



Forming Tomorrow. Today!

Customised products. Tailored solutions.  
Turnkey projects.



Electropneumatics &  
Hydraulics (India) Pvt. Ltd.

Machine  
Manufacturing  
Division (MMD)

# Electropneumatics

Electropneumatics has been providing innovative solutions for forming applications since 1972.

The extensive range of indigenous machines, products and technologies offer a perfect blend of modern technology and cost-competitiveness and cater to a variety of metal forming and allied applications.

The machines shape/form metals, engineering plastics and composites, ceramics, etc. in solid, sheet, tube or powder form through stamping, cold extrusion, powder compaction, honing, bending, shearing/cutting, moulding and other methods.

Electropneumatics has its corporate office and manufacturing plant at Chakan, a sales/service network throughout India, a developing international dealer network and a dedicated and proficient engineering team to work out solutions for different customer needs. Electropneumatics continually enhances its technological strength through on-going research and development of new products and upgradation of existing ones.

## Machine Manufacturing Division

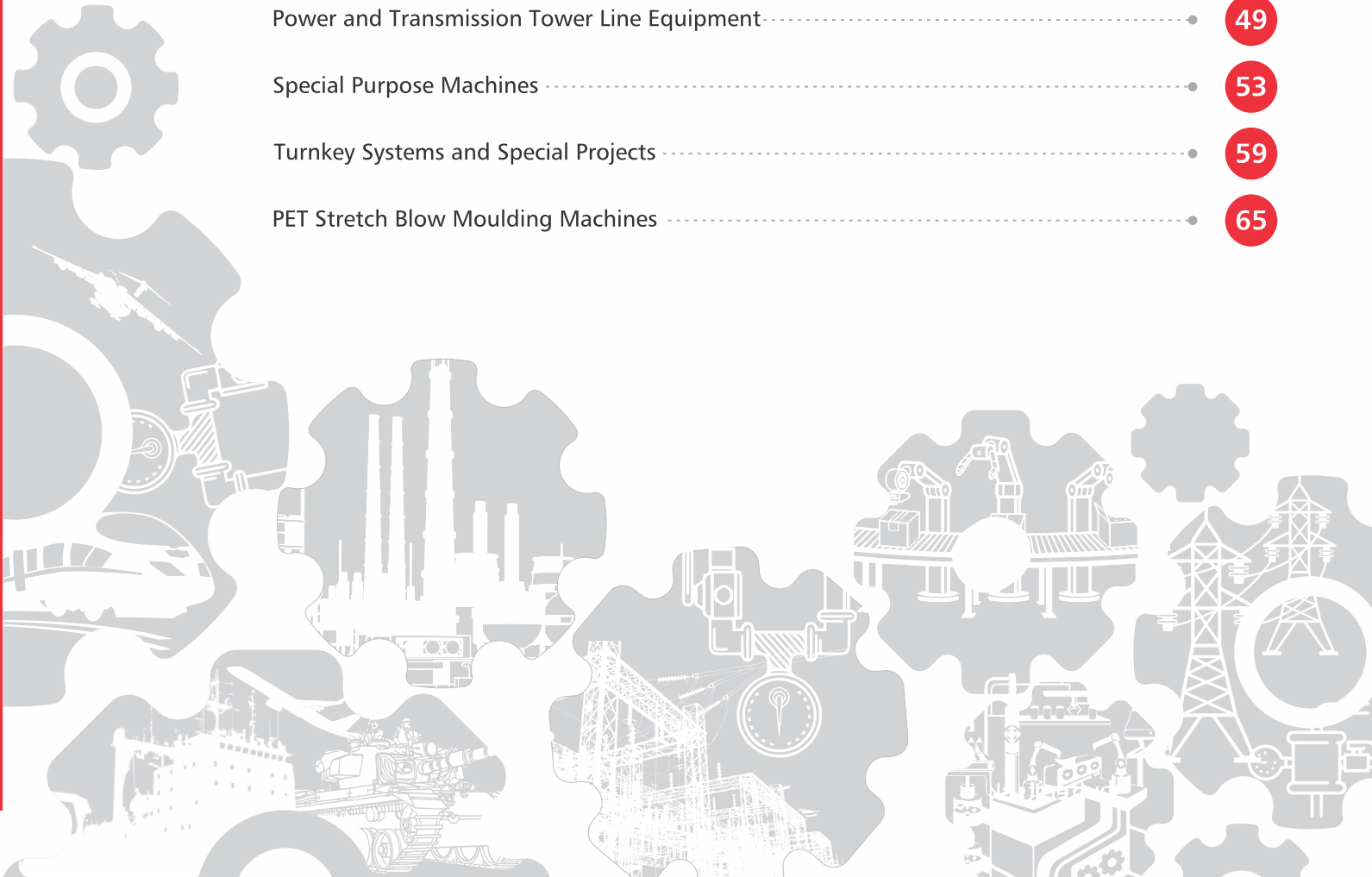
The Machine Manufacturing Division offers products for different requirements of forming- single presses, automated press lines and complete turnkey systems.

Having built more than 5000 machines, our experience in forming applications is diverse and all-encompassing. Among our customers are automotive vehicle manufacturers and their suppliers, and industries such as electrical and electronics, boiler, infrastructure, consumer, white goods, home appliances, aerospace, railways, shipbuilding, process/chemical and general engineering.

We have indigenous strengths in all the core technologies (mechanical, hydraulics, electrical, electronics and controls) that are needed to build equipment of any desired level of sophistication. We are a one stop-shop for all forming requirements.

Our machines are available in standard and customised designs to meet specific customer/part requirements. They offer the flexibility and high productivity needed to produce complex, quality parts consistently, efficiently and cost-effectively. Many of our products incorporate newer technologies that provide energy-efficiency and are environmentally safer.

Machine Manufacturing Division .....	02
Hydraulic Metal Forming Presses .....	11
Servo Mechanical Presses .....	15
Hydraulic Moulding Presses .....	19
Hydraulic Die Spotting and Tryout Presses .....	23
Hydraulic Powder Compacting Presses .....	27
Multi-Station and Transfer Presses .....	31
Hydraulic Honing Machines .....	35
Tube and Section Benders .....	39
Tube Processing Machines .....	43
Chassis Manufacturing Equipment .....	45
Power and Transmission Tower Line Equipment .....	49
Special Purpose Machines .....	53
Turnkey Systems and Special Projects .....	59
PET Stretch Blow Moulding Machines .....	65













Engineering Feasibility

Customer Service

Quality

Testing

Design

Fabrication

**A Total Indigenous Solution Company**



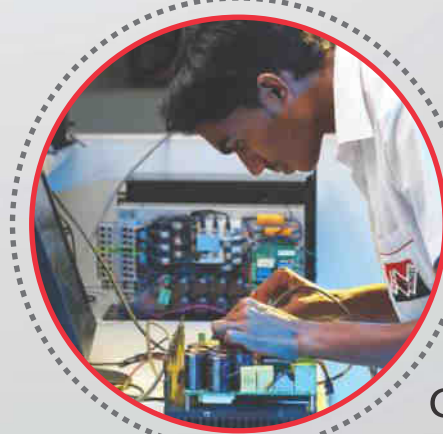
Hydraulics



Pneumatics



Electrical



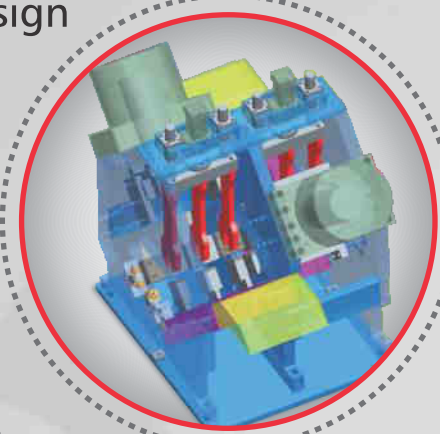
Control Electronics



Manufacturing



Assembly



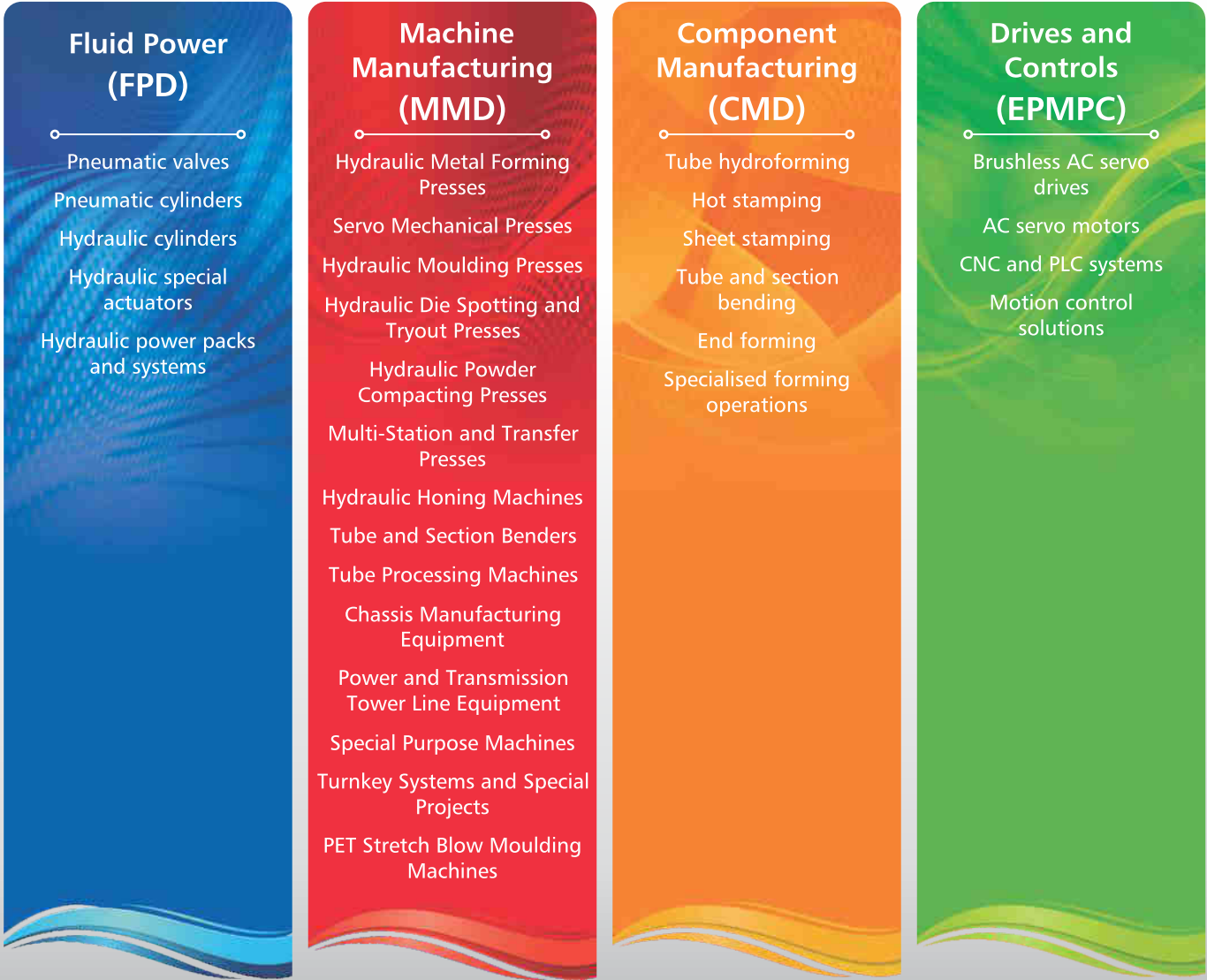


# Innovation • Quality • Dependability

Everything from Concept to Execution

- ◆ Feasibility analysis, product and process design, civil construction, manufacturing, assembly, quality assurance, testing and more
- ◆ In-house multi-disciplinary capabilities in mechanical, hydraulics, pneumatics, electrical, electronics and software
- ◆ 100% indigenous, 100% made in India
- ◆ Pioneer of several new technologies in India
- ◆ Catering to diverse applications in almost all industry sectors
- ◆ Strong, continuous focus on research and development

## Our Divisions







1500 T 4-column hydraulic press with cushion and moving bolster for deep draw of automotive components



## Dependable and universal in application

Electropneumatics' hydraulic metal forming presses incorporate the latest hydraulic and forming technologies for efficient manufacturing of parts. From simple C-frame configurations of low tonnage to sophisticated, large column-type presses up to 15000T, they can be effectively used for drawing, stamping, trimming, cold extrusion, coining, hemming, blanking, press fitting, riveting and other such operations. Electropneumatics provides total forming solutions.

