

# **K390BZ1 COMPRESSOR**

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## **TECHNICAL SPECIFICATION**



HUANGSHI DONGBEI ELECTRICAL APPLIANCE CO., LTD.

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## 1. Compressor Type

Compressor model	K390BZ1
Rated voltage/frequency	110-120V~60Hz
Refrigerant	R134a
Application	Low back pressure (LBP)
Cooling method	Fan Cooling
Start torque	High starting torque (HST)
Control device	Capillary tube
Motor type	CSIR
Starting capacitor	150 $\mu$ F
Running capacitor	/

## 2. Performance Data

Displacement	Net Wt.	Oil Charge	Cooling Capacity ( $\geq 95\%$ )								COP( $\geq 95\%$ )		
			ASHRAE								CECOMAF	ASHRAE	CECOMAF
			-35	-30	-25	-23.3	-20	-15	-10	-25	-23.3	-25	
cm <sup>3</sup>	kg	ml	w	w	w	w	w	w	w	w	w/w	w/w	
11.4	10.2 $\pm$ 0.4	200 $\pm$ 10	139	224	341	385	480	660	883	296	1.30	0.99	

Note: These datas come from the test without a PTC relay

Testing condition:

Test conditions	LBP	
	ASHRAE	CECOMAF
Evaporating Temp.	-23.3 $^{\circ}$ C	-25 $^{\circ}$ C
Ambient Temp.	+32.2 $^{\circ}$ C	+32 $^{\circ}$ C
Condensing Temp.	+54.4 $^{\circ}$ C	+55 $^{\circ}$ C
Suction Temp.	+32.2 $^{\circ}$ C	+32 $^{\circ}$ C
Subcooling Temp.	+32.2 $^{\circ}$ C	+55 $^{\circ}$ C

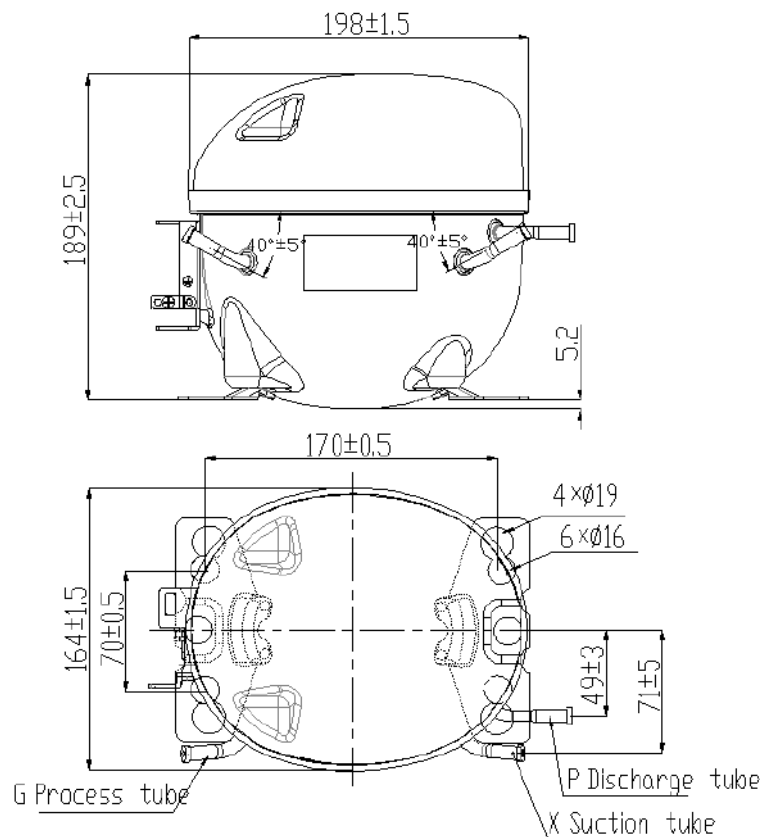
## 3. Running Condition

Ambient temp.	0~43 $^{\circ}$ C
Evaporating temp.	-35~-15 $^{\circ}$ C
Voltage range	100~127V
Max. condensing temp.	65 $^{\circ}$ C
Max. winding temp.	130 $^{\circ}$ C
Max. shell temp.	95 $^{\circ}$ C
Max. discharge temp.	130 $^{\circ}$ C
Start voltage	98V [0.5/0.5bar(abs)]
Shell min. resistance to pressure	35bar

