

# **A145CY1A COMPRESSOR**

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## **TECHNICAL SPECIFICATION**



HUANGSHI DONPER COMPRESSOR CO., LTD.

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**1. Compressor Type**

Compressor model	A145CY1A
Rated voltage/frequency	220-240V~50Hz
Refrigerant	R600a
Application	Low back pressure (LBP)
Cooling method	Static
Start torque	Low starting torque (LST)
Control device	Capillary tube
Motor type	RSIR
Running capacitor	/
Starting capacitor	/

**2. Performance Data**

Displacement	Net Wt.	Oil Charge	Cooling Capacity(≥95%)								COP(≥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	
7.2	5.6±0.4	140±10	92	113	131	140	158	187	221	106	1.35	1.06	

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

Testing condition:

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

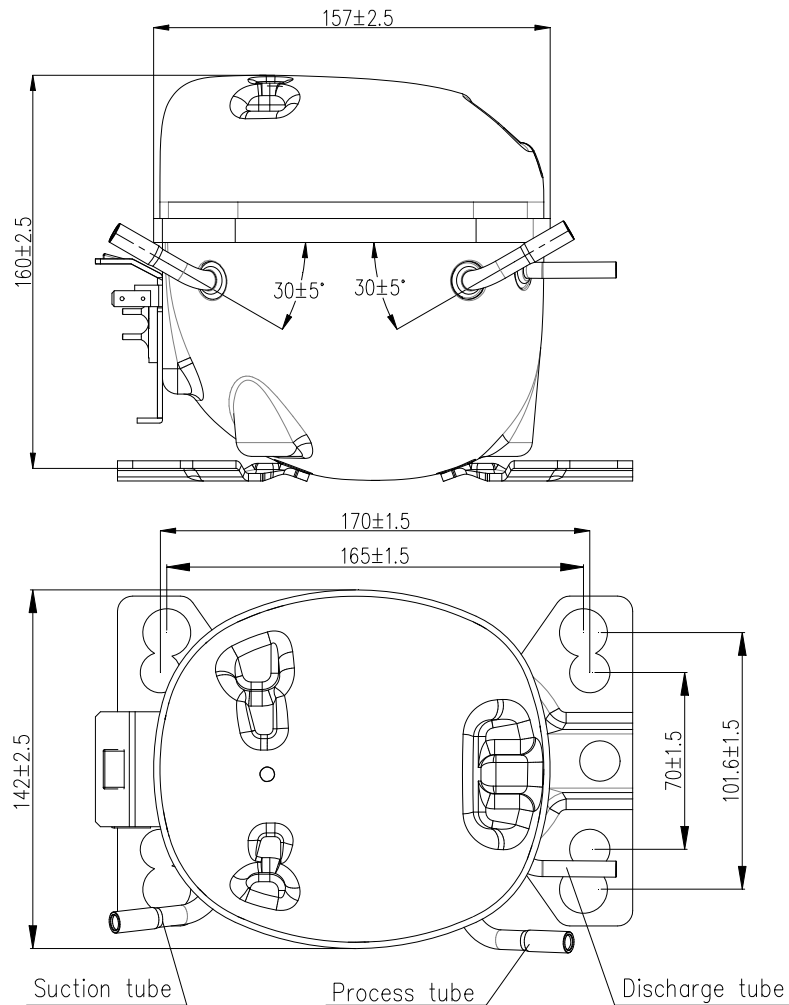
**3. Running Condition**

Ambient temp.	0~43°C
Evaporating temp.	-35~-15°C
Voltage range	187~254V
Max. condensing temp.	65°C
Max. winding temp.	120°C
Max. shell temp.	95°C
Max. discharge temp.	110°C
Start voltage	187V [0.3/0.3MPa(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	140±10ml
Diameter of suction tube (I.D.)	Φ 6.2 ± 0.1mm
Diameter of discharge tube(I.D.)	Φ 4.95 ± 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	39dB(A)
Vibration	0.6m/s <sup>2</sup>
Protecting gas	Dry com.air (Dew point-60℃)

