



Capping and filling

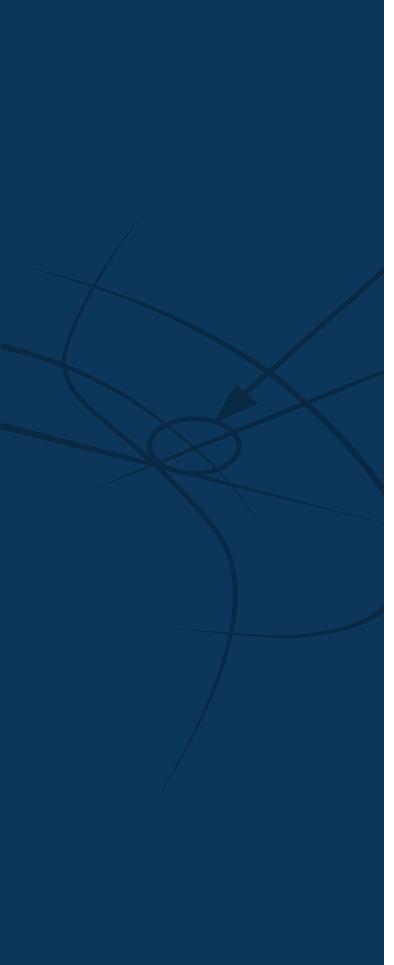
Cap handling and transport

Conveying and organizing equipment

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# About PMW Engineering

PMW Engineering is a Danish owned company based in Vejle, Denmark. We specialize in systems and solutions for the packaging-, and the insulation industries, including solutions for conveying, special filling, capping, and testing of insulation materials.

PMW Engineering produces solutions with a focus on flexibility, cost-efficiency, and reliability. We support client through all phases of the development of their solutions ensuring continuous high-quality service and support for our customers.

#### Why choose PMW Engineering?

- Dependable and durable
- Cost effective
- Easy maintenance
- Highly flexible
- 360° support and service



# Our expertise your advantage

We know that not one production is alike, and at PMW Engineering, we cooperate closely with our customers to offer the most optimal solution to fit their exact needs.

PMW Engineering has extensive know-how in the packaging industry, from the more that 30-years of experience, and use that know-how gathered through our skilled employees, external specialist, and sub suppliers, to develop, to innovate, to learn and to ensure that PMW Engineering provide market leading solutions.

#### Flexible and customized

We advise on all processes, from setting up the empty containers on the conveyor belt, the filling, and the capping process, to the labeling and further packing of the product.

PMW Engineering develops, designs, and manufactures own equipment for semi- and fully automatic setups, delivering both whole processing lines and modular units.

We help you define your solutions based on your requirements, all our solutions are developed as modular units, which makes it possible to combine and assemble solutions in several ways, with a PMW Engineering solution it is possible to:

- Fit a unit within an existing production line.
- Other units will fit into a delivered production line from PMW Engineering.
- Whole new production lineup.

# Service and solutions

We not only deliver machines in high quality, but also service at an equally high level.

We recommend servicing your equipment regularly, thus keeping your equipment in top condition avoiding unnecessary down time and production delays.

PMW Engineering can offer:

- Service and maintenance
- Spare parts
- Service agreements
- Trouble shooting
- Repair
- Training
- Support / telephone etc.





#### Format parts equals flexibility

For X and X type of equipment we can offer format parts that enable you to adapt your existing equipment to different container sizes.

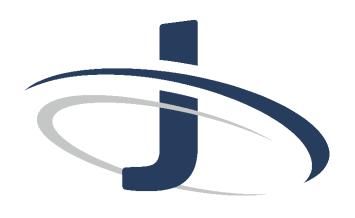
Our equipment can easily be disassembled, cleaned, and fitted to run different types of containers. We offer to train our customers ensuring they know how to do basic maintenance, cleaning and changing of format- and spare parts on their production equipment.

We can offer format parts and spare parts for all types of packaging equipment.

PMW Engineering assist with installation of new equipment, relocation, modification, or rebuilding of existing equipment.

We ensure that our equipment is quality tested before delivery to guarantee that your equipment live up to our and your quality standards.