#### 4. Compressor Mechanical Information

Oil type	POE oil
Viscosity	30~34 mm <sup>2</sup> /s (40℃)
Oil charged	200±10ml
Min. oil volume in compressor	160ml
Diameter of suction tube (I.D.)	Φ6.5±0.1mm
Diameter of discharge tube(I.D.)	Φ4.9±0.1mm
Diameter of process tube (I.D.)	Φ6.5±0.1mm
Material of suction tube, process tube and discharge tube	copper tube
Compressor noise	≤48.0 dB(A)
Vibration	≤1.2m/s <sup>2</sup>
Protecting gas	Dry com.air (Dew point-60℃)

#### 5. Compressor Shape

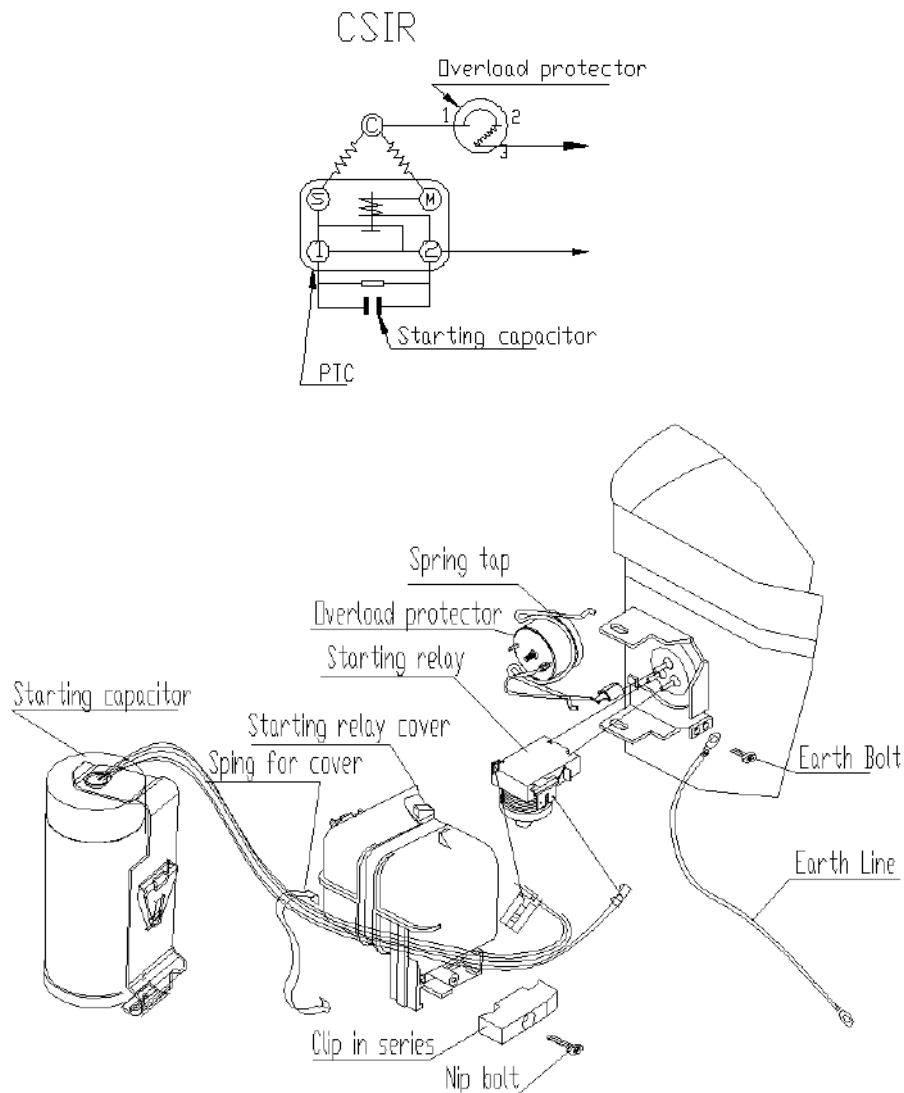


Caution:Suction tube and process tube can not be exchanged

Unmarked tolerance: ±5mm

Unmarked Angle: ±10°

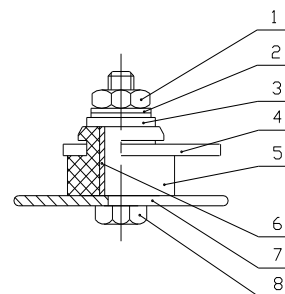
## 6. Wiring Diagram



Note: Each of the starting relay, the overload protector, the capacitor, the cover, the spring, the earth line and the earth bolt is separately provided by our company.

## 7. Fixing Of Mounting Bracket And Cabinet Base

- 1、 Hexagon nut
- 2、 Spring washer
- 3、 Flat washer
- 4、 Compressor mounting bracket
- 5、 Rubber grommet
- 6、 Sleeve
- 7、 Cabinet base
- 8、 Screw



