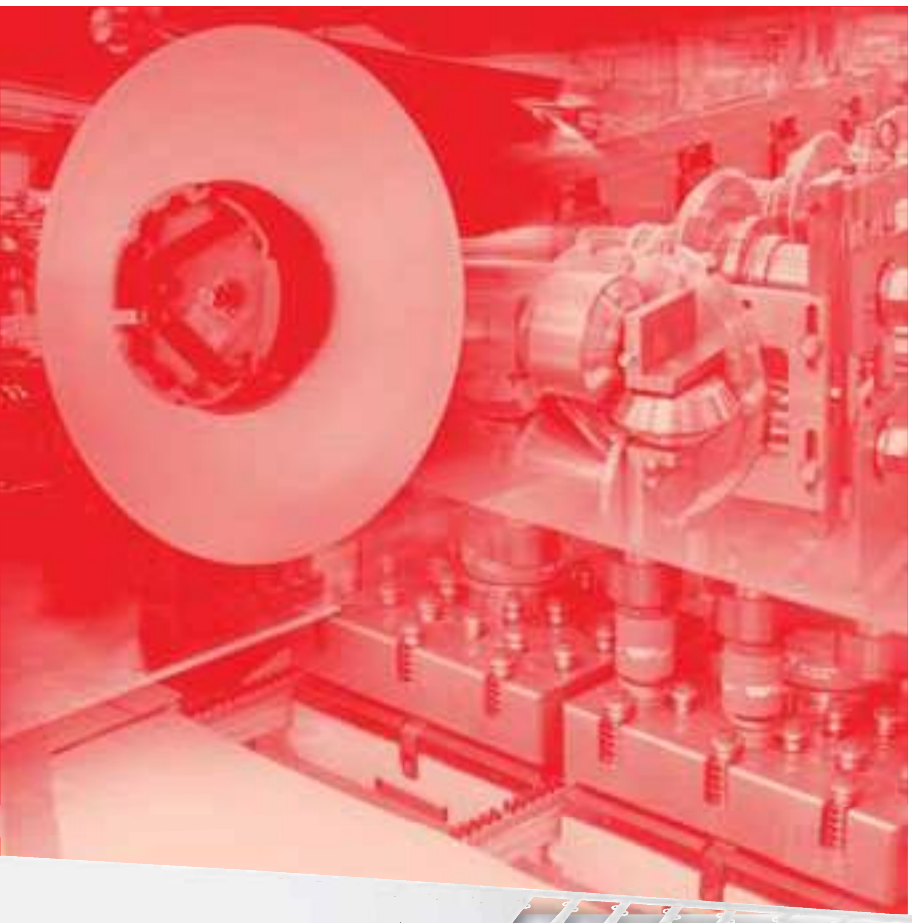
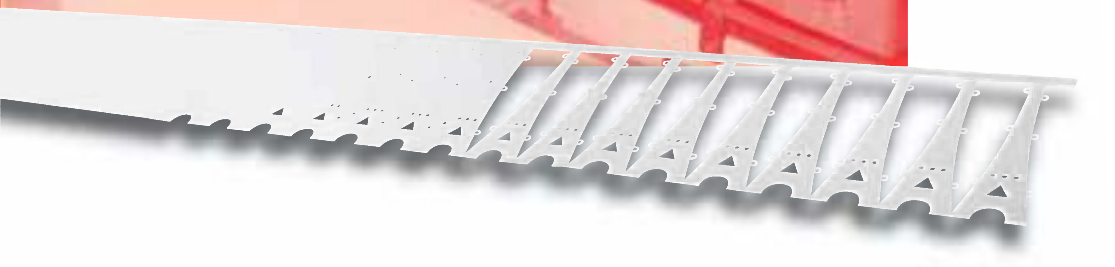
FLEXILINES

FLEXIBLE MANUFACTURING SYSTEMS





DIMECO ALIPRESSE

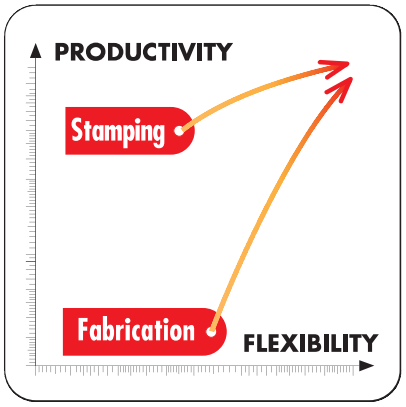
FLEXIBLE CONTINUOUS FORMING PROCESSES

www.dimeco-alipresse.com

THE FLEXILINES® CONCEPT

fields of application and anticipated benefits

FLEXILINES® provide incomparable flexibility and productivity to companies who wish to increase their production capacity, optimise their cost prices and respond more quickly to market requirements.



FLEXILINES® : supports company improvement



For all kind of materials



Dimeco, Besançon, France

FIELDS OF APPLICATION

FLEXILINES® are particularly suited to organisations controlling the development of their own products. DIMECO customer and engineers can optimise the whole product/process more effectively.

With our CN punching machines, CN or robot controlled bending machines, contract manufacturers can also find effective solutions maintaining flexibility inherent in their profession.
FLEXILINES® are best suited to sheet metal fabricators, however it may also form an original alternative to automatic press stamping companies.

FOR ALL MATERIALS

The majority of FLEXILINES® form steel sheets ranging in thickness from 0.1 to 5 mm.
DIMECO has also developed specific know-how in forming delicate materials: stainless steel, pre-painted, copper, polished aluminium, composites, PVC, etc.

QUANTITIES TO BE PRODUCED

In terms of productivity, FLEXILINES® position themselves between traditional sheet metal fabrication machines and heavy stamping machinery.
Investment in a FLEXILINE sees rapid returns if annual production is between 100,000 and 2,000,000 parts. FLEXILINES® are particularly suited to the production of groups of parts requiring several variations in dimension or pattern.

ANTICIPATED BENEFITS

CUTTING DIRECT COSTS OF THE PART

Material costs are reduced thanks to the use of coil material, lower material gross weight and less scrap at each production change over.
The lining up of the various forming operations enables a reduction in the cycle time and cancels out inter-operation time.
Generally, a FLEXILINE only needs one line operator. Manual work is ruled out.
The O.E.E. of the installation is improved. Change over times are reduced or even instantaneous when they are carried out by programming.

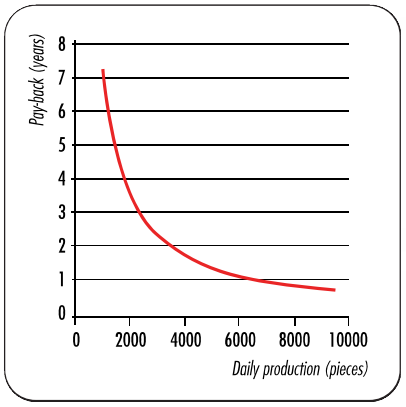
REDUCTION IN TOOLING COSTS

Is obtained due to a breakdown of processes into sequences, which leads to the use of the same tool for different products or operations. Furthermore, we select tools in standardised ranges, which are very cost effective.

OPTIMISATION OF INVESTMENTS

A DIMECO punching line is 3 times more productive than a traditional turret punch for a similar amount of investment.
Furthermore, you will gain a significant surface area and reduce stock and work in progress and capital tied up in fixed assets.

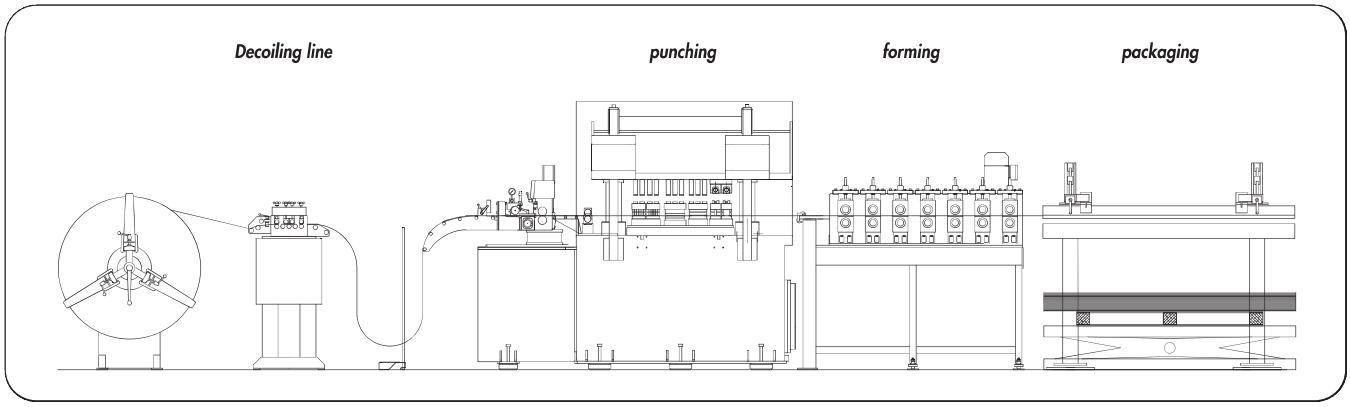
All FLEXILINES® are fitted with modem to allow remote maintenance from Dimeco service engineers



Profitability diagram



Standard "Thick turret" Cartridge tools



Typical FLEXILINES® layout

STRUCTURE OF THE LINE

A FLEXILINE is generally made up of 4 sections: a coil decoiling line, a punching module, a forming module and a product packaging system.
DIMECO has chosen to concentrate its development efforts in 3 technologies : programmable punching, flexible rollforming and numeric control bending.

DIMECO has also forged partnerships with manufacturers mastering the necessary complimentary technologies for the production of a turnkey line: marking, welding, assembling, handling, etc.

THE DEVELOPMENT PROCESS

Your FLEXILINE is designed based on your specifications. The final definition of the line is the result of numerous exchanges between the customer's engineers and DIMECO.

DIMECO process engineering experts work with your engineers in order to optimise the cost price of your products whilst minimising the amount of investment.

The design and the production of the FLEXILINE follows a quality assurance process in accordance with ISO 9001 standards. "Milestones" are established, revealing the main stages of the project : design release, provisional acceptance at DIMECO, final acceptance on site, etc.

Training of your operators may, most of the time, be carried out in your own language thanks to the international network of DIMECO agents.

ROBUST AND RELIABLE EQUIPMENT

Each FLEXILINE is unique, however it is not a special machine!
The design of the FLEXILINE is based on standardised modules, which reliability has been proven and the costs optimised.

Design standards which have built the reputation of DIMECO decoiling lines are also applied to the FLEXILINES.

The SIMOSTAR® numeric control supervises the FLEXILINE. It is built from SIEMENS SIMOTION equipments, which reliability and maintainability are well known.
Equipped with adapted safety fences, FLEXILINES® are in conformity with EC regulations.

INTEGRATION IN YOUR ORGANISATION

"Man-machine interfaces" are particularly intuitive and user friendly. All line controls are accessible from a large colour graphic touchscreen.
The operator enjoys easy to use robust remote controls at each key working place of the line.

The FLEXILINE is often connected to the customer's ERP system in order to avoid data entry by operators and to enable the exchange of information in real time.

AN EFFICIENT CUSTOMER SERVICE

The service of your line is ensured by your local DIMECO agent or our " hot line" based in France.
DIMECO takes special care in respect of its archiving systems.
With a simple serial number, the DIMECO engineer can provide spare parts even for the very oldest line.

All FLEXILINES® are fitted with a modem enabling remote intervention by DIMECO engineers.



SIMOSTAR 370 screen



The world-wide network of Dimeco agents

FLEXIBLE PUNCHING

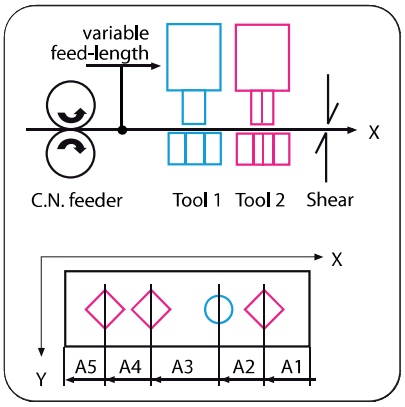
In 1975, DIMECO started to develop the MULTISTEP technology. It combines the benefits of NC turret punches and progressive stamping tools.

THE PRINCIPLE OF MULTISTEP PUNCHING

The drawing of the part to be punched is splitted into basic actions characterised by the tool to be used and its position.
The processor then analyses the list of actions to be carried out and creates a punching program which integrates the value of the feed of the strip and activation of the actuator corresponding to the tool to be used.
Each feed length is variable depending on the movement to be carried out for correctly positioning the strip in front of the right tool.

THE FLEXIPRESS®

offers additional flexibility and reliability. In this configuration, punching force is provided by a mechanical column press, the crankshaft of which is located under the table. The tonnage of the press is available on the very large surface area of the table.
All of the tools necessary for production of a group of parts are implemented on the table. Each tool is operated by a selector which introduces a wedge between the ram and the tool. Selectors are controlled by the part program. The rate can reach 200 Spm and the power 150 tons.



