

# **NE6220CU COMPRESSOR**

---

## **TECHNICAL SPECIFICATION**



HUANGSHI DONPER COMPRESSOR CO., LTD.

2023.11

# INDEX

	<b>Page</b>
1、Compressor Type.....	2
2、Performance Data.....	2
3、Running Condition.....	2
4、Compressor Mechanical Information.....	3
5、Compressor Shape.....	3
6、Wiring Diagram.....	4
7、Fixing of mounting bracket and cabinet base.....	4
8、Starting relay and overload protector.....	5
9、Capacitor.....	6
10、Delivery State.....	6
11、Package、Storage and Transportation.....	7
12、Technical Items.....	7

## 1. Compressor Type

Compressor model	NE6220CU
Rated voltage/frequency	220-240V~50Hz
Refrigerant	R290
Application	Middle /High back pressure (M/HBP)
Cooling method	Fan Cooling
Start torque	High starting torque (HST)
Control device	Capillary tube
Motor type	CSR
Running capacitor	15μF
Starting capacitor	100μF

## 2. Performance Data

Displacement	Net Wt.	Oil Charge	Cooling Capacity(≥95%)								COP(≥95%)	
			ASHRAE							CECOMAF	ASHRAE	CECOMAF
			-15	-10	-5	0	5	7.2	10	5	7.2	5
cm <sup>3</sup>	kg	ml	w	w	w	w	w	w	w	w	w/w	w/w
16.7	12.4±0.4	370±10	1056	1232	1408	1562	1804	2200	2658	1654	2.30	1.79

Note: These datas come from the test without a Current starting relay

### Testing condition:

Test conditions	HBP	
	ASHRAE	CECOMAF
Evaporating Temp.	+7.2℃	+5℃
Ambient Temp.	+35.0℃	+32℃
Condensing Temp.	+54.4℃	+55℃
Suction Temp.	+35.0℃	+32℃
Subcooling Temp.	+46.1℃	+55℃