Note: Equipment assembly is all provided by our company. Above is just for reference, details can refer to delivery state.

## 8. Starting relay and overload protector

### 8.1 Starting relay

Model: QL2-8.1

Type: Starting relay

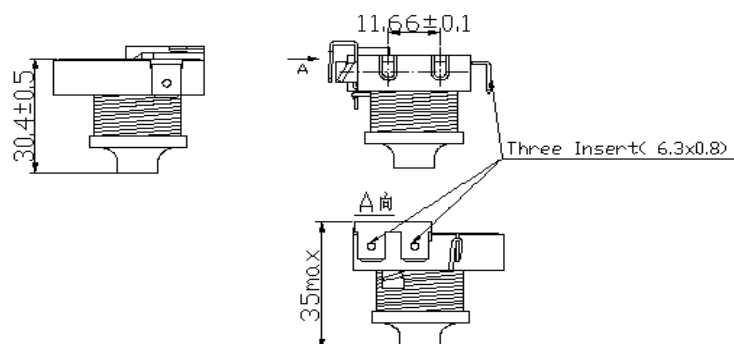
max current: 8.1A

Assembly force  $\leq 100\text{N}$  (the first time); Disassembly force  $\geq 25\text{N}$  (the six time)

Flammability: Anti-flammability

Manufacturer: Changshu Tianyin Electromechanical Co.,Ltd.

Hangzhou Star shuaier Electric Appliance Co.,Ltd.



### 8.2 Overload protector

Protector Model: B150-115

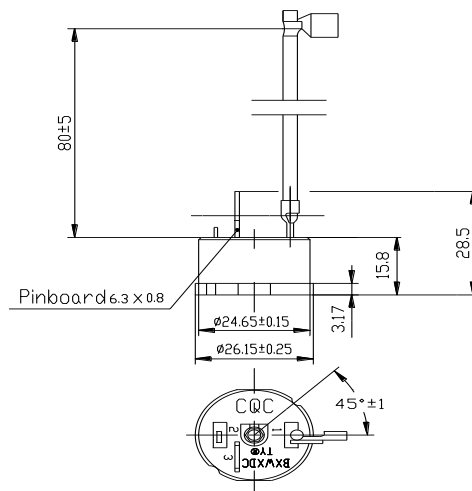
Compressor model		K390BZ1	
Overload protector	Max.T.C Amp.(25°C)	A	15.0
	Trip time	S	5~15
	Reset time	S	10~80
	Open temp.	$\pm 5^\circ\text{C}$	115
	Close temp.	$\pm 9^\circ\text{C}$	61

Assembly force  $\leq 80\text{N}$  (the first time) ; Disassembly force  $\geq 12.5\text{N}$  (the six time)

Flammability: Anti-flammability

Manufacturer: Changshu Tianyin Electromechanical Co. Ltd.

Hangzhou Star shuaier Electric Appliance Co.,Ltd.