Available in tonnages and bed sizes as per requirement, they can be offered as single presses, automated CNC presses, press lines or transfer presses.



350 T 4-column hydraulic press with die cushion



Fully automated 800 T hydraulic press with sheet loader and unloader for trimming and forming of railway coach body side panels



## Your Benefits

- Tonnages and bed sizes as required
- Maximum force throughout stroke for a variety of operations
- C-frame, 4-pillar, H-frame, ring frame and column constructions
- Suitable, accurate slide and cushion guiding arrangements
- Various cushion, ejector and auxiliary actuator options
- Reliable, low-maintenance modular modern hydraulic systems
- Electropneumatics' smart, user-friendly controls and operating interface, including CNC
- Can be configured with moving bolsters, automatic loading, unloading, transfer and quick die change systems



30 T C-frame press with tilting bolster for trimming of aluminium die cast cylinder blocks



5000 T press for hydroformed parts



100 T 4-pillar wheel rim calibration press





## Productivity and flexibility like never before

Electropneumatics' new-generation servo mechanical presses offer the flexibility that today's difficult-to-form and complex parts demand. They combine the proven mechanical eccentric drive arrangement with the latest servo drive technology to offer the user with great flexibility and productivity. They can be used for almost all metal forming operations and are available in tonnages up to 1500T.

Servo mechanical presses open several new opportunities for stamping of parts in the automotive, auto component, general engineering and appliance industries. They find most use in continuous forming, blanking, trimming, tryout and shallow drawing operations, and specifically for forming difficult materials. The servo mechanical presses can also be used in transfer and progressive die operations.



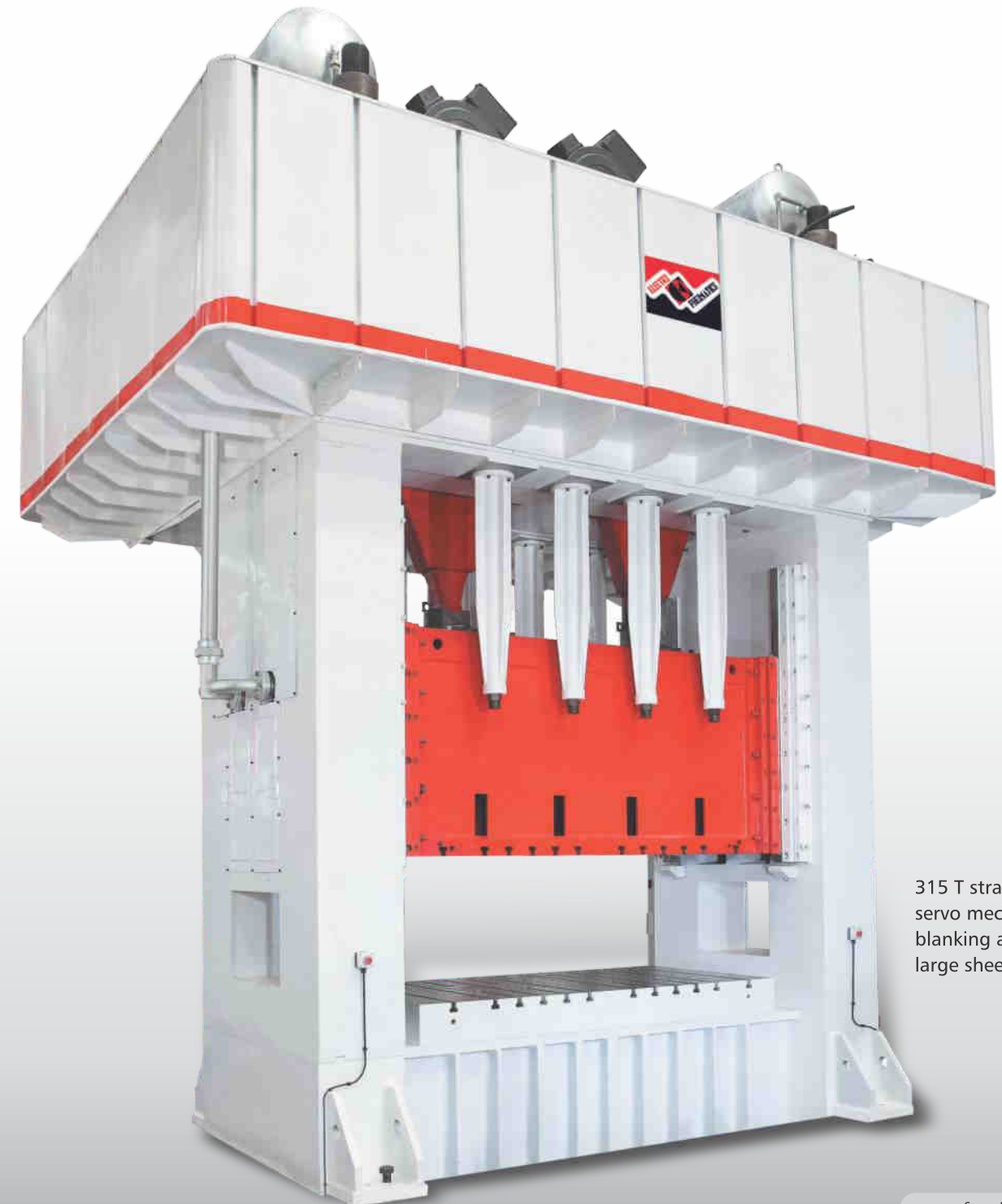
60 T C-frame servo mechanical press with servo feeder



200 T C-frame servo mechanical press



200 T straight-sided servo mechanical press



315 T straight-sided servo mechanical press for blanking and forming of large sheet panels



## Your Benefits

- Energy savings possible depending on operation cycle
- Individually programmable slide speeds and motion profiles
- Great flexibility for different forming processes especially die tryout and transfer systems
- Very low noise levels and blanking break-through noise
- Smaller footprint, especially for large bed presses
- Superior part quality and longer die life through optimised forming motion cycles
- Most suitable for high strength steels, in addition to other materials
- Highly productive
- Low on maintenance



100 T straight sided servo mechanical press



800 T 4-column servo mechanical press





Special 25 T APG/epoxy  
moulding machine for resin cast  
electrical components



Hot moulding of large SMC/DMC  
parts on a 500T Press



300 T 4-column upstroking  
servo electric hybrid hot  
moulding press



## Light-weighting through shaping of alternate materials

Electropneumatics' presses for forming and hot moulding of engineering plastics/composites (such as SMC, DMC, FRP, BMC, epoxy, etc.), automotive interiors, friction brake linings and clutch facings meet the increasing demand of light-weight manufacturing in the automotive, electrical and household industries. Available in tonnages up to 2000T, they produce accurate parts with superlative component surfaces.



1000 T 4-column moulding  
press for SMC/FRP components



## Your Benefits

- Large bed sizes with moving bolsters as required
- Thermo-symmetrical or adjustable 8-point slide bearing arrangement to accommodate expansion/contraction due to heating and cooling cycles
- Slide parallelism and equalising arrangement
- Hydraulic cylinders with high-temperature seals
- Insulators, heater platen systems and water cooling platens can be provided
- Ejection systems
- CNC control system customised for programmable force-speed-position profile for accurate levelling, forming and ejection of parts
- Ability to dwell under pressure and provide constant force over a large area
- Multi-platen presses available for multi-part production



250 T hot compression moulding press for auto interior parts and trims

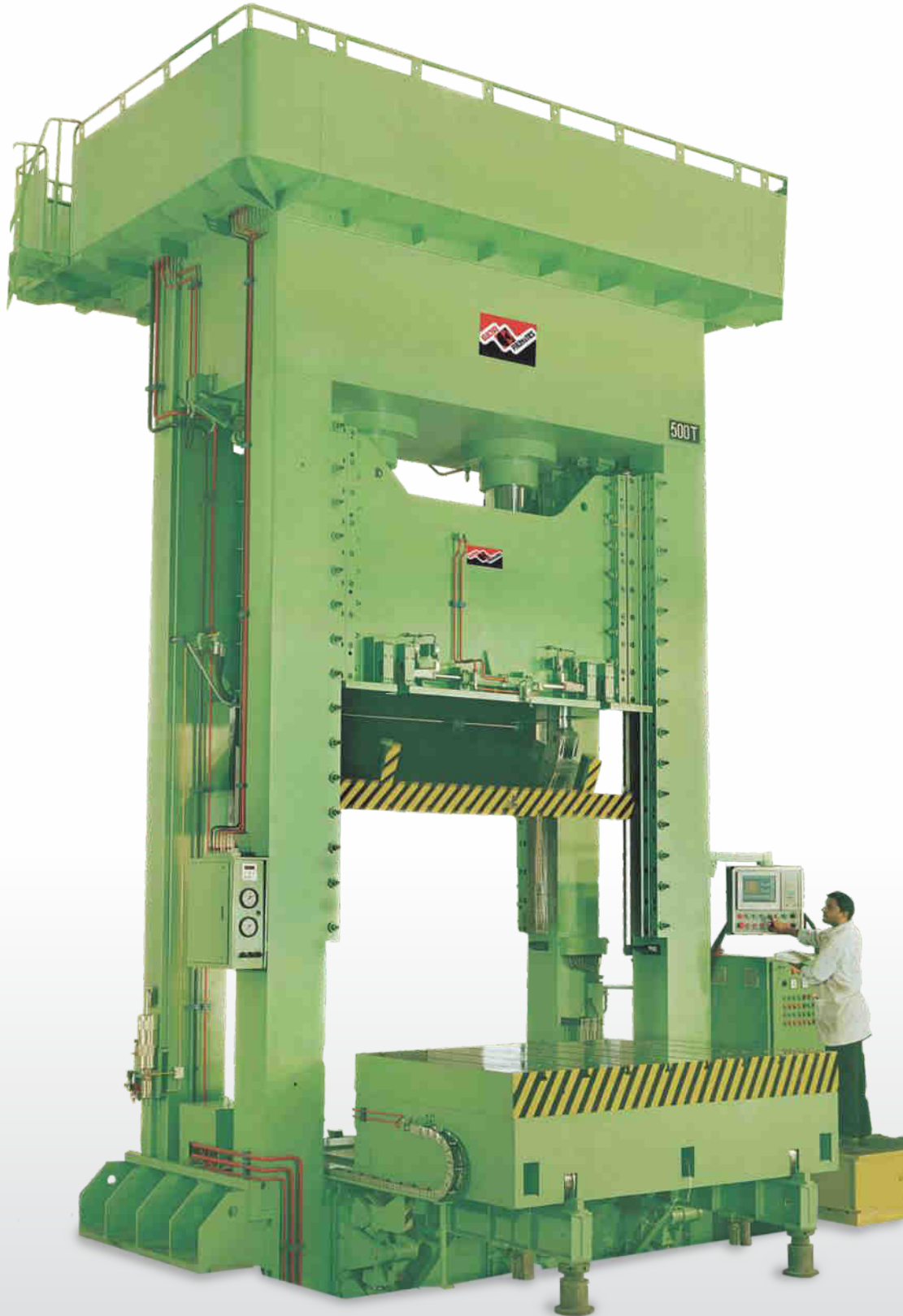


160 T compression/transfer moulding press for electrical parts



## Reduce die break-in time to increase production up time

Electropneumatics' die/mould spotting and tryout presses are custom-built with all the capabilities of simulating the actual manufacturing process and for breaking-in of new/reworked dies. They drastically cut down die proving and allow for quick start up of production, thereby saving time and cost. These presses can also be used for die inspection, mould finishing and limited batch/prototype production of all sheet metal parts, even large sizes. Available in tonnages up to 1000T and bed sizes as needed, they are a boon to all stamping press shops.



