

# MH500 Hydraulic Servo Project Case

## ——WALTON HAITIAN470T injection molding machine

### Summary:

WALTON is the biggest electrical products manufacturer, such as AC, Freezer, TV or cellphones, it is a well known brand in Bangladesh, also export its products to some around countries. This industrial park consist employees about 60000 employees, include Walton Hi-tech and Micro-tech.

### Key Words :

Injection molding machine, Hydraulic Servo.

### 1, Project introduction

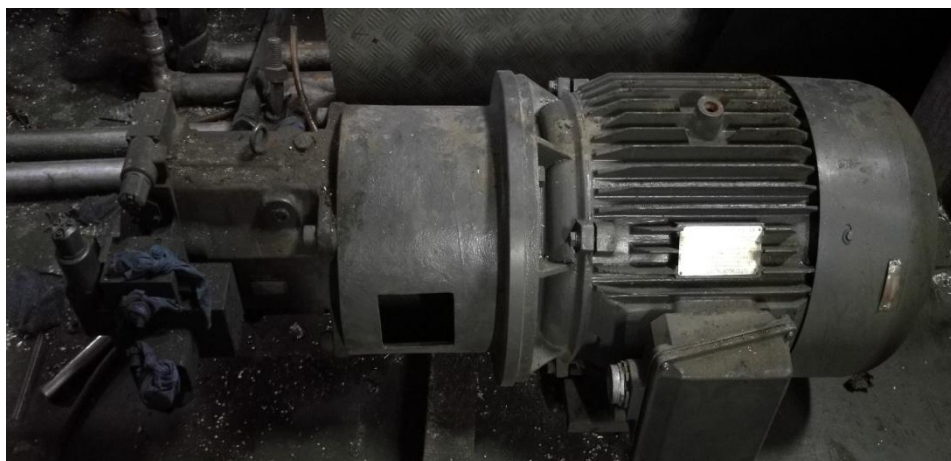
HAITIAN470T Injection molding machine hydraulic efficiency improvements

The old configuration: Motor speed --1470r/min, Pump type--MACHI PZ-6B-180E3A-20, Capacity-- 180ml/r, Calculate system flow rate 264L/min;

