



*innovating the future...*

## Company Profile



Manufacturers of Hot / Cold Rolling Mills & Process Lines for Flat Products



# Introduction



consumer centric efforts, Magadh machines have gained immense popularity for possessing updated technological & ergonomic features and rugged performance even under the most demanding operational environment.

The willingness to deliver the best is backed by a formidable and ultra modern manufacturing & assembly facility in the industrially advanced city of Dewas in Madhya Pradesh. Dewas is very well connected by rail, road and air to almost all major

cities in India and is home to many leading lights of Indian engineering companies like Tata, Volvo, John Deere, Kirloskar, Gajra, etc., Dewas provides experienced and motivated manpower for operating its latest generation state of the art CNC machine tools spread over a covered area of 12000 sq.mtrs. The current strength stands at 400 adept pair of hands eager to take any challenge head on. The design & development department is manned by 50 qualified engineers and draughtsmen complimented by a host of latest software loaded CAD stations. Magadh has implemented SAP® to keep track of each and every project activity for a streamlined business process.

Welcome to the world of endless possibilities - Magadh, where we believe that only thing permanent in this world is change. Change for the better.

Magadh Precision Equipment Limited, incorporated as Magadh Steel Industries Private Limited in the year 1986, is an established and respected name as a distinguished designer, manufacturer and supplier of capital equipment for the metal processing industry catering specially to the demanding flat coil rolling industry. All products designed & manufactured by Magadh conform to the prevailing international standards, with the capability of being customized to suit individual requirements of discerning customers. As a result of relentless







TATMETAL





## 4-Hi/6-Hi Tandem Hot Strip Mills

Magadh can offer 4-Hi/6-Hi Tandem Hot Strip Mills (5 Stand or 6 Stand) for strip width upto 1670 mm, 900 MPM speed and finish strip thickness of 12.5 mm to 1.8 mm.

The main mill features are :

- Work roll shifting and bending for better shape control
- Laminar cooling
- Quick response Hydraulic roll force cylinders and QWRC
- Coupled to thin slab casting and tunnel furnace for compact design
- Work roll offsetting for better flatness



## 4-Hi Steckel Mills

Magadh can offer 4-Hi steckel mills for strip width upto 1670 mm, speed upto 300 MPM and finish strip thickness of 12.5 mm to 2.5 mm. Mills can be designed for stainless steel conforming to AISI-200/300/400 series.

The main mill features are:

- Completely enclosed mandrel furnaces for high thermal efficiency and uniform surface quality
- Dancing type pinch rolls for proper tension control
- Zonal cooling and work roll bending for improved flatness
- Quick response Hydraulic roll force cylinders and QWRC
- Laminar cooling on runout table for controlled winding temperature
- Provision of chequered plate



## Downcoilers

Magadh can offer downcoilers for hot strip mill application width upto 1670 mm, speed upto 800 MPM and finish strip thickness of 12.5 mm to 1.5 mm.

The main features are :

- Retractable downcoilers for maintenance purpose
- Controlled retraction of wrapper rolls or mark less strip
- Special grade segments for longer life between maintenance
- Internally water cooled
- Integral downender



## 2-HI Roughing Mills

Magadh can offer 2-HI roughing mills for strip width upto 1670 mm, speed upto 200 MPM and finish strip thickness of 12.5 mm or lower.

## Vertical Edgers

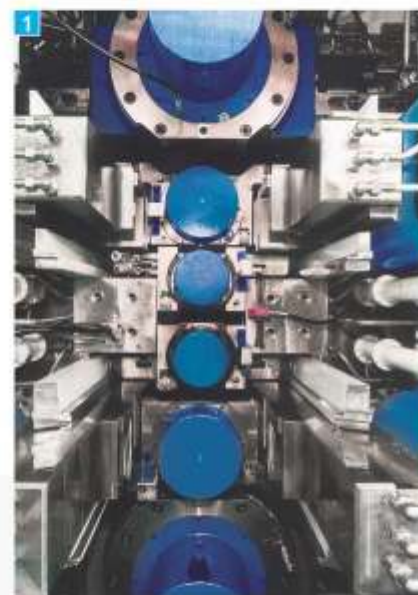
Magadh can offer Vertical edger for strip width upto 1670 mm, speed upto 150 MPM and finish strip thickness of 12.5 mm or lower.