500 T hydraulic die spotting and tryout press with moving bolster and tilting slide



300 T hydraulic die spotting and tryout press with moving bolster, slide equaliser and micro-inching arrangement



## Your Benefits

- Accurate slide guiding arrangement in JIS Grade I or JIS Special Grade
- Upper slide plate swing-out for easy upper die access
- Upper platen parallelism control arrangement
- Moving bolster/table for easy die loading and access to lower die
- Equaliser and micro-inching facility for slide
- Cushion, ejectors, etc. as in production presses
- Hand-wheel operated fine adjustment of slide motion, as option
- Advanced control system with programmable speeds, positions and forces



15 T mould spotting press with tilting slide and moving bolster







200 T press for powder compaction of automotive gears, pulleys and sprockets



300 T H-frame wet compacting press for ferrite magnets



100 T CNC dry floating die press for PM sintered parts



## Compact your costs with near-net shape parts

Electropneumatics' tailor-made powder compacting presses form powders of iron, steel, carbide, diamond, ceramic, fly ash, hard metal, ferrite, bronze, copper and their alloys into near-net shape parts, often with multiple steps and complex profiles. Capable of dry and wet (slurry) compaction, they are available with a wide variety of options and different levels of automation. These highly efficient and accurate machines can be used for large volume continuous production of parts such as automotive gears, pulleys, sprockets, cutting tool bits, magnets, home appliance parts, pump parts, etc. Sintering and sizing presses are also available.



500 T CNC powder compacting press with AC servo feeder, pick & place and on-line weighing

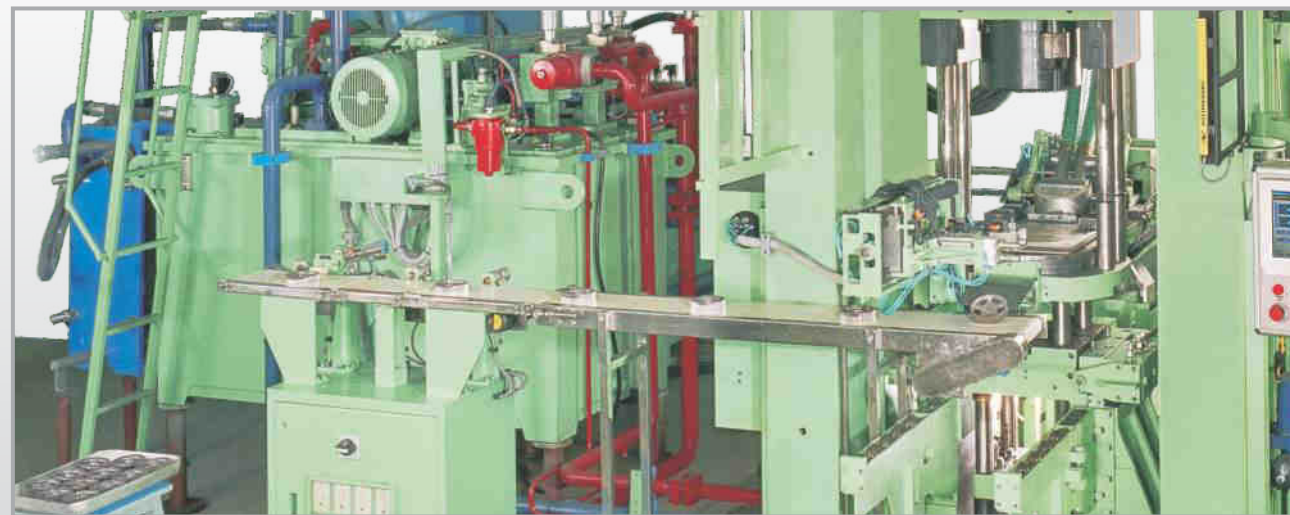


## Your Benefits

- High speed, high productivity
- Sturdy designs in ring frame and 4-column constructions, designed for minimum deflection
- CNC versions with closed loop multi-axes controls for multi-level parts with programmable force-speed-position parameters for positional accuracies of  $\pm 20$  microns
- Fully automated versions with feeders, pick & place, transfer conveyors, automatic weighing and part weight correction, etc. are available
- Magnetising/demagnetising interface, filter cloth changing, slurry feed, etc. devices with wet presses
- Design and manufacture of sophisticated tool adaptors for static and floating dies
- Intelligent controls for real-time process monitoring and diagnostic features



1000 T vertical + 600 T horizontal  
explosive / fuel powder compacting press



Automatic component weighing system





60 T x 4-station hydraulic press with four independent slides for mass production of clutch facings



250 T x 3, 12-station hydraulic transfer press with blank de-stacker and loader, transfer system and unloader for forming servo brake shells



2800 T hydraulic press with 10m bed for truck chassis long member blanking/piercing and forming



## Dedicated systems for high-level productivity

Electropneumatics designs and develops customised systems to meet the demands of the customer. They can be single presses with multiple working stations most suited for batch production of a variety of parts or a press with transfer system or a line of presses with transfer mechanisms between the presses. These presses can be incorporated with automation devices and intra- and inter-transfer systems. The multi-station and transfer presses are characterised by their reliability, superior performance and high up times. They can consistently and repeatedly perform all tasks of forming a part right from coil feed/blank feed through different stages of operation to unloading without human intervention.

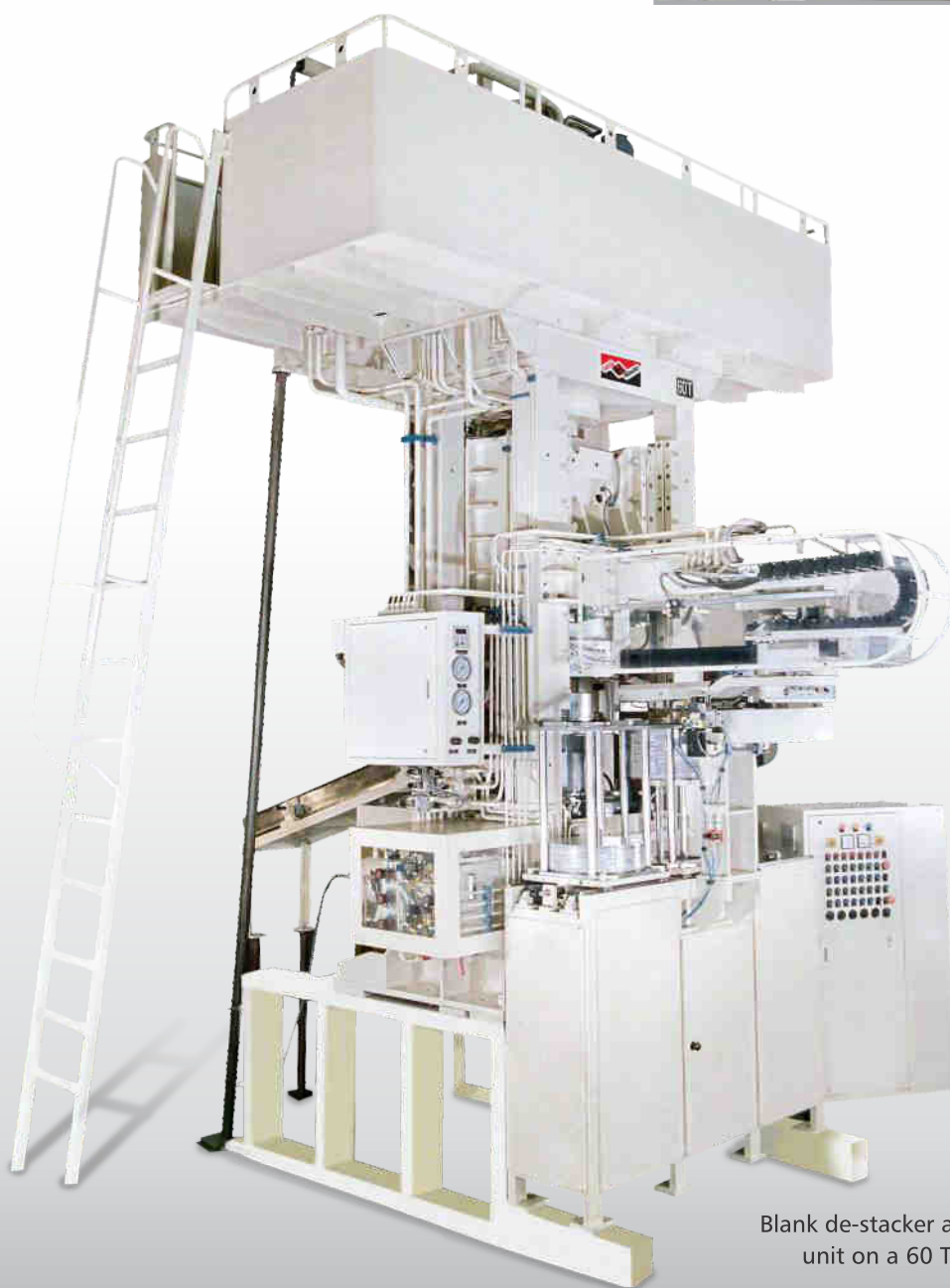


300 T x 2-station hydraulic press with 3-axes electric transfer system



## Your Benefits

- High production rates, low part costs
- Independent control of speed, force and position of each slide
- With die cushion and ejector options
- CNC walking beam transfer system reduces handling and damage to component, also cycle time
- Variety of automation and die change options
- Modern, efficient hydraulic and electronic controls lead to flexible and efficient manufacturing
- Parts produced with high level of consistency, repeatability and accuracy



Blank de-stacker and pick & place unit on a 60 T hydraulic press

**Hydraulic Honing Machines**





Light duty, single spindle honing machine for brake cylinders and con-rods



Medium duty, single spindle honing machine for cylinder barrels and engine liners



Heavy duty honing machine for locomotive diesel engine liners



## Super finishing parts to superlative accuracies

Electropneumatics' range of honing machines meets the critical requirements of a wide variety of honing applications. They guarantee fast, accurate and precise honing of small to very large parts, thereby offering higher productivity and efficiency to the user. Available in light, medium and heavy duty, and also as special customised multi-spindle versions, they can hone small parts of two-wheeler engines like master and brake cylinders, connecting rods, rocker arms, cylinder barrels, multi-cylinder engine blocks, long tubes and liners for the process industry.



Light duty, twin spindle honing machine with 2-station rotary indexing table



## Your Benefits

- Maintain/correct diameter tolerance, taper, out-of-roundness, bell-mouth, waviness and remove machining marks on bores
- Standard and special customer-specific models
- Hone small diameter 19 mm to large diameter 400 mm bores
- Hone lengths from 250 mm to 2500 mm
- Get higher productivity with multiple spindles and indexing tables
- CNC servo reciprocation, rotation and hone expansion for precise process control
- Honing tools and fixtures as per the customer's part and requirement
- Plateau honing, auto gauging possible



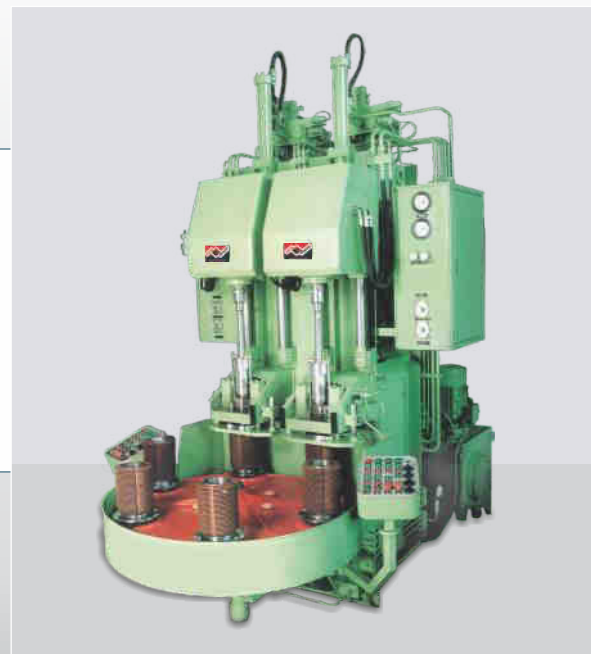
Twin spindle honing  
for brake cylinders



Medium duty, twin spindle,  
plateau honing machine with  
6-station rotary indexing table

