

# JMW INDIA PVT LTD

**Works :** JMW INDIA PVT. LTD. Unit-II, E-530-531, RIICO Ind. Area, Chopanki, Bhiwadi Dist. Alwar,  
(Rajasthan)-301019, GST No. 08AAACJ3260C1Z1  
Ph. No. 8058007072 (Akhilesh Tiwari)

## Purchase Order

To,  
M/s Vaid Engineering Industries  
246, Rajdhani Enclave,  
Pitampura, Delhi-110034

Dated: 29-Apr-2022

Dear Sir,

With reference to your Quotation dated 27.04.2022 we are pleased to place our order as following:-

Sr. No	Item	Quality	Quantity	Total Value
1	4HI COLD BREAKDOWN ROLLING MILL FOR 410 MM WIDE COPPER/BRASS COILS (EXCLUDING ELECTRICALS ) <b>AS PER QUOTATION ATTACHED HERewith</b>	01 Nos	1,75,00,000/-	1,75,00,000/-
2	4HI COLD FINISH ROLLING MILL FOR 410 MM WIDE COPPER/BRASS COILS (EXCLUDING ELECTRICALS ) <b>AS PER QUOTATION ATTACHED HERewith</b>	01 Nos	1,55,00,000/-	1,55,00,000/-
	<b>TOTAL AMOUNT</b>			<b>3,30,00,000/-</b>
<b>Add</b>	<b>GST @ 18%</b>			<b>59,40,000/-</b>
	<b>GRAND TOTAL ( EX-WORKS)</b>			<b>3,89,40,000/-</b>
	<b>PRICE INCLUSIVE OF ERECTION/ INSTALLATION/CHARGES AT SITE</b>			

### Exclusion:-

1. All Motors, Panels, Electrical, Cables etc.
2. Coolant/ Filtration System
3. Thickness Gauge/ AGC
4. All spares, Platforms, Gratings, Ducts, Canopy. Covers etc.
5. Lubricants, Greases, Tools, Fixtures, Fittings etc.
6. Civil Engineering Work (only drawing would be provided)

### Terms & Conditions:-

1. Terms of Freight: Ex-Works
2. Delivery Period: 6 Months
3. Payment Terms: 10% Token advance paid on 29.04.2022, 30% Within a month, 20% after 10 Weeks, 30% before delivery and 10% after Erection/Installation.

### **Billing Detail: -**

**JMW INDIA PVT. LTD.**  
**E-530-531, RIICO INDUSTRIAL AREA,**  
**CHOPANKI, BHIWADI, DIST. ALWAR,**  
**RAJASTHAN-301019**  
**GST No.:- 08AAACJ3260C1Z1**

For JMW India Pvt. Ltd.  
  
Authorized Signatory

# **VAID ENGINEERING INDUSTRIES**

Manufacturers and Consultants for Rolling Mills :  
2 Hi/ 4 Hi; Hot/ Cold Mills Ferrous/ Non-Ferrous Sheet & Strip  
Slitting Lines, Gear Boxes and Allied Machinery  
Website : [www.vaidengineering.com](http://www.vaidengineering.com)  
E-Mail : [info@vaidengineering.com](mailto:info@vaidengineering.com)

246, Rajdhani Enclave  
Pitampura  
New Delhi – 110 034  
Ph.: +91-11-47019609  
Cell : 91-9810029852

---

APR 27, 2022

**M/s JMW INDIA (P) LTD.**  
SP4-863, RIICO Industrial Area  
Pathredi, Dist. Alwar  
Rajasthan - 301 019

## **QUOTATION OF 4Hi Cold Breakdown Rolling Mill for 410 mm wide Copper/ Brass Coils**

### **CONTENTS :**

- A) Technical Specifications
- B) Basic offer for Equipment & Supplies
- C) Details of Mechanical Equipment
- D) General Terms & Conditions

