

The Aasted Quality lines



The results of an entire
century of knowledge,
vision and innovation



Welcome to our world

The quality lines of chocolate production systems

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Aasted Universal – multi flexible moulding lines

Capacities from 1,000 kg/hour to 10,000 kg/hour

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Jensen – compact system moulding lines

Capacities from 300 kg/hour to 2,500 kg/hour

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Capacities from 1,050 kg/hour to 6,600 kg/hour

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AastedControl™ - a world of automation

Solid depositing with biscuit



The **quality** lines of chocolate production



How to create a chocolate success



Aasted-Mikroverk and A.E. Nielsen, both market leaders worldwide within production lines for the chocolate and bakery industry, merged as per January 1, 2010 under the name of Aasted. The group also includes the company Aasted DFT selling large bakery oven lines for industrial production. All activities are gathered at one site in Farum, Denmark.

*For the benefit of our customers **Aasted** is now able to supply complete chocolate and bakery solutions as well as individual machinery and equipment within a very broad portfolio for the global market.*

The quality line – where ideas, economy and long-term

Aasted moulding lines operate day and night on all continents and produce a great variety of the world's leading brands. Since the 1920ies **Aasted** has been the leading company among the manufacturers of lines and equipment for production of one of the most seductive delicacies: chocolate articles. Curiosity made the technically gifted inventor and engineer Johannes Jensen cross the frontier. He invented some of the world's first continuously working chocolate moulding lines. Since then the lines are known

under the brand Jensen. After the Second World War the engineer Dr. K. Aasted developed both high-performance chocolate moulding lines, especially for filled articles, and a tempering machine concept that proves its value even today. A considerable number of lines and tempering machines has been supplied throughout the years. The lines are continuously being developed, and the successful traditions and experience are further improved to maintain the position as the market leader.

Our quality meet your expectations


Our line constructions are your investment in possibilities, quality and economy. All lines are built up in interchangeable modules offering, right from the beginning, possibilities for updating and conversions for production of new chocolate types.



Our modules offer you great opportunities

All line types are built up in logic modules ensuring the optimum flexibility and opportunities for later conversions and updating of your **Aasted** moulding line.





The **quality** lines of chocolate production

Aasted Universal – multiflexible mo – high quality in large-scale produc

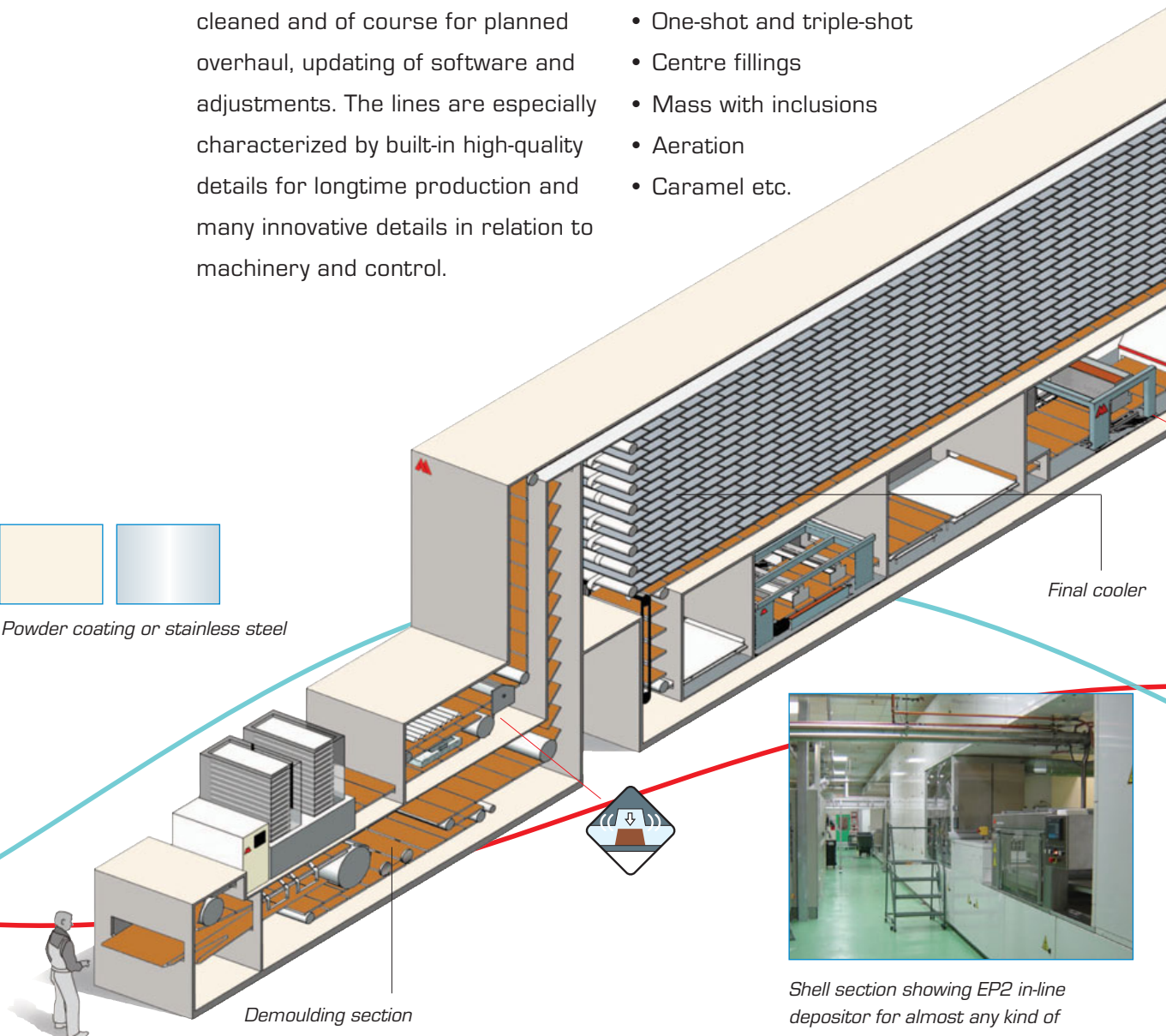
Aasted Universal are sophisticated lines designed for big capacities up to around 10,000 kg/hour and 24-hour production day in and out. They are fully automatically operated and require only one single operator for monitoring the entire production. In principle the lines stop only to be cleaned and of course for planned overhaul, updating of software and adjustments. The lines are especially characterized by built-in high-quality details for longtime production and many innovative details in relation to machinery and control.

The Aasted Universal lines are available for all kinds of moulding processes:

- Solid moulding
- Traditional shell moulding
- FrozenCone® shell moulding
- FrozenCone® Assortment Box
- One-shot and triple-shot
- Centre fillings
- Mass with inclusions
- Aeration
- Caramel etc.



