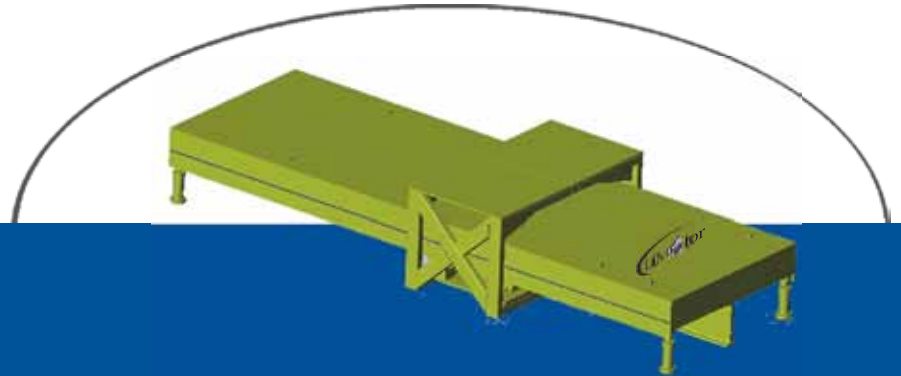


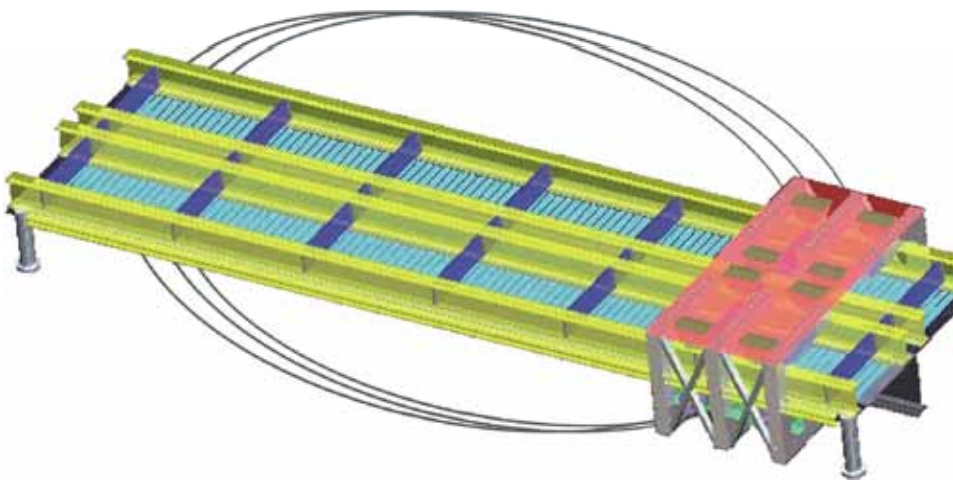
# Applies to all fields of low-speed and high thrust reciprocating linear motion

—The biggest low-speed high-thrust linear motor in the world



## Low Speed and High Thrust Linear Motor

— LNMT300-5



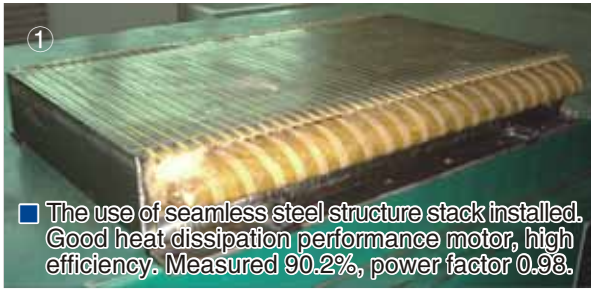
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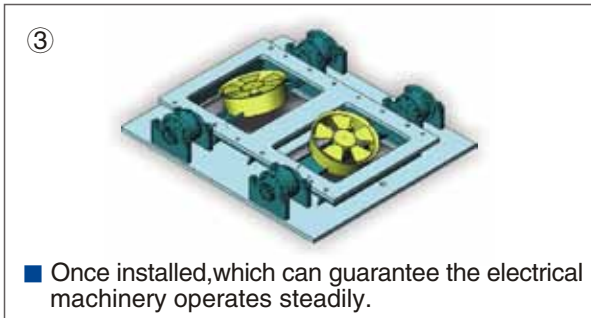
**E-mail:** [LiMotor@LiMotor.com](mailto:LiMotor@LiMotor.com)



① The use of seamless steel structure stack installed. Good heat dissipation performance motor, high efficiency. Measured 90.2%, power factor 0.98.