MULTISTEP punching : principle

Sequences
1 - feed A1/tool 2
2 - feed A2/tool 1
3 - feed A3/tool 2
4 - feed A4/tool 2
5 - feed A5/shear



PUNCHING-BENCH®



FLEXIPRESS®



Cartridge tool cassette



LINAPUNCH® 2 heads

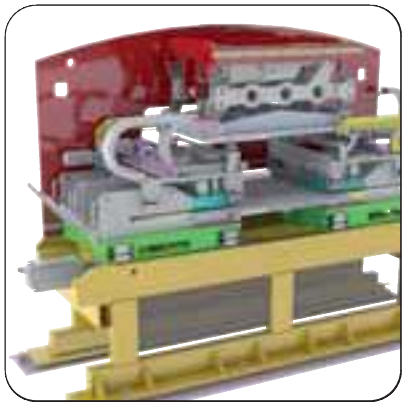
PUNCHING BENCH®

The MULTISTEP punching is first used in the **PUNCHING BENCHES** which contain as many cylinders (generally hydraulic) as tools necessary for producing the part.

Although cost effective, this solution is restricted in terms of flexibility, the position of the cylinders being difficult to move when changing from one production to another.

WITH THE LINAPUNCH®

DIMECO entered the field of "2D" flexible punching by positioning the set of 24 tools and their actuating cylinders in N.C. transverse moving carriages. The **LINAPUNCH®** offers similar functions to a turret punch for coil work.
The part program integrates the co-ordinates x, y of the tool axis. The same tool can be used for punching various identical forms located in different "y" positions.



LINAPUNCH® MC-E



FLEXIPUNCH®

Ideal for long parts and work on delicate materials



A **LINAPUNCH®** may comprise 1 head for strip widths up to 650 mm or 2 heads, opposite each other, for larger widths up to 1500 mm.
Each head comprises two interchangeable cassettes each containing 6 "thick turret" standard cartridge tools.
A cassette may also be fitted with an AUTO INDEX device which will add a supplementary rotation control axis to the tool. In the same way, a "MULTI-TOOL" head can be installed comprising up to 10 small tools each being able to be individually selected. The **LINAPUNCH®** can reach up to 200 Hpm or even 400 Hpm when nibbling and power up to 20 tons.

THE LINAPUNCH® MC-E

Last in the range, this has 52 tools capable of working at 400 Hpm when nibbling. The 2 x 20 ton stamping system is servodriven.

THE FLEXIPUNCH®

Is a completely electromechanical 2D punching solution which combines the benefits of the **FLEXIPRESS®** and the **LINAPUNCH®**.
In addition to the tools implemented on the table of a **FLEXIPRESS®**, one or several mobile heads are installed transversely supporting the tooling cassettes. The tools contained in the cassettes are also activated by selectors

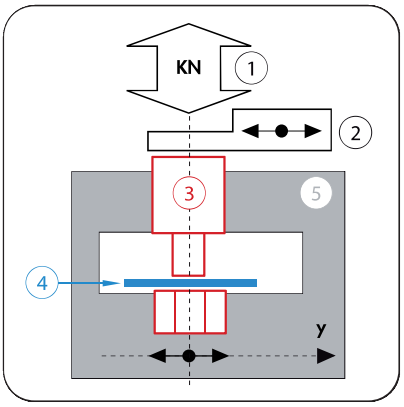
As on the **LINAPUNCH®**, the **FLEXIPUNCH®** may house the rotating axes for controlling the "AUTO-INDEX" and "MULTI-TOOL" devices.

FOR EXISTING PRESSES AS WELL

You can also benefit from MULTISTEP punching technology on your existing presses.
DIMECO offers the 1 axis **DECOPRO®** kit which includes the NC feeder and all the necessary selectors. The **DECOPUNCH®** 2 axis kit includes the NC feeder, a NC servo-driven traverse, its tool holder cassettes and relevant selectors.
The **DECOPUNCH®** is ideally used when stamped parts are placed in staggered rows.

SIMPLE PROGRAMMING OF PARTS

In the basic version, DIMECO offers a very user-friendly software for entering part data which fulfils the requirements of the majority of users. Programs may be developed in the office, on a PC and then transferred to the machine through Ethernet, USB key or flash card.
For users frequently introducing new parts or the definitions of which imply many punching sequences, they may opt for the CAM processor developed in co-operation with RADAN.



"MULTI-STEP" implementation

1 - actuator
2 - tool selector
3 - punching tool
4 - strip
5 - fixed or mobile tool-holder

number of NC axes		hydraulic actuator	electric actuator	mechanical actuator	
				special press	traditional press
	1	PUNCHING BENCH		FLEXIPRESS	DECOPRO
	2	LINAPUNCH	LINAPUNCH MC-E	FLEXIPUNCH	DECOPUNCH
	< 6				

The benefits :
- reduction in tooling costs
- reduction in changover time
- reduced investment
- reduced processed material



4 interchangeable and stackable cassettes



Flying shear

By associating flexible punching with rollforming, we provide the best gains in productivity

All rolls are assembled in a frame which also houses the gear system. It is not suitable for rollforming at high speed. In this design, by working in the "start/stop" servo mode, several punching units can be associated with the frame, at a reduced cost.

MULTI-CASSETTE ROLLFORMERS

In this configuration, the rollforming bench is divided up into several independent cassettes each housing rolls for 4 to 12 passes. The gear system is integrated in each cassette.
The speed may vary from one cassette to another and be precisely adapted to the specific nature of each rollforming phase. Cassettes are quickly interchangeable with a crane or a fork lift truck. As an option, the use of stackable cassettes reduces the storage surface area.

"START-STOP" SERVO ROLLFORMERS

The simplest rollformers are run "continuously", all rolls being driven by a simple asynchronous motor. On the basis of optimised numeric technologies for pressfeeding, DIMECO has developed the "servo driven" rollformer with numerical control. The rollformer can thus stop in a very precise position and restart very quickly. Each time it is stopped, a cutting or MULTISTEP punching operation can be carried out. This configuration generally demands a strip loop to be made before the rollformer.

CROPPING THE PARTS

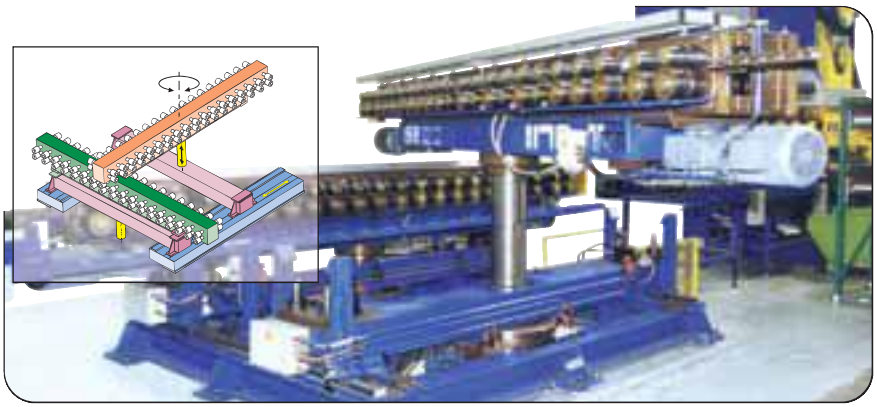
The cropping of the part can be carried out before the rollformer. In this case the machine forms blanks one after each other. It is a cost effective process, sometimes imposed, based on the design of the part. However it can cause problems with quality at the ends of the parts. For a perfect product geometry, one may opt for cropping at the exit of the rollformer. For lower rollforming speeds, cutting in the stop mode is chosen. When production imposes an average speed over 25 m/min, a " flying" shear is generally necessary. In this instance, the rollformer operates at full speed, even during the cutting operation. The shear is fitted on a mobile carriage driven by a servomotor which perfectly synchronises the feed of the cutting carriage with the feed of the rollformed part exiting the machine.

REDUCTION OF CHANGOVER TIME

The O.E.E. of the rollforming line is dependent on its capacity to quickly adapt to variations in shaps and dimensions (width, height, thickness) of parts to be produced. On the basis of the DUPLEX rollformers, DIMECO proposes the manual or programmed adjustment of the machine width and of the rolls spacing.
DIMECO also proposes solutions which enable several sets of rolls (corresponding to different profiles) to remain ready to be used on the same rollformer: double track machines, rotating heads.



Simultaneous rollforming of 2 parts



Rotating head rollformer "2 tools in one"

Rollforming is suited to forming high yield steel of 800 MPa and more.

FLEXIBLE BENDING

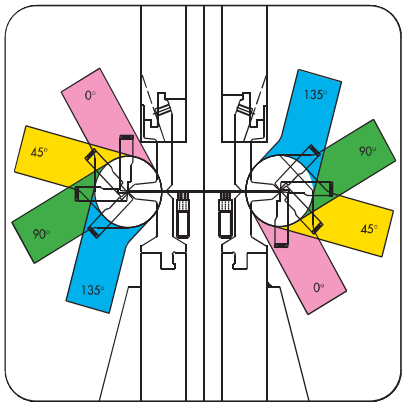
With DIMEFORM®, bending may be integrated in the forming line.



DIMEFORM® 4 side bending cell



NC folding flap



DIMEFORM® positive/negative folding: 0/135°

USE

Bending is a forming technology which is complementary or concurrent with rollforming.
It is generally less productive than rollforming, however, it offers other benefits.
It guarantees a high geometric quality of manufactured parts, enables the work of very delicate materials, sometimes coated with plastic foil. Bending enables the production of an unlimited number of different forms with very cost effective standardised tooling.
Bending is essential when parts are to be formed on all 4 sides.
When controlled by NC, bending enables the form of the section to be instantly changed.
Bending remains a relatively slow process which implies quite complex transfer operations of the parts. Integration of bending operations in a FLEXILINE should be carried out smartly in order to optimise the overall speed of the line and to limit its cost.

DIMEFORM® FLAP FOLDING MACHINE

This range has been developed with the objective of effectively integrating folding operations in a continuous production line. Contrary to pressbrakes, the part remains fixed in position on the DIMEFORM®.

The tool fitted on a flap pivots upwards (positive fold) or downwards (negative fold) around the part. The section to be folded is splitted into basic bending operations characterised by a position of the flap axis and by an angle of rotation of the flap. At each stage of the part program, the flap and bending head are precisely positioned by servomotors without backlash. Depending on the number of sides to be folded, the DIMEFORM® station can have one or 2 heads. 2 DIMEFORM® units are combined for bending the 4 sides of the part.

BENDING UNIT

For simple bending, DIMECO offers simple or multiple hydraulic bending units. Special tools may be designed in order to perform several bending operations whilst keeping one single movement of the unit.
The ENDBEND bending unit enables simultaneous bending of the 2 ends of the part. One of the 2 units is adjustable or programmable to adapt to the length of the part to be manufactured.

ROBOTIZED BENDING

Official integrator of FANUC Robotics, DIMECO can integrate a complete robotized bending cell at the exit of the production line, using a new or an existing press brake.



Programmable part ends folder ENDBEND



Robotized bending

OTHER INTEGRATED TECHNOLOGIES



PITSTOP Feeding line

The decoiling line is configured from 500 machines of the standardised DIMECO range.

DIMECO DECOILING LINES

The majority of FLEXILINES® are fed from coil. The decoiling line should be perfectly adapted to your application. Decoiling of strips is the historic profession of DIMECO. Leader in the European market, we offer the largest range in the market with more than 500 standardised machines.
Our engineers will choose the machines and accessories from our PRESSFEED® range which are most suited to your FLEXILINE depending on the size and diversity of the coils, the line environment, your operator's safety objectives and flexibility required.
Use of standardised DIMECO decoiling lines in your FLEXILINE is the assurance of a robust, reliable and proven design. It is the guarantee of an efficient customer service and the quick availability of spare parts.

"PIT STOP" COIL CHANGEOVER

The decoiling line should be designed in order to enable simple and rapid change of the coil. The PITSTOP configuration enables the introduction and re-coiling of the strip without manual work in less than 3 minutes. It offers the automatic adjustment of all parameters of the feeding line (guides, roll penetration, etc.) when launching a new production batch.

A WIDE INTEGRATION CAPACITY

The profitability of a FLEXILINE can be further improved if the operations which are carried out manually upstream and downstream from the forming process are integrated in the automatic line.
Relying on a network of experienced partners, DIMECO integrates numerous other technologies.
We install automated processes to apply and remove film. We set up simple or programmed marking systems (engraving, stamping, laser, ink jet, etc.) and assembly technologies by bonding, welding, crimping, clinching.
A packaging system which is completely automatic can be added, including stacking device (2 axis Cartesian or by multi axis robot), straping, weighing, labelling, etc.).

INFORMATION TECHNOLOGY INTEGRATION

Several DIMECO customers have chosen to integrate their FLEXILINE in other data processing systems in their company. Via the ETHERNET network, the FLEXILINE receives in real time from the ERP, the manufacturing schedules and CAD definitions of parts to be manufactured and sends back the operating parameters of the line.



Strip ends joining machine with TIG welding



Robotized stacking



In line welding of brackets

Return on investment is improved by integrating manual operations.

