# Test Report

Report No: EE-18011633

**Applicant:** **Siam Compressor Indutry Co., Ltd** **Date:** 23 March 2018

Laem Chabang Industrial Estate 87/10 Moo 2 Sukhumvit Rd.,
Tungsukhla Sriracha, Chonburi 20230 THAILAND

**Sample description**

| | | |
|---|---|---|
| **Product** | : | Motor Compressor |
| **Brand Name** | : | |
| **Model No.** | : | S and K Series |
| **Electrical Rating** | : | 64-390V, 3~, 30-360Hz, 2040W, R-410A<br>(Tested sample model: SNB220FBAMT) |
| **Total number of pages** | : | 8 |
| **No. of Sample** | : | 1 Unit |
| **Reference No.** | : | Qu-00835539 |
| **Date of Receipt of Test Sample** | : | 18 January 2018 |
| **Date(s) of Performance of Test** | : | 18 January – 1 March 2018 |
| **Test Standard** | : | IEC 60529:1989+A1:1999+A2:2013 as according IP21 |
| **Test Result** | : | See the attached sheet. |
| **Conclusion** | : | See the attached sheet. |
| **Testing laboratory** | : | Intertek Testing Services (Thailand) Ltd.<br>1285/5 Prachachuen Road, Wong-Sawang, Bangsue, Bangkok 10800 Thailand |

**********End**********



**Prepared And Checked By :**
**For Intertek Testing Services Thailand**

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Test engineer

**Authorized By :**
**For Intertek Testing Services Thailand**

Suebsak Muhammad
Supervisor

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**General Remarks:**

- *"–" refers to item is not requested to test.*
- *"N/A" refers to test case does not apply to the test object.*
- *"F" refers to the item does not meet the requirement.*
- *"P" refers to the item does meet the requirement.*
- *Throughout this report a comma is used as the decimal separator.*
- *Measurement uncertainty has been taken into the consideration of the test results.*





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**General product information:**

The prototype sample subjected to IP21 test was the hermetic motor-compressor completely set including terminal cover.

There are 35 models in test report as table below:

All models are rotary type which are identical the construction (upper housing) and terminal cover.

| No | Model | No | Model | No | Model | No | Model |
|---|---|---|---|---|---|---|---|
| 1 | SNB130FGBMT | 11 | SNB130FGBHJT | 21 | SNB172FEGH1T | 31 | SNB220FBGMT |
| 2 | SNB140FQUH1T | 12 | SNB140FRUH1T | 22 | SNB172FQGMT | 32 | SNB220FBAMT |
| 3 | SVB130FBBMT | 13 | SNB092FGYMT | 23 | SNB172FQKMT | 33 | SNB220FBAM1T |
| 4 | SVB172FCKMT | 14 | SNB130FGAMT | 24 | SNB092FQAM2T | 34 | SNB172FEKMT |
| 5 | SNB140FRUMT | 15 | SNB130FGBH1JT | 25 | SVB172FCKM1T | 35 | KNB053FUNMT |
| 6 | SNB092FQAMT | 16 | SNB130FGBHT | 26 | SVB130FBBM1T | | |
| 7 | SNB140FQUMT | 17 | SNB130FQBHT | 27 | SNB140FQUH2T | | |
| 8 | SNB110FGYMT | 18 | SNB130FQBMT | 28 | SNB172FEKM2T | | |
| 9 | SVB092FBAMT | 19 | SNB130FQYMT | 29 | SNB130FGBM2T | | |
| 10 | SNB130FGBH1T | 20 | SNB140FRKMT | 30 | SNB220FBGM1T | | |

Nomenclature for model name was explained as below:

| S | N | B | *** | F | ** | M | T |
|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

Numeric “1” means the compressor family.
Numeric “2” means refrigerant type as below:

| | |
|---|---|
| N is R-410A | V is R-32 |

Numeric “3” means application type; B is DC Inverter.
Numeric “4” means Stoke Volume
Numeric “5” means supplies voltage range; F mean supplies voltage 3 phases Rated Voltage (V) Inverter Frequency (Hz) variable
Numeric “6” means the internal reference of outline figure. It can be A to Z (which does not affect the safety requirement)
Numeric “7” means oil type as below;

| | |
|---|---|
| M is mean Miscible oil(POE&PVE oil). | M2 is mean Miscible oil(POE&PVE oil) and special request (which does not affect the safety requirement) . |
| H1 is Increase or decrease the NEO oil from normal specification. | H2 is mean Miscible oil (POE&PVE oil) and QA request (which does not affect the safety requirement) |

Numeric “8” means manufacture branch. T is Thailand.

