

REPORT FOR COMPLETION

NO: PM3- DIS / RFC 17052020-001

TO : **PM3 BOT POWER PLANT**
 PROJECT : **MAINTENANCE HVAC SYSTEM**
 Name of work : **Heating Ventilation Air Conditioning (HVAC) System**

Purchase Order No : Contract: **PM/20-0354**
 Date of start works : 07/05/2021
 Date in progress : 07/05/2021
 Date of completion : 17/05/2021

Work description as bellow:

| List of Equipment for Ventilation Fans Overhauling (MO): (5 pcs) | | | |
|---|--------------|----------------------------|----------------------|
| No | KKS | KKS Description | Group/System |
| 11 | 11SAM21AN001 | SUPPLY AIR FAN (Generator) | HVAC-Ventilation Fan |
| 12 | 11SAM21AN002 | SUPPLY AIR FAN (Generator) | HVAC-Ventilation Fan |
| 13 | 11SAM30AN001 | EXH AIR FN AIR HDLG U | HVAC-Ventilation Fan |
| 14 | 11SAM30AN002 | EXH AIR FN AIR HDLG U | HVAC-Ventilation Fan |
| 15 | 11SAM30AN003 | EXH AIR FN AIR HDLG U | HVAC-Ventilation Fan |
| List of Equipment for Ventilation Fans Routine Maintenance (MI): (4 pcs) | | | |
| No | KKS | KKS Description | Group/System |
| 1 | 11SAM31AN001 | EXHAUST AIR FAN | HVAC-Ventilation Fan |
| 2 | 11SAM31AN002 | EXHAUST AIR FAN | HVAC-Ventilation Fan |
| 3 | 11SAM32AN001 | EXHAUST AIR FAN | HVAC-Ventilation Fan |
| 4 | 11SAM32AN002 | EXHAUST AIR FAN | HVAC-Ventilation Fan |
| List of ventilation fan impellers balancing. (5pcs) | | | |
| No | KKS | KKS description | Group/System |
| 5 | 11SAM30AN001 | EXH AIR FN AIR HDLG U | HVAC-Ventilation Fan |
| 6 | 11SAM30AN002 | EXH AIR FN AIR HDLG U | HVAC-Ventilation Fan |
| 7 | 11SAM30AN003 | EXH AIR FN AIR HDLG U | HVAC-Ventilation Fan |
| 8 | 11SAM21AN001 | SUPPLY AIR FAN | HVAC-Ventilation Fan |
| 9 | 11SAM21AN002 | SUPPLY AIR FAN | HVAC-Ventilation Fan |

| | |
|--------------------------------------|--|
| TEST REPORT NO. | MAINTENANCE HVAC SYSTEM OVERHAULS TEST REPORT |
| PM/20-0354 MO-001-05.2021 | |

Customer: PM3 BOT POWER PLANT

Add: PHU MY - BRVT

Tag No.:

Incoming Date: 06/5/2021

Final Date: 17/5/2021

Report Date: 17/5/2021

MOTOR DATA

Equipment name: EXH AIR FN AIR HDLG U

Manufacturer: SIEMENS

Type: 1LG4183-4AA60-Z

Rated voltage: 380/420 [V]

Rated power: 18.5 [kW]

Frame size: IMB14-100L

IP: 55

SF: N/A

Bearing DE: 6210 2Z C4

Lubrication type: N/A

Feeder No: N/A

Serial No: U01507/1736929-001-001

KKS No: 11SAM30AN001

Rated current: 35.5 [A]

Speed: 1465 [rpm]

Power Factor: 0.84 [%]

Insulation Class: F

Connection: Δ

Bearing NDE: 6210-ZZ/C4

Frequency: 50 [Hz]

Heater: 230 [V]

Rotation from NDE: CW



CCW

Other:.....

INCOMING PICTURE

FINAL PICTURE



STATIC TEST

Ambient Temperature : Incoming°C Final°C

| RESISTANCE TEST | | | INDUCTION TEST | | |
|-----------------|----------|-------|----------------|----------|-------|
| Marking | Incoming | Final | Marking | Incoming | Final |
| U1-U2 | 0.8 Ω | 0.8 Ω | U1-U2 | N/A | N/A |
| V1-V2 | 0.8 Ω | 0.8 Ω | V1-V2 | N/A | N/A |
| W1-W2 | 0.8 Ω | 0.8 Ω | W1-W2 | N/A | N/A |

| INSULATION TEST | | | | | | | |
|-----------------|---------------------------------|----------|-----------|----|------------------------------|-----------|----|
| VOLT(DC) | Marking | Incoming | | | Final | | |
| | | 1 minute | 10 minute | PI | 1 minute | 10 minute | PI |
| 500V | U-V | >2000 MΩ | N/A | | >2000 MΩ | N/A | |
| | U-W | >2000 MΩ | N/A | | >2000 MΩ | N/A | |
| | V-W | >2000 MΩ | N/A | | >2000 MΩ | N/A | |
| | U-Earth | >2000 MΩ | N/A | | >2000 MΩ | N/A | |
| | V-Earth | >2000 MΩ | N/A | | >2000 MΩ | N/A | |
| | W-Earth | >2000 MΩ | N/A | | >2000 MΩ | N/A | |
| | Recommend Insulation Resistance | | ≥100MΩ | | Polarization Index recommend | 2-5 | |

MACHANICAL REPAIRING





| | | | |
|-----------------------|------------|------------------------|--------|
| Bearing DE | 6210 2Z C4 | | |
| Bearing bore diameter | d50 mm | Bearing outer diameter | D90 mm |

| Shaft DE | | Housing DE | |
|----------|-------|------------|-------|
| Before | After | Before | After |
| 30.03 mm | mm | mm | mm |

| | | | |
|-----------------------|------------|------------------------|--------|
| Bearing NDE | 6210 2Z C4 | | |
| Bearing bore diameter | d50 mm | Bearing outer diameter | D90 mm |

| Shaft NDE | | Housing NDE | |
|-----------|-------|-------------|-------|
| Before | After | Before | After |
| mm | mm | mm | mm |

