

●FOR RETURN

| | |
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| Document No. | |
|--------------|--|

DATE : 2007.06.22

●CUSTOMER :

| DRAFT | CHECK | APPROVE |
|-------|-------|---------|
| | | |
| | | |

FOR APPROVAL
SPECIFICATION OF ROTARY COMPRESSOR
MODEL : G4A091JUAGP

| FOR CUSTOMER'S APPROVAL | | | |
|---|-------------|------|-----------------------|
| APPROVAL | YES | | NO |
| DATE OF APPROVAL | | | |
| SIGNATURE | | | |
| COMPANY NAME | | | |
| REMARKS | | | |
| ACCESSORIES PARTS | | | |
| ITEM | PART NO | Q'TY | REMARKS |
| COVER TERMINAL | DB63-00762A | 1 | |
| NUT | 6021-001142 | 1 | |
| GASKET | DB63-01416A | 1 | |
| SPRING OLP | DB61-01897A | 1 | |
| GROMMET- ISOLATOR | DB63-00763A | 3 | |
| OVERLOAD PROTECTOR | DB35-00024J | 1 | MRA12054-12008 |
| Please approve compressor specification, out-drawings, accessories and packing specifications. | | | |

SUZHOU SAMSUNG ELECTRONICS CO., LTD
ROTARY COMPRESSOR DIV

ROTARY COMPRESSOR SPECIFICATION SHEET



三星电子

MODEL : G4A091JUAGP

SPEC. NO :

| | | |
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1. APPLICATION

H/P & Cooling Type Air conditioner

Rated Voltage & Frequency 220-240V 1Φ 50Hz

Refrigerant R410A

2. COMPRESSOR DATA

Pump Type Rolling Piston Type

Displacement 10.91cc/rev

Oil Type FREOL α68ES-T (POE)

Initial Charged 280 cc

Net Weight(Included Oil) 10.8 kg

Painting Black

Suction Tube I.D 12.85mm

Discharge Tube I.D 8.15 mm

3. MOTOR DATA

Motor Type Permanent Split Capacitor

Locked Rotor Amps 20.0Amp at 240 V

Motor Resistance Main Winding : 3.69±10% Ohm at 20°C(SSEC MOTOR)

Sub Winding : 2.74±10% Ohm at 20°C(SSEC MOTOR)

Insulation Class E Class

4. ELECTRICAL COMPONENTS

Overload Protector MRA12054-12008

Running Capacitor 40uF / 450 VAC

ROTARY COMPRESSOR SPECIFICATION SHEET



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| | | | |
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| MODEL : G4A091JUAGP | SPEC. NO : 0 | | |
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5. NOMINAL PERFORMANCE

| Voltage (V) | 240 | - | Note |
|-----------------------|--------|---|---|
| Cooling Capa. (Btu/h) | 9,300 | - | - |
| Running Current (A) | 4.1 | - | - |
| Input (W) | 930 | - | - |
| EER (Btu/W.h) | 10.0 | - | - |
| Noise (dBA) | 54.0↓ | - | Max of 4 point measurement at 90cm from surface |
| Vibration (μm) | 100.0↓ | - | Larger tangential vibration displacement at 90° & 180° points |

RATING CONDITION

Condensing Temperature 54.4°C (130°F)

Evaporating Temperature 7.2°C (45°F)

Return Gas Temperature 35.0°C (95°F)

Liquid Temperature 46.1°C (115°F)

Ambient Temperature 35.0°C (95°F)

Compressor Cooling 1 m/s air cooling

* Return Gas Temp. for Noise & Vibration is 15.0°C (59°F)

6. GENERAL CHARACTERISTICS

| No | Item | Characteristics |
|----|-------------------------------------|--|
| 1 | Operating voltage range | Within ±10% of the rated voltage |
| 2 | Starting voltage | No less than 85% of the rated voltage at compressor terminal in pressure balancing condition |
| 3 | Hydrostatic pressure rise | Max. 165 kg/cm ² .G |
| 4 | Residual moisture/Residual impurity | 80 mg Max / 50 mg Max |
| 5 | Insulation resistance | 50 MΩ min (with 500 V DC mega tester) |
| 6 | Withstand voltage | At 1800 V/sec(1250 v/min) Leakage current is less than 2.5 mA |

ROTARY COMPRESSOR APPLICATION SHEET



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| No | Item | Operational standards and limits |
|----|--|--|
| 1 | Quantity of refrigerant charge | Split type : Max. 680g / Window type : Max. 600g (Need to the special discussion in case of excess) |
| 2 | Condensing temp (pressure) | 28°C ~ 65°C (17.20~42.30 kg/cm ² .G) |
| 3 | Evaporating temp (pressure) | -25°C ~ +12.7°C (2.33~10.90 kg/cm ² .G) |
| 4 | Compression ratio | 2 ~ 8 |
| 5 | Suction gas superheat | Sufficient superheat is proffered for preventing liquid flood back |
| 6 | Liquid subcool | Sufficient liquid subcool is proffered |
| 7 | Discharge gas temp. | Max. 115°C |
| 8 | Motor winding temp. | Max. 130°C |
| 9 | Bottom shell temperature | Min. 5 °C higher than condensing temp. |
| 10 | Abnormal pressure rise | Max. 70.0kg/cm².G |
| 11 | On-Off cycle | On/Off= Min. 3 Minutes / Min. 3 Minutes → Total 200,000 cycl |
| 12 | Oil level | Steady-state : higher than 5mm based bottom plane of cylinder Transient-state : higher than bottom plane of bottom flange |
| 13 | Vibration of tubing | Tubing vibration displacement : Max 0.8mm (±10% of rated voltage) If the resonance of the pipe can be checked, above condition is |
| 14 | Tube stress | Starting & stop : less than 3.5 kg/mm ² Normal operating : less than 1.25 kg/mm ² |
| 15 | Spacing of tubing | Between tube and moving parts : Min. 13.0 mm Between tube and non-moving parts : Min. 10.0 mm |
| 16 | Length of tubing | Max. 15m between indoor and outdoor sections (Need to the special discussion in case of excess) |
| 17 | Height difference of tubing | Max. 7m between indoor and outdoor sections (Need to the special discussion in case of excess) |
| 18 | Tilt of operation | The allowable tilt of compressor under operation should be 5° or |
| 19 | Storage | Do not open compressor rubber plugs more than 10 minutes before |
| 20 | External shock | External shock should be less than 60 G |
| 21 | Prohibition of air or vacuum operating | Do not operate the compressor in air or vacuum |