Powder coating or stainless steel



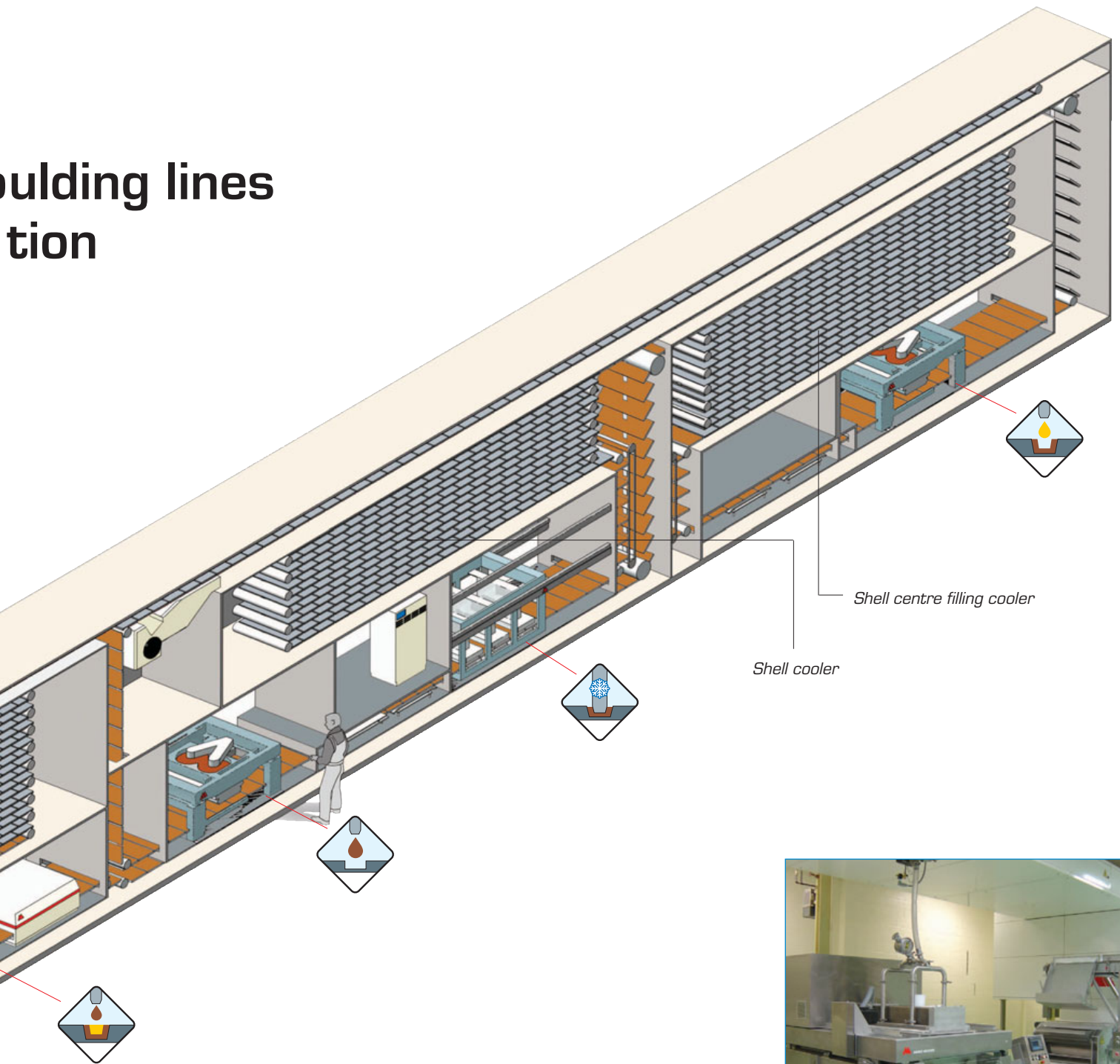
Final cooler

Demoulding section



Shell section showing EP2 in-line depositor for almost any kind of masses.

Building lines tion



*Depositor type ET in-line for
caramel centre depositing.*



*In-line depositor in off-line position for
cleaning and maintenance.*



FrozenCone® cold-pressing unit.

Aasted Universal

Chain pitch	Depositing space	Depositing space	Depositing space
Width	Type 700	Type 1000	Type 1200
inch	mm	mm	mm
8"	170 x 570	170 x 870	170 x 1,070
9"	195 x 570	195 x 870	195 x 1,070
10"	220 x 570	220 x 870	220 x 1,070
11"	245 x 570	245 x 870	245 x 1,070
12"	270 x 570	270 x 870	270 x 1,070
13"	295 x 570	295 x 870	295 x 1,070
14"	320 x 570	320 x 870	320 x 1,070
15"	345 x 570	345 x 870	345 x 1,070
16"	370 x 570	370 x 870	370 x 1,070



Capacities from 1,000 – 10,000 kg/h

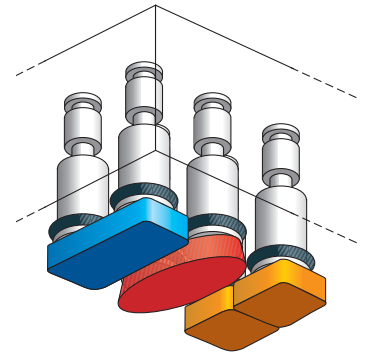


Shell centre section showing SE12 in-line depositor for depositing centre fillings with or without ingredients.



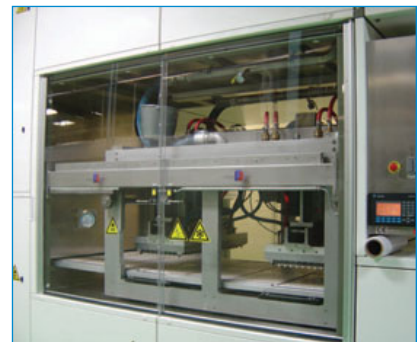
Aasted Universal covers the most complete range of products you can imagine

- Filled chocolate tablets
- Pralines
- Solid articles
- Bars
- Shells
- Hollow articles




FrozenCone® V

provides complete flexibility for exchanging plunger heads and creating new products.



FrozenCone® section with 2 heads running up to 30 moulds/min. on Aasted Universal moulding line.





The **quality** lines of chocolate production

Aasted Midi/Maxi – modular system – tailor-made for your requirement



Robotic demoulding and transfer
into sales boxes

The Aasted Midi/Maxi lines are the most flexible moulding line concept on the market. It is built up in star shape around a central cooling zone. The line can be built and extended upwards, cross-wise or lengthwise, thus being perfectly adapted to your existing production facilities.

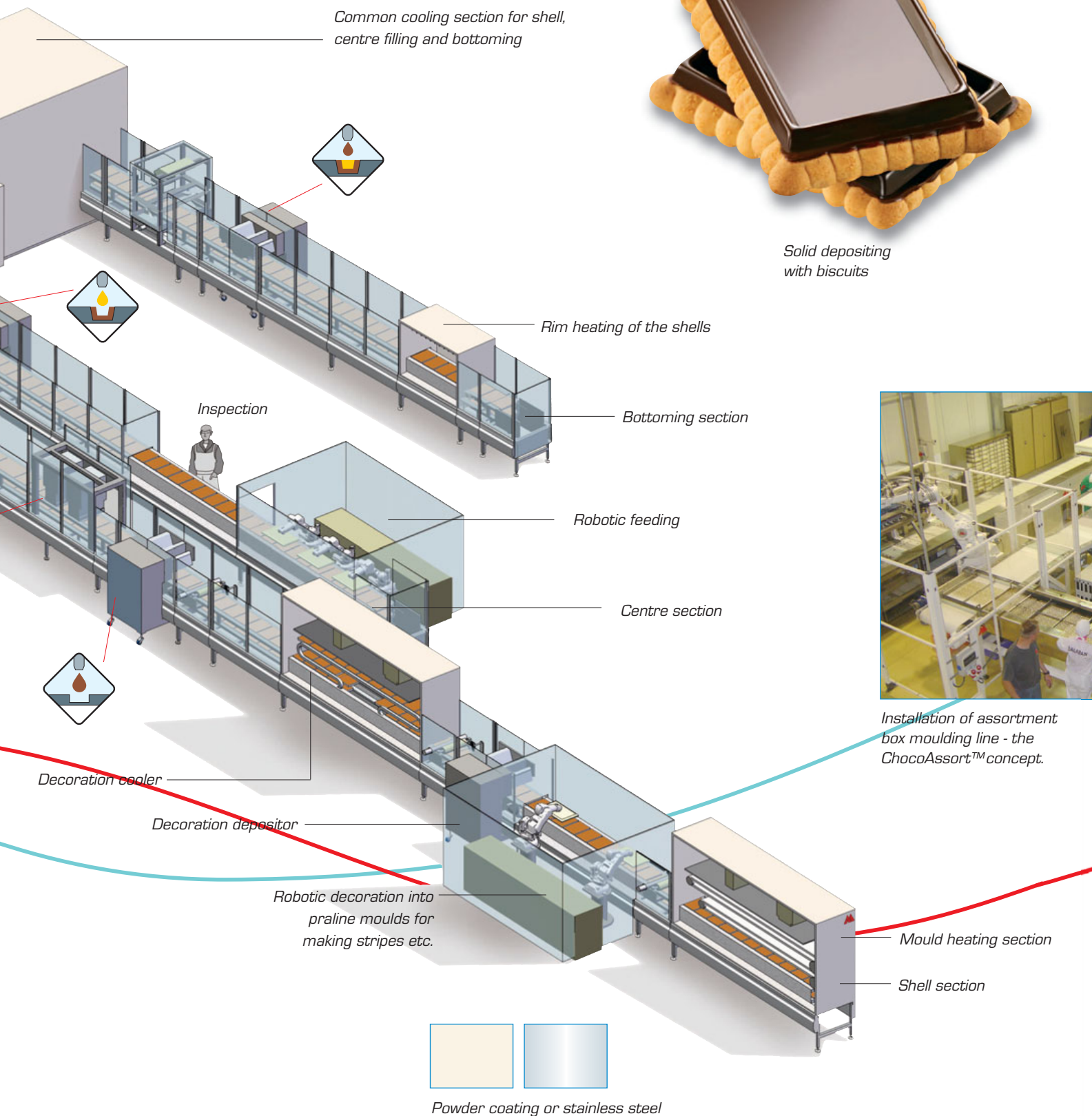
Aasted Midi/Maxi lines can be set up to produce all types of exciting and fantastic articles such as chocolate pralines, centre-filled articles, one-shot articles, triple-shot articles, shells, surprise eggs, all kinds of tablets, etc.