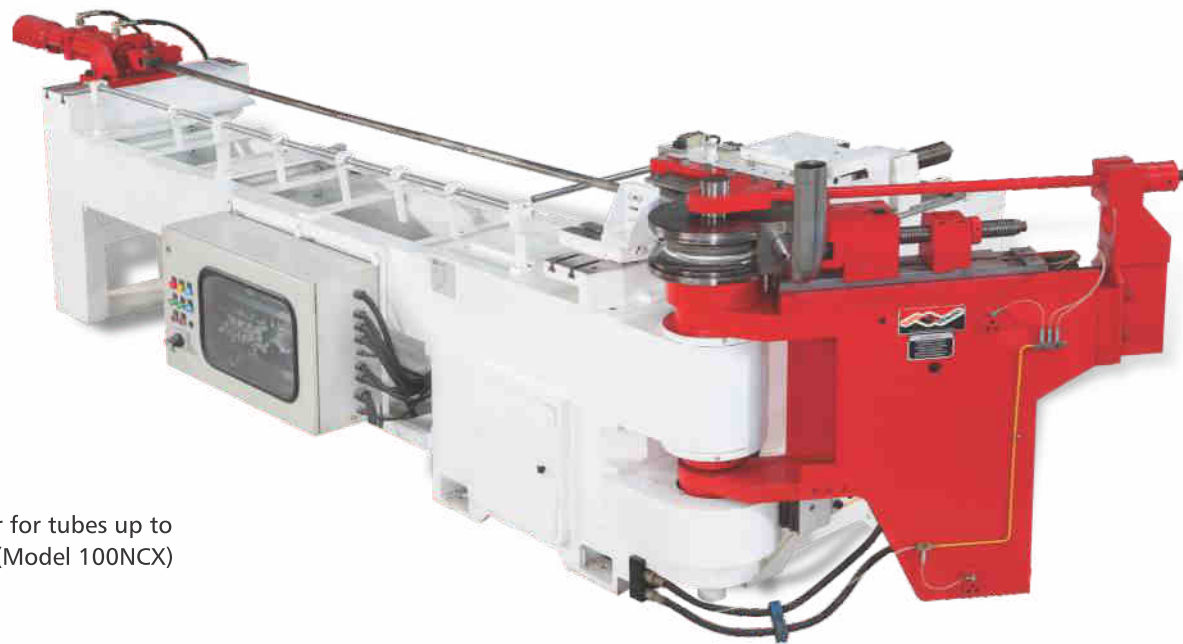


Honing tools





NC tube bender for tubes up to  
 $\varnothing 114 \times t6$  mm (Model 100NCX)



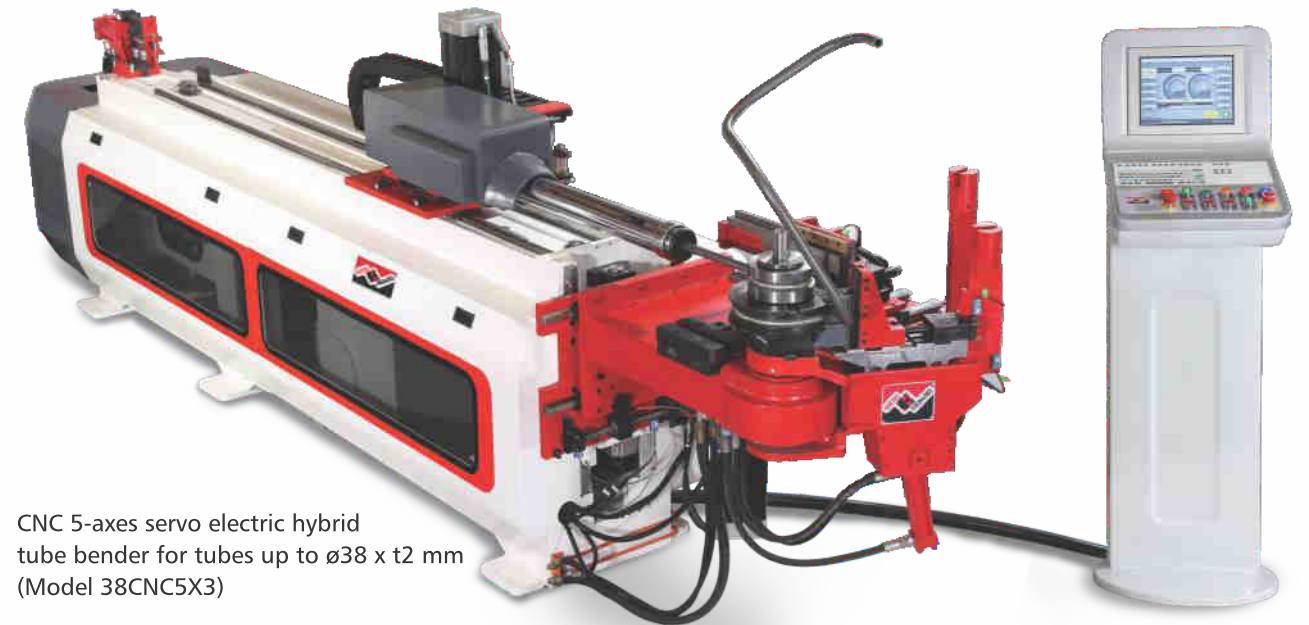
CNC 2-axes tube bender for  
 tubes up to  $\varnothing 65 \times t4$  mm  
 (Model 65CNC2X)



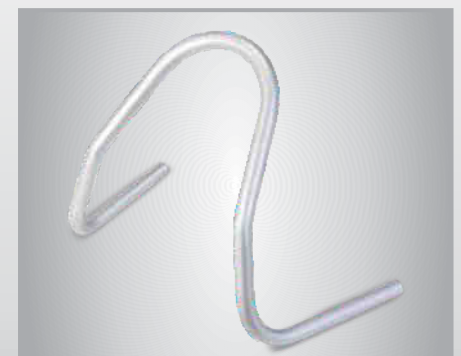
CNC 3-axes servo electric hybrid  
 tube bender for tubes up to  $\varnothing 32 \times t2$  mm  
 (Model 30CNC3X)



CNC 5-axes servo electric hybrid  
 tube bender for tubes up to  $\varnothing 38 \times t2$  mm  
 (Model 38CNC5X3)



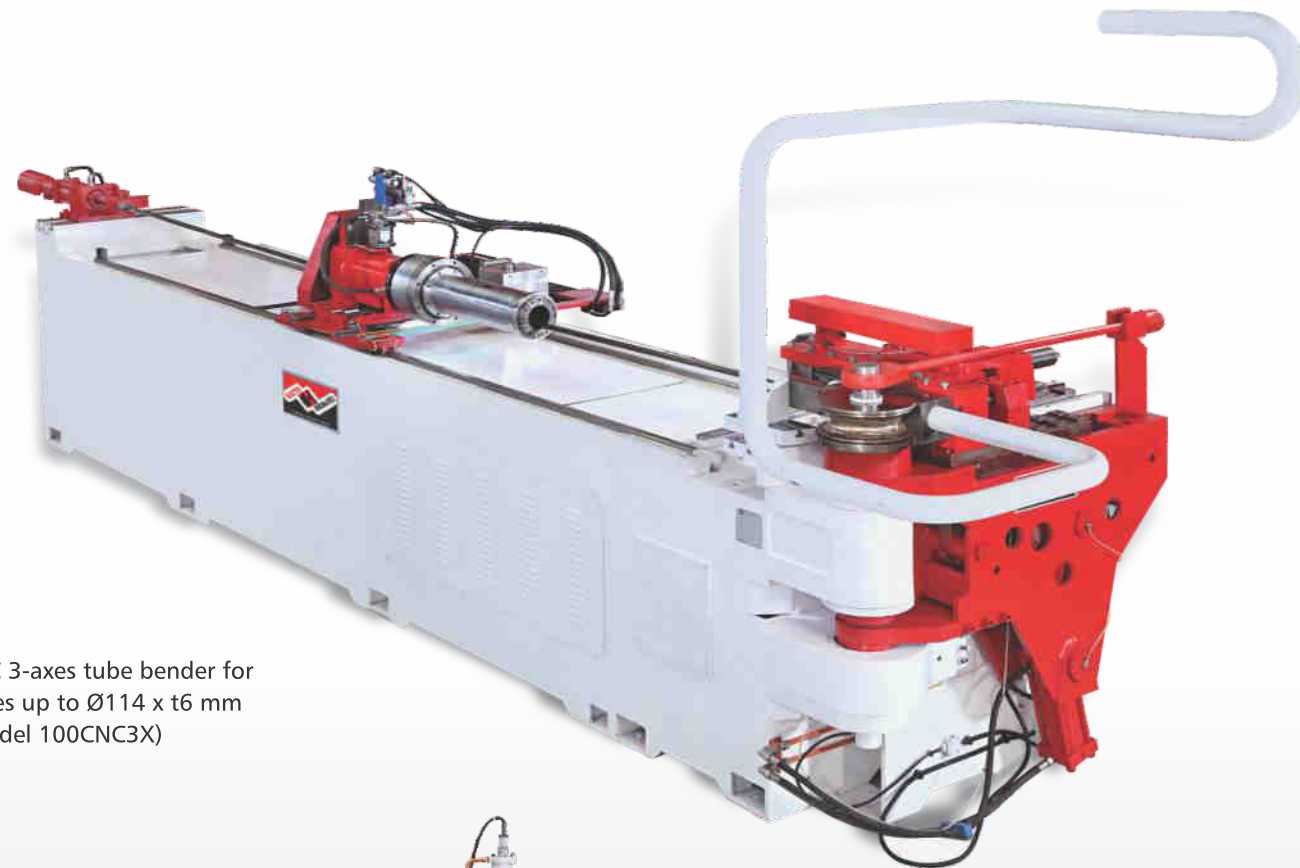
CNC 3-axes tube bender  
 for tubes up to  $\varnothing 65 \times t3$  mm  
 (Model 65CNC3X)







CNC 5-axes servo electric hybrid tube bender for tubes up to  $\varnothing 65 \times t3$  mm (Model 65CNC5X3)



CNC 3-axes tube bender for tubes up to  $\varnothing 114 \times t6$  mm (Model 100CNC3X)

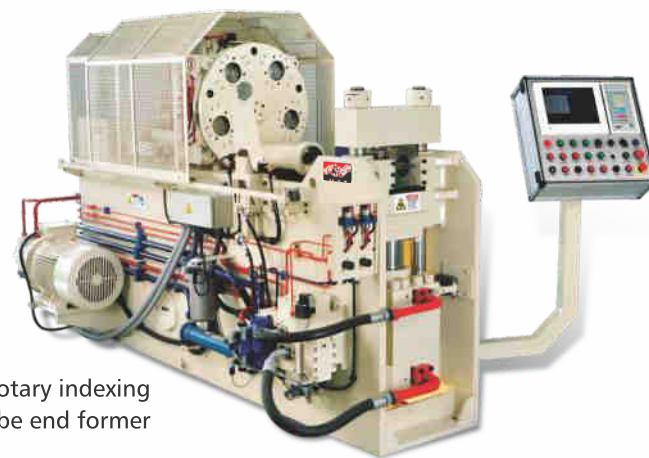


CNC 8-axes hydraulic stretch bender for multi-plane bending of rolled sections

## Tube Processing Machines

## Shaping tubes into complex cross-sections

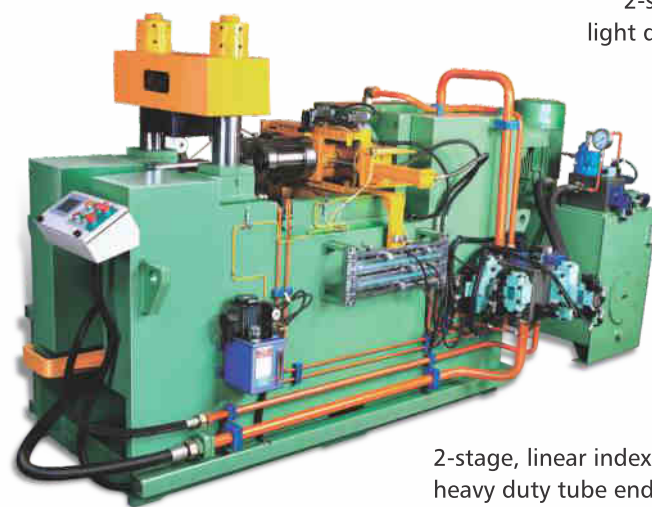
Electropneumatics' tube processing equipment includes end formers, trimming, cutting and punching machines. End profiles of different shapes and varying degrees of complexity can be formed and cut in tubes. Standard end formers in light, medium and heavy duty cover most automotive and piping applications where these machines are used. Other machines for processing tubes are custom-designed to meet specific user requirements.



