

# HEAVY-DUTY DRIVE SOLUTIONS FOR WORKING ROLLER TABLE APPLICATIONS

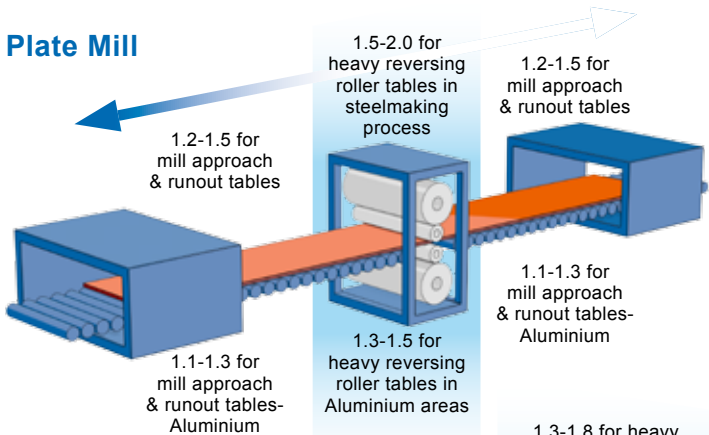


Reliable under extreme conditions:  
NORD offers robust steel industry motors for heavy-duty working roller tables and transportation roller tables.

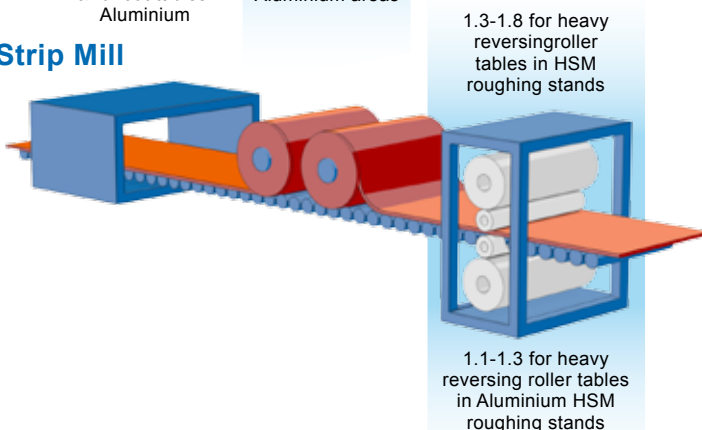
## NORD SELECTION GUIDE

NORD recommendation: geared motors for working roller tables should be selected based on the acceleration torque in the application, but that torque should be adjusted by a specific minimum service factor as listed below:

### Plate Mill



### Hot Strip Mill



## DEMANDING APPLICATION: WORKING ROLLER TABLE

Roller tables in modern steel mills often use group-driven rollers. These require special motors with high dynamic torque ratings and a robust overall design to withstand the extreme heat and dirt of a steel mill. Especially on the reversing mill and the associated approach tables, operating duties are extremely demanding with constant starts/stops and instant reversal of directions.

The most important issue in operation is the reliable acceleration and deceleration of the material. The proper motor selection/rating is usually based on the starting torque.

Working roller tables are characteristically exposed to heavy shocks due to the heavy-duty reversing operation and material jams that may occur. For these harsh requirements, all motors must provide sufficient torque, be able to handle any start/stop frequencies, withstand extreme electrical and thermal stress, and tolerate or dissipate great heat originating from the load.

# HEAVY-DUTY DRIVE SOLUTIONS FOR WORKING ROLLER TABLE APPLICATIONS



## MOTOR REQUIREMENTS


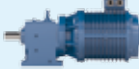
- Speed/torque characteristics to match the specific application
- Low rotor inertia
- Very high mechanical rigidity to withstand the constant reversals
- Robust mechanical design to withstand high loads, shock loads, rapid accelerations and reversals
- Large bearings and high-temperature lubrication
- Robust electrical design to withstand prolonged stall conditions
- Insulation to Class F or H to cope with the high temperatures within the motor

- Recognition of the high ambient temperature and suitable derating of motor performance
- Ready for 24×7 operation with minimal maintenance
- Totally enclosed design

## GEAR UNIT REQUIREMENTS

- Robust mechanical cast iron housing
- Heavy-duty bearings and shafts
- Double Viton shaft seal or alternative labyrinth sealing in descaling and Working RT areas for increased dust and tinder protection
- Synthetic oil
- Heavy duty coat/paint
- Autovent / breather

## Motor selection matrix for metal mill motors

| Area                       | Application  |   | Cast iron motor   |   | ALU motor | IC410 | IC411 | IC416 |
|----------------------------|--|---|---|---|-----------|-------|-------|-------|
|                            |  |   | Straight fin  | Ring fin  |           |       |       |       |
|                            |  |   |  |  |           |       |       |       |
| Hot rolling                | Plate mill<br>Selection mill<br>Beam rail mill<br>Bloom mill | Heavy working RT (Mill stand)             |   | ✓   |           | ✓     |       |       |
|                            |  | Light working RT (Mill approach & runout) | ✓   | (✓)   |           | ✓     |       |       |
|                            |  | Transport RT                              | ✓   |   | ✓         | (✓)   | ✓     |       |
|                            |  | Bar/Billet/Wire/Rod/Tube mill             | ✓   |   | ✓         |       | ✓     |       |
| Cold rolling               | Processing line  |   | ✓   |   | ✓         |       | ✓     | ✓     |
| Aluminium/Non-Ferrous mill |  |   | ✓   |   | ✓         |       | ✓     | ✓     |



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