The unique Aasted Midi/Maxi concept offers great opportunities at future product change-over requirements and ensures high financial flexibility.



m moulding lines

s



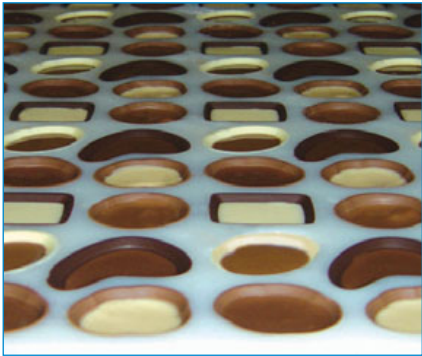
Installation of assortment box moulding line - the ChocoAssort™ concept.

Aasted Midi/Maxi

	l x w x h	l x w x h
	mm	mm
Standard mould	425 x 275 x 40	620 x 275 x 40
Double mould	425 x 275 x 80	620 x 275 x 80



Capacities from 300 - 2,000 kg/h



Pralines for assortment box made with **FrozenCone®** shell system and ChocoAssort™.

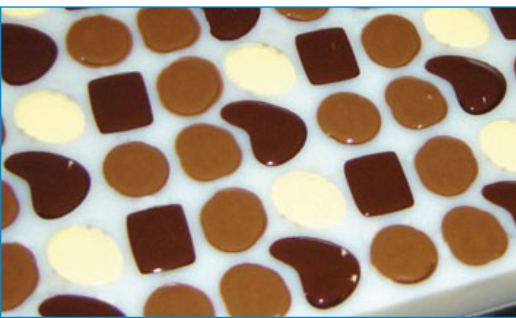


Filled bars with **FrozenCone®** shells, aerated centre filling, biscuits and bottom layer.

Aasted Midi/Maxi lines are the optimum choice for your future production of:

One-shot articles such as

- tablets with fillings
- pralines with fillings
- eggs with fillings



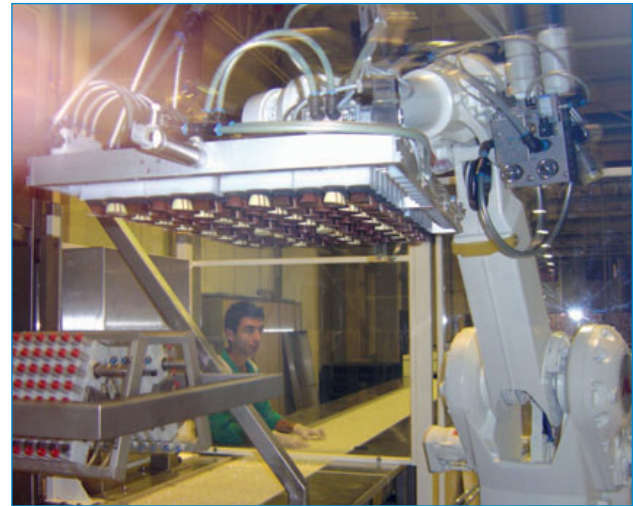
Simultaneous moulding of all pralines for the assortment box with the ChocoAssort™ technique.

FrozenCone® products or traditional shell making of

- surprise eggs
- tablets with fillings
- egg shapes with fillings
- pralines with different fillings
- sea shells
- other shapes with fillings

Solid articles such as

- tablets with or without inclusions
- tablets with fillings
- tablets with biscuits



*ChocoAssort™ technique completely eliminates intermediate storage.
(Ask for separate information)*



*Pralines made by the **FrozenCone®** ChocoAssort™ technique including robotic decoration and robotic transfer direct from moulds into sales boxes.*

The **quality** lines of chocolate production

Jensen – Compact Modular Moulding Lines

Full flexibility

Short delivery time

Short installation time

Modular construction system

Easy cleaning

- Process at table level
- For solid chocolate
- Solid chocolate with inclusions
- One-shot products
- Biscuit and wafer inserts

Depositors:

Solid - inclusions - one-shots

Optional Modules:

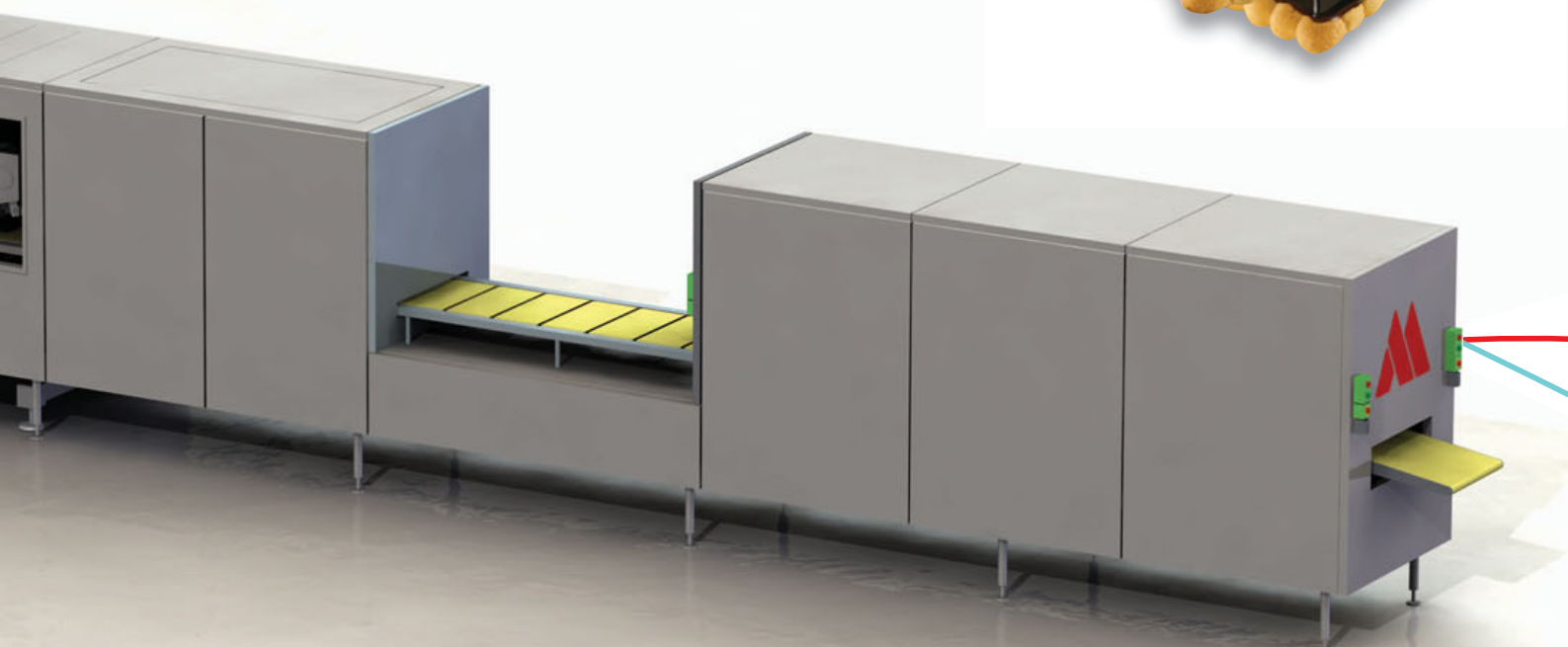
- Additional cooling capacity
- Wafer cutting and feeding
- Biscuit feeding
- Inspection section
- Pressing
- Bottoming
- Vacuum demoulding

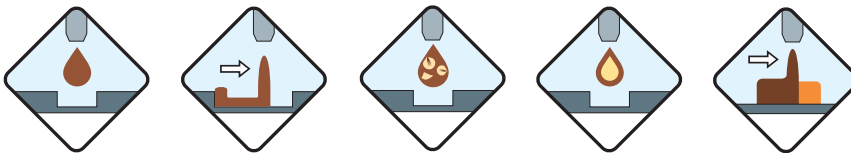




Jensen is the super compact moulding line. It is built up in modules, and the installation time is short. The Jensen lines are especially adapted to low floor-to-ceiling height and small production facilities. In other words: super compact. The low costs of maintenance and operation

make the lines very economical. Quick change-over to other products. It can quickly be extended or modified for production of new articles.