# A part of Jesma Group









Jesma Group consists of three companies: Jesma Weighing Solutions, PMW Engineering and SEG Instrument.

We are present in all markets and our offices are in Denmark, Sweden, Poland, and Argentina.

The global group is specialized in providing high quality solutions for production processes in various markets. We supply both standard and customized solutions and services to fit our customers needs. A major focus is helping our customers optimize and enhance their production process to ensure that they are operating at highest possible level.

#### From idea to execution

At Jesma Group our combined know-how and many years of experience enables us to provide the best possible service and consultancy through your products life cycle.

























# The product range of Jesma Group

The product range of three companies of Jesma Group spans widely, we can offer solutions in among others weighing and dosing, static weighing and small scales, cap handling, special filling, heavy duty industrial weighing, and test materials for insulation.





































# Capping, conveying and filling

PMW Engineering specialized in handling solutions for bottles, cups and containers. We advise on all processes from the set-up of the empty container on the conveyer belt to the filling process, the cap handling to the labelling and pre-packaging.

We develop, design and manufacture our own equipment for a fully automatic setup.









# Bottle organizing equipment

PMW Engineering offers bottle feeding tables for both round and square containers with different automation degrees. We manufacture various types of equipment for semi-automatic setup of empty containers on the production line/conveyor.

The units are delivered in stainless steel and made to withstand heavy cleaning.

# Feeding tables



#### InFeed 1200

The InFeed 1200 table rotates around its own center on which is mounted a column. Manually, the containers are placed randomly on the table. Through suspended "Fish" the containers are slowly but safely led to the periphery of the table and thereafter led onto the conveyor and ready for the subsequent processes.

Ø1200



## PacFeed 2000

The Pacfeed 2000 is a rectangular bottle-feeding table for all kinds of containers that typically come as shrink packs. The packs are placed onto the conveyor and the plastic bag is cut and pulled back, so the containers are separated but organized on the table.

Subsequently the containers make towards the conveyor, row by row, which is mounted perpendicular on the table. A pneumatic side push will then ensure that a row is inserted into the conveyor when space is available.

# Packing tables

PMW Engineering A/S manufactures various equipment for bottle feeding tables often used at the end of the production line for manual packing of finished products.

The units can withstand heavy cleaning and has option for stainless steel.



#### **AccuBoard**

The PMW AccuBoard is a type of conveyor typically used to convey finished units away from the production line and collect them, providing workers with time and a space to gather finished units for packing.

PMW AccuBoard can be placed at the end of a production line, set to receive finished units and neatly arrange them to be able to fit as many units as possible on its table surface.

One or several PMW AccuBoards can also be placed at various points on the production line, making your production capacity even more robust and helping you maintain an uninterrupted production schedule.

When placed on the side of a production line instead at the end of it, the PMW AccuBoard allows for finished units to be conveyed past it, only commencing its function when its photocell detects a queue building up on the conveying belt. When that happens a hatch springs out in front of the incoming containers, diverting them away from the conveyor belt and onto its rotating table top, only stopping if the table reaches maximum capacity.

#### Choose between:

AccuBoard Ø 600

AccuBoard Ø 800

AccuBoard Ø 1200

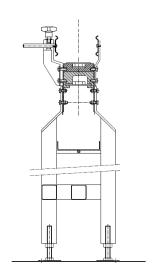
# Conveyor equipment

PMW Engineering A/S manufactures conveyors for multiple purposes and in many different sizes. The PacLine serie is a horizontal container conveyor for containers in diameter or width of 20mm to 500mm. The conveyor bearer is made of stainless steel and carries the containers on a plastic or stainless lamina chain. The Pacline serie is produced in band widths of 82.5mm, 114mm and 190mm, both as straight-through or as flex conveyor.

### The Pacline Series

Included in all Pacline equipment as a basic feature is:

- 3000 mm stainless steel conveyor
- Drive unit with infinitely variable hollow shaft gear/engine
- · Lamina band in adapted size
- Stainless steel railing, mounted on adjustable plastic holder
- Ø 60 mm stainless steel supporters with adjustable plastic foot
- Return rollers made of nylon



## Choose between:

PacLine 82.5

82.5 mm wide table top chain

**PacLine 114** 

114 mm wide table top chain

PacLine 190

190 mm wide table top chain



# Filling machines

Filling machines for the small- and medium sized productions. According to different filling principles among these pump dosage (volumetric filling) and level filling, other principles such filling by weight can also be offered.



