

# **K270CY1 COMPRESSOR**

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## **TECHNICAL SPECIFICATION**



HUANGSHI DONPER COMPRESSOR CO., LTD.

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## 1. Compressor Type

Compressor model	K270CY1
Rated voltage/frequency	220-240V~50Hz
Refrigerant	R600a
Application	Low back pressure (LBP)
Cooling method	Fan Cooling
Start torque	Low starting torque (LST)
Control device	Capillary tube
Motor type	RSIR
Starting capacitor	/
Running capacitor	/

## 2. Performance Data

Displacement	Net Wt.	Oil Charge	Cooling Capacity (≥95%)								COP (≥95%)	
			ASHRAE							CECO MAF	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
16.2	10.2±0.4	200±10	169	200	236	265	312	398	476	204	1.30	1.0

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

Testing condition:

Test conditions	LBP	
	ASHRAE	CECOMAF
Evaporating Temp.	-23.3℃	-25℃
Ambient Temp.	+32.2℃	+32℃
Condensing Temp.	+54.4℃	+55℃
Suction Temp.	+32.2℃	+32℃
Subcooling Temp.	+32.2℃	+55℃

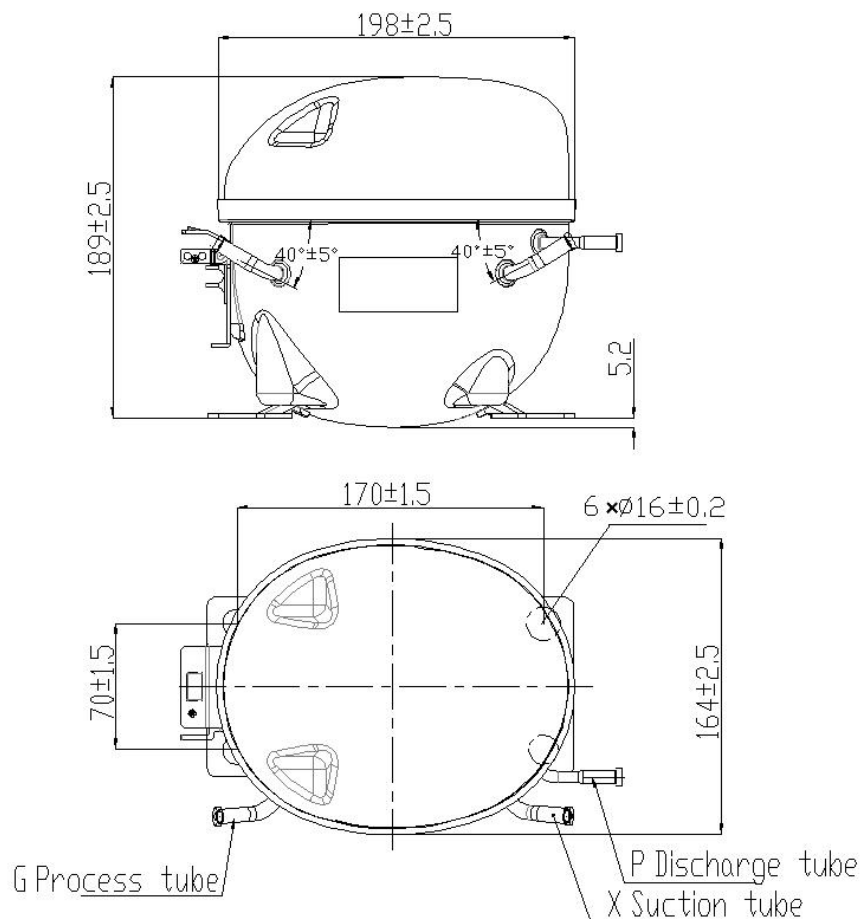
## 3. Running Condition

Ambient temp.	0~43℃
Evaporating temp.	-35~-15℃
Voltage range	187~254V
Max. condensing temp.	65℃
Max. winding temp.	120℃
Max. shell temp.	95℃
Max. discharge temp.	110℃
Start voltage	187V [0.35/0.35MPa(abs)]
Shell min. resistance to pressure	35bar

#### 4. Compressor Mechanical Information

Oil type	Synthetic oil
Viscosity	4.2~6.4mm <sup>2</sup> /s(40℃)
Oil charged	200±10ml
Diameter of suction tube (I.D.)	Φ 6.2±0.1mm
Diameter of discharge tube(I.D.)	Φ 4.9±0.1mm
Diameter of process tube (I.D.)	Φ 6.2±0.1mm
Material of suction tube, process tube and discharge tube	copper tube
Compressor noise	≤43dB(A)
Vibration	≤0.7m/s <sup>2</sup>
Protecting gas	-0.06~-0.02MPa

