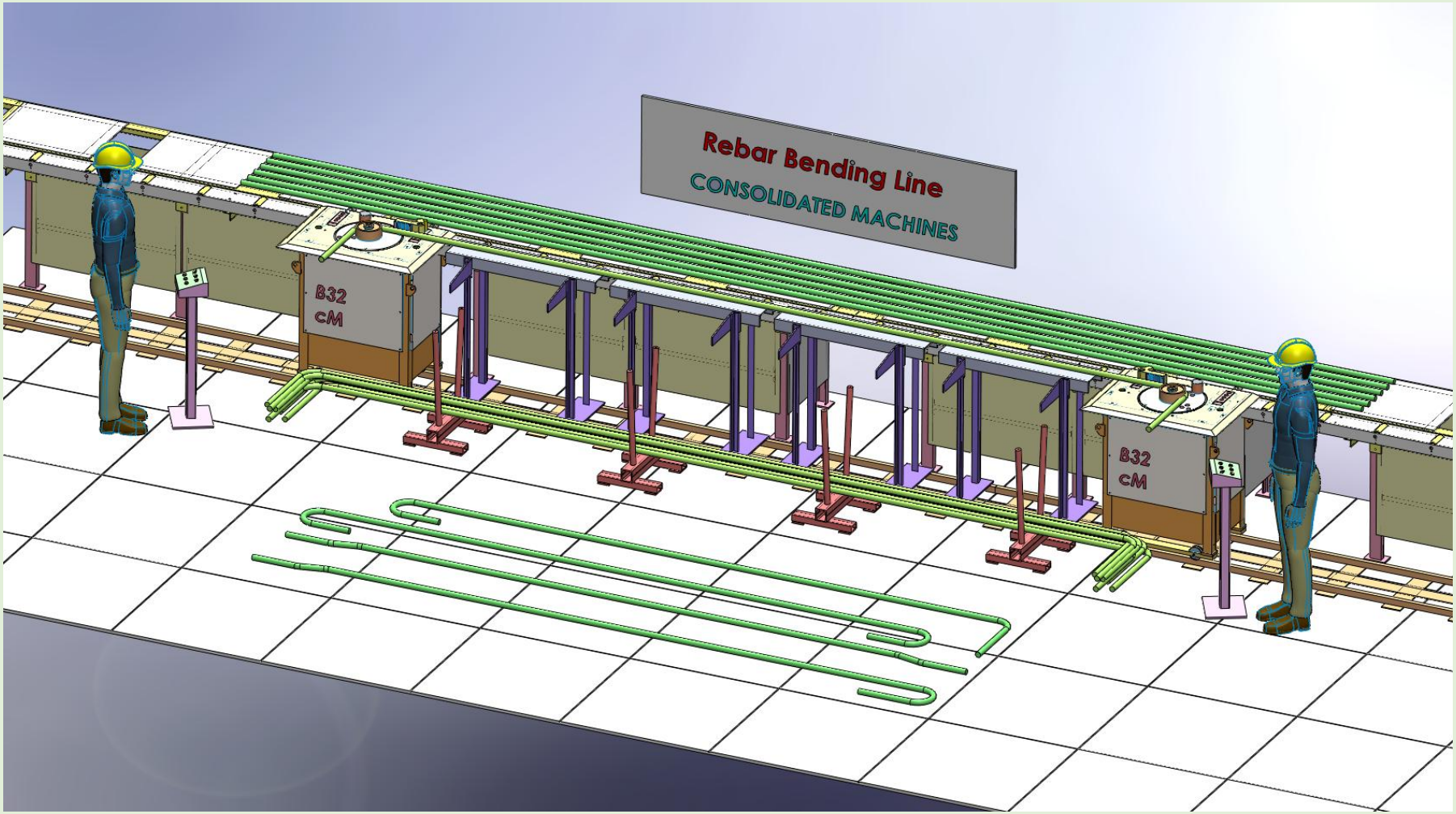
CONSOLIDATED MACHINES
HYDRAULICS • HYDRO-PNEUMATICS
CONSTRUCTION EQUIPMENT

REBAR BENDING LINE MODEL: BL32 / BL40



ARRANGEMENT FOR BOTH END SIMULTANEOUS FORMING

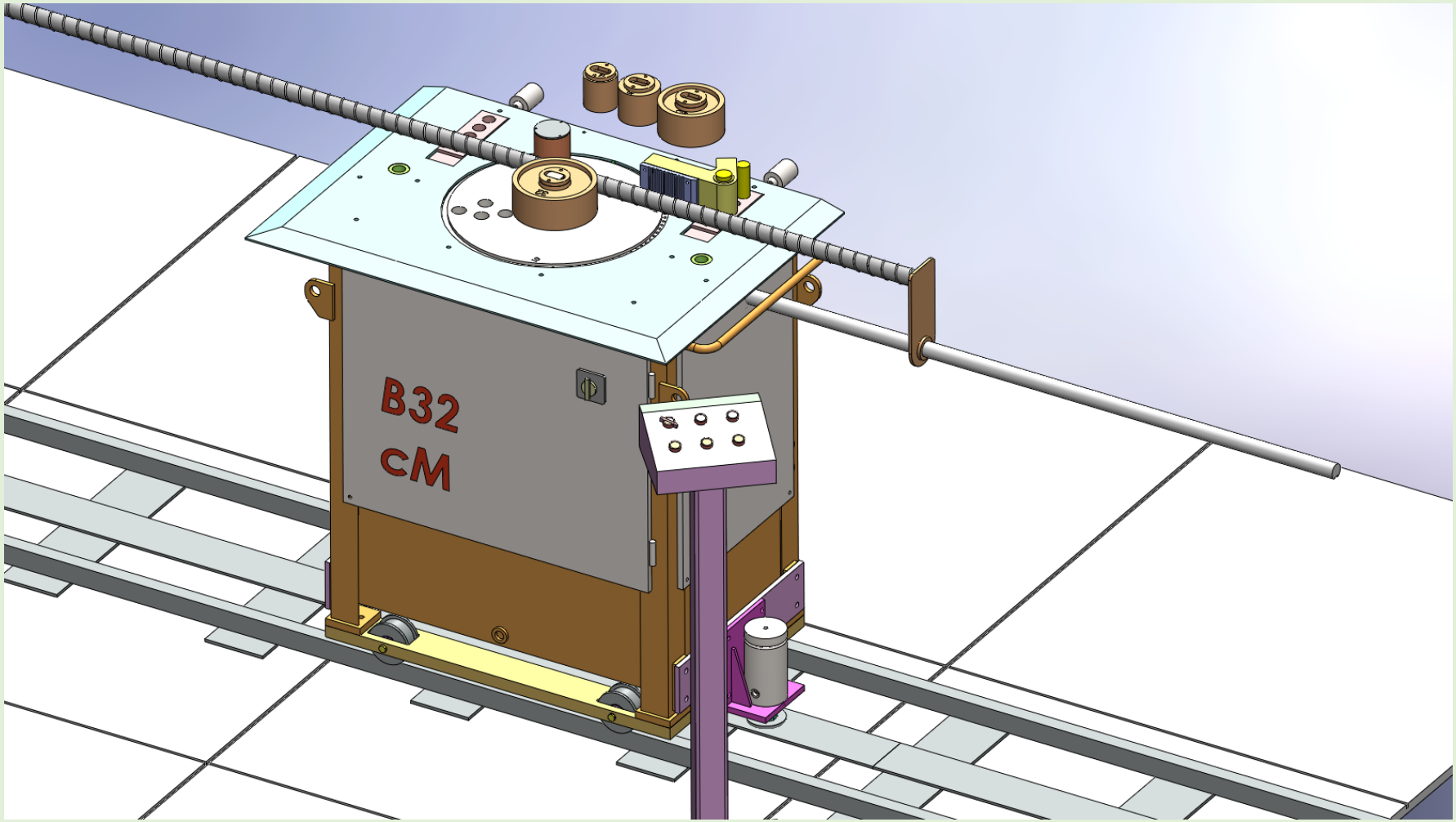
CONSOLIDATED MACHINES
HYDRAULICS • HYDRO-PNEUMATICS
CONSTRUCTION EQUIPMENT

General Features

- Available in Two Models – To Suit Maximum Size TMT Bar
  Metric32 (BL-32) and Metric40 (BL-40)
- Machines with Electric Control or with PLC Control (Discussed Later)
- Arrange the Plant for: Both Ends Simultaneous Bending or One Side Bending
  Illustrated in Pictures
- Production Estimate per Ten Hour Indicative:
  Model BL32 35 Tons Model BL40 50 Tons
- Plant Foot Print: 14M x 3M
- Machines Move on Rails – Effortless Accurate Positioning and Lock Position
