WWW.SOUDRONIC.COM

THE BENCHMARK IN METAL PACKAGING PRODUCTION SYSTEMS

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Cantec Sabatier Ocsam Cepak Soudronic

TECHNOLOGY THAT KEEPS YOU AHEAD

METAL – A MODERN, VERSATILE PACKAGING MATERIAL.

Metal cans are produced in a broad variety of shapes and sizes and used for every imaginable kind of food, aerosols and beverage. Because of the outstanding properties of metal packaging, cans, pails, drums or even irregularly shaped containers are often the packaging of choice for industrial and technical goods such as lubricants, paints, lacquers and aerosols. Although the production process is identical to food and beverage cans, the forming, shaping, endmaking and testing of industrial packaging requires specialist expertise.

ECONOMICS THAT MAKE SENSE. Tinplate cans are airtight, taste-neutral, safe and easy to store and transport, diffusion-proof and fire-resistant. Production is cost-efficient and saves energy and time. Thanks to the magnetic properties of the raw material, tinplate cans are easily recycled on an industrial scale. Worldwide, in fact, steel is one of the most recycled materials of them all. Even when not recycled, the material corrodes completely and naturally without harm to the environment.

Since materials account for about two-thirds of total production cost, savings are best achieved by reducing the amount of material required to an absolute minimum. New technologies now permit the production of three-piece cans using sheet grades as thin as 0.10 mm, and forming methods such as triple and quadruple necking allow for maximum tightness and stability with minimal material requirements. With leading-edge production lines, reject rates remain well below one percent.

A STRONG COMMITMENT TO OUR CUSTOMERS AND SUPERIOR TECHNOLOGY.

SOUDRONIC IS THE WORLD'S LEADING SUPPLIER OF COMPLETE METAL PACKAGING SYSTEMS.

We develop, build and install superior resistance welding solutions for a variety of applications specific to the **METAL PACKAGING INDUSTRY.** Our range includes single components as well as all-in turnkey manufacturing systems.

Founded in 1953, Soudronic's headquarters are located in Bergdietikon near Zurich. Today, the company employs a staff of more than 600 people in its development and production facilities all over the world. The company's sales and service network covers more than 120 countries, reflecting a large and globally diverse customer base. Thanks to a sound financial basis, Soudronic has remained independent throughout a history going back more than 60 years.

UNDERSTANDING OUR CUSTOMERS' NEEDS. The highest engineering standards, long-lasting quality and maximum system efficiency are the basis of our excellent worldwide reputation. By investing a high percentage of our annual revenues in research, development and the continuous improvement of our products, we ensure that our systems always represent the state-of-the-art in technology. An impressive number of long-term patents testify to our high innovation rate.

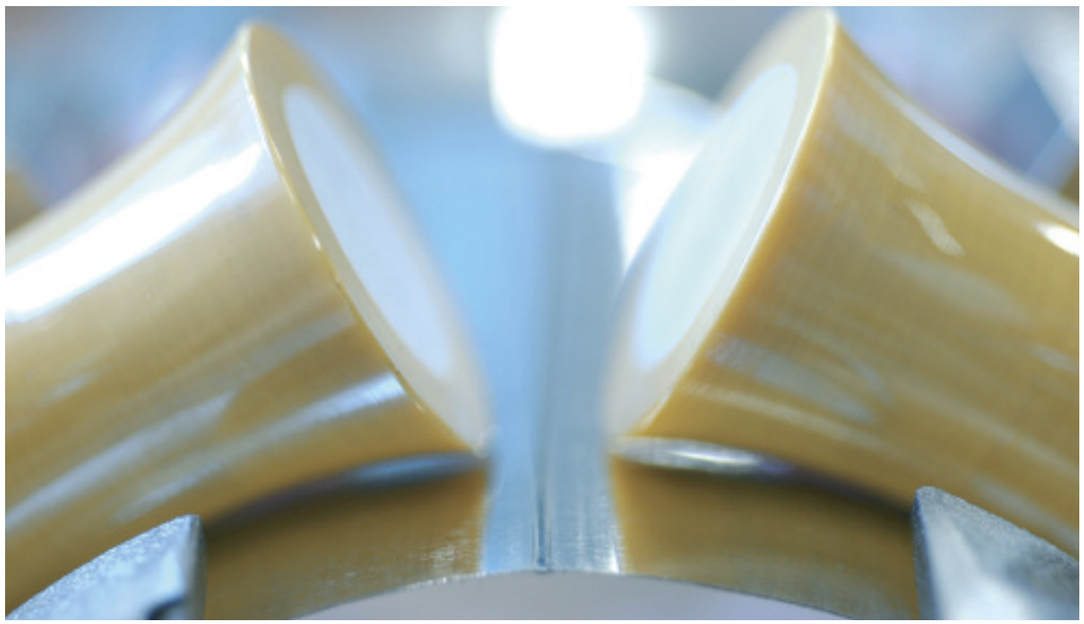
The technology and quality of our products are always important, of course, but the needs of our customers must always remain paramount. Most of them are looking for maximum efficiency and flexibility, user-friendliness and committed after-sales service. The industry they operate in is stiffly competitive and to prosper they need to increase productivity while reducing reject rates and scrap material to a minimum. They often have to react quickly to changing market demands and need to rely on a flexible production infrastructure. Our ability to provide metal packaging specialists with solutions tailor-made to their exact needs has made us the natural partner for of an increasing number of customers.

A KEY PLAYER IN THE METAL PACKING INDUSTRY.

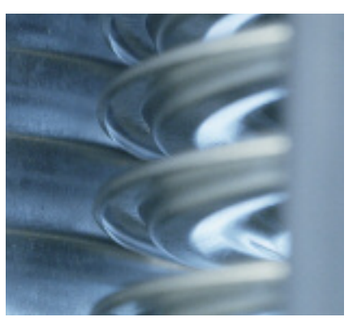
We provide a complete range of machines and components – including slitters, transfer systems, welding machines, seam protection systems, bodyformers, two-piece can production lines and endmaking systems – to meet the requirements of any manufacturing line for cans, pails, drums and irregularly shaped containers. Today, with more than 15 000 machines and system components installed, our production systems can be found virtually all over the world and cover the entire manufacturing process from the lowest to the highest production speed and from the smallest to the largest size.

Deciding to work with Soudronic often marks the start of a lifelong relationship. Apart from stocking a complete range of spare parts for every piece of machinery we have ever produced, we regularly retrofit existing systems with the latest technology, boosting our customers' productivity and ensuring they remain competitive for many years to come.