LIGHTING APPLICATIONS

- **Very delicate materials**
- **Tight tolerances**
- **High ouputs**

WORLD LEADER

DIMECO is the undisputed world leader of production lines of lighting components.

Partner to all major global players, we have developed a range of solutions adapted to each of the different parts composing an industrial lighting appliance.

For medium size players, we propose cost effective FLEXILINES® which are less productive, however more versatile and capable of manufacturing several families of parts.



Production line of fluorescent battens



References : *THORN, PHILIPS, GENERAL ELECTRIC, COOPER LIGHTING, FAGERHULT, VEKSAN, ELBA, DEBBAS, SYLVANIA, TRILUX*

METAL FURNITURE APPLICATIONS

- **Thin and pre-painted sheets.**
- **NC bending.**

THIN SHEETS

Major users of thin sheets, often pre-painted, actors in this sector are facing a very competitive market.

FLEXILINES® widely use MULTISTEP punching, DIMEFORM® NC bending and integrate assembly operations (crimping, welding, etc.).

The FLEXILINE should be adapted to the numerous variations in dimensions, colour and sheets of irregular quality.



Drawer production line



References : *HMY, MECALUX, ROZVOJ, GODREJ, STANLEY-FACOM, LOZIER, PIERRE HENRY, MARSANZ, AVERYS, RONEO, SANMINA, PROMET*

CONSTRUCTION APPLICATIONS

external equipments

Building shell :
- major use of profiling,
- production to order.

UNLIMITED APPLICATIONS

After the automobile sector, the construction industry is the largest consumer of thin metal sheets, the preferred field of application of FLEXILINES® .
Applications are numerous and varied in construction as in construction finishing.

The materials used are very diverse: thin sheets, thick strips up to 4 mm, hot rolled, galvanised, pre-painted, lead, aluminum sheet, etc.
Numerous long parts, tolerances which are relatively large, favour the use of rollforming.

• In construction, the management of major architectural projects means our clients must have very flexible production lines capable of producing a batch of parts which is almost unique, adapted to the specific design of the building project.

• In construction finishing and internal equipment, the cost price is a key factor of success. The quantities to be produced are high. Players are looking for mass production manufacturing lines enabling production of the whole range of products.
















References : *BOUYGUES-SKYDOME, VELUX, PORTAKABIN, ALGECO, ARCELORMITTAL, HORMANN, NOVOFERM, ALDES, OTIS, KERMI,*

Construction finishing and equipment :
- **high quantities,**
- **top priority to part cost price.**



Production line of structural beams



BUBENDORFF, THYSSEN-MECALUX, KORADO, ROTO, ASSA-ABLOY, GRESTCH UNITAS, MICROMETALS, MOTOSTAL, SKYDOME

ELECTRICAL APPLIANCES AND WHITE GOODS

- **High quantities.**
- **Punching and NC bending.**

GLOBAL MARKETS

This global market is dominated by multinational companies who produce very significant quantities.

FLEXILINES® are very sophisticated and capable of managing diversified ranges and adapting to frequent variations in design. Flexible punching is often associated with sophisticated bending installations.



Production lines of electrical cabinets



References : *SCHNEIDER, LEGRAND, WHIRLPOOL, GODREJ, ELECTROLUX, MARSHAL, VAILLANT, MERLONI, FAGOR, CIAT, CTI-GAFA*

OTHER FIELDS OF APPLICATION

Discover the next field of application of our production lines

WHOSE TURN IS IT ?

DIMECO is involved in other fields in the use of sheet metal. Agriculture and road infrastructures generate varied applications.
The automobile industry major user of automatic press lines is now also adopting FLEXILINES® in order to reduce the cost of tooling and improve processing of parts intended for niche vehicles.

We are sure you will have a potential use for FLEXILINES®.

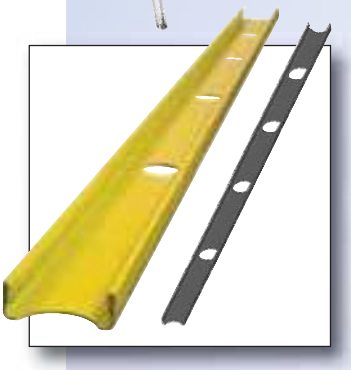
Let's find out together !

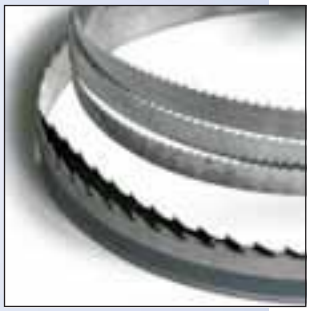


Production line of vineyard posts











References : *ALFA-LAVAL, FAURECIA, CALSONIC-KANSEI, SIGNAUX GIROD, PRIVÉ, PHENIX, NO NAIL BOX, SALMSON*

METAL STAIRCASE STEPS

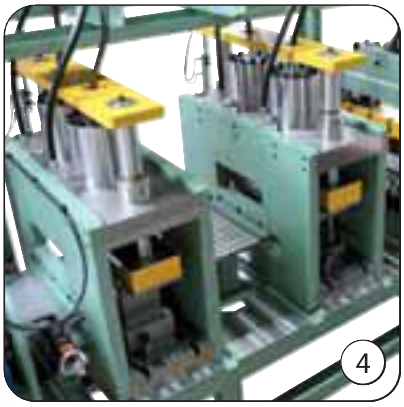
hydraulic punching bench

- **Punching up to 80 tons.**
- **Strip thickness up to 4 mm.**
- **Line output : 2 m/mn.**
- **Automatic stacking.**

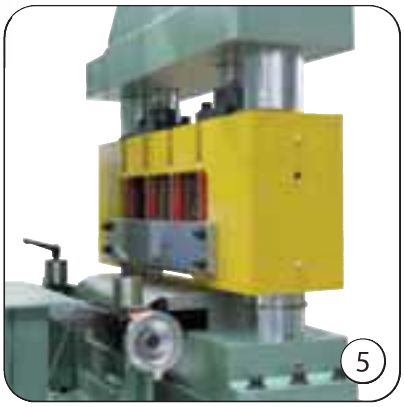
ADVANTAGES OF THE SOLUTION

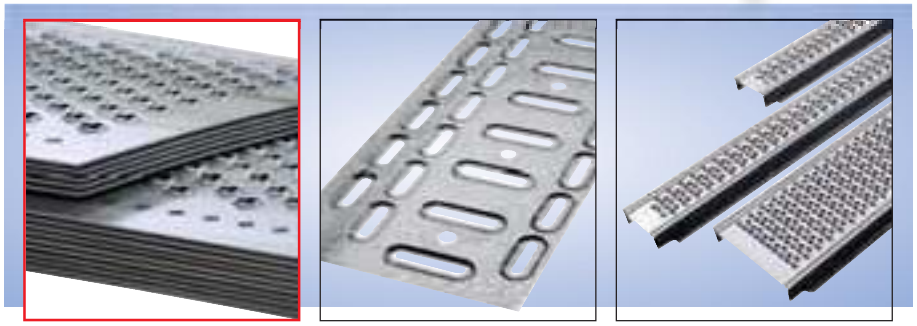
Depending on the shape to punch and its location, the system selects either one of the two symmetrically adjustable C framed 10-ton hydraulic punching stations or one of the two 80-ton hydraulic stations which actuates column guided punching or embossing tools. The "Multistep" DIMECO patented technology allows the system to produce parts of different lengths and patterns one after each other with no scraps nor stop. The punched strip is then cut with a hydraulic shear. Cut parts are stacked on a 3-ton lifting table equipped with automatic stack leveling.

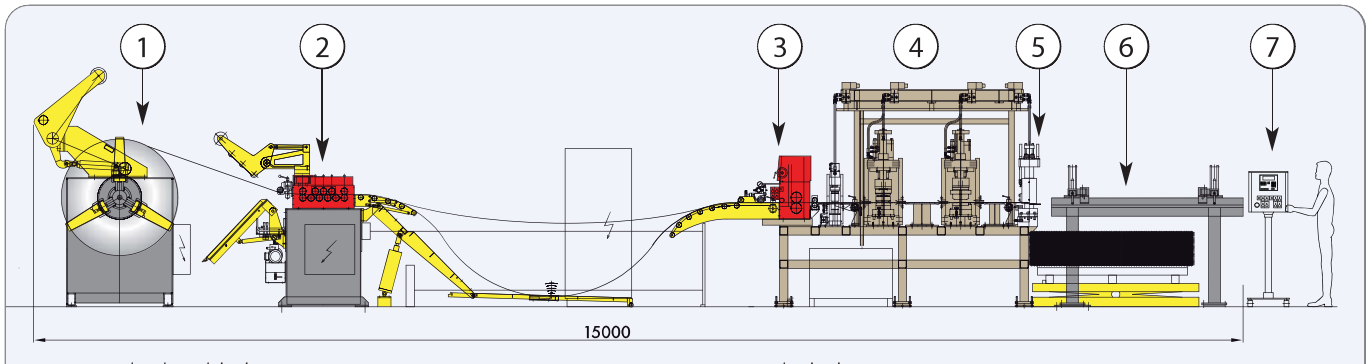












1 - *3-ton decoiler with braking system*
2 - *Powered straightener*
3 - *MICROFEED® electronic roll feeder*
4 - *10 & 80 tons hydraulic punching stations*
5 - *Hydraulic shear*
6 - *Stacking system with 3 ton lifting table*
7 - *SIMOSTAR® 370 NC Supervisor*

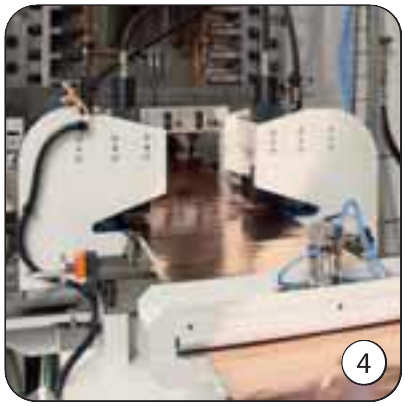
HEAT EXCHANGERS

forming on hydraulic press

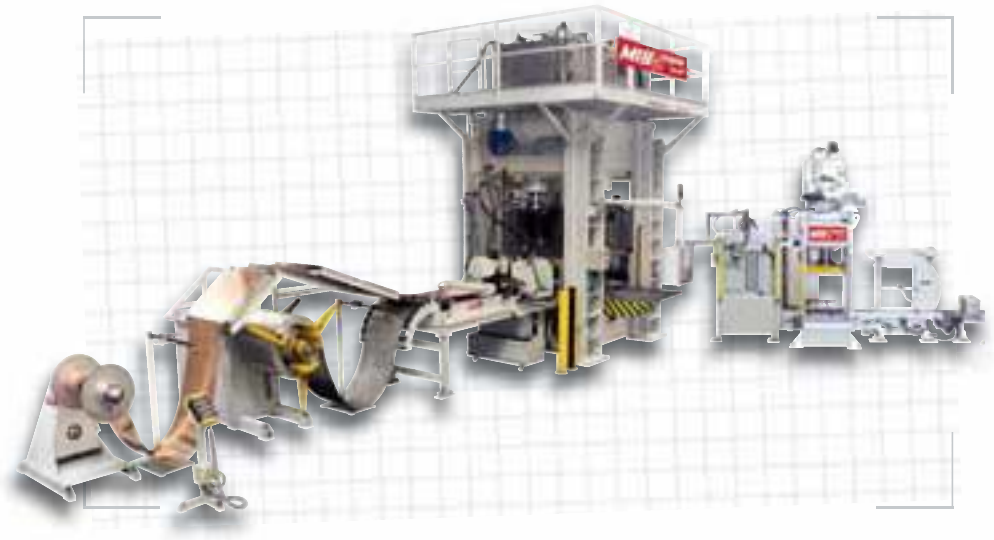
- **Punching, drawing and stacking of a 200 different parts sequence.**
- **Very delicate materials.**

ADVANTAGES OF THE SOLUTION

Without stop nor scrap, the line produces a complete heat exchanger subassembly which consists in up to 200 plates manufactured from a 0,35 mm stainless steel and a 0,06 mm copper strip sandwich
Changeover among the 3 different formats is performed in less than 30 mn.
Downstream welding process demands an impeccable finish of the parts without scratch nor burr.