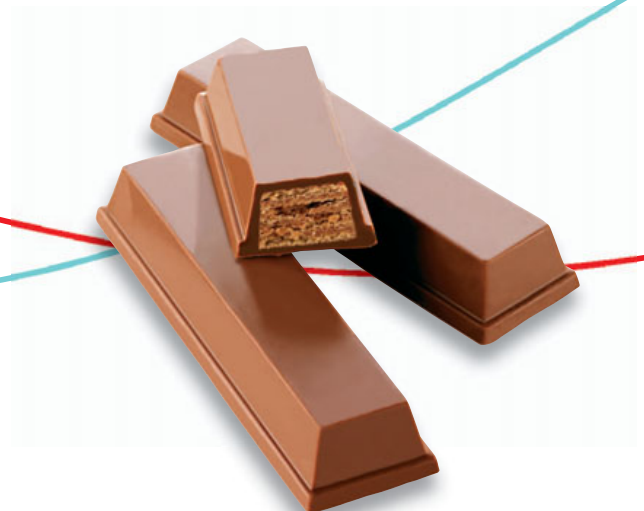




Jensen Compact System

Type	Capacities			Depositing area
	10 moulds/min.	15 moulds/min.	20 moulds/min.	
500 x 12"	480 kg/h	720 kg/h	960 kg/h	270 x 370 mm
700 x 12"	740 kg/h	1,100 kg/h	1,480 kg/h	270 x 570 mm
1,000 x 12"	1,100 kg/h	1,700 kg/h	2,200 kg/h	270 x 870 mm

Capacities from 230 - 2,200 kg/h



Jensen – compact moulding lines



Moulding of solid products

- with or without inclusions
- tablets
- couvertures
- combinations of two or more chocolate types

Moulding of products with solid centres, such as

- wafers
- biscuit centres
- big inclusions
- bars

Traditional inverting moulding of

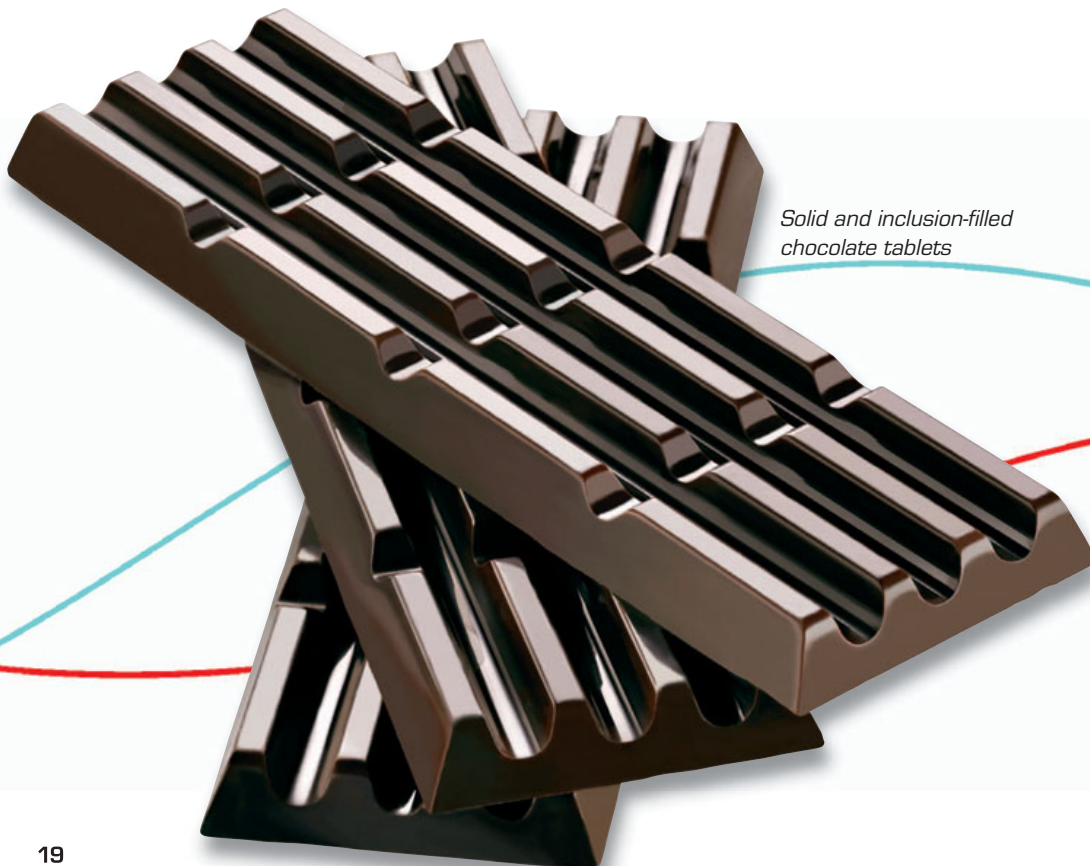
- any kind of shell
- surprise eggs
- Easter eggs

One-Shot moulding


- centre-filled articles



One-shot deposited praline



Solid and inclusion-filled chocolate tablets



The **quality** lines of chocolate production

Eriksen – solid centre moulding line – king of lentils

The Eriksen line is used worldwide for production of chocolate centres for small lentils, balls, eggs and similar articles, often given a final treatment of sugar-coating or polishing. The line is operating fully automatically, the heart being the cooled precision rollers forming the articles.