**M/s JMW India Pvt. Ltd., Pathredi**

**Apr 27, 2022**

**A) TECHNICAL SPECIFICATIONS :**

**4Hi Cold Breakdown Rolling Mill for 410 mm wide Copper/ Brass Coils**

- 1) Material to be Rolled : Copper/ Copper Alloy in Coil form
- 2) Input Sheet Thickness : 16 mm max.
- 3) Output Sheet Thickness : 4 mm average (2 mm min.)
- 4) Strip Width : 410 mm max
- 5) Coil Weight : 4.0 M.T. Max.
- 6) Coil Input ID Range : 400 – 510 mm
- 7) Rolling Speed : 40 mpm max. – Single Direction
- 8) Feeder : Coil Box fitted with hardened En-31 Rolls  
Pinch Roller Feeder cum 5 Roll Straightener
- 9) Coiling : Upcoiler at the exit side with Hydraulic Controls
- 10) Back Up Roll Barrel Size : 590-600 mm Dia x 510 mm long
- 11) Main Bearings : 23068 x 2 Spherical Bearings
- 12) Work Rolls Barrel : 330 mm Dia x 560 mm long
- 13) Screw Down : Motorised Worm Gear Box with Bronze Gears  
350 CD; Ratio = 1:40 app.; 155 Dia Screw
- 14) Gear Box : Three Stage Gear Box; 500 HP Rating; 1:27 Ratio  
Total CD = 1500 mm+
- 15) Pinion Stand : 2 Hi Vertical Pinion Stand; 330 mm CD  
Connected to Gear Box through Geared Coupling
- 16) Coupling Spindle : Universal Coupling Spindle with Slipper Pads
- 17) Main Motor (Client Scope): DC; 220 KW; 415V; 0-500-1000 RPM; Field Weakening
- 18) Upcoiler Motor (Client Scope):DC; 75 KW; 415V; 0-750-1500 RPM; Field Weakening
- 19) Pinch Roll/Stg Motor (Client Scope):DC; 30 KW; 415V; 0-750-1500 RPM; Field Weakening
- 20) Screw Down Motors(Client Scope): AC; 3 Phase; 15 HP; 1440 RPM; with Brake
- 21) Drive : To both Work Rolls through Universal Couplings
- 22) Roll Balancing : Through Hydraulic Cylinders/ Accumulator

M/s JMW India Pvt. Ltd., Pathredi

Apr 27, 2022

**B) BASIC OFFER FOR EQUIPMENT & SUPPLIES**

**4Hi Cold Breakdown Rolling Mill for 410 mm wide Copper/ Brass Coils**

**1) Equipment Offered :**

The Rolling Mill offered will consist of mechanical components only as listed below and generally described later in Section 'C'

1) Coil Box for Feeding	: 1 set
2) Entry Roller Table with Driven Pinch Rolls	: 1 set
3) Stand Housings with Tie Rods & Hold Down Bolts	: 1 pair
4) Back Up Roll Assembly with Chocks, Bearings & Fittings	: 1 pair
5) Work Roll Assembly with Chocks, Bearings & Fittings	: 1 pair
6) Screw Down Assembly (Bronze Rimmed) - Motorised	: 2 sets
7) Coupling Spindle Assembly (Universal Coupling)	: 2 sets
8) Reduction Gear Box with Base Frame & Bolts	: 1 nos.
9) Pinion Stand with Base Frame & Bolts	: 1 nos.
10) Coil Box with Pinch Roll Feeder cum 5 Roll Straightener on Entry	: 1 set
11) Upcoiler on the Exit Side	: 1 nos.
12) Stand Housing, Gear Box and Motor Base with Foundation Bolts	: 1 set
13) Hydraulic Roll Lifting with Accumulator	: 1 set
14) Roll Removal Trolley System	: 1 set
15) Entry/ Exit Strip Guide for sides	: 2 sets
16) Screw Down Geared Box	: 2 nos.
17) Deflector Roll with Bearings & Brackets	: 2 sets
18) Pressure Pad (Hydraulic operated)	: 2 sets.

**Exclusions** : As per details in Annexure 'D' on page 9.

**II) PRICE : Rs. 175.00 lacs (Rs. One Crore Seventy Five Lakh Only), Ex-Works, Delhi** including Erection/ Installation at site but excluding Civil work, All Motors, Control Panel, Electrical, Cables, Lubricants, Coolant/ Filtration system, AGC, Thickness Gauge and other items as detailed in Annexure 'D'.

This is the basic price of the equipment listed above and generally described in section 'C'.

**C) DETAILS OF MECHANICAL EQUIPMENT**

**4Hi Cold Breakdown Rolling Mill for 410 mm wide Copper/ Brass Coils**

1) **STAND HOUSING** : Made of 240-250 mm thick Solid M.S. Plate properly reinforced on all sides having high rigidity. All sizes are precision machined to specific tolerances. The window is fitted with Liners & is finished by scraping within an accuracy of 0.05 mm. The bottom face is accurately matched with the base rails. The two housings are aligned and fixed with tie rods.