FORMING
TINPLATE
BLANKS INTO
CANBODIES



THE FOLLOWING GROUP COMPANIES REPRESENT THE INDUSTRIAL CORE OF SOUDRONIC'S METAL PACKAGING OPERATIONS.



SOUDRONIC IN SWITZERLAND. Located in Bergdietikon near Zurich, Soudronic in Switzerland is the industry's premier source for canbody welders, seam protection and curing systems, peel-off solutions and two-piece canmaking machines. Our engineers also design complete canbody production lines according to customer requirements. Thanks to our large assembly facilities, we are able to subject complete systems to thorough testing before shipment. Since its foundation over 60 years ago, our company has produced and installed more than 6000 canbody and drum welders.

CEPAK IN ITALY. Cepak is a recognized high-quality manufacturer. The company has so far sold more than 800 systems. Most of our low- and medium-speed canbody production lines feature slitters from Cepak.

OCSAM IN ITALY. Ocsam is the leading manufacturer of high-capacity slitters and transfer systems. The company's reference list comprises more than 800 installations. Our high-speed manufacturing lines for three-piece cans typically include slitters and transfer systems from Ocsam.

SABATIER IN FRANCE. Sabatier is one of the world's premier suppliers of complete production systems for industrial packaging. The company produces stand-alone machines and acts as general contractor for large customized turnkey projects.

CANTEC IN GERMANY. Cantec's core business is the development and production of bodyformers, high-performance systems for ends, caps and easy-open shells as well as the supply of complete endmaking lines, including process know-how and services.

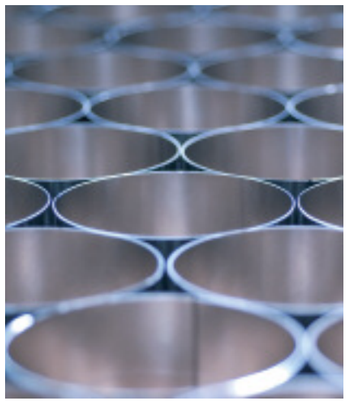
SOUDRONIC IN CHINA. Since 1995 a group member, Soudronic (Guangzhou) Ltd. is responsible for the Chinese market. Low-speed welders for the local market are assembled and tested at the production facility in Guangzhou.

SOUDRONIC LTD. The US-based affiliate of the Soudronic Group has been established in 1974. The company acts as Soudronic's North-American sales and service representation and provides state-of-the-art sales support and after sales services.

SOUDRONIC MEXICANA. Based in Mexico and established in 1991, Soudronic Mexicana is responsible for sales and after-sales services in the Latin-American region.

SOUDRONIC SOUTH EAST ASIA. Founded in 1988 and based in Singapore, Soudronic South East Asia takes care of the sales and after-sales activities in the following markets: Singapore, Malaysia, Indonesia.

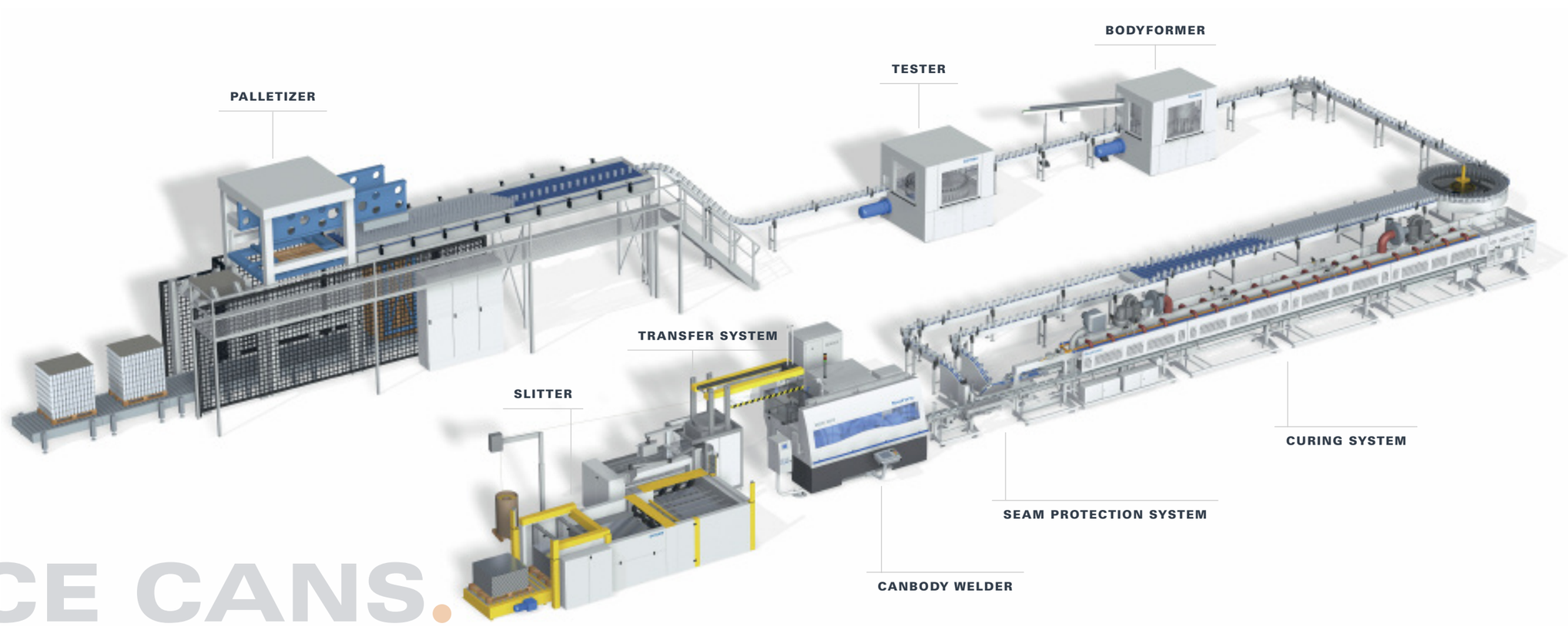
COMPLETE PRODUCTION LINES FOR EVERY NEED.



SOUDRONIC DESIGNS, BUILDS, INSTALLS AND MAINTAINS FULLY INTEGRATED MANUFACTURING LINES WITH PRODUCTION SPEEDS OF UP TO 1200 CANBODIES PER MINUTE.

A typical canbody production system consists of the following components: a slitter to cut the tinplate base material into body blanks of the required size, a transfer system, a canbody welder, a seam protection unit, a curing system to dry and harden the seam protection and a bodyformer to give the canbody its final profile and shape. The line will also include a unit to test the air-tightness of the finished product and a palletizer.