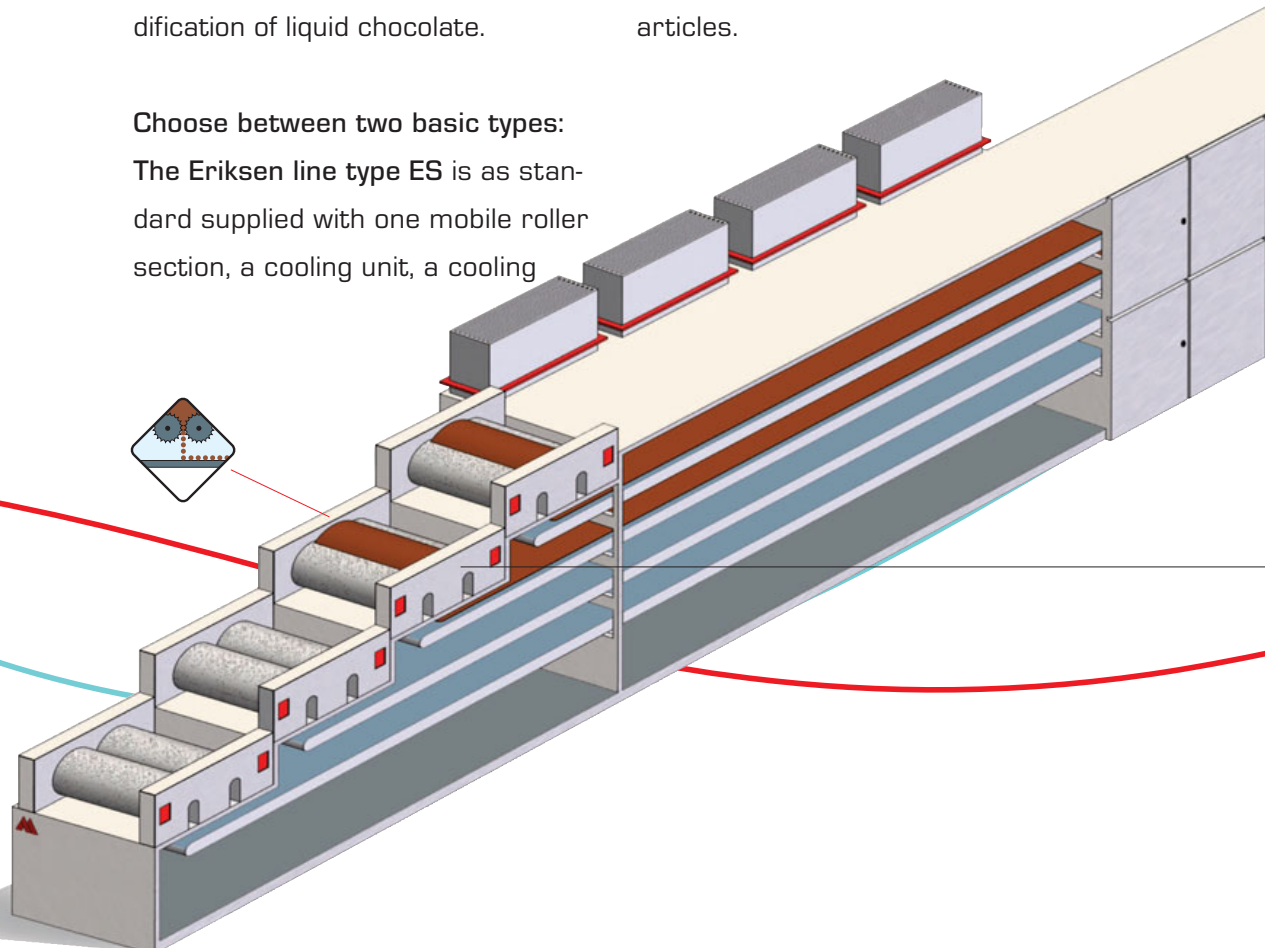
The Eriksen moulding line from **Aasted** is the original roller line. In the 1920ies the Danish engineer Eriksen invented the original concept by testing the influence of drastically cooled metal surfaces on solidification of liquid chocolate.

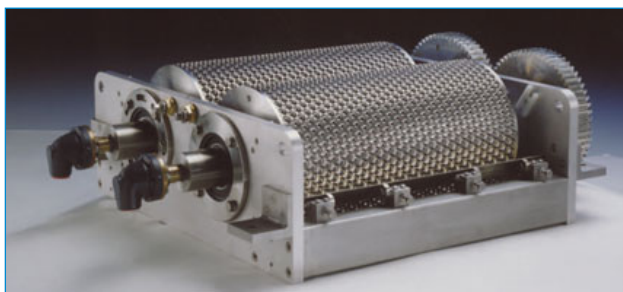
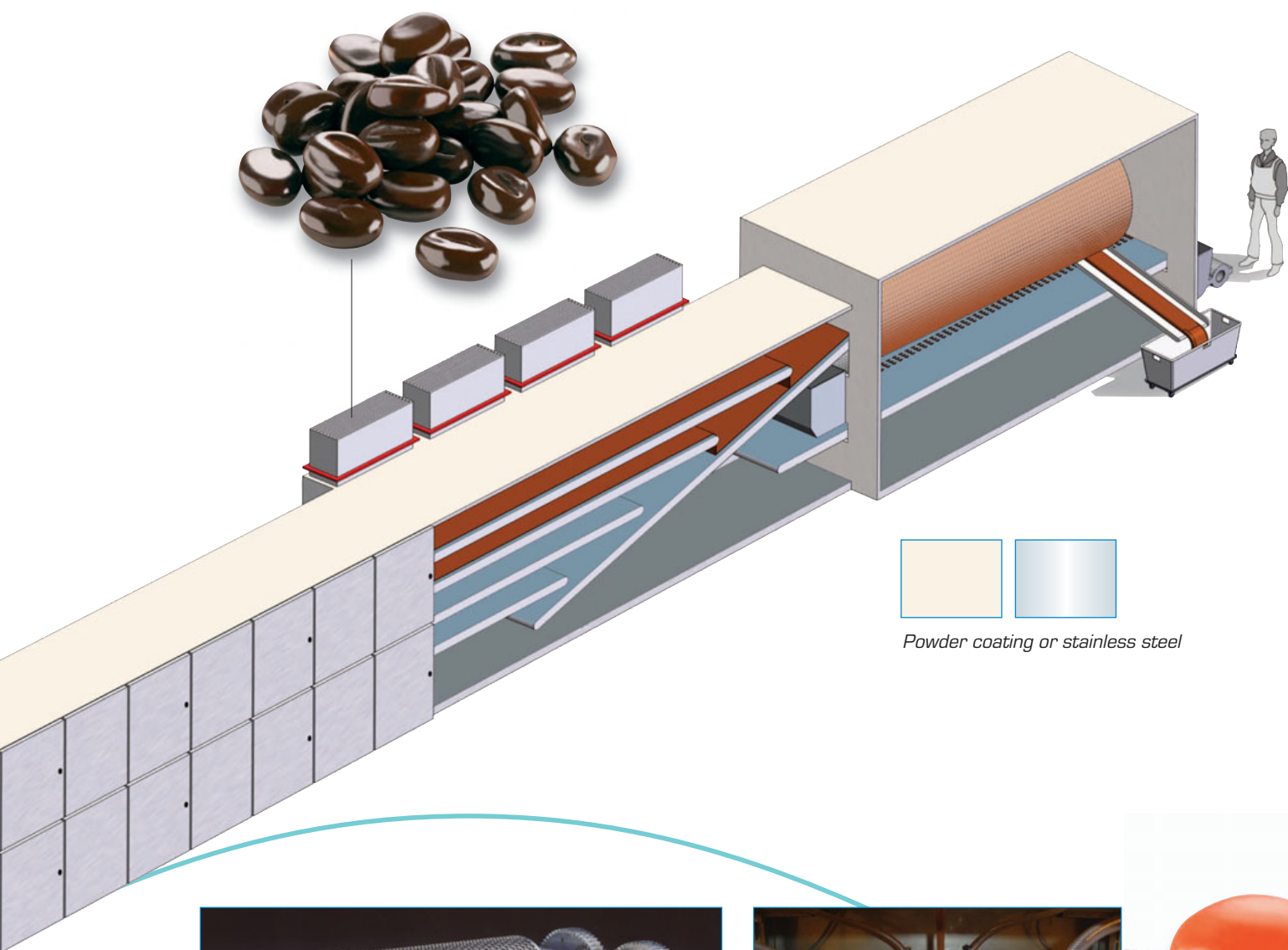
tunnel including cooling compressor and cooling element as well as a sieve drum. Extra rollers can be added for easy product change-over.

The Eriksen line type E is as standard supplied with one stationary roller section, a cooling unit, a cooling tunnel including cooling compressor and cooling element as well as a sieve drum. Additional sets of rollers, conveyors and sieves can be added for future growth of your production or for simultaneous production of differently shaped articles.

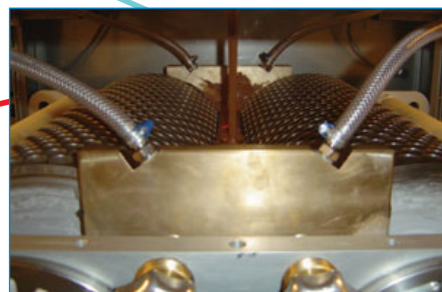
Choose between two basic types:

The Eriksen line type ES is as standard supplied with one mobile roller section, a cooling unit, a cooling





Flexibility – production change-over is easily performed between different products, such as lentils, balls, eggs etc., simply by exchanging the roller assembly modules.

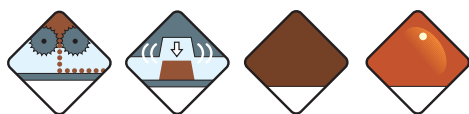


Cooled precision – chocolate articles formed between the two Eriksen rollers cooled with liquid of a temperature between -15 and -25°C .