  with Push Button Track Rail Length 14M
- Modular Construction – Easy to Install or Relocate

CONSOLIDATED MACHINES
HYDRAULICS • HYDRO-PNEUMATICS
CONSTRUCTION EQUIPMENT

BENDING MACHINES



BAR BENDING MACHINE FOR BENDING LINE APPLICATION

- In General, The Bending Machine Design is More Elaborate to Suit Such Bending Line Application
  - Boosted Bending Speed – Higher Power Installed
  - Machine Design Facilitates Simultaneous Bending on Both Machines Inline
  - Bend Table and Tooling to Suit Proper IS1786 Specs
  - Wheels and Brakes Incorporated to Move the Machine on Track Rails and Lock Position

- Electro-Hydraulic Drive
  Built with Best in Class Elements Like Bosch Rexroth / Yuken / Siemens

- Bi-Directional Bending Capable

- Bending Speed Near Five RPM

- Tooling Specs : Mandrels and Bending Table to Suit IS1786 Specs for Bar Grades Fe500 / Fe550D.

➢ Bending Capacity Metric TMT Grade Fe500 / Fe550D (Bar Size x No of Bars)

Model BL32: 32x1 25x1 20x2 16x3 - Lap Joint Forming Max Bar size 20

Model BL40: 40 / 32x1 25x2 20x3 16x4 Lap Joint Forming Max Bar size 25

➢ Power Installed: Standard Three Phase AC Motors – On Each Machine

Model BL32 : 5Hp (3.8Kw) Model BL40 : 7.5Hp (5.8Kw)

(Brakes are Air-Operated. 1hp x 6bar Air-Compressor be Installed by the User)

==========

Bending Accuracies

Angle Setting Resolution 3 Deg – Means Target Value Deviation Max +/- 1.5Deg which is Within the Acceptable Deviation Limits

Optional PLC Controlled machines

Angle Setting Resolution 1 Deg – Means Target Value Deviation Max +/- 0.5 Deg

Note that Repeat Accuracy Depends on Fine Machine Setting and Rebar Material Elasticity.