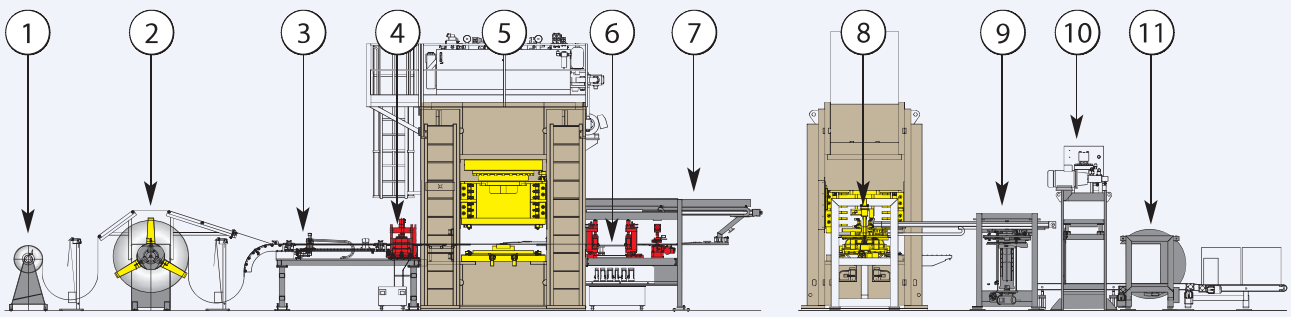












1 - Copper strip decoiler
2 - Steel decoiler
3 - NC grip feeder + oil spray lubricating unit
4 - 4 x 10 ton punching tools
5 - 2000 ton hydraulic straight side press
6 - 4 x 10 ton punching tools
7 - Stamped parts NC grip unloader.
8 - Plate tilting unit
9 - NC stacking grip loader
10 - Compression hydraulic press
11 - Stack tilting unit

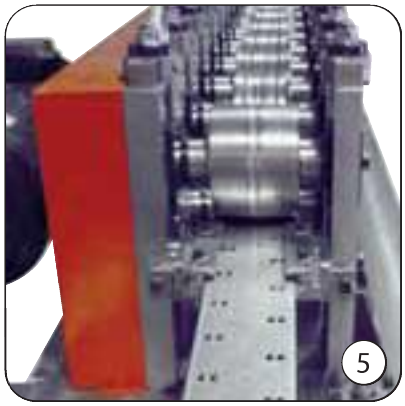
GRAPE POSTS

mechanical press + flying shear rollforming

- **Strip thickness from 1,5mm to 3mm**
- **Output : up to 30 m/min**
- **Standard "thick turret" cartridge tools.**

ADVANTAGES OF THE SOLUTION

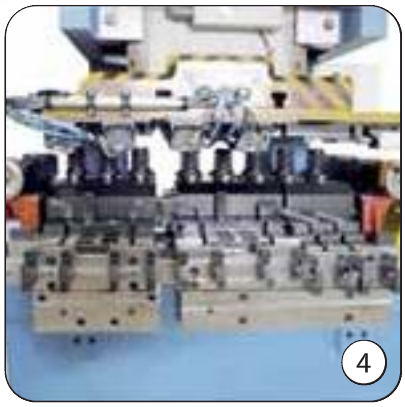
- High output, open profile manufacturing
- Features DECOPRO, Multistep punching on a regular press.
- The use of exchangeable rollforming rafts allow manufacturing of other structural parts on the same line.
- cross section changeover time of less than 15 mn.
- Easy part programming with the SIMOSTAR® 370 Control

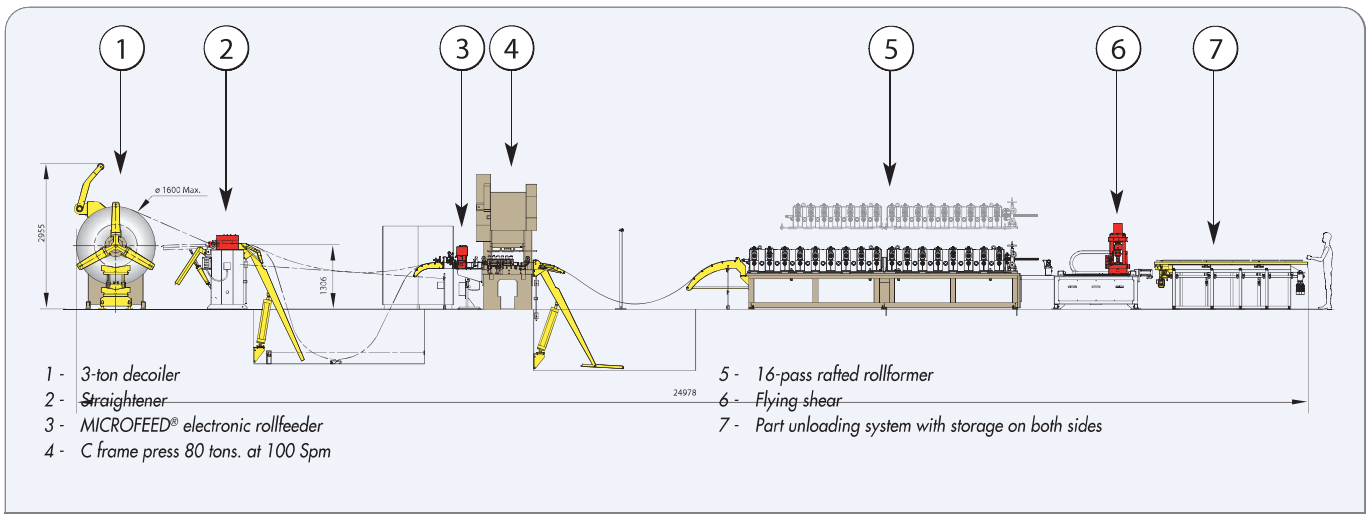












BODIES AND TOPS FOR FLUORESCENT BATTEN FITTINGS

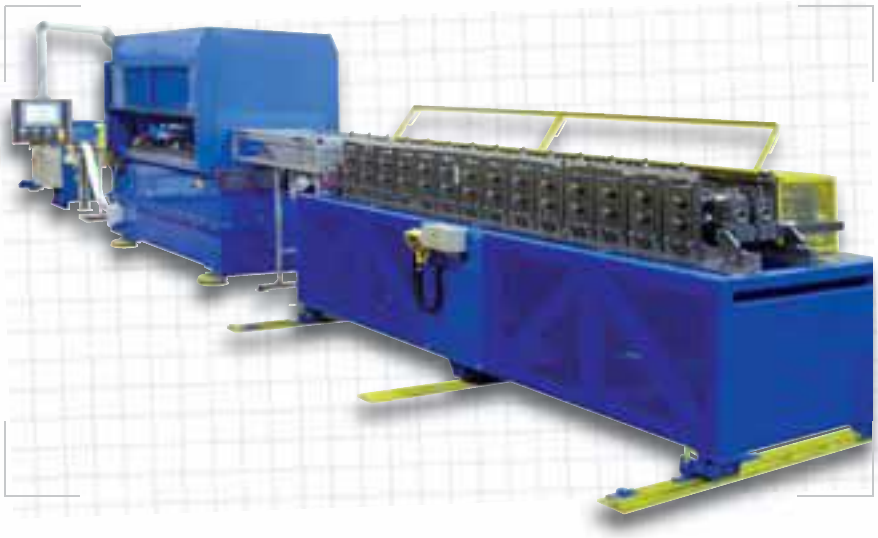
flexipress® + rollformer

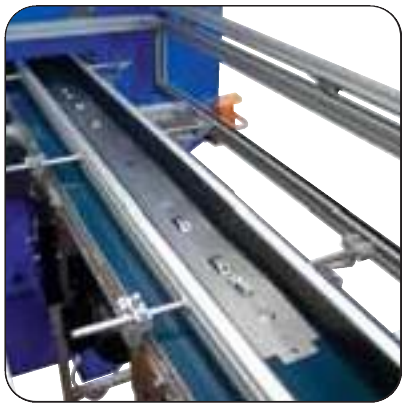
- **Black or pre-painted steel, from 0,4 to 0,6 mm thick.**
- **Cycle time : 1,5 to 8 seconds.**

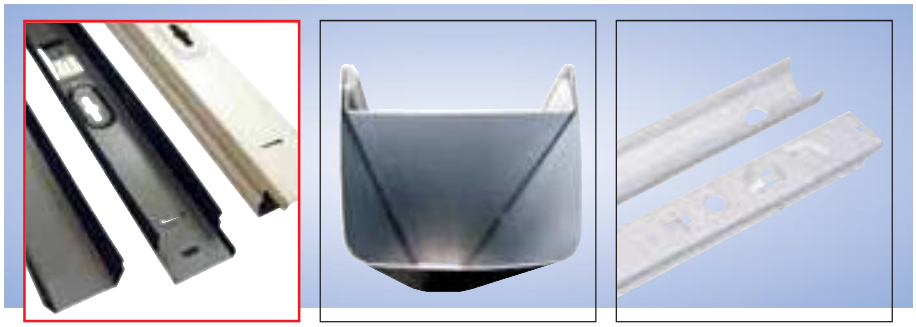
ADVANTAGES OF THE SOLUTION

- "Multistep" punching is performed on a 40-ton FLEXIPRESS®.
- All punching tools are available on the 2-metre long press table.
- Easy to shift from body to top production with the rollforming machine crosswise movement onto rails.
- Various models are produced in a row without stop nor scrap.

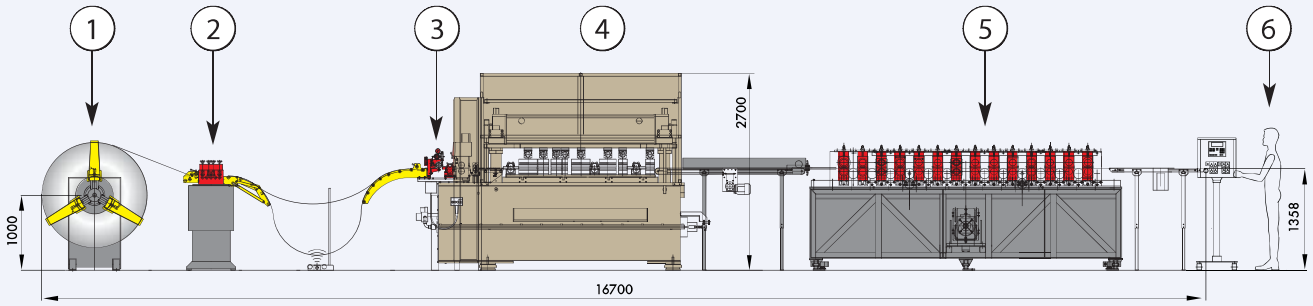










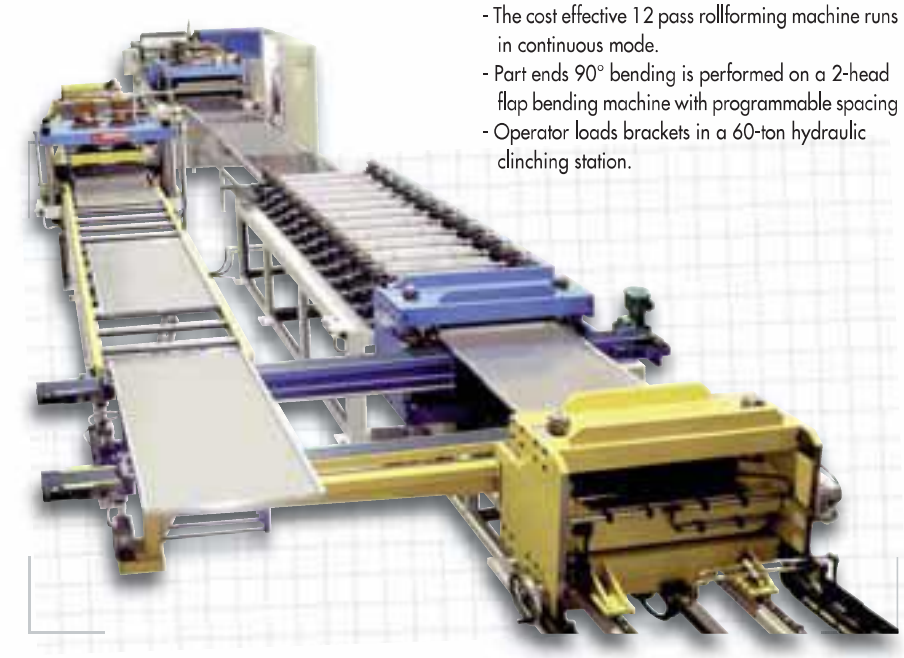


1 - 3-ton Decoiler
2 - Straightener
3 - MICROFEED® electronic roll feeder
4 - 40-ton FLEXIPRESS® with 400 x 2000 mm table area fitted with 8 tool selectors
5 - 14-pass "double track" rollforming machine
6 - SIMOSTAR® 370 Terminal

ADVERTISING PANEL COMPONENTS

punching bench + rollforming + bending

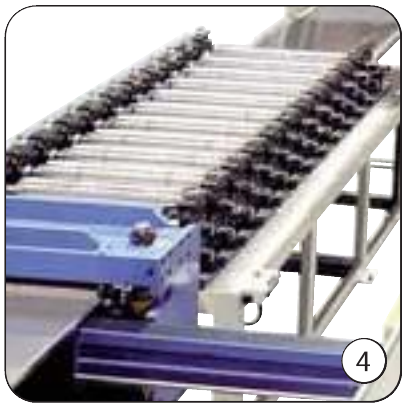
- **ENDBEND part ends bending machine with programmable spacing.**
- **Integrated parts clinching.**
- **Variable part length from 1 to 4 meters.**