DYNAMIC TEST

| Rotation From NDE (Incoming) | | | | Rotation From NDE (Final) | | | | | |
|--|---|------------------------------|---|------------------------------|-----------------------------|--|------------------------------|---|------------------------------|
| <input type="checkbox"/> CW |  | <input type="checkbox"/> CCW |  | <input type="checkbox"/> N/A | <input type="checkbox"/> CW |  | <input type="checkbox"/> CCW |  | <input type="checkbox"/> N/A |
| NO LOAD TEST RESULT | | | | | | | | | |
| Voltage(V) | | | Current(A) | | | Speed | | | |
| UV | UW | VW | U | V | W | rpm | | | |
| | | | 17.1 | 16.7 | 16.9 | | | | |
| Acceptable According to ISO10861 Limits Vibration(mm/s) | | | | | | | | | |
| LOAD TEST RESULT | | | | | | | | | |
| Voltage(V) | | | Current(A) | | | Speed | | | |
| UV | UW | VW | U | V | W | rpm | | | |
| | | | | | | | | | |
| Acceptable According to ISO10861 Limits Vibration(mm/s) | | | | | | | | | |
| Vibration DE | | | Vibration NDE | | | | | | |
| Velocity(mm/s) | Enveloped acceleration (gE) | Temp | Velocity(mm/s) | Enveloped acceleration (gE) | Temp | | | | |
| | | | | | | | | | |
| Alarm Velocity Group G2 and 4R Enveloped Acceleration CL2 | | | Alarm Velocity Group G2 and 4R Enveloped Acceleration CL2 | | | | | | |
| Alert: 2.8mm/s | Alert: 2gE | < 70°C | Alert: 2.8mm/s | Alert: 2gE | < 70°C | | | | |
| Danger: 4.5mm/s | Danger: 4gE | | Danger: 4.5mm/s | Danger: 4gE | | | | | |

A. ELECTRICAL SERVICE

| | | | | | | |
|---------------------|------------------------------------|---------------------------------|---|--------------------|----------------------------------|---|
| 1. Stator | <input type="checkbox"/> Overhauls | <input type="checkbox"/> Rewind | <input checked="" type="checkbox"/> N/A | 10. Cable Gland | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A |
| 2. Core Loss Stator | <input type="checkbox"/> Test | | <input checked="" type="checkbox"/> N/A | 11. Diot | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A |
| 3. Core Loss Rotor | <input type="checkbox"/> Test | | <input checked="" type="checkbox"/> N/A | 12. Rectifier Unit | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A |
| 4. Hot Spot Stator | <input type="checkbox"/> Test | | <input checked="" type="checkbox"/> N/A | 13. Lead Wire | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A |
| 5. Hot Spot Rotor | <input type="checkbox"/> Test | | <input checked="" type="checkbox"/> N/A | 14. Glass Sleeve | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A |
| 6. Stator Laminate | <input type="checkbox"/> Retack | <input type="checkbox"/> Repair | <input checked="" type="checkbox"/> N/A | 15. Heater | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A |
| 7. Rotor Laminate | <input type="checkbox"/> Retack | <input type="checkbox"/> Repair | <input checked="" type="checkbox"/> N/A | 16. Temp. Sensor | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A |
| 8. Slot Wedge | <input type="checkbox"/> Replace | | <input checked="" type="checkbox"/> N/A | 17. Terminal Board | <input type="checkbox"/> Replace | <input type="checkbox"/> Repair |
| 9. Mgnt.Slot Wedge | <input type="checkbox"/> Replace | | <input checked="" type="checkbox"/> N/A | 18. Terminal Box | <input type="checkbox"/> Replace | <input type="checkbox"/> Repair |

MECHANICAL SERVICE

- | | | | | | | | |
|-------------------|---|---|---|----------------------------------|----------------------------------|---|---|
| 1. Bearing (DE) | <input checked="" type="checkbox"/> Replace | <input type="checkbox"/> N/A | 10. Coupling | <input type="checkbox"/> Replace | <input type="checkbox"/> Repair | <input checked="" type="checkbox"/> N/A | |
| 2. Bearing (NDE) | <input checked="" type="checkbox"/> Replace | <input type="checkbox"/> N/A | 11. Rubber Coupling | <input type="checkbox"/> Replace | <input type="checkbox"/> Repair | <input checked="" type="checkbox"/> N/A | |
| 3. Oil Seal (DE) | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | 12. Cover Fan | <input type="checkbox"/> Replace | <input type="checkbox"/> Repair | <input checked="" type="checkbox"/> N/A | |
| 4. Oil Seal (NDE) | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | 13. Cooling Fan | <input type="checkbox"/> Replace | <input type="checkbox"/> Repair | <input checked="" type="checkbox"/> N/A | |
| 5. V-Ring (DE) | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | 14. Housing (DE) | <input type="checkbox"/> Repair | <input type="checkbox"/> Repair | <input checked="" type="checkbox"/> N/A | |
| 6. V-Ring (NDE) | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | 15. Housing (NDE) | <input type="checkbox"/> Repair | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | |
| 7. Wave Spring | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | 16. Rotor Shaft (DE) | <input type="checkbox"/> Repair | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | |
| 8. Eye Bolt | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | 17. Rotor Shaft (NDE) | <input type="checkbox"/> Repair | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | |
| 9. Pulley | <input type="checkbox"/> Replace | <input type="checkbox"/> Repair | <input checked="" type="checkbox"/> N/A | 18. Rotor Balance | <input type="checkbox"/> Balance | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A |

B. INSTRUMENTS

| Item | Equipment name | Brand | Type | Serial No | Certificate No | Traceable Laboratory | ID No |
|------|----------------------------------|------------|----------------|------------|----------------|----------------------|-------|
| 01 | Ohm Meter | Fluke | Fluke 77III | 70660741 | | | |
| 02 | Digital Low Resistance Ohm meter | Megger | Ducter DLRO-10 | 1010 59074 | | | |
| 03 | Megohm Meter | Megger | Kyoritsu 3005A | W0236250 | | | |
| 04 | Vibration Meter | Riovibo | VM-63A | 8635005 | | | |
| 05 | Tacho Meter | Lutron | DT2236B | S904643 | | | |
| 06 | Thermometer | Center 350 | M-11 | 100609878 | | | |
| 07 | Current Tester | Kyoritsu | Kyoritsu 2017 | W0140280 | | | |

| | Performed by | Checked by | Witnessed By Customer | Approved by DIS |
|------------------|------------------------|----------------------|-----------------------|---------------------|
| Date | 22/05/2021 | 22/05/2021 | 22/05/2021 | 22/05/2021 |
| Signature | | | | |
| Name | Phan Van Phuong | Nguyen Tat Tu | Le Quoc Phong | Bui Huy Vinh |

| | |
|------------------------------|--|
| TEST REPORT NO. | MAINTENANCE HVAC SYSTEM OVERHAULS TEST REPORT |
| PM/20-0354 MO-001-05.2021 | |

Customer: PM3 BOT POWER PLANT

Add: PHU MY - BRVT

Tag No.:

Incoming Date: 06/5/2021

Final Date: 17/5/2021

Report Date: 17/5/2021

MOTOR DATA

Equipment name: Supply Air Fan
Manufacturer: Marelli motori
Type: DOC 100LB4B3
Rated voltage: 380/420 [V]
Rated power: 3 [kW]
Frame size: N/A
IP: 55
SF: N/A
Bearing DE: 6206ZZ
Lubrication type: N/A

Feeder No: N/A
Serial No: Z303905
KKS No: 11SAM21AN001
Rated current: 6.3 [A]
Speed: 1440 [RPM]
Power Factor: 0.81 [%]
Insulation Class: F
Connection: Y
Bearing NDE: 6206ZZ
Frequency: 50 [Hz]
Heater: N/A

Rotation from NDE: CW



CCW

Other:.....