A single control system, equipped with a touchscreen panel, permits central operation and management of the entire production line.



3-PIECE CANS.

SLITTERS AND TRANSFER SYSTEMS.

The slitter is the first stage in a three-piece canbody production line. It cuts the printed and lacquered base material – large square metal sheets – into body blanks of the required size. The cut blanks are then fed into the canbody welder's magazine from the slitter by a transfer system, which is indispensable in any fully automatic production line.

Soudronic slitters and transfer systems, built by our subsidiaries Cepak and Ocsam, easily satisfy demanding quality criteria such as versatility, precision, reliability, fast, simple adjustability and production speed.

CANBODY WELDERS.

The heart of a three-piece can production line is the canbody welder. This is where the body blanks receive their cylindrical shape and where the seam overlap is welded. The Superwima welding principle, developed by Soudronic, requires a minimal overlap of as little as 0.40 mm. Optimal control of the welding current in combination with an accurate pressure on the overlap guarantee a mashed seam of only 1.4 times the thickness of the sheet metal.

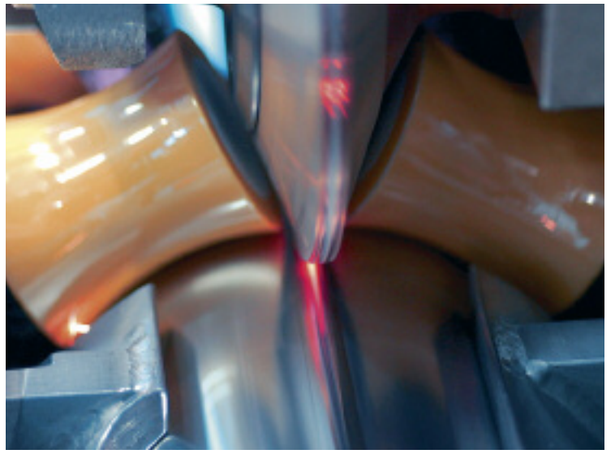
SEAM PROTECTION UNITS.

After the canbody has been welded, a physical barrier against oxidation and other chemical reactions is applied to the inner and outer weld seams. Whether for relatively slow pail manufacture or high-speed tinplate can production, we offer an impressive range of fully automated systems for powder-coating or liquid-lacquering of the inside seam, and roller or brush-lacquering of the outside seam.

CURING SYSTEM.

After passing through the weld seam protection unit, the canbody enters the curing system. A conveyor belt takes the canbodies through a gas-fired heating system with automatically regulated hot air burners. The conveyor belt has guides that ensure the canbodies remain centrally positioned throughout the entire heat treatment. Soudronic has developed a modular range of curing systems, available in varying lengths, to accommodate any production speed.

CUTTING METAL SHEETS
INTO BODY BLANKS



WELDING A MASHED
CANBODY SEAM

PROTECTING THE
WELD SEAM

HEAT-DRYING THE SEAM
PROTECTION LAYER

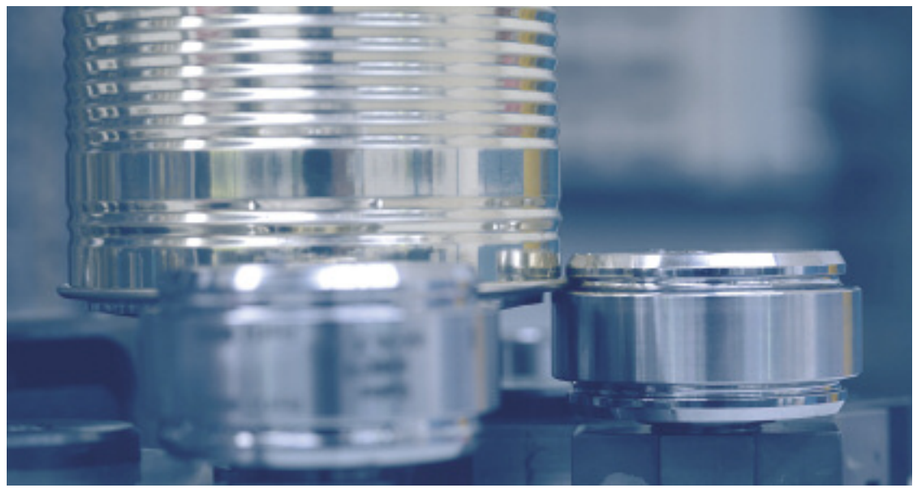
BODYFORMERS.

Once the raw canbodies leave the curing system, they are ready to be given their final shape and prepared for the endseaming process. Our highly flexible, fully automated bodyformers combine all the necessary functions in a single machine: shaping (mainly for optical purposes), necking (for good stacking properties after filling), flanging (necessary for the subsequent seaming process), beading (for additional stability) and seaming (of either the bottom or top end). Cantec's bodyformers are a mature multi-function system designed to meet the technical and commercial canmaking challenges of the future.

INTEGRATED LINE CONTROL.

With the Soudronic UNICONTROL operating system, an entire canbody production line can be operated from a single touchscreen panel. The easy-to-handle, Windows-based system guides the operator through the process using a simple graphical user interface, thus reducing instruction time and enabling training on the job. Standardized, reproducible settings, predefined values and checklists guarantee highly efficient production cycles. The system provides guidance and support in several languages and permits simulations on standard PC monitors in order to facilitate training setups for machine operators.

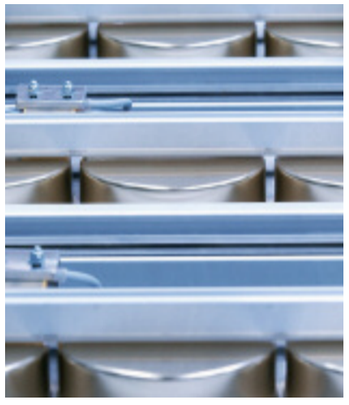
UNICONTROL provides plant management with production statistics and other relevant data, and can be linked to ERP systems.