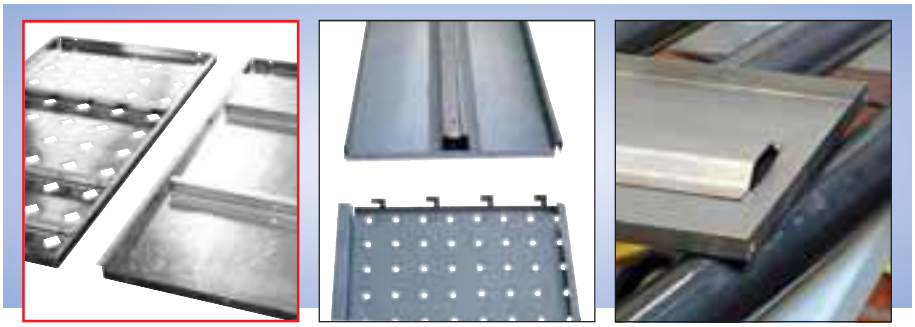


ADVANTAGES OF THE SOLUTION

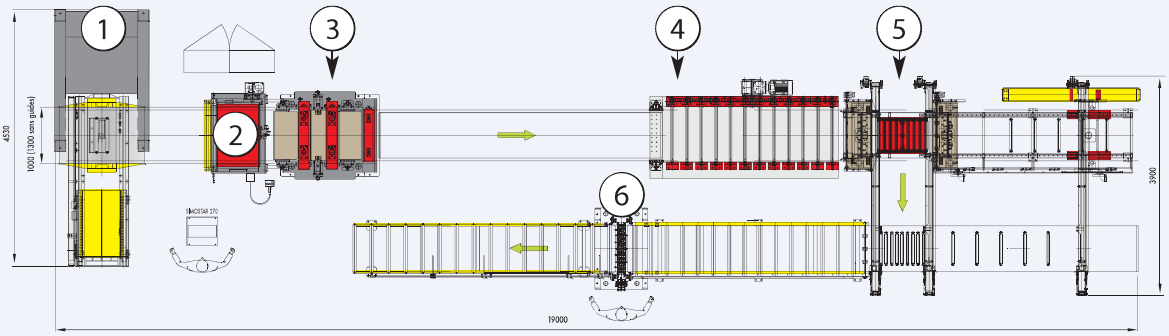
- Production of 15 panels per minute, 4 pieces per minute for parts fitted with clinched bracket.
- Panels with different lengths can be produced in a row without scrap.
- A Hydraulic station performing the "Multistep" technology punches and crops part ends.
- The cost effective 12 pass rollforming machine runs in continuous mode.
- Part ends 90° bending is performed on a 2-head flap bending machine with programmable spacing
- Operator loads brackets in a 60-ton hydraulic clinching station.











1 - Decoiler and coil loading device
2 - Straightener
3 - Hydraulic punching unit
4 - 12-pass variable speed rollforming machine
5 - ENDBEND 2-head part ends bender
6 - 60 ton Clinching hydraulic press

ELECTRICAL CABINET COMPONENTS

flexipunch® 3 axis punching

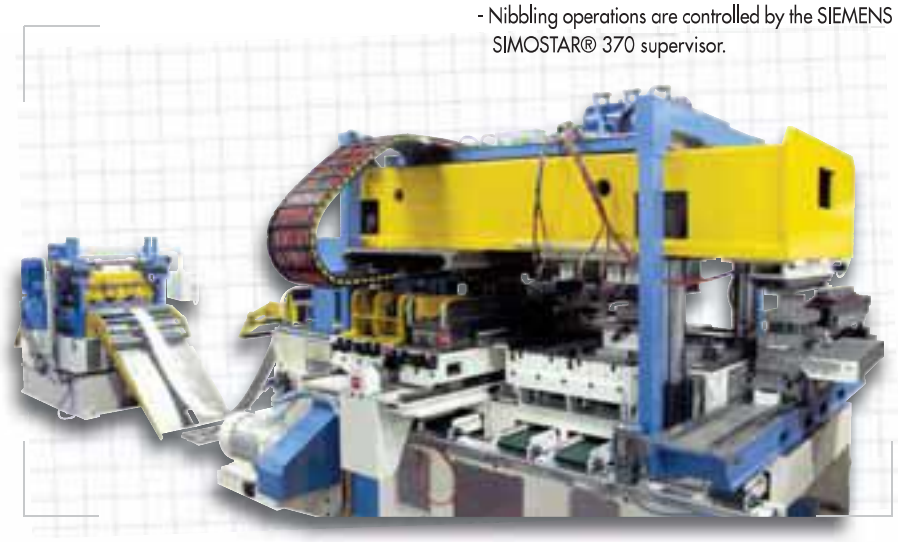
- As flexible as a CNC turret punch.

- Up to 25 % savings on material costs.

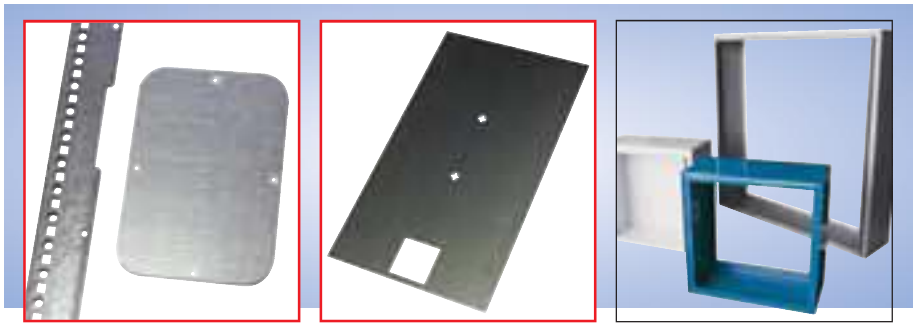
ADVANTAGES OF THE SOLUTION

- Manufacturing of a large number of different parts, from 50 mm to 1000 mm wide, from 0,5 mm to 2,5 mm thick.
- Each of the 2 servodrive cross moving trolleys houses 13 "thick turret" standard cartridge tools (up to ø 114 mm).
- The 2 axis programmable stacker manages 12 different blank sizes.
- The line can run as a cut-to-length line at a rate up to 80 pieces/mn.
- Nibbling operations are controlled by the SIEMENS SIMOSTAR® 370 supervisor.

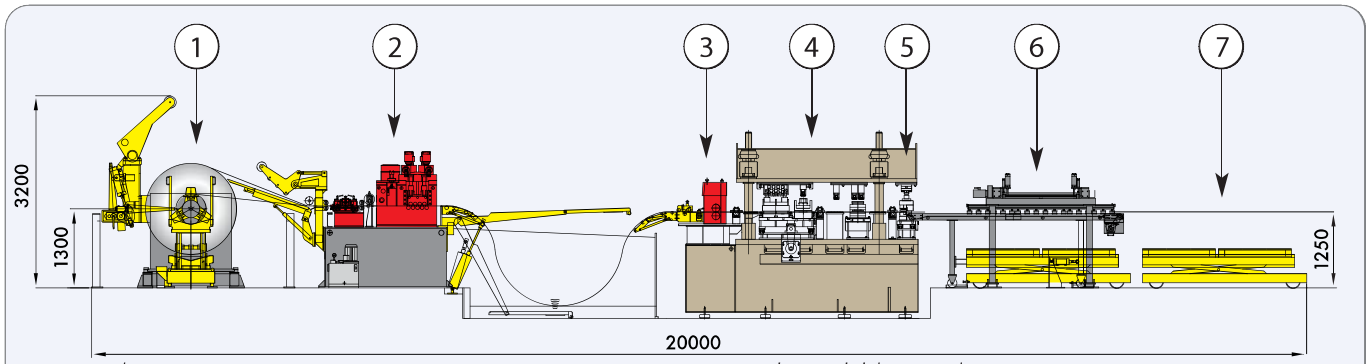












1 - *Decoiler*
2 - *Straightener*
3 - *MICROFEED® electronic roll feeder.*
4 - *3 axis FLEXIPUNCH®*
5 - *Column guided shearing tool*
6 - *Programmable stacker*
7 - *movable lifting table.*

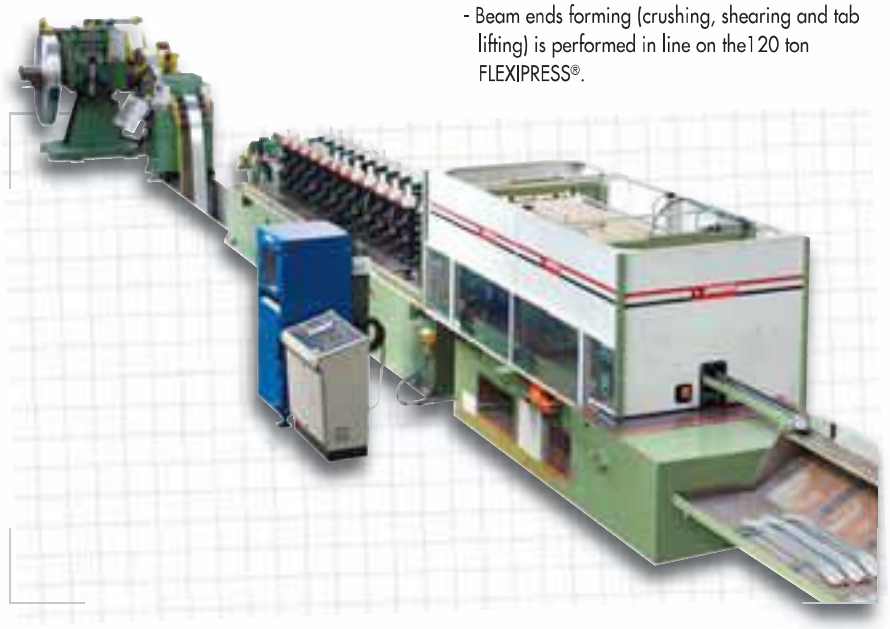
STORAGE RACKS

flexipress® punching + rollforming

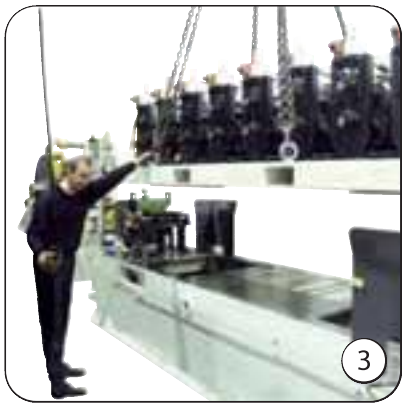
- **Manufacturing of uprights, beams and brackets on a single line.**
- **Parts length up to 5 mm, thickness up to 3 mm.**

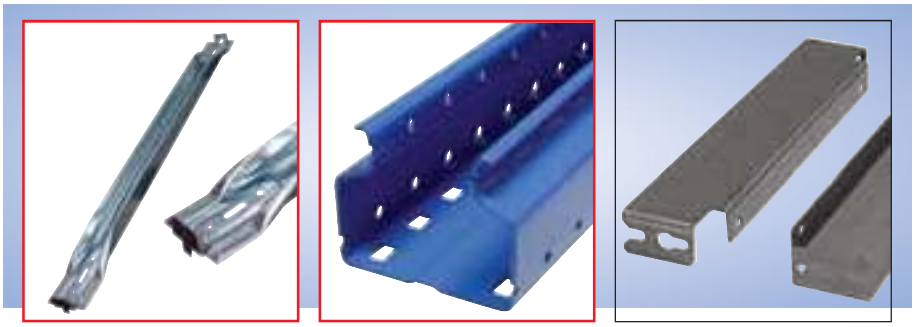
ADVANTAGES OF THE SOLUTION

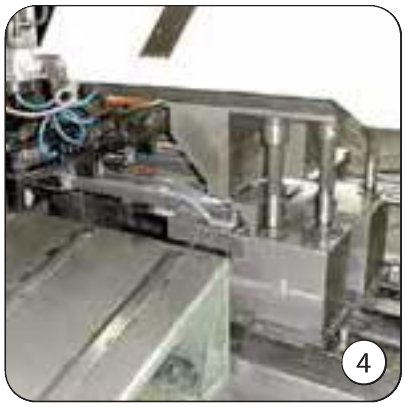
- Double decoiler for quick coil changeovers.
- The 12 pass rollforming machine is fitted with rafts which are changed according to the part type to manufacture.
- The 400 x 3000 mm FLEXIPRESS® table houses the 10 cutting or forming tools needed to manufacture the various parts.
- Beam ends forming (crushing, shearing and tab lifting) is performed in line on the120 ton FLEXIPRESS®.