# FillMatic - level filler

A simple and effective filling machine well suited for container sizes between 0.5 L and 5 L, works well with thin products.

- Fully automatic level filler
- Stainless steel
- Low viscosity products

Often used in chemical technical industry.

### The RotoFill series



# Rotofill Mini - dosing filler

Suited for a volume area of 50 - 5.000 ml. It can fill liquid products with viscosity from water to liquid creams, without particles.

- Flexible and easty to operate through a touch screen display
- Can be mounted with 2 filling nozzles

#### The RotoFill Series



# Rotofill Max - dosing Filler

Suited for a volume area of 1.000 - 10.000 ml. It can fill liquid products with viscosity from water to liquid creams. Flexible and easty to operate through a touch screen display.

- Can be mounted with 2 filling nozzles
- Filling accuracy approx. +/- 0,5 %



# RotoFill Quattro MI - volumetric filler

Suitable for filling liquid products with a volume area between 50-2.500 ml.

- 4 6 8 pcs filling nozzles
- Pneumatic closing system to avoid product drips
- Filling accuracy +/- 0,5 %
- Opcion: Lobe pump for liquids containing particles
- Capacity approx. 3.000 bottles/h depending on type of container and product



# RotoFill Quattro MA - volumetric filler

Suitable for filling of products with a viscosity from water to liquid creams with/without particles. Volume area between 500-10.000 ml.

- 4 6 8 pcs filling nozzles
- Pneumatic closing system to avoid product drips
- Filling accuracy +/- 0,5 %
- Lobe pump for liquids containing particles
- Capacity approx. 3.000 bottles/h depending on type of container and product

# Bottle capping machines

PMW Engineering A/S manufactures bottle capping machines for small and medium-sized production.

The CapMatic serie includes fully automatic cap machines with a closing mechanism and cap sort system for automatically "pick'n place" and screw caps on plastic, metal and glass emballage. The CapMaster serie includes advanced capping machines for screwing and pressing of plastic caps. The machines of this serie are characterized by a high standard in both performance and precision. The machines are often servo-driven for positioning and capping.



# RotoCap M

RotoCap is a simple capping tool for screw caps.

The equipment requires the cap to be placed manually onto the container. It operates by means of an air operated screwdriver which is suspended from a simple gallows.

The equipment has a stainless steel frame from which a balanced wire rope carries the air vent unit which is supplied with a replaceable head cap on the basis of our customer's cap.

- Can be fastened to walls, ceilings, support brackets or to the ground
- Works well with containers transported on a conveyor systems, or standing still on a table or other platform
- The screwdriver comes delivered with a detachable capping head, that can be ordered custom-made to fit a particular cap
- Preselect a desired amount of application torque on the cap, to ensure caps are ideally and uniformally applied

## CupOn

PMW CupOn is a fully automatic capping machine for the application of top caps, including measuring cups, on bottles and containers.

Output capacity aproxx. 3900 units/hour.

#### **Features**

- 2 pcs. adjustable side grip conveyor belts, for fastening and transporting containers to the cap applicator.
- 1 pcs. height adjustable cap rail with conveyor belt and cap applicator.
- One set of custom-made format parts.
- Air unit with intake varrying between approx. 50 3000 ltr./hour. depending on usage.



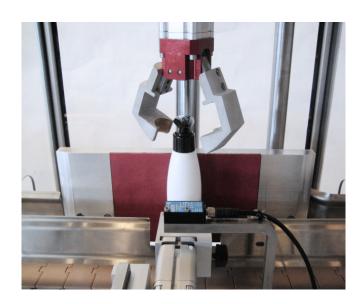


# **CapOmatic**

CapOmatic is a capping machine for smaller production lines.