APPLICATION ENVELOPE



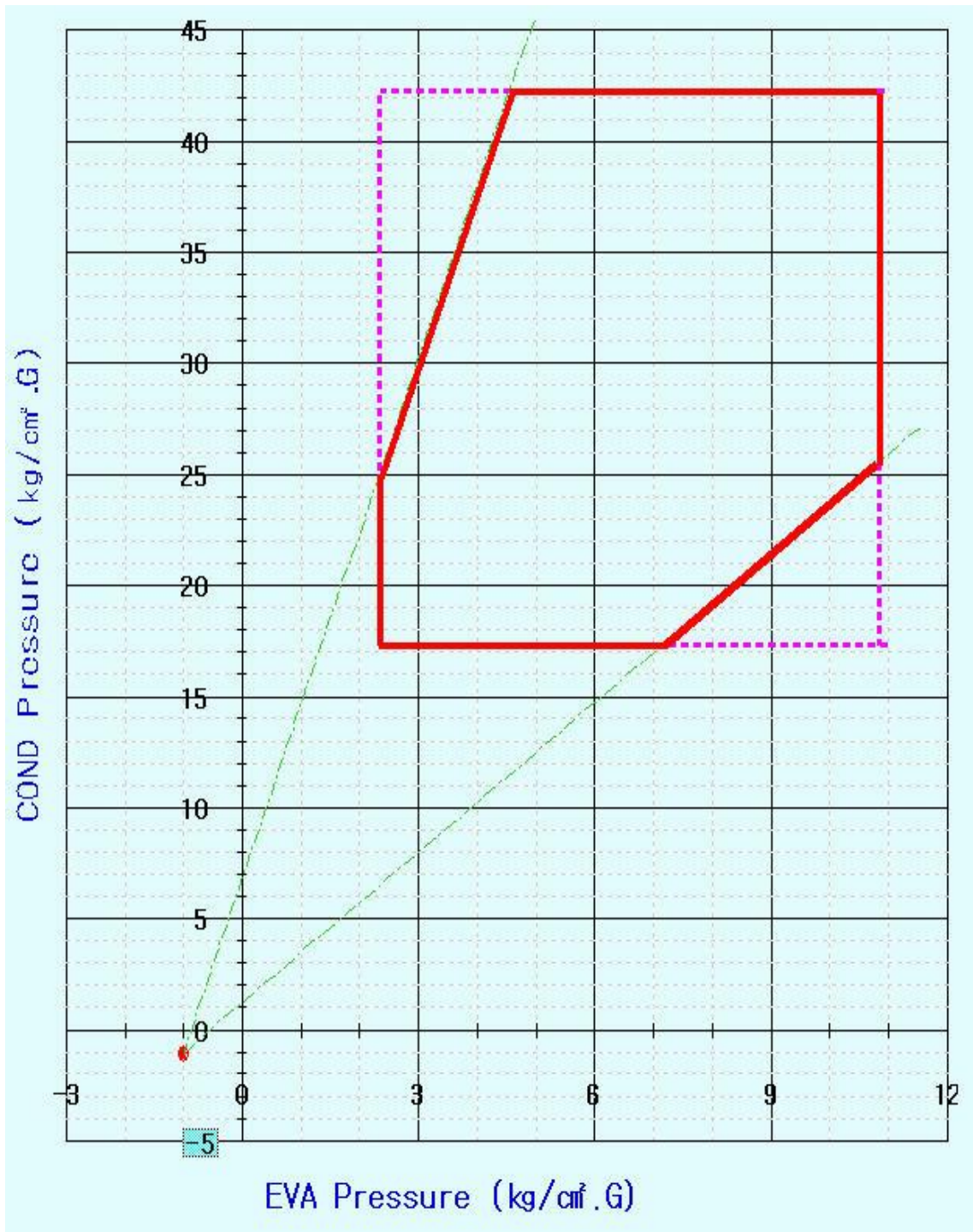
三星电子

SPEC. NO : 0

MODEL : G4A091JUAGP

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ROTARY COMPRESSOR



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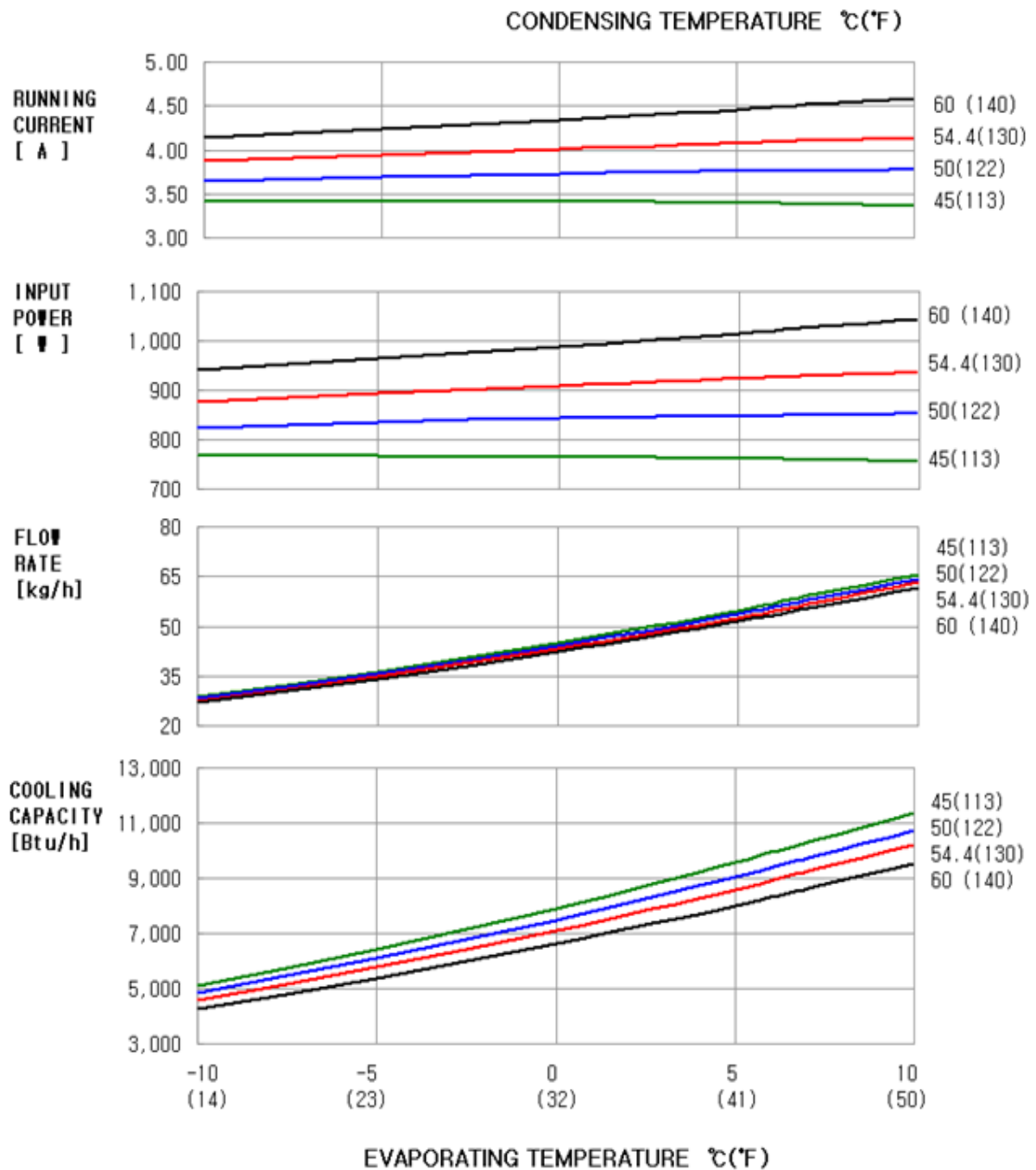
PERFORMANCE CURVE

SPEC. NO : 0

MODEL : G4A091JUAGP