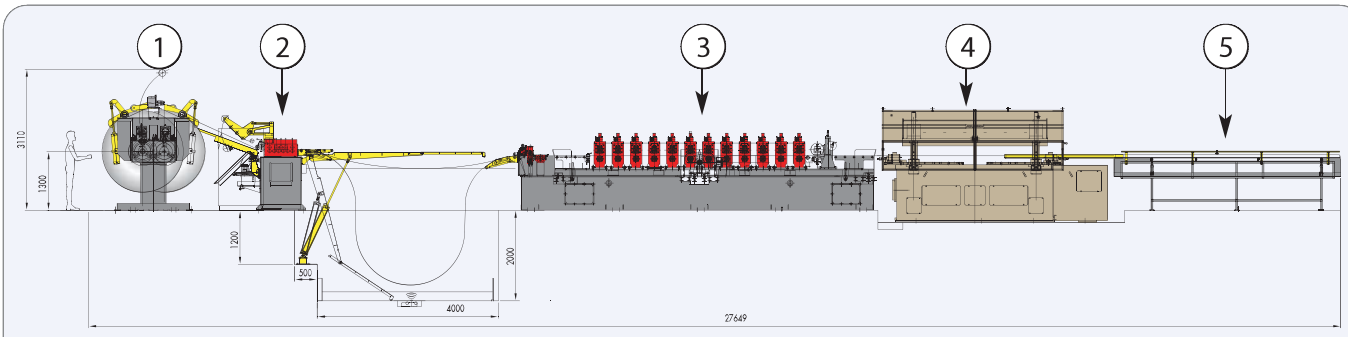












1 - 5-ton double decoiler with braking system
2 - Straightener
3 - 12 pass Servodrive "start-stop" rollforming machine
4 - 120 ton FLEXIPRESS®
5 - Parts unloading system

CABLE TRAYS

machanical press + double rollforming machine

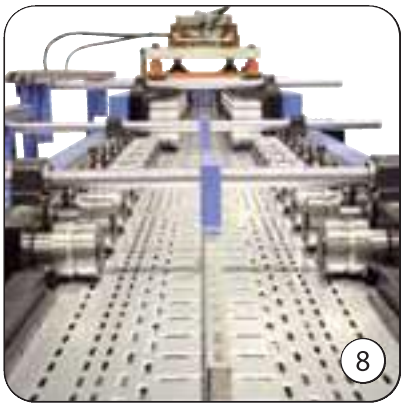
- **120 ton mechanical press, 160 Spm.**
- **Double stage roll forming machine.**

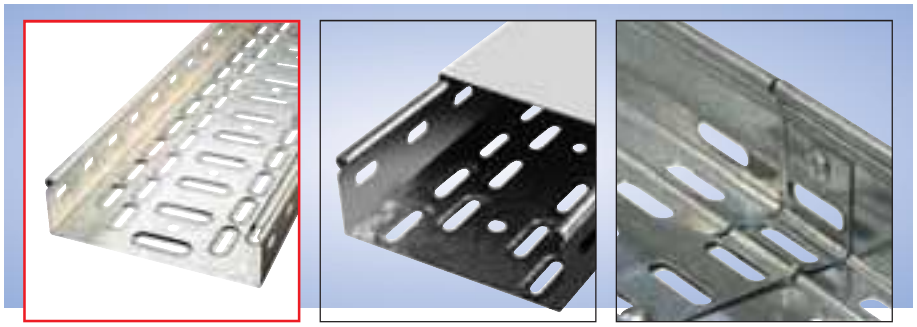


ADVANTAGES OF THE SOLUTION

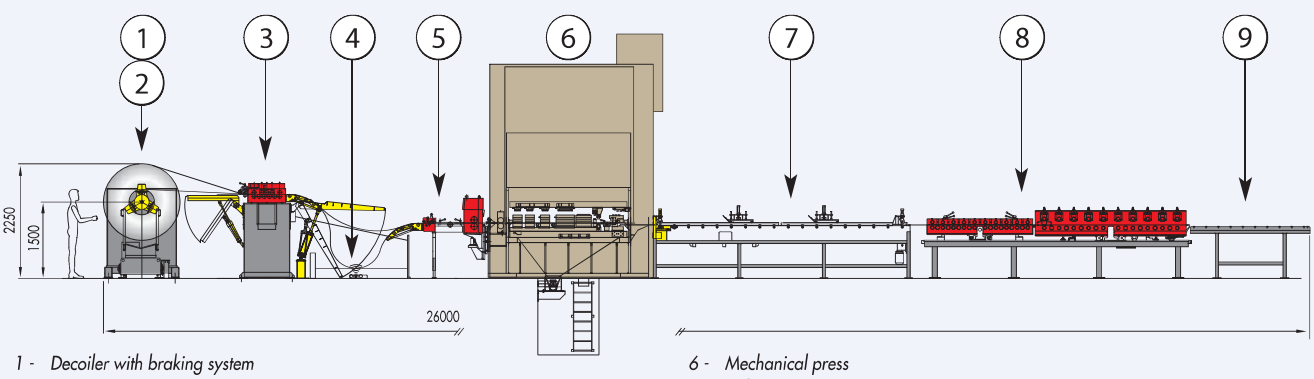
- The first stage of the rollforming machine (10 passes) forms the sides. The second stage bends the U shape. The 2 rollforming machine stages are independently programmable according to cable tray dimensions required.
- Punching, slots embossing and shearing tools are fitted on the press table.
- When the setter selects the new part to produce, the line is automatically configured according to new dimensions.











1 - *Decoiler with braking system*
2 - *Coil loading and unloading device*
3 - *Variable speed straightener*
4 - *Loop control*
5 - *MICROFEED® electronic roll feeder.*
6 - *Mechanical press*
7 - *Reference table.*
8 - *Double stage DUPLEX rollforming machine*
9 - *Parts unloading roller table*

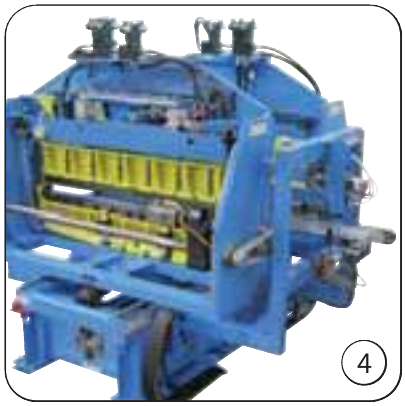
FREEZER DOORS

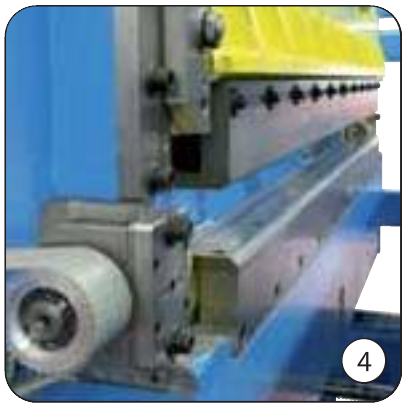
2 head dimeform® NC bending

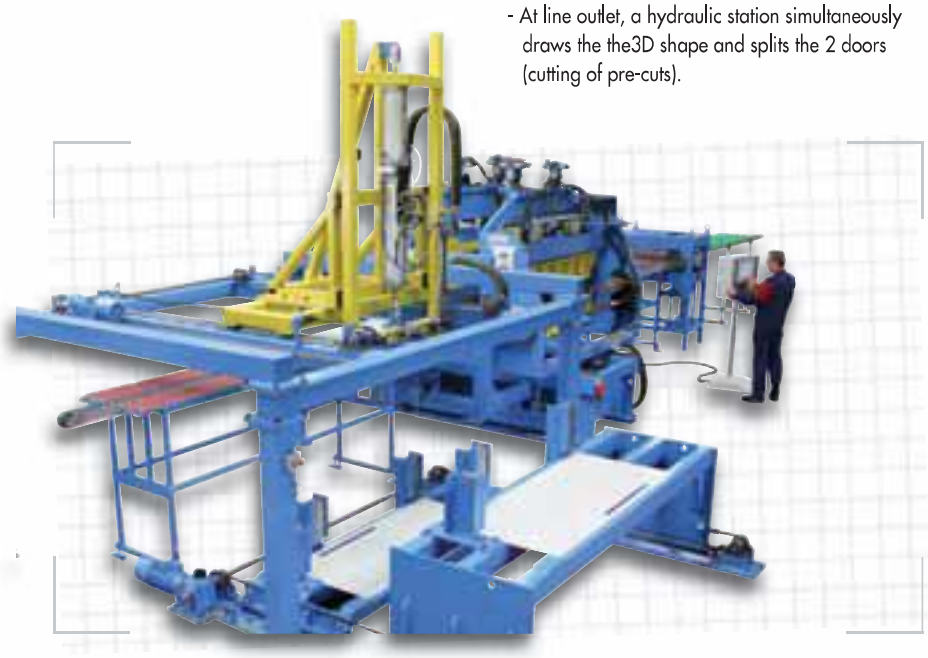
- **Feeding of 2000 x 800 mm punched blanks.**
- **Output : 60 pairs of doors per hour.**

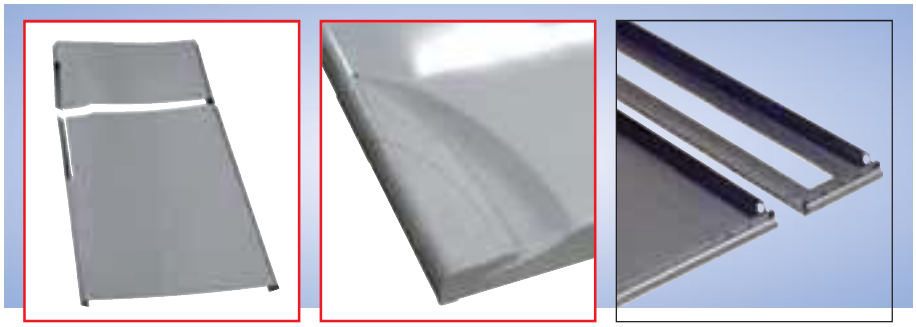
ADVANTAGES OF THE SOLUTION

- The part remains standstill during bending.
- Heads spacing and flaps angles are programmable.
- DIMEFORM® double action heads perform positive and negative bends.
- CNC programming allows sequential bending of complex shapes.
- At line outlet, a hydraulic station simultaneously draws the the3D shape and splits the 2 doors (cutting of pre-cuts).

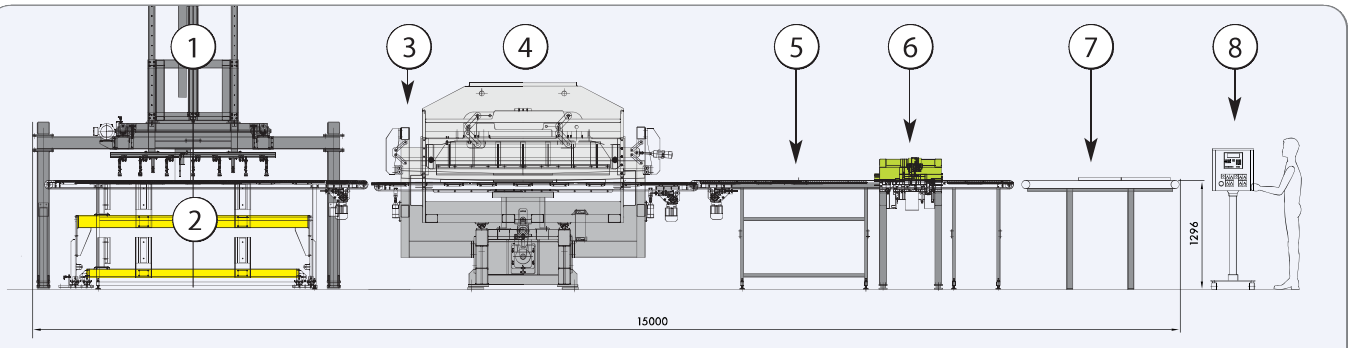












1 - *Destacker*
2 - *Double loading car*
3 - *Magnetic conveyor*
4 - *Double head DIMEFORM® flap bender*
5 - *Conveyor*
6 - *Hydraulic drawing and cutting unit*
7 - *Unloading table*
8 - *SIMOSTAR® 370 Terminal*

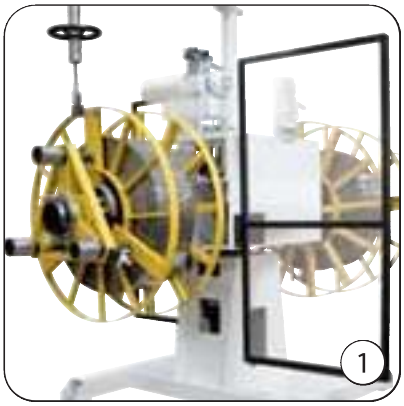
DOOR AND WINDOW HARDWARE

flexipunch® for spooled strips

- **Narrow parts from 7 to 13 mm wide, up to 3000 mm long.**
- **2 axis programmable straightener.**
- **Built-in strip cleaner and lubricator.**

ADVANTAGES OF THE SOLUTION

- Production of more than 2000 references divided in 2 families.
- The 100 ton FLEXIPRESS® shows a 2000 mm long table which is fitted with up to 10 column guided tools.
- Line versatility is improved thank to a NC punching traverse carriage which can hold 20 "thick turret" standard punching cartridges.
- At part changeover, the numerical control automatically configures all line adjustment parameters.
- Within one part family, part changeover varies from 0 to 5 mn maximum.

