

A120WZ1 COMPRESSOR

TECHNICAL SPECIFICATION



HUANGSHI DONPER COMPRESSOR CO., LTD.

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1. Compressor Type

Compressor model	A120WZ1
Rated voltage/frequency	220-240V~50Hz
Refrigerant	R134a
Application	Low back pressure (LBP)
Cooling method	Static Cooling
Start torque	Low starting torque (LST)
Control device	Capillary tube
Motor type	RSCR
Running capacitor	4μF
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 ³	kg	ml	w	w	w	w	w	w	w	w	w/w	w/w
4.7	5.4±0.4	140±10	76	89	108	120	138	157	174	95	1.27	1.09

Note: These datas come from the test with 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

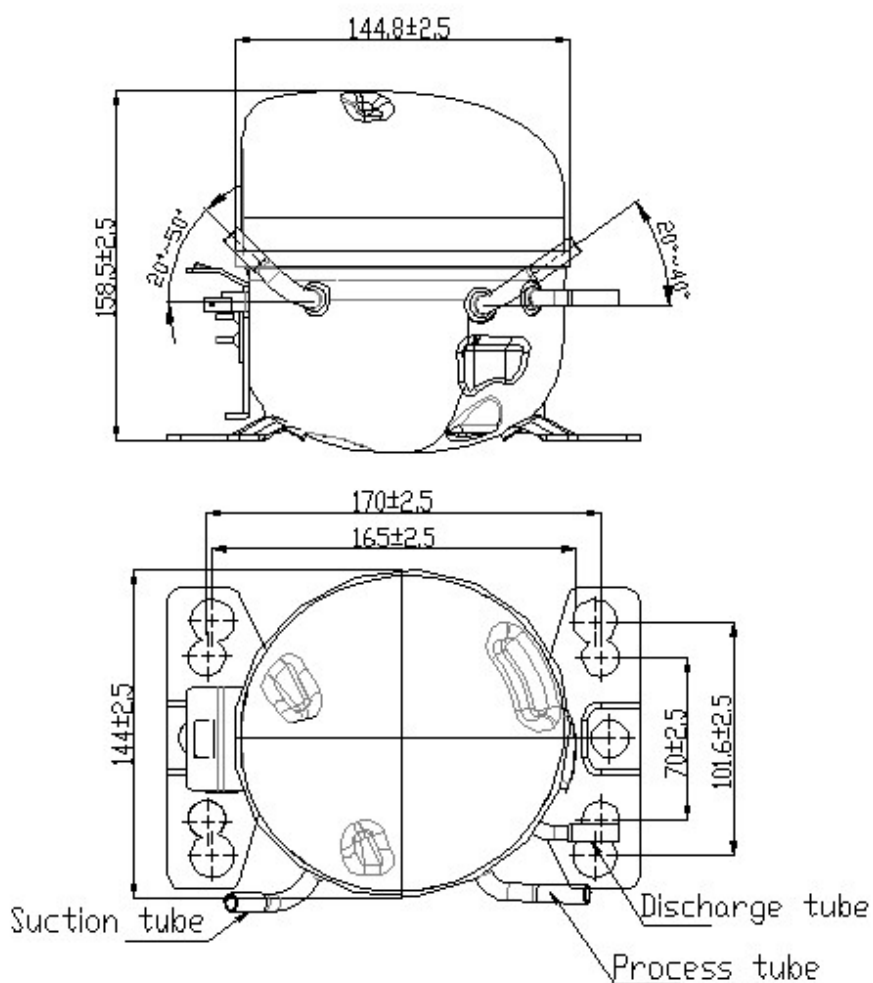
Ambient temp.	0~43°C
Evaporating temp.	-35~-15°C
Voltage range	187~254V
Max. condensing temp.	65°C
Max. winding temp.	130°C
Max. shell temp.	95°C
Max. discharge temp.	120°C
Start voltage	187V [0.3/0.3MPa(abs)]

Shell min. resistance to pressure	35bar
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4. Compressor Mechanical Information

Oil type	Ester oil
Viscosity	18.2-23.1mm ² /s
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	43dB(A)
Vibration	0.9m/s ²
Protecting gas	Dry com.air (Dew point-60℃)