- Window Size : 640 mm wide
- Side Section : 230-240 mm thick x 400 mm wide

2) **BACK UP ROLLS** : These Rolls are made of K-310 or equivalent forged alloy steel hardened & tempered to 56-58 HR'C'. These are fitted with Roll Rings having double labyrinth sealing arrangement

- Barrel Size : 590-600 mm dia x 510 mm long
- Journal Diameter : 340 mm
- Bearings : 23068 x Spherical Roller Bearings per Journal

3) **WORK ROLLS** : The Work Rolls are made of En-31/ K-310 forged Alloy Steel properly hardened and ground. The barrel surface hardness is 62-63 HR'C'.

- Barrel Diameter : 330 mm Dia
- Barrel Length : 560 mm

4) **BACK UP ROLL CHOCKS, BEARINGS & FITTINGS** : These chocks are made of C-45 grade Steel Casting normalised to 180-220 BHN. They are precision finish machined within required tolerances eg. the bore is ground to an accuracy of 0.04 mm. Arrangement for Greasing is incorporated within the chocks. Outer Covers, Bearing Separating Rings, Inner Covers, Lock Nuts, Split Rings etc. are provided alongwith. The Hydraulic Cylinders Piston for Roll lifting / balancing are incorporated within the Chocks.

- Bearings : 23068 x Spherical Roller Bearings per Journal

5) **WORK ROLL CHOCKS, BEARINGS & FITTINGS**: The Work Roll Chocks are made of forged En-9 carbon steel precision machined.

- Bearings : Roller Bearings (2 nos. per Journal);

M/s JMW India Pvt. Ltd., Pathredi

Apr 27, 2022

**6) SCREW DOWN ASSEMBLY** : is made of Worm Geared Box with Worm Gears and Alloy Steel forged hardened & tempered alloy steel Worm Shafts fitted in a sturdy, precision machined fabricated M.S. Iron Housing. Pressure is applied through En-24 forged alloy steel buttress threaded Screw and **Bronze** Nut. Safety Blocks are provided to prevent any undue damage due to excessive loading. Two separate Gear Boxes are used for each Stand Housing. These are driven by two separate Motors with PLC control (Motor in Client Scope).

- Centre Distance : 350 mm app
- Total Ratio : 1:40 app.
- Screw OD : 155 mm
- Motors (Client Scope) : 15 HP.; 3 Phase; AC Motors; 2 nos. with Brake
- Geared Motor Boxes : 1:40 Ratio app; 10 HP rating – 2 nos

**7) COUPLING SPINDLE ASSEMBLY** : These connect the output shaft of the Gear Box cum Pinion Stand to the two driven Work Rolls. They are made of En-8 forged Carbon Steel with Slipper Pads.

- Coupling Diameter : 255 mm Dia
- Spindle Length : 920 mm

**8) REDUCTION GEAR BOX**: This is a three stage reduction gear box of robust design made of M.S. fabricated body with helical gears. The pinion shafts are made of En-24 forged alloy steel and the gears are made of En-9 carbon steel. The teeth are hob cut.

- Total CD : 1500 mm +
- Ratio : ~1 : 27 app
- Load Rating : 500 H.P.
- Input/ Output RPM : 1000/ 38 RPM
- Bearings : Antifriction Spherical Roller Bearings

**9) PINION STAND**: This is a vertical 2 Hi Pinion Stand of robust design made of M.S. fabricated body with Double Helical Pinions. The pinion shafts are made of En-24 forged alloy steel The teeth are hob cut.

- Vertical CD : 330 mm +
- Load Rating : 500 H.P.
- RPM : 38 RPM

**10) STAND HOUSING BASE** : The base is made of Cast Iron casting free of blow holes and other casting defects. The inverted T-Slots and the top surface are machined and scraped to match the bottom face of Stand Housings.

- Total Length : 1830 mm + (72")

*M/s JMW India Pvt. Ltd., Pathredi**Apr 27, 2022*

**11) GEAR BOX, PINION STAND BASE & MOTOR BASE :** The Gear Box and Pinion Stand Base is fabricated of heavy M.S. Plates, Girders and Channels. The steel fabricated motor base is mounted independently in front of Gear Box.