After information above, Model: SNB220FBAMT was selected to represent to all models due to it is same the construction, terminal cover and maximum rated voltage.

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**General product information: (Cont'd)**

The sample tested according to clause 12.3 and 13.2 for IP2X the following below:

- 12.3 The access to hazardous parts
  - The jointed test finger may penetrate to its 80 mm length, but the stop face (∅50mm x ∅20mm) shall not pass through the opening, test force 10 N ± 10 %
  - Starting from the straight position, both joints of the test finger shall be successively bent through an angle of up to 90° with respect to the axis of the adjoining section of the finger and shall be placed in every possible position.
- 13.2 The solid foreign objects
  - Rigid sphere without handle or guard $12.5^{+0.2}$ mm diameter,
  - The object probe is pushed against any openings of the enclosure with the force test force 30 N ± 10%

The sample tested according to clause 14.2.1 for IPX1 the following below:

- Test device to verify protection against vertically falling water drops (drip box)
- Water flow rate: $1^{+0.5}$ mm/min
- The sample placed on the turntable on which the enclosure is placed has a rotation speed of 1 r/min
- The eccentricity (distance between turntable axis and specimen axis) is approximately 100 mm.
- Duration of test: 10 min
- No energize to sample during the test.



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**Test Result:**

| Degree of protection | | Result / Remark | Verdict |
|---|---|---|---|
| **Degree** | **Acceptance conditions** | | |
| IP2X | The protection is satisfactory if adequate clearance is kept between the access probe and hazardous parts. | | P |
| | The jointed test finger may penetrate to its 80 mm length, but the stop face (∅50 mm x ∅20mm) shall not pass through the opening. | The test probe can't pass through the opening to access hazardous parts. | P |
| | Starting from the straight position, both joints of the test finger shall be successively bent through an angle of up to 90° with respect to the axis of the adjoining section of the finger and shall be placed in every possible position. | | P |
| | The protection is satisfactory if the full diameter of the Rigid sphere does not pass through any opening. | The object probe can't pass through the opening to access hazardous parts. | P |
| IPX1 | No any water has entered in enclosure. | | N/A |
| | In general, if any water has entered, it shall not: | | -- |
| | - be sufficient to interfere with the correct operation of the equipment or impair safety. | | N/A |
| | - deposit on insulation parts where it could lead to tracking along the creepage distances. | | P |
| | - reach live parts or windings not designed to operate when wet. | | N/A |
| | - accumulate near the cable end or enter the cable if any. | | N/A |
| | The details of a dielectric strength test | | P |
| | - Basic insulation (Live parts and metal enclosure) | 1250V | P |
| | - Reinforced insulation (Live parts and terminal cover) | 3000V | P |
| Supplementary information: N/A | | | |

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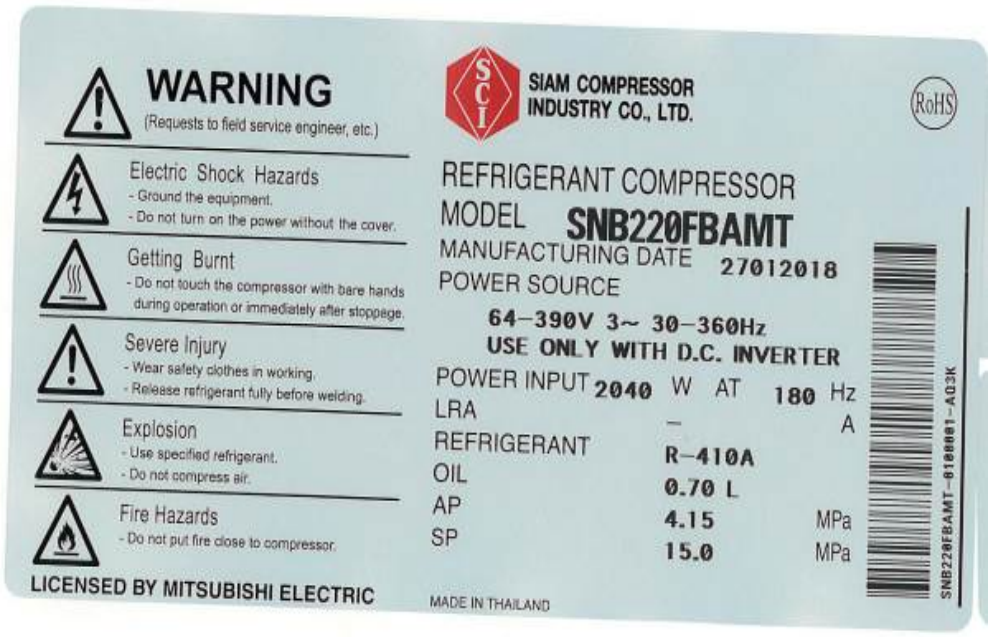
**Unit pictures:**