==========

Forming Limitation for Both End Forming

Minimum Distance of Bending Heads – 1.2 m

Maximum Distance of Bending Heads – 11.5 m

Bar Support System

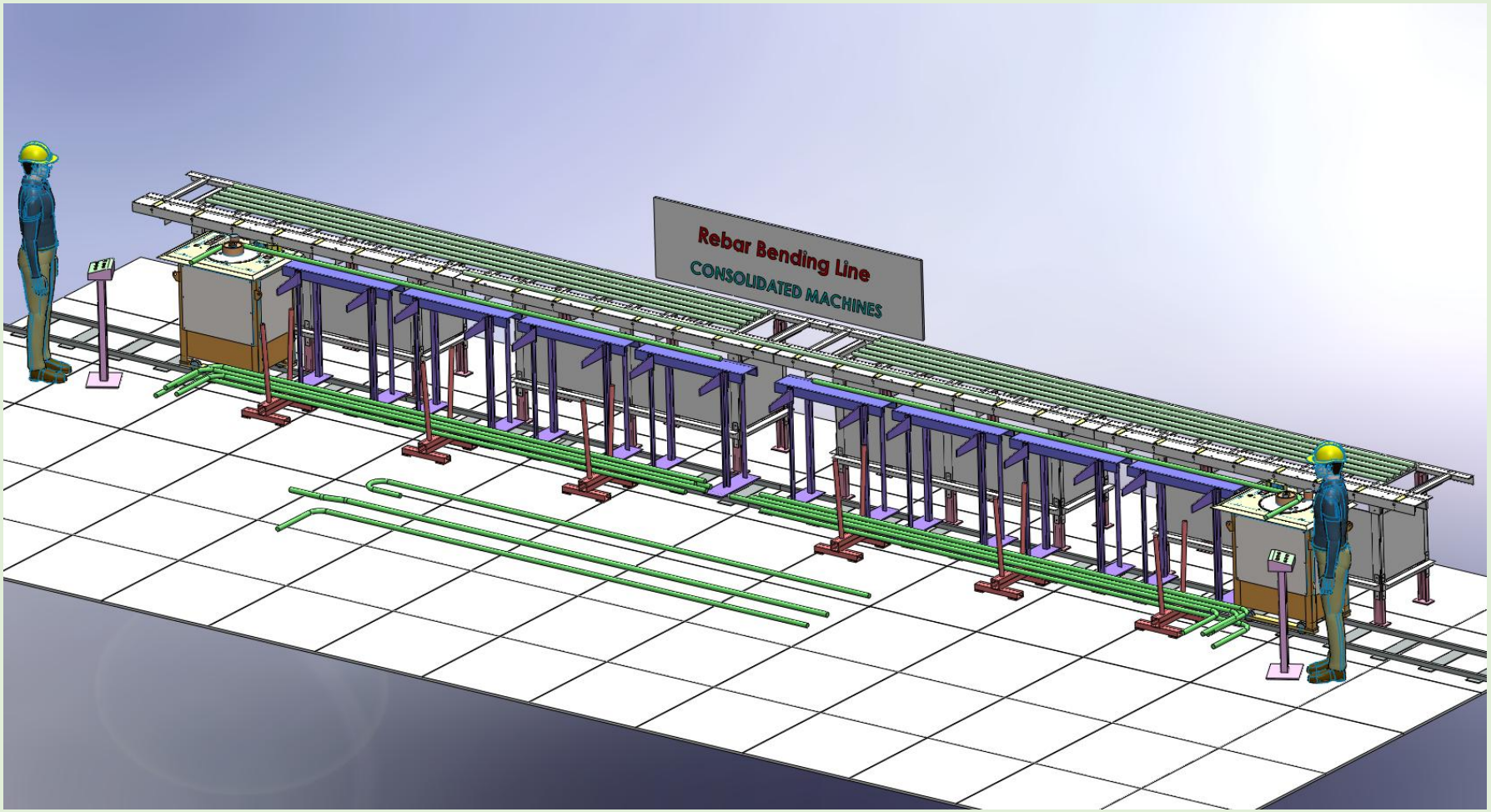
1. Bar Receiving Pedestal - Pedestal Length 12m – Maximum Weight Capable 4T Distributed
2. Intermediate Bar Support – This Arrangement is Integrated with Main Pedestals. Activate the Segment as Required – Picture Illustrated
   Or OPTIONAL Bar Kick-IN Kick-Out Modules – Six Units
3. Bar Position Reference Flags
4. Formed Bars Collecting Elements – Eight Numbers – Arranged As Required

