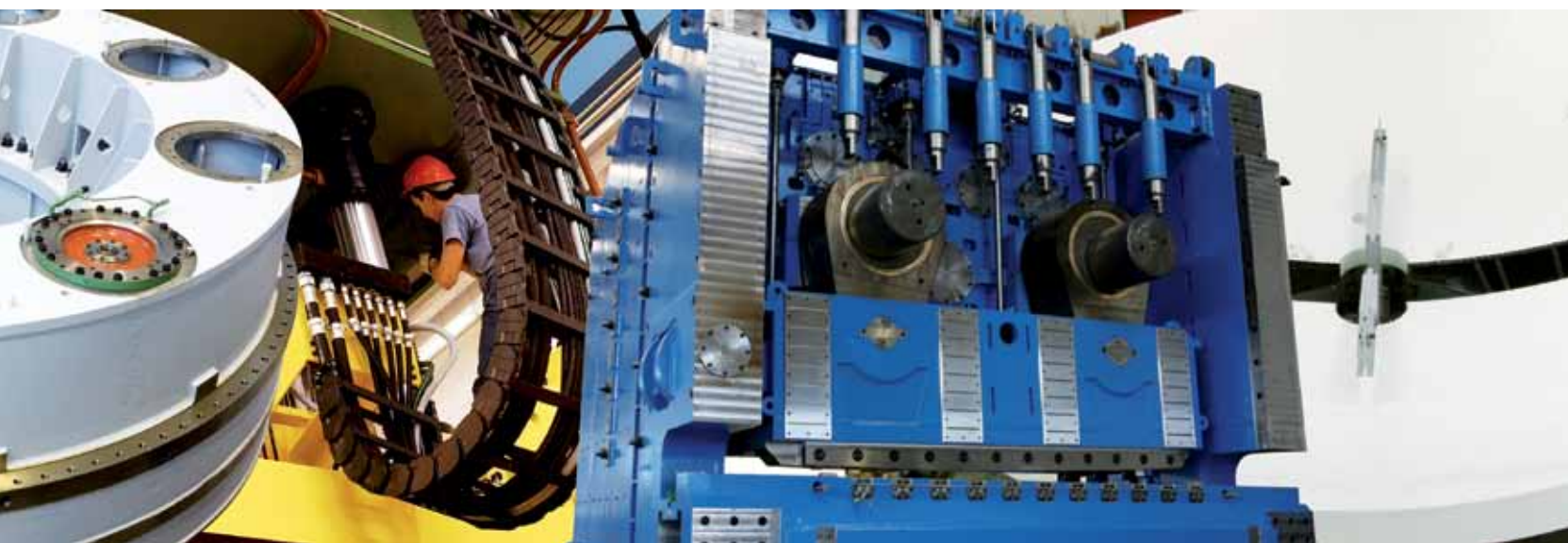




# Engineering and Construction of Mechanical Machines

by Galbiati Group





## ENGINEERING AND CONSTRUCTION OF MECHANICAL MACHINES

Galbiati Group manufactures **high-precision, large metal working machines**. The machines are custom built according to customer designs and projects or are fully designed at Galbiati based on the customer's specifications.

The experience our Engineering, Production, and Assembly Department staff has gained over the years allows us to meet the challenges set out by the applied engineering industry.

Objective: Identify the best technical solution to fulfill a need, meet a demand, or win a challenge.

A few examples of mechanical constructions:

- MILL STANDS
- TUNNEL BORING MACHINES
- HYDRAULIC MECHANICAL PRESSES
- ANTENNAS AND RADIO TELESCOPES
- STEEL SHEET SHEARS

## □ MILL STANDS

### "Skin-Pass" Stand

Fully assembled "Skin-Pass" stand including piping and wiring; total weight 200 ton



### Mill stand chokes, AG Cylinders, and Accessories

Special accessories for mill stands: AG Cylinders, Sliding Blocks, Rails, Base Plates, hydraulic strip feed and unloading systems, etc.



### Aluminium Hot Mill Stand

Complete manufacturing and preassembly of a max. 4300 mm wide aluminum hot strip mill



### Pre-assembly, Piping, and Inspection

Mill stand assembly area equipped with overhead travelling 160 ton, 14 m hook crane



## □ STEEL SHEET SHEARS

### Mechanical Rocking Shear

The blades are actuated by the coordinated rotation of two eccentric shafts, driven by two independent gear trains, each one powered by 900 kW electric motors at 1000 rpm

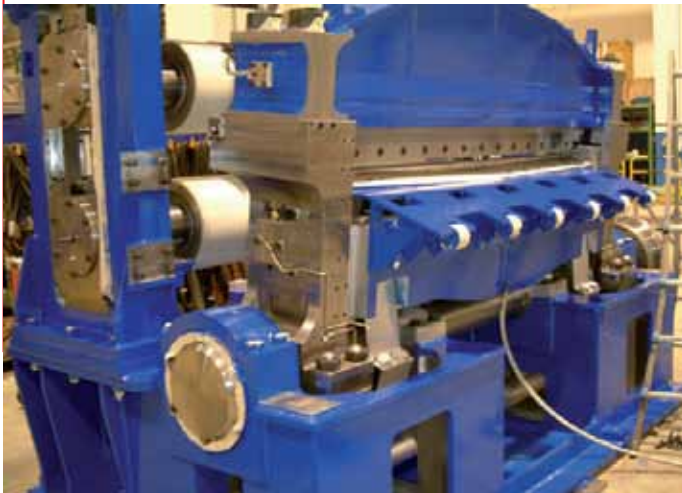


After pre-assembly and test at Galbiati Group workshop, the entire rocking shear was dismantled in sub-assemblies and transported by sea to its final destination in India. On site, it was reassembled by qualified personnel and immediately entered production, to the complete satisfaction of the local engineers



### Pendular Shears for Continuous Thin Sheet Metal Cutting

Pendular shears for continuous thin sheet metal cutting up to 3 m width at the end of pre-assembly



### Gear trains for mechanical drive shears

Gear trains for mechanical shears (rocking shears, swing blade shears, reciprocating shears, pendular shears, divide shears, etc.)



## □ ANTENNAS AND RADIO TELESCOPES

### Mechanical components for satellite dishes and radio telescopes

Elevating segments with high precision teeth produced using 5-axes CNC machine tools. Pitch adjusted between two neighboring segments. Chord readings inspected on the entire set of 6 contiguous segments (nominal reference diameter of the gear greater than 28 m)



High stiffness slides for the support and Azimuth rotation of the entire SRT radio telescope. Photo taken during assembly and inspection in our workshop



Assembly of special elevation system with permanent magnet linear motor



Radio telescope prototypes for deep space millimeter wavelength research installed at the Socorro site, New Mexico (USA)



## □ TUNNEL BORING MACHINES

### "TBM" Tunnel Boring Machines

Cutter head of the TBM (Tunnel Boring Machine) rotating head, excavation diameter from 4 m to more than 12 m



## □ HYDRAULIC MECHANICAL PRESSES

### High Tonnage Hydraulic Mechanical Presses

Hydraulic press built to customer design specifications for the production of automotive panels.  
Operating capacity: 350 ton



Hydraulic press built to customer design specifications for the production of structural insulated panels including process steam lines













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