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BASED ON
SUCTION TEMP. : 35°C (95°F)
SUB COOL TEMP. : 8.3°C (15°F)
AMBIENT TEMP. : 35°C (95°F)
VOLTAGE : 240V


ROTARY COMPRESSOR

OUTDRAWING DIMENSION



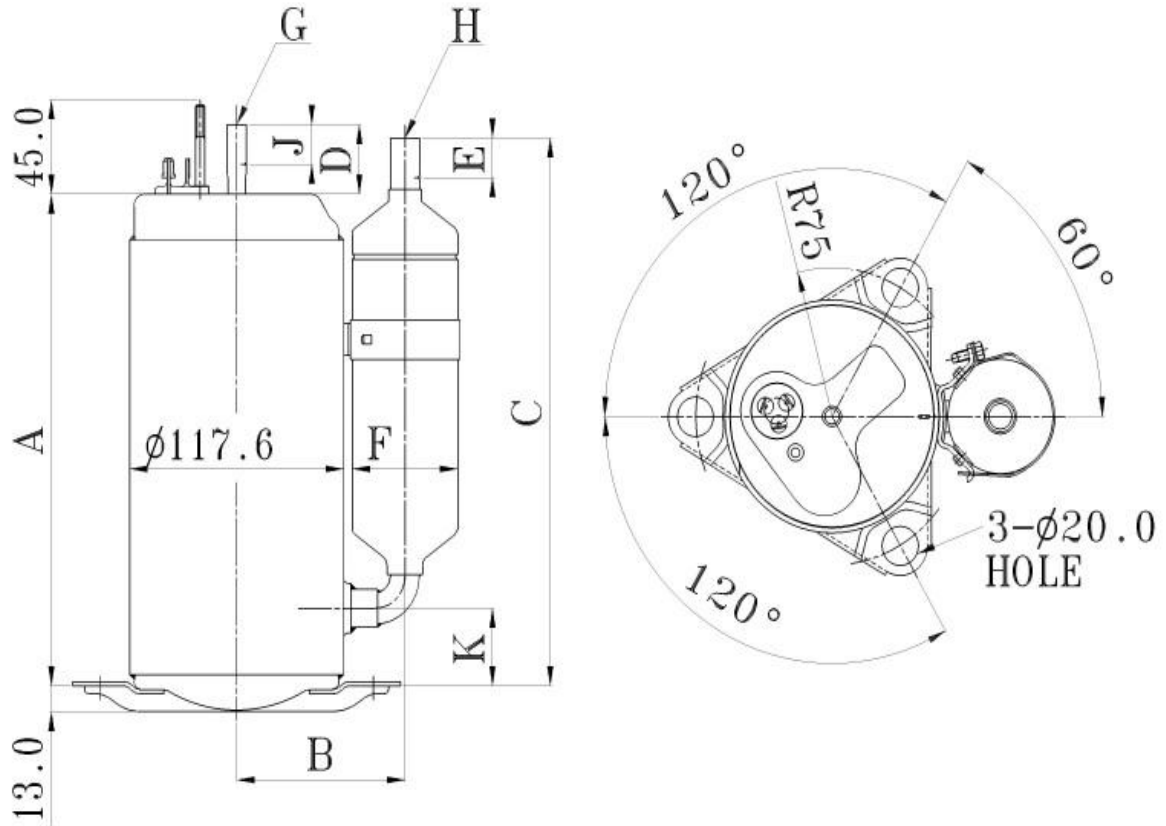
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MODEL : G4A091JUAGP