==========

Materials and Finish

Tooling and Load Bearing Elements of Alloy Steel Toughened, Phosphate Finish

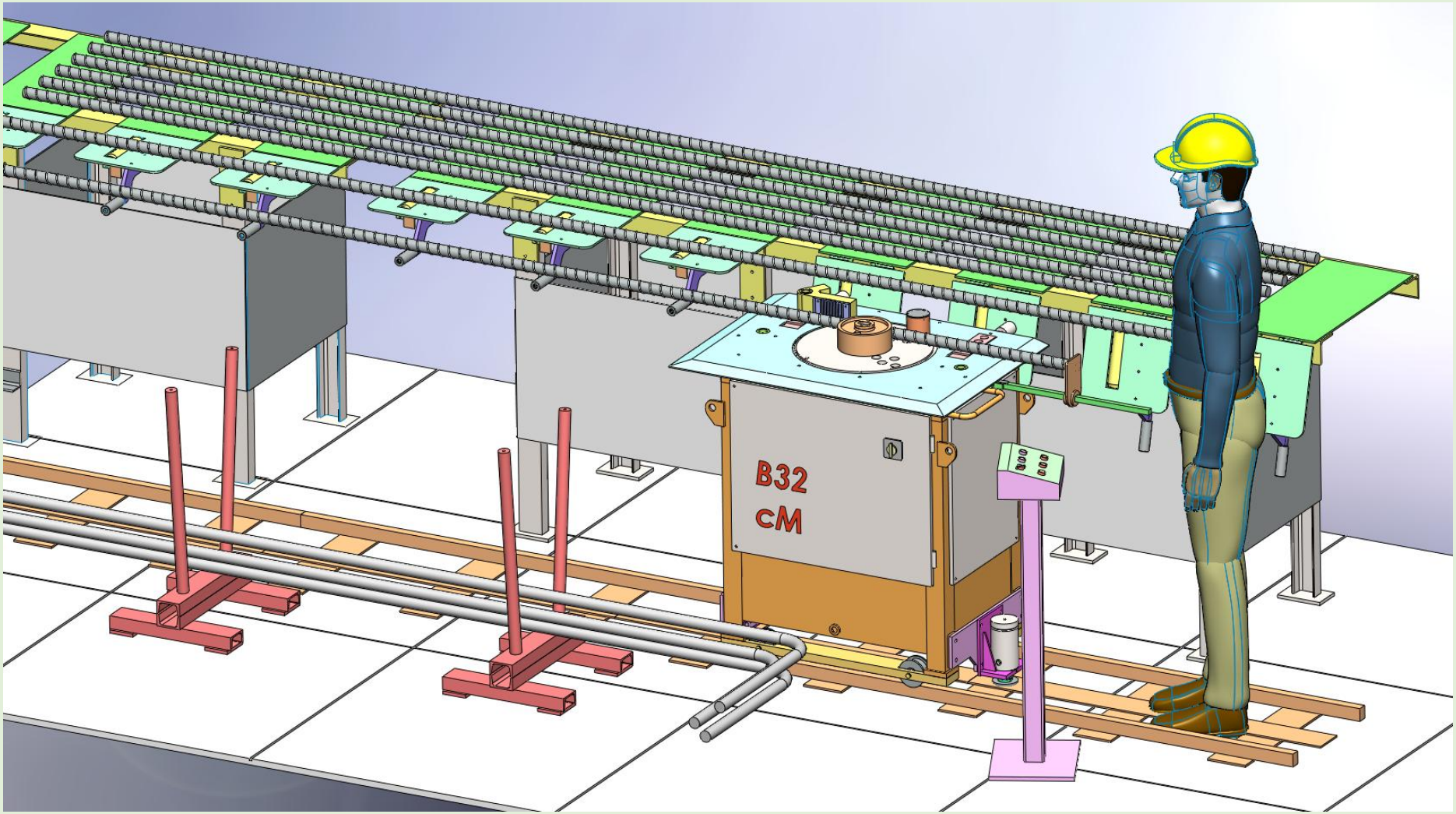
Panels Powder Coated, Structure Fabrication with Zinc Red-Oxide and Quality Paint Finish



ARRANGEMENT FOR ONE END FORMING – BOTH MACHINES UTILIZED

CONSOLIDATED MACHINES
HYDRAULICS • HYDRO-PNEUMATICS
CONSTRUCTION EQUIPMENT

PLANT SETUP AND PRODUCTION



PLANT SETUP – REFER FOLLOWING NOTES

Setup : a Near Ten-Minute Process

1. Suitable Mandrel Rollers are Installed on the Machine Bending Head
2. Both Machines are Positioned as Required and Locked (Length Setting)
3. The In-Between Bar Support Elements are Activated
4. The Bar Linear Position Reference Flag is set
5. Formed Bar Collecting Bin Elements are Adequately Positioned

