



MBN Engineering and Consulting

# ***NIT-2000***

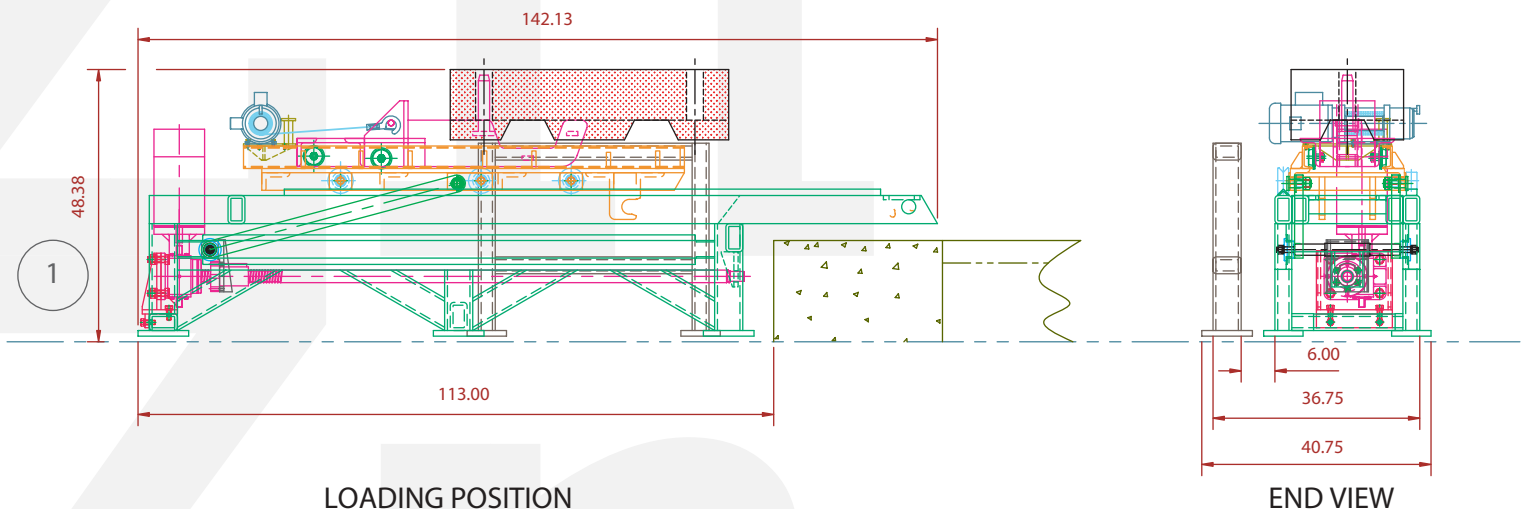
## ***General Description***

- The NIT-2000 Series Ingot Manipulator is designed to carry the Zn ingot from loading to unloading position, feeding the molten Zn pot and maintaining a specific Zn level in the pot
- Two modes of operation - Auto or Manual
- In Manual mode, the operator executes all the commands for Zn ingot transportation from the loading position to the molten Zn pot
- In Auto mode all these commands are executed through a PLC program
- In both modes, the Zn ingot buoyancy in the molten Zn pot are controlled by timer or PLC and are a function of the molten Zn consumption
- The system is equipped with all necessary alarms to alert the operator when the Zn ingot is completely molten and that a new cycle shall start again

## ***Ingot Manipulator***

### ***Performance Characteristics***

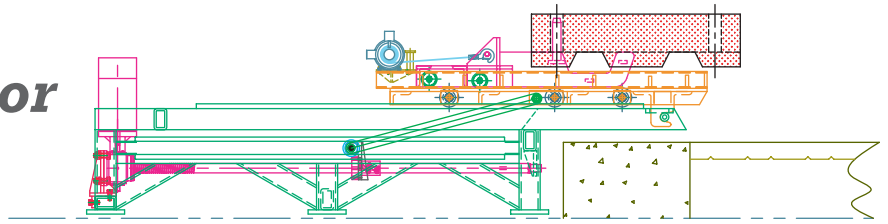
- Load Capacity: 2500 lbs.
- Zn ingot car horizontal travel = 50 in
- Horizontal travel velocity = 71 in/min
- Zn ingot car angle rotation: 60 deg. CW from horizontal
- Angular velocity: 2.3 rad/min
- Zn Ingot travel on inclined plane: 51 in
- Zn ingot velocity on inclined plane - 29 in/min
- Power - 6 HP, 460 V AC, 3PH, 60 Hz, inverter duty motor w/brake
- Actuator - Duff-Norton ball screw actuator - 20T
- Winch - 4000 lb. capacity, double line Grainger winch



