

# **NCT2195CK COMPRESSOR**

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## **TECHNICAL SPECIFICATION**



HUANGSHI DONPER COMPRESSOR CO., LTD.

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## 1. Compressor Type

|                         |                                  |
|-------------------------|----------------------------------|
| Compressor model        | NCT2195CK                        |
| Rated voltage/frequency | 220-240V～50Hz                    |
| Refrigerant             | R404A                            |
| Application             | Low/Middle back pressure (L/MBP) |
| Cooling method          | Fan Cooling                      |
| Start torque            | High starting torque (HST)       |
| Control device          | Capillary tube                   |
| Motor type              | CSR                              |
| Running capacitor       | 25μF                             |
| Starting capacitor      | 100μF                            |

## 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     |
| 31.2            | 20.4±0.4 | 550±10     | 505                    | 643 | 847 | 1100  | 1136 | 1485 | 1940 | 948     | 1.15      | 0.90    |

Note: These datas come from the test without a current starting 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℃    |

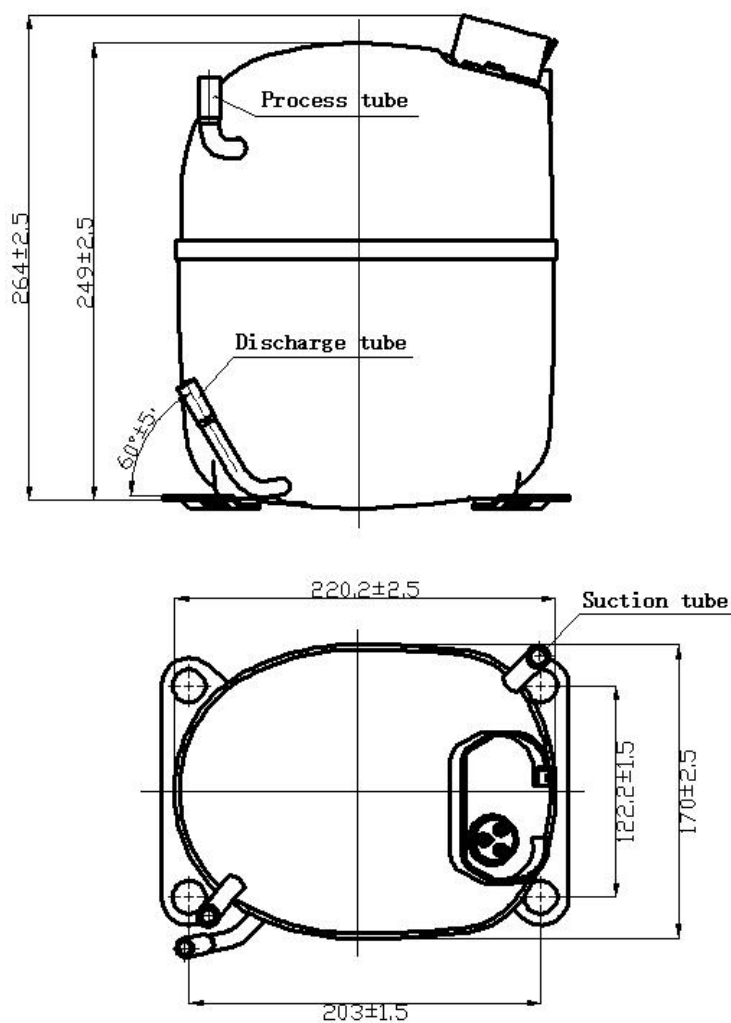
## 3. Running Condition

|                                   |                        |
|-----------------------------------|------------------------|
| Ambient temp.                     | 0～43℃                  |
| Evaporating temp.                 | -35～0℃                 |
| Voltage range                     | 187～254V               |
| Max. condensing temp.             | 65℃                    |
| Max. winding temp.                | 130℃                   |
| Max. shell temp.                  | 110℃                   |
| Max. discharge temp.              | 130℃                   |
| Start voltage                     | 187V [1.1/1.1MPa(abs)] |
| Shell min. resistance to pressure | 35bar                  |

#### 4. Compressor Mechanical Information

|                                                           |                                |
|-----------------------------------------------------------|--------------------------------|
| Oil type                                                  | POE                            |
| Viscosity                                                 | 30~34 mm <sup>2</sup> /s (40℃) |
| Oil charged                                               | 550±10ml                       |
| Diameter of suction tube (I.D.)                           | Φ 9.6±0.1mm                    |
| Diameter of discharge tube(I.D.)                          | Φ 8.0±0.1mm                    |
| Diameter of process tube (I.D.)                           | Φ 9.6±0.1mm                    |
| Material of suction tube, process tube and discharge tube | copper tube                    |
| Compressor noise                                          | ≤70dB(A)                       |
| Vibration                                                 | ≤7.0 m/s <sup>2</sup>          |
| Protecting gas                                            | -0.06~-0.02MPa                 |