5-stage, rotary indexing  
tube end former



2-stage, linear indexing  
light duty tube end former



2-stage, linear indexing,  
heavy duty tube end former



Dual shear  
tube cut-off machine



Head pipe  
swaging machine

## Your Benefits

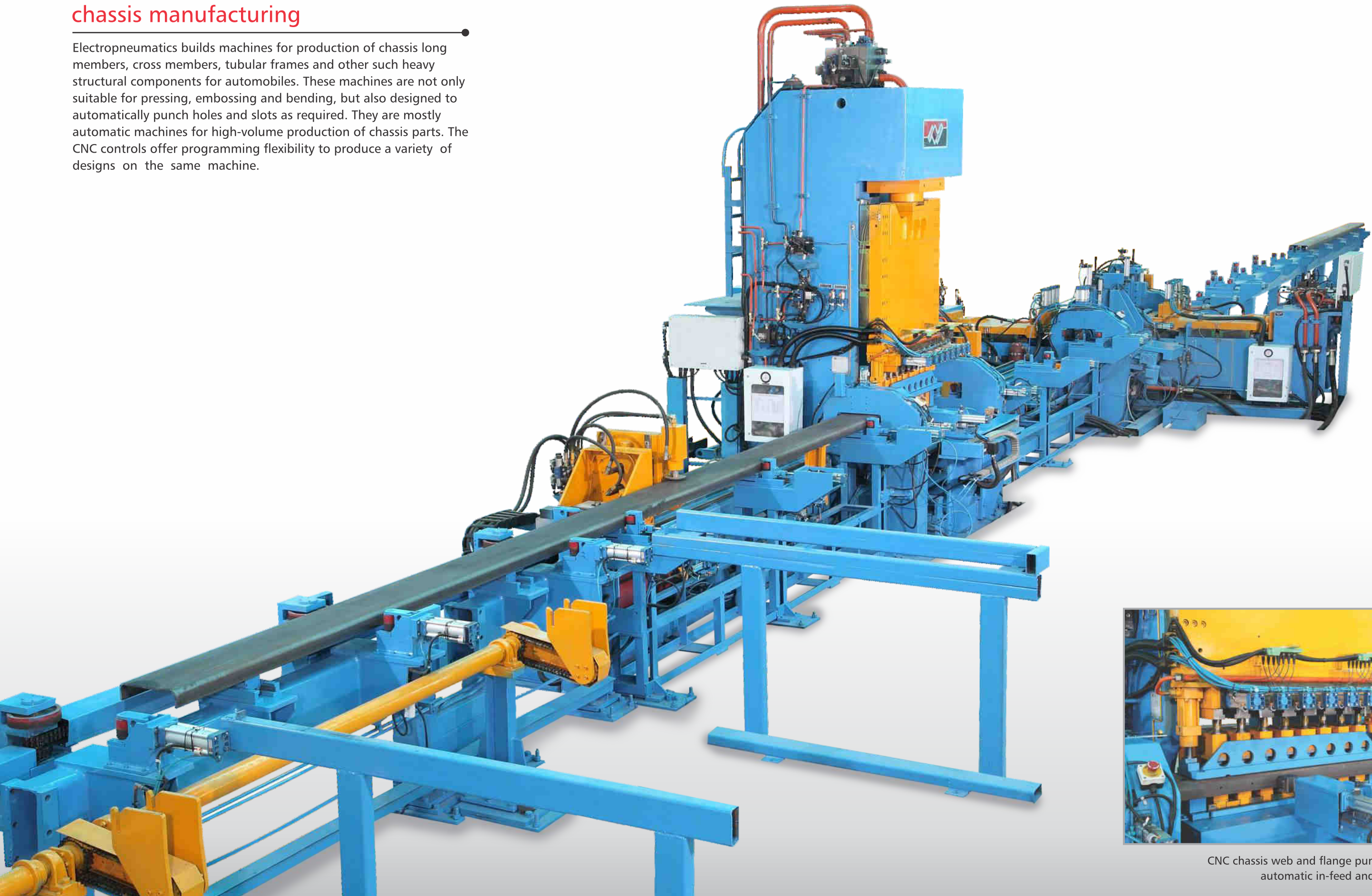
- Process tubes and sections from OD 16 mm to 101.6 mm
- Perform end forming operations like heading, flaring, swaging, beading, curling, sizing, etc.
- Form carbon steel, stainless steel, alloy steel, aluminium, copper, brass and other materials
- Form one end or both ends simultaneously, in single or multiple stages with manual or automatic indexing
- Innovative solutions along with tooling for almost all applications

## Chassis Manufacturing Equipment



## One-stop-shop for heavy duty chassis manufacturing

Electropneumatics builds machines for production of chassis long members, cross members, tubular frames and other such heavy structural components for automobiles. These machines are not only suitable for pressing, embossing and bending, but also designed to automatically punch holes and slots as required. They are mostly automatic machines for high-volume production of chassis parts. The CNC controls offer programming flexibility to produce a variety of designs on the same machine.

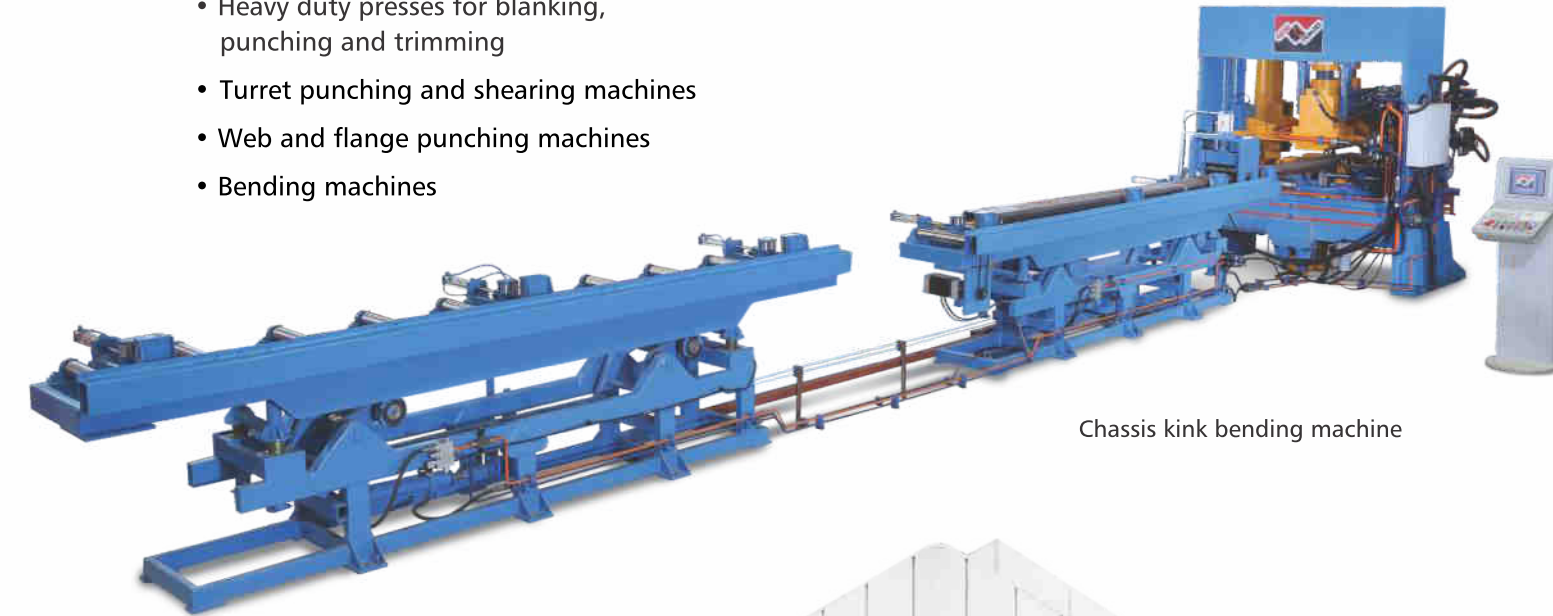


CNC chassis web and flange punching machine with automatic in-feed and out-feed conveyors



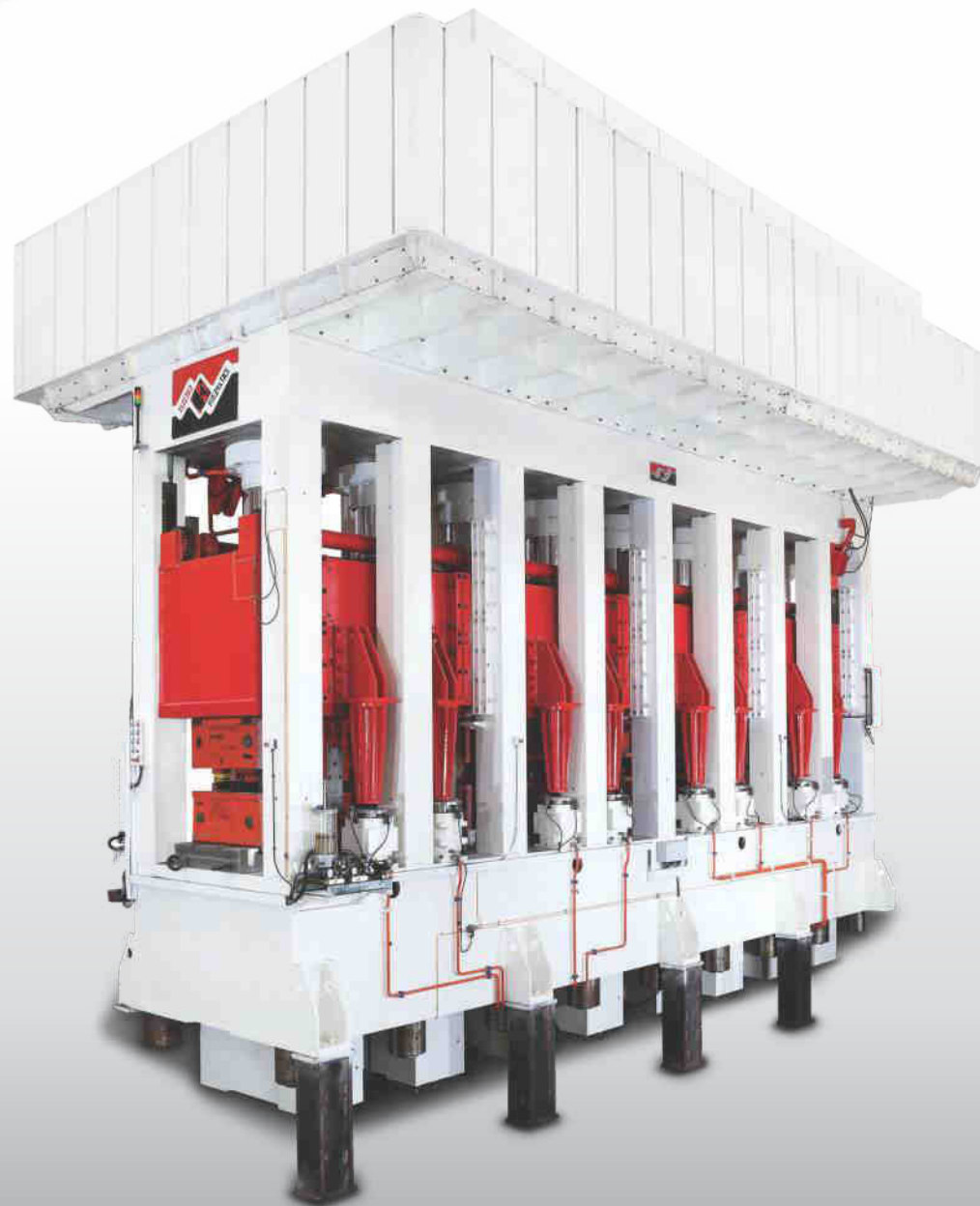
## Your Benefits

- Sturdy machines for heavy-duty forming
- Highly productive, for high volume manufacturing
- Equipment available such as
  - Heavy duty presses for blanking, punching and trimming
  - Turret punching and shearing machines
  - Web and flange punching machines
  - Bending machines