**12) COIL BOX with FEEDER/ STRAIGHTENER:** This is fabricated from heavy Mild Steel Plates and is fitted with Rollers. It is used for feeding the thick Strip in the mill. The Feeder cum Straightener Assembly is fabricated from 100 mm+ thick solid MS Plates and is driven through a Gear Box and Multi Spindle Pinion Stand.

- Main Plate Thickness : 16-18 mm
- Pusher/ Guide Plates : 28-30 mm thick
- Bottom Rolls : 115 mm Dia (made of En-31) – 9 nos.
- Vertical Rolls : 215 mm Dia – 3 nos.
- Feeder cum Straightener: Pinch Roll set + 5 Roll Straightener

**13) UP COILER :** This is set on the Exit side of the mill to wind up the coil after pass in the mill. This is fabricated from 100-110 mm thick solid MS Plates. There are 02 Pinch Rolls, 03 Bending Rolls and 02 support Rolls with a frame with Rollers to support the Coil. The Upcoiler is mounted on a sturdy frame and is driven via a Gear Box and Multi Spindle Gear Box.

- Pinch Rolls/ Bending Rolls: 175 mm Dia with hydraulic bending
- Gear Box & Pinion Stand : 125 HP Rating with multi spindle Pinion Stand
- Coiling Speed : 40 mpm

**13) MISCELLANEOUS :** These consist of the following items

- Foundation Bolt : As required
- Tie Rods & Pipe
- Hold Down Bolts & Nuts
- Entry Exit Guide
- Pressure Pad
- Deflector Rolls
- Back Up Roll Lifting : Through **HYDRAULIC** Cylinder Piston & Accumulator
- Work Roll Separation : Through **HYDRAULIC** Cylinder Piston & Accumulator
- Chock Holding Arrangement
- Spindle Support
- Geared Coupling between Motors & Gear Boxes
- Roll Removal Trolley

**NOTE :** VAID ENGINEERING INDUSTRIES reserves the right to make minor changes in the technical specifications of the mill keeping in view the design and raw material availability aspects.

*M/s JMW India Pvt. Ltd., Pathredi*

*Apr 27, 2022*

**D) GENERAL TERMS & CONDITIONS :**

**4Hi Cold Breakdown Rolling Mill for 410 mm wide Copper/ Brass Coils**

**PRICES :**

Prices quoted are Ex-works, Delhi  
GST @ 18% would be charged extra.

**PACKAGING & FORWARDING :**

The packaging charges would be charged extra as applicable.

**INSURANCE :**

If desired by the customers, we can cover the goods to be dispatched against transit insurance at charges to be paid extra at actuals.

**ERECTION & COMMISSIONING :**

We can depute our personnel on chargeable basis. The equipment can be installed at client's premises with various utilities such as Overhead Crane, suitable material handling facilities, Gas Cutting/ welding set, standard tools, power, unskilled labour, communication facilities etc. These will have to be provided by the client free of cost. The equipment will be dispatched in knocked down condition for erection at site.

The charges for the erection and commissioning staff has been included in the above given prices and would be completed within 20-30 days depending on facilities available on site and subject to prior preparation of foundation as per drawing.

Boarding, Lodging and Transportation facilities for the fitters would have to be provided by the client free of cost.

**DELIVERY :**

The delivery period for the equipment will be 6 to 7 months from the date of receipt of your confirmed order along-with advance. We would strive our best to deliver within 6 months.

The delivery period quoted above is in good faith and is subject to Force Majeure Clause.

The erection and commissioning work if done by us shall be completed within 40-45 days subject to prior preparation of Foundation as per drawings/ instructions given.



**M/s JMW India Pvt. Ltd., Pathredi**

**Apr 27, 2022**

**PAYMENT :**

40% value of the order will be payable as advance.

20% to be paid after 10 weeks.

30% payment + 18% GST on total bill amount to be paid against PFI before delivery.

10% balance payment to be given after erection/ installation of the mill.

**INSPECTION :**

When inspection prior to dispatch is required, visual inspection of various equipment can be arranged at our works at client's cost. An advance notice will be given for the date of inspection and if the inspection is not carried out within a week of specified date, the inspection requirement shall be deemed to have fulfilled.