INCOMING PICTURE

FINAL PICTURE

STATIC TEST

Ambient Temperature : Incoming°C Final°C

| RESISTANCE TEST | | | INDUCTION TEST | | |
|-----------------|----------|-------|----------------|----------|-------|
| Marking | Incoming | Final | Marking | Incoming | Final |
| U1-U2 | 1.8 Ω | 1.8 Ω | U1-U2 | N/A | N/A |
| V1-V2 | 1.8 Ω | 1.8 Ω | V1-V2 | N/A | N/A |
| W1-W2 | 1.8 Ω | 1.8 Ω | W1-W2 | N/A | N/A |

| INSULATION TEST | | | | | | | |
|-----------------|---------------------------------|----------|-----------|----|------------------------------|-----------|----|
| VOLT(DC) | Marking | Incoming | | | Final | | |
| | | 1 minute | 10 minute | PI | 1 minute | 10 minute | PI |
| 500V | U-V | >2000 MΩ | N/A | | >2000 MΩ | N/A | |
| | U-W | >2000 MΩ | N/A | | >2000 MΩ | N/A | |
| | V-W | >2000 MΩ | N/A | | >2000 MΩ | N/A | |
| | U-Earth | >2000 MΩ | N/A | | >2000 MΩ | N/A | |
| | V-Earth | >2000 MΩ | N/A | | >2000 MΩ | N/A | |
| | W-Earth | >2000 MΩ | N/A | | >2000 MΩ | N/A | |
| | Recommend Insulation Resistance | | ≥100MΩ | | Polarization Index recommend | 2-5 | |

MACHANICAL REPAIRING





| | | | |
|-----------------------|-----------|------------------------|-------|
| Bearing DE | 6206 2ZC3 | | |
| Bearing bore diameter | 30 mm | Bearing outer diameter | 62 mm |

| Shaft DE | | Housing DE | |
|----------|----------|------------|----------|
| Before | After | Before | After |
| 30.03 mm | 30.02 mm | 61.95 mm | 61.95 mm |

| | | | |
|-----------------------|-----------|------------------------|-------|
| Bearing NDE | 6205 2ZC3 | | |
| Bearing bore diameter | 25 mm | Bearing outer diameter | 52 mm |

| Shaft NDE | | Housing NDE | |
|-----------|----------|-------------|----------|
| Before | After | Before | After |
| 25.02 mm | 25.02 mm | 52.97 mm | 52.97 mm |

DYNAMIC TEST

| Rotation From NDE (Incoming) | | | | Rotation From NDE (Final) | | | | | |
|--|---|------------------------------|---|--------------------------------|-----------------------------|--|------------------------------|---|------------------------------|
| <input type="checkbox"/> CW |  | <input type="checkbox"/> CCW |  | <input type="checkbox"/> N/A | <input type="checkbox"/> CW |  | <input type="checkbox"/> CCW |  | <input type="checkbox"/> N/A |
| NO LOAD TEST RESULT | | | | | | | | | |
| Voltage(V) | | | Current(A) | | | Speed | | | |
| UV | UW | VW | U | V | W | rpm | | | |
| | | | 3.81 | 3.85 | 3.82 | | | | |
| Acceptable According to ISO10861 Limits Vibration(mm/s) | | | < 15kW | 15~75kW | >75kW.Rigid | >75kW.Soft | | | |
| | | | <=1.8 | <=2.8 | <=4.5 | <=7.1 | | | |
| LOAD TEST RESULT | | | | | | | | | |
| Voltage(V) | | | Current(A) | | | Speed | | | |
| UV | UW | VW | U | V | W | rpm | | | |
| | | | | | | | | | |
| Acceptable According to ISO10861 Limits Vibration(mm/s) | | | < 15kW | 15~75kW | >75kW.Rigid | >75kW.Soft | | | |
| | | | <=1.8 | <=2.8 | <=4.5 | <=7.1 | | | |
| Vibration DE | | | Vibration NDE | | | | | | |
| Velocity(mm/s) | Enveloped acceleration (gE) | Temp | Velocity(mm/s) | Enveloped acceleration (gE) | Temp | | | | |
| | | | | | | | | | |
| Alarm Velocity Group G2 and 4R Enveloped Acceleration CL2 | | | Alarm Velocity Group G2 and 4R Enveloped Acceleration CL2 | | | | | | |
| Alert: 2.8mm/s | Alert: 2gE | < 70°C | Alert: 2.8mm/s | Alert: 2gE | < 70°C | | | | |
| Danger: 4.5mm/s | Danger: 4gE | | Danger: 4.5mm/s | Danger: 4gE | | | | | |

ELECTRICAL SERVICE

| | | | | | | |
|---------------------|------------------------------------|---------------------------------|---|--------------------|----------------------------------|---|
| 1. Stator | <input type="checkbox"/> Overhauls | <input type="checkbox"/> Rewind | <input checked="" type="checkbox"/> N/A | 10. Cable Gland | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A |
| 2. Core Loss Stator | <input type="checkbox"/> Test | | <input checked="" type="checkbox"/> N/A | 11. Diot | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A |
| 3. Core Loss Rotor | <input type="checkbox"/> Test | | <input checked="" type="checkbox"/> N/A | 12. Rectifier Unit | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A |
| 4. Hot Spot Stator | <input type="checkbox"/> Test | | <input checked="" type="checkbox"/> N/A | 13. Lead Wire | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A |
| 5. Hot Spot Rotor | <input type="checkbox"/> Test | | <input checked="" type="checkbox"/> N/A | 14. Glass Sleeve | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A |
| 6. Stator Laminate | <input type="checkbox"/> Retack | <input type="checkbox"/> Repair | <input checked="" type="checkbox"/> N/A | 15. Heater | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A |
| 7. Rotor Laminate | <input type="checkbox"/> Retack | <input type="checkbox"/> Repair | <input checked="" type="checkbox"/> N/A | 16. Temp. Sensor | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A |
| 8. Slot Wedge | <input type="checkbox"/> Replace | | <input checked="" type="checkbox"/> N/A | 17. Terminal Board | <input type="checkbox"/> Replace | <input type="checkbox"/> Repair |
| 9. Mgnt.Slot Wedge | <input type="checkbox"/> Replace | | <input checked="" type="checkbox"/> N/A | 18. Terminal Box | <input type="checkbox"/> Replace | <input type="checkbox"/> Repair |