5. Compressor Shape

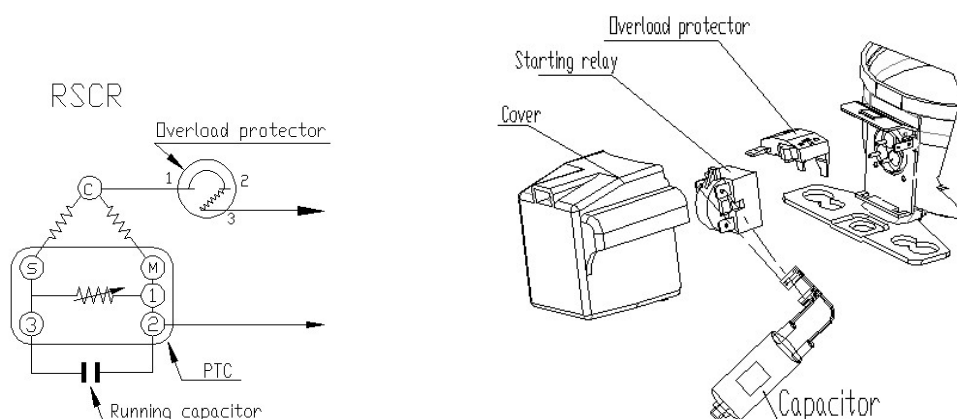


Caution:Suction tube and process tube can be exchanged

Unmarked tolerance: ±5mm

Unmarked Angle: ±10°

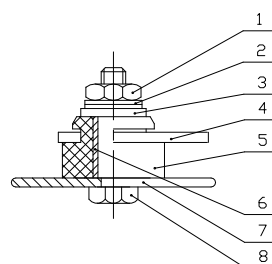
6. Wiring Diagram



Note: Each of the starting relay, the overload protector, the cover and the capacitor are 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

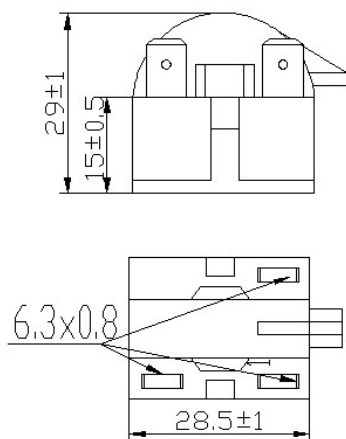
8.1 Starting relay

Model	QPS2-A15MD3	QP2-15C	8EA19C3-02
Supplier	Hangzhou Star shuaier Electric Appliance Co.,Ltd.	Shunde Ronggui Electronic Circuit Measuring Equipment Co. Ltd.	Sensata Technologies (Baoying) Co., Ltd.
Resistance	Ω	$15 \pm 20\%$	
Run time	S	0.2~1.5	
Rese ttime	S	≤ 100	
Max working voltage	V	350	
Max current	A	8	

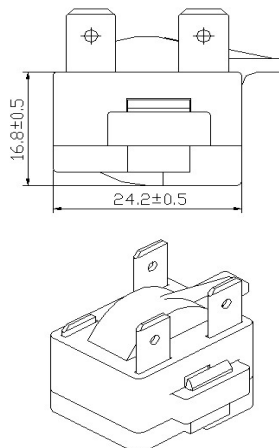
Assembly force $\leq 80\text{N}$ Disassembly force $\geq 12.5\text{N}$

Flammability: Anti-flammability

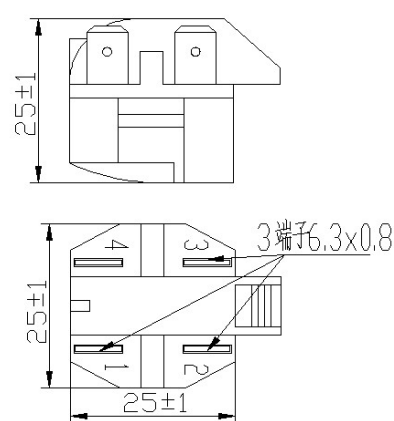
QP2-15C



QPS2-A15MD3



8EA19C3-02



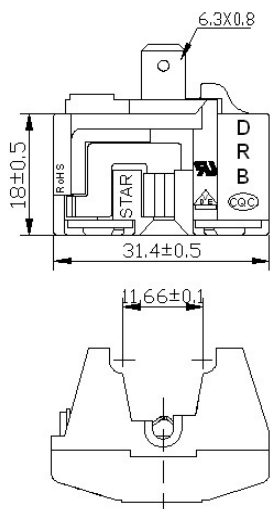
8.2 Overload protector

Model	DRB18N61A2	TB45-120	3TM158NF1
Supplier	Hangzhou Star shuaier Electric Appliance Co.,Ltd.	Shunde Ronggui Electronic Circuit Measuring Equipment Co. Ltd.	Sensata Technologies (Baoying) Co., Ltd.
Max.T.C Amp.(25°C) A	4.5		
Trip time S	5~15		
Reset time S	30~150		
Open temp. $\pm 5^\circ\text{C}$	120		
Close temp. $\pm 9^\circ\text{C}$	61		

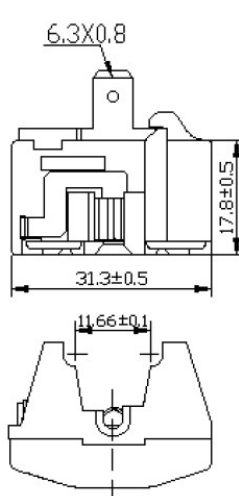
Assembly force $\leq 80\text{N}$ Disassembly force $\geq 12.5\text{N}$