SPEC. NO : 0

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☞ The foot angle is +60 degree from horizontal line that connecting compressor body center with accumulator center.

UNIT: mm, (inch)

| MODEL NO. | DIMENSIONS | | | | | | | Accum (OD) F | TUBE (I.D) | |
|--------------------|------------|---------|--------|------|------|------|-------|--------------------|------------|----------|
| | A | B(±3.0) | C | D | E | J | K | | G(±0.15) | H(±0.15) |
| G4A091JUAGP | 227.13 | 92.46 | 252.67 | 35.0 | 15.0 | 15.0 | 29.67 | 58.4 | 8.15 | 12.85 |

ROTARY COMPRESSOR



三星电子

ACCESSORY DIMENSION

SPEC. NO : 0

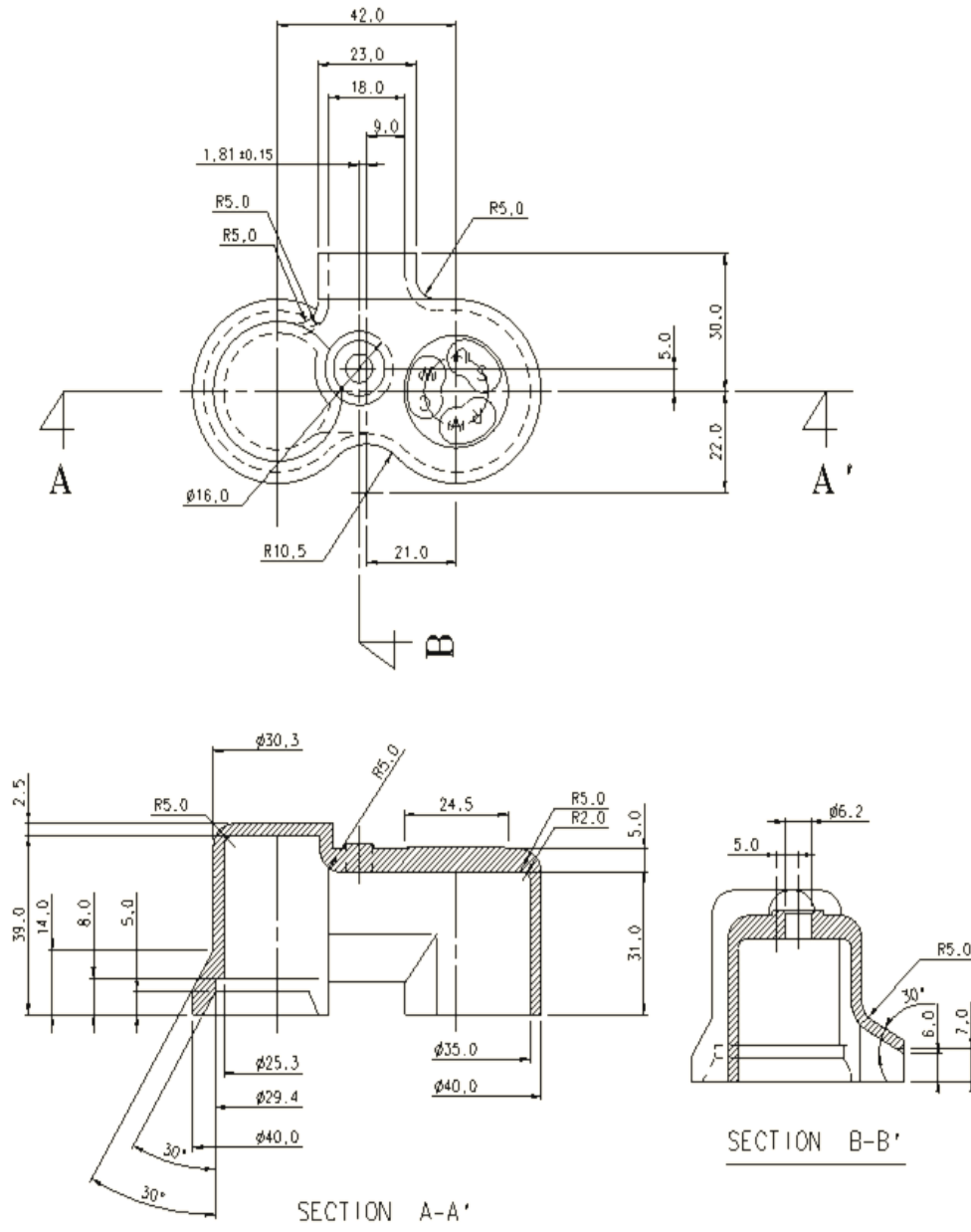
MODEL : G4A091JUAJP

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| ITEM | TERMINAL COVER | PART NO. | DB63-00762A | Q'TY | 1 | REMARK |
|------|----------------|----------|-------------|------|---|--------|
|------|----------------|----------|-------------|------|---|--------|

- Material : GE Noryl SE1-701
- Color : Black
- U.L 94-5, V-0 & V-1 nonflammable property shall be satisfied.