CÔNG TY CỔ PHẦN GIẢI PHÁP ĐẦU TƯ RỒNG

MECHANICAL SERVICE

- | | | | | | | | |
|-------------------|---|---|---|----------------------------------|----------------------------------|---|---|
| 1. Bearing (DE) | <input checked="" type="checkbox"/> Replace | <input type="checkbox"/> N/A | 10. Coupling | <input type="checkbox"/> Replace | <input type="checkbox"/> Repair | <input checked="" type="checkbox"/> N/A | |
| 2. Bearing (NDE) | <input checked="" type="checkbox"/> Replace | <input type="checkbox"/> N/A | 11. Rubber Coupling | <input type="checkbox"/> Replace | <input type="checkbox"/> Repair | <input checked="" type="checkbox"/> N/A | |
| 3. Oil Seal (DE) | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | 12. Cover Fan | <input type="checkbox"/> Replace | <input type="checkbox"/> Repair | <input checked="" type="checkbox"/> N/A | |
| 4. Oil Seal (NDE) | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | 13. Cooling Fan | <input type="checkbox"/> Replace | <input type="checkbox"/> Repair | <input checked="" type="checkbox"/> N/A | |
| 5. V-Ring (DE) | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | 14. Housing (DE) | <input type="checkbox"/> Repair | <input type="checkbox"/> Repair | <input checked="" type="checkbox"/> N/A | |
| 6. V-Ring (NDE) | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | 15. Housing (NDE) | <input type="checkbox"/> Repair | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | |
| 7. Wave Spring | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | 16. Rotor Shaft (DE) | <input type="checkbox"/> Repair | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | |
| 8. Eye Bolt | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | 17. Rotor Shaft (NDE) | <input type="checkbox"/> Repair | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | |
| 9. Pulley | <input type="checkbox"/> Replace | <input type="checkbox"/> Repair | <input checked="" type="checkbox"/> N/A | 18. Rotor Balance | <input type="checkbox"/> Balance | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A |

INSTRUMENTS

| Item | Equipment name | Brand | Type | Serial No | Certificate No | Traceable Laboratory | ID No |
|------|----------------------------------|------------|----------------|------------|----------------|----------------------|-------|
| 01 | Ohm Meter | Fluke | Fluke 77III | 70660741 | | | |
| 02 | Digital Low Resistance Ohm meter | Megger | Ducter DLRO-10 | 1010 59074 | | | |
| 03 | Megohm Meter | Megger | Kyoritsu 3005A | W0236250 | | | |
| 04 | Vibration Meter | Riovibo | VM-63A | 8635005 | | | |
| 05 | Tacho Meter | Lutron | DT2236B | S904643 | | | |
| 06 | Thermometer | Center 350 | M-11 | 100609878 | | | |
| 07 | Current Tester | Kyoritsu | Kyoritsu 2017 | W0140280 | | | |

| | Performed by | Checked by | Witnessed By Customer | Approved by DIS |
|-----------|-----------------|---------------|-----------------------|-----------------|
| Date | 22/05/2021 | 22/05/2021 | 22/05/2021 | 22/05/2021 |
| Signature | | | | |
| Name | Phan Van Phuong | Nguyen Tat Tu | Le Quoc Phong | Bui Huy Vinh |

| | |
|------------------------------|--|
| TEST REPORT NO. | MAINTENANCE HVAC SYSTEM OVERHAULS TEST REPORT |
| PM/20-0354 MO-001-05.2021 | |

Customer: PM3 BOT POWER PLANT

Add: PHU MY - BRVT

Tag No.:

Incoming Date: 06/5/2021

Final Date: 17/5/2021

Report Date: 17/5/2021

MOTOR DATA

Equipment name: Supply Air Fan
Manufacturer: Cinvensys Crompton
Type: A-ES-89L2-P
Rated voltage: 380/420 [V]
Rated power: 2.7 [kW]
Frame size: N/A
IP: 55
SF: N/A
Bearing DE: 6004-ZZ/C3
Lubrication type: N/A

Feeder No: N/A
Serial No: F358398
KKS No: 11SAM21AN002
Rated current: 6.1 [A]
Speed: 1400 [rpm]
Power Factor: 0.84 [%]
Insulation Class: F
Connection: Y
Bearing NDE: 002-ZZ/C3
Frequency: 50 [Hz]
Heater: N/A

Rotation from NDE: CW



CCW

Other:.....

INCOMING PICTURE

FINAL PICTURE

STATIC TEST

Ambient Temperature : Incoming°C Final°C

| RESISTANCE TEST | | | INDUCTION TEST | | |
|-----------------|----------|-------|----------------|----------|-------|
| Marking | Incoming | Final | Marking | Incoming | Final |
| U1-U2 | 4.6 Ω | 4.6 Ω | U1-U2 | N/A | N/A |
| V1-V2 | 4.6 Ω | 4.6 Ω | V1-V2 | N/A | N/A |
| W1-W2 | 4.6 Ω | 4.6 Ω | W1-W2 | N/A | N/A |

| INSULATION TEST | | | | | | | |
|-----------------|---------------------------------|----------|-----------|----|------------------------------|-----------|----|
| VOLT(DC) | Marking | Incoming | | | Final | | |
| | | 1 minute | 10 minute | PI | 1 minute | 10 minute | PI |
| 500V | U-V | >2000 MΩ | N/A | | >2000 MΩ | N/A | |
| | U-W | >2000 MΩ | N/A | | >2000 MΩ | N/A | |
| | V-W | >2000 MΩ | N/A | | >2000 MΩ | N/A | |
| | U-Earth | >2000 MΩ | N/A | | >2000 MΩ | N/A | |
| | V-Earth | >2000 MΩ | N/A | | >2000 MΩ | N/A | |
| | W-Earth | >2000 MΩ | N/A | | >2000 MΩ | N/A | |
| | Recommend Insulation Resistance | | ≥100MΩ | | Polarization Index recommend | 2-5 | |

MACHANICAL REPAIRING





| | | | |
|-----------------------|-----------|------------------------|-------|
| Bearing DE | 6206 2ZC3 | | |
| Bearing bore diameter | 30 mm | Bearing outer diameter | 62 mm |

| Shaft DE | | Housing DE | |
|----------|----------|------------|----------|
| Before | After | Before | After |
| 30.03 mm | 30.02 mm | 61.95 mm | 61.95 mm |

| | | | |
|-----------------------|-----------|------------------------|-------|
| Bearing NDE | 6205 2ZC3 | | |
| Bearing bore diameter | 25 mm | Bearing outer diameter | 52 mm |

| Shaft NDE | | Housing NDE | |
|-----------|----------|-------------|----------|
| Before | After | Before | After |
| 25.02 mm | 25.02 mm | 52.97 mm | 52.97 mm |