Flammability: Anti-flammability

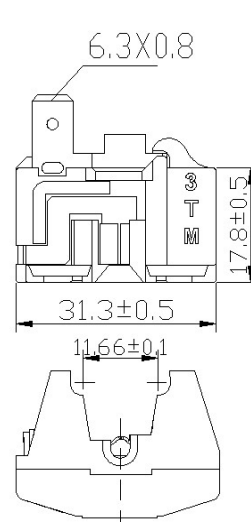
DRB18N61A2



TB45-120



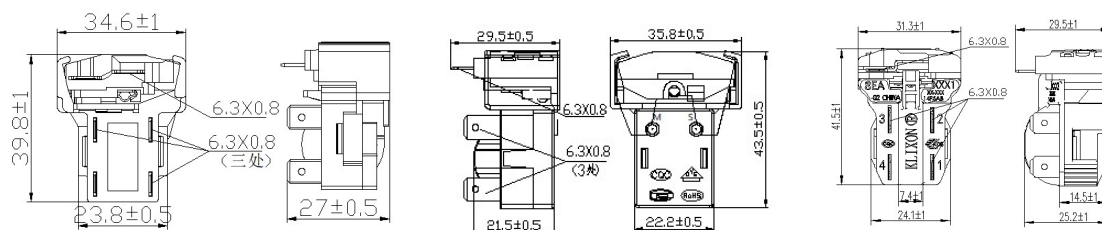
3TM158NF1



8.3 Combo starting relay and overload protector

Model		QPS2-B15MD3+ DRB18N61A2	QP2-15C ZH+TB45-120	8EA19C3-02+ 3TM158NF1
Supplier		Hangzhou Star shuaier Electric Appliance Co.,Ltd.	Shunde Ronggui Electronic Circuit Measuring Equipment Co. Ltd.	Sensata Technologies (Baoying) Co., Ltd.
Starting relay	Resistance Ω	15 \pm 20%		
	Run time S	0.2~1.5		
	Reset time S	\leq 100		
	Max working voltage V	350		
	Max current A	8		
Protector	Max.T.C Amp.(25°C) A	4.5		
	Trip time S	5~15		
	Reset time S	30~180		
	Open temp. $\pm 5^{\circ}\text{C}$	120		
	Close temp. $\pm 9^{\circ}\text{C}$	61		

QPS2-B15MD3+DRB18N61A2 QP2-15C ZH+TB45-120 8EA19C3-02+3TM158NF1



9. Capacitor

Model	μF	4
Rated voltage	V.AC	450
Supplier and model	Shanghai Haoyue Electronics CO.,LTD CBB65D(MKP-1)	
	Ningguo Yuhua Electrical Product CO.,LTD CBB65	
	Anhui Tongfeng Electronics CO.,LTD CBB65A-2	
	Anhui Feida Electrical Technology CO.,LTD CBB65	

10. Delivery State

No.	Name	Model	Quantity	CODE
1	Compressor	A120WZ1	1pcs	
2	Rubber plug	Φ6.4	1pcs	
3		Φ8.2	2pcs	
4	Rubber grommet	QET-03U	4pcs	
5	Starting relay	QPS2-A15MD3	1pcs	Hangzhou Star shuaier Electric Appliance Co.,Ltd.
		QP2-15C		Shunde Ronggui Electronic Circuit Measuring Equipment Co. Ltd.
		8EA19C3-02		Sensata Technologies (Baoying) Co., Ltd.
6	Overload protector	DRB18N61A2	1pcs	Hangzhou Star shuaier Electric Appliance Co.,Ltd.
		TB45-120		Shunde Ronggui Electronic Circuit Measuring Equipment Co. Ltd.
		3TM158NF1		Sensata Technologies (Baoying) Co., Ltd.
7	Starting relay and Overload protector	QPS2-B15MD3+DRB18N61A2	1pcs	Hangzhou Star shuaier Electric Appliance Co.,Ltd.
		QP2-15C ZH+TB45-120		Shunde Ronggui Electronic Circuit Measuring Equipment Co. Ltd.
		8EA19C3-02+3TM158NF1		Sensata Technologies (Baoying) Co., Ltd.
8	Capacitor	4 μ F	1pcs	
9	Relaying cover	A1	1pcs	
10	Sleeve	QET-04	4pcs	
11	Anchor bolt assembly	QET-44	4pcs	
12	Nut	QET-27	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.

11. Package、Storage and Transportation

Package type	unrecyclable
Quantity	100pcs/box
Transportation	By sea
Storage	Max. 2 layers
Cross Weight Kg	575±40
Net Weight Kg	540±40
Volume m ³	1.09
Dimension: length×width×height (cm)	112×89×106
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.