ROTARY COMPRESSOR

ACCESSORY DIMENSION



三星电子

| | | |
|-----------------------------|--------------|-------|
| MODEL : G4A091JUAJP | SPEC. NO : 0 | |
| | DRAFT | CHECK |
| | APPROVE | |
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| ITEM | OLP - SPRING | PART NO. | DB61-01897A | Q'TY | 1 | REMARK | - |
|------|--------------|----------|-------------|------|---|--------|---|
|------|--------------|----------|-------------|------|---|--------|---|

- Material : STS304 - WPB

| ITEM | GROMMET-ISOLATOR | PART NO. | DB63-00763A | Q'TY | 3 | REMARK | |
|------|------------------|----------|-------------|------|---|--------|--|
|------|------------------|----------|-------------|------|---|--------|--|

- Material : NR
- Hardness : $35^{\circ} \pm 4^{\circ}$

ROTARY COMPRESSOR



三星电子

ACCESSORY DIMENSION

SPEC. NO : 0

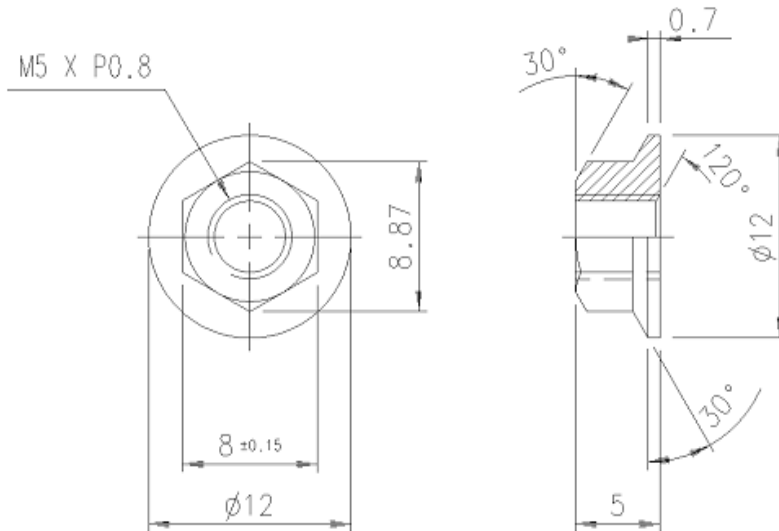
MODEL : G4A091JUAJP

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| DRAFT | CHECK | APPROVE |
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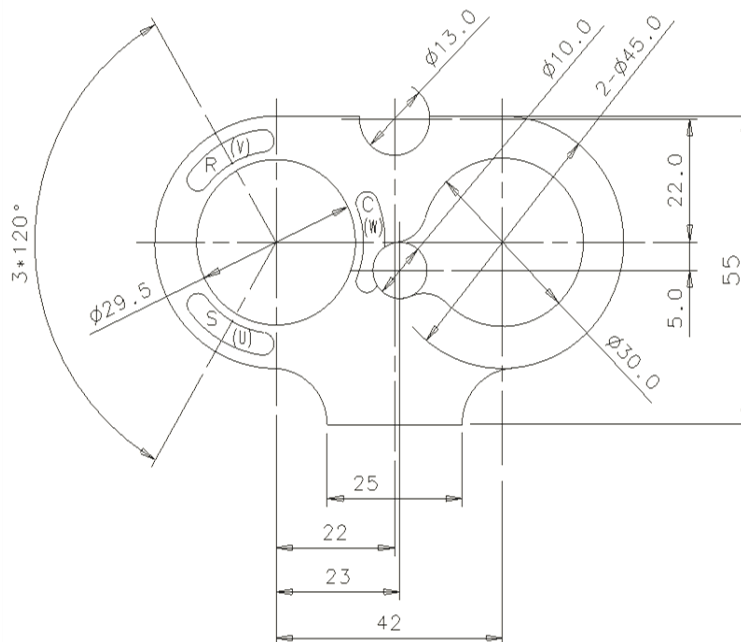
| ITEM | NUT | PART NO. | 6021-001142 | Q'TY | 1 | REMARK |
|------|-----|----------|-------------|------|---|--------|
|------|-----|----------|-------------|------|---|--------|

-Material : SWCH10A



| ITEM | GASKET | PART NO. | DB63-01416A | Q'TY | 1 | REMARK |
|------|--------|----------|-------------|------|---|--------|
|------|--------|----------|-------------|------|---|--------|