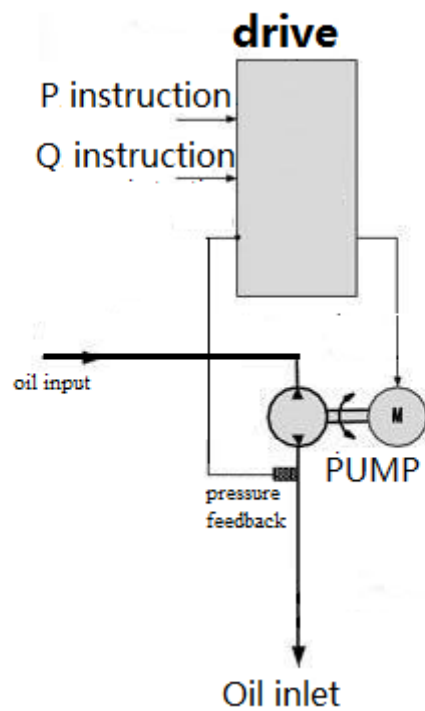
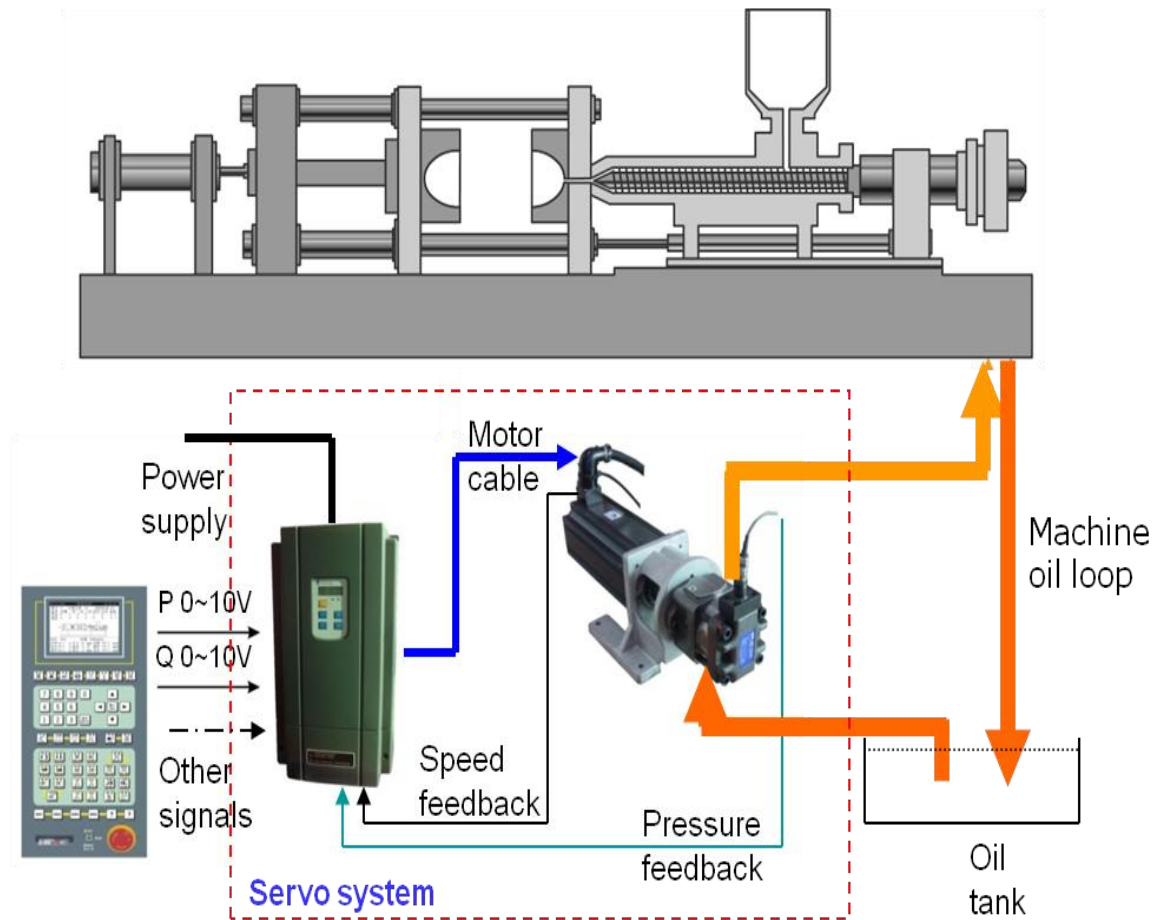
The system pressure :140BAR;

The retrofit MH500 hydraulic servo system for energy conservation:

K8 (Driver:4502, Motor:K235F20C25P, Pump:125cc) .



## 2、 System diagram



### 3、 Project features and advantages

#### 1) Power saving

Remarkable power saving ability, high advanced motor control automatically adapt to plastic process, compared to induction motor, servo saving power cost about 70%.

#### 2) More accurate.

With pressure and flow rate PID feedback system, the close loop system can be more accurate control process, raise plastic products and mold accuracy 2%.

