

# **L86BZ1 COMPRESSOR**

---

## **TECHNICAL SPECIFICATION**



**DONPER**

HUANGSHI DONGBEI ELECTRICAL APPLIANCE CO., LTD.

2020.6

# INDEX

	<b>page</b>
1.Compressor Type.....	2
2.Performance Data .....	2
3.Running Condition.....	2
4.Compressor Mechanical Information .....	3
5.Wiring Diagram .....	3
6.Compressor Shape .....	4
7.Starting relay and Overload protector.....	5
8.Delivery State.....	6
9.Package、Storage and Transportation .....	6
10.Technical Items .....	6

## 1.Compressor Type

Compressor model	L86BZ1
Rated voltage/frequency	110-120V~ 60Hz
Refrigerant	R134a
Application	Low back pressure (LBP)
Cooling method	Static
Start torque	Low starting torque (LST)
Control device	Capillary tube
Motor type	RSIR

## 2.Performance Data

Displacement	Net Wt.	Oil Charge	Cooling Capacity ( $\geq 95\%$ )							COP ( $\geq 95\%$ )	Rated voltage/ Frequency
			ASHRAE							ASHRAE	
			-35	-30	-25	-23.3	-20	-15	-10	-23.3	
cm <sup>3</sup>	kg	ml	w	w	w	w	w	w	w	w/w	V/Hz
7.7	8.9±0.4	190±10	128	181	242	265	313	396	510	1.3	115/60

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

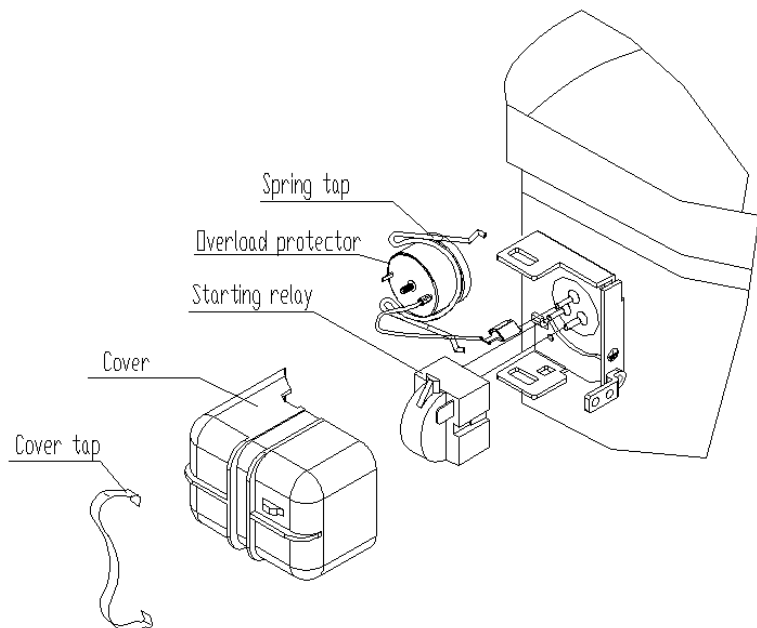
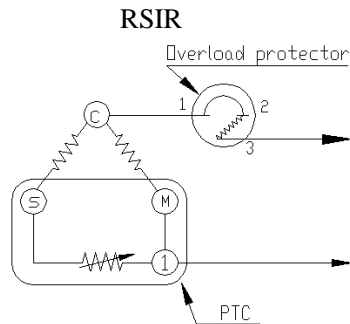
Ambient temp.	0~43°C
Evaporating temp.	-35~-15°C
Voltage range	97~127V
Max. condensing temp.	65°C
Max. winding temp.	130°C
Max. shell temp.	95°C
Max. discharge temp.	120°C
Start voltage	97V [0.5/0.5 (abs)]
Shell min. resistance to pressure	35bar

### 4.Compressor Mechanical Information

Oil type	Ester oil
Viscosity	18.2~23.1 cst (40°C)
Oil charged	190±10ml
Min. oil volume in compressor	160ml
Diameter of suction tube (I.D.)	φ 6.5±0.1mm
Diameter of discharge tube(I.D.)	φ 4.9±0.1mm
Diameter of process tube (I.D.)	φ 6.5±0.1mm
Material of suction tube, process tube and discharge tube	copper tube
Compressor noise	45dB(A)
Vibration	0.8m/s <sup>2</sup>
Protecting gas	Dry com.air (Dew point-60°C)

