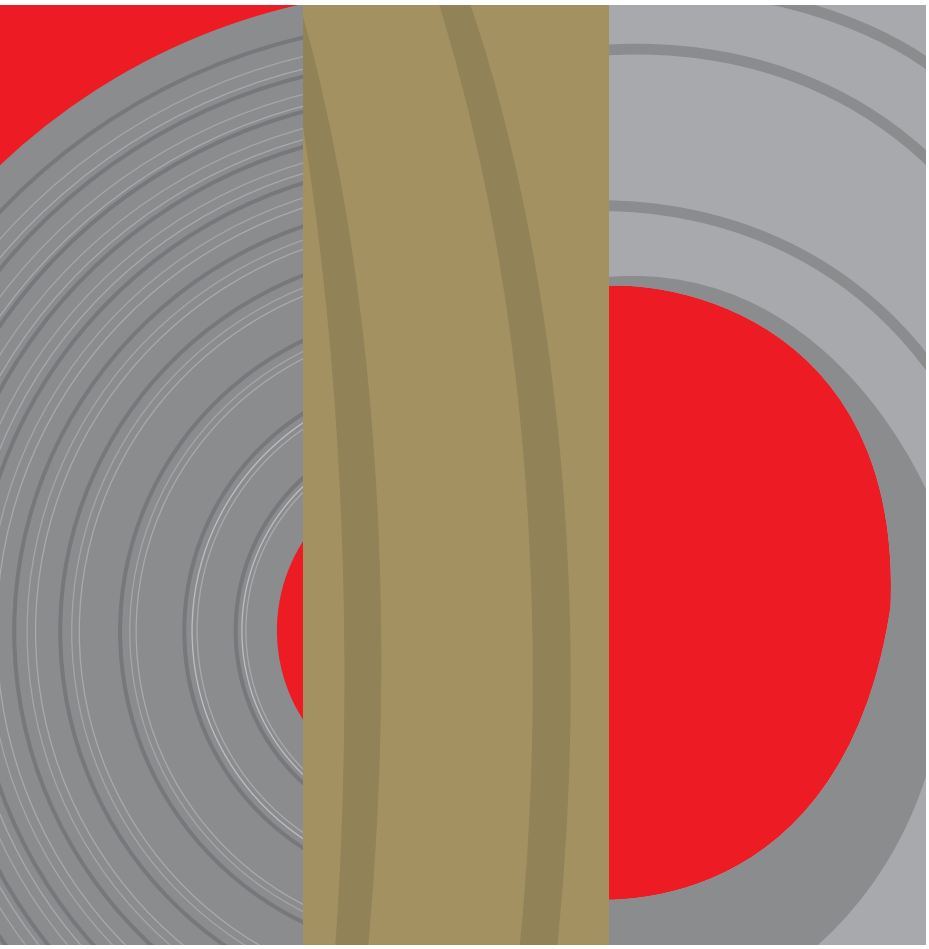
# PRESSFEED

## COIL FEEDING LINES



DIMECO ALIPRESSE

*FLEXIBLE METAL FORMING PRODUCTION PROCESSES*

www.dimeco-alipresse.com

# A STANDARDISED RANGE FOR

**Founded in 1967, DIMECO ALIPRESSE is today the European leader in coil feeding lines.**

*Pirey factory, France*

**A full range for coils weighing from 50 kg to 25 tonnes, from 10 to 2000 mm wide, from 0.05 to 12 mm thick.**

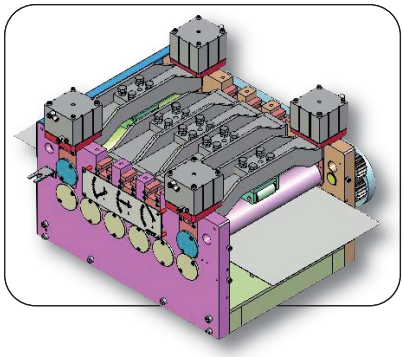
DIMECO

### THE WIDEST STANDARD RANGE ON THE MARKET

With over 50 machines and 200 options and accessories allowing more than 5000 different confi gurations to be built, you are certain to fi nd at DIMECO Alipresse the equipment which perfectly suits your application.

### PRODUCT DESIGN

The robustness of our designs gives our equipment the reliability and durability which have built the reputation of DIMECO Alipresse. The mechanical parts are generously dimensioned and are often obtained from precision machined castings. We develop our pneumatic, hydraulic and electronic components with the world's largest parts manufacturers.



### 40 YEARS OF INNOVATION

The 20 engineers and technicians in the DIMECO Alipresse design offi ces use the latest development methods. 3D design and fi nite element modelling allow us to constantly develop our decoiling lines in order to make them more flexible, more productive and more convenient.

### FOR DECOILING ALL MATERIALS

DIMECO constantly develop and adapt their machines and accessories to the new materials put on the market by the steelmakers : HSLA steels, coated, pre-lacquered sheets, polished aluminium, etc...

### SAFETY: OUR PERMANENT CONCERN

Numerous accessories and options have been developed to improve the safety of the operators. All our lines are certified according to CE safety standards.

### PRESTIGIOUS REFERENCES

DIMECO is a privileged partner of the metal cutting industry and of the service centres. We supply most of the leading component manufacturers in the automobile, electrical equipment and building markets.

### ASSEMBLE ON ORDER

DIMECO Alipresse sell more than 200 press feed lines every year. The sub-assemblies are produced in series. The machines are then assembled and precisely confi gured according to your order.

### A WORLDWIDE PRESENCE

DIMECO Alipresse make 65% of their sales for export and accompany their customers in over 45 countries, supported by subsidiaries and a network of experienced and reliable dealers. Apart from advising you on the choice of your DIMECO line, our dealers are also capable of providing training for your employees in their own language, start-up and fi rst level maintenance operations for your installations.

### AN APPROPRIATE QUALITY SYSTEM

Based on ISO 9000 standards, DIMECO have introduced a specifi c quality assurance system throughout the process of dealing with your order.

### AN EFFICIENT AFTER-SALES SERVICE

We provide you with technical assistance by telephone with 4 technicians at your disposal.
Our machines can be equipped with a modem allowing remote diagnosis and maintenance operations by the DIMECO engineers.
Most spare parts for our standard machines are available in stock and can be despatched to you on the day they are ordered.
Our engineers can also visit your plant anywhere in the world to carry out trouble shooting or preventive maintenance operations.
We can upgrade your older equipment with our "RETROFIT" packages.

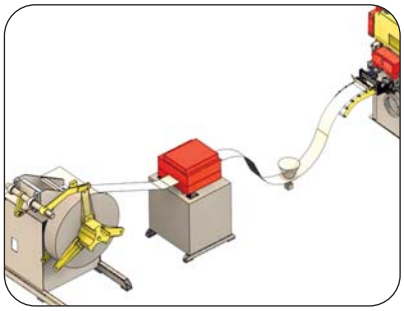
# ALL LINE CONFIGURATIONS

## THE MOST SUITABLE ARCHITECTURE FOR YOUR CONSTRAINTS

Every cutting line project has its own constraints: characteristics of the materials being decoiled, type of press and cutting tools, area available, desired level of automation, frequency of production changeovers, operator skills, budget... The range of DIMECO machines allows your particular needs to be handled by choosing the most suitable line architecture. To help you to choose, DIMECO will send you, at the offer stage, a layout of the chosen line on the paper or CAD format that you require.

## CONVENTIONAL LINE OR LONG LINE

This is the multi-purpose line par excellence. It consists of 3 different machines : a decoiler, a straightener and a feeder.

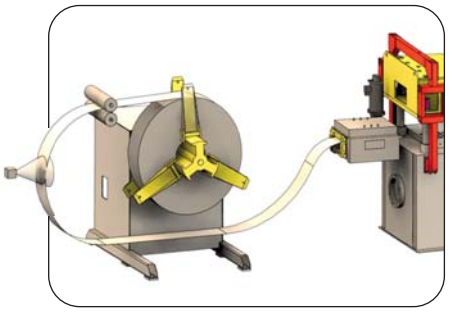


*Long line*

It allows the decoiling of most coils, with the highest rates and the longest feed lengths. To improve safety and reduce the production changeover times, it is often complemented by strip introduction assistance accessories. By adding a second loop between the decoiler and the straightener, the long line can be adapted for decoiling the most delicate materials.