## 9. Capacitor

Compressor model		K390BZ1
Starting Capacitor	Model $\mu\text{F}$	150
	Rated voltage V.AC	250
	Supplier and model	Huangshan Zhenzhou Electronic Technology Co., Ltd. FUXIN JIEKEDA ELECTRONIC CO.LTD

## 10. Delivery State

No.	Name	Model	Quantity	CODE
1	Compressor	K390BZ1	1pcs	
2	Rubber plug	$\Phi 6.4$	1pcs	
3		$\Phi 8.2$	2pcs	
4	Rubber grommet	V model	4pcs	
5	Starting relay	QL2-8.1	1 pcs	ChangshuTianyinElectromechanicalCo.,Ltd.
				Hangzhou Star shuaier Electric Appliance
6	Overload protector	B150-115	1 pcs	ChangshuTianyinElectromechanicalCo.,Ltd.
				Hangzhou Star shuaier Electric Appliance
7	Starting capacitor	150 $\mu\text{F}$	1 pcs	
8	Relaying cover	S2C	1pcs	
9	Earth bolt	QET.1-25	1pcs	
10	Spring for cover	QS08-05H	1pcs	
11	Spring tap	QS08-06A	1pcs	
12	Capacitor jacketed	Q34L-15	1pcs	
13	Earth line	QET.6D-03	1pcs	

Notes:1.All electrical parts and equipment assembly are supplied separately, not installed on the compressor.

2.All electrical parts and equipment assembly according to Delivery states are all provided by our company.

## 11. Package、Storage and Transportation

Package type	unrecyclable
Quantity	60pcs/box
Transportation	By sea
Storage	Max. 2 layers
Cross Weight            Kg	647 ± 24
Net Weight                Kg	612 ± 24
Volume                    m <sup>3</sup>	1.01
Dimension: length × width × height (cm)	103 × 89 × 102
Main components	Wooden supporter、upper wooden cover、foam divider、plastic sheet、cardboard cover、rain-proof cover、wrapping
Movement	Keep the compressor in normal or vertical position
Trans. test requirement	No allowable compressor's damage and performance loss.

## 12. Technical Items

- (1)、Don't take off the rubber plugs before using and installing compressor to prevent dust and moisture.
- (2)、Don't turn down or incline the compressor during storage, transportation or installation and avoid vibration and shock.
- (3)、The compressor must be kept horizontally during running, the inclination angle must be less than 5°.
- (4)、A special polyester oil is charged in the R134a compressor and the charging volume has been optimized by DONPER. Don't pour out or add any refrigerant oil.
- (5)、The interval of compressor operation must be more than 4 minutes in order to obtain a pressure balance in the systems.
- (6)、Don't start or run in the case of vacuum or charge high voltage in the compressor. The compressor cannot be used to vacuumize the refrigeration system.
- (7)、The design of refrigeration system must be suitable to insure the oil could flow back to compressor.
- (8)、The maximum ambient temperature of the compressor operation is 43°C. When continuously operating under the maximum ambient temperature 43°C, the condensing pressure and the peak pressure should not exceed as showing in the following table.

Refrigerant	R134a
Max. condensing pressure	1.59MPa
Peak	2.0Mpa



- (9)、Widen the evaporating Temp. range of the compressor should be approved by DONPER.
- (10)、Compressor should be stored in a dry place.
- (11)、Compressor accessories (eg: starting relay, overload protector etc.) are put in the accessories box instead of fixing on the compressor.
- (12)、The stocking period must be less than 6 months after the date of production. If longer, you have to check whether the filled gas is sufficient. Replenishment must be done if necessary.
- (13)、It's necessary to keep the compressor without rubber plug as short time as possible (max time 10 min).
- (14)、R134a systems require a filter with drying agent which suitable for R134a refrigerant
- (15)、The vacuum pump and the charging system must only be dedicated to R134a.
- (16)、The refrigeration system should minimize the content of chlorine and moisture, and must be free of paraffin and silicon oil.
- (17)、The organic substance non-compatible with R134a cannot be used in the refrigeration system.