SEAMING THE CANBODY

IN COMMAND OF A COMPLEX MANUFACTURING PROCESS

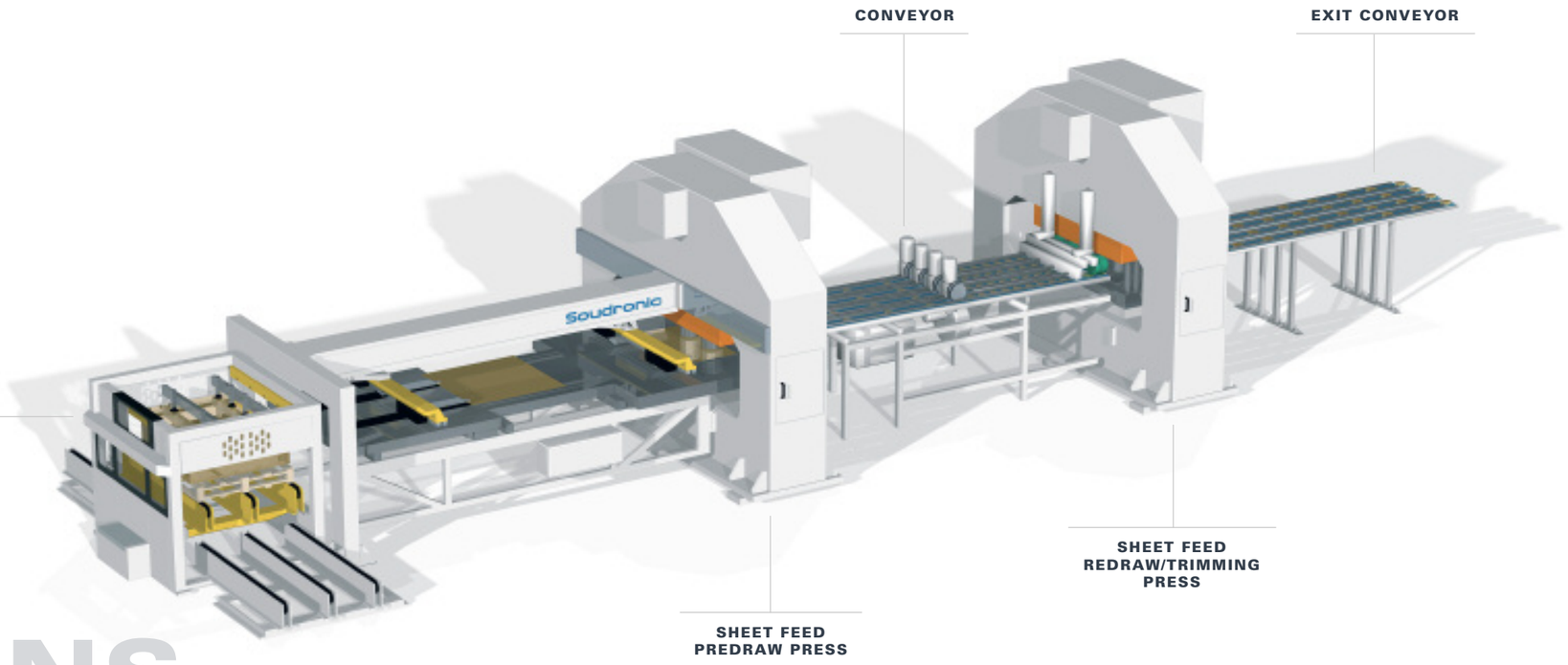
A FULL RANGE OF DEEP-DRAWN CAN AND MULTI-DIE SYSTEMS.



WE BUILD AND INSTALL PRODUCTION LINES FOR DEEP-DRAWN CANBODIES WITH ROUND, CONICAL, RECTANGULAR OR IRREGULAR SHAPES AS WELL AS MULTI-DIE PRESSES CAPABLE OF STAMPING AND FORMING UP TO EIGHT CANS IN ONE STROKE.

Developed and manufactured at Soudronic headquarters in Switzerland, our deep-drawing press systems are designed to stamp, predraw, final draw, emboss, panel and trim two-piece cans in a vast range of shapes and sizes to suit any need or application, at a maximum speed of 600 cans per minute. Finished cans are ejected onto an outfeed conveyor that transports them to a packaging table or palletizer.

Typically, a sheet feed multi-die press line for the production of deep-drawn cans will consist of a sheet-feed press, which predraws the canbodies. The pre-drawn bodies are then transported to the redraw, paneling and trimming press, where the can's final shape is drawn.



2-PIECE CANS.

SHEET FEED PRESS: PREDRAW.

The manufacture of two-piece canbodies places considerable stresses and strains on the material. To keep these within acceptable limits, bodies are generally made in two stages. In the first of these, the predraw press punches the blank into a basic, but as yet not final, cup shape. Soudronic's predraw press is able to form four two-piece shells in a single stroke. The predrawn cans now move from the press onto a conveyor that takes them to the next stage.

SHEET FEED PRESS: REDRAW AND TRIMMING.

At the redraw stage, the canbody is pressed into its final form, reducing the diameter and building up the sidewall of the can to accommodate a predefined content volume. At the same time, the bottom of the can is paneled to give it extra strength, any excess tinplate removed and the top curled, necked and flanged as necessary. Throughout the pre and redraw phases, cans are moving at such high speed that manual control is impossible. Soudronic multi-die lines can therefore be equipped with a video monitoring and inspection system as an optional extra.

PREFORMING OF
TWO-PIECE SHELLS

FINAL FORMING
AND TRIMMING
OF CANS

HIGH-QUALITY ENDS IN ALL SHAPES AND SIZES.

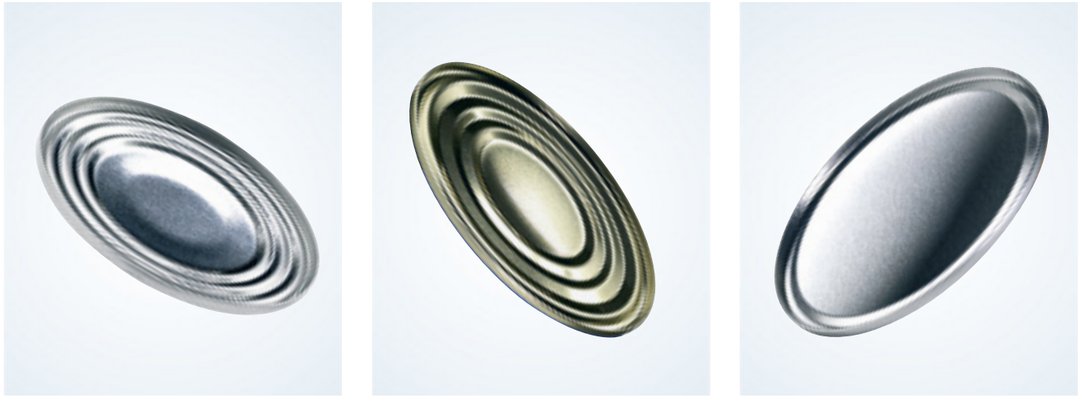
SOUDRONIC'S ENDMAKING SYSTEMS, PRODUCED BY CANTEC IN GERMANY, USE STATE-OF-THE-ART TECHNOLOGIES TO GIVE YOU UNMATCHED EFFICIENCY AND FLEXIBILITY WHILE KEEPING YOUR PRODUCTION COSTS COMPETITIVE.