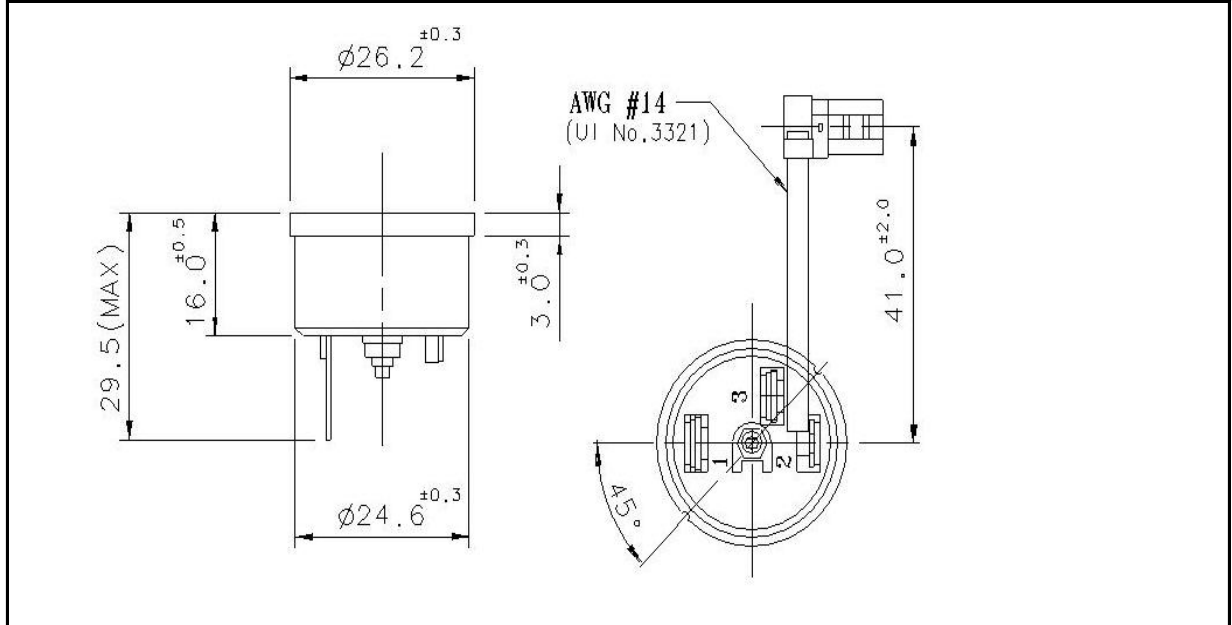
- Material : EPDM RUBBER
- Hardness : 80-85
- Thickness : 1.2 ± 0.2


ROTARY COMPRESSOR

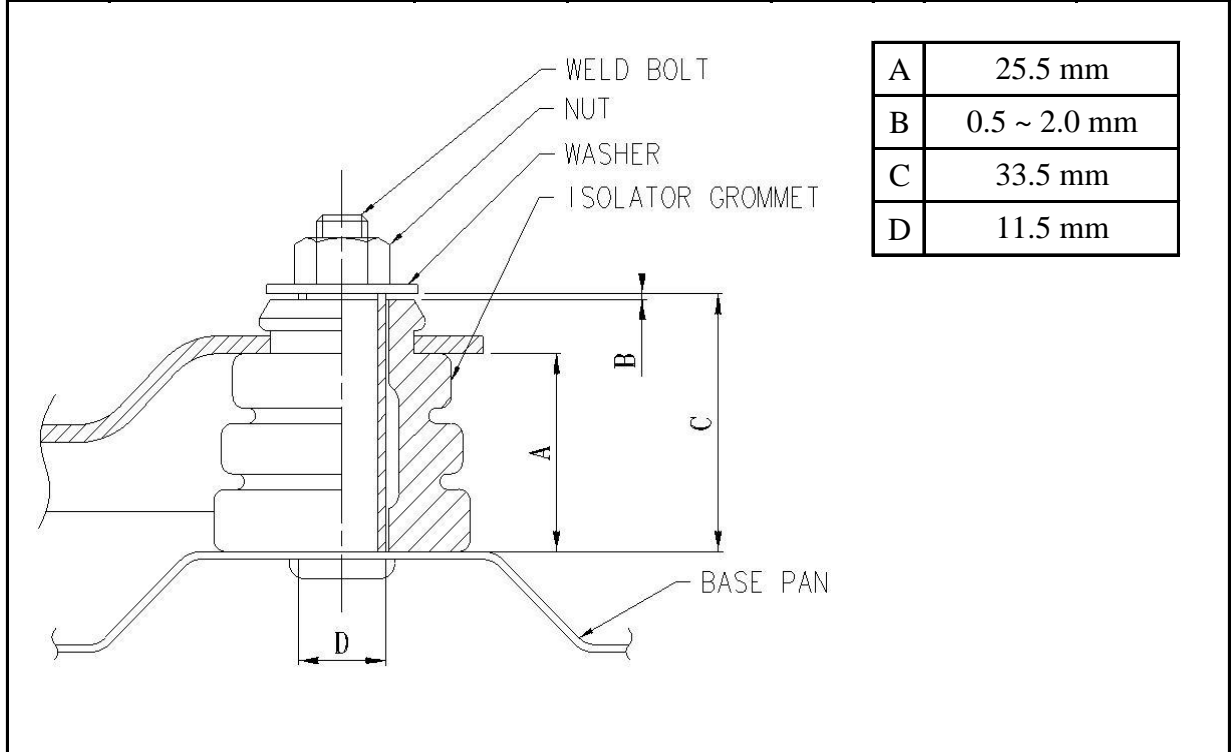
ACCESSORY DIMENSION

| | | | | | | | |
|---|--------------|---------|-------|---------|-----------------------------|--|--|
| <h2>MODEL : G4A091JUAJP</h2> | SPEC. NO : 0 | | | | | | |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%; text-align: center;">DRAFT</td> <td style="width: 33%; text-align: center;">CHECK</td> <td style="width: 33%; text-align: center;">APPROVE</td> </tr> <tr> <td colspan="3" style="text-align: center; padding: 5px;"> Approved by internal system </td> </tr> </table> | | DRAFT | CHECK | APPROVE | Approved by internal system | | |
| DRAFT | CHECK | APPROVE | | | | | |
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| ITEM | OVERLOAD PROTECTOR (OLP) | PART NO. | DB35-00024J | Q'TY | 1 | REMARK | MRA12054-12008 |
|------|--------------------------|----------|-------------|------|---|--------|----------------|
|------|--------------------------|----------|-------------|------|---|--------|----------------|



