

# 80TD24/30Z2.2AT

## ATC water cooling spindle

### Instruction

#### 1. Overview

The electric spindle are installed ISO20 handle automatic loose broach electric spindle. Used in drilling milling processing. After the end of 7004 C/P4, with two sets of front 7006 C/P4 ceramic ball bearings, bearing, rigid high precision, long life.

Loose broach cylinder for double cylinder structure, increase the loose knife force; For the single-acting cylinder, use convenient, reliable; For floating type cylinder, the pine knife bearing force, to avoid the loose to the impact of the sword force bearing, greatly improving the the service life of the bearings.

Install a loose knife state sensors and broach state sensors, and machine control linkage, achieve automatic loose broach etc. Function. Has hollow blow air clean the handle function.

The front end of the sealing structure, with gas seal, labyrinth seal and special structure of sealing triple seal, better solve the problems sealing.

**USES** the water cooling, grease lubrication method.

Shell and exposed a use stainless steel materials, internal need also **USES** stainless steel parts material, and **USES** the corresponding heat treatment.

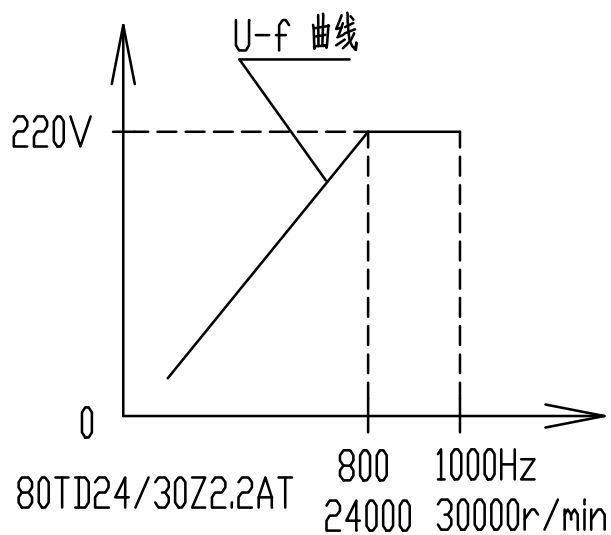
The electric spindle motor front body is divided into  $\Phi$  80, air cylinder parts for  $\Phi$  90, due to the increased cylinder, and to reduce the need of pine knife gas supply pressure, also has the

installation check set, for easy installation. (please see appearance chart).

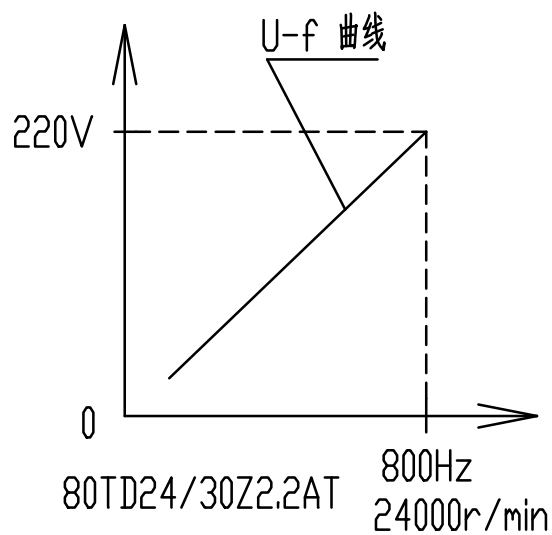
## 2. Data

style 80TD24/30Z2.2AT  
speed 24000/30000 r/min  
power 2.2kW (24000 r/min 以上为恒功率段)  
voltage 220 V (24000 r/min 以上)  
current 8.5A  
frequency 400/500 Hz  
phase 3 ~

U-f curve as the graph 1; When using the highest speed not more than 24000 r/min, also can use the graph 2 curve set frequency inverter parameter.



(曲线图 1)



(曲线图 2)

## 2. Drive power supply (converter) and parameter adjustment:

The drive power supply should choose match with electric spindle, current output should be slightly higher than current electric spindle, parameters adjustment should be refer to the instruction of the technical parameter table and U-f the graph, correctly adjusting.

### **3. Related links explain**

Should see this manual shape dimension design is right to take over and connect the power supply.