#### 5. Compressor Shape

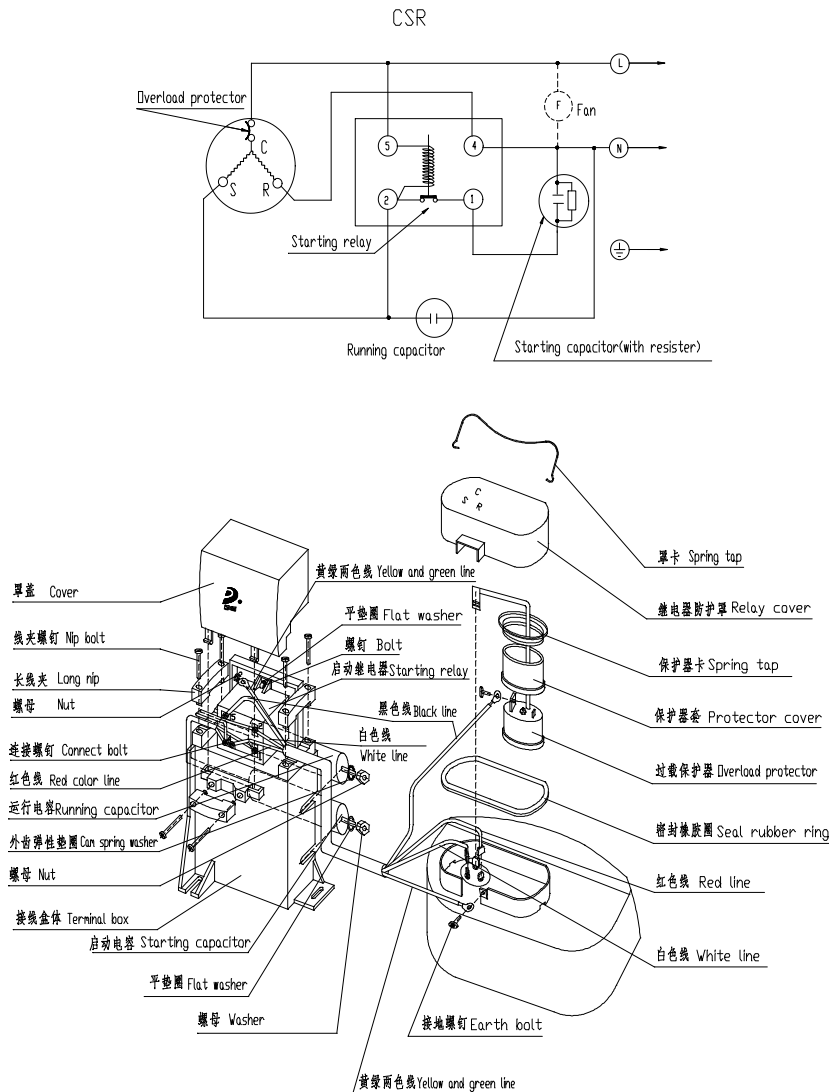


Caution: Suction tube and process tube can not be exchanged

Unmarked tolerance: ± 5mm

Unmarked Angle: ± 10°

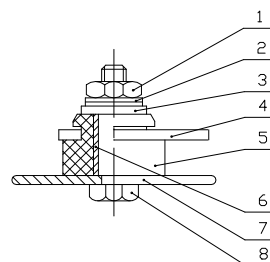
## 6. Wiring Diagram



Note: Each of the starting relay、the overload protector、the relay cover 、the spring tap、the starting capacitor、the running capacitor and all terminal box assembly 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.

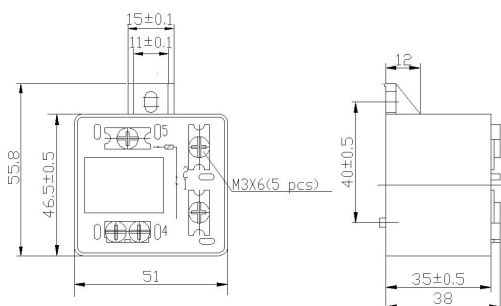
## 8. Starting relay and overload protector

### 8.1 Starting relay

|                     |                                              |         |
|---------------------|----------------------------------------------|---------|
| Model               | RVA4M3C                                      |         |
| Supplier            | ELSING (SUZHOU) ELECTRICAL CONTROLS CO.,LTD. |         |
| Max Close Voltage V |                                              | 242~272 |
| Min Open Voltage V  |                                              | 60~121  |