② Advanced manufacturing equipment ensures the quality of the parts.



③ Once installed, which can guarantee the electrical machinery operates steadily.



④ Having improved the integrity, insulation and heat dissipation of the dynamic sub-coil.

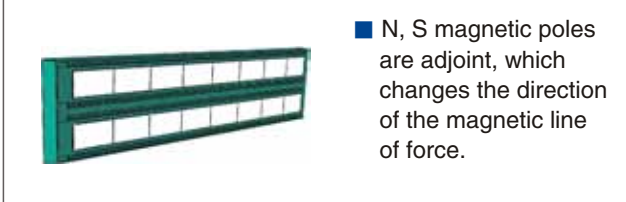
① Dynamic Sub-Coil

② Machining Center

③ Wheel Bracket

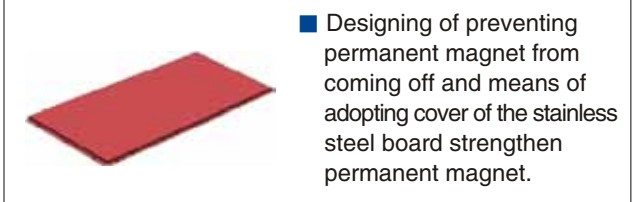
④ Vacuum Impregnation Tank

### Main Board



■ N, S magnetic poles are adjoint, which changes the direction of the magnetic line of force.

### Stainless Steel Board



■ Designing of preventing permanent magnet from coming off and means of adopting cover of the stainless steel board strengthen permanent magnet.

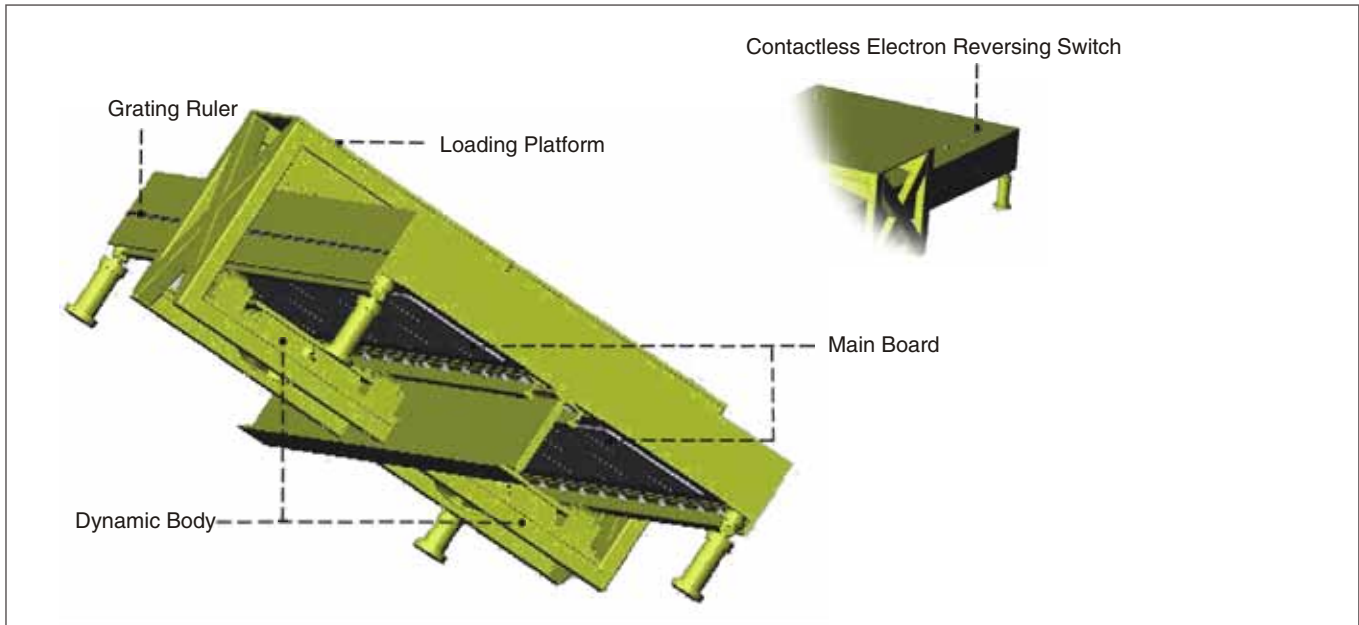
### Guide



■ The rail used for guide the movement.



