

HEAVY-DUTY DRIVE SOLUTIONS FOR WORKING ROLLER TABLE APPLICATIONS

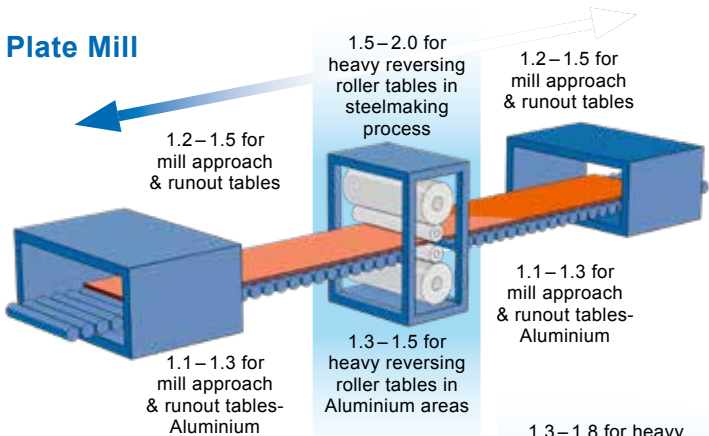


Reliable under extreme conditions:
NORD DRIVESYSTEMS offers robust steel industry motors for heavy-duty working roller tables and transportation roller tables.

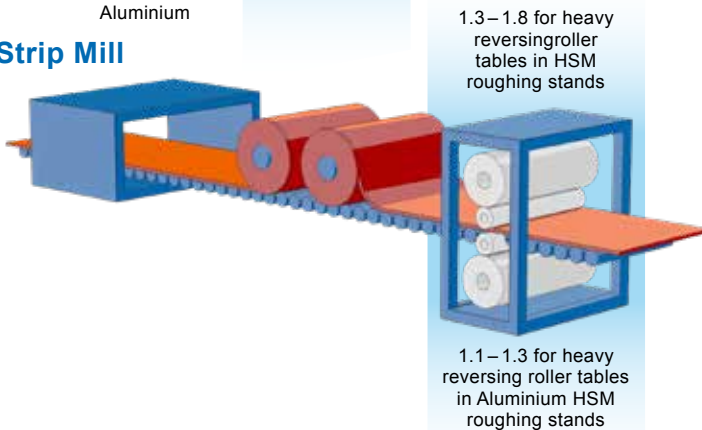
NORD SELECTION GUIDE

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



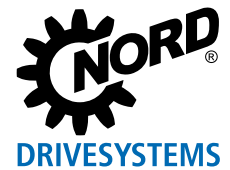
DEMANDING APPLICATION: WORKING ROLLER TABLE

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.

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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 24x7 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 metall mill motors

| Area | Application | | Cast iron motor | | Alu-motor | IC410 | IC411 | IC416 |
|----------------------------|--|---|---|---|-----------|-------|-------|-------|
| | | | Straight fin | Ring fin | | | | |
| | | |  |  | | | | |
| Hot rolling | Plate mill Selection mill Beam rail mill 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 | | | (✓) | | ✓ | | ✓ | ✓ |

Contact your local NORD DRIVESYSTEMS representative or the Industry Sector Management Steel & Metals.

NORD DRIVESYSTEMS Group

- Family business from Bargteheide near Hamburg with 4,000 employees
- Drive solutions for more than 100 branches of industry
- 7 production locations worldwide
- Present in 98 countries on 5 continents
- More information: www.nord.com

Headquarters:

Getriebebau NORD GmbH & Co. KG
Getriebebau-Nord-Str. 1
22941 Bargteheide, Germany
T +49 4532 289 0, F +49 4532 289 2253
info@nord.com

Member of the NORD DRIVESYSTEMS Group