| ITEM | MOUNTING TYPE (1 FOOT TYPE) | PART NO. | | Q'TY | 1 | REMARK | |
|------|-----------------------------|----------|--|------|---|--------|--|
|------|-----------------------------|----------|--|------|---|--------|--|



ROTARY COMPRESSOR

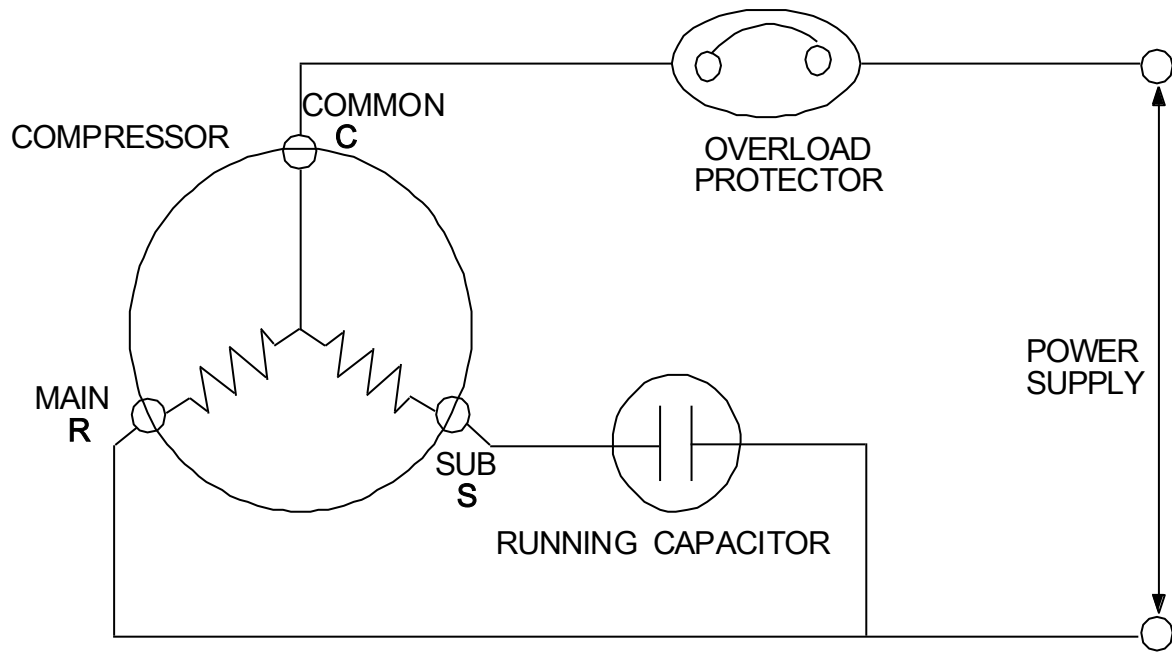
WIRING DIAGRAM

MODEL : G4A091JUAJP

SPEC. NO : 0

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| DRAFT | CHECK | APPROVE |
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STANDARD EXPORT PACKING IN 20

FEET CONTAINER

MODEL : G4A091JUAJP

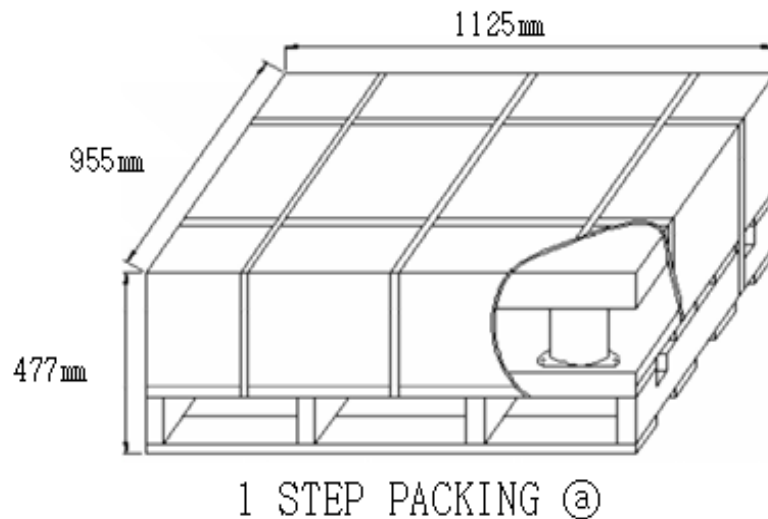
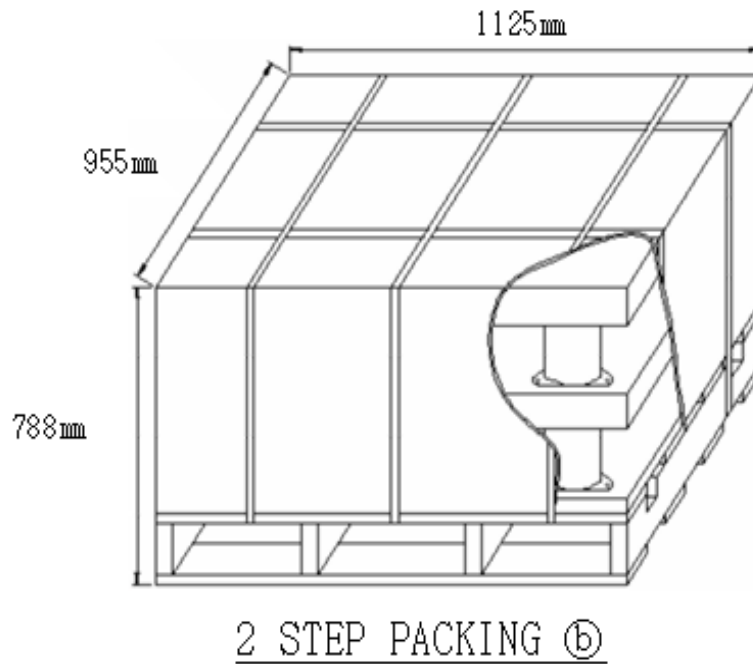
SPEC. NO : 0