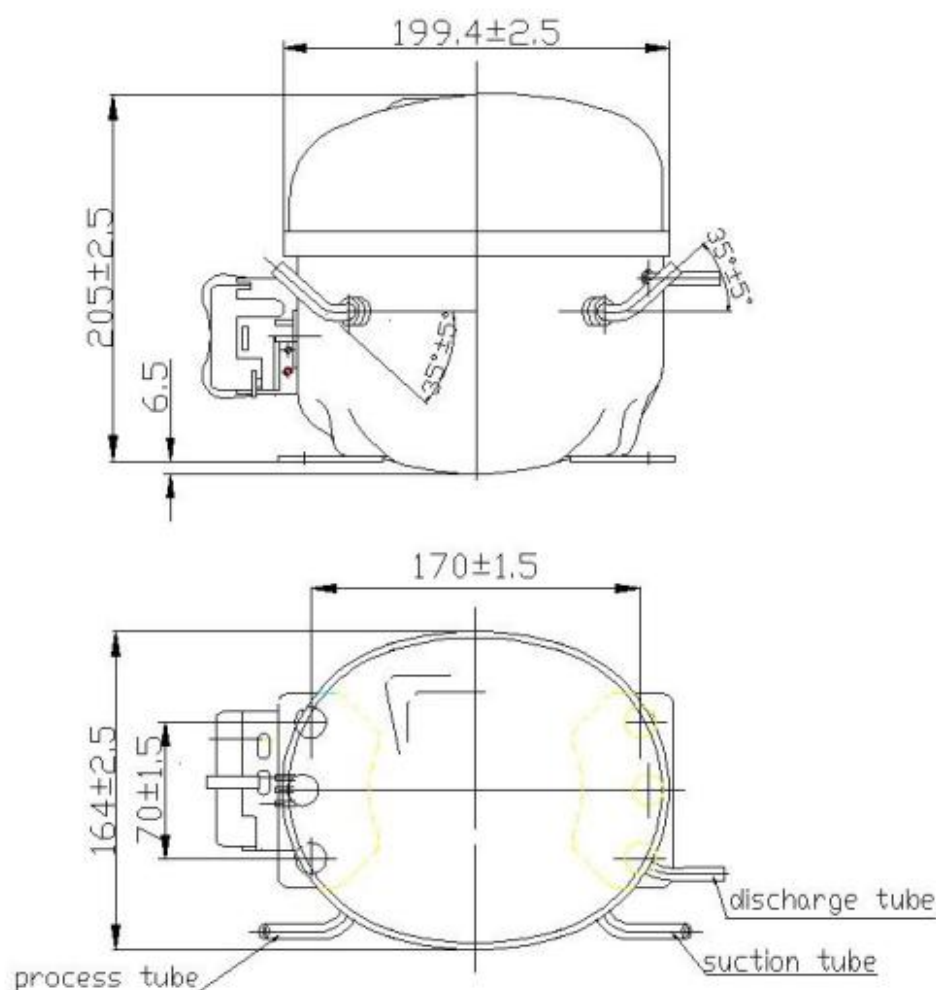
## 3. Running Condition

Ambient temp.	0~43℃
Evaporating temp.	-15~15℃
Voltage range	187~254V
Max. condensing temp.	65℃
Max. winding temp.	130℃
Max. shell temp.	110℃
Max. discharge temp.	130℃
Start voltage	187V [1.0/1.0MPa(abs)]
Shell min. resistance to pressure	35bar

#### 4. Compressor Mechanical Information

Oil type	POE
Viscosity	28.8~35.2 mm <sup>2</sup> /s (40℃)
Oil charged	370±10ml
Diameter of suction tube (I.D.)	Φ 8.15±0.1mm
Diameter of discharge tube(I.D.)	Φ 6.15±0.1mm
Diameter of process tube (I.D.)	Φ 6.15±0.1mm
Material of suction tube, process tube and discharge tube	copper tube
Compressor noise	≤65dB(A)
Vibration	≤6.0m/s <sup>2</sup>
Protecting gas	-0.06~-0.02MPa

#### 5. Compressor Shape



Caution:Suction tube and process tube can not be exchanged

Unmarked tolerance: ±5mm

Unmarked Angle: ±10°

The figure consists of two parts. The top part is a schematic diagram of the motor's internal electrical circuit. It shows a three-phase supply (C, L, N) connected through an overload protector (terminals 1, 2, 3) to a starting relay (terminals 5, 3, 1, 4, 2). The starting relay is connected to a starting capacitor (terminals 1, 4) and a running capacitor (terminals 1, 2). A thermal relay (terminals 1, 2) is also shown. The bottom part is an exploded view of the motor's internal components, showing the capacitor bracket, overload protector, spring tap, relaying cover, cover tap, starting capacitor, starting relay, and running capacitor, all connected by wires (Brown, Blue, Brown, Blue).

## 7. Fixing of mounting bracket and cabinet base

- 

Page 4 of 8

## 8. Starting relay and overload protector

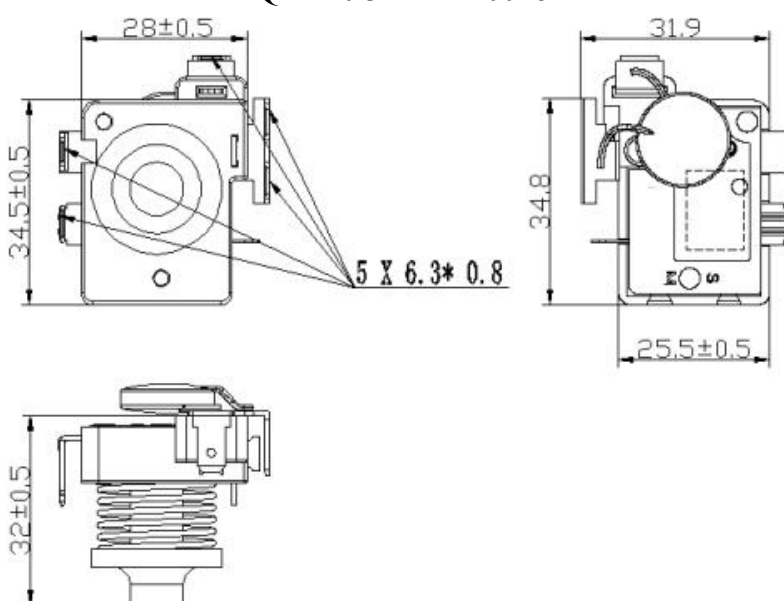
### 8.1 Starting relay

Model	QL2-10.3		MTRP0048
Supplier	Changshu Tianyin Electromechanical Co. Ltd	Hangzhou Star shuaier Electric Appliance Co.,Ltd	ELSING (SUZHOU) ELECTRICAL CONTROLS CO.,LTD
Max.Close Current A	10.3		
Min Open Currente S	8.6		