## SHORT "3 IN 1" LOOPLESS LINE

Consisting of a decoiler and a MICROPRO® straightener-feeder, possibly mounted on a common base, it is reserved for medium feed rates and lengths. It is often the most economical solution for the manufacturer.
It leads to a saving in occupied area of 40 to 50%. The loop pit is not necessary. It is not suitable for delicate materials. The coil weight is generally limited to 6500 kg.



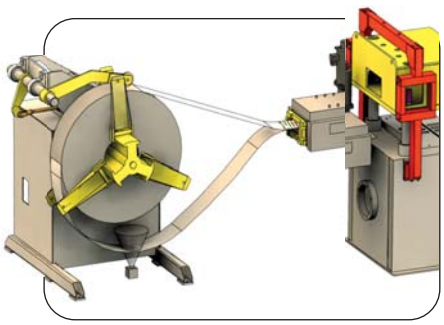
*Rear loop*

## REAR LOOP "SHORT LINE"

This high performance confi guration is the most suitable one for heavy section or high yield strength materials for which high press rates and feed lengths are nevertheless required (automobile industry for example).
It leads to a saving in occupied area of 40%, without loop pit. The safety of the operators is guaranteed by the fully automated strip introduction and loop forming.

## CUT-TO-LENGTH LINES

The DIMECO cut-to-length lines are mainly intended for service centres of medium size and for manufacturers wishing to have their blank cutting activity internally in order to improve their competitiveness and adaptability.
They offer an exceptional price for value. Depending on the required rates and the materials being cut, one of the decoiling line architectures described above will be chosen. The integrated shear can be pneumatic, mechanical or hydraulic.
The stacking can be single pile or multi-pile and performed by a fl ap type, a programmable Cartesian or a robotic stacker.
A fi lm application or removal device can be included in the line.



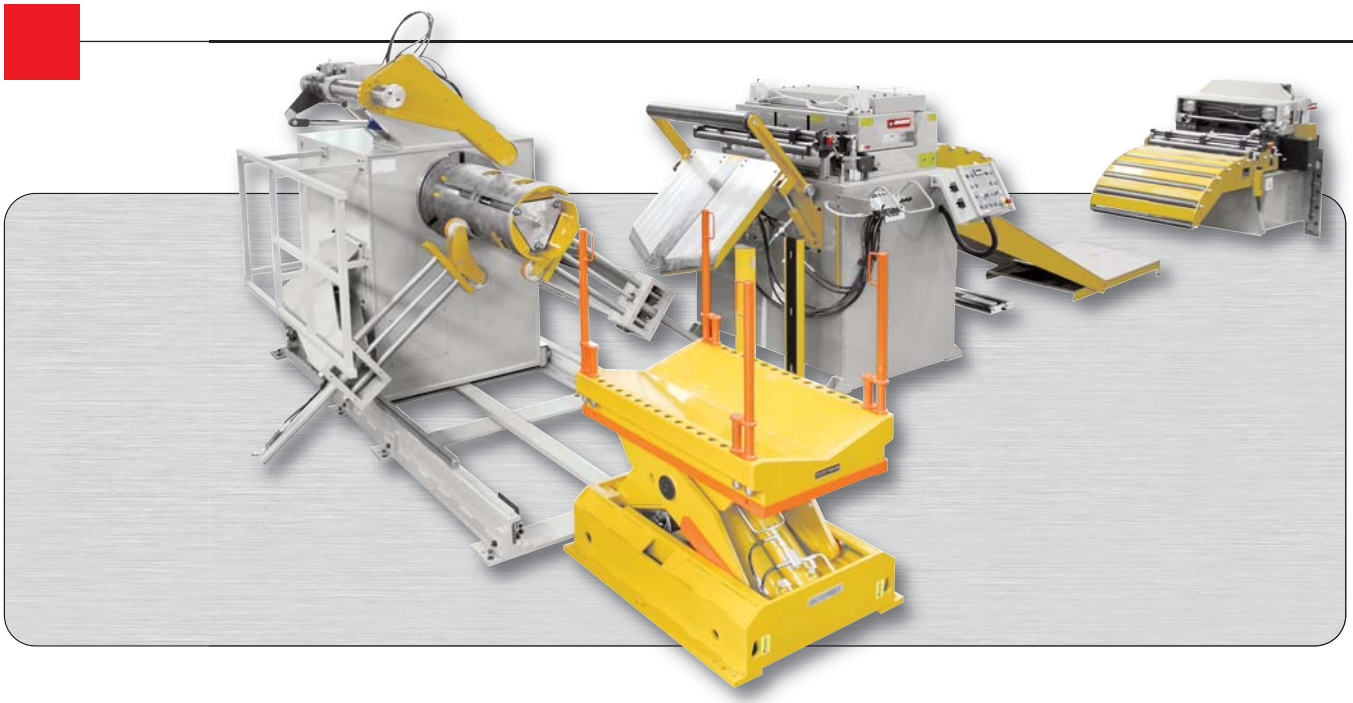
*"3 in 1" line*

**The choice of architecture of the decoiling line will determine the flexibility and productivity of the cutting line.**

*Cut-to-length line*

**Depending on your application, your DIMECO adviser will offer you the best line configuration: architecture, devices and options.**

# THE DECOILERS



**Long considered as a rudimentary machine, the decoiler has nowadays become a key productivity element of the automated cutting line.**

DIMECO offer a full range of decoilers for coils of 50 kg to 25 tonnes. The range of widths is from 10 mm to 2000 mm.
The permissible coil diameter can be up to 2100 mm on the largest models.

### LONG LIFE

The durability of the DIMECO mandrels is widely recognised. They consist of parts machined from castings. The guidance is provided by bearings designed to last for more than 15 years. For loads of under 3 tonnes we use sealed ball bearings. Above this fi gure, roller bearings are preferred.
The DIMECO 3-jaw design allows coil loading with sling or hook. It facilitates the strap removal and strapping operations. Each of the jaws is equipped with a ruler allowing easy centring of the coil on the mandrel. The expansion can be manual or hydraulic.

### LINK TYPE EXPANSION

For decoilers of up to 6.5 tonnes, low backlash link type expansion kinematics have been chosen. The absence of backlash allows very precise coil alignment under all circumstances.

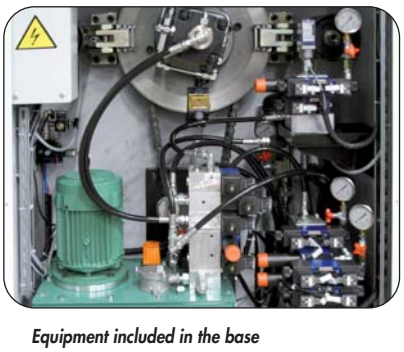
### RAMP TYPE EXPANSION

For heavy decoilers, the traditional kinematics are replaced by a generously dimensioned ramp mechanism. The jaws are then machined in comb form in order to prevent end-ofcoil decoiling incidents.

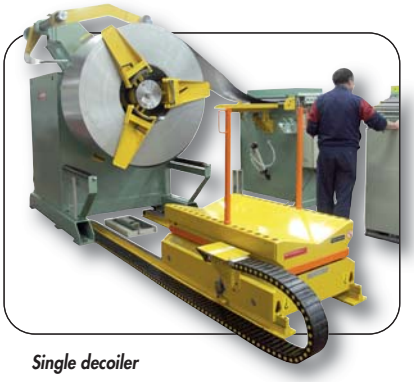
### CAREFUL FINISH

Maintenance is reduced to a minimum. The fragile components (electrical, pneumatic and hydraulic) are located inside the base for better protection. The movements are operated by a robust and ergonomic remote control.

*Ramp type mandrel*



*Equipment included in the base*



*Single decoiler*

*Horizontal decoiler*

**On demand, our design office can design the special decoiler specifically to your own specifications.**

Our decoilers allow the coil to be decoiled from underneath, from above, from the rear and even with no loop.

### SINGLE DECOILERS FOR ONE COIL

8 machines cover a range of coils from 50 kg to 25 tonnes.
Depending on the material being decoiled and the layout of the line, the decoiler can be equipped with a pneumatic safety brake or a mandrel rotation drive.
The drive is then powered by a hydraulic motor or an asynchronous motor piloted by a frequency inverter. It considerably assists the introduction and recoiling of the strip.

### DECOILERS FOR SEVERAL COILS

This version is essential for fast production changeovers. It allows the coil to be changed in complete safety while the line is still running.
Our range of 6 double decoilers covers a range of coils from 50 kg to 6500 kg.
The turret rotation can be manual or hydraulic.

