

INDUSTRIAL CRANES

MORRIS
MATERIAL HANDLING™

P&H BUILT-UP TROLLEY



Specifications

- Designs for CMAA Class D, E, & F Service
- Double reeved for true vertical lift.
- Drum diameter to rope diameter ratio is a minimum of 24 to 1.
- Hoist motor is a P&H totally enclosed, non-ventilated inverter duty, squirrel cage induction motor designed for hoist service with variable frequency control.
- Hoist motor is foot mounted, rated 60 minutes, and has Class F insulation and thermistors imbedded in windings.
- Hoist speed reducer is a parallel shaft type split horizontally along shaft centers, which allows for the removal of shaft assemblies without disturbing the other components.
- 5-150 Ton Capacities
- Our high speed gearing is helical for quiet, smooth operation. Low speed gearing is spur, to eliminate large thrust loads.
- Hoist gear case is removable and base mounted, completely enclosed, and splash lubricated, with spring-backed oil seals or o-rings throughout. Bearings in separate retainers
- Hoist brake is spring-set, electro-magnetically released shoe brake or DC Disc Brake
- Shoe brakes are available and included at 75 HP.
- Hoist brake is rated at 150% of rated motor torque and is operated by a DC power supply.
- Geared type upper and lower limit switch, plus control circuit weight type upper limit switch.
- Trolley wheels are forged steel, straight tread, double flanged, heat treated 58-62 RC.

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CRANES / HOISTS / SERVICE / PARTS

P&H BUILT-UP TROLLEY FEATURES

INDUSTRIAL CRANES



Hoist Motor and Brake

- The motor is a foot mounted, totally enclosed inverter duty squirrel cage induction motor rated 60 minutes, with class F insulation and klixons.
- The brake is a spring-set, electromagnetically released DC disc brake rated at 150% of motor torque.
- An encoder monitors speed and direction.

- Shear bars are installed after final assembly to assure permanent shaft alignment.
- The motor coupling is a geared flexible type.



Hoist Speed Reducer

- The reducer is base mounted, parallel shaft type, horizontally split along shaft centers.
- High speed gearing is helical for quiet, smooth operation. Low speed gearing is spur type to eliminate large thrust loads. Gear tooth form is 20 deg FD-FFR.

- The minimum hardness of all the gearing is 241-269 BHN, while induction hardened/carburized gears are 54-62 Rc (550-690 BHN).
- All bearings are anti-friction self-aligning spherical roller type, mounted in individual machined retainers to protect the gear case if a bearing should fail.
- The reducer is completely enclosed and splash lubricated, with spring-backed oil seals or o-rings throughout.
- The gear case and cover are kept in alignment by body-bound bolts in reamed holes.
- Inspection covers are included in the gear case cover.
- A breather is provided to equalize gear case pressure.



Drum

- The drum to wire rope diameter ratio is a minimum of 24 to 1.
- Flanged ends keep rope on drum in the event rope should jump grooves in a slack rope condition.
- The drum shell is steel, no cast iron.
- Double bolt rope clamp fastens two wraps of wire rope to the shell. The two wraps used for clamping are in addition to the two dead wraps left on the drum when the hook is at its lowest position. The hook includes a safety latch and rotates 360 degrees.



Limit Switches

- Geared type upper and lower limit switches are provided.
- A weight operated upper limit switch backup is provided.
- All limit switches are control circuit type.



Upper and Lower Blocks

- The sheave to wire rope diameter ratio is a minimum of 20 to 1 in both the upper and lower blocks.
- All sheaves are of equal size and are made from forged or hot rolled steel and supported by roller bearings.
- The sheave groove profile is per AISE No. 6.
- Each sheave bearing is lubricated by its own lube fitting to assure each bearing receives lubricant.
- Upper block sheaves are serviceable and removable from top of trolley.



Trucks and Drives

- All motors are totally enclosed fan cooled (TEFC), continuous rated with class "F" insulation.
- The brakes are spring-set, electromagnetically released DC disc type. The brakes have a manual release feature for serviceability!
- The reducers are mounted in a dual drive (A-4) arrangement.
- All gears are carburized and ground to AGMA 11 quality, and hardened to 58Rc hardness minimum for extended life.
- All reducer bearings are rated at 20,000 hours, which meet CMAA Class "E".
- Wheels are hardened forged steel, straight tread, double flanged.
- Wheel bearings are individually enclosed in bolted-on housings.
- High strength structural tube end truck construction.
- OSHA required bumpers and rail sweeps are included.



Smartorque® Variable Frequency Control

- The lightweight, ergonomic pendant is suspended from the control panel (or can be shipped loose).
- The enclosure is impact resistant, chemically resistant, watertight, double insulated, and rated NEMA 1, 3, 4X and 12.
- Two step or single step buttons are provided to suit selected control.