**FORCE MAJEURE :**

We shall be under no liability under any contract arising out of our Quotation/ Offer wherever fulfillment of our and/ or our sub-contractors and/ or supplier's obligations are hindered or prevented by causes beyond our/ their control such as War, Strikes, Lockouts, Fire, Accidents, Epidemics or any orders of the Government or other duly Constituted Authority.

All delivery schedules are dependent upon timely payment and fulfillment of obligations by customers.

**WARRANTEE :**

We hereby warrantee to repair/ replace free of cost ex-our works, any component found defective due to bad workmanship or faulty raw materials, provided defects are not due to damage during transit, bad storage, misuse, mishandling or overloading of the equipment at customer's site or due to normal wear and tear.

This warrantee will be valid for a period of 6 months from the date of dispatch.

**VALIDITY:**

Our offers are valid for a period of 45 days from the date for your acceptance, and thereafter it is subject to our re-confirmation in writing.

**M/s JMW India Pvt. Ltd., Pathredi**

**Apr 27, 2022**

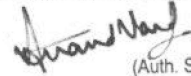
**EXCLUSION :**

- Civil engineering work of any nature. (Only foundation layout drawings will be provided by us wherever necessary)
- All Motors, Control Panel, Electrical Cables, Switchgear etc. (List of motors would be provided separately)
- Platforms, Gratings, Rails, Ducts, Canopy, Lighting, Ducts, Covers etc.
- Thickness measurement and control system if required
- Coolant/ Filtration system
- Spare Rolls, Chocks or any other Wear Parts etc.
- Lubricants, Greases, First Fill of Gear Boxes etc.
- Any Tools, Fixtures, Fittings not specified.
- Any other item not specifically covered by our offer.

**SUBJECT TO DELHI JURISDICTION AND BASED ON TERMS OF THIS OFFER.**

**For VAID ENGINEERING INDUSTRIES**

For VAID ENGINEERING INDUSTRIES

  
(Auth. Signatory)

**(AUTH. SIGNATORY)**

# **VAID ENGINEERING INDUSTRIES**

Manufacturers and Consultants for Rolling Mills :  
2 Hi/ 4 Hi; Hot/ Cold Mills Ferrous/ Non-Ferrous Sheet & Strip  
Slitting Lines, Gear Boxes and Allied Machinery  
Website : [www.vaidengineering.com](http://www.vaidengineering.com)  
E-Mail : [info@vaidengineering.com](mailto:info@vaidengineering.com)

246, Rajdhani Enclave  
Pitampura  
New Delhi – 110 034  
Ph.: 47019609  
Cell: +91-9810029852

---

APR 27, 2022

**M/s JMW INDIA (P) LTD.**  
SP4-863, RIICO Industrial Area  
Pathredi, Dist. Alwar  
Rajasthan - 301 019

Kind Attn. : SH. MANOJ JAIN Ji

**QUOTATION OF 4 Hi Reversible Cold Finishing Rolling Mill for 410 mm wide  
Copper/ Brass Coils**

**CONTENTS :**

- A) Technical Specifications
- B) Basic offer for Equipment & Supplies
- C) Details of Mechanical Equipment
- D) General Terms & Conditions