Eriksen Line

Type ES	Width rollers mm	Diameter rollers mm	Capacity per set of rollers kg/h	Line dimensions l x w x h mm	Length Extraollers mm
	301	310	90	13,650 x 1,200 x 1,800	
	401	310	125	13,650 x 1,400 x 1,800	
	601	310	225	15,750 x 1,500 x 1,800	
	601	400	300	19,750 x 1,500 x 1,800	
	801	400	400	19,750 x 1,700 x 1,800	
	1001	400	500	19,750 x 1,700 x 1,800	
Type E					
	601	310	225	14,675 x 1,500 x 2,460	1,300
	604	310	900	14,675 x 1,500 x 2,460	
	601	400	300	18,575 x 1,600 x 2,460	1,300
	604	400	1,200	18,575 x 1,600 x 2,460	
	801	400	400	19,680 x 1,600 x 2,600	1,300
	804	400	1,600	19,680 x 1,600 x 2,600	
	1004	400	500	26,090 x 2,200 x 3,000	1,300
	1004	400	2,000	26,090 x 2,200 x 3,000	



Capacities from 90 – 2,000 kg/h

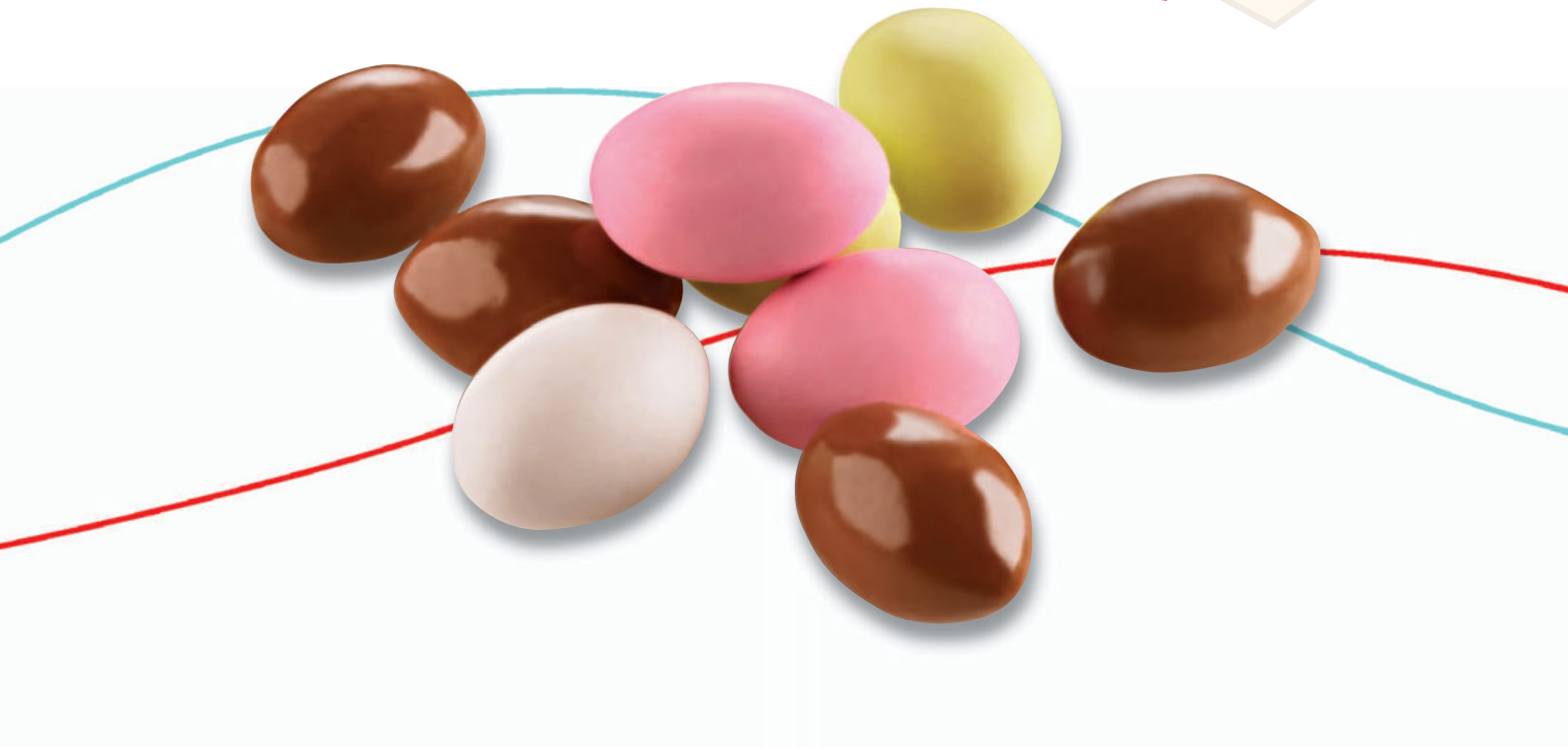
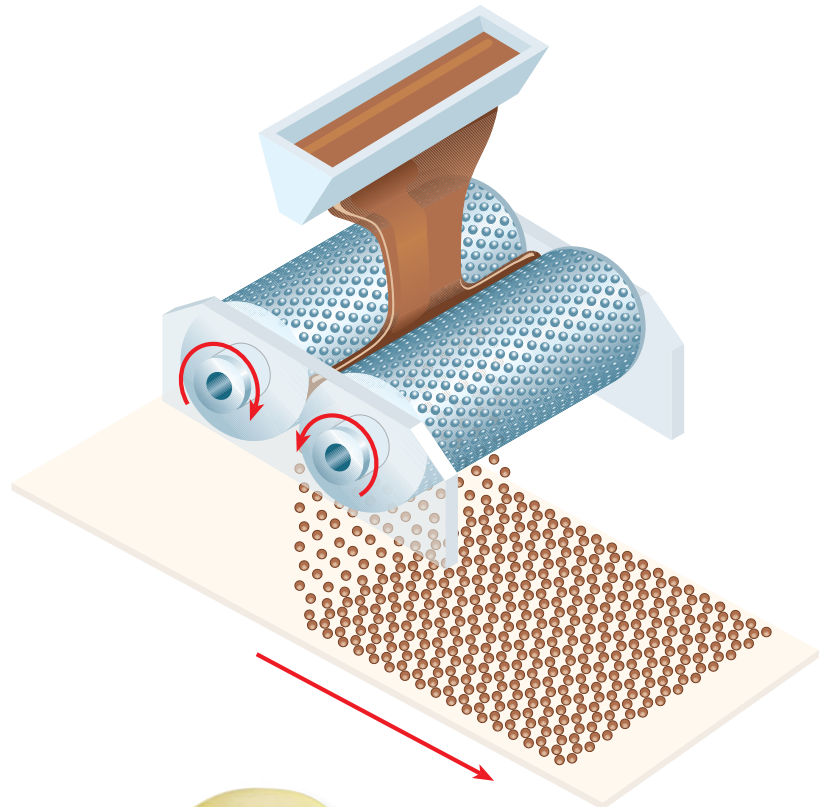




Eriksen lines

- for all kinds of chocolate centres

- Centres for sugar-coating
- Lentils
- Balls
- Eggs
- Toffee
- Chocolate coffee beans
- Centres for polishing