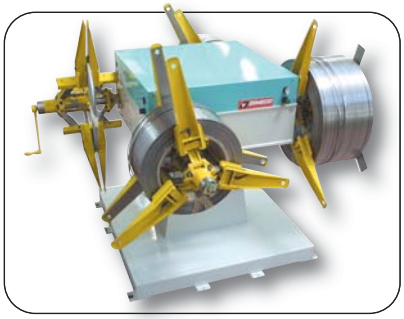
Decoilers for 3, 4 or 6 coils can also be offered as special builds.

### HORIZONTAL DECOILERS

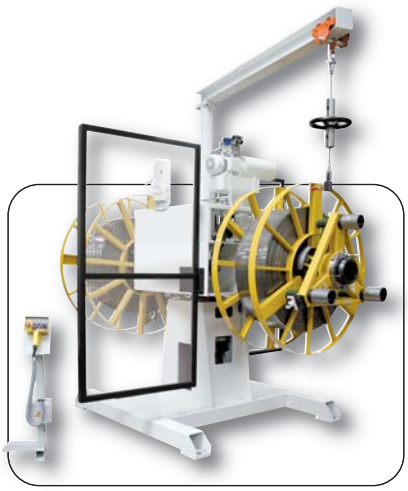
Reserved for coils of up to 1800 kg and with a maximum diameter of 1300 mm, they are particularly suitable for the decoiling of thin strips and delicate materials. The pallet loaded with several stacked narrow coils can be directly installed on the decoiler.

### THE "COMBINED" DECOILER-STRAIGHTENER CRADLE

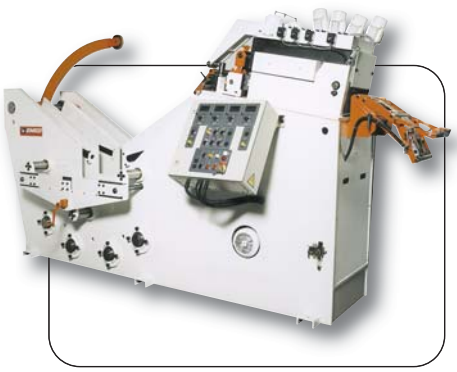
With a standard capacity limited to 5000 kg, it combines in a single frame the strip decoiling and straightening functions. It can be easily moved from one press to another. Simple and economical, this product is well suited to the decoiling of thick and narrow strips, used for example on fi ne blanking lines.



*Quadruple decoiler for spool material*



*Double decoiler*



*Cradle decoiler-straightener*

**The judicious choice of accessories and options will have a major impact on the production change over times and the ease of operation of the line by the operator.**

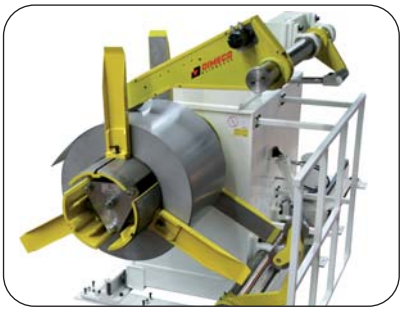
Always listening to their customers, DIMECO have developed a wide range of accessories designed to improve the productivity and fl exibility of the line and the safety of the operators.

## FOR ALL MATERIALS

DIMECO decoilers can be equipped with devices suitable for working with high yield strength metals or decoiling delicate materials (pre-lacquered, copper, polished aluminium...).

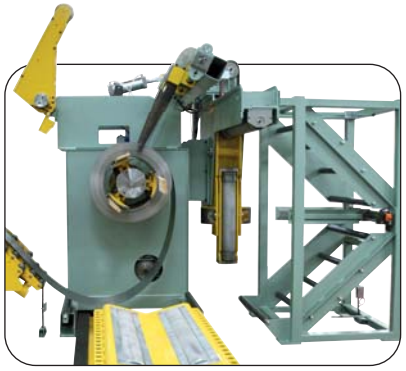
## SAFETY IMPROVEMENT

Keeping the coil under tension during the decoiling, strip introduction and strapping operations is essential for the safety of the personnel.
To ensure this essential function with strips more than 3 mm thick, DIMECO offer a wide range of safety pressure arms: pneumatic **(BP)** or hydraulic **(BPH)** arms, motor-driven roller arms.
On the double decoilers, a pressure arm must be installed on each mandrel to allow coil changeover while the line is running.



***Bras presseur hydraulique motorisé, bras anti-foisonnement***

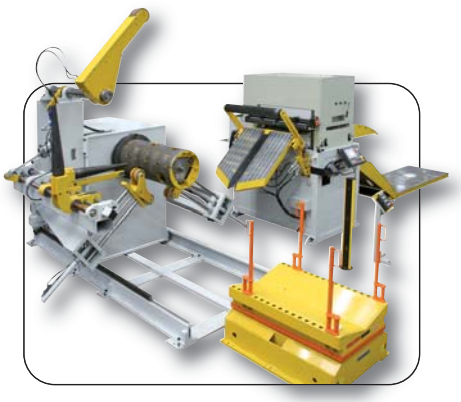
For heavy gauge or high yield strength strip, the action of the pressure arm must be complemented by 2 extra pressure arms **(BAF)** situated at 120°.
The lateral coil keepers **(GLAT)** allow any accidental decoiling of the strip to be avoided, assist strip introduction into the straightener and contribute to the easy recoiling of the strip.
On the basic models, the keepers are mounted and adjusted manually on the jaws of the mandrel by the operator. For the heavier decoiler models, the tapered reinforced coil keepers **(GLI)** are located on a separate frame.
The distance between the retractable guides is adjustable and possibly programmable.



***Coil-car with powered rolls***

## SIMPLFYING THE TASKS OF THE OPERATORS

All the DIMECO decoilers can be equipped, without civil engineering work, with a coilcar **(ETC)** with an elevation stroke of 500 or 700 mm.
Controlled by a hydraulic cylinder, the **ETC** allows easy introduction of the coil on the mandrel. The coil can be simply and safely loaded onto the equipment with a fork-lift truck.
The **ETC** can be equipped with motor driven rollers **(RXM)** to allow loop formation in the "rear loop" configurations.
The movable decoiler option **(TSR)**, combined with a fixed coil elevator, offers the operator incomparable comfort. The mobile decoiler loads the coil as far as it will go onto the mandrel. The decoiler is then lined up in its working position thanks to an electrical control. The retractable coil keepers **(GLI1)** tilts to guide the coil as closely as possible.
The transverse position of the decoiler can also be adjusted during production to accommodate, for example, poor wound coils.
In the **(TSR)** confi guration, the fi xed loading elevator can be replaced by a **MULTICOIL** system consisting of several mobile carts perpendicular to the decoiler mandrel, each cart receiving a coil. The operator has the coils available which he must use during his work shift.



***Movable decoiler with retractable lateral guides***

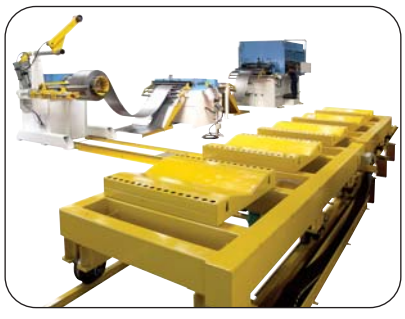
***TILTMATIC®***

## A WORLD EXCLUSIVE: THE TILTMATIC®

Coils of thin strip, delivered flat, can be directly placed on the platform of the **TILTMATIC®** device which automatically takes care of the tilting and loading of the coil onto the decoiler.