**M/s JMW India Pvt. Ltd., Pathredi**

**Apr 27, 2022**

**A) TECHNICAL SPECIFICATIONS :**

**4Hi Reversible Cold Rolling Mill for 410 mm wide Copper/ Brass Coils**

- 1) Material to be Rolled : Copper/ Copper Alloy in Coil form
- 2) Input Sheet Thickness : 4 mm max.
- 3) Output Sheet Thickness : 0.45 mm average (0.18 mm min.)
- 4) Strip Width : 430 mm max
- 5) Coil Weight : 4.0 M.T. Max.
- 6) Coil Input ID Range : 400 – 510 mm
- 7) Coiler Drum Diameter : 500 mm
- 8) Rolling Speed : 140 mpm max. – Reversible on DC Drive
- 9) Uncoiler : Free Unwinding, 4 Segment Collapsible Uncoiler
- 10) Coiling : 4 Segment Hydraulic Collapsible Coiler at both ends
- 11) Back Up Roll Barrel Size : 590-600 mm Dia x 560 mm long
- 12) Main Bearings : 23068 x 2 Spherical Bearings
- 13) Work Rolls Barrel : 210 mm Dia x 610 mm long
- 14) Screw Down : Motorised Worm Gear Box with Bronze Gears  
350 CD; 155 Dia Screw driven by Geared Motor
- 15) Gear Box cum Pinion Stand: Single Stage Gear Box; 400 HP Rating; 1:6.8 Ratio  
with Pinion Stand of 220 mm Vertical CD
- 17) Coiler/ Uncoiler : 500 dia x 560 Long; 4 MT with Hydraulic Collapse  
4 Segment Type mounted on Gear Box Shaft
- 18) Coiler Gear Box : 2 Stage Gear Box; 1:16 Ratio; 300 HP Rating
- 19) Coupling Spindle : Universal Coupling Spindle with Slipper Pads
- 20) Main Motor (Client Scope) : DC; 220 KW; 415V; 0-750-1500 RPM; Field Weakening
- 21) Coiler Motors (Client Scope): DC; 132 KW; 415 V; 0-550-1650 RPM; Field Weakening
- 22) Screw Down Motors(Client Scope): AC; 3 Phase; 10 HP; 1440 RPM; with Brake
- 23) Drive : To both Work Rolls through Universal Couplings
- 24) Roll Balancing : Through Hydraulic Cylinders/ Accumulator

M/s JMW India Pvt. Ltd., Pathredi

Apr 27, 2022

**B) BASIC OFFER FOR EQUIPMENT & SUPPLIES**

**4Hi Reversible Cold Rolling Mill for 410 mm wide Copper/ Brass Coils**

**1) Equipment Offered :**

The Rolling Mill offered will consist of mechanical components only as listed below and generally described later in Section 'C'

1) Uncoiler (4 Segment Collapsible type; free unwinding)	: 1 set
2) Stand Housings with Tie Rods & Hold Down Bolts	: 1 pair
3) Back Up Roll Assembly with Chocks, Bearings & Fittings	: 1 pair
4) Work Roll Assembly with Chocks, Bearings & Fittings	: 2 pairs
5) Screw Down Assembly (Worm Geared) – Motorised	: 2 sets
6) Coupling Spindle Assembly (Universal Coupling)	: 2 sets
7) Reduction Gear Box cum Pinion Stand with Base Frame & Bolts	: 1 nos.
8) Coilers (hydraulic collapsible) mounted on Gear Box	: 2 nos.
9) Pusher Plates on Coiler with Hydraulic Cylinder for Coil Removal	: 2 nos.
10) Coil Trolley for take up and mounting of Coils (Hydraulic Lift)	: 1 nos.
11) Base frames for Coilers & Uncoiler with Foundation Bolts	: 1 nos.
12) Stand Housing Base with Foundation Bolts	: 1 set
13) Motor Bases with Foundation Bolts	: 3 sets
14) Hydraulic Roll Lifting with Accumulator	: 1 set
15) Roll Removal Trolley System	: 1 set
16) Entry/ Exit Strip Guide for sides	: 2 sets
17) Deflector Roll with Bearings & Brackets	: 2 sets
18) Pressure Pad (Hydraulic operated)	: 2 sets

**Exclusions** : As per details in Annexure 'D' on page 9.

- II) PRICE : Rs. 155.00 lakh (Rs. One Crore Fifty Five Lakhs Only, Ex-works, Delhi)** excluding including Erection/ Installation at site but excluding Civil work, All Motors, Control Panel, Electrical, Cables, Lubricants, Coolant/ Filtration system, AGC, Thickness Gauge and other items as detailed in Annexure 'D'.

This is the basic price of the equipment listed above and generally described in section 'C'.

**C) DETAILS OF MECHANICAL EQUIPMENT**

**4Hi Reversible Cold Rolling Mill for 410 mm wide Copper/ Brass Coils**

1) **STAND HOUSING** : Made of 240-250 mm thick Solid M.S. Plate properly reinforced on all sides having high rigidity. All sizes are precision machined to specific tolerances. The window is fitted with Liners & is finished by scraping within an accuracy of 0.05 mm. The bottom face is accurately matched with the base rails. The two housings are aligned and fixed with tie rods.