DYNAMIC TEST

| Rotation From NDE (Incoming) | | | | Rotation From NDE (Final) | | | | | |
|--|---|------------------------------|---|------------------------------|-----------------------------|--|------------------------------|---|------------------------------|
| <input type="checkbox"/> CW |  | <input type="checkbox"/> CCW |  | <input type="checkbox"/> N/A | <input type="checkbox"/> CW |  | <input type="checkbox"/> CCW |  | <input type="checkbox"/> N/A |
| NO LOAD TEST RESULT | | | | | | | | | |
| Voltage(V) | | | Current(A) | | | Speed | | | |
| UV | UW | VW | U | V | W | rpm | | | |
| Acceptable According to ISO10861 Limits Vibration(mm/s) | | | < 15kW | 15~75kW | >75kW.Rigid | >75kW.Soft | | | |
| | | | <=1.8 | <=2.8 | <=4.5 | <=7.1 | | | |
| LOAD TEST RESULT | | | | | | | | | |
| Voltage(V) | | | Current(A) | | | Speed | | | |
| UV | UW | VW | U | V | W | rpm | | | |
| Acceptable According to ISO10861 Limits Vibration(mm/s) | | | < 15kW | 15~75kW | >75kW.Rigid | >75kW.Soft | | | |
| | | | <=1.8 | <=2.8 | <=4.5 | <=7.1 | | | |
| Vibration DE | | | Vibration NDE | | | | | | |
| Velocity(mm/s) | Enveloped acceleration (gE) | Temp | Velocity(mm/s) | Enveloped acceleration (gE) | Temp | | | | |
| Alarm Velocity Group G2 and 4R Enveloped Acceleration CL2 | | | Alarm Velocity Group G2 and 4R Enveloped Acceleration CL2 | | | | | | |
| Alert: 2.8mm/s | Alert: 2gE | < 70°C | Alert: 2.8mm/s | Alert: 2gE | < 70°C | | | | |
| Danger: 4.5mm/s | Danger: 4gE | | Danger: 4.5mm/s | Danger: 4gE | | | | | |

ELECTRICAL SERVICE

- | | | | | | | |
|---------------------|------------------------------------|---------------------------------|---|--------------------|----------------------------------|---|
| 1. Stator | <input type="checkbox"/> Overhauls | <input type="checkbox"/> Rewind | <input checked="" type="checkbox"/> N/A | 10. Cable Gland | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A |
| 2. Core Loss Stator | <input type="checkbox"/> Test | | <input checked="" type="checkbox"/> N/A | 11. Diot | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A |
| 3. Core Loss Rotor | <input type="checkbox"/> Test | | <input checked="" type="checkbox"/> N/A | 12. Rectifier Unit | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A |
| 4. Hot Spot Stator | <input type="checkbox"/> Test | | <input checked="" type="checkbox"/> N/A | 13. Lead Wire | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A |
| 5. Hot Spot Rotor | <input type="checkbox"/> Test | | <input checked="" type="checkbox"/> N/A | 14. Glass Sleeve | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A |
| 6. Stator Laminate | <input type="checkbox"/> Retack | <input type="checkbox"/> Repair | <input checked="" type="checkbox"/> N/A | 15. Heater | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A |
| 7. Rotor Laminate | <input type="checkbox"/> Retack | <input type="checkbox"/> Repair | <input checked="" type="checkbox"/> N/A | 16. Temp. Sensor | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A |
| 8. Slot Wedge | <input type="checkbox"/> Replace | | <input checked="" type="checkbox"/> N/A | 17. Terminal Board | <input type="checkbox"/> Replace | <input type="checkbox"/> Repair |
| 9. Mgnt.Slot Wedge | <input type="checkbox"/> Replace | | <input checked="" type="checkbox"/> N/A | 18. Terminal Box | <input type="checkbox"/> Replace | <input type="checkbox"/> Repair |

MECHANICAL SERVICE

- | | | | | | | | |
|-------------------|---|---|---|----------------------------------|----------------------------------|---|---|
| 1. Bearing (DE) | <input checked="" type="checkbox"/> Replace | <input type="checkbox"/> N/A | 10. Coupling | <input type="checkbox"/> Replace | <input type="checkbox"/> Repair | <input checked="" type="checkbox"/> N/A | |
| 2. Bearing (NDE) | <input checked="" type="checkbox"/> Replace | <input type="checkbox"/> N/A | 11. Rubber Coupling | <input type="checkbox"/> Replace | <input type="checkbox"/> Repair | <input checked="" type="checkbox"/> N/A | |
| 3. Oil Seal (DE) | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | 12. Cover Fan | <input type="checkbox"/> Replace | <input type="checkbox"/> Repair | <input checked="" type="checkbox"/> N/A | |
| 4. Oil Seal (NDE) | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | 13. Cooling Fan | <input type="checkbox"/> Replace | <input type="checkbox"/> Repair | <input checked="" type="checkbox"/> N/A | |
| 5. V-Ring (DE) | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | 14. Housing (DE) | <input type="checkbox"/> Repair | <input type="checkbox"/> Repair | <input checked="" type="checkbox"/> N/A | |
| 6. V-Ring (NDE) | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | 15. Housing (NDE) | <input type="checkbox"/> Repair | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | |
| 7. Wave Spring | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | 16. Rotor Shaft (DE) | <input type="checkbox"/> Repair | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | |
| 8. Eye Bolt | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | 17. Rotor Shaft (NDE) | <input type="checkbox"/> Repair | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | |
| 9. Pulley | <input type="checkbox"/> Replace | <input type="checkbox"/> Repair | <input checked="" type="checkbox"/> N/A | 18. Rotor Balance | <input type="checkbox"/> Balance | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A |

INSTRUMENTS

| Item | Equipment name | Brand | Type | Serial No | Certificate No | Traceable Laboratory | ID No |
|------|----------------------------------|------------|----------------|------------|----------------|----------------------|-------|
| 01 | Ohm Meter | Fluke | Fluke 77III | 70660741 | | | |
| 02 | Digital Low Resistance Ohm meter | Megger | Ducter DLRO-10 | 1010 59074 | | | |
| 03 | Megohm Meter | Megger | Kyoritsu 3005A | W0236250 | | | |
| 04 | Vibration Meter | Riovibo | VM-63A | 8635005 | | | |
| 05 | Tacho Meter | Lutron | DT2236B | S904643 | | | |
| 06 | Thermometer | Center 350 | M-11 | 100609878 | | | |
| 07 | Current Tester | Kyoritsu | Kyoritsu 2017 | W0140280 | | | |

| | Performed by | Checked by | Witnessed By Customer | Approved by DIS |
|------------------|------------------------|----------------------|-----------------------|---------------------|
| Date | 22/05/2021 | 22/05/2021 | 22/05/2021 | 22/05/2021 |
| Signature | | | | |
| Name | Phan Van Phuong | Nguyen Tat Tu | Le Quoc Phong | Bui Huy Vinh |

| | |
|------------------------------|--|
| TEST REPORT NO. | MAINTENANCE HVAC SYSTEM OVERHAULS TEST REPORT |
| PM/20-0354 MO-001-05.2021 | |

