the subsequent packing equipment.

Cabinplant has specialised in integrating these two stages, and the distribution tool is usually the means to an effective integration.

The tool distributes and guides the product from the timing hopper to the final container – safely, quickly and without spillage.

Distribution tool, 1x4, for filling of cups on step conveyor.



The tool distributes and guides the product from the timing hopper to the final container – safely, quickly and without spillage.



Distribution tool, 2x2, for packing of ready meals in trays of fixed weight.



Distribution tool, 4x4, for thermoformed trays.

Filling/mixing cassette

The Cabinplant filling/mixing cassette is designed for fully automatic and uniform mixing of liquid/sauce and product and for accurate filling of the product into glass jars, cans, thermoformed or preformed trays, etc.

Usually, the filling cassette is used to collect and compress the product into the container, but the cassette can also be equipped with a built-in mixing system, thus combining two functions in one system.

Simultaneously with the product being dropped by weight, the sauce/liquid is filled in accurate volume into the cassette. The two products are mixed inside the cassette before being led to one side of the chamber and pushed into the container.

Advantages

- Accurate weighing and filling of each product
- Excellent mixing
- Easy to adjust to various packagings
- Easy cleaning
- Fast product change-over on multihead weigher for different flavour (sauce/liquid ONLY in the filling/mixing cassette)

The cassette is placed on a movable stainless steel frame, which can be removed when using other filling tools and during cleaning.



Cabinplant multihead weigher guide

The Cabinplant range of multihead weighers ranges from low-capacity 10-channel machines to high-capacity 32-channel machines with product recipe mixing.

The number of channels and weighing pan sizes is dictated by customer requirements in terms of product, capacity, etc.

A Cabinplant multihead weigher with e.g. 14 weighing pans can calculate and control up to 16,000 weighing combinations. This results in up to 125 accurate portions per minute.

Cabinplant multihead weighers can be divided in up to four sections (see page 11).

Configuration

	SF+Vibration				Vibration only			
10 heads 1, 3, 4 L. pans								
12 heads 1 L. pans								
14 heads 1, 3, 4, 5 L. pans								
18 heads 1 L. pans								
20 heads 3, 4, 5 L. pans								
24 heads 1, 3, 4, 5 L. pans								
28 heads 1, 3 L. pans								
32 heads 1, 3 L. pans								

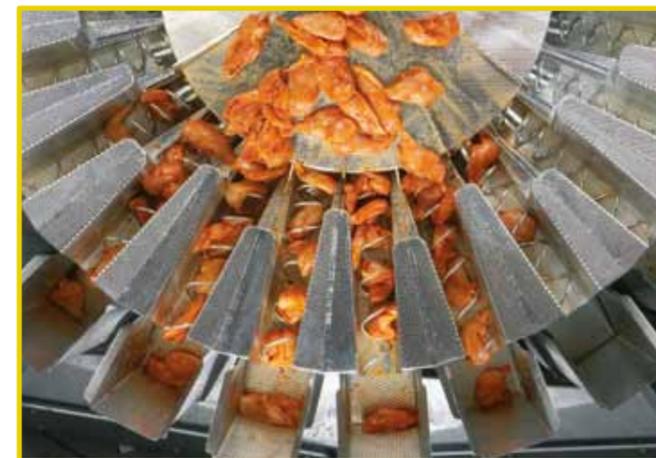
▼ Product infeed ▼ Product outlet Weighing heads MHW-size: 1.0 I-5 I Capacity: Up to 250 portions per minute.

How long can you afford to wait?

Cabinplant screw-feeding multihead weigher is especially designed to handle fresh, sticky and wet products such as

- Poultry
- Beef
- Pork chops
- Lamb chops
- Meat cubes
- Seafood
- Pasta
- Cabbage
- and more...

A customer in the poultry industry saved EUR 678,000 per year when investing in a Cabinplant weighing solution that reduced his give-away considerably.



One of our customers purchased several multihead weighers from Cabinplant, and the ROI for the equipment was approx. 18 months.

Example of savings per year

when reducing give-away by 1% of target weight:

$$100 \times 4.5 \times 60 \times 0.01 \times 15 \times 250 \times 0.67 = \text{EUR } 678,375$$

This figure does not include labour savings of two operators per multihead weigher.

Calculate your own cost of delay

Packagings per minute	A
Target weight (in kg)	B
Packagings converted to hours	60
1% of target weight	0.01
Hours of operation per day	C
Days of operation per year	D
Value of product per kg	E

$$A \times B \times 60 \times 0.01 \times C \times D \times E$$

How long can you afford to wait?

Product	Leg quarters
Packagings per minute	100
Target weight	4.5 kg
Hours of operation per day	15
Days of operation per year	250
Value of product per kg	EUR 0.67

About Cabinplant

Founded in 1969, Cabinplant A/S is a world-leading provider of tailor-made processing solutions for the food industry.

Our main focus areas are within fish, shellfish, vegetables, fruit, berries, meat and poultry and convenience foods. Additionally, we provide multihead weighing and packing solutions for a wide range of industries.

Cabinplant works in close partnership with customers in major markets around the globe.

We are headquartered in Haarby, Denmark, and have representatives in more than 30 countries worldwide.



Cabinplant A/S
Roesbjergvej 9
DK-5683 Haarby
Denmark
Tel. : +45 6373 2020
Fax : +45 6373 2000
E-mail : cpi@cabinplant.com

www.cabinplant.com

Cabinplant

Precise by nature