- Window Size : 640 mm wide
- Side Section : 230-240 mm thick x 400 mm wide

2) **BACK UP ROLLS** : These Rolls are made of K-310 or equivalent forged alloy steel hardened & tempered to 56-58 HR'c'. These are fitted with Roll Rings having double labyrinth sealing arrangement

- Barrel Size : 590-600 mm dia x 560 mm long
- Journal Diameter : 340 mm
- Bearings : 23068 x Spherical Roller Bearings per Journal

3) **WORK ROLLS** : The Work Rolls are made of En-31/ K-310 forged Alloy Steel properly hardened and ground. The barrel surface hardness is 62-63 HR'C'.

- Barrel Diameter : 210 mm
- Barrel Length : 610 mm

4) **BACK UP ROLL CHOCKS, BEARINGS & FITTINGS** : These chocks are made of C-45 grade Steel Casting normalised to 180-220 BHN. They are precision finish machined within required tolerances eg. the bore is ground to an accuracy of 0.04 mm. Arrangement for Greasing is incorporated within the chocks. Outer Covers, Bearing Separating Rings, Inner Covers, Lock Nuts, Split Rings etc. are provided alongwith. The Hydraulic Cylinders Piston for Roll lifting / balancing are incorporated within the Chocks.

- Bearings : 23068 x Spherical Roller Bearings per Journal

5) **WORK ROLL CHOCKS, BEARINGS & FITTINGS**: The Work Roll Chocks are made of forged En-9 carbon steel precision machined. The Hydraulic Cylinders Piston for Roll lifting / balancing are incorporated within the Chocks.

- Bearings : Needle Roller Bearings (2 nos. per Journal); with Angular Contact Bearings and Ball Bearings for Locking

M/s JMW India Pvt. Ltd., Pathredi

Apr 27, 2022

**6) SCREW DOWN ASSEMBLY** : is made of Worm Geared Box with Worm Gears and Alloy Steel forged hardened & tempered alloy steel Worm Shafts fitted in a sturdy, precision machined fabricated M.S. Iron Housing. Pressure is applied through En-24 forged alloy steel buttress threaded Screw and **Bronze** Nut. Safety Blocks are provided to prevent any undue damage due to excessive loading. Two separate Gear Boxes are used for each Stand Housing..

- Centre Distance : 350 mm app
- Total Ratio : 1:40 app.
- Screw OD : 155 mm
- Motors (Client Scope) : 10 HP.; 3 Phase; AC Motors; 2 nos. with Brake
- Geared Motor Boxes : 1:40 Ratio app; 10 HP rating – 2 nos.

**7) COUPLING SPINDLE ASSEMBLY** : These connect the output shaft of the Gear Box cum Pinion Stand to the two driven Work Rolls. They are made of En-8 forged Carbon Steel with Slipper Pads.

- Coupling Diameter : 190 mm Dia
- Spindle Length : 920 mm

**8) REDUCTION GEAR BOX cum PINION STAND:** This is a double stage reduction gear box cum Pinion Stand of robust design made of M.S. fabricated body with helical gears. The pinion shafts are made of En-24 forged hardened & tempered alloy steel and the gears are made of En-9 carbon steel. The teeth are hob cut.

- Total CD : 800 mm (Horizontal) + 220 mm (Vertical)
- Ratio : ~1 : 7 app
- Load Rating : 400 H.P.
- Input/ Output RPM : 1500/ 220 RPM
- Bearings : Antifriction Spherical Roller Bearings

**9) STAND HOUSING BASE** : The base is made of Cast Iron casting free of blow holes and other casting defects. The inverted T-Slots and the top surface are machined and scraped to match the bottom face of Stand Housings.

- Total Length : 1830 mm + (72")

**10) GEAR BOX, PINION STAND BASE & MOTOR BASE** : The Gear Box and Pinion Stand Base is fabricated of heavy M.S. Plates, Girders and Channels. The steel fabricated motor base is mounted independently in front of Gear Box Input End.

*M/s JMW India Pvt. Ltd., Pathredi*

**Apr 27, 2022**

**11) COILERS with GEAR BOXES:** These are 4 Segment Type Hydraulic Collapsible Drums mounted on the output Shaft of Gear Box on either side of the Mill Housings. The Gear Box is a 2 stage assembly with heavy duty gears. The **Hydraulic operated Pusher Plate** is mounted on the Top of the Gear Box. The loading/ unloading of coils is done with help of **Coil Car** having hydraulic cylinder operated vertical travel:-

- Drum Diameter : 500 mm dia (Collapse Diameter – 495 mm)
- Gear Box Ratio : 1 : 16 app.
- HP Rating : 300 HP
- Input/ Output RPM : 1650/ 105 RPM

**12) UNCOILER :** This is set on the Entry side of the mill to feed the Coil for the first pass in the mill. This is of free unwinding type 4 Segment collapsible Uncoiler mounted on a sturdy frame with adjustable Friction Brake for back tension.