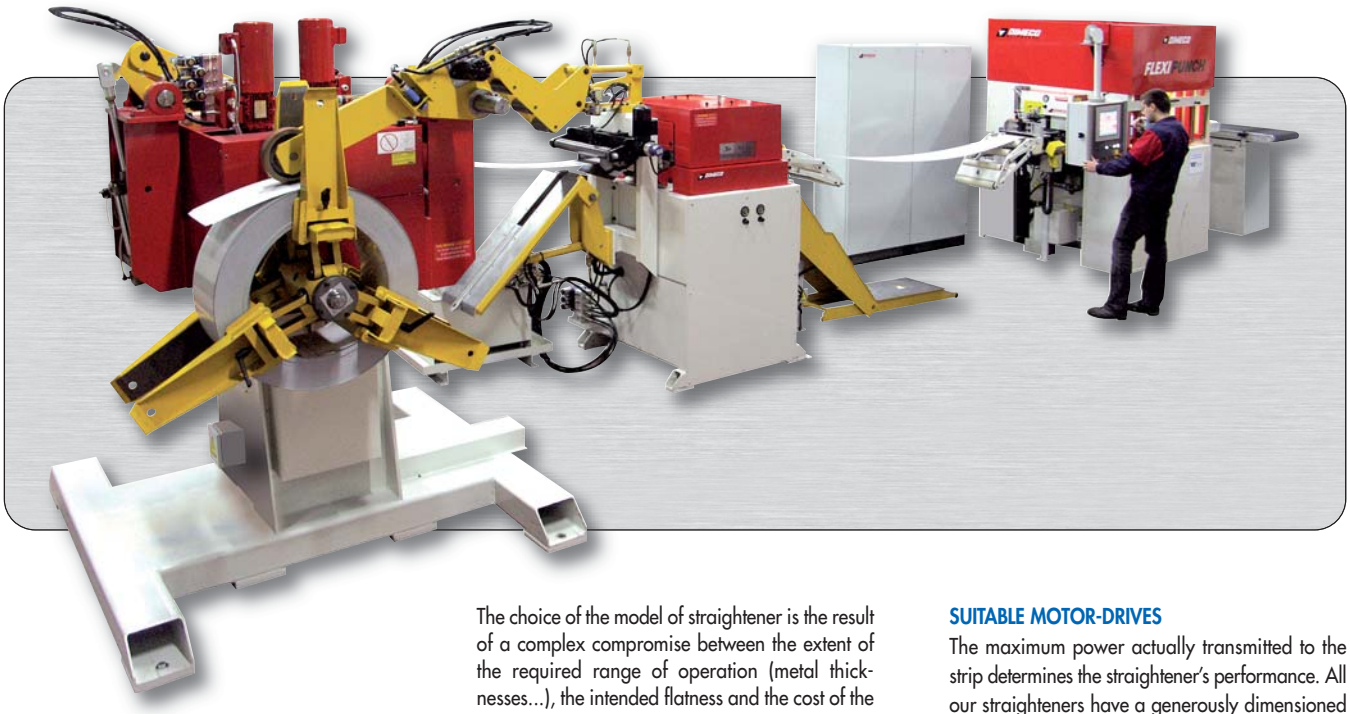
## IMPROVING PRODUCTIVITY

The **PITSTOP®** confi guration allows the introduction and recoiling of the strip without manual intervention and offers automatic adjustment of all the machine parameters when selecting the part from the production list menu.
When coupled to a straightener and a DIMECO feeder, the speed of a DIMECO decoiler is automatically adapted to the press rate and to the feed flow-rate.



***MULTICOIL***

# THE STRAIGHTENERS




**The choice of straightener is the trickiest stage in the definition of a decoiling line. The precise identification of the range of materials to be straightened and of the intended degree of fl atness will allow the key construction parameters to be chosen: number, diameter and coating ofthe rollers, system of adjustment...**

The choice of the model of straightener is the result of a complex compromise between the extent of the required range of operation (metal thicknesses...), the intended flatness and the cost of the equipment.
This is why DIMECO have developed a range of over 80 straighteners to deal with the various problems of manufacturers, for strips 0.05 mm to 10 mm thick, with widths up to 2000 mm and sections of up to 8000 mm².
The maximum straightening speed is up to 50 m/min as standard.

## GEOMETRY

The geometry of the equipment, particularly the parallelism of the rolls, is vital in order to achieve optimum straightening. Our frames, built from iron castings, are machined on precision machining centres. The rolls are guided by low backlash needle bearings and immobilised transversely by needle thrust bearings or ball bearings.

## HI-SPEC ROLLS

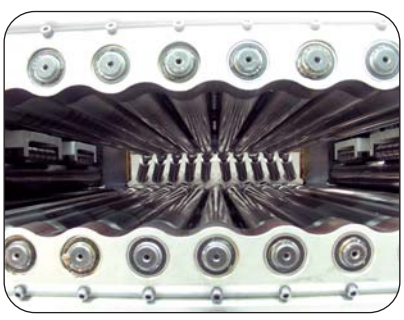
Special care is given to the production of the rollers, which are case-hardened, ground and trued to guarantee maximum impact toughness and hardness of 60 HRC at a depth of 1.5 mm.

## SUITABLE MOTOR-DRIVES

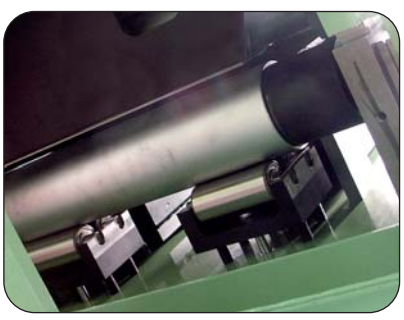
The maximum power actually transmitted to the strip determines the straightener's performance. All our straighteners have a generously dimensioned power unit controlled by a variable speed drive and equipped with a load rating display.
On our conventional units, only the bottom rolls are powered. For our highest performance units all the rolls are powered.
The fi nish of the rolls is adapted to the materials worked. As standard, they are ground to Ra 0.4 but they can also be chromiumplated, superfi nished, micro-sanded, coated with polyurethane or TOPOCROM® treated...

## BACKUP ROLLS

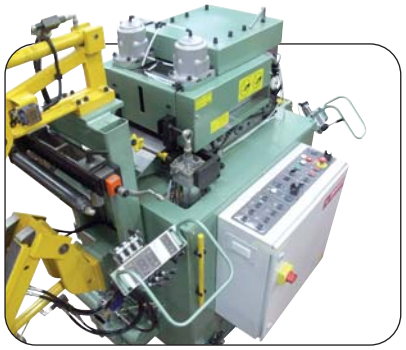
For the units designed for heavy gauge or very wide materials, all the rolls are supported by from 1 to 7 rows of backup-rolls, depending on the width.



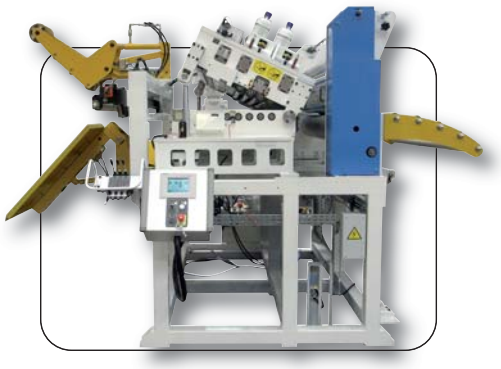
*21 roll straightener*



*Pulling rolls with Backus*



*Grouped control unit*



*Cradle type straightener*

**On demand, our design offi ce can design a special straightener corresponding to your particular specification.**

### ERGONOMICALLY GROUPED CONTROLS

All the controls of the straightener and its accessories are grouped at a single point. Depending on the specifi ed strip feed direction, the desk and the penetration adjustment indicators will be situated on the operator's side.
The latter can use a robust and ergonomic remote control to facilitate the strip introduction operations.
The controls of the decoiler can also be grouped on the straightener's control desk.

### STRAIGHTENERS WITH INDEPENDENT ROLL ADJUSTMENTS

These possess 5 to 11 straightening rolls of 40 mm to 100 mm diameter depending on the model. This is most versatile construction.
The penetration is adjustable on 2, 3 or 5 rolls. It allows the best setting to be foundfor each of the materials used.

### CRADLE TYPE STRAIGHTENERS

They are very suitable for wide coils. They have from 9 to 21 straightener rolls of 30 mm to 100 mm diameter depending on the model.
This construction is less versatile since it only offers 2 adjustment points. However, it allows the installation of a large number of straightener rolls in order to have a wider range of use.

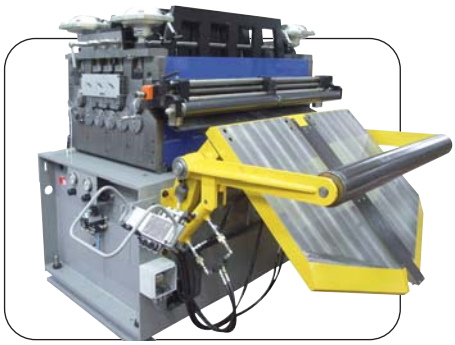
### 2 OR 4 DRIVE ROLLS

Situated at the straightener entry, they allow the introduction of the strip. All DIMECO straighteners are equipped with drive rolls on the entry side with pneumatic or hydraulic cylinder release.
Our independent roll straighteners are also equipped as standard with drive rolls on the exit side of the straightener. They facilitate adjustment of the equipment when working with delicate or aesthetic appearance materials.