Customer: PM3 BOT POWER PLANT

Add: PHU MY - BRVT

Tag No.:

Incoming Date: 06/5/2021

Final Date: 17/5/2021

Report Date: 17/5/2021

MOTOR DATA

Equipment name: EXH AIR FN AIR HDLG U

Manufacturer: Simens

Type: 1LG4183-4AA60-Z

Rated voltage: 380/420 [V]

Rated power: 18.5 [kW]

Frame size: IMB3

IP: 55

SF: N/A

Bearing DE: 6210-ZZ/C4

Lubrication type: N/A

Rotation from NDE: CW



Feeder No: N/A

Serial No: UC0210/036227605

KKS No: 11SAM30AN002

Rated current: 35.5 [A]

Speed: 1465 [PRM]

Power Factor: 0.84 [%]

Insulation Class: F

Connection: Δ

Bearing NDE: 6210-ZZ/C4

Frequency: 50 [Hz]

Heater: 230 CCW



Other:.....

INCOMING PICTURE

FINAL PICTURE

STATIC TEST

Ambient Temperature : Incoming°C Final°C

| RESISTANCE TEST | | | INDUCTION TEST | | |
|-----------------|----------|-------|----------------|----------|-------|
| Marking | Incoming | Final | Marking | Incoming | Final |
| U1-U2 | 0.8 Ω | 0.8 Ω | U1-U2 | N/A | N/A |
| V1-V2 | 0.9 Ω | 0.9 Ω | V1-V2 | N/A | N/A |
| W1-W2 | 0.9 Ω | 0.9 Ω | W1-W2 | N/A | N/A |

| INSULATION TEST | | | | | | | |
|-----------------|---------------------------------|----------|-----------|----|------------------------------|-----------|----|
| VOLT(DC) | Marking | Incoming | | | Final | | |
| | | 1 minute | 10 minute | PI | 1 minute | 10 minute | PI |
| 500V | U-V | >2000 MΩ | N/A | | >2000 MΩ | N/A | |
| | U-W | >2000 MΩ | N/A | | >2000 MΩ | N/A | |
| | V-W | >2000 MΩ | N/A | | >2000 MΩ | N/A | |
| | U-Earth | >2000 MΩ | N/A | | >2000 MΩ | N/A | |
| | V-Earth | >2000 MΩ | N/A | | >2000 MΩ | N/A | |
| | W-Earth | >2000 MΩ | N/A | | >2000 MΩ | N/A | |
| | Recommend Insulation Resistance | | ≥100MΩ | | Polarization Index recommend | 2-5 | |

MACHANICAL REPAIRING





| | | | |
|-----------------------|-----------|------------------------|-------|
| Bearing DE | 6206 2ZC4 | | |
| Bearing bore diameter | 30 mm | Bearing outer diameter | 62 mm |

| Shaft DE | | Housing DE | |
|----------|----------|------------|----------|
| Before | After | Before | After |
| 30.03 mm | 30.02 mm | 61.95 mm | 61.95 mm |

| | | | |
|-----------------------|-----------|------------------------|-------|
| Bearing NDE | 6205 2ZC3 | | |
| Bearing bore diameter | 25 mm | Bearing outer diameter | 52 mm |

| Shaft NDE | | Housing NDE | |
|-----------|----------|-------------|----------|
| Before | After | Before | After |
| 25.02 mm | 25.02 mm | 52.97 mm | 52.97 mm |

DYNAMIC TEST

| Rotation From NDE (Incoming) | | | | Rotation From NDE (Final) | | | | | |
|--|---|------------------------------|---|--------------------------------|-----------------------------|--|------------------------------|---|------------------------------|
| <input type="checkbox"/> CW |  | <input type="checkbox"/> CCW |  | <input type="checkbox"/> N/A | <input type="checkbox"/> CW |  | <input type="checkbox"/> CCW |  | <input type="checkbox"/> N/A |
| NO LOAD TEST RESULT | | | | | | | | | |
| Voltage(V) | | | Current(A) | | | Speed | | | |
| UV | UW | VW | U | V | W | rpm | | | |
| | | | 17.5 | 17.4 | 17.1 | | | | |
| Acceptable According to ISO10861 Limits Vibration(mm/s) | | | < 15kW | 15~75kW | >75kW.Rigid | >75kW.Soft | | | |
| | | | <=1.8 | <=2.8 | <=4.5 | <=7.1 | | | |
| LOAD TEST RESULT | | | | | | | | | |
| Voltage(V) | | | Current(A) | | | Speed | | | |
| UV | UW | VW | U | V | W | rpm | | | |
| | | | | | | | | | |
| Acceptable According to ISO10861 Limits Vibration(mm/s) | | | < 15kW | 15~75kW | >75kW.Rigid | >75kW.Soft | | | |
| | | | <=1.8 | <=2.8 | <=4.5 | <=7.1 | | | |
| Vibration DE | | | Vibration NDE | | | | | | |
| Velocity(mm/s) | Enveloped acceleration (gE) | Temp | Velocity(mm/s) | Enveloped acceleration (gE) | Temp | | | | |
| | | | | | | | | | |
| Alarm Velocity Group G2 and 4R Enveloped Acceleration CL2 | | | Alarm Velocity Group G2 and 4R Enveloped Acceleration CL2 | | | | | | |
| Alert: 2.8mm/s | Alert: 2gE | < 70°C | Alert: 2.8mm/s | Alert: 2gE | < 70°C | | | | |
| Danger: 4.5mm/s | Danger: 4gE | | Danger: 4.5mm/s | Danger: 4gE | | | | | |

ELECTRICAL SERVICE

| | | | | | | |
|---------------------|------------------------------------|---------------------------------|---|--------------------|----------------------------------|---|
| 1. Stator | <input type="checkbox"/> Overhauls | <input type="checkbox"/> Rewind | <input checked="" type="checkbox"/> N/A | 10. Cable Gland | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A |
| 2. Core Loss Stator | <input type="checkbox"/> Test | | <input checked="" type="checkbox"/> N/A | 11. Diot | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A |
| 3. Core Loss Rotor | <input type="checkbox"/> Test | | <input checked="" type="checkbox"/> N/A | 12. Rectifier Unit | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A |
| 4. Hot Spot Stator | <input type="checkbox"/> Test | | <input checked="" type="checkbox"/> N/A | 13. Lead Wire | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A |
| 5. Hot Spot Rotor | <input type="checkbox"/> Test | | <input checked="" type="checkbox"/> N/A | 14. Glass Sleeve | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A |
| 6. Stator Laminate | <input type="checkbox"/> Retack | <input type="checkbox"/> Repair | <input checked="" type="checkbox"/> N/A | 15. Heater | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A |
| 7. Rotor Laminate | <input type="checkbox"/> Retack | <input type="checkbox"/> Repair | <input checked="" type="checkbox"/> N/A | 16. Temp. Sensor | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A |
| 8. Slot Wedge | <input type="checkbox"/> Replace | | <input checked="" type="checkbox"/> N/A | 17. Terminal Board | <input type="checkbox"/> Replace | <input type="checkbox"/> Repair |
| 9. Mgnt.Slot Wedge | <input type="checkbox"/> Replace | | <input checked="" type="checkbox"/> N/A | 18. Terminal Box | <input type="checkbox"/> Replace | <input type="checkbox"/> Repair |