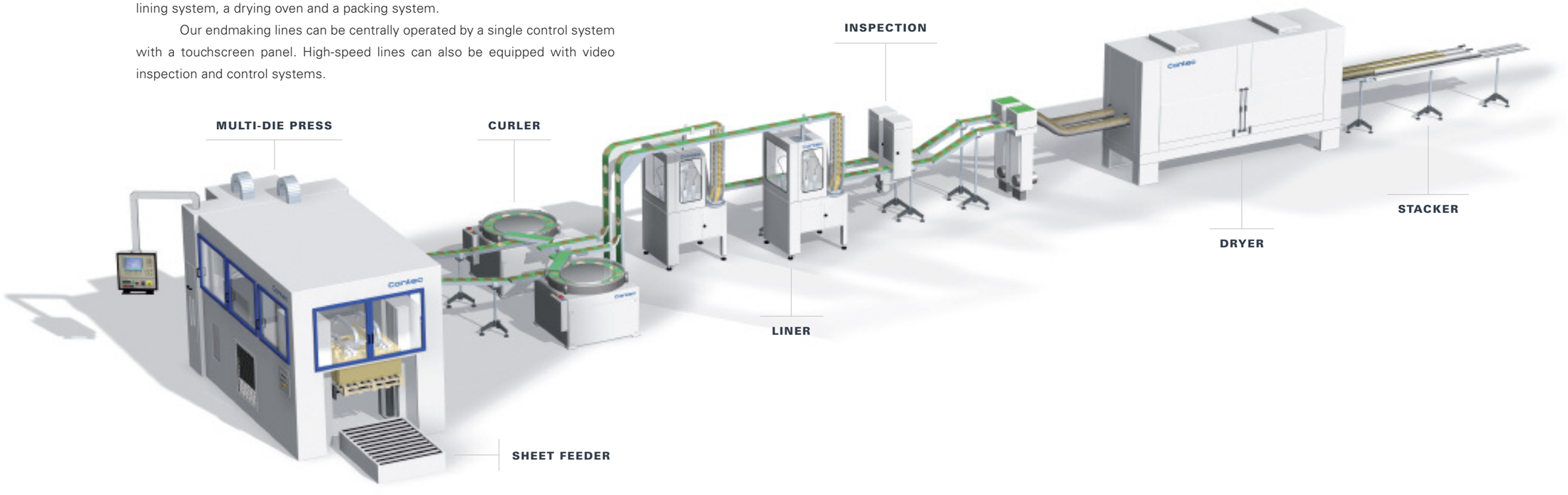
Whether you need conventional ends or technically demanding peel-off lids, we supply turnkey solutions for both medium and high-speed applications.

For high-speed endmaking, we use multi-die presses reaching output capacities of up to 4000 ends per minute. The curlers, liners, ovens and packing systems are all designed to match the output of the highly productive presses. The unique tooling systems of Cantec offers optimized end designs for downgauging of tinplate and thus saving production costs.

Typical medium-speed endmaking systems consist of a scroll shear to cut the base material into scrolled strips, a strip feed press, a curler, a compound lining system, a drying oven and a packing system.

Our endmaking lines can be centrally operated by a single control system with a touchscreen panel. High-speed lines can also be equipped with video inspection and control systems.





ENDMAKING SYSTEMS.

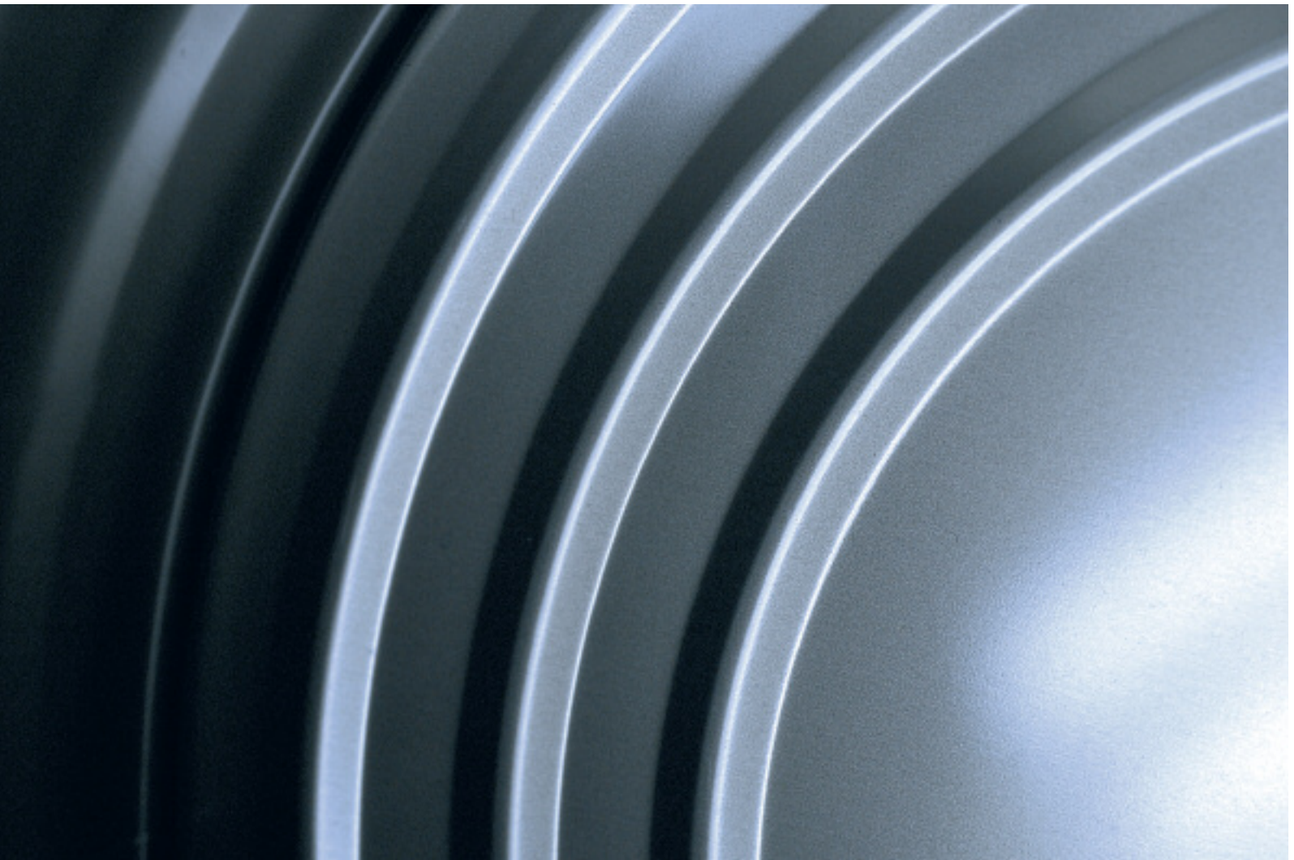
MULTI-DIE PRESSES FOR HIGH-SPEED ENDMAKING.