## 4-Hi/6-Hi Reversing Cold Mills

Magadh can offer 4-Hi/6-Hi reversing cold mills in single stand or twin stand configuration for strip width up to 1650 mm, minimum finish strip thickness up to 0.15 mm and mill speeds up to 1400 MPM. State of the art level 2 / level 3 automation and controls with Mill Management System. The main mill features are :

- Positive and negative bending of work rolls
- Positive and negative bending of intermediate rolls (6-Hi Configuration)
- Quick response static / dynamic IMR shifting (6-Hi Configuration)



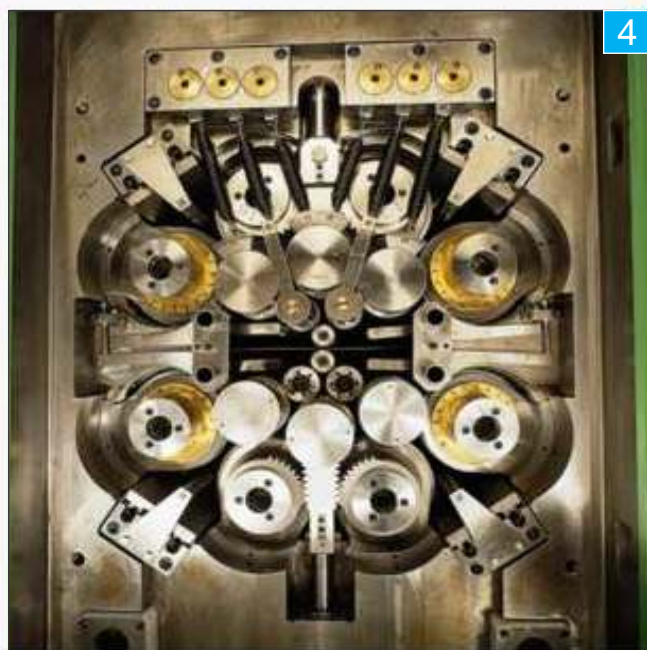
- Quick response roll force cylinder with position transducer for direct roll gap measurement
- Hydraulic wedge system for constant passline and roll wear compensation
- Shape control systems with zonal coolant control.
- Condition monitoring system for mill bearings

## Cluster Reversing Cold Mills

Magadh can offer 20-Hi/12-Hi reversing cold mills for strip width up to 1650 mm, minimum finish strip thickness up to 0.05 mm and mill speeds up to 600 MPM.

The main mill features are :

- Monoblock Construction and robust mill housing for roll cluster ensuring high mill modulus and minimal transversal variation of mill modulus
- Quick response hydraulic AGC of middle BUR'S with position transducers and servo valves
- Servo actuated AS-U Roll system for crown control
- Hydraulically IMR shift system for shape control
- Precision machined and matched high quality mill fills



- 1 Window of 6-Hi Mill
- 2 General View of 6-Hi Mill
- 3 Entry Section of Cold Rolling Mill
- 4 Window of 20-Hi Mill



## Push Pull Pickling Lines

Magadh can offer push pull pickling lines for strip width upto 2000 mm, 180 MPM speed and maximum strip thickness upto 6 mm .

The Main features are:

- In line scale breaking & washing unit
- Turbulent acid flow
- Steering bridle roll at exit for tight winding and negligible telescopicity
- Auto conductivity and temperature control
- Cascade rinsing and re-use of waste rinse water in descaling zone



## Continuous Pickling Lines

Magadh can offer continuous pickling lines for strip width upto 2000 mm, 250 MPM speed and maximum strip thickness upto 6 mm.