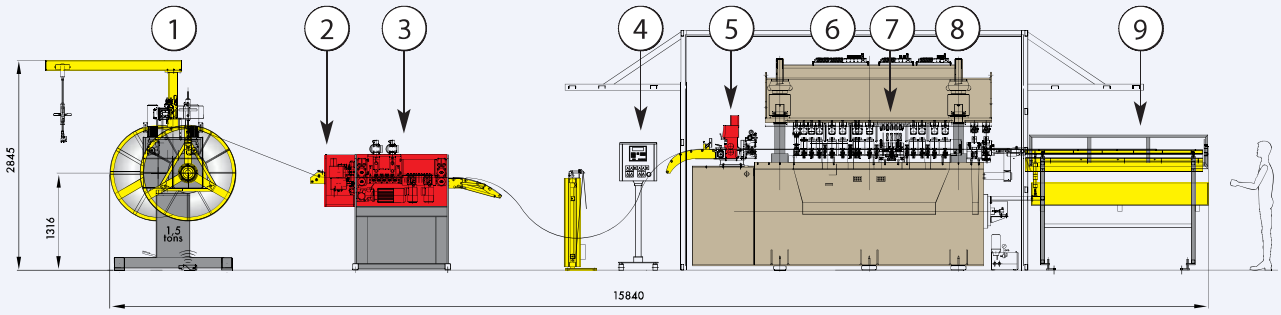












1 - Spooled material double decoiler
2 - Brushing device
3 - Straightener + transverse straightener
4 - SIMOSTAR® Terminal
5 - MICROFEED® electronic roll feeder.
6 - 100 ton FLEXIPUNCH®
7 - 20 tools traverse carriage.
8 - Punched part straightener
9 - Part unloading system

RADIATOR TOP GRILLES AND SIDE PANELS

flexipress® - rollforming - forming

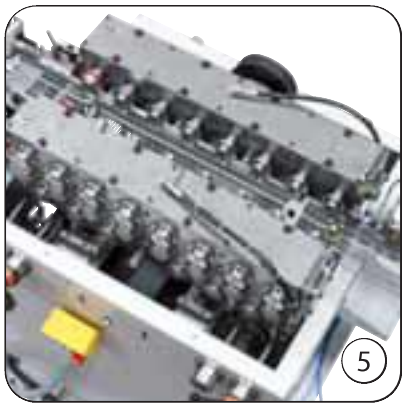
- **More than 100 different parts, from 200 to 3000 mm long, from 70 to 160 mm wide.**
- **Aesthetic parts requiring accurate geometry and perfect finish.**

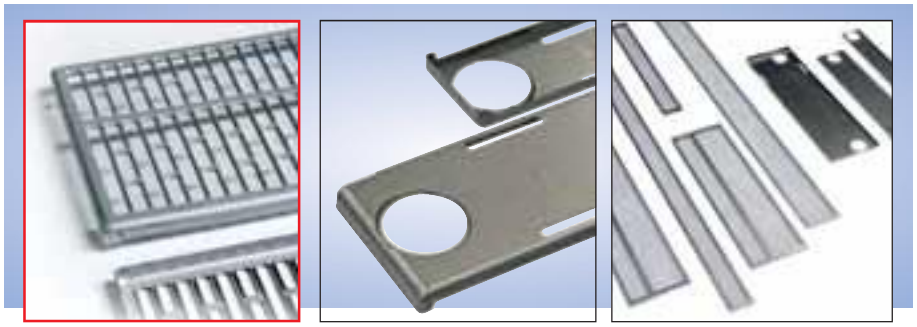
ADVANTAGES OF THE SOLUTION

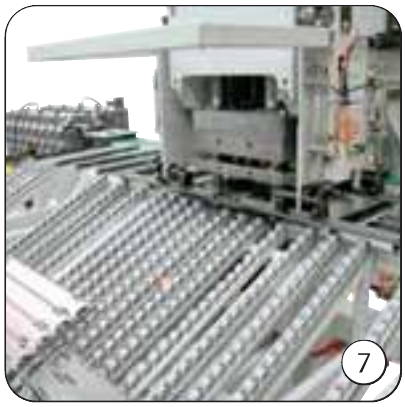
- Output of 1000 parts an hour.
- The 100 ton FLEXIPRESS® is fitted with up to 5 punching, embossing or calibrating selectable tools.
- 8 pass "duplex" servo rollforming machine bends longitudinal edges.
- The hydraulic station bends the ends and crops the parts.
- An additional hydraulic press forms and shaves the corners.

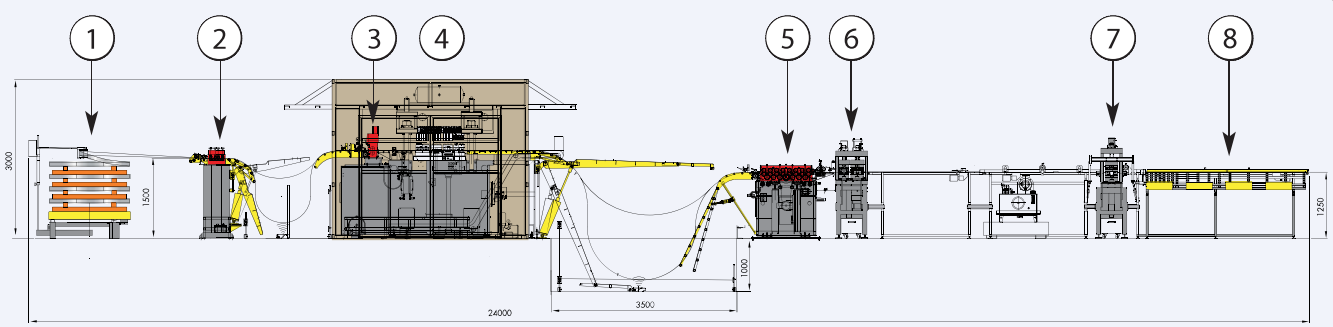












1 - 3,5 ton horizontal decoiler
2 - Straightener
3 - MICROFEED® electronic roll feeder.
4 - 100 ton FLEXIPRESS®
5 - 8 pass DUPLEX "start-stop" servodrive rollforming machine
6 - 2 stages "Multistep" hydraulic station (bending , shearing)
7 - Shaving hydraulic unit
8 - Part unloading device.

METAL FURNITURE

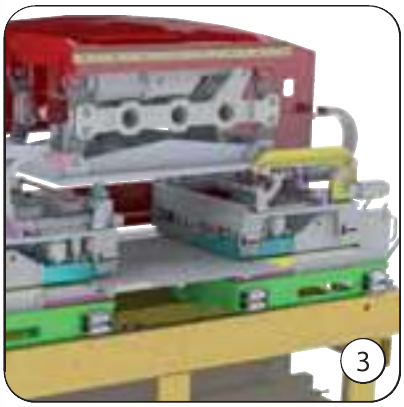
linapunch® MC-E + lengthwise shearing

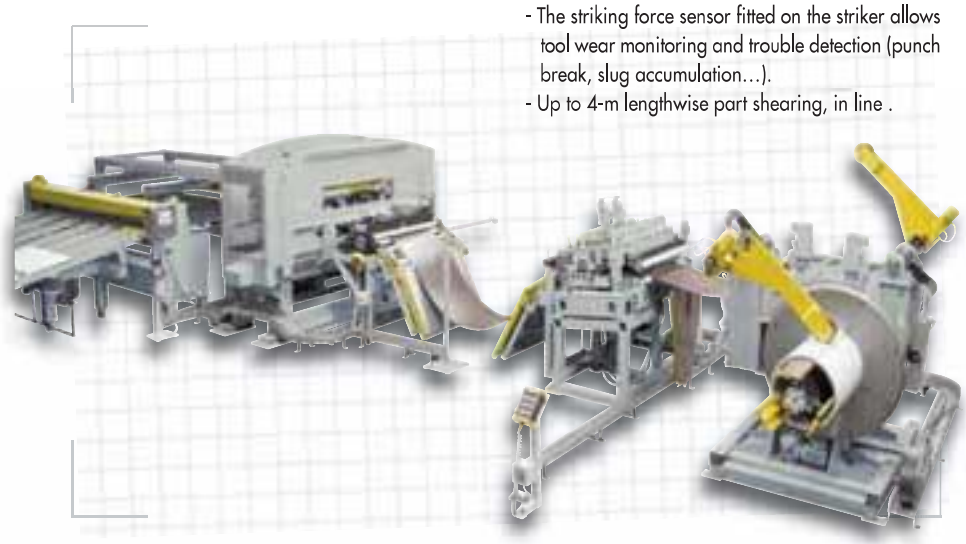
- **20 ton, fully electric punching machine.**
- **For coils up to 1500 mm wide.**
- **52 cartridge tools available in 4 exchangeable cassettes.**

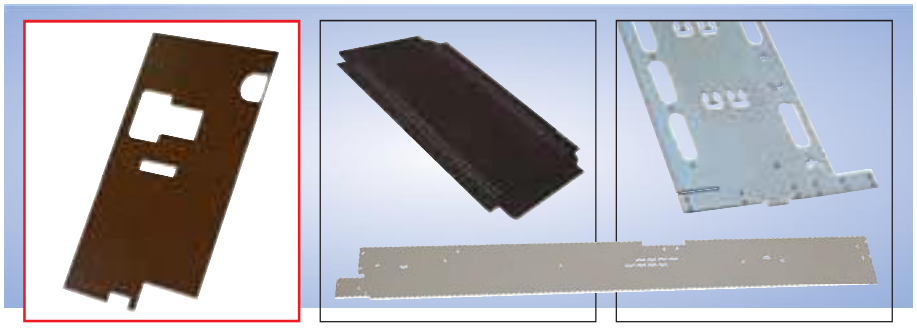
ADVANTAGES OF THE SOLUTION

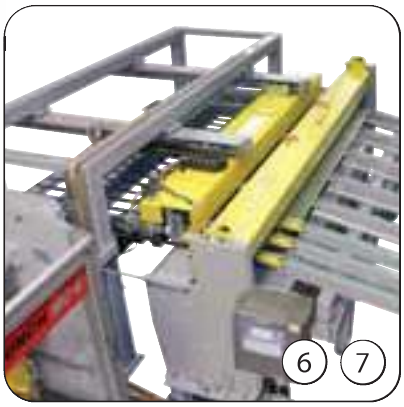
- Each cassette is fitted in standard package with 6 "A" size tools, 3 "B" size, 2"C" size, 1"D" size and 1"E".
- Each cassette can also house an AUTO-INDEX or MULTI-TOOL programmable tooling.
- Numerically controlled Ram motion allows an accurate programming of bottom dead and top dead centers. Striking speed can now reach 200 Hpm (full stroke) or 400 Hpm when nibbling.
- RADAN or ALMA CAM processors available.
- The striking force sensor fitted on the striker allows tool wear monitoring and trouble detection (punch break, slug accumulation…).
- Up to 4-m lengthwise part shearing, in line .

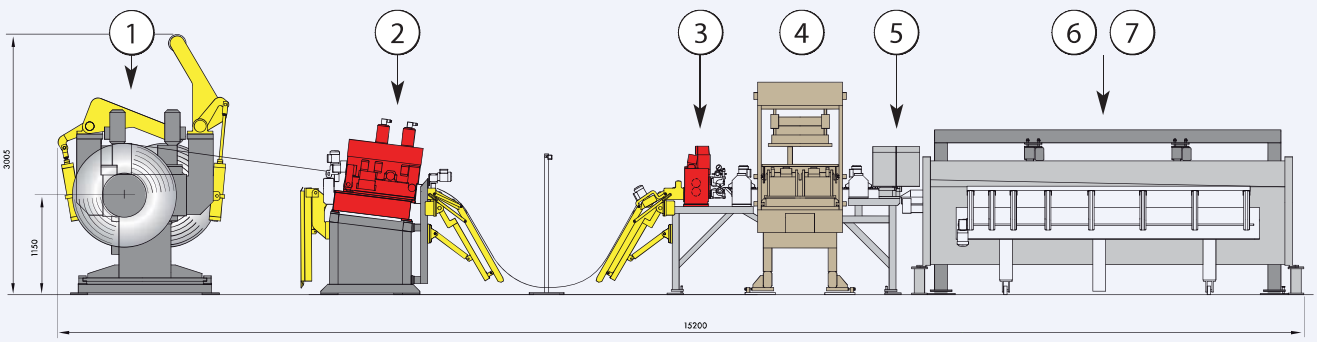












1 - *Double decoiler*
2 - *11 roll straightener*
3 - *MICROFEED® electronic roll feeder.*
4 - *LINAPUNCH® MC-E*
5 - *Pneumatic shear*
6 - *NC grip feeder*
7 - *Lengthwise shear*

SHELVES AND UPRIGHTS

punching + rollforming compact line

- Output up to 30 pieces/mn.

- Overall line length : 14 m.