- Attaches on a height adjustable platform
- External conveyor with a width of 140 mm and a length of 325/625 mm
- Operated by three buttons, on-, off-buttons and an emergency stop button
- Power supply plugs directly into standard sockets meaning, no main disconnect switch required
- Counter register under the crank handle
- Transparent thermoplast guard that, upon being tipped over, switches off the power supply





# **CapMatic**

CapMatic is a fully automatic screw capping machine for cap sorting and cap screwing of many types of containers.

#### **Features**

- Construction in stainless steel
- Curve guided mechanical movements
- Approved safety stop switch and safety guards with doors
- Auger transport system, particularly suited for bottles and jugs
- Adjustable height with handwheel
- Photocells placed at machine inlet and outlet
- Curve controlled cap transfer arm
- Fully automatic pneumatic screw capping head with movable jaws and adjustable torque control
- Operation through ergonomically positioned touch screen display

## RotoCap SA

PMW RotoCap SA is a semi-automatic screw capping machine that consists of an arm with a pair of movable jaws, capable of gripping onto and tightening any type of screw cap.

- Sturdy and cleaning friendly Construction in stainless steel and synthetic materials
- Safety coverage with hinges and approved safety switches
- Automatic start/stop of the machine through a photocell
- Stop- and centring device of the container under screwing head
- Capacity up to 1700 units per hour, depending on cap type
- Works with or without conveyor
- Stainless control cabinet with start, stop, emergency stop and rotary potentiometer for adjustment of screw/holding time, as well as torque
- Operation through ergonomically positioned touch screen display





## CapMaster P2

PMW CapMaster P2 is a fully automatic press capping machine and an upgrade from the PMW CapMaster P1. With 2 cap tracks and 2 cap applicators instead of 1, and 16-pocket index wheels instead of 12, the PMW CapMaster P2 can produce 7200 units per hour, an addition of 2700 compared to the P1, a 60% increase.

#### **Features**

- Construction in stainless steel and grinded stainless plating
- Compatible with most widely known and utilized cap types
- 2 chutes feeding caps into the capping mechanism
- 2 press-on capping heads
- 16-pocket index wheels
- Approved safety stop switch and safety guards with doors
- Electrical height adjustment, that can be set to automatically adapt to the height of a given container
- Operated through HMI-panel at the front of the machine, in ergonomically correct position.

# CapMaster P1

MW CapMaster P1 is a fully automatic press capping machine. The included PMW CapSort, mounted on the side, automatically sort loose caps and gently place them into a cap track, ensuring the caps are positioned correctly before application.

- Construction in stainless steel and grinded stainless plating
- Compatible with most widely known and utilized cap types
- 12-pocket index wheels
- Approved safety stop switch and safety guards with doors
- Electrical height adjustment, that can be set to automatically adapt to the height of a given container
- Operated through HMI-panel at the front of the machine, in ergonomically correct position



## CapMaster 4.0

CapMaster 4.0 is a fully automatic capping machine, which in a gentle way orientate the caps and places them on containers.

#### **Features**

- Safety guards with doors and approved safety switches
- Automatic start/stop function
- HMI-control panel on the front of the machine
- PMW CapSorter, that automatically and delicately orientate the caps. Magasin for 3-5 ltr. caps, depending on the type and shape of the cap
- Pick 'n' Place system for cap transfer
- Capping head with movable jaws, adjustable speed and torque control (can be specially adapted to fit particular caps)
- Electric height adjustment
- Recipe-controlled Servo-functions, for making adjustments and accommodating shifts in packaging



# CapMaster 5.0

PMW CapMaster 5.0 is a fully automatic screw/press-on capping machine for sorting and screwing and/or pressing caps on containers. It is made to extract the full potential of the newest advances in electrical linear and rotational movement, to optimize movement patterns, precision, speeds, and power, adjusted exactly to the requirements of the individual HMI recipe.