The Main features are:

- In line scale breaking & washing unit
- Steering equipped Horizontal Loopers
- Turret type Side Trimmer with scrap chopper at exit
- Steering bridle roll at exit for tight winding and negligible telescopicity
- Teflon tube type heat exchangers
- Auto conductivity and temperature control
- Cascade rinsing and re use of waste rinse water in descaling zone
- Strip Joiner for continues operation



## Galvanizing Lines

Magadh can offer galvanizing lines for strip width upto 1650 mm, process speed upto 180 MPM and strip thickness of 4.5 mm to 0.12 mm. Coating technology offered are DAGAL, heat to coat and wet flux.

The main features are:

- Inline skin pass mills
- Inline tension levelers
- Minimum coating of 55 GSM
- Caster jet cooling
- Vertical furnace
- Minimum spangle

Magadh can also offer Zn+Al coating lines with induction pot technology.



## Tinning Lines

Magadh can offer tinning lines for strip width upto 1250 mm, process speed upto 250 MPM and strip thickness of 0.63 mm to 0.09 mm.

The main features are:

- Minimum coating of 2.8 GSM, Differential coating on each side
- Tin free coating also offered
- Ferro-stan technology
- Inline tension leveler



## Colour Coating Lines

Magadh can offer colour coating lines for strip width upto 1650 mm, process speed upto 80 MPM and strip thickness of 1.2 mm to 0.3 mm.

The main features are:

- Reverse roll coaters
- Infra red baking chambers
- Energy saving incinerator
- Inline tension leveler



## Furnaces

Magadh can offer vertical (Inverted U and L Type) as well as horizontal Non-Ox/Oxidizing Annealing and Galvanizing furnaces, for strip width up to 1650 mm, thickness up to 4.2 mm and capacity 80 TPH.

- Furnace can be equipped with recuperative technology non-ox burners
- Gas and Electric fired Radiant Tubes in HN Grade.



## CR/HR Slitting Lines

Magadh can offer CR/HR slitting lines for strip width upto 2000 mm, process speed upto 160 MPM for HR slitting and 300 MPM for CR slitting lines for strip thickness of 16 mm to 0.12 mm.

The Main features are:

- Conventional/ double eccentric design slitter head
- Side shifting/ turret type head changing arrangement
- Scrap ballers for high productivity



## CR/HR Cut-to-Length Lines

Magadh can offer CR/HR cut-to-length lines for strip width upto 2000 mm, process speed upto 120 MPM for strip thickness of 16 mm to 0.05 mm.

The main features are:

- Rotary shears for precision length control at high speeds
- 4-Hi/6-Hi, 17/19/21 rolls multi correction levelers





## Electrolytic Cleaning Lines

Magadh can offer Electrolytic Cleaning Lines (ECL) for a strip width upto 1650 mm and strip thickness of 0.12 to 2.5 mm. ECL is used for the effective removal of iron fines, rolling oil, or grease remaining on the surface of cold rolled steel strip which may range upto 450 mg/m<sup>2</sup> of oil or grease and up to 160 mg/m<sup>2</sup> of iron fines. Technology employed is spraying, brushing and electro cleaning by high current density followed by stage wise cascade rinsing.



The ECL can have efficiency of up to 97.5% for the oil and in excess of 95% for the iron fines, depending of the quality of strip from the rolling operation. This is due to the combination of different processes to clean the strip: spray or dip cleaning, brushes, electro-cleaning section followed by a rinse built into different stages.



## Tension Leveling Lines

Magadh can offer Tension Leveling lines in 4-Hi and 6-Hi configuration for strip width upto 1650 mm, process speed upto 600 MPM for strip thickness of 2.5 mm to 0.12 mm.

The strip defects that can be handled are:

- Surface to surface length differential (coil set)
- Edge to edge length differential
- Edge to edge thickness differential
- Surface to surface length differential (crossbow)



# Production Facility



- 1 Renishaw Touch Probe
- 2 Juaristi CNC Boring
- 3 BOKO High Speed Milling
- 4 WMW CNC Gear Hobber
- 5 Machining of Mill Housing
- 6 CNC Lathe





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## MAGADH PRECISION EQUIPMENT LIMITED

(A Government of India Recognized Star Export House)

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