

## Energy-saving application for injection machine

### Equipment Introduction

Injection molding machine another said are injection molding or injection machine. It's a major molding equipment which use of thermoplastic or thermosetting plastic material through plastic molding mold into various shapes of plastic products. Injection molding machine divided into vertical, horizontal, full battery. Injection molding machine can heat the plastic, offer high pressure to the molten plastic make it shoot out and fill the mold cavity. Injection molding machine is a typical cyclical changed load equipment, a complete production cycle including clamping, injection plastic, hold pressure, melt, cooling, mold and other stages. For hydraulic system, the demand for pressure in each stage is different. Seen from the oil pump's load characteristics , the higher pump speed, the larger of its output pressure and flow, so as long as adjustment the pump motor speed to achieve adjustment the hydraulic system pressure and flow.

### Inverter transformation principle.

Frequency Power Saver injection molding machine special for energy-saving through adjustment the pump motor speed to achieve the adjusting of hydraulic system pressure and flow. This feature, according to the injection molding machine production process demand, directly use the injection molding machine synchronizing signal and electrical control ,base on the change of Injection molding machine in Rate flow and pressure , adjusting the pump motor speed automatically. So that the motor's power consumption will reasonable matching relationship follow the change of output load, Aim to achieve maximum power saving purposes.



EDS2860 series is dedicated to injection molding machine for energy-saving .The inverter automatically adjust the motor speed according to the different processes for each output pressure signal and flow signal, to control the fuel supply pump, making the injection molding machine hydraulic load and the fuel supply of each process to maintain consistency, EDS2860 series have below performance feature.

### **1、 High energy saving rate.**

- (1)Adopt advanced digital signal processor (DSP) to make up of high efficient energy save variable pump by common injection molding machine ration pump and energy save cabinet;
- (2)Injection molding machine hydraulic pressure system matches power needed by unit running; therefore no high pressure flooding energy loss and power save rate reaches 25%~65%.

### **2、 High reliability**

- (1)Strong overload: 150% of rated current for 3 minutes, 200% of rated current for 5 seconds
- (2)Keep original control mode and oil road of injection molding machine constant, ensure not to effect production process and ensure no jump-off and quality of products under plastic injecting and mold locking etc. high pressure heavy load impact during injection process;
- (3)Safe design of double loop for power source/power save running, bears automatic reset、 power-off reset function to ensure production continuity and production efficiency.

### **3、 Soft start-up**

- (1) Reduce mold opening and locking vibration, prolong service lifetime of device and mould and improve work environment;
- (2)System heating is reduced obviously, temperature of the oil is stable and cooling water can be saved by above 30%;
- (3) Prolong service lifetime of sealed subassembly, reduce opportunity of shutdown for repair and save a lot of maintenance fare.

### **4、 Simple operation**

- (1)Double channels input, can accept 0~1A signal and pulse signal under 200Hz
- (2)Simple assembling and super strong defense, run synchronously with injection molding machine, no adjustment is needed.
- (3)Small volume, convenient assembling, humanized configuration design, compact configuration, handsome appearance.
- (4) Full-close separate air path design, dustproof, airproof, anticorrosive, great capacity of adapting ambient.

### **5、 High return rate**

All your investment can be returned for about 6-15 months by power save.

6、 parameter set as below:

F0.02=1	F0.14=1
F0.15=1	F6.00=1
F6.01=2	F6.02=0.6

F6.03=0.5

F6.04=0.2 1# channel signal actual lower limit value

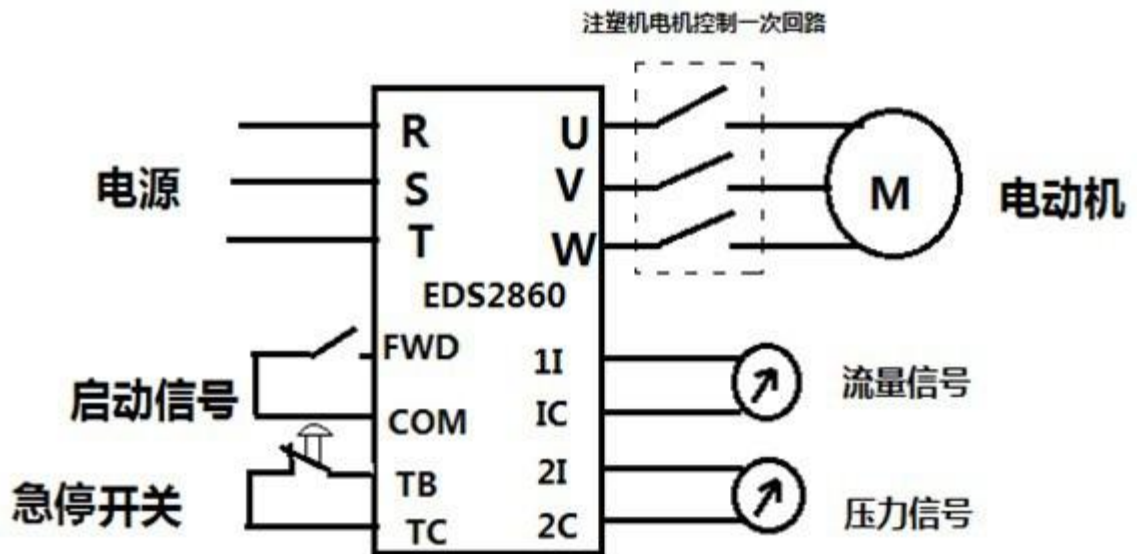
F6.06=0.8 1# channel signal actual upper limit value

F6.08=0.2 2#channel signal actual lower limit value

F6.10=0.8 2#channel signal actual upper limit value

F6.12=1 Set inflection point pass effective when switch analog power not enough

Through Set F6.13---F6.20 value to gain better switch analog function.



7、connect diagram:

电源： power supply. 电动机： motor

启动信号： start signal 压力传感器： pressure sensor

急停开关： E-stop switch