- Safety coverage with adjustable lids, and approved safety switches
- PMW CapSort 600 with magazine for 3-5 litres of caps, depending on cap type and shape
- Screw capping heads with movable jaws, adjustable speed and torque control (can be specially adapted to fit particular caps)
- Pick 'n' Place system for cap transfer
- Output capacity of more than 3000 units per hour, depending on size or layout of containers and caps
- HMI-recipe controlled adjustments when changing packaging parts
- 9" HMI-panel at the front of the machine, in ergonomically correct position
- Photocell for backwards stop of machine in direction of labelling equipment
- Photocell in PMW CapSort for level control, continuously ensuring the quantity of caps in the hopper stays constant, by automatically calling upon caps as needed

# Cap handling

For more than 25 years, PMW Engineering A/S has developed and manufactured equipment and units for cap transport and sorting, particularly for the dairy sector and related industries such as fruit juice producers, etc.









# Equipment for handling, conveying and sorting caps

More than 500 installations worldwide At PMW Engineering we are proud to employ some of Denmark's most innovative engineers and specialists. We have wide experience of the challenges, requirements and intricate specifications going into the design and functionality of the optimum solution for a given production unit.

Through the years, we have manufactured and delivered more than 500 cap-handling installations and units all over the world, several of them to other machinery producers who demand our expertise in the area.



PMW Engineering develops technologies that make our customers' workdays easier and more cost-effective. Whether our customers need new cap-handling facilities or individual units for existing facilities, we strive dedicatedly to push the boundaries for what is possible and to develop reliable and durable tailored solutions.

When developing caphandling solutions it is our goal always to optimize performance, reduce downtime and minimize maintenance costs. In short, to get more out of less.



# Mix & Match – Customized for you

The Cap systems allows the individual modules to be combined to suit the needs of factory layouts.

The length of CapLine may, for instance, vary from 1 to 20 metres, the hight of the CapLift may vary from 2 to 7 metres, and CapSort is available in different sizes. Further, CapLine may transport caps to two to three sorting units or may be completely left out, leaving CapLift to convey caps directly to the sorting unit.

# CapLine

# Conveying by convential conveyor systems.

CapLine is a suitable solution for facilities with high ceilings and narrow space. The system is ideal for short and medium distances and originally developed for companies processing aseptic products.



# **CapLift**

CapLift is made from stainless materials with a fibreglass container treated with FDA approved gelcote surfacing.

- CapLift is powered by a 0.37 kW AC motor
- Available in two sizes: 140 mm (160L vol.) and 240 mm (310L vol.)
- The CapLift unit is totally enclosed for hygienically delivery.



# **CapLine**

Available in two widths (Sizes): 140 mm and 240 mm.

- CapLine is made from stainless materials and PC, while the belt is made from FDA approved materials
- CapLine are reversible
- Side outlet is available
- Hinged lids for easy cleaning



## **CapSorter**

Available in 600 Or 800 mm sizes.

- Capacity varies from captype to captype, up to 13.000 caps per hour
- Cubic volume: 3 4 l
- Units powered by 0.25 kW AC gear motor, for security reasons mounted with built-in limited slip clutch
- Circulation direction R/L

# CapAir

# Ideal for large production facilities

For multiple installation, a high-ceilinged facility and ample space - then CapAir is the ideal solution for you. The CapAir system is the optimal solution for companies with large production halls and many units, as the system is able to feed two units by one conveyor pipe.



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# CapAir

The PMW CapAir transport pipe system uses surrounding air to blow caps forward randomly to be sorted at the filling machinery (HEPA filter optional).

- 0.75-2.0 kW ventilator supplies air flow to the system
- CapAir can be equipped with HEPA filter to obtain cleanair transport solutions
- All transport goes via 4"(101mm) dairy grade tube system with ISO clamp unions

#### **HEPA filter ensures clean air**

To accommodate needs for clean air we offer HEPA filter units as a supplement.

It is even possible to offer retrofit HEPA units on earlier delivered units. Filter units comes complete with stainless surroundings and pre-filter.

# CapAirTrack

# High ceilings and narrow space

The CapAirTrack system is ideal for small to medium production facilities, neither having high ceilings or a wide area – in other words where spaces is a challenge. CapAirTrack is the newest member of the family of cap-handling solutions, developed on the basis on our existing CapAir and CapLine systems, but with a completely revolutionary solution system (patent pending).