**5. Compressor Shape**

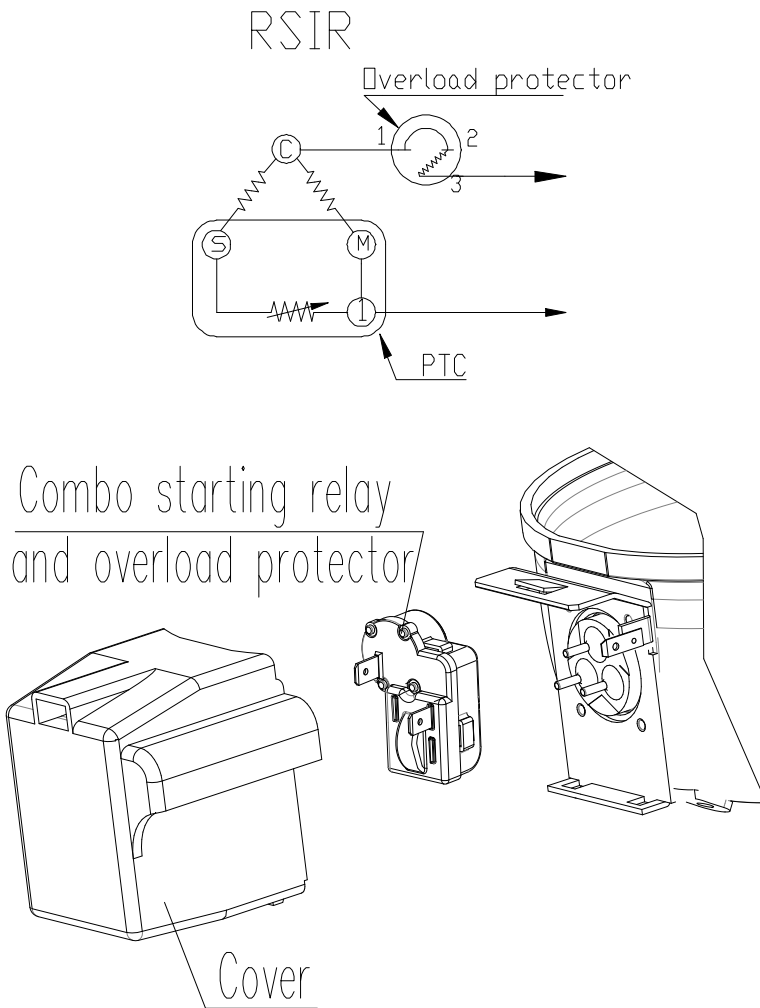


Caution:Suction tube and process tube can not be exchanged

Unmarked tolerance: ± 5mm

Unmarked Angle: ± 10°

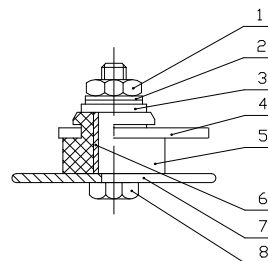
**6. Wiring Diagram**



Note: Each of the combo starting relay and overload protector、 the cover 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

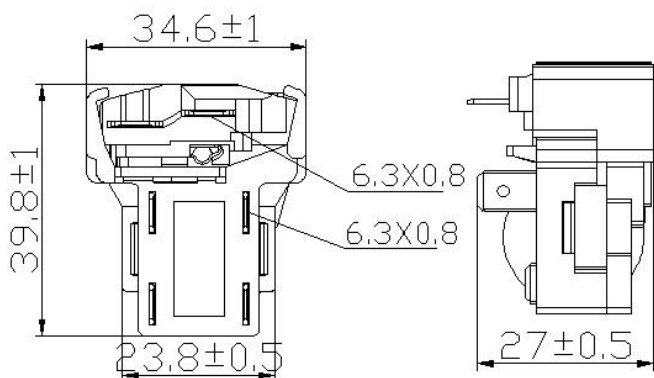


Note: Equipment assembly is all provided by our company. Above is just for reference, details can refer to delivery state.