Cantec's multi-die press END-O-MAT is a high-performance multi-die production system for lids, easy open shells, rings, bottom ends and twist-off caps. Designed to meet the technical and commercial endmaking challenges of the future, this single-line system makes up to 4000 ends per minute (depending on diameter), all of uniformly high quality. It handles any type of material and minimizes scrap.

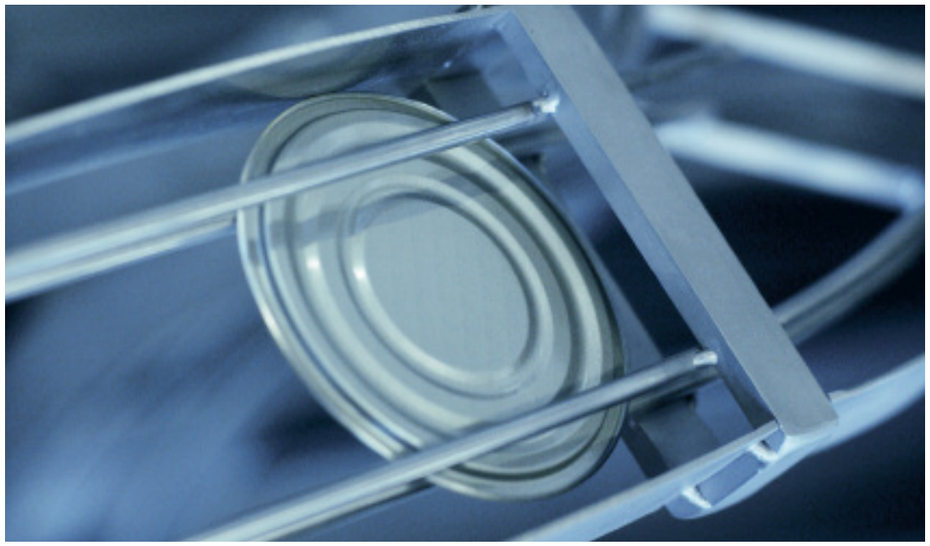
STRIP-FEED PRESSES FOR MEDIUM-SPEED ENDMAKING.

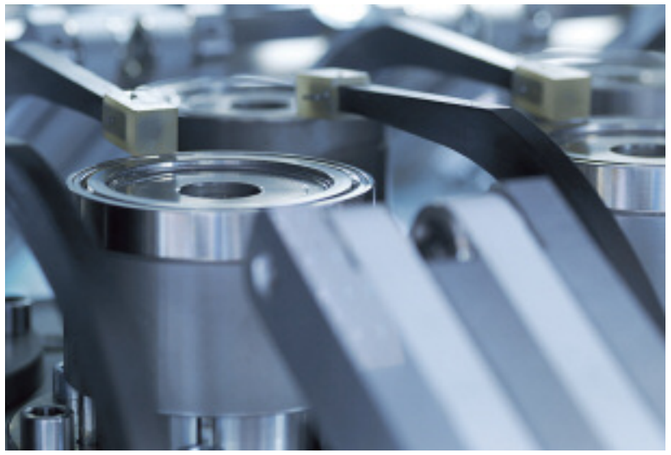
Whether the ends you are manufacturing are round or irregular, fully or partially opening, or made of steel or aluminum, the quality of the final product depends entirely on the press.

Thanks to their rigid frame construction, our strip-feed presses work to an extremely high level of precision and require very little maintenance. They stamp and form lids and bottom ends for two and three-piece cans as well as pails.



DISC-CURLER





TRANSFERRING ENDS FROM THE CURLING STATION TO THE COMPOUND LINER

TOOLING OF END-O-MAT MULTI-DIE PRESS

PEEL-OFF ENDS OPEN UP NEW DIMENSIONS IN CONSUMER-FRIENDLINESS.

A CONVENIENT ALTERNATIVE TO CONVENTIONAL ENDS, PEEL-OFF LIDS ARE INCREASINGLY IN DEMAND. OUR HEAT-SEALING ENDMAKING COMPONENTS ALLOW METAL PACKAGING PRODUCERS TO SATISFY MARKET DEMAND WITHOUT THE NEED FOR MASSIVE INVESTMENT.

We developed peel-off ends for two and three-piece cans as a user-friendly alternative to easy-open ends. Peel-offs are suitable for dry, retortable and hot-filled products, do not spill or splash and are easily opened without additional tools or damage to fingers. The high-speed UNISEAL heat-sealing system integrates seamlessly with existing can production lines and allows for brand name embossing on the outside surface together with a virtually unlimited choice of shapes and tabs as well as different curls for different types of products. It comes with a ring-forming module and produces up to 800 composite or aluminum peel-off ends per minute in a single pass without the need for restacking.

PEEL-OFF ENDS.

OPTION: OVER-

FORMING THE RINGS.

Ends enter the heat-sealing machine top downward and are destacked before moving onto the punching station, where the middle part is punched out to leave the can opening. At the next stage, the cut edge is drawn downward and, if desired, formed into an 'R' curl. At this point, the rings are fed into the Soudronic sealing system.

The range of end forms produced by our heat-sealing systems is practically unlimited and includes standard round ends, flattened openings (D-shape, spoon leveling holes) and drinking holes, and even runs to the shape of the tab (flat tabs, ring-pull tabs with finger hole).

SEALING THINGS UP.

As the rings enter the second part of the system, they are turned through 180° to face the right way up. The dies that punch out the foil are aligned to produce the maximum number of ends from the foil material, considerably reducing material costs. The membrane then goes through a two-stage sealing process: first, presealing, which fixes the foil in place, and then the final sealing stage. This is a much more advanced process than older, more conventional methods and significantly increases the quality of the seal.

As an alternative to aluminum foil, the composite multilayer foil may consist of different layers designed for various types of packaging and contents. Multilayer foil is flexible and extremely tough and withstands impacts better than aluminum alone. Additionally it can be printed using any of several methods (digital, gravure or flexoprint).