The **quality** lines of chocolate production

Mikroverk Belt – the belt depositin

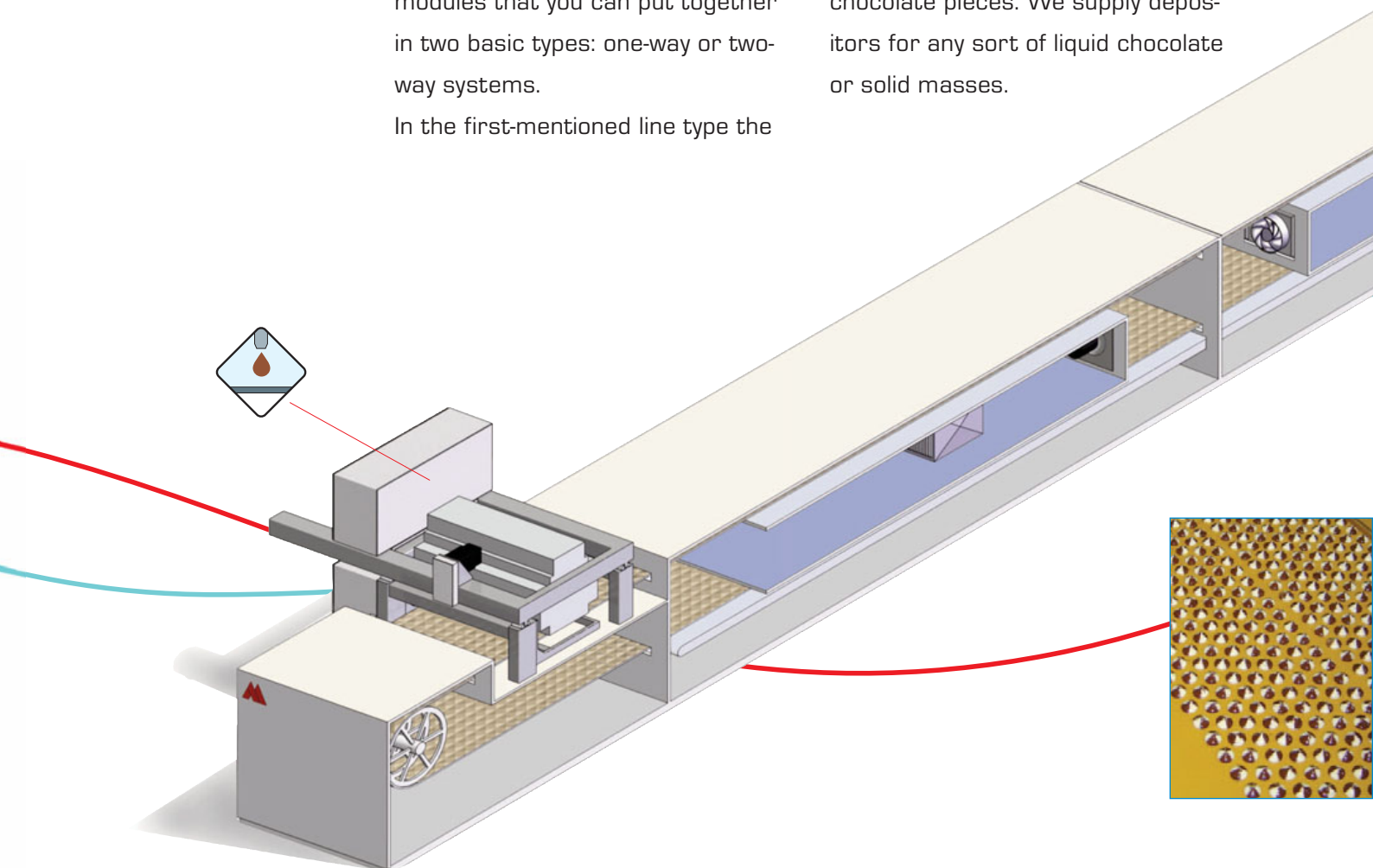
Mikroverk Belt moulding lines are fully automatic lines that require only a minimum of attendance and deposit directly onto a cooling belt of plastic or steel. They are particularly suitable for solid chocolate, chips, strips, buttons and all other articles that can be deposited directly on a belt without using moulds.

Like the other types of lines from **Aasted**, the belt line is built up in modules that you can put together in two basic types: one-way or two-way systems.

In the first-mentioned line type the

deposited chocolate pieces are taken through the line and delivered at the opposite end. The two-way system delivers the chocolate pieces at the same end.

The depositors play a decisive part also for these line types. The depositors can be adjusted so as to follow the belt speed or run somewhat faster or slower depending on your wish of the geometrical shape of the chocolate pieces. We supply depositors for any sort of liquid chocolate or solid masses.

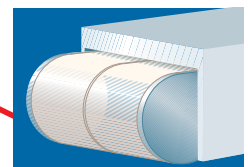
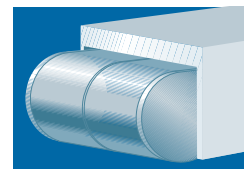
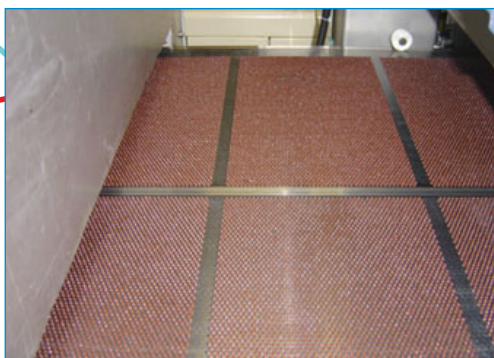
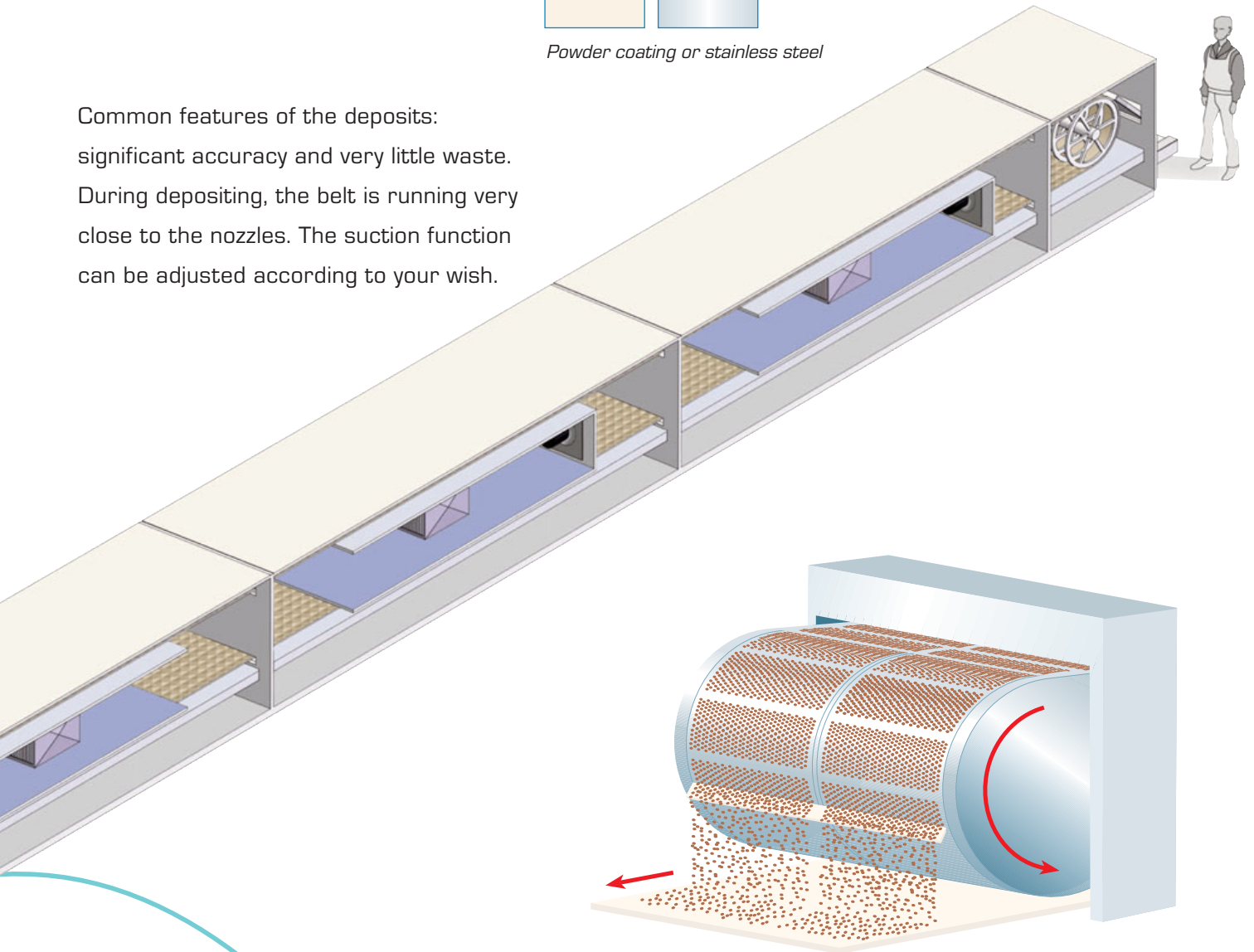


g lines



Powder coating or stainless steel

Common features of the deposits:
significant accuracy and very little waste.
During depositing, the belt is running very
close to the nozzles. The suction function
can be adjusted according to your wish.



