

## Powtran PI500 inverters were used for the Portal Crane

### 1.Introduction

The portal crane is the most widely used in port handling, the bridge is supported by both sides of the leg on the ground. It operates along the ground track and can be underneath through railway vehicles or other ground vehicles.

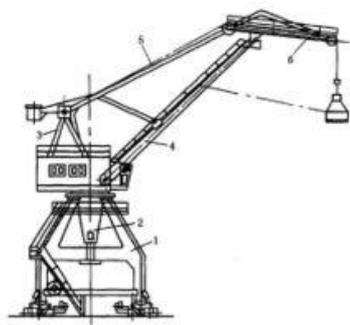


图 门座式起重机  
1—门架；2—转柱；3—人字架；4—主臂架；5—刚性拉杆；6—象鼻架



### 2.The working principle

The control system of the portal crane is mainly composed of the upper computer, the lower computer and the variable frequency speed control system. The cart, the main hook and the auxiliary hook motor need to run independently. The cart is 4 motors running at the same time, and the whole system has 9 motors and 7 inverters. The AC power supply of the motor controllable frequency comes from the frequency inverter, and the frequency inverter is the key component to realize the motor speed regulation.

### 3.On-site Application:

Equipment load:75t

Equipment	Motor Power	Qty	Inverter Model
Hoist motor	132kW	1	PI500 220G3
Variable amplitude motor	42kW	1	PI500 075G3
Rotary motor	30kW	1	PI500 055G3
Walking motor	30kW	2	PI500 037G3



#### 4. On-site Application Notice:

A. Model selection: Enlarge inverter selection for this heavy load machine, usually need enlarge 2 grade. For eg, if motor is 45kW, it is better choose 75kW inverter

B. Pay attention to the ventilation of the frequency inverter

C. Pay attention to PCB coating, moisture proof, corrosion proof, dust proof, because of this kind of equipment is in outdoor work.

D. Add brake units and brake resistor

The successful use of PI500 in portal crane proves the excellent features of the PI500 series inverter. Variable frequency speed regulation has the function of soft start, which reduces impact damage to power grid and equipment during start-up, reduces equipment failure rate and equipment maintenance cost, and improves equipment utilization. At the same time, the inverter has various protective functions such as overcurrent, overload, short circuit, lack of phase and undervoltage, which can ensure the safe and stable operation of the equipment. The effect of energy saving is achieved through variable frequency speed regulation, and good economic benefit is achieved.