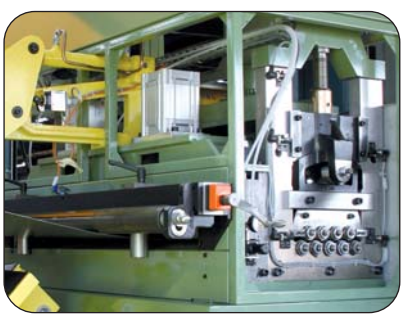
### STRAIGHTENERS FOR THIN OR MAGNETIC STRIPS

These straighteners are designed to straighten thin materials (from 0.15 mm upwards). The very good straightening quality is ensured by a large number of small diameter straightener rolls, held in a cradle adjustable by hand wheels. On certain models, the straightener rolls are mounted in removable cassettes to facilitate cleaning.

*Backup rolls*



*Independent adjustments straightener*



*Straightener for thin strips*

**The reliability and durability of our straighteners hasgreatly contributed to the image of DIMECO on the market.**

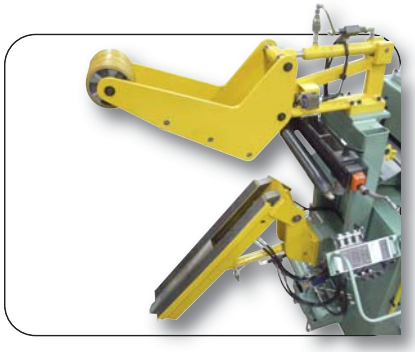
The judicious choice of the accessories and options will have a major impact on the production changeover times and on operator safety.

## FOR ALL MATERIALS

The DIMECO straighteners can be equipped with devices adapted for the working of high yield strength metals or the decoiling of delicate materials (pre-lacquered, copper, mirror-fi nish aluminium...).

## SIMPLIFIED STRIP INTRODUCTION

The introduction of the strip into the straightener and then into the feeder can be a long and dangerous job. All DIMECO straighteners are delivered with an adjustable lateral strip guide on the entry side and with support rolls on the entry and exit sides. Optionally, they can be equipped with a threading pealer with 1, 3 or 4 movements (reinforced for heavy gauge strips), and with a manual or motor operated symmetrical adjustment strip guide.
To facilitate the transfer of the new strip from the straightener to the feeder, we offer optionally a range of simple or articulated threading tables **(TSF)**.



*Threading pealer with 3 hydraulic movements*

The table is associated with a variable geometry retractable straightener exit basket (BGV).
Depending on the application, the table will be light with pneumatic control or reinforced and hydraulically operated.
In the most demanding applications (HLE strips...), DIMECO offer an architecture with 2 articulated tables: one mounted on the straightener and the other on the feeder.
The movement of the tables is servo-controlled by the movement of the strip in the pit.

## EASY STRAIGHTENER ADJUSTMENT

As standard, with a simple glance at the large dial, the operator can see his penetration settings to the nearest 1/10th mm.

*Motor operated penetration adjustment*

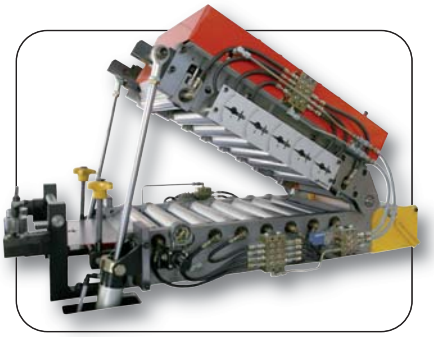
With the motor-operated penetration adjustment **(RMA)**, all the straightening parameters can be memorised in the parts program accessible from the terminal of the feeder.
It will also be possible to automatically change the straightening parameters according to the diameter of the coil.
A correction roll **(RCM)** can be installed on the exit side of the straightener to allow the correction of coils decoiled from underneath.

## MINIMUM MAINTENANCE

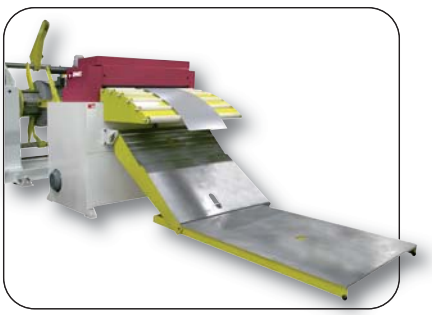
Maintenance is reduced by the use of bearings with sealed-for-life or centralised lubrication (manual **GCM** or automatic **GCA**).
Where aesthetic appearance materials are used, regular cleaning of the straightener's rolls is necessary. DIMECO offer the "crocodile" opening head option controlled by pneumatic **(DRP-VS)** or hydraulic **(DRH-VS)** cylinder depending on the model. On the cradle type straighteners, the headhas suffi cient opening stroke to allow easy cleaning of the rolls.

## QUICK CHANGEOVER

The **"PITSTOP"** configuration allows the introduction and recoiling of the strip without manual intervention and allows automatic adjustment of all the machine parameters when selecting the part from the production list menu.



*Centralised lubrication, opening head*



*Articulated hreading table*

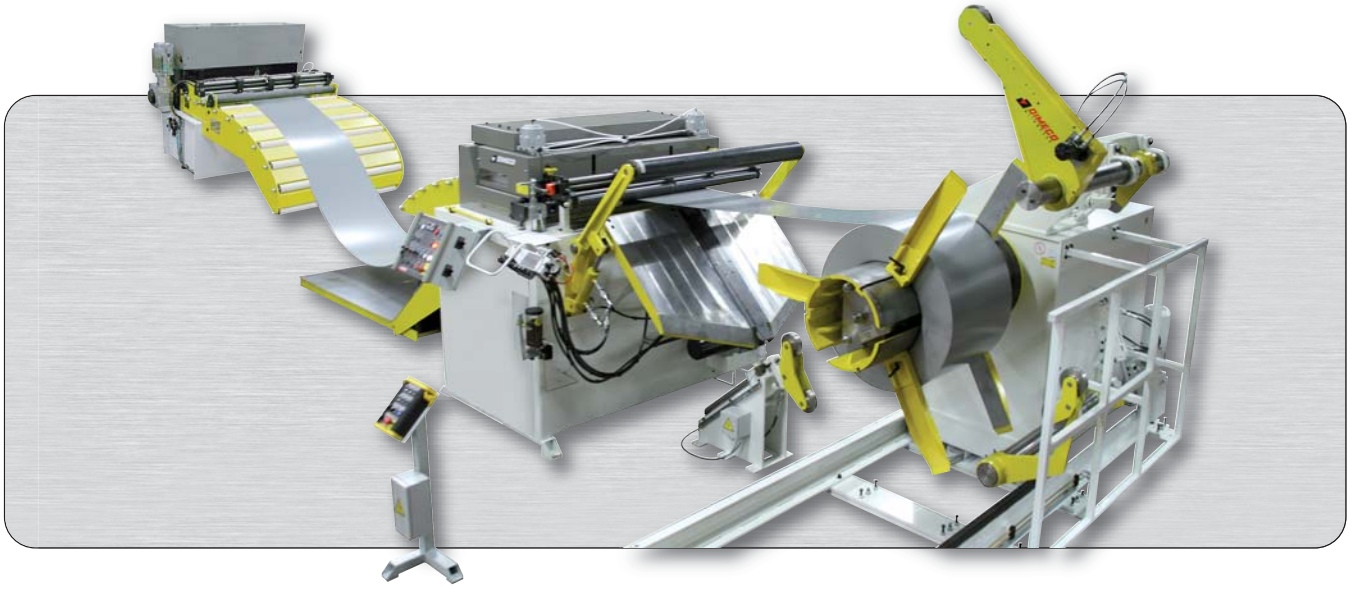
When it is combined with a decoiler and a DIMECO feeder, the speed of a DIMECO straightener is automatically adjusted to the press rate and to the feed flow-rate.

## LOOP CONTROLS

If a loop architecture is chosen, the loop management is provided by a special control device connected to the straightener. This device must be adapted to the type of material being decoiled.
All DIMECO straighteners are delivered with a loop control device. The supply also includesthe strip tension and end of strip detection.
Standard or optionally depending on the model, the information can also be collected by an ultrasonic sensor which provides contactfree measurement of the vertical position of the strip. The line speed can then be adjusted more effectively and more accurately, preventing straightener stoppages.
When a loop is provided between the decoiler and the straightener, the loop control will pilot the variable speed decoiler.