CÔNG TY CỔ PHẦN GIẢI PHÁP ĐẦU TƯ RỒNG

MECHANICAL SERVICE

- | | | | | | | | |
|-------------------|---|---|---|----------------------------------|----------------------------------|---|---|
| 1. Bearing (DE) | <input checked="" type="checkbox"/> Replace | <input type="checkbox"/> N/A | 10. Coupling | <input type="checkbox"/> Replace | <input type="checkbox"/> Repair | <input checked="" type="checkbox"/> N/A | |
| 2. Bearing (NDE) | <input checked="" type="checkbox"/> Replace | <input type="checkbox"/> N/A | 11. Rubber Coupling | <input type="checkbox"/> Replace | <input type="checkbox"/> Repair | <input checked="" type="checkbox"/> N/A | |
| 3. Oil Seal (DE) | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | 12. Cover Fan | <input type="checkbox"/> Replace | <input type="checkbox"/> Repair | <input checked="" type="checkbox"/> N/A | |
| 4. Oil Seal (NDE) | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | 13. Cooling Fan | <input type="checkbox"/> Replace | <input type="checkbox"/> Repair | <input checked="" type="checkbox"/> N/A | |
| 5. V-Ring (DE) | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | 14. Housing (DE) | <input type="checkbox"/> Repair | <input type="checkbox"/> Repair | <input checked="" type="checkbox"/> N/A | |
| 6. V-Ring (NDE) | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | 15. Housing (NDE) | <input type="checkbox"/> Repair | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | |
| 7. Wave Spring | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | 16. Rotor Shaft (DE) | <input type="checkbox"/> Repair | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | |
| 8. Eye Bolt | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | 17. Rotor Shaft (NDE) | <input type="checkbox"/> Repair | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | |
| 9. Pulley | <input type="checkbox"/> Replace | <input type="checkbox"/> Repair | <input checked="" type="checkbox"/> N/A | 18. Rotor Balance | <input type="checkbox"/> Balance | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A |

INSTRUMENTS

| Item | Equipment name | Brand | Type | Serial No | Certificate No | Traceable Laboratory | ID No |
|------|----------------------------------|------------|----------------|------------|----------------|----------------------|-------|
| 01 | Ohm Meter | Fluke | Fluke 77III | 70660741 | | | |
| 02 | Digital Low Resistance Ohm meter | Megger | Ducter DLRO-10 | 1010 59074 | | | |
| 03 | Megohm Meter | Megger | Kyoritsu 3005A | W0236250 | | | |
| 04 | Vibration Meter | Riovibo | VM-63A | 8635005 | | | |
| 05 | Tacho Meter | Lutron | DT2236B | S904643 | | | |
| 06 | Thermometer | Center 350 | M-11 | 100609878 | | | |
| 07 | Current Tester | Kyoritsu | Kyoritsu 2017 | W0140280 | | | |

| | Performed by | Checked by | Witnessed By Customer | Approved by DIS |
|-----------|-----------------|---------------|-----------------------|-----------------|
| Date | 22/05/2021 | 22/05/2021 | 22/05/2021 | 22/05/2021 |
| Signature | | | | |
| Name | Phan Van Phuong | Nguyen Tat Tu | Le Quoc Phong | Bui Huy Vinh |

| | |
|------------------------------|--|
| TEST REPORT NO. | MAINTENANCE HVAC SYSTEM OVERHAULS TEST REPORT |
| PM/20-0354 MO-001-05.2021 | |

Customer: PM3 BOT POWER PLANT

Add: PHU MY - BRVT

Tag No.:

Incoming Date: 06/5/2021

Final Date: 17/5/2021

Report Date: 17/5/2021

MOTOR DATA

Equipment name: EXH AIR FN AIR HDLG U
Manufacturer: Simens
Type: 1LG4183-4AA60-Z
Rated voltage: 380/420 [V]
Rated power: 18.5 [kW]
Frame size: 180M
IP: 55
SF: N/A
Bearing DE: 6210-ZZ C4
Lubrication type: N/A

Feeder No: N/A
Serial No: UC0210/036227605
KKS No: 11SAM30AN003
Rated current: 35.5 [A]
Speed: 1465 [PRM]
Power Factor: 0.84 [%]
Insulation Class: F
Connection: Δ
Bearing NDE: 6210-ZZ C4
Frequency: 50 [Hz]
Heater: 230

Rotation from NDE: CW



CCW

Other:.....

INCOMING PICTURE

FINAL PICTURE

STATIC TEST

Ambient Temperature : Incoming°C Final°C

| RESISTANCE TEST | | | INDUCTION TEST | | |
|-----------------|----------|-------|----------------|----------|-------|
| Marking | Incoming | Final | Marking | Incoming | Final |
| U1-U2 | 0.8 Ω | 0.8 Ω | U1-U2 | N/A | N/A |
| V1-V2 | 0.8 Ω | 0.8 Ω | V1-V2 | N/A | N/A |
| W1-W2 | 0.8 Ω | 0.8 Ω | W1-W2 | N/A | N/A |

| INSULATION TEST | | | | | | | |
|-----------------|---------------------------------|----------|-----------|----|------------------------------|-----------|----|
| VOLT(DC) | Marking | Incoming | | | Final | | |
| | | 1 minute | 10 minute | PI | 1 minute | 10 minute | PI |
| 500V | U-V | >2000 MΩ | N/A | | >2000 MΩ | N/A | |
| | U-W | >2000 MΩ | N/A | | >2000 MΩ | N/A | |
| | V-W | >2000 MΩ | N/A | | >2000 MΩ | N/A | |
| | U-Earth | >2000 MΩ | N/A | | >2000 MΩ | N/A | |
| | V-Earth | >2000 MΩ | N/A | | >2000 MΩ | N/A | |
| | W-Earth | >2000 MΩ | N/A | | >2000 MΩ | N/A | |
| | Recommend Insulation Resistance | | ≥100MΩ | | Polarization Index recommend | 2-5 | |