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| FRAME | Compressor Q'ty / Carton | | Carton Q'ty (20Ft) | | Accessory Box ⑤ (Carton) | Loading Quantity ⑥ (pcs) |
|-------|--------------------------|----------------|--------------------|-------------------|--------------------------|--------------------------|
| | 1 step ① (pcs) | 2 step ② (pcs) | 1 step ③ (Carton) | 2 step ④ (Carton) | | |
| 44A | 36 | 72 | 2 | 22 | 6 | 1,656 |

Total Compressor Q'ty = ① * ③ + ② * ④ = ⑥ (1,656 pcs)



A/C SET TEST DATA

Please, fill in the below to check whether is applied or not the exact compressor to your A/C.

1. General data

| No | Item | Data |
|----|---------------------------------|--|
| 1 | Air conditioner model name | |
| 2 | Compressor name | |
| 3 | Refrigerant volume | Standard (kg). Max (kg) |
| 4 | Length of tubing (m) | |
| 5 | Height difference of tubing (m) | |
| 6 | Air conditioner Type | Window () or Split () / Cooling () or H/P () |
| 7 | Sales area | |

2. Data in overload running condition & low temperature's

| No | Condition | Data | | | | | | |
|---------------------------------------|------------------|---------------|--------------------|---------------|---------------|--------------------|----------------|---------------|
| 1 | Overload running | Item | | Indoor temp. | | | Out door temp. | |
| | | Cooling | DB/WB : / °C | | | DB/WB : / °C | | |
| | | Heating | DB/WB : / °C | | | DB/WB : / °C | | |
| | | Item | | Cooling | | | Heat pump | |
| | | | Low Voltage | Rated Voltage | High Volatage | Low Voltage | Rated Voltage | High Volatage |
| | | Voltage (V) | | | | | | |
| | | Input (W) | | | | | | |
| | | Current (A) | | | | | | |
| | | T-coil(°C) | | | | | | |
| | | T-top (°C) | | | | | | |
| | | T-dis (°C) | | | | | | |
| | | T-suction(°C) | | | | | | |
| | | T-cond (°C) | | | | | | |
| | | T-eva (°C) | | | | | | |
| High pressure (kg/cm ² .G) | | | | | | | | |
| Low pressure (kg/cm ² .G) | | | | | | | | |

| No | Condition | Data |
|----|-----------|------|
|----|-----------|------|

| | | | | | | | | |
|---------------------------------------|-------------------|---------------|--------------|---------------|---------------|----------------|---------------|---------------|
| 2 | Low Temp. running | Item | Indoor temp. | | | Out door temp. | | |
| | | Cooling | DB/WB : / °C | | | DB/WB : / °C | | |
| | | Heating | DB/WB : / °C | | | DB/WB : / °C | | |
| | | | Cooling | | | Heat pump | | |
| | | | Low Voltage | Rated Voltage | High Volatage | Low Voltage | Rated Voltage | High Volatage |
| | | Voltage (V) | | | | | | |
| | | Input (W) | | | | | | |
| | | Current (A) | | | | | | |
| | | T-coil(°C) | | | | | | |
| | | T-top (°C) | | | | | | |
| | | T-dis (°C) | | | | | | |
| | | T-suction(°C) | | | | | | |
| | | T-cond (°C) | | | | | | |
| | | T-eva (°C) | | | | | | |
| High pressure (kg/cm ² .G) | | | | | | | | |
| Low pressure (kg/cm ² .G) | | | | | | | | |

3. Starting ability data & stall's

| Items | Judgment | Test voltage (V) | Test Current (A) | High pressure (kg/cm ² .G) | Low pressure (kg/cm ² .G) | T-top (°C) |
|--|------------------|------------------|------------------|---------------------------------------|--------------------------------------|------------|
| Restarting ability after overload running | OK () NG () | | | | | |
| Starting ability in soaking condition (Nekomi) | OK () NG () | | | | | |
| Stall | OK () NG () | | | | | |

4. Electirc parts specification

| | | | | | | |
|-------------------|---------------------|-----|--------------------|------|-----|--|
| Electric parts | | | | | | |
| Running capacitor | uF / | Vac | Starting capacitor | uF / | Vac | |
| Starting relay | (Model name :) | | | | | |
| PTC relay | Ω V (Model name :) | | | | | |
| OLP | (Model name :) | | | | | |