*Ultrasonic loop control*

# THE MICROFEED® ROLLER FEEDS



**The mechanical quality of the feeder and the performance of its numerical control will have a major impact on the productivity of the cutting line.**

### ADEQUATE PERFORMANCE LEVELS

The decoiling line must under no circumstances limit the performance of the cutting line. By its dynamics, its accuracy and its reliability, the feeder must allow the movement of the strip in the shortest possible time in order to give the tool-setter the maximum working stroke available.

### ACCELERATION, THE KEY FACTOR

In most applications the strip feed time is affected more by the acceleration of the feeder than by its maximum speed. Thanks to the kinematics optimisation, the DIMECO feeders can reach an acceleration of 25 m/s² and a maximum speed of 200 m/min.
The roll release is operated by a solenoid valve and special pneumatic cylinders or by 2 servo-controlled hydraulic cylinders **(DHS)** which guarantee cutting rates of up to 300 Cpm. Up to 1000 Cpm can be achievedwith a mecanical release control **(DMR)**.

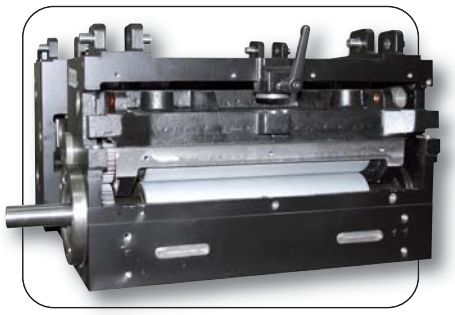
### MOVING ASSEMBLY DESIGN

Such performance levels can only be obtained by particularly careful design of all the feeder components. The body of the rudder, the moving part of the feeder, consists of a castiron structure machined with great accuracy. It is accurately guided by needle bearings and thrust ball bearings mounted on 2 pivots. The release stroke is limited by a mechanical stop adjustable according to the thickness of the strip.
The movement is transmitted to the top roll by an original kinematic chain with 4 pinions. The backlash in the transmission is very low, whatever the metal thickness.

### HI-SPEC ROLLS

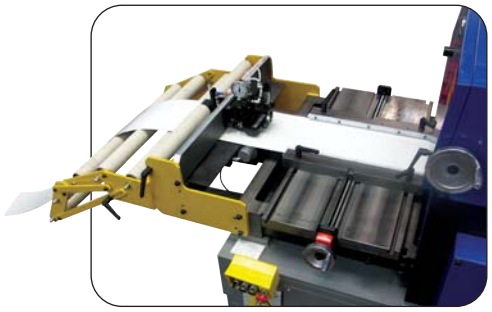
To obtain the best adherence and long life, all rolls on the DIMECO feeders are hardened, micro-sanded then hard chromed at 70 HRC. On the largest models, for better dynamics, the rolls are tubular and supported by backup-rolls.

*Feeder for heavy gauge strips*



*Feeder Mechanical sub-assembly*

DIMECO



*CRM Squaring Guide and strip Encoder*

## ACCURACY

All DIMECO feeders are equipped with low inertia brushless motors and gearboxes withreduced backlash. The feed accuracy will thus be determined essentially by the quality of the signal measurement and processing sequence. The use of a complete electronic package (sensors, motors, PLCs) from the same component manufacturer chosen among the world leaders ensures exceptional reliability and positioning accuracy (± 0.05 mm).

## FOR ALL MATERIALS

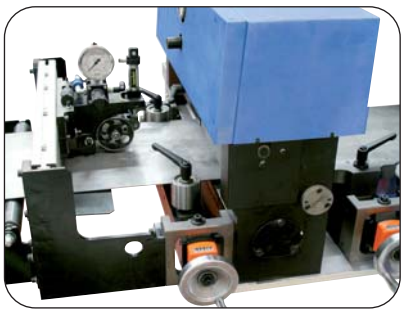
DIMECO feeders can be provided with **OMD** option suitable for the decoiling of delicate materials (pre-lacquered, galvanised, copper, mirror-fi nish aluminium...).

## TOOL PROTECTION

An additional feed measurement device can be installed on the strip, either below **CRM/B** or above **CRM/T**. This sensor allows any slippage between the measurement of the feeder motor encoder and the actual passage of the strip to be monitored in real time.
One can thus detect any malfunction of the tool or of the press, trigger an immediate stop and prevent damage to the installation.

## ATTACHMENT TO THE PRESS

The feeder can be fi xed to the press by a fi xed mounting bracket, manually adjustable in height **RCH**, motor activated **RMH-C** or on an independent motor activated frame **RMH-S** for the largest equipment.



*Strip encoder, inlet and outlet guides*

**DIMECO is the only manufacturer in the world to offer a range of 4 standard digital controls, all developed with the world's largest electronic component manufacturers.**


*SIMOSTAR® 170 PF console*

**All our electronic components are supplied by the same manufacturer.**

Digital control is the brain of the feed line. It will optimise the operation of the different machines in it and will communicate with the other parts of the cutting line. The terminal is the principal component of the humanmachineinterface.
The choice of control will be made according to the size, number and complexity ofthe various cutting line elements (decoiler, press tool and other peripherals). The required degree of automation and communication and the available budget will also be considered.
You will be able to fi nd the system whichsuits your application from among our 4 controls.

## ECODRIVE 2

Designed on the basis of BOSCH-REXROTH equipment, this is the simplest control of the range. It is available on small and medium capacity feeders. Cost effective and easy to programme, it is well suited to simple applications and tight budgets.

*ECODRIVE2 cabinet and control*

Its high performance allows rates of 300 Cpm to be reached.
**ECODRIVE2** possesses the basic functions of the digital control feeder: programming of the feed pitch, of the speed, of the acceleration, micro-adjustment of the feed length, single stroke or continuous feed mode or manual jog programmed feed length for easier tooling start-up.
Presented in a cabinet containing all the power and control components, it has a 4-line alphanumeric display.

## OPTIMASTER®

**OPTIMASTER®** has been designed in close co-operation with the BOSCH-REXROTH development teams to meet the requirements of the greatest number of cutting companies.
Ergonomics, accuracy and high rates are the main strong points of **OPTIMASTER®**.

The **OPTIMASTER®** system is a compact assembly which fi ts easily into the press environment. It consists of a desk mounted on rollers containing all the electrical and electronic equipment, a remote control unit for introduction of the strip into the press and an 8-line alphanumeric operator terminal.
Using the pre-programmed menus, the programming of all the movement and synchronisation tasks can be accessed.
The software provides maximum convenience of use for the operator, who enters the production data, such as the pitch or the speed, in clear text.
The different pre-programmed levels of use and display are displayed in both fi elds: the operating mode and the parameterisation of the machine.
**OPTIMASTER®** combines the management of the absolute synchronisation with the press **(ADA)** with the full synchronisation of the feed line **(PFS)**.

The **SIMOSTAR®** controls receive a modem allowing remote corrective maintenance of the installation.
The **SIMOSTAR® 170** control system is intended for conventional press feed and cut-to-length line applications. It is installed in a fixed cabinet with an inclinable compact console provided with a monochrome TFT 5.7" graphic touch screen. Optionally, the console can be pedestal or pendant mounted.
The **SIMOSTAR® 370** control system is designed for the supervision of the most complex installations. It has an extended memory capacity allowing management of the most sophisticated cutting applications or the **FLEXILINE** flexible forming lines.
The user-friendly human-machine interface is based on a pendant-mounted TFT 12.1" graphic colour touch terminal, running on Windows CE. Developed in the operator's language, it allows easy access to all the technical production and maintenance data.

The programming through teaching mode makes the operator's job much easier.
The cams are also programmable by the feeder terminal and associated with the parts program (except for **ECODRIVE 2**).

## ADA FEED RATE OPTIMISATION

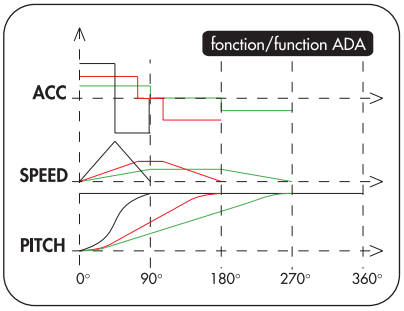
With the ADA function, for each feed, the acceleration, deceleration and max. equipment speed values of the decoiling line are automatically adjusted so that the pitch adapts to the available angle. Jerks on the material are prevented and the strip advances gently whatever the cutting rate, and the synchronisation with the press is perfect. The loop length can be shortened.

## SAP ACTIVE PRESS SAFETY FEATURES

This option associated with the electronic cams protects the tools and the press from damage caused by operating incidents or false operations, thus saving a lot of time and money. These safety features do not replace the approved safety system of the press or the specific monitors. They are extra and form the interface with the feeder. The SAP option allows the management of 4 or 10 safety controls (pitch, ejection, pilot control, etc).