Flammability: Anti-flammability

RVA4M3C

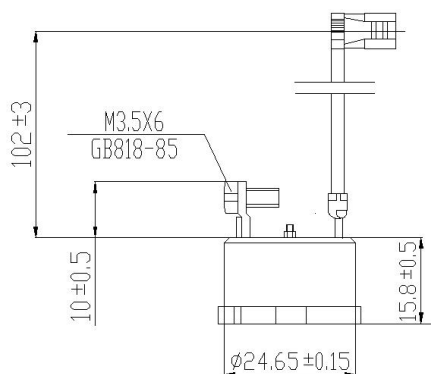


### 8.2 Overload protector

|                      |                                                   |                                                     |
|----------------------|---------------------------------------------------|-----------------------------------------------------|
| Model                | T1130                                             | B265-120                                            |
| Supplier             | ELSING (SUZHOU)<br>ELECTRICAL CONTROLS<br>CO.,LTD | Hangzhou Star shuaier Electric<br>Appliance Co.,LTD |
| Max.T.C Amp.(25°C) A | 26.5                                              |                                                     |
| Trip time S          | 5~15                                              |                                                     |
| Reset time S         | 2~60                                              |                                                     |
| Open temp. ±5°C      | 120                                               |                                                     |
| Close temp. ±9°C     | 61                                                |                                                     |

Flammability: Anti-flammability

T1130/B265-120



## 9. Capacitor

| Type                | Starting capacitor                                 | Running capacitor                           |
|---------------------|----------------------------------------------------|---------------------------------------------|
| Model $\mu\text{F}$ | 100                                                | 25                                          |
| Rated voltage V.AC  | 330                                                | 450                                         |
| Supplier and model  | Huangshan Zhenzhou Electronic Technology Co., Ltd. | Anhui Feida Electrical Technology Co., Ltd. |
|                     | FUXIN JIEKEDA ELECTRONIC CO.LTD                    | Anhui Tongfeng Electronics Co.,Ltd.         |

## 10. Delivery State

| No. | Name                          | Model                 | Quantity | CODE                                              |
|-----|-------------------------------|-----------------------|----------|---------------------------------------------------|
| 1   | Compressor                    | NCT2195CK             | 1pcs     |                                                   |
| 2   | Rubber plug                   | $\Phi 9.85$           | 1pcs     |                                                   |
|     |                               | $\Phi 11.5$           | 2pcs     |                                                   |
| 3   | Rubber grommet                | Q79E-03               | 4pcs     |                                                   |
| 4   | Starting relay                | RVA4M3C               | 1pcs     | ELSING (SUZHOU) ELECTRICAL CONTROLS CO.,LTD.      |
| 5   | Overload protector            | B265-120              | 1pcs     | Hangzhou Star shuaier Electric Appliance Co.,LTD  |
|     |                               | T1130                 |          | ELSING (SUZHOU) ELECTRICAL CONTROLS CO.,LTD.      |
| 6   | Starting capacitor            | 100 $\mu\text{F}$     | 1pcs     | Huangshan Zhenzhou Electronic Technology Co., Ltd |
|     |                               |                       |          | Fuxin Jiekeda Electronic Co.Ltd                   |
| 7   | Running capacitor             | 25 $\mu\text{F}$      | 1pcs     | Anhui Feida Electrical Technology Co., Ltd.       |
|     |                               |                       |          | Anhui Tongfeng Electronics Co.,Ltd.               |
| 8   | Relaying cover                | Q79E-09               | 1pcs     |                                                   |
| 9   | Earth bolt                    | QET.1-24C             | 1pcs     |                                                   |
| 10  | Sleeve                        | $\Phi 11.1 \times 23$ | 4pcs     |                                                   |
| 11  | Spring cover holder           | Q79E-08               | 1pcs     |                                                   |
| 12  | Spring for overload protector | Q79E-11               | 1pcs     |                                                   |
| 13  | Anchor bolt assembly          | M6 $\times$ 30        | 4pcs     |                                                   |
| 14  | Nut                           | M6                    | 4pcs     |                                                   |

Notes:1. Except for special remakes, 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                                           | 45 pcs/box                                                                                               |
| Transportation                                     | By sea                                                                                                   |
| Storage                                            | Max. 2 layers                                                                                            |
| Cross Weight                      Kg               | 953 ± 18                                                                                                 |
| Net Weight                        Kg               | 918 ± 18                                                                                                 |
| Volume                              m <sup>3</sup> | 1.11                                                                                                     |
| Dimension: length ×width ×height      cm           | 104 × 102 × 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 R404A 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℃.When continuously operating under the maximum ambient temperature 43℃ , the condensing pressure and the peak pressure should not exceed as showing in the following table.

|                          |         |
|--------------------------|---------|
| Refrigerant              | R404A   |
| Max. condensing pressure | 2.68MPa |
| Peak                     | 3.0MPa  |

- (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 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)、R404A systems require a filter with drying agent whith suitable for R404A refrigerant
- (15)、The vacuum pump and the charging system must only be dedicated to R404A
- (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-compatable with R404A cannot be used in the refrigeration system.