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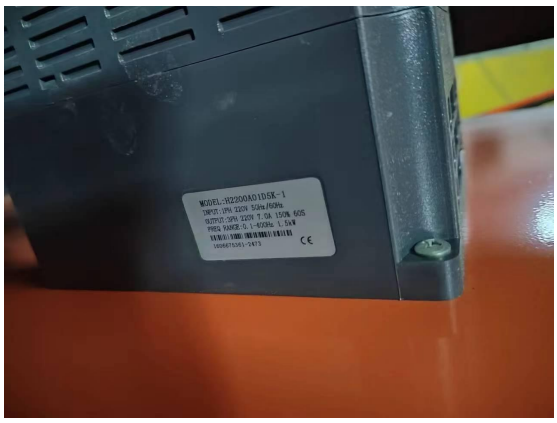
PCL–R150 Reciprocator

The PCL–R150 Reciprocator sets a new benchmark for advanced powder coating lines, offering exceptional stability, precise positioning, and intelligent control suitable for all powder coating machines.



- Key Performance Features

- ±0.1 mm repeat positioning accuracy
- Millisecond–level response time
- Servo motor + planetary reducer drive system
- Smooth motion with minimal vibration
- Long–term durability and nearly maintenance–free operation
- Supports 0—2800 mm stroke (customizable)
- Stable performance for both simple and complex workpieces

- Technical Advantages

- Roller guide rail system for high–speed, high–precision coating
- High–rigidity, low–friction materials for extended equipment lifespan
- Intelligent controller with real–time parameter adjustment and data feedback

- Compatible with CANOPEN, ETHERCAT, and PROFINET industrial networks
- Ideal for Industry 4.0 upgrades and automated powder coating production

- Application Versatility

Designed for a wide range of coating scenarios, the PCL–R150 handles flat surfaces, large panels, and complex geometries with ease, ensuring consistent coating quality across all powder coating processes.

- Frequency Conversion Lift Features and Advantages:

This lift product is suitable for electrostatic powder coating (painting) and electrostatic powder spraying production lines, serving as a fixed gun for automatic spraying. It features steplessly adjustable ascending/descending speeds and steplessly adjustable upper/lower limit stops, along with non–contact reversing. A single lift can carry 2 to 6 spray guns. The gun mount utilizes universal joint connections, allowing adjustment of both the position and height of the spray guns.

It employs a frequency converter and touch button control, ensuring smooth operation, stable performance, and easy operation. It can be equipped with 2~6 automatic guns. The standard stroke is 1.5M, with custom designs available. The automatic coating lift uses eight rollers gripping the square tube guide rail from four directions, driven by a chain for vertical movement. These rollers are made of special materials, providing stable operation without shaking, low noise, and extremely low wear rates.

The control components use high–precision position sensors that output encoded signals to the circuit board for high–speed processing, enabling stepless adjustment and control of the lift's upper and lower reversal points. This control system is easy to operate, highly precise, capable of multi–segment and multi–speed control, can start from any position, includes upper/lower limit protection functions, offers high reliability, and eliminates overtravel phenomena.

I. Features and Advantages of the Automatic Coating Lift:

1. Independently designed and developed full Chinese frequency conversion control system, easy to operate, understand, and learn.

2. Non-wear three-phase motor drive, simple maintenance.
3. Stroke and speed can be changed at any time according to workpiece requirements.
4. Entire machine casing is powder-coated and includes a tank tread cable carrier. The chassis exterior color can be customized according to customer requirements.
5. Suitable for high-demand coating applications like powder and paint spraying.
6. Control program allows for easy and precise positioning.
7. Suitable for various complex coating environments and high-precision workpiece spraying.
8. Fixed brackets are made of aluminum alloy and stainless steel rods.
9. Coating lift stroke can be customized.

II. Parameter Introduction:

1. Lift Arm Load: Approx. 60Kg
2. Speed Range: 0—60 m/min
3. Acceleration: 1 m/sec²
4. Input : 1 phrase AC220V ±10% 50—60 Hz
5. Output: 3 phrase 220V 7.0A 150% 60S
6. Motor Power: 0.75KW
7. Frequency Range: 0.1-400Hz 1.5 kW
8. Standard Stroke: 1500mm
9. Protection Features: Upper/Lower limit switches, with padded rubber buffer
10. Ambient Temperature: -20℃ ~ 60℃
11. Size: 2.57M*0.69M*0.59M
12. Weight: 150kg