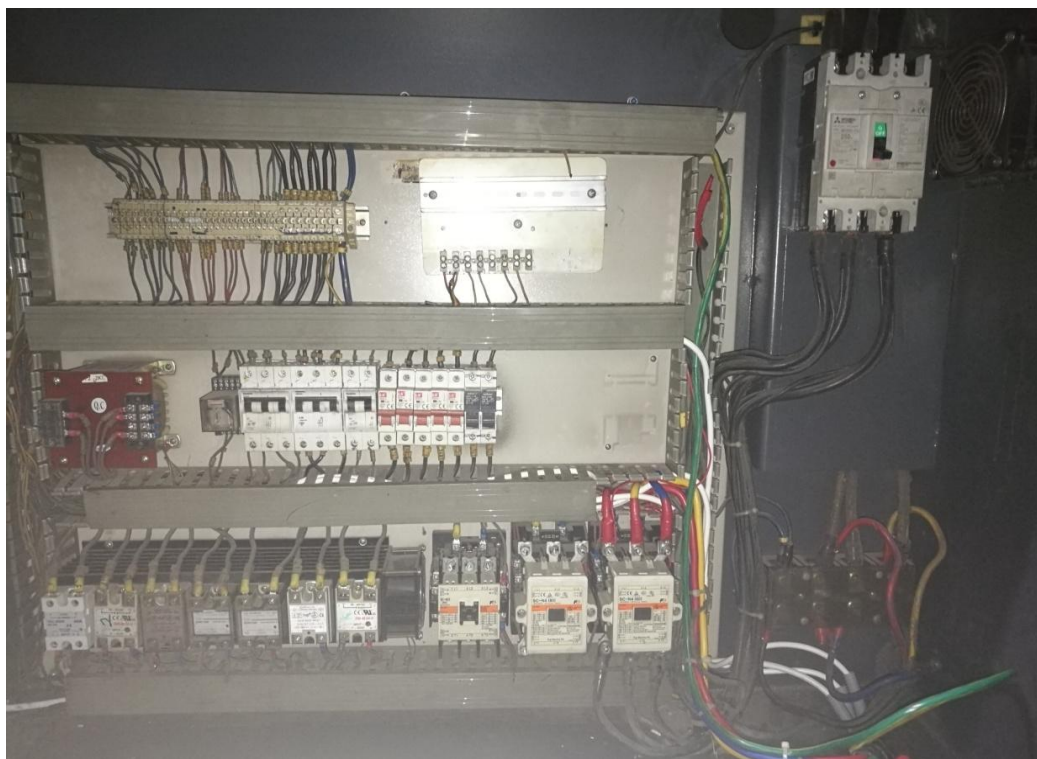
#### 3) High Efficiency

Servo has more than 3 times of sudden overload ability 2500 r/m speed, compare to normal induction motor, same condition reduce process time 15%