Mikroverk Belt

Strokes/min	50
Capacity min kg/h	1,050
Capacity max kg/h	6,600



Capacities from 1,050 – 6,600 kg/h



Mikroverk Belt - direct depositing of chocolate on steel or plastic belt of high quality

- Solid chocolate
- Chocolate tops
- Chocolate chips
- Small solid articles
- Chocolate flats for bread

Design your own
chocolate product
for the belt



The **quality** lines of chocolate production

AastedControl™ - advanced control -easy, logical, simple and steady

Our open software platform offers a number of possibilities and a quite astonishing freedom to control the complete chocolate production. Daily routines are easy, simple and most of all secure, and the programme will always be updated during every service check.

The AastedControl™ platform offers quite new possibilities of adapting to the selected production down to the last detail. The control includes on-line service as well.



Allen-Bradley
*Kinetix 6000 Multi-Axis Servo Drives in
ControlLogix Platform*



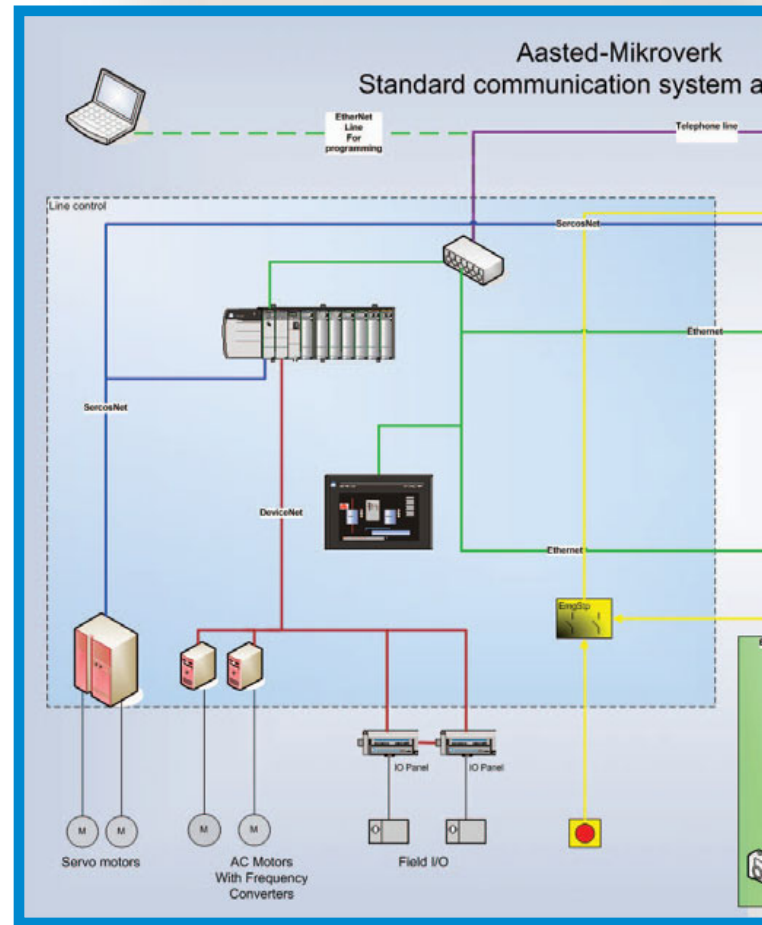
Siemens
*Micromaster Drives with
Profibus*

I platform

Allen-Bradley or Siemens

- your choice

You have free choice of control systems from two well-known suppliers of software and automation components, Allen-Bradley and Siemens. Both companies have worldwide service facilities.



System architecture



Allen-Bradley



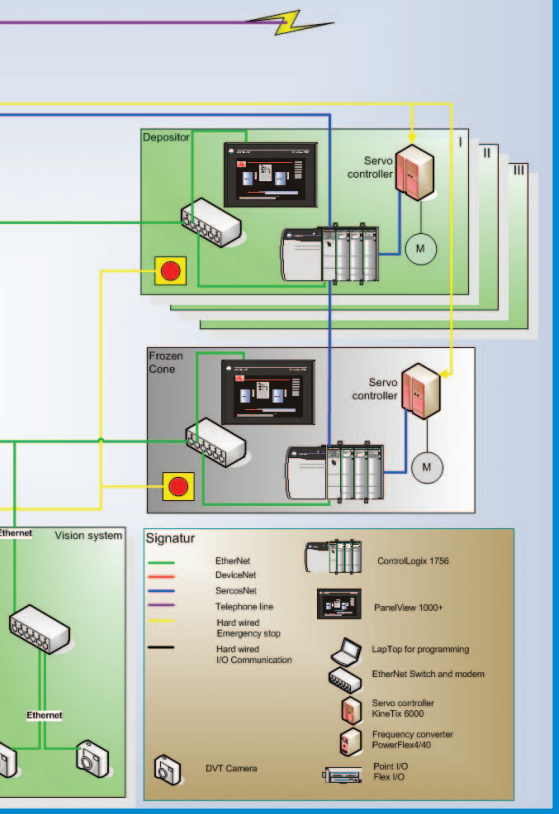
Siemens
Sinamics Multi-Axis
Servo Drive with
Simotion Controller



Allen-Bradley
Power Flex Drives with
DeviceNet

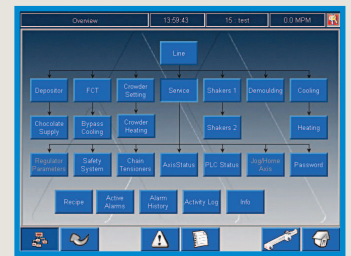
AastedControl

Architecture

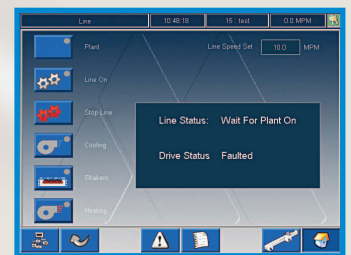


Touch screen

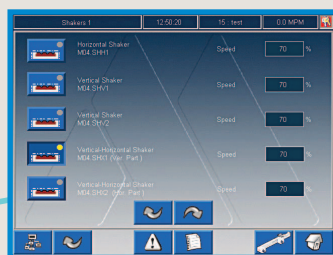
Operation via touch screen is the most logical way to control production. No keyboard to keep clean, only a screen to wipe with a moist cloth. Symbols and buttons resemble the components used most frequently. Behind the screen are all the control systems.



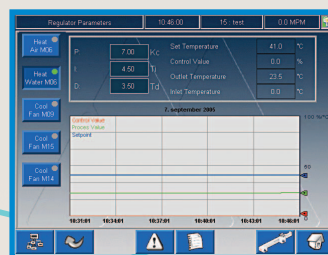
Survey of control panel on touch screen



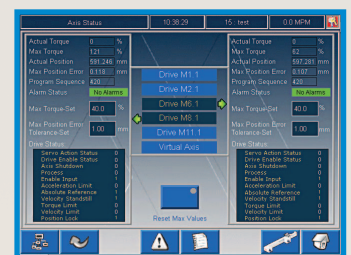
Status of production line activity



Settings in demoulding zone



Setting of parameters in cooling zone



Setting of positions, resistance and axes

Updating after each service visit

Your entire control system will be updated during the next service visit. As a matter of standard procedure all data will be upgraded to the latest version.

AastedControl™

- convincing new platform

All modular cabinets are alike, either painted or executed in stainless steel. The difference is the content as well as the engagement of our SW specialists and service engineers, which has brought our solutions in the lead. Our new SW platform is thoroughly prepared and systematically tested over a long period of time.

The platform has already proved its strength as a control system for several of our new lines, its stability matching the well-known stability of our lines. The control and performance of the programmes are convincing and powerful, and the new platform has been positively received by the users.





Aasted ApS
Bygmarken 7-17
3520 Farum
Denmark

P +45 4434 8000
F +45 4434 8080

mail@aasted.eu
www.aasted.eu

Get inspired on www.aasted.eu