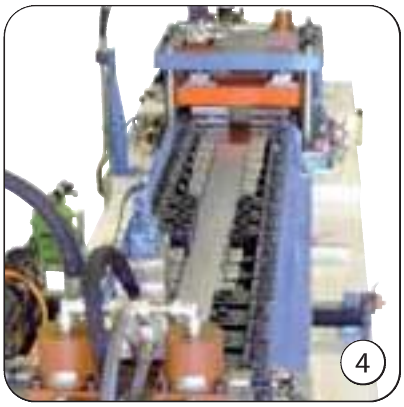
ADVANTAGES OF THE SOLUTION

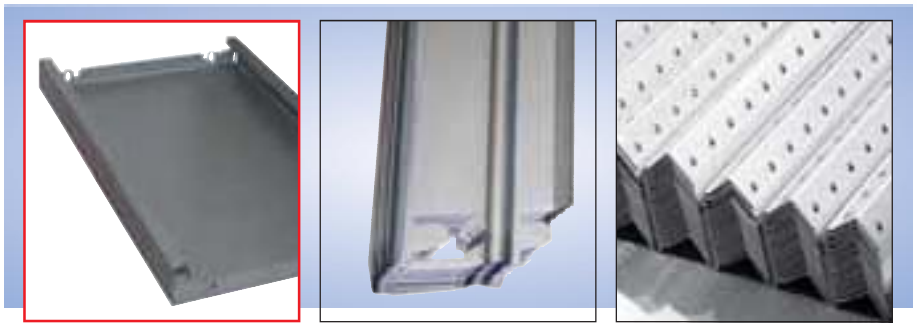
- Very cost effective line which combines hydraulic punching, rollforming , simple bending and shearing.
- All features are gathered on one single base.
- Part length changeover is performed without stop nor scrap thanks to the SIMOSTAR® 370 control.
- When changing part width, various stations adjustments are easily performed by means of wheels and counters.
- Parts ends bending is combined with part shearing.
- User friendly HMI through graphic touch screen panel.

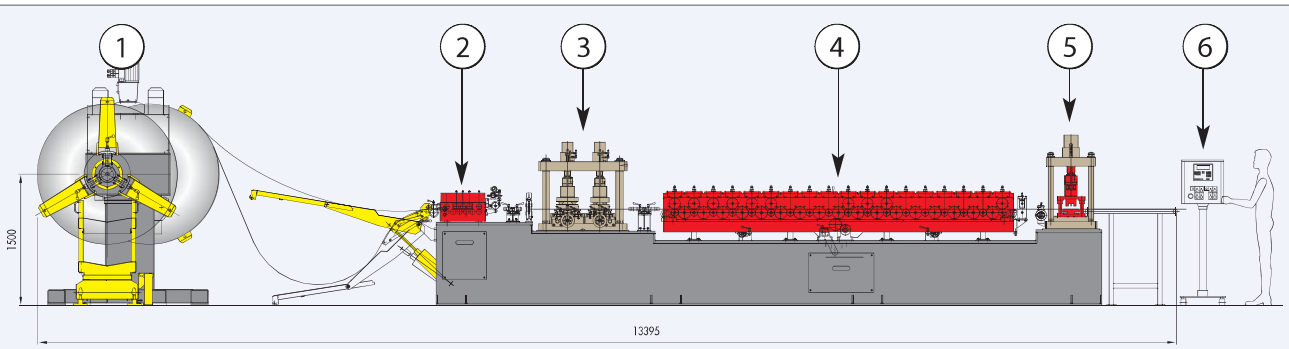












1 - Double decoiler
2 - Straightener
3 - 30 ton hydraulic punching units
4 - 15 pass rafted DUPLEX "start-stop" servodrive rollforming machine
5 - 40 ton hydraulic Unit
6 - SIMOSTAR® 370 Terminal

"C, Z, OMEGA" PURLINS, STRUCTURAL BEAMS ...

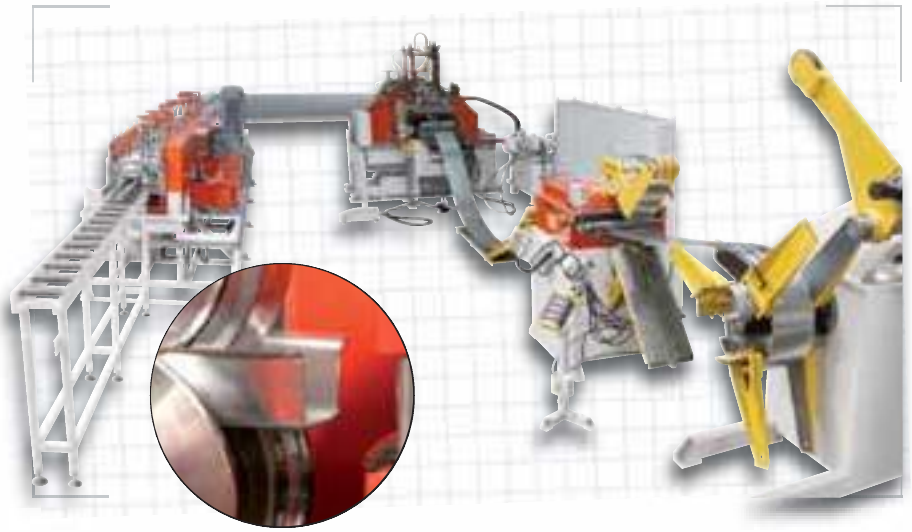
linapunch® "HD" + rollforming

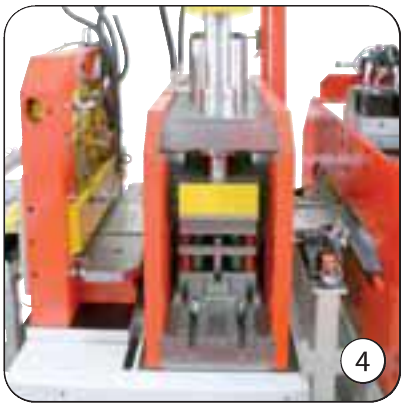
- **Straight side LINAPUNCH® featuring 10 ton punching and 20 ton notching capacities.**
- **Continuous rollforming.**
- **Max beam length 4,6 m in 4,8 mm thick material.**

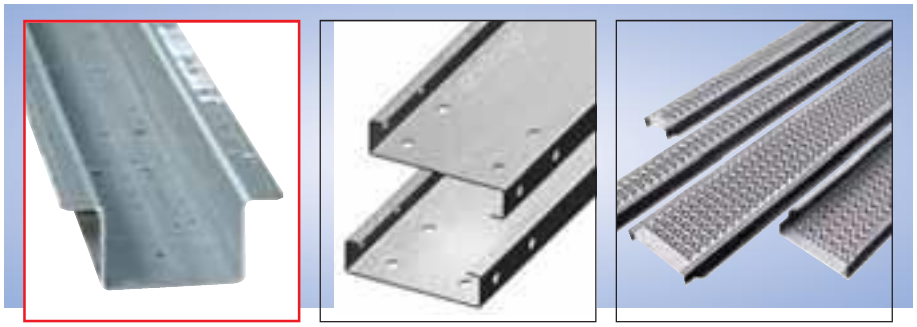
ADVANTAGES OF THE SOLUTION

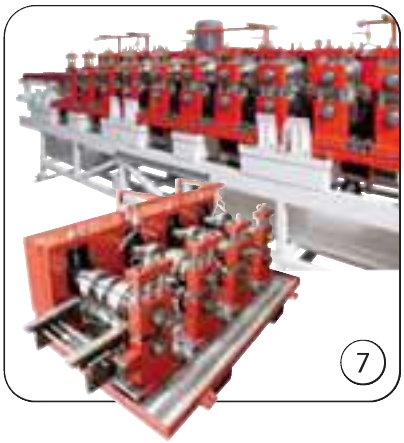
- Thanks to the "U" shape layout, one single machine attendant can operate the line.
- 13 tools available : size B (32 mm), size C (51 mm) and size D (89 mm) fitted in 2 cassettes.
- Output : 36 pces/h for beams showing up to 100 holes.
- Instant part length and punching pattern change.
- The profile type change is performed in less than 10 mn exchanging part or all of the 4 cassettes.



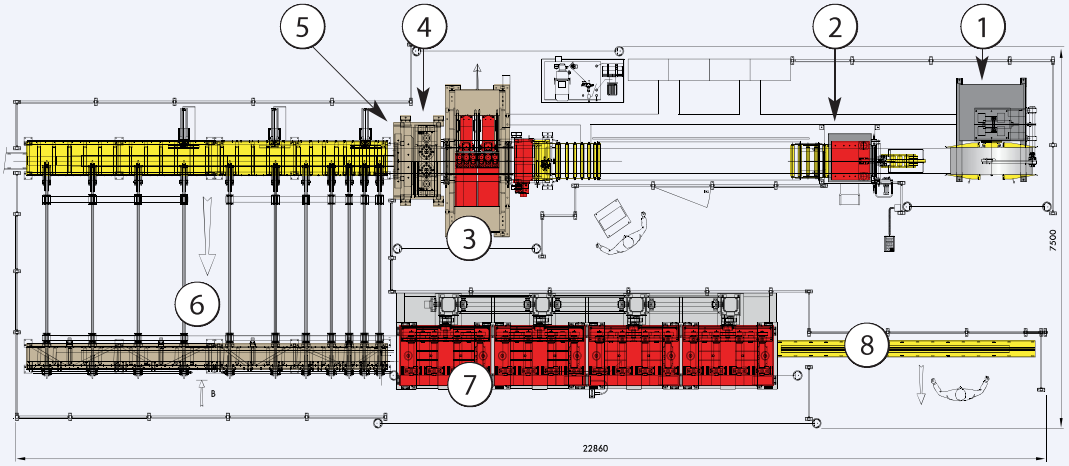








1 - *5 ton Decoiler with braking system*
2 - *Straightener*
3 - *LINAPUNCH® HD*
4 - *60 ton straight side hydraulic station*
5 - *Hydraulic shear*
6 - *Part conveyor*
7 - *4 raft 16 pass rollforming machine*
8 - *Parts unloading*



ELECTRIC ENCLOSURES

linapunch® + rollforming + bending

- **Production of more than 600 different types.**
- **Max width : 1250 mm.**
- **Line output hourly rate : 20 complete enclosures.**

ADVANTAGES OF THE SOLUTION

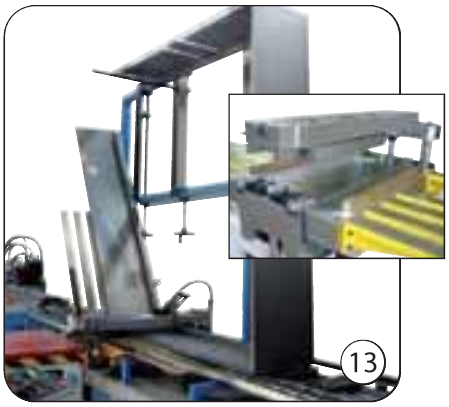
- The line manufactures all components required in an electric enclosure range.
- Punching of blanks on a 2 head LINAPUNCH® fitted with 4 cassettes, 24 "thick turret" standard tools.
- DUPLEX START-STOP servodrive rollforming machine showing one 18 pass first stage unit forming the 2 edges and a second 9 pass unit shaping one edge.
  Both stages get programmable width.
- Hydraulic cropping shear with programmable width and longitudinal position.
- Automatic wrapper case forming unit (4,5m max flat length) with flap benders. Integrated manual electric welding working place.

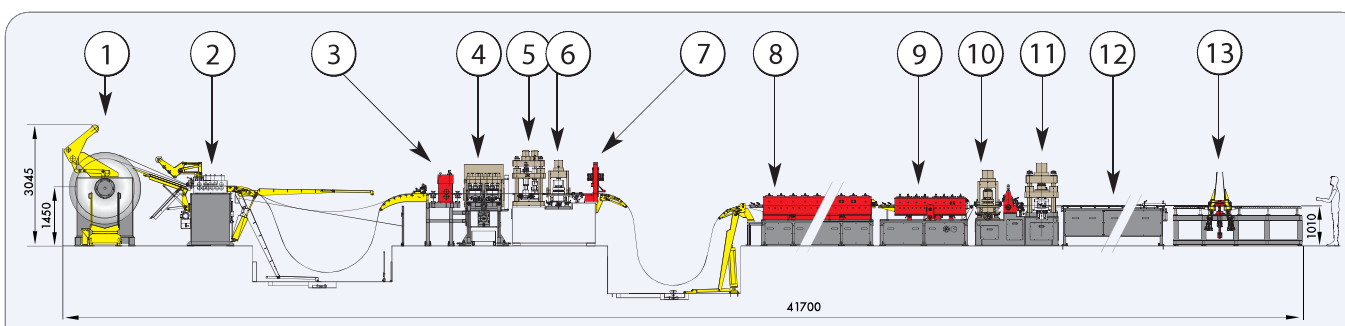












1 - 7 ton decoiler
2 - 11 roll straightener
3 - MICROFEED® electronic roll feeder.
4 - 2 head LINAPUNCH®
5 - Hydraulic punching station
6 - Hydraulic punching station
7 - Shear
8 - 2 sides rollforming machine
9 - 1 side rollforming machine
10 - Hydraulic punching station
11 - Hydraulic punching station
12 - Conveyor
13 - Wrapper case bending unit

DIMECO YOUR ONE STOP SHOP



Flexible manufacturing systems



Press shop automation



Coil and tool handling



Hydraulic systems and presses

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