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

Flammability: Anti-flammability

QL2-10.3/ MTRP0048

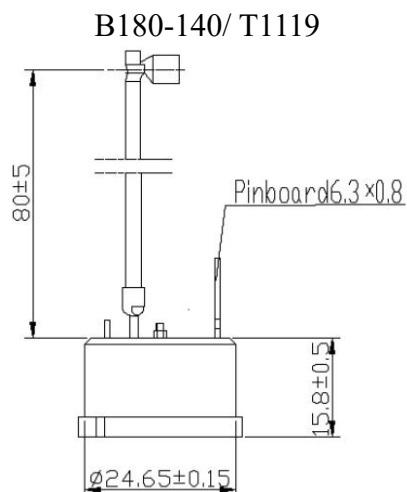


### 8.2 Overload protector

Model	B180-140		T1119
Supplier	Changshu Tianyin Electromechanical Co. Ltd.	Hangzhou Star shuaier Electric Appliance Co.,Ltd	ELSING (SUZHOU) ELECTRICAL CONTROLS CO.,LTD
Max.T.C Amp.(25°C) A	18.0		
Trip time S	6~16		
Reset time S	20~150		
Open temp. $\pm 5^{\circ}\text{C}$	140		
Close temp. $\pm 9^{\circ}\text{C}$	52		

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

Flammability: Anti-flammability



## 9. Capacitor

### 9.1 Starting Capacitor

Starting Capacitor	Model	$\mu F$	100
	Rated voltage	V.AC	330
	Supplier and model	SHANGHAI HAOYE ELECTRONIC CO.,LTD	
		Ningguo Yuhua Electrical Products Co.,Ltd	

### 9.2 Running Capacitor

Running Capacitor	Model	$\mu F$	15
	Rated voltage	V.AC	450
	Supplier and model	SHANGHAI HAOYE ELECTRONIC CO.,LTD	
		Ningguo Yuhua Electrical Products Co.,Ltd	

## 10. Delivery State

No	Name	Model	Quantity	CODE
1	Compressor	NE6220CU	1pcs	
2	Rubber plug	Φ10.3	1pcs	
		Φ8.2	2pcs	
3	Rubber grommet	H model	4pcs	
4	Starting relay	QL2-10.3	1pcs	Changshu Tianyin Electromechanical Co. Ltd
				Hangzhou Star shuaier Electric Appliance Co.,Ltd
		MTRP0048		ELSING (SUZHOU) ELECTRICAL CONTROLS CO.,LTD
5	Overload protector	B180-140	1pcs	Changshu Tianyin Electromechanical Co.,Ltd.
				Hangzhou Star shuaier Electric Appliance Co.,Ltd.
		T1119		ELSING (SUZHOU) ELECTRICAL CONTROLS CO.,LTD

6	Starting capacitor	100μF	1pcs	Ningguo Yuhua Electrical Products Co.,Ltd
				SHANGHAI HAOYE ELECTRONIC CO.,LTD
7	Running capacitor	15μF	1pcs	SHANGHAI HAOYE ELECTRONIC CO.,LTD
				Ningguo Yuhua Electrical Products Co.,Ltd
8	Cover	E1	1pcs	
9	Grounding screw	QET.1-24C	1pcs	
10	Sleeve	Φ 10×17	4pcs	
11	Spring tap	QET-09B	1pcs	
12	Spring for overload protector	QET-07	1pcs	
13	Anchor bolt assembly	M6×30	4pcs	
14	Nut	QET-27	4pcs	
15	Capacitor bracket	Q34L-18	1pcs	
16	Connecting screw	QET.1-30	2pcs	

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	60pcs/box
Transportation	By sea
Storage	Max. 2 layers
Cross Weight                      Kg	779±24
Net Weight                         Kg	744±24
Volume                               m <sup>3</sup>	0.96
Dimension: length ×width ×height    cm	103 × 89 × 105
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 R290 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	R290
Max. condensing pressure	2.01MPa
Peak	2.44MPa

(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)、R290 systems require a filter with drying agent which suitable for R290 refrigerant

(15)、The vacuum pump and the charging system must only be dedicated to R290.

(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 R290 cannot be used in the refrigeration system.