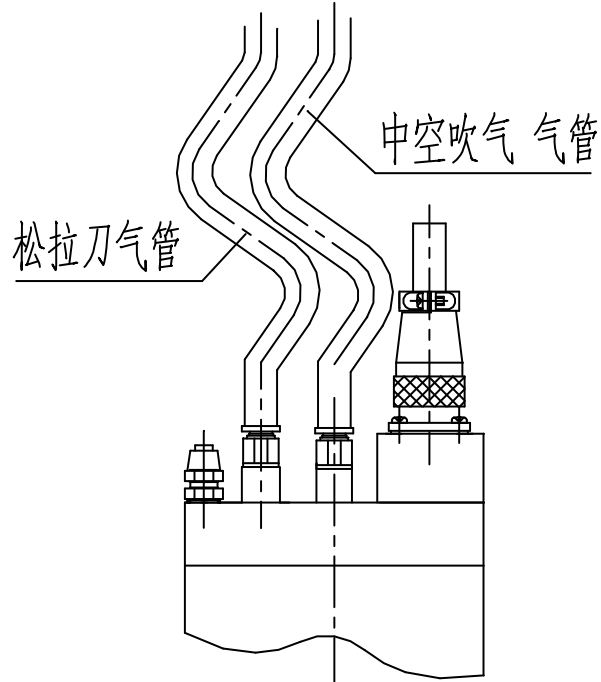
**3.1 the power connector needle 1, 2, 3 by frequency converter.**

Grounding screw can be used in the ground.

**3.2 the cooling water joint type of mother standard pipe joint lock, if adopts horizontal installation, underneath of cooling water joint by water, cooling water of joint pick up above water, take over were 8/6 hose. Should ensure that there is sufficient cooling fluid flows through electric spindle, assure enough cooling. Conditional when should use spindle special cooling machine cooling.**

**3.3 gas seal, gas supply pressure is 0.5 Kg/cm<sup>2</sup> or so for appropriate, pick up the hose foreign 4 mm.**

**3.4 loose broach the trachea and hollow blow the trachea installation: loose broach the trachea and blow gas tracheal all should use PVC hose, radial dimensions 6/4 and should make long distance from more than 90 mm in the connection, make the pipeline has certain bending, as shown in figure:**



**3.5 the use of compressed air shall strictly filtering, remove moisture from the air and impurities.**

#### **4. Pine broach work process and loose broach sensor**

##### **4.1 loose broach work process**

**This product work cylinder for: single function float type double cylinder. Single function cylinder that is spring recoverable cylinder.**

**(1) when spindle stop operation, to loose knife into (row) air supply compressed air, the cutting tool to loosen, the loose with loose knife knife sensor signal output, then handle loose (loose knife signal output should be connected with machine control, lock electric spindle stops working in state, the electric spindle can't start running.) ; (2) when there is loose knife signal output, to blow gas supply channels, compressed air to the main shaft front holes in the cone, clean the handle and cone hole, lasts 2 to 3 seconds later closed blow gas; (3) the handle insert cone hole in place, control the intake air the loose dao (loose broach the trachea in pipeline can access two three links valve to control), when broach sensor with signal output by taut namely when the handle.**

80 TD24/30Z2.2AT loose broach pressure is 0.45-0.6 Mpa, blow gas pressure 0.2 Mpa or so for appropriate.

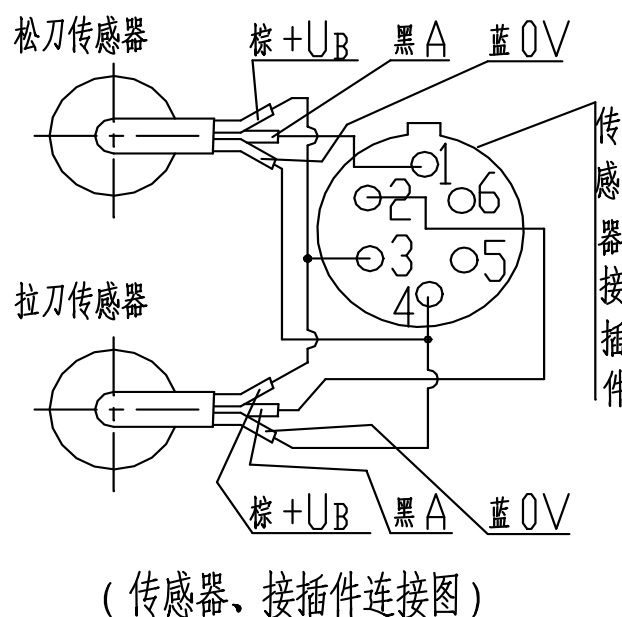
Note: loose knife, and the state not to install state, only can start spindle trial operation at low speed.

#### 4.2 loose broach state that signal output

Loose a knife is show cylinder inflatable, loosen the grip; Pull the sword is refers to the cylinder not inflatable, air cylinder piston return, in taut tool condition. The electric spindle loose knife, broach state signal output elements adopt: action mode NO, output specification PNP output, 10-30 VDC power supply voltage, the output current than 200 mA, the wiring diagram see sensor hookup:

#### 4.3 loose broach connectors wiring

Loose broach sensor connectors wiring, and its corresponding needle number is: 1, loose the knife sensor output, 2, broach sensor output, 3, the sensor public power positive, 4, sensor public power supply.