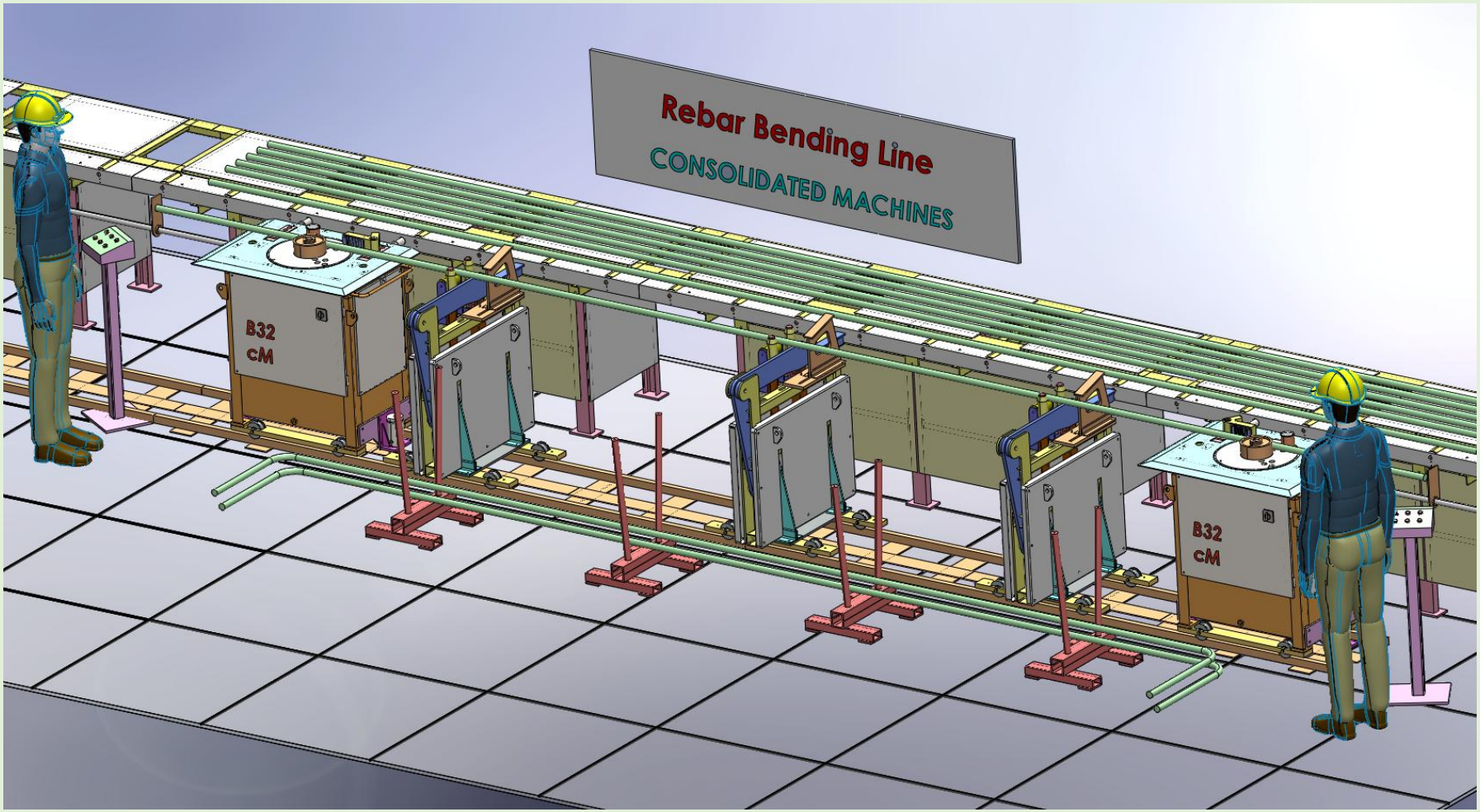
Plant is now Ready for Production

1. Operator Rolls the Bar to Drop onto the Bending Table, Tangent to the Bending Roller
2. Bar Position Reference Flag is Activated and the Bar is Positioned, Flag is then Deactivated
3. Bending is Activated - Bend Angle is Achieved as per the Setting
4. Bending Table Returns to Home Position
5. Bar is Disengaged from the Center and Pushed Off the Table to Drop into the Collecting Bin.
6. Next Bar is Rolled into the Position and Process Continues