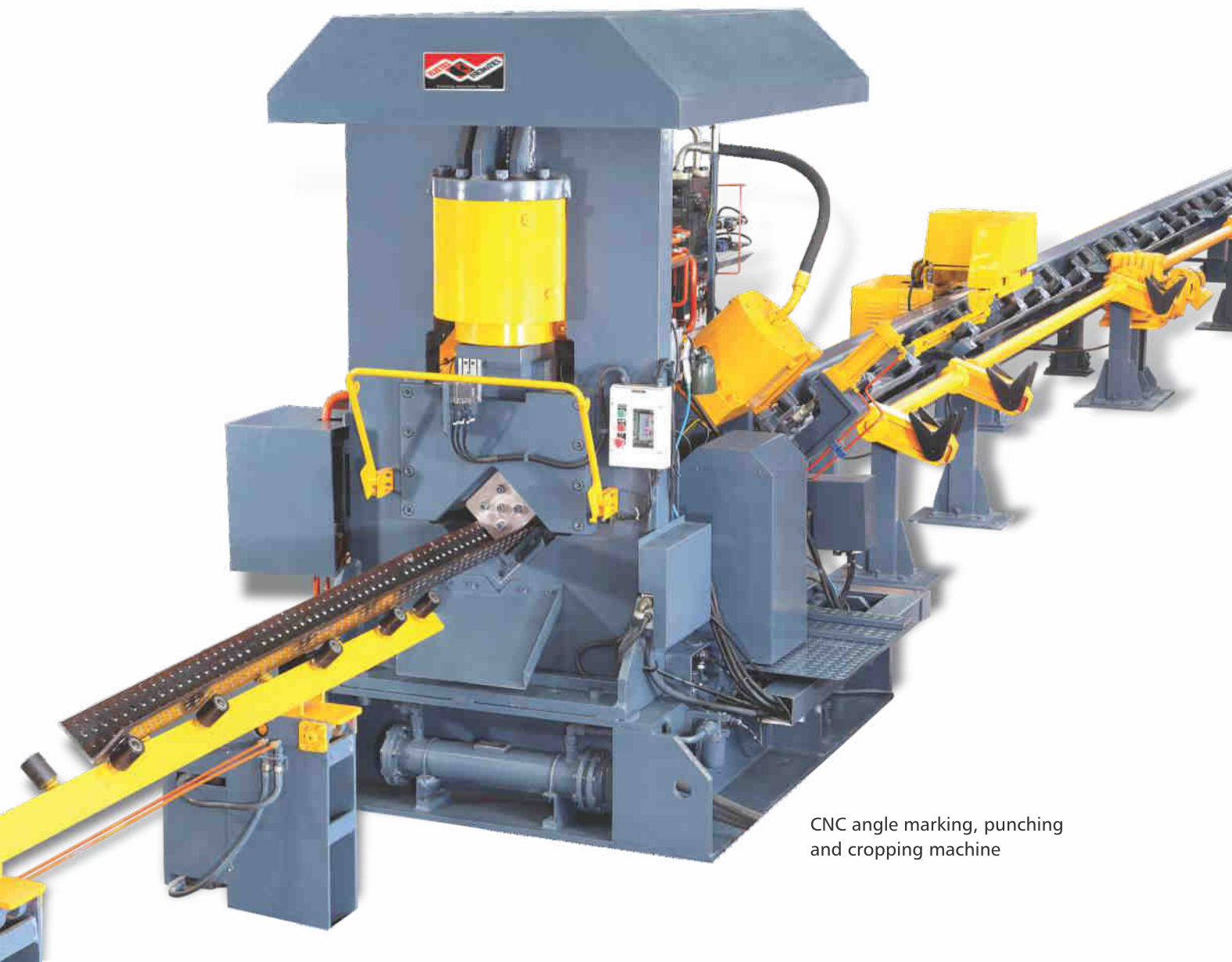


Chassis kink bending machine

4500 T hydraulic press with two independent slides and die cushions for forming and punching chassis long member





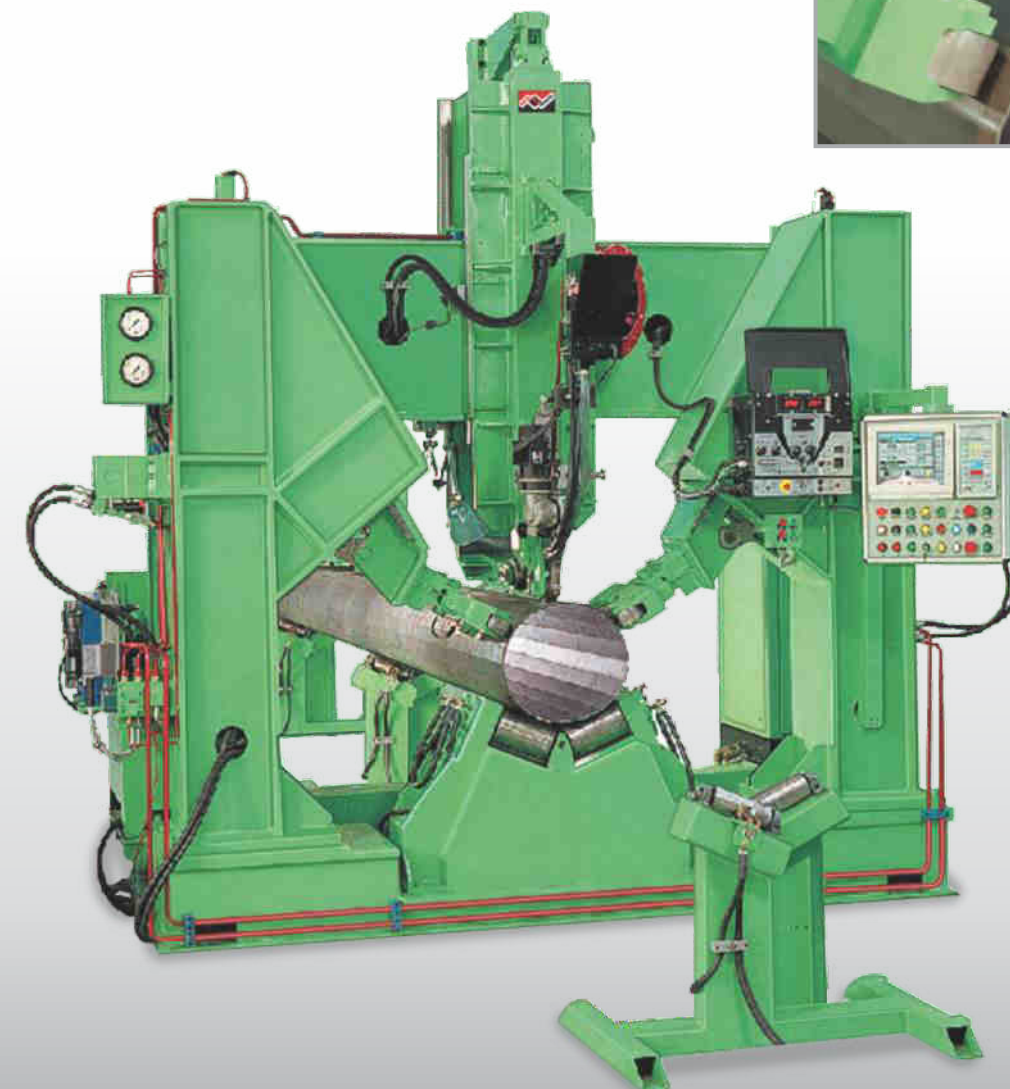


CNC angle marking, punching and cropping machine

## Automated solutions for the fabrication industry

Electropneumatics has a range of products for specifically processing angles, plates and sections for the electrical, power transmission, construction and fabrication industries. These high speed workhorses are designed to keep pace with the large production requirements and increasing growth of these industries. Besides the standard machines available, we design and build machines to meet customer-specific requirements. Some of the machines available to meet the demands of these sectors are

- Automatic CNC Angle Marking, Punching and Cropping Machines
- CNC Plate and Angle Punching Machines with X-Y Table
- CNC Drilling Machines
- CNC Pole Welding Machines
- Straightening Machines
- Hydraulic Presses for marking, punching, cropping, forming, etc.



Closing and welding machine for 12m long octagonal lighting poles

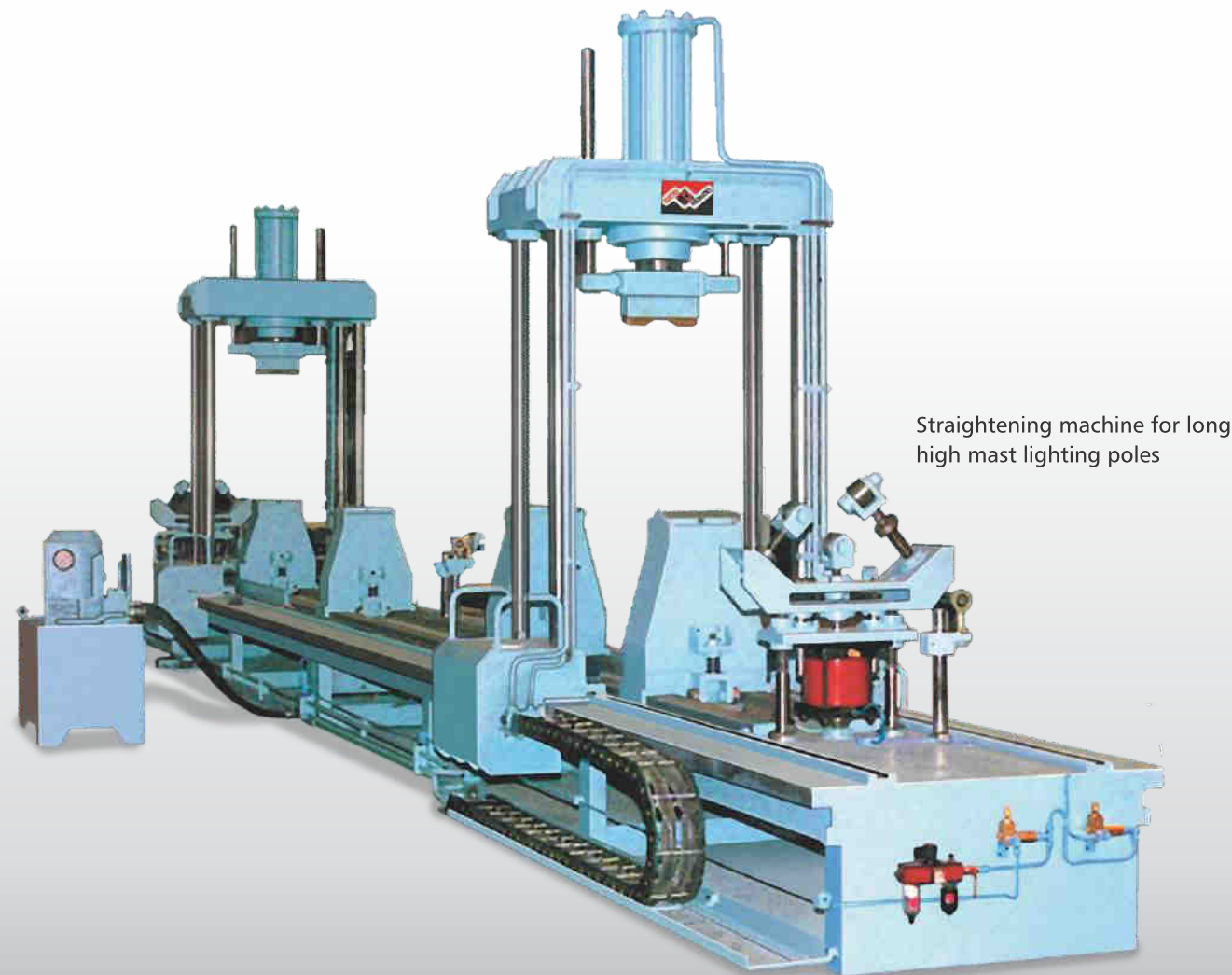


## Your Benefits

- Operations such as marking, punching, cropping, forming, trimming, etc. can be performed on a single press or automated multi-operation machines
- Can process angles, channels, beams, plates
- Special machines available for processing closed sections like tubes of round, oval, square and rectangular sections
- Highly productive, sturdy and reliable
- Automated production lines from loading of section to unloading of processed parts with minimum operator intervention
- CNC controls for flexibility of programming all axes as per part requirement
- Necessary tools (dies, punches, cutting blades) provided with the machine