The wiring diagram see sensor, connectors connection diagram:

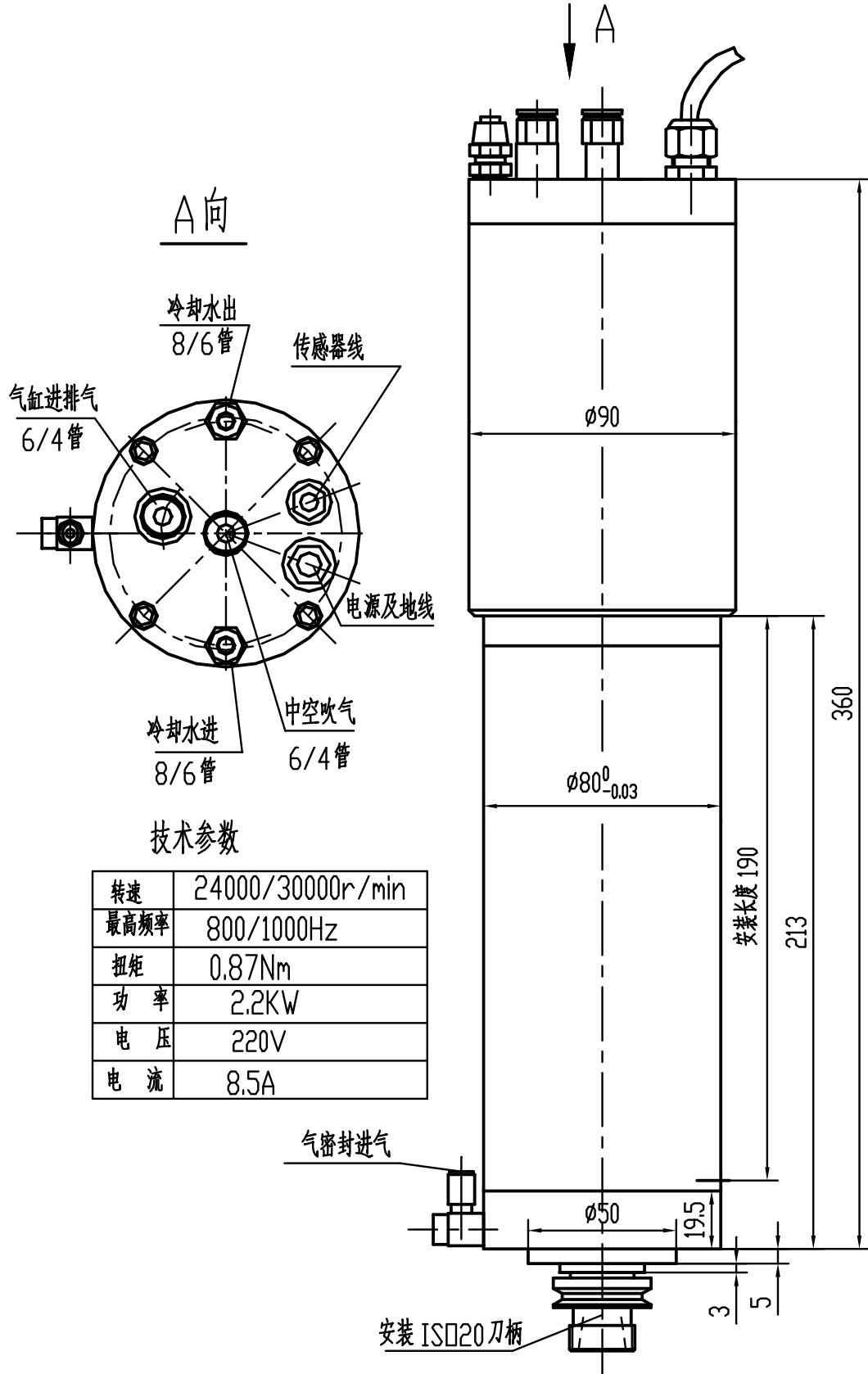
### 5. Maintenance and assembly

**Spindle maintenance should be by professionals, and have the corresponding conditions. If do not have, should be sent back to production factory maintenance, do not get optional tear open outfit. Optional tear open outfit, may disrupt the electric spindle accuracy, or damage to the main shaft parts. General maintenance to the axis balance test and adjust into action, to ensure that the vibration of the electric spindle and rotation precision.**

**Before the assembly with 120 gasoline cleaning bearing and the parts, parts after dry, the assembly. Replace bearing, attention shall be paid to the bearing type and original the same, or share the same high Angle contact bearings, assembly direction (bearing axial load direction) should be with the original bearing assembly direction consistent, the bearing should be filling the spindle special grease.**

**After repair, a new assembly of electric spindle running test should be carried out. At low and medium speed were running under 15 minutes or more, smooth operation should be no abnormal, and then put into use.**

6.附图：（1）80TD24/30Z2.2AT drawing



技术参数

|      |                  |
|------|------------------|
| 转速   | 24000/30000r/min |
| 最高频率 | 800/1000Hz       |
| 扭矩   | 0.87Nm           |
| 功率   | 2.2KW            |
| 电压   | 220V             |
| 电流   | 8.5A             |