Cycle time Less than A Minute

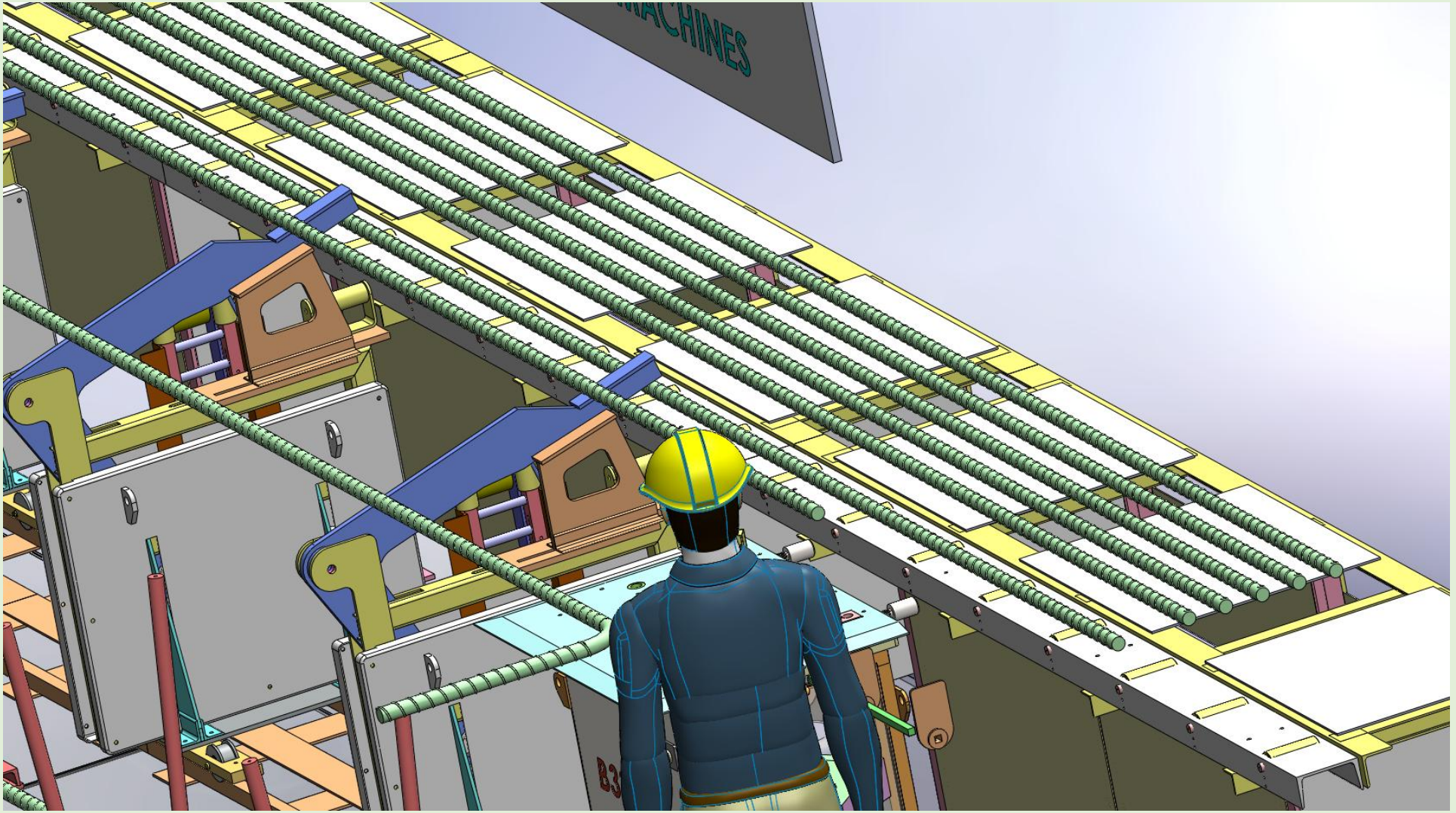
CONSOLIDATED MACHINES
HYDRAULICS • HYDRO-PNEUMATICS
CONSTRUCTION EQUIPMENT

OPTIONAL FEATURES: BAR KICK-IN / KICK-OUT



ARRANGEMENT WITH BARS KICK-IN KICK-OUT SYSTEM

CONSOLIDATED MACHINES
HYDRAULICS • HYDRO-PNEUMATICS
CONSTRUCTION EQUIPMENT



CLOSEUP VIEW OF KICK-IN KICK-OUT SYSTEM - IN ACTION

- Kick-In / Kick-Out Six Modules are Provided
- Modules are Supported on the Common Track Rail – Position the Modules As Required
- Modules are Air-Operated – User will Provide Compressed air Facility. A common Air Compressor 5hp (10 to 12 CFM at 8 bar) would be Sufficient
- Working – The Incoming Bar is Rolled onto the Pads. When Operated (with a Push Button) the Formed Bar is Kicked-out into the Bin and the Fresh Bar is Loaded onto the Bending Table.

Caution

- Bars Kicked-In will Be in Straight form Only
- Some Critically formed Bars Like U-Bend may Resist a Kick-out Action, Operators Support may be Required
- Carefully Evaluate Optional Features Later Upgrades may be Difficult

CONSOLIDATED MACHINES
HYDRAULICS • HYDRO-PNEUMATICS
CONSTRUCTION EQUIPMENT

NOTES ON PLANT INSTALLATION