#### 5. Compressor Shape

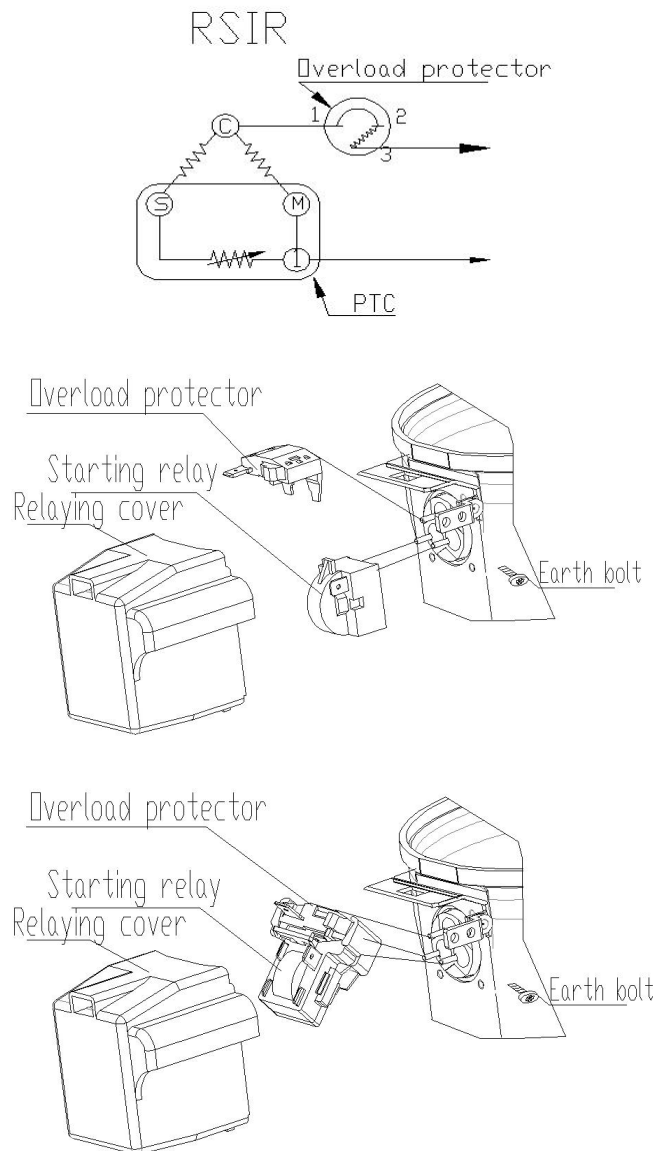


Caution: Suction tube and process tube can not exchange.

Unmarked tolerance: ±5mm

Unmarked Angle: ±10°

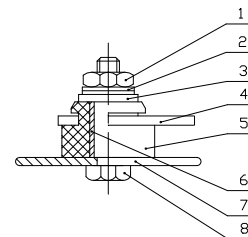
## 6. Wiring Diagram



Note: Each of the starting relay、the overload protector、the cover 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.

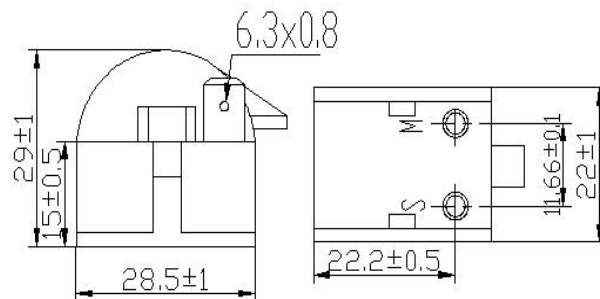
## 8. Starting Relay and Overload Protector

### 8.1 Starting relay

Model	QP2-15	
Supplier	Foshan Shunde Ronggui Electric Circuit Measurement Equipment Co., Ltd	
Resistance	$\Omega$	$15 \pm 20\%$
Run time	S	0.2~1.5
Reset time	S	$\leq 100$
Max working voltage	V	350
Max current	A	8

Assembly force  $\leq 100\text{N}$  Disassembly force  $\geq 25\text{N}$

Flammability: Anti-flammability

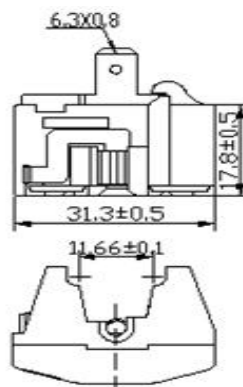


### 8.2 Overload protector

Model	TB78-125	
Supplier	Foshan Shunde Ronggui Electric Circuit Measurement Equipment Co., Ltd	
Max.T.Camp.(25°C)	A	8.1
Trip time	S	5~15
Reset time	S	20~150
Open temp.	$\pm 5^\circ\text{C}$	130
Close temp.	$\pm 9^\circ\text{C}$	61