CNC plate and angle punching machine with X-Y Table



Straightening machine for long high mast lighting poles

## Special Purpose Machines

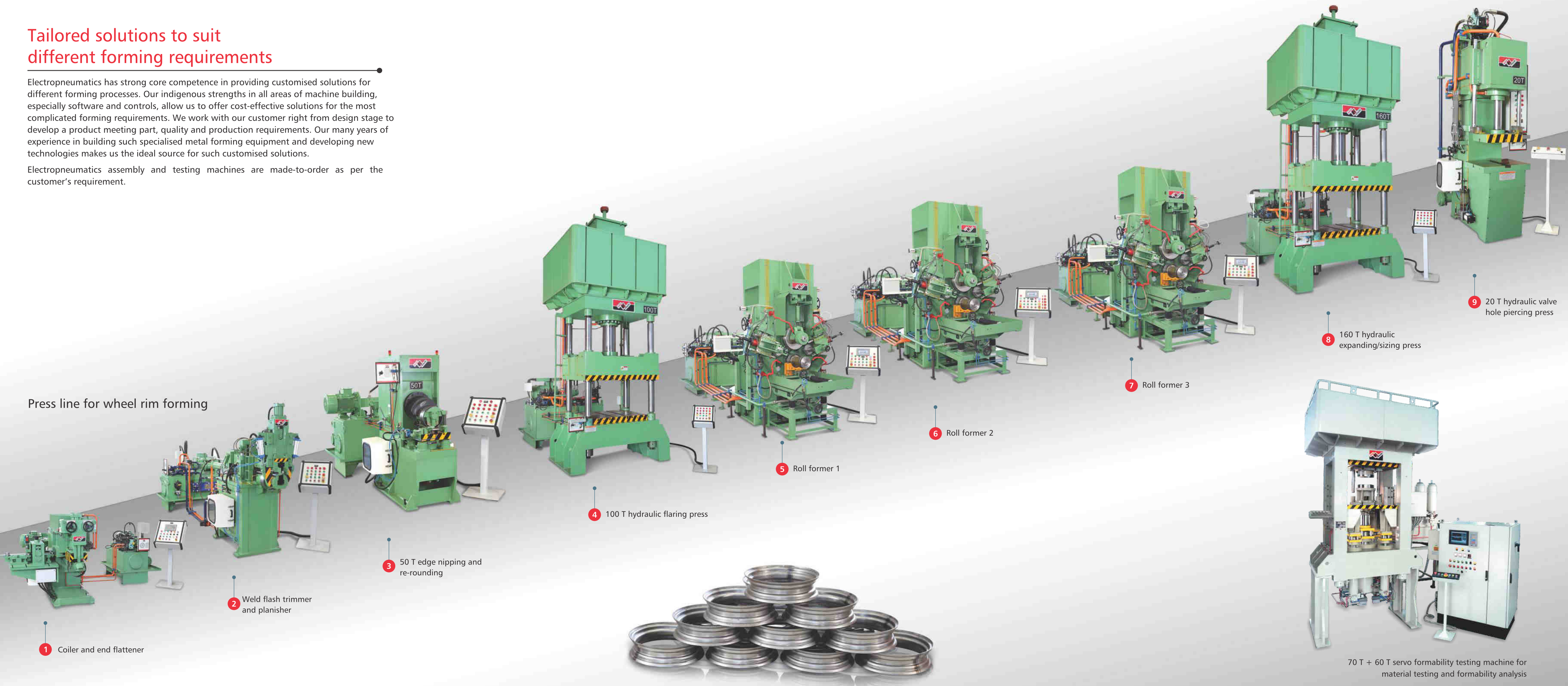


# Tailored solutions to suit different forming requirements

Electropneumatics has strong core competence in providing customised solutions for different forming processes. Our indigenous strengths in all areas of machine building, especially software and controls, allow us to offer cost-effective solutions for the most complicated forming requirements. We work with our customer right from design stage to develop a product meeting part, quality and production requirements. Our many years of experience in building such specialised metal forming equipment and developing new technologies makes us the ideal source for such customised solutions.

Electropneumatics assembly and testing machines are made-to-order as per the customer's requirement.

Press line for wheel rim forming



1 Coiler and end flattener

2 Weld flash trimmer and planisher

3 50 T edge nipping and re-rounding

4 100 T hydraulic flaring press

5 Roll former 1

6 Roll former 2

7 Roll former 3

8 160 T hydraulic expanding/sizing press

9 20 T hydraulic valve hole piercing press

70 T + 60 T servo formability testing machine for material testing and formability analysis





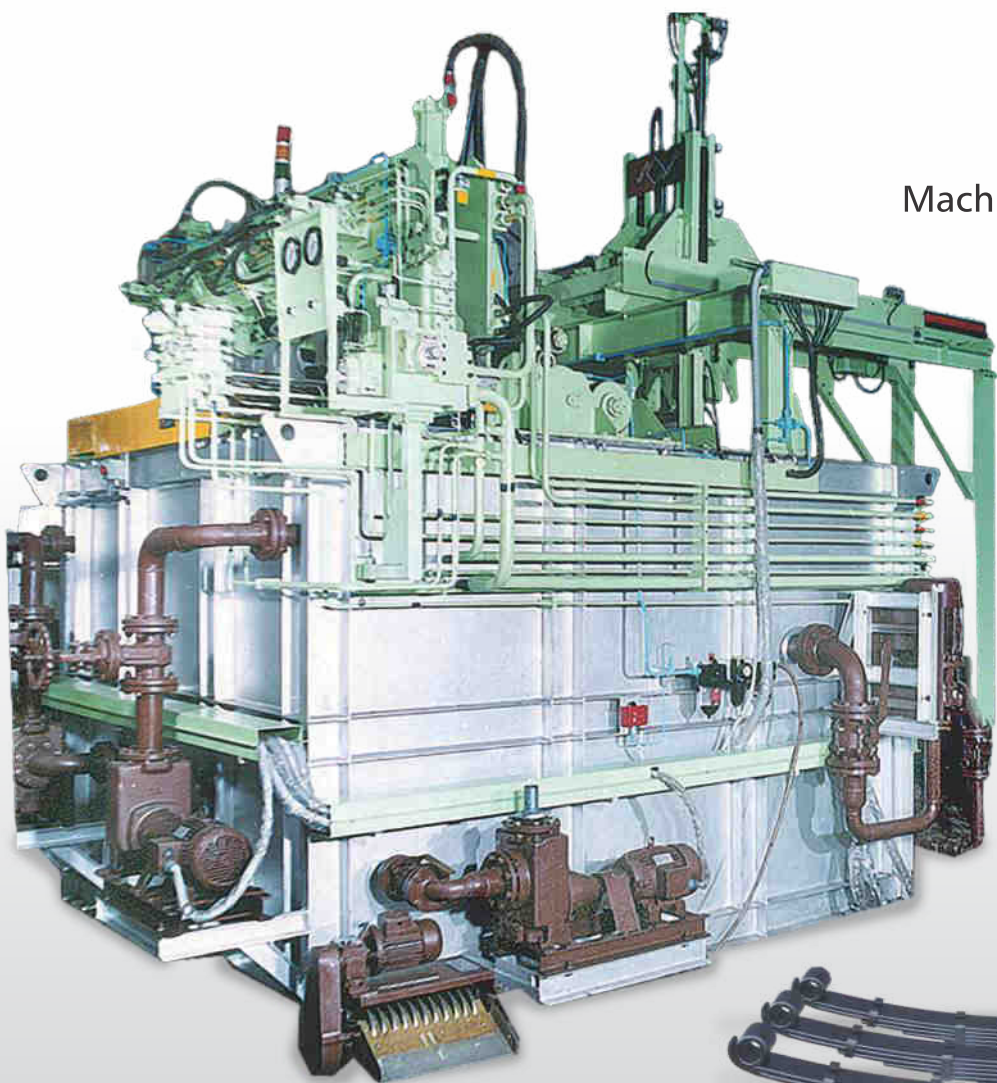
Eye rolling machine



10 T scragging machine

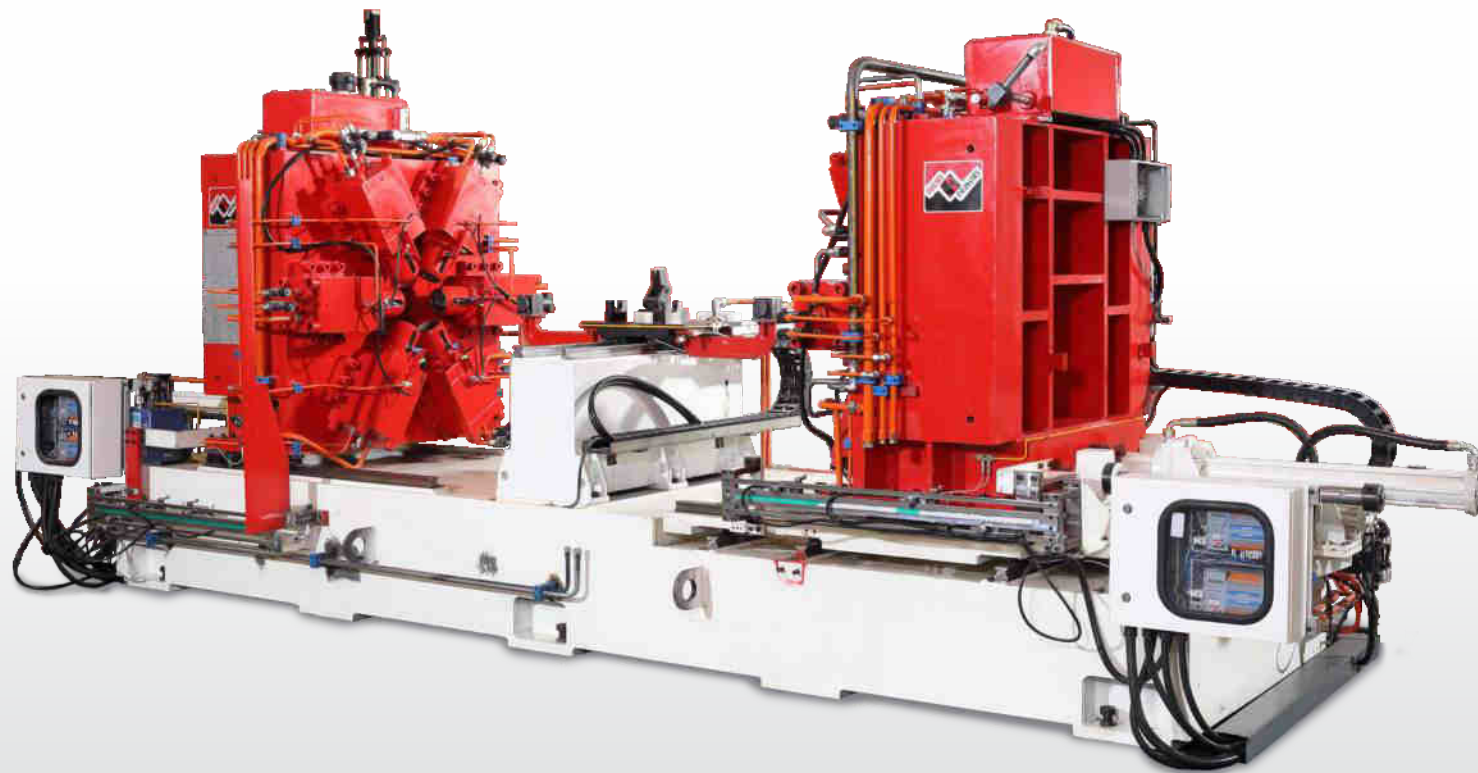
### Your Benefits

- Custom designed machines on study of application and process needs, catering to all industry sectors
- Designed with different levels of automation and sophistication, as simple machines or CNC machines with closed-loop feedback and real-time monitoring
- Data logging of test parameters with printouts or PC interface for further processing possible
- Integration of production and QA functions
- Full lines with automation available, especially for wheel rims, leaf springs, etc.
- Equipment available for applications like
  - Automatic assembly of parts
  - Material formability testing
  - Calibration and sizing machines for wheel rim assemblies
  - Deflection, load, fatigue and endurance testing



Machines for leaf springs

Automatic cambering and quenching machine



600 T special hydraulic machine for crimping automotive link rods and yokes

### Turnkey Systems and Special Projects



## Customised products to large turnkey projects

- 100% indigenous, 100% made in India multi-discipline proficiencies to meet requirements of government defense, railways, ship building, and other sectors
- Design till commissioning and testing capability
- A heavy fabrication shop for specialised, precise and certified fabrication and welding up to 100 T single structure in different materials
- Years of experience in design and building of sophisticated hydraulic systems. A modern power pack assembly and test set-up with cleanliness monitoring systems
- In-house developed electrical systems, controls, application software, AC servo drives and motors, and customised motion control solutions in a world class dust and static-free EMI safe assembly and test shop
- Propriety designed hydraulic cylinders in bore sizes up to 1300 mm and lengths up to 2500 mm, in use since 1974.
- A state-of-the-art CNC machine shop for machining of large and critical parts with CNC boring machines, 5-axes machining centers, VMCs, CNC lathes, etc.