*OPTIMASTER® desk*

*SIMOSTAR® 370 console*




## THE SIMOSTAR® SYSTEM

Developed with the engineers of the parent company SIEMENS in Germany, the **SIMOSTAR®** system is based on the latest S7 SIMOTION D technology. It is a fully digital servo-control comprising the positioning management, the electronic cams, a central programming unit (API) and a PROFIBUS DP communication included in a single case.
Available in all countries, of highly modular construction, this control is greatly appreciated by the maintenance engineers.
Apart from the functions available on **OPTIMASTER®**, all the **SIMOSTAR®** versions allow programming through teaching mode, the programming of multi-sequence cycles of an unlimited number of adjustment axes and supervision of the **PROFORCE** cutting force monitoring system.
The terminals are multilingual and support the graphic characters.

Its ETHERNET network with TCP/IP protocol allows connection to a central business server. It allows the exchange of details of parts in CSV format. The PROFIBUS DP network allows the connection between all elements of the feed line and data exchange between all parts of the line: operator terminal, frequency variator, remote inputs/outputs, PLC, etc.

## COMMON TERMINAL WITH THE PRESS

By using **SIMOSTAR®**, the DIMECO Alipresse engineers can, at your request, develop withthe chosen press supplier a very convenient common terminal for the cutting line operator.

## IEC ELECTRONIC CAMS

Associated with one of the DIMECO controls, the electronic cams allow full synchronisation of the feed function with the cutting function but also, thanks to the latest innovations, they provide full synchronisation of the line speed, smooth working and safety for the press, the tool and the production.

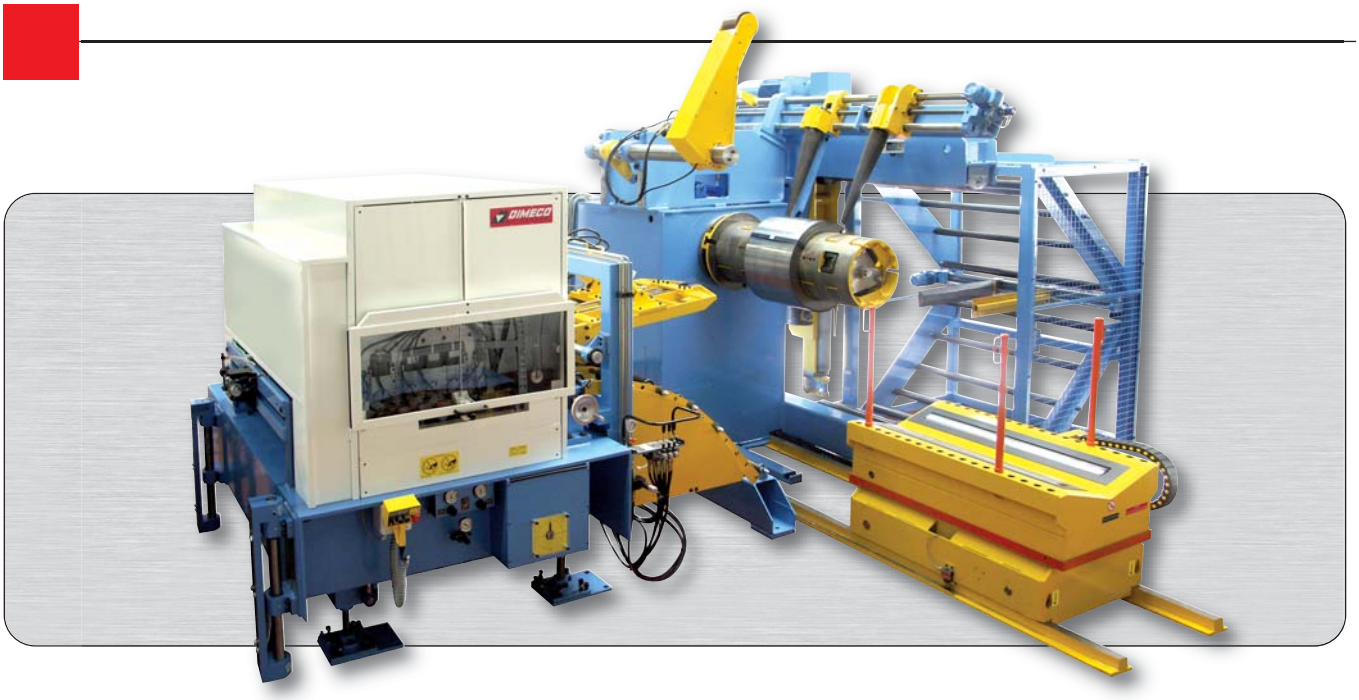
## PROFORCE FORCE SENSOR

Based on an IMCO piezo-electric transducer attached to the press frame, **PROFORCE** allows the cutting forces to be monitored in order to protect the press and the tools.
This supervision allows the frequency of sharpening the tools to be defi ned, for example. The thresholds are programmable via the terminal of the feeder and associated with the parts program.

## DIAGNOSTIC ÉLECTRIQUE FACILITÉ

All the DIMECO controls possess a specific maintenance screen showing the status of the inputs/outputs in real time.

# MICROPRO® STRAIGHTENERS-FEEDERS



**MICROPRO® :**
**A combination of 2 machines in one for a space saving of 40 to 50%, without civil engineering.**

The **MICROPRO®** solution is ideal for strip thicknesses of over 1 mm and max. feed pitches limited to about 800 mm. It is reserved for materials having no appearance constraints.
The **MICROPRO®** straightening performance levels are identical to those of the motordriven straighteners from which their design is taken. They allow short line architectures (3 in 1), without loop or with rear loop.

## MOTORIZATION AND ACCURACY

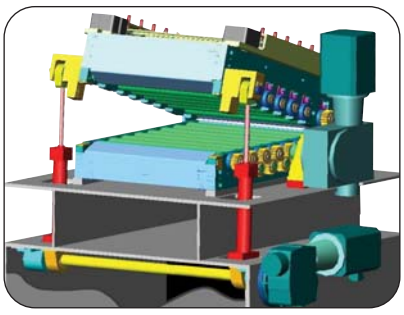
The motor drive of the straightener is replaced by a generously dimensioned brushless motor.
It can be associated with the **OPTIMASTER®** and **SIMOSTAR®** digital controls.
All DIMECO straighteners-feeders are equipped as standard with a strip feed measurement sensor **(CRM)** in order to provide the same feed accuracy as the feeders alone (± 0.05 mm).
The rates achieved range from 100 to 150 Cpm, for a max. speed of 30 to 50 m/min.

## PINCH ROLLS RELEASE

Effi cient pinch rolls release will allow correct operation of the pilots of the progressive cutting tool.
On all **MICROPRO®** units, the basic release function is provided by a pneumatic **(POR)** or hydraulic **(PORHyD)** control for lifting the traction rolls and the zero torque setting of the motor.
With the **(PIN)** option, a sharper release is provided by the partial opening of the upper part of the head, by means of two hydraulic cylinders controlled by servo-valves.
For more delicate applications **(HLE strips)**, digital servo-release **(PIN-A)** will be adopted.
In this confi guration, the head opening cylinders are mounted on an eccentric shaft operated by a servo-motor. All the release parameters are then programmable.
The **MICROPRO®** straighteners-feeders benefit from most of the options offered for the individual straighteners or feeders.

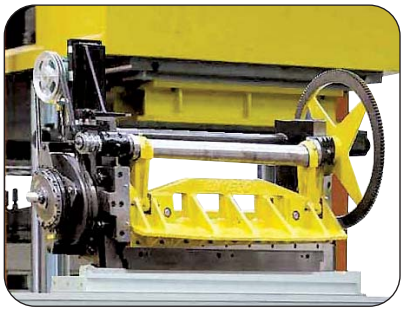
DIMECO

*Straightener-feeder*

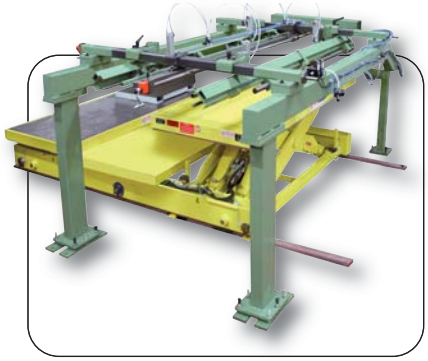


*Digital servo-release*

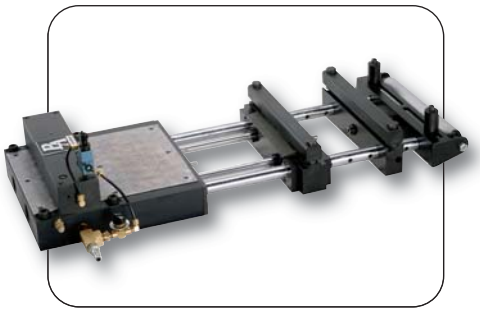
# OTHER EQUIPMENT



*Mechanical guillotine shear*



*Stacker and elevator tables*



*Pneumatic gripper feed*

## STRIP SHEAR

This is the heart of the cutting line. Depending on the sections, the types of materials handled and the required cutting rate, a mechanical, pneumatic or hydraulic operation shear will be chosen. The quality of its design will allow a minimal cutting burr and will limit the frequency of sharpening.