# NIT-2000

## Ingot Manipulator

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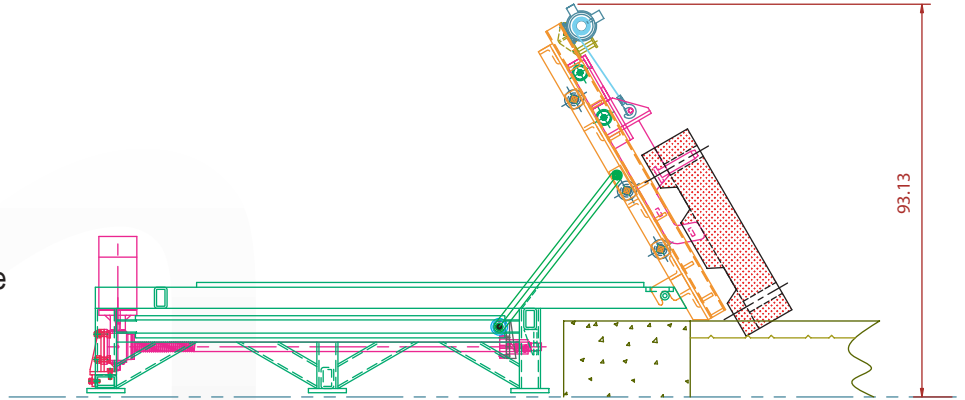


50" - INGOT HORIZONTAL TRAVEL

### Features

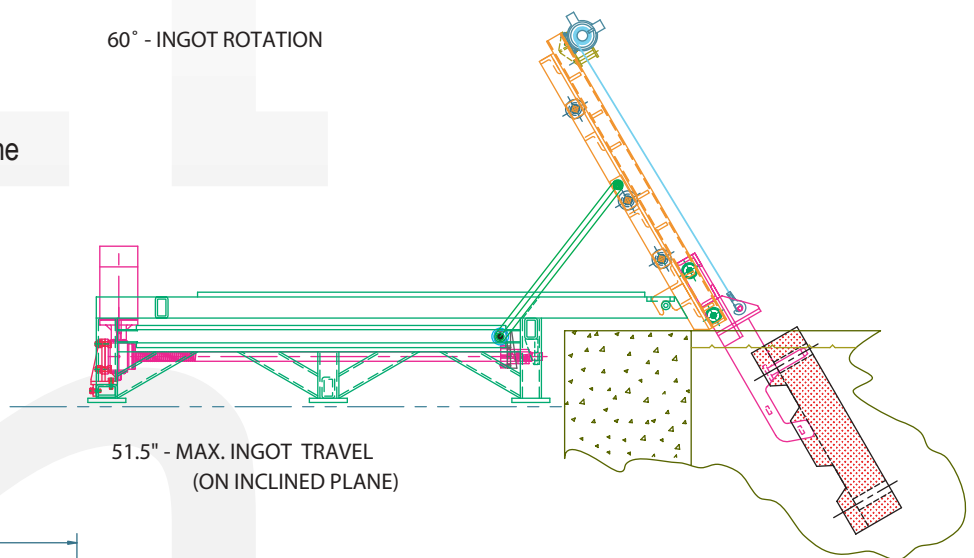
- The unit size is relatively small compared to the pot equipment
- The unit needs to be installed in the back of the pot under the snout, an area easily accessible for unit operation
- Zn is continuously fed to the pot, substantially reducing operation time

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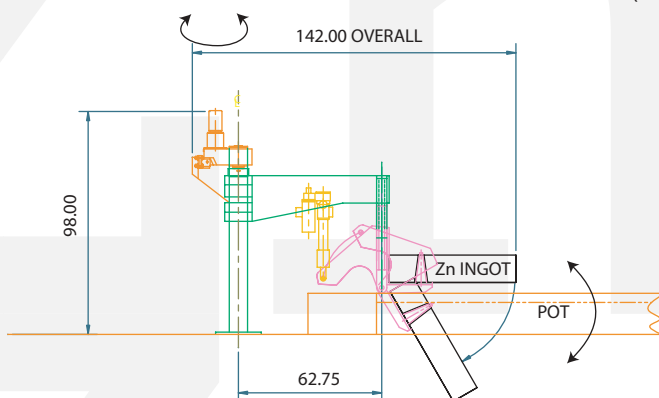


60° - INGOT ROTATION

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51.5" - MAX. INGOT TRAVEL  
(ON INCLINED PLANE)



## Ingot Manipulator NIT-2001 Vertical Design

### NIT-2001 Features

- Ingot manipulator NIT-2001 is an alternative to the NIT-2000
- It requires less room for installation and operation
- The unit can be installed either in the back or on the side of the pot