### Ship-based Missile Launch System

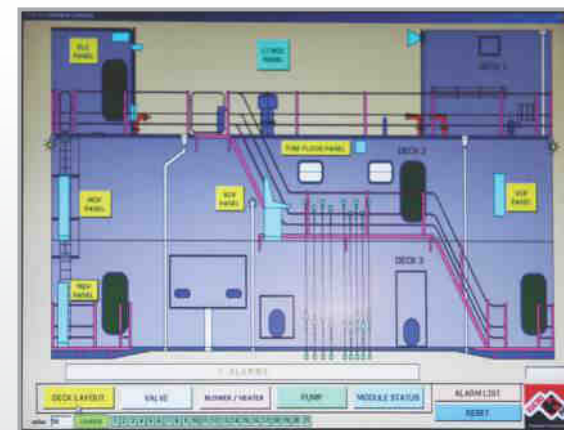
This missile launcher for use on battle ships is a high-tech equipment built for launching of Interceptor Missiles used in tracking and destroying incoming enemy missiles, high in the atmosphere. It is made of special grade steel for base frame, launch beam and consists of a corrugated canister, interface mechanism, complete hydraulic system and QNX-based operating electronics system. The missile is placed inside the canister and sealed. During firing stage, the articulation from 0 to 90° (horizontal to vertical) will be done in 120 s. The whole system weighs around 30 tons.



### Damage Control Simulator

The first-of-its-kind facility in India, completely indigenously built for the Indian navy to train ship crew in damage control in the event of ship damage or sinking. It simulates the ship motion on waves using hydraulic actuators and motion controls and also real-life scenarios like flooding, smoke, etc. It consists of a three deck steel structure supported on end bearings and portal frames in a reduced footprint.

Our role included civil works, fabrication, hydraulics and control system design, building, erection and commissioning at site. Three such projects have been executed and others are in the pipeline.







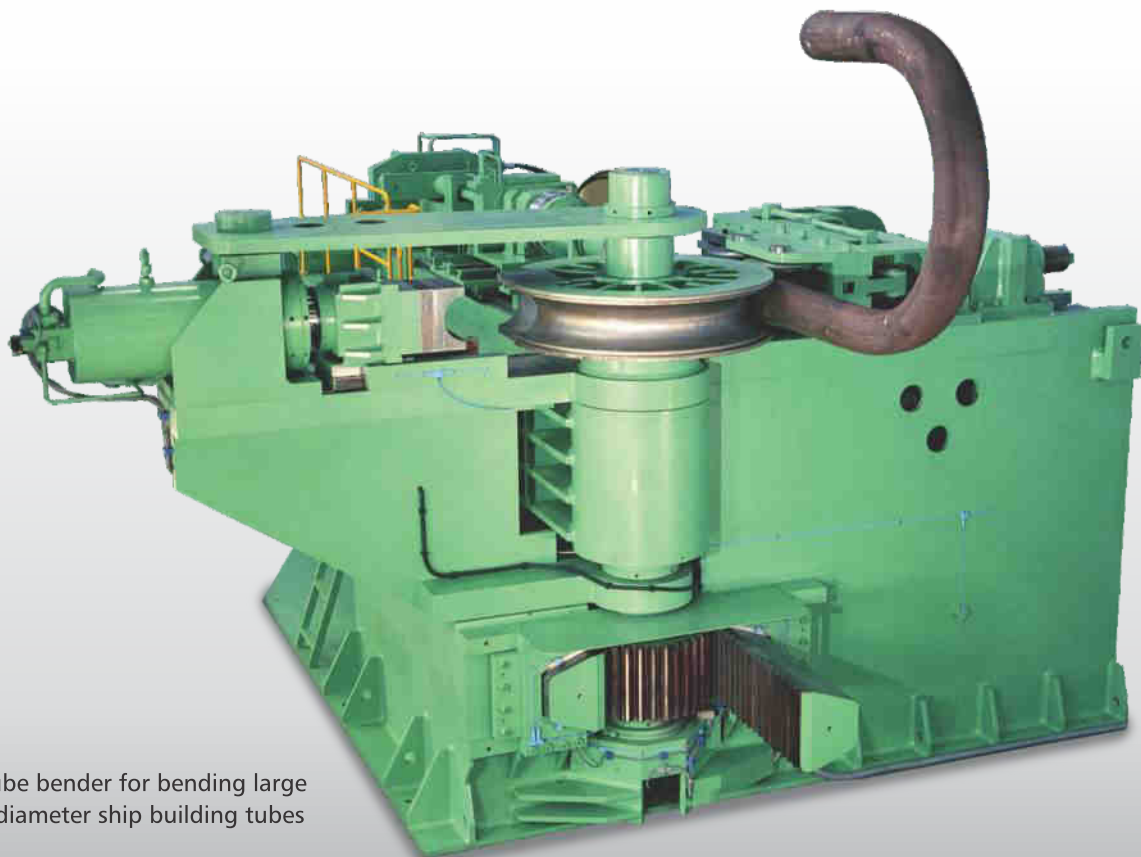
500 T wheel press for mounting/demounting wheels and gears on rail axles



Straightening machine for thick plates



100 T magnetising / demagnetising press for rare earth magnets



Tube bender for bending large diameter ship building tubes



MIL Grade AC Servo Drives, Motors and Control Systems



AKASH missile launcher



AAD Prahaar missile launcher



PINAKA multi-barrel rocket launcher



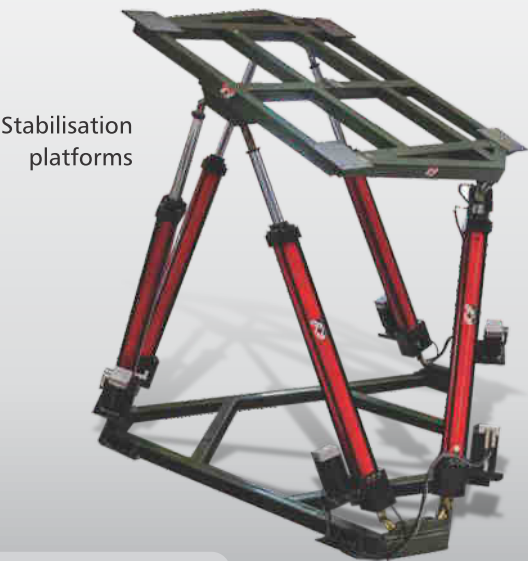
L-70 air defense gun



Antenna positioning



Sonar directing gear



Stabilisation platforms



Unmanned guided vehicles (UGV) with robotic manipulator





## Servo stretch blowing of PET bottles and jars

Produce PET bottles and jars for water, juice, liquor, syrups, jams, cooking oil, carbonated drinks, medicines, cosmetics, detergents, cleaning liquids, pesticides, candies and more at high production rates on our servo PET blow moulding machines. They are designed and built using the latest technology and a flexible design to keep up with the international market demands and trends.



D-Series  
Downward stretching and blowing

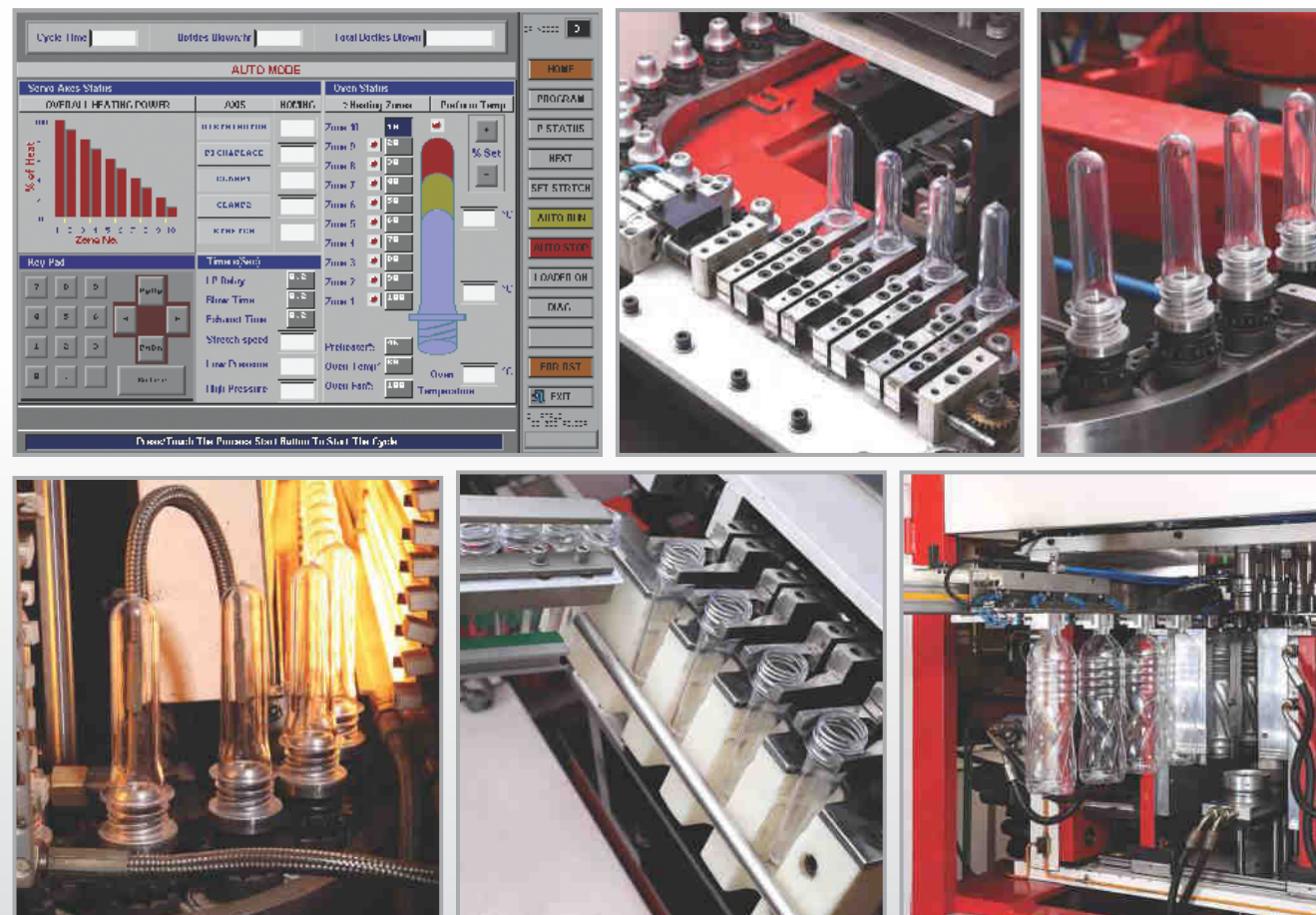


U-Series  
Upward stretching and blowing



## Your Benefits

- Servo stretching as standard feature provides flexibility and easy setting.
- Preforms are always heated in the neck down position to ensure that the neck portion always remains cold and free from distortion.
- Unlike hydraulic systems, servo clamp is energy efficient since it consumes power on demand, only during closing and opening.
- High production rates
- Scientifically designed reflectors ensure that radiated energy passing around the preforms is reflected back onto the preforms, increasing the efficiency of the oven.
- In keeping with the hygiene standards required by the Food and Beverage Industry, our machines operate only with servo and pneumatics. No hydraulics, so no oil spills. Ideally suited for clean room conditions.
- The entire process from loading the preforms into the conveyor hopper to final exit of the blown bottle into the filling machine via an air conveyor is fully automated and untouched by hand. No human intervention needed.
- Accurate and repeatable operations
- Recovery of the blown air reduces consumption and eliminates the need of a separate low pressure compressor, thereby saving both initial cost and energy.



## Your Advantages

More than four decades of diversified experience in metal forming

World-class technology with 100% indigenous capability

A single source for all your requirements

Expertise in customised forming solutions

Full-fledged manufacturing and assembly set-up



## Electropneumatics & Hydraulics (India) Pvt. Ltd.

Gat No. 254/255, Kharabe Wadi, Chakan-Talegaon Road,  
Chakan, Pune 410501, India.

Tel. : +91 2135 667500

Fax. : +91 2135 667502

[epcsales@electropneumatics.com](mailto:epcsales@electropneumatics.com)  
[www.electropneumatics.com](http://www.electropneumatics.com)