Cost effective, the pneumatic shears have been designed for the fast and accurate cutting of thin and delicate metals: aluminium or polished stainless steel, copper, silicon steel, etc. They are limited to sections of less than 650 $mm^2$.

The hydraulic shears are used for heavy sections or high yield strength strips. They can be equipped with a hydraulic hold down. Very fast, the type **1730** crankshaft type mechanical guillotine shears can achieve rates of up to 200 Cpm. They are designed to be included in production lines. The frame, clear underneath the blades, allows direct stacking of the blanks with no intermediate conveyor.

## STRIP END SHEAR

Recommended for wide or thick strips, the addition of a shear after the straightener or feeder allows the strip ends to be cut off in complete safety. The shear helps to reduce the production changeover time: it allows easier removal of the cutting tool and facilitates the recoiling and joining operations. Available in widths of 300 to 1525 mm.

## STACKERS

DIMECO offer an economical range **(GL)** of simple and effective stackers. The length of the stacked blanks can reach 5 m, with width adjustable up to 2000 mm. The stacker can be completed with a pneumatic cylinder jogging device **(DDT)**.

The stack is built up on one or more elevator tables **(TEX)** equipped with a servo-control for automatic stacking at constant level.

## EDGE TRIMMING SHEARS AND SCRAP CHOPPERS

For shearing the cutting scrap, we build pneumatic **1708** and motor-driven **1716** mechanical lever shears.

DIMECO also offer type **1735** edge trimming shears and motor-driven scrap recoilers.

## P/A PNEUMATIC GRIPPER FEEDS

DIMECO Alipresse have distributed the products of the American manufacturer P/A Industries for 20 years.

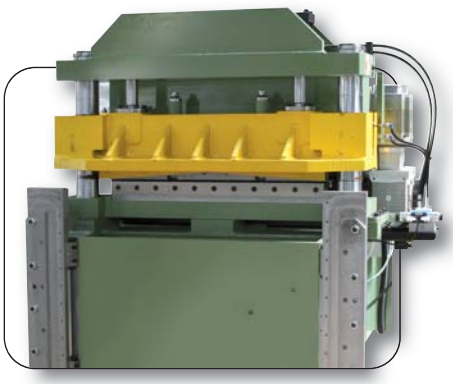
The P/A 1623 pneumatic feed provides a high number of cycles with reduced maintenance. Inexpensive, with simple installation and quick adjustment, it has many applications in cutting and in special machines and tools. It can handle strips a maximum of 2.3 mm thick and 600 mm wide. The feed length cannot exceed 600 mm. The maximum rate is of 360 Cpm.

A wide range of options and accessories are available.

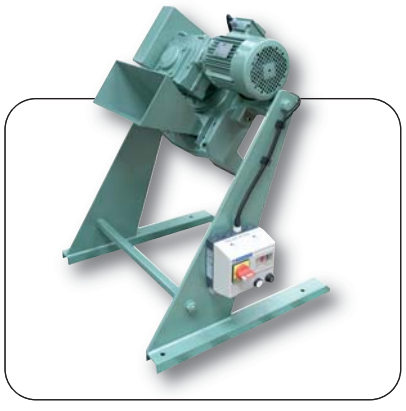
## MECHANICAL GRIPPER FEEDS

The type 1621 rapid mechanical gripper feed perfectly solves the problems of feeding fast and semi-fast presses thanks to the simplicity of its adjustments, its feeding accuracy and its remarkable performance levels.

It can handle strips up to 3 mm thick and 400 mm wide. The feed length cannot exceed 400 mm. The maximum rate is of 1200 Cpm with a feed accuracy of ± 0.025 mm.



*Strip end shear*



*Scrap chopper*

*Mechanical gripper feed*

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**Flexible manufacturing systems**

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**Coil and tool handling**


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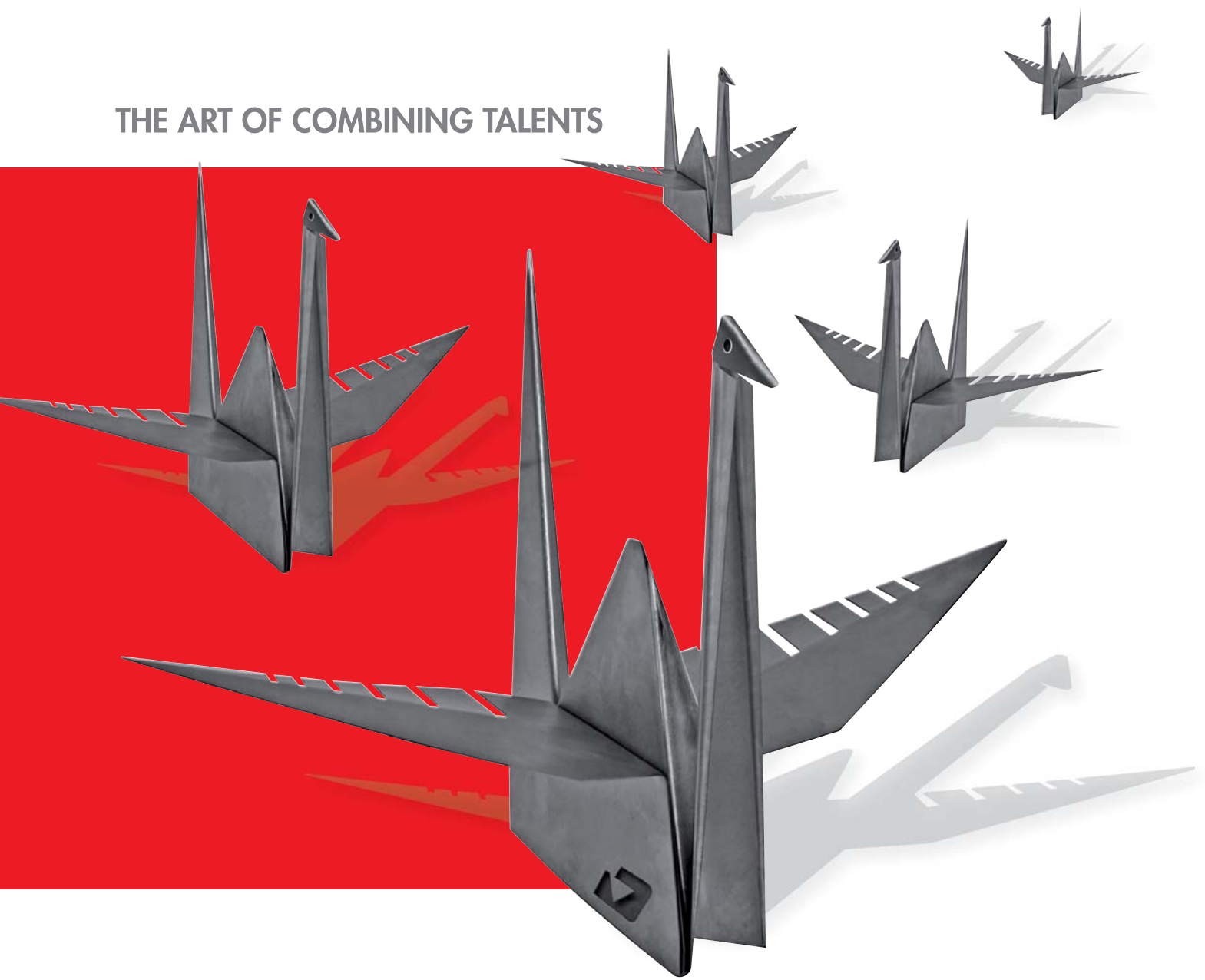
## THE ART OF COMBINING TALENTS



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