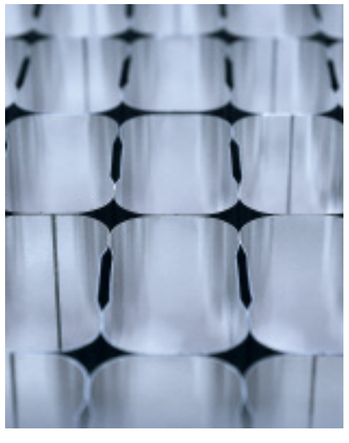
As an additional application we also provide a tab-fixing unit for use with one to four lines. This applies the adhesive that is used to fix the tab to the end.

HIGH-SPEED
TRANSPORT OF
PEEL-OFF ENDS

ENDS AND RINGS WITH
D-SHAPE SPOON LEVELING
AND RING-PULL OPENING

END INFEED UNIT

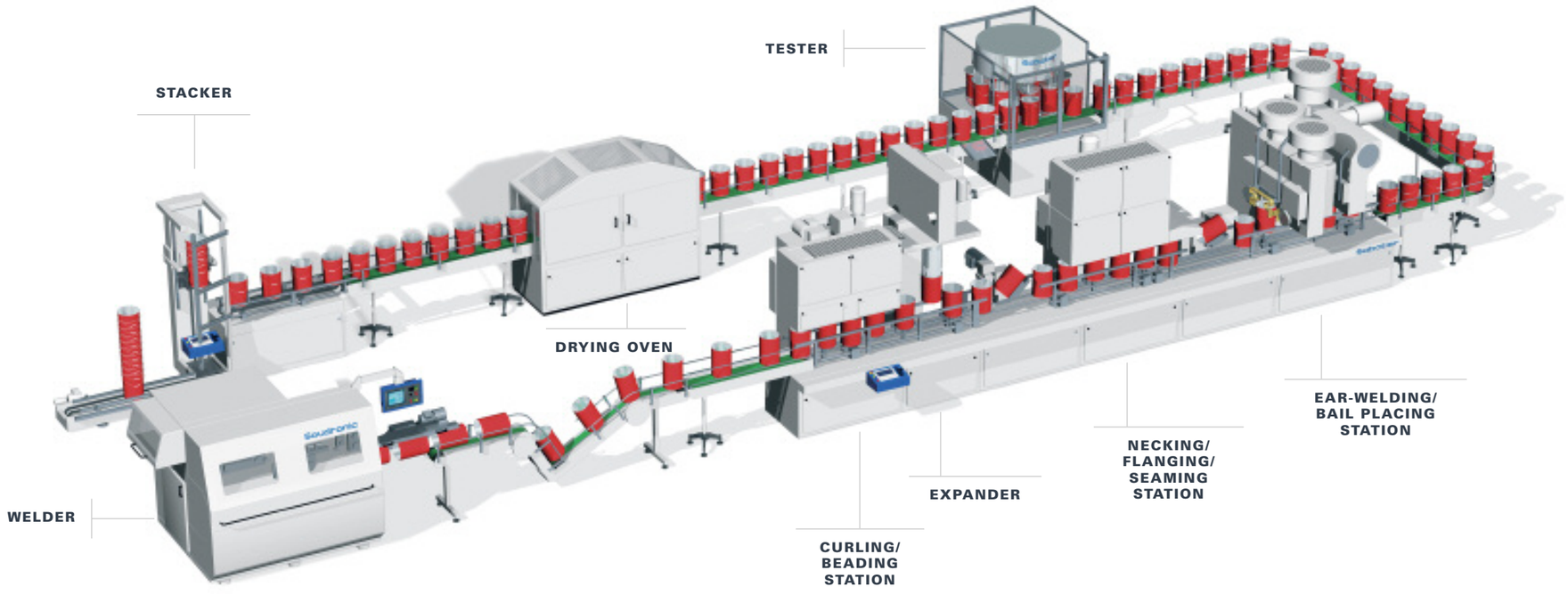
UNMATCHED FLEXIBILITY GUARANTEED BY MODULAR SYSTEM CONCEPT.



PRODUCTION LINES FROM SABATIER MANUFACTURE SAFE, STABLE PACKAGING FOR INDUSTRIAL, TECHNICAL AND EDIBLE GOODS.

The outstanding properties of metal packaging materials make them ideal for a vast range of industrial and technical products as well as edible oils and other foods. Metal containers such as pails, drums or cans of various shapes and sizes are air and water-tight, fire-resistant and can be transported safely and stored for extended periods of time.

Within the Soudronic Group, Sabatier in Vitrolles (France) designs and manufactures a comprehensive range of modular, compact and flexible assembly lines for industrial metal packaging. Thanks to our highly specialized know-how, we provide packaging solutions for cylindrical, conical, rectangular, oblong or square metal containers, including the necessary endmaking systems and leak testing units.



INDUSTRIAL PACKAGING.

MODULAR CYLINDRICAL PACKAGING SOLUTIONS.

For the production of round cans in sizes ranging from 0.2 to 70 liters or drums of up to 200 liters, our Bodypack assembly line provides the ideal solution. The name Bodypack stands for compact, flexible modular assembly lines incorporating the very latest technologies. In tandem with our canbody or drum welders and seam protection units, they are capable of performing all the operations required for the production of tapered or cylindrical canbodies, including body expansion, shaping, flanging and beading. Bodypack lines are also capable of seam-assembling bottom and top ends or mounting lids and handles. Supplementary machines and functionalities can easily be added to any Bodypack line.

ASSEMBLY LINES FOR IRREGULARLY SHAPED CANS.

Squarepack is a compact, modular system family for the assembly of irregularly shaped cans ranging in capacities from 0.2 to 20 liters. The assembly lines are highly flexible and typically consist of a stretch former and a can erector together with two squeeze flangers and two seamers. The system integrates easily with our welding machines and seam protection units.

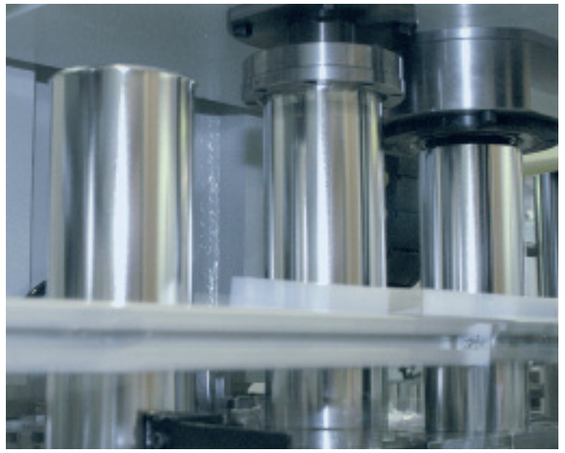
Whether you produce rectangular, square, oval or oblong containers, Squarepack assembly lines provide convincing answers to an exceptional variety of packaging needs. Depending on the size and design of the packaging, paneling machines and leak testing units can easily be added to the lines.