#### 4) More working life

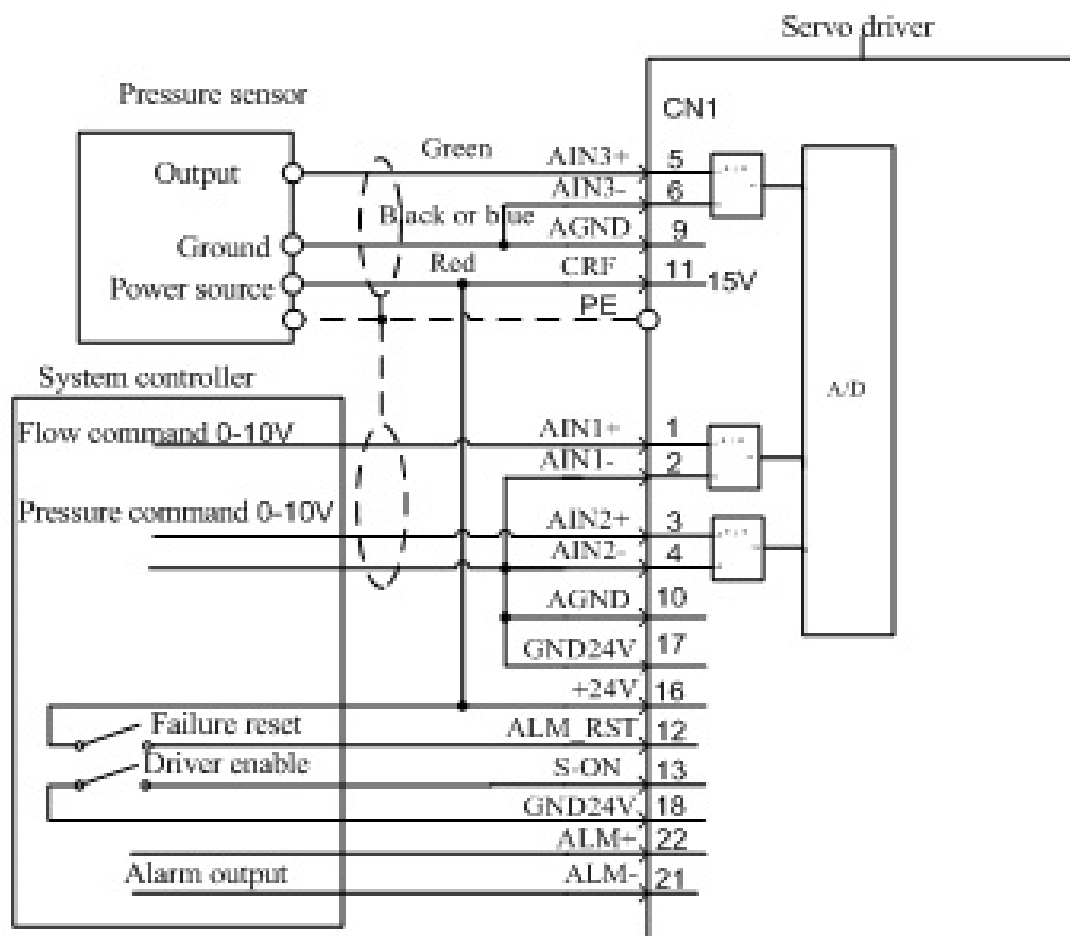
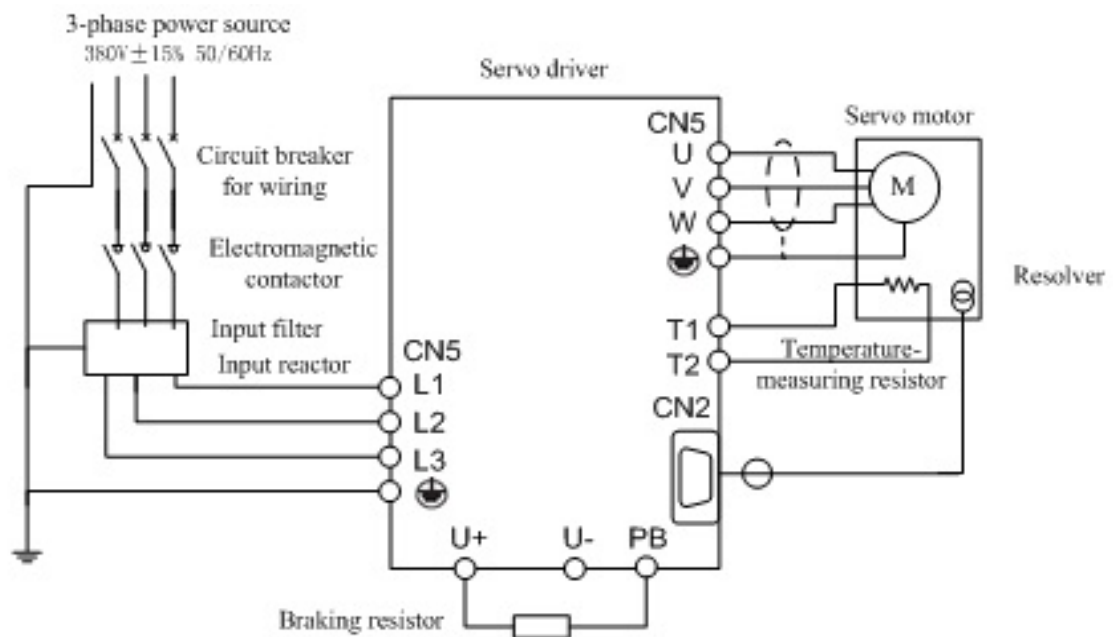
Servo system reduce impact, increase system working life time 20%

### 4、 Site photos reference



MH500 applied into Walton HAITIAN470T injection molding machine

#### 4.1 Wiring diagram:



#### 4.2 Debug and parameters setting:

- 1) Connect wires according to the diagram.
- 2) Set 2 drivers parameters base on operation manual (2 single pumps).
- 3) Initialize system and driver pressure and flow 0V and 10V analog signal.
- 4) Power on machine and test, each action testing.
- 5) Install mold and start produce testing.

#### 5、 Conclusion:

WALTON HAITIAN470T machine retrofit energy saving data	
Before retrofit power cost per day:	920 KW/H
After retrofit :	360 KW/H
Power saving rate:	60%

#### 6、 Reference.

- MH500 Hydraulic servo system operation manual.
- INVT Kinway servo application on injection molding machine.