Assembly force  $\leq 80\text{N}$  Disassembly force  $\geq 12.5\text{N}$

Flammability: Anti-flammability



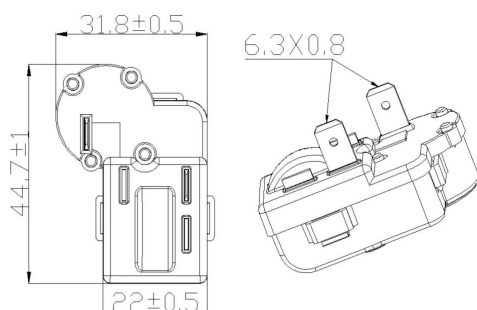
## 8.3 Combo starting relay and overload protector

Model		ZHB78-125P15	QPS2-B15MG1 +DRB263N61A2
Supplier		Changshu Tianyin Electromechanical Co.,Ltd.	Hangzhou Star shuaier Electric Appliance Co.,Ltd.
Starting relay	Resistance $\Omega$	15 $\pm$ 20%	
	Run time S	0.2~1.5	
	Reset time S	$\leq$ 100	
	Max working voltage V	350	
	Max current A	8	
Overload protector	Max.T.C Amp.(25°C) A	8.1	
	Trip time S	5~15	
	Reset time S	20~180	
	Open temp. $\pm 5^{\circ}\text{C}$	130	
	Close temp. $\pm 9^{\circ}\text{C}$	61	

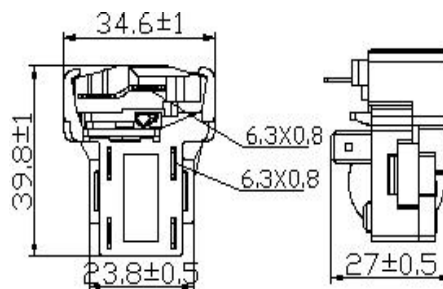
Assembly force  $\leq$  150N    Disassembly force  $\geq$  37.5N

Flammability: Anti-flammability

ZHB78-125P15



QPS2-B15MG1+DRB263N61A2



## 9. Delivery State

No.	Name	Model	Quantity	Code
1	Compressor	K270CY1	1pcs	
2	Rubber plug	$\Phi 6.4$	1 pcs	
		$\Phi 8.2$	2 pcs	
3	Rubber	H model	4 pcs	
4	Starting relay	QP2-15	1 pcs	Foshan Shunde Ronggui Electric Circuit Measurement Equipment Co., Ltd
5	Overload protector	TB78-125	1 pcs	Foshan Shunde Ronggui Electric Circuit Measurement Equipment Co., Ltd

6	Starting relay and Overload protector	ZHB78-125P15	( 1 pcs )	Changshu Tianyin Electromechanical Co.,Ltd
		QPS2-B15MG1 +DRB263N61A2		Hangzhou Star shuaier Electric Appliance Co.,Ltd
7	Relaying cover	A1	1 pcs	
8	Sleeve	$\Phi 10 \times 17$	4 pcs	
9	Anchor bolt assembly	$M6 \times 30$	4 pcs	
10	Nut	M6	4 pcs	
11	Earth bolt	QET.1-24C	1 pcs	

Notes: 1. Except for the Rubber plug , other electrical parts and equipment assembly are supplied separately, not installed on the compressor.

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

## 10. Package、Storage and Transportation

Package type		unrecyclable
Quantity		60pcs/box
Transportation		By sea
Storage		Max. 2 layers
Cross Weight	Kg	$647 \pm 24$
Net Weight	Kg	$612 \pm 24$
Volume	m <sup>3</sup>	0.94
Dimension: length×width×height    cm		$103 \times 89 \times 102$
Main components		Plywood supporter、 upper Plywood 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.



## 11. 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 R600a 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	R600a
Max. condensing pressure	0.87MPa
Peak	0.98MPa

- (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 inventory period of the compressor after leaving the factory should not exceed 6 months. If it exceeds 6 months, please check if the protective gas inside the compressor is under negative pressure.
- (13)、It's necessary to keep the compressor without rubber plug as short time as possible (max time 10 min).
- (14)、R600a systems require a filter with drying agent which suitable for R600a refrigerant
- (15)、The vacuum pump and the charging system must only be dedicated to R600a.
- (16)、The refrigeration system should minimize the content of chlorion and moisture, and must be free of paraffin and silicon oil.
- (17)、The organic substance non-compatible with R600a cannot be used in the refrigeration system.