FORMING IRREGULARLY SHAPED CANBODIES.

We offer a wide choice of proven and efficient solutions, ranging from conventional ends to easy-open technologies, specially designed for endmaking with industrial packaging. Our curling-lining and handle-welding machines for round, square or oblong ends and lids ensure that metal containers can be closed tightly and transported safely.

TAILOR-MADE METAL PACKAGING.

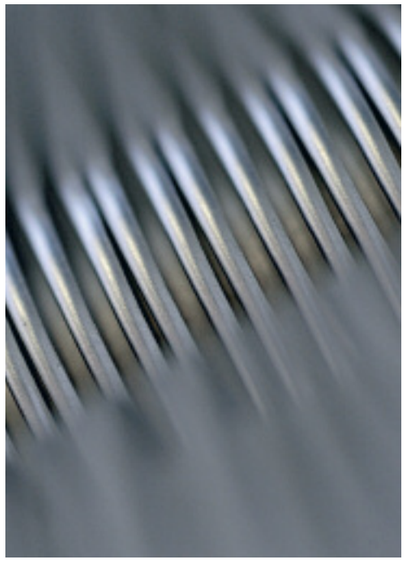
We provide a broad range of customized solutions for unique requirements. The list of special machines, tools and components for individual customer needs is almost endless. For the manufacturing of specially designed cans, for instance, we have developed high-performance vertical body shapers that integrate perfectly with existing assembly lines. Or we offer a range of atmospheric closing machines for the rectangular cans used with fish, meat and processed food.



THE SHAPING AND FORMING OF CANBODIES IS A STEP-BY-STEP PROCESS

WELDING THE EAR TO THE CANBODY

FORMING IRREGULARLY SHAPED CANBODIES



PROFESSIONAL ON-SITE INSTRUCTION FOR MACHINE OPERATORS

APPLYING HIGHEST STANDARDS TO MACHINE OVERHAULS

FAST, RELIABLE CUSTOMER SUPPORT WORLDWIDE.

SOUDRONIC'S CUSTOMER SERVICE STARTS LONG BEFORE AN ORDER IS PLACED AND GOES ON LONG AFTER DELIVERY AND INSTALLATION.

Our main priority is to keep our customers happy. Happy that they have purchased a solution which suits their needs precisely; and happy because they can rely on our support, no matter what happens.

We advise our customers which spare parts – particularly those subject to wear and tear – they should store on site to avoid costly downtime. We provide on-site support during commissioning and production start-up. We conduct training seminars for the operating staff. And we stay prepared, just in case our help is needed one day.

Thanks to a global after-sales service network, our technicians and specialists can be available on any customer site at short notice. Customer support as we understand it is not only a global but also a lifelong commitment.

PROFESSIONAL MAINTENANCE AND RELIABLE SPARE PART SUPPLY.

Our global after-sales service organization takes care of preventive maintenance and regular inspections of your production machinery. A telephone troubleshooting service provides rapid support and solves many problems quickly and efficiently.

We maintain a database containing full technical specifications and records of every machine and production line ever installed. This enables us to react to requests for spare parts promptly and professionally.

At our central store in Switzerland, we keep a comprehensive stock of more than 30 000 genuine spare parts ready for immediate dispatch. Thanks to a worldwide distribution network, we can guarantee ultra-fast delivery – in most cases within 24 hours. With our team of experienced spare parts specialists, we make sure that the maintenance and repair of our machines is carried out in a matter of hours, not days.

QUALITY SPARE PARTS READY FOR ULTRA-FAST DELIVERY

AFTER-SALES SERVICE.

BOOSTING THE PERFORMANCE OF OLDER CANBODY WELDERS.

Thanks to their outstanding quality and precision engineering, our canbody welders will last virtually forever if properly maintained. However, producers need to be aware that older models are much less efficient than today's generation of canbody welding machines. With tried-and-tested standardized solutions for the conversion and retrofit of older machines, we offer our customers the opportunity both to increase the performance and to improve the cost-effectiveness of their canbody production line at a reasonable cost.

Depending on the customer's needs, we carry out complete machine overhauls, upgrades and conversions either on site or at our own facilities.

A HEALTHY MARKET FOR SECOND-HAND MACHINES.

A well-maintained second-hand machine can be the ideal solution for an urgent customer need. Often, customers who upgrade their production lines with our latest machines ask us to help them re-sell the equipment they are replacing.

Thanks to the long-lasting quality of our products, it is absolutely no problem to overhaul and retrofit such equipment. Customers can rest assured that any second-hand machine they buy from us is in superb working condition and, given correct maintenance, will go on performing indefinitely.

CUSTOMIZED TRAINING AND INSTRUCTION.

Even the most sophisticated production line can only deliver satisfactory results if the operating personnel have been carefully trained. This is why we offer training programs individually tailored to either specific machines or entire production lines. Our aim is to ensure that all participants are able to operate and maintain our machines safely, efficiently and economically.

Training courses and seminars can be held at one of our training centers in Switzerland, France, Germany, Italy, Mexico, Singapore, the USA and China, or on the customer's own premises. Participants receive comprehensive personal documentation with step-by-step instructions and manuals.

SOUDRONIC AND THE SUSTAINABILITY ISSUE OR WHY TINPLATE RULES.

SMALL FOOTPRINT. BIG STEP FORWARD.

Soudronic has focused increasingly on ecological issues and the benefits of smart metal packaging. Metal is, quite simply, one of the most economical, environment-friendly and hence sustainable forms of packaging available to manufacturers today. And the arguments in its favour are compelling.

First and foremost is the fact that metal cans today require far less raw material than in the past. Soudronic leads the way in the development of the advanced canmaking machines needed to work with downgauged tinplate, i.e. sheet metal stock of as little as 0.01 mm in thickness. Lighter cans mean more containers per ton of tinplate, savings on natural resources and, overall, a significant reduction in the world's carbon emissions footprint.

Apart from the technological advances that make metal packaging so attractive, steel has countless advantages that put it in an environmental class of its own.

At Soudronic, we believe the canmaking industry has a responsibility to enlighten consumers about the largely unperceived ecological benefits of our products. If this helps to change consumer perceptions about metal packaging – and push up recycling rates still further – we will already have taken a major step forward.