**13) MISCELLANEOUS :** These consist of the following items

- Foundation Bolt : As required
- Tie Rods & Pipe
- Hold Down Bolts & Nuts
- Entry Exit Guide
- Pressure Pad
- Deflector Rolls
- Back Up Roll Lifting : Through **HYDRAULIC** Cylinder Piston & Accumulator
- Work Roll Separation : Through **HYDRAULIC** Cylinder Piston & Accumulator
- Back Up Roll Chock Holding Arrangement
- Work Roll Chock Holding Arrangement
- Spindle Support
- Geared Coupling between Motors & Gear Boxes
- Foundation Levelling Plates
- Roll Removal Trolley
- Coil Car – 2 nos for loading/ unloading of coils (with Hydraulic Lifting)

**NOTE :** VAID ENGINEERING INDUSTRIES reserves the right to make minor changes in the technical specifications of the mill keeping in view the design and raw material availability aspects.



*M/s JMW India Pvt. Ltd., Pathredi*

*Apr 27, 2022*

**D) GENERAL TERMS & CONDITIONS :**

**4Hi Reversible Cold Rolling Mill for 410 mm wide Copper/ Brass Coils**

**PRICES :**

Prices quoted are Ex-works, Delhi  
GST @ 18% would be charged extra.

**PACKAGING & FORWARDING :**

The packaging charges would be charged extra as applicable.

**INSURANCE :**

If desired by the customers, we can cover the goods to be dispatched against transit insurance at charges to be paid extra at actuals.

**ERECTION & COMMISSIONING :**

We can depute our personnel on chargeable basis. The equipment can be installed at client's premises with various utilities such as Overhead Crane, suitable material handling facilities, Gas Cutting/ welding set, standard tools, power, unskilled labour, communication facilities etc. These will have to be provided by the client free of cost. The equipment will be dispatched in knocked down condition for erection at site.

The charges for the erection and commissioning staff has been included in the above given prices and would be completed within 20-30 days depending on facilities available on site and subject to prior preparation of foundation as per drawing.

Boarding, Lodging and Transportation facilities for the fitters would have to be provided by the client free of cost.

**DELIVERY :**

The delivery period for the equipment will be 6 to 7 months from the date of receipt of your confirmed order along-with advance. We would strive our best to deliver within 6 months.

The delivery period quoted above is in good faith and is subject to Force Majeure Clause.

The erection and commissioning work if done by us shall be completed within 40-45 days subject to prior preparation of Foundation as per drawings/ instructions given.

**M/s JMW India Pvt. Ltd., Pathredi**

**Apr 27, 2022**

**PAYMENT :**

40% value of the order will be payable as advance.

20% to be paid after 10 weeks.

30% payment + 18% GST on total bill amount to be paid against PFI before delivery.

10% balance payment to be given after erection/ installation of the mill.

**INSPECTION :**

When inspection prior to dispatch is required, visual inspection of various equipment can be arranged at our works at client's cost. An advance notice will be given for the date of inspection and if the inspection is not carried out within a week of specified date, the inspection requirement shall be deemed to have fulfilled.

**FORCE MAJEURE :**

We shall be under no liability under any contract arising out of our Quotation/ Offer wherever fulfillment of our and/ or our sub-contractors and/ or supplier's obligations are hindered or prevented by causes beyond our/ their control such as War, Strikes, Lockouts, Fire, Accidents, Epidemics or any orders of the Government or other duly Constituted Authority.

All delivery schedules are dependent upon timely payment and fulfillment of obligations by customers.

**WARRANTEE :**

We hereby warrantee to repair/ replace free of cost ex-our works, any component found defective due to bad workmanship or faulty raw materials, provided defects are not due to damage during transit, bad storage, misuse, mishandling or overloading of the equipment at customer's site or due to normal wear and tear.

This warrantee will be valid for a period of 6 months from the date of dispatch.

**VALIDITY:**

Our offers are valid for a period of 45 days from the date for your acceptance, and thereafter it is subject to our re-confirmation in writing.