## LNMT300-5



- **Loading Platform:**  
The platform can be divided up and its amount bears weight 20 ton.



- **Grating Ruler:** The precision grade can reach  $\pm 0.5 \mu\text{m}$ .

## Performance Characteristic

- Performance is reliable and security protection is complete;
- The part of load bearing doesn't need lubrication, which is convenient to clear up;
- The dynamics part lies in inside and it's safe and reliable;
- Movement machinery is attrition-resistant, few breakdowns, longer service life and easy to maintain;
- The running speed is adjustable freely(see the right picture);
- Small error of traceability, high precision and sensitive respond;
- Remote monitoring system and intelligent control;
- The noise accords with the international noise standard, which is not greater than 75db;
- Small startup current of electrical motor (the startup current of electrical motor is generally about 1.5 times of the running current);
- Large thrust (can reach rated thrust within one second) ;
- Select the best air gap parameter 4mm ;
- Modular design, the track trip can be extended freely.

### Structural Characteristic

- Motive force part is based on" suspension type conceptual design " and employ the function of electricity and magnetic force among dynamic body and stator body to bear weight.
- The support structure is designed similar to the balance type.
- Structure of bearing operation can be divided.

### Drive Control System

- The composition of drive control system
  1. Power control and system protector;
  2. A variety of control options (such as servo control);
  3. Monitoring system and gathering operational parameters;
  4. Position control: Encoder + DSP + human-machine interface;
  5. Remote transmission system and control system (Based on the users' requirements).

#### Conditions of using

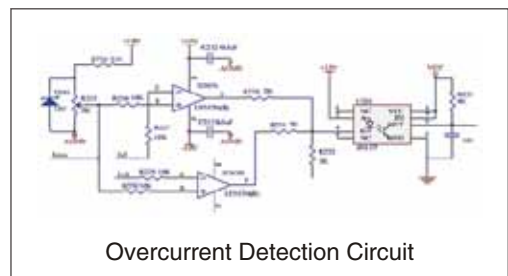
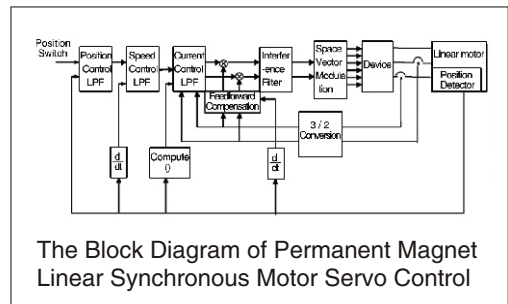
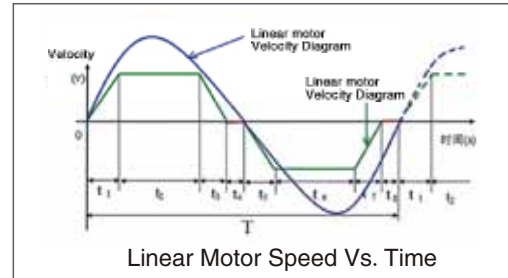
1. Operating temperature:  $-30^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$ ;
2. Working humidity: below 90% RH;
3. Storage temperature:  $-20^{\circ}\text{C}$  to  $+65^{\circ}\text{C}$ ;
4. Vibration: less than  $5.9\text{m/s}^2$  (0.6G).

#### The detection circuitry of overcurrent protection

The capacitance "C" serves as filtering, potentiometers "VR" give reference voltage to adjust VR to change the value of supply voltage that protects the circuit action.

After comparing  $|u|$  with  $|w|$  by the comparator, the output signal will go through optocoupler and sent to logic chips --GAL20V8, after being logicized with other over-voltage (three-phase AC voltage) detection signal, and generates signal SPDPINT to the DSP so as to blockade the PWM port of DSP.

If the PWM output pins are all in high impedance state, a interrupt request shall be issued from the kernel of the DSP.



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