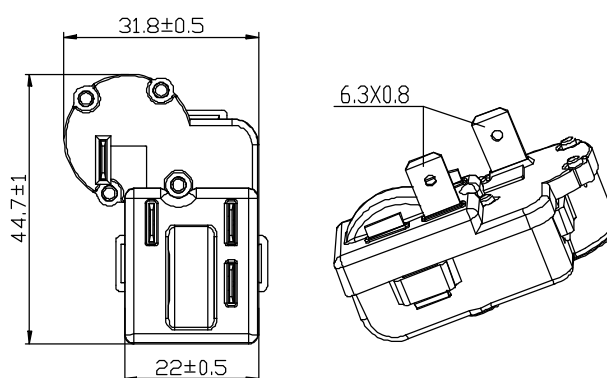
**8. Combo starting relay and overload protector**

Model		QPS2-B15MG1+DRB20S61A2	ZHB54-135P15	JPQII-15 BK+BT54-135
Supplier		Hangzhou Star shuaier Electric Appliance Co.,Ltd.	Changshu Tianyin Electromechanical Co.,Ltd.	Lanxi City Yueqiang Electric Co.,Ltd.
Starting relay	Resistance $\Omega$	15±20%		
	Run time S	0.2~1.5		
	Reset time S	≤100		
	Max working voltage V	350		
	Max current A	8		
Protector	Max.T.C Amp.(25°C) A	5.4		
	Trip time S	5~15		
	Reset time S	30~180		
	Open temp. ±5°C	135		
	Close temp. ±9°C	61	57	61

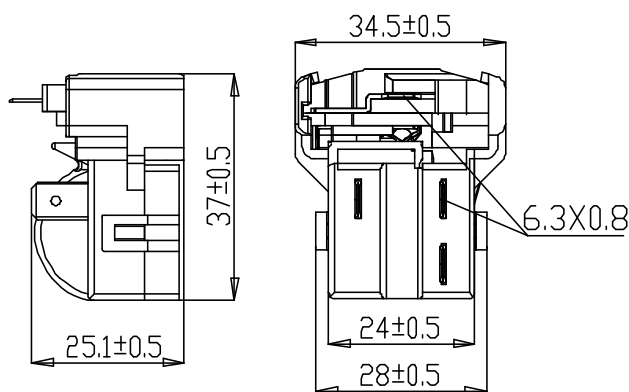
QPS2-B15MG1+DRB20S61A2



ZHB54-135P15



JPQII-15 BK+BT54-135



**9. Delivery State**

No.	Name	Model	Quantity	CODE
1	Compressor	A145CY1A	1pcs	
2	Rubber plug	Φ6.4	1pcs	
3		Φ8.2	2pcs	
4	Rubber grommet	QET-03U	4pcs	
5	Combo Starting relay and Overload protector	QPS2-B15MG1+ DRB20S61A2	1pcs	Hangzhou Star shuaier Electric Appliance Co.,Ltd.
		ZHB54-135P15		Changshu Tianyin Electromechanical Co.,Ltd.
		JPQII-15 BK +BT54-135		Lanxi City Yueqiang Electric Co.,Ltd.
6	Relaying cover	A1	1pcs	
7	Anchor bolt assembly	M6×30	4pcs	
8	Sleeve	φ11.1×17	4pcs	
9	Nut	M6	4pcs	

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 state”are all provided by our company.

**10. Package、Storage and Transportation**

Package type	unrecyclable
Quantity	100pcs/box
Transportation	By sea
Storage	Max. 2 layers
Cross Weight            Kg	595±40
Net Weight                Kg	560±40
Volume                    m <sup>3</sup>	1.10
Dimension: length×width×height    cm	112×89×110
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.

## 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 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)、 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 chlorine 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.