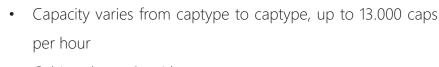
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# CapAirTrack

- HEBA filtered air supply
- Powerfull high quality 4,0 Kw Side channel blower
- 2,5" Dairy grade tubes
- 2,5" ISO fittings for easy access
- PEHD 1000 CapTracks
- Easy access divider system
- Cooling air for hot pases



# Test equipment

PMW Engineering A/S has for many years developed and manufactured test equipment and devices to aid the production of insulation materials. The equipment has been developed in cooperation with the leading companies in this field. In addition, we manufacture equipment on request, within the same area.











# Test equipment insulation

Test equipment for testing and measuring quality of insulation material during the production process.



#### AnGa

Squareness of insulation materials according to EN 824.

AnGa is a measuring device for measuring the variation of squareness of insulation materials according to EN824 - Thermal insulation products for building applications. "Determination of Squareness".



#### DefGa

Deflection of insulation materials

DefGa is a measuring devise for measuring the deflection of insulation.

Mounted on wheels for high mobility.



#### **ThiGa**

Thickness Measurement Gauge - thcikness of insulation materials accordign to EN 823.

ThiGa is a measuring device for measuring thickness of insulation according to EN 823 - Thermal Insulation products for building applications.

#### **WAB**

Water absorbtion bath - Test of deflection according to EN 12087:2013.

WAB is a measuring device for testing delection, the materials are placed in a awater bath which ensures a predetermined stable water level that is adjusted during the test period.

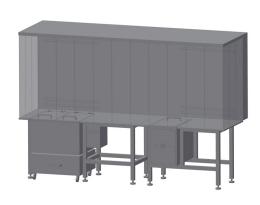




# DE-/WAX

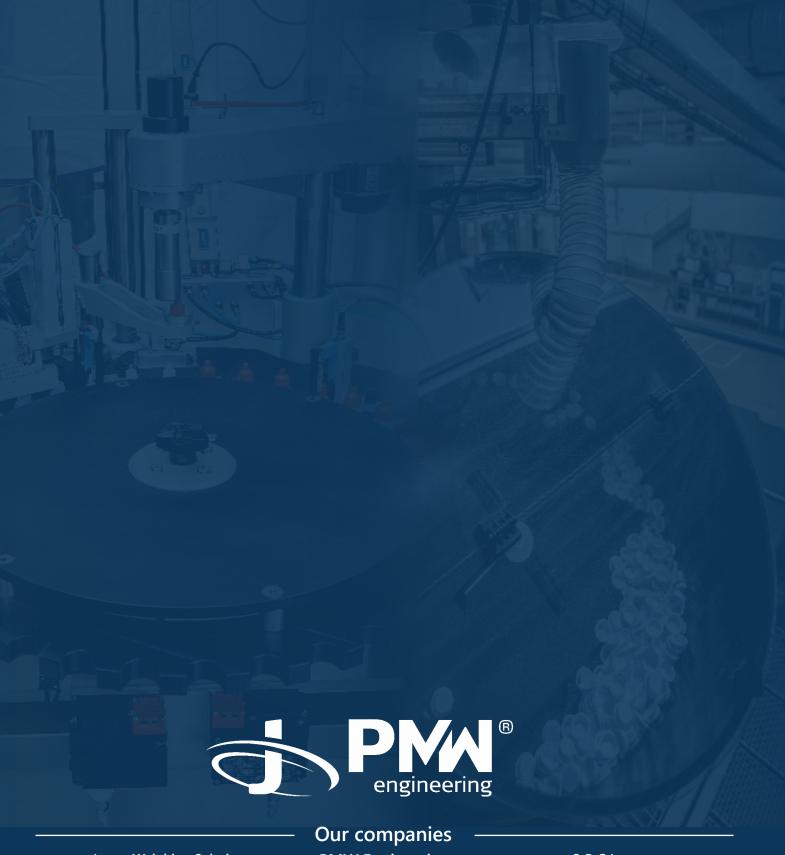
Delamination equipment - preparation for tensile strenght measurement.

The equipment includes a welded stainless frame with a stainless table surface, the wax bath with built-in heating elements is welded into the table surface.









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