THE PLANT FOOT PRINT FLOOR AREA MUST BE GOOD QUALITY INDUSTRIAL FLOORING

TRACK RAILS REQUIRED TO BE MILDLY GROUTED, DETAIL DRAWINGS WILL BE FURNISHED THE USER WILL ACCOMPLISH THIS AS A PART OF CIVIL WORK

PEDESTALS ARE SUPPLIED IN MODULAR FORM, ASSEMBLY INSTRUCTIONS WILL BE FURNISHED, PEDESTALS ARE FREE-STANDING

MACHINES ARE SUPPLIED IN FULLY ASSEMBLED STATE

KICK MODULES (OPTIONAL) AND BIN ELEMENTS ARE ARRANGED AS REQUIRED.

CREDITS

- ✓ **SUITABILITY** : IDEAL FOR MID-LEVEL OPERATIONS LIKE 30/50 TONS PER DAY
- ✓ **DESIGN** : MODULAR DESIGN EASY TO INSTALL AND RELOCATE
- ✓ **CAPEX** : MODERATELY PRICED
- ✓ **PRODUCTIVE** : BALANCED AUTOMATION AND PRODUCTIVE
- ✓ **OPERATING COST**: MINIMAL LABOR
- ✓ **POWER EFFICIENT**: MOTOR RUN INTERMITTENTLY, SAVES POWER
- ✓ **MAINTENANCE** : SIMPLE CONSTRUCTION ELECTRO-HYDRAULIC DRIVES (WITH PLC OPTIONAL) – WHICH MEANS EASY ON MAINTENANCE AND INVENTORY
- ✓ **SERVICES** : INDIGENOUS BUILT SUPPORT IS PROMPT

PROCESS OF CONTINUOUS IMPROVEMENT – SPECS MAY CHANGE

5 DARSHAN UDYOG. SAFEDPUL. MUMBAI 400 072. INDIA TEL: +91 98200 79035 / 77035
email: CONSOLIDATEDMACHINES@GMAIL.COM; WWW.CONSOLIDATEDMACHINES.NET Tel: 92465 68775