Picture No.1: Nameplate

Picture No.2: Front view

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Picture No.3: Side view

Picture No.4: Cover compressor



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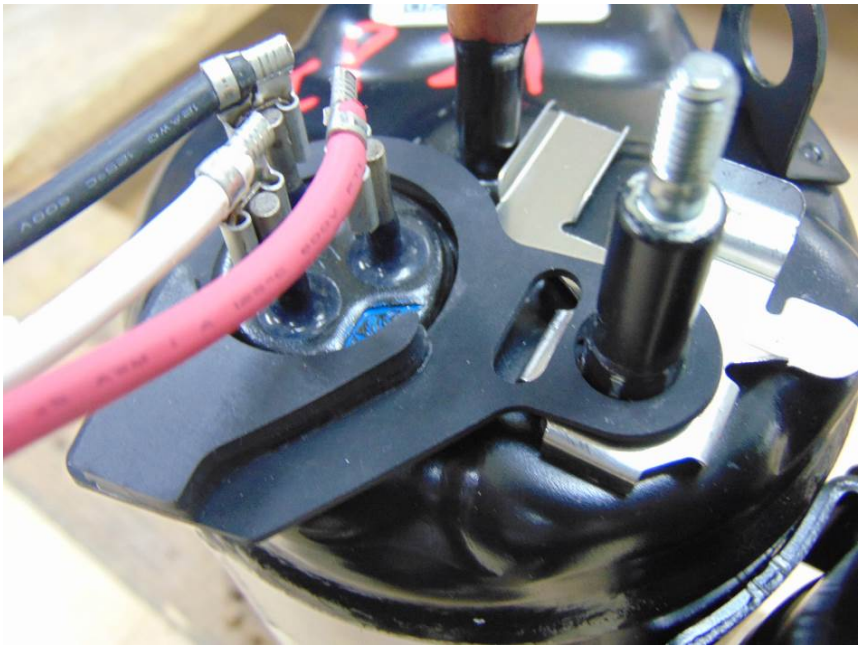
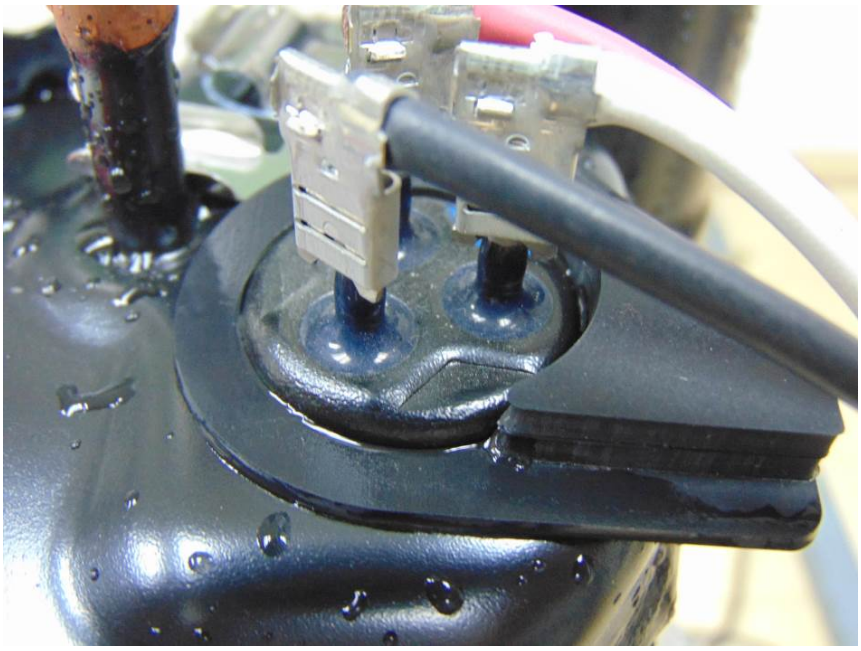


Picture No.5: Terminal without cover compressor



Picture No.6: After test

********** End of Report **********



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