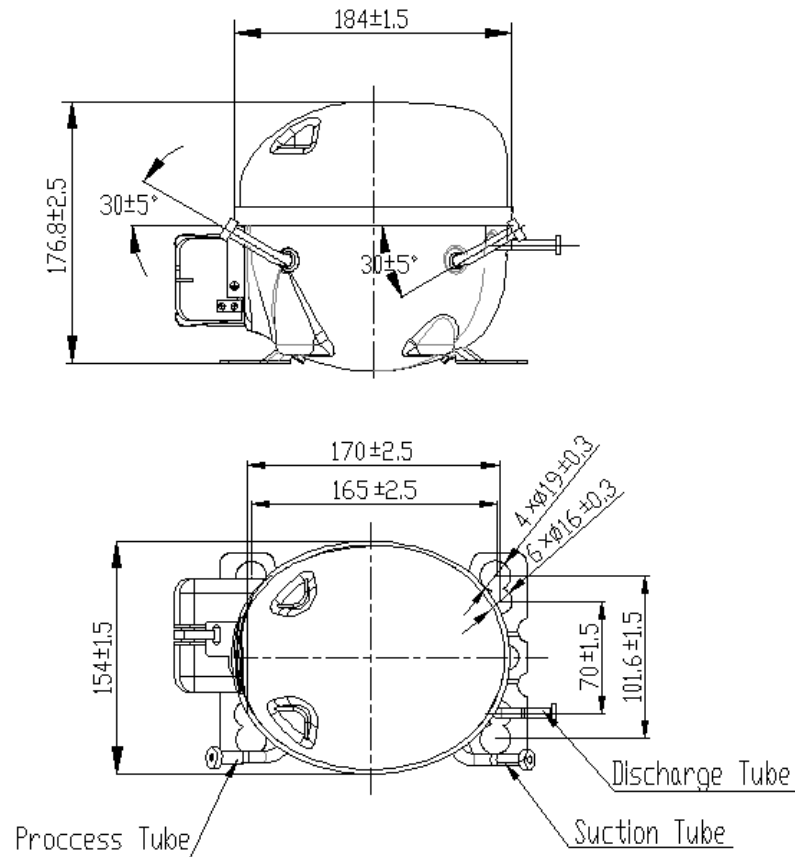
### 5.Wiring Diagram

Rank of insulation	“B”130°C
Electric safe	UL984

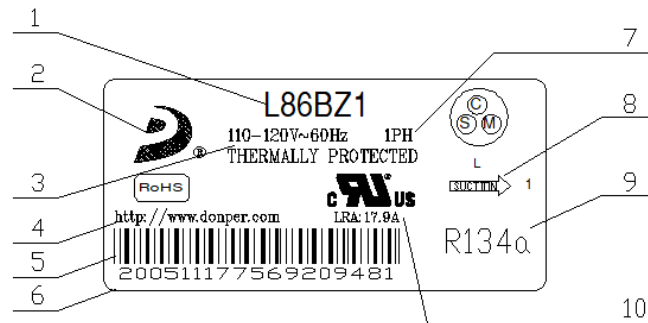


Note: Each of the starting relay、 the overload protector、 the spring tap、 the cover and the cover tap is provided by our company.

## 6.Compressor Shape

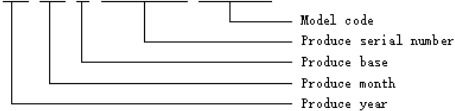


Caution: Suction tube and process tube can not exchange.



Code rule:

20 05 1 1177569 209481



NO	Content	NO	Content
1	Compressor Model	2	Registered trade mark
3	Rated voltage/frequency	4	Company website
5	Bar code	6	Bar code of number
7	Single-phase power	8	Suction sign
9	Refrigerating fluid	10	Certification Mark

## 7.Starting relay and Overload protector

### 7.1.Starting relay

Model: QP2-4.7 / QP2-4R7

Type: Starting relay

max current: 12A

max working voltage:----180V

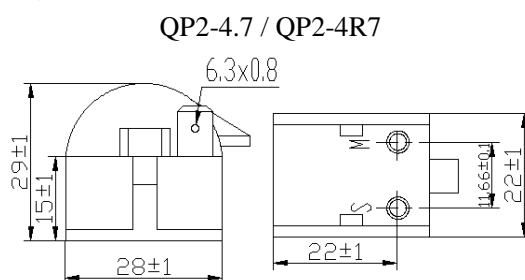
Resistance of Starting relay(25C):-----  $4.7 \pm 20\% \Omega$

First Assembly Force  $\leq 100\text{N}$ , The Sixth Disassembly Force  $\geq 25\text{N}$

Starting relay Supplier: Changshu Tianyin Electromechanical Co. Ltd.

Hangzhou Star shuaier Electric Appliance Co., Ltd

Flammability: Anti-flammability



### 7.2.Overload protector

Compressor model		L86BZ1	
Prote-ctor	Type	DRB-B128-120	B128-120
	Max.T.C Amp.(25°C)	A	15.0
	Trip time	S	5~18
	Reset time	S	10~80
	Open temp.	$\pm 5^\circ\text{C}$	115
	Close temp.	$\pm 9^\circ\text{C}$	61

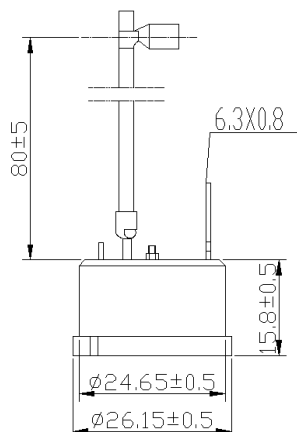
First Assembly force  $\leq 80\text{N}$ , The Sixth Disassembly force  $\geq 12.5\text{N}$

Starting relay Supplier: Hangzhou Star shuaier Electric Appliance Co., Ltd

Changshu Tianyin Electromechanical Co. Ltd.

Flammability:Anti-flammability

DRB-B128-120/B128-120



## 8. Delivery State

No.	Name	Model	Quantity	CODE
1	Compressor	L86BZ1	1 pcs	
2	Rubber grommet	V model	4 pcs	
3	Starting relay	QP2-4.7	1 pcs	installed
		QP2-4R7		
	Overload protector	DRB-B128-120	1 pcs	installed
		B128-120		
4	Grounding line	QET.6D-03	1 pcs	
5	Grounding screw	QET.1-24C	1 pcs	
6	Cover	S1A	1 pcs	
7	Cover tap	QS08-05H	1 pcs	
8	Spring tap	QS08-06A	1 pcs	installed

Notes: 1.All electrical parts and equipment assembly are supplied separately, not installed on the compressor, except the one noted "Installed"

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

## 9. Package、 Storage and Transportation

Package type	unrecyclable
Quantity	60pcs/box
Transportation	By Sea
Storage	Max. 2 layers
Gross Weight	Kg
Net Weight	Kg
Volume	m <sup>3</sup>
Dimension: length×width×height (cm)	103×89×97
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.

## 10. 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)、 The charging volume of refrigerant oil 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 chlorion 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.