MACHANICAL REPAIRING





| | | | |
|-----------------------|------------|------------------------|-------|
| Bearing DE | 6206 2Z C4 | | |
| Bearing bore diameter | 30 mm | Bearing outer diameter | 62 mm |

| Shaft DE | | Housing DE | |
|----------|----------|------------|----------|
| Before | After | Before | After |
| 30.03 mm | 30.02 mm | 61.95 mm | 61.95 mm |

| | | | |
|-----------------------|------------|------------------------|-------|
| Bearing NDE | 6205 2Z C4 | | |
| Bearing bore diameter | 25 mm | Bearing outer diameter | 52 mm |

| Shaft NDE | | Housing NDE | |
|-----------|----------|-------------|----------|
| Before | After | Before | After |
| 25.02 mm | 25.02 mm | 52.97 mm | 52.97 mm |

DYNAMIC TEST

| Rotation From NDE (Incoming) | | | | Rotation From NDE (Final) | | | | | |
|--|---|------------------------------|---|--------------------------------|-----------------------------|--|------------------------------|---|------------------------------|
| <input type="checkbox"/> CW |  | <input type="checkbox"/> CCW |  | <input type="checkbox"/> N/A | <input type="checkbox"/> CW |  | <input type="checkbox"/> CCW |  | <input type="checkbox"/> N/A |
| NO LOAD TEST RESULT | | | | | | | | | |
| Voltage(V) | | | Current(A) | | | Speed | | | |
| UV | UW | VW | U | V | W | rpm | | | |
| | | | 15.4 | 15.5 | 15.4 | | | | |
| Acceptable According to ISO10861 Limits Vibration(mm/s) | | | < 15kW | 15~75kW | >75kW.Rigid | >75kW.Soft | | | |
| | | | <=1.8 | <=2.8 | <=4.5 | <=7.1 | | | |
| LOAD TEST RESULT | | | | | | | | | |
| Voltage(V) | | | Current(A) | | | Speed | | | |
| UV | UW | VW | U | V | W | rpm | | | |
| | | | | | | | | | |
| Acceptable According to ISO10861 Limits Vibration(mm/s) | | | < 15kW | 15~75kW | >75kW.Rigid | >75kW.Soft | | | |
| | | | <=1.8 | <=2.8 | <=4.5 | <=7.1 | | | |
| Vibration DE | | | Vibration NDE | | | | | | |
| Velocity(mm/s) | Enveloped acceleration (gE) | Temp | Velocity(mm/s) | Enveloped acceleration (gE) | Temp | | | | |
| | | | | | | | | | |
| Alarm Velocity Group G2 and 4R Enveloped Acceleration CL2 | | | Alarm Velocity Group G2 and 4R Enveloped Acceleration CL2 | | | | | | |
| Alert: 2.8mm/s | Alert: 2gE | < 70°C | Alert: 2.8mm/s | Alert: 2gE | < 70°C | | | | |
| Danger: 4.5mm/s | Danger: 4gE | | Danger: 4.5mm/s | Danger: 4gE | | | | | |

ELECTRICAL SERVICE

| | | | | | | |
|---------------------|------------------------------------|---------------------------------|---|--------------------|----------------------------------|---|
| 1. Stator | <input type="checkbox"/> Overhauls | <input type="checkbox"/> Rewind | <input checked="" type="checkbox"/> N/A | 10. Cable Gland | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A |
| 2. Core Loss Stator | <input type="checkbox"/> Test | | <input checked="" type="checkbox"/> N/A | 11. Diot | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A |
| 3. Core Loss Rotor | <input type="checkbox"/> Test | | <input checked="" type="checkbox"/> N/A | 12. Rectifier Unit | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A |
| 4. Hot Spot Stator | <input type="checkbox"/> Test | | <input checked="" type="checkbox"/> N/A | 13. Lead Wire | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A |
| 5. Hot Spot Rotor | <input type="checkbox"/> Test | | <input checked="" type="checkbox"/> N/A | 14. Glass Sleeve | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A |
| 6. Stator Laminate | <input type="checkbox"/> Retack | <input type="checkbox"/> Repair | <input checked="" type="checkbox"/> N/A | 15. Heater | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A |
| 7. Rotor Laminate | <input type="checkbox"/> Retack | <input type="checkbox"/> Repair | <input checked="" type="checkbox"/> N/A | 16. Temp. Sensor | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A |
| 8. Slot Wedge | <input type="checkbox"/> Replace | | <input checked="" type="checkbox"/> N/A | 17. Terminal Board | <input type="checkbox"/> Replace | <input type="checkbox"/> Repair |
| 9. Mgnt.Slot Wedge | <input type="checkbox"/> Replace | | <input checked="" type="checkbox"/> N/A | 18. Terminal Box | <input type="checkbox"/> Replace | <input type="checkbox"/> Repair |



CÔNG TY CỔ PHẦN GIẢI PHÁP ĐẦU TƯ RỒNG

MECHANICAL SERVICE

- | | | | | | | | |
|-------------------|---|---|---|----------------------------------|----------------------------------|---|---|
| 1. Bearing (DE) | <input checked="" type="checkbox"/> Replace | <input type="checkbox"/> N/A | 10. Coupling | <input type="checkbox"/> Replace | <input type="checkbox"/> Repair | <input checked="" type="checkbox"/> N/A | |
| 2. Bearing (NDE) | <input checked="" type="checkbox"/> Replace | <input type="checkbox"/> N/A | 11. Rubber Coupling | <input type="checkbox"/> Replace | <input type="checkbox"/> Repair | <input checked="" type="checkbox"/> N/A | |
| 3. Oil Seal (DE) | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | 12. Cover Fan | <input type="checkbox"/> Replace | <input type="checkbox"/> Repair | <input checked="" type="checkbox"/> N/A | |
| 4. Oil Seal (NDE) | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | 13. Cooling Fan | <input type="checkbox"/> Replace | <input type="checkbox"/> Repair | <input checked="" type="checkbox"/> N/A | |
| 5. V-Ring (DE) | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | 14. Housing (DE) | <input type="checkbox"/> Repair | <input type="checkbox"/> Repair | <input checked="" type="checkbox"/> N/A | |
| 6. V-Ring (NDE) | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | 15. Housing (NDE) | <input type="checkbox"/> Repair | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | |
| 7. Wave Spring | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | 16. Rotor Shaft (DE) | <input type="checkbox"/> Repair | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | |
| 8. Eye Bolt | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | 17. Rotor Shaft (NDE) | <input type="checkbox"/> Repair | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A | |
| 9. Pulley | <input type="checkbox"/> Replace | <input type="checkbox"/> Repair | <input checked="" type="checkbox"/> N/A | 18. Rotor Balance | <input type="checkbox"/> Balance | <input type="checkbox"/> Replace | <input checked="" type="checkbox"/> N/A |

INSTRUMENTS

| Item | Equipment name | Brand | Type | Serial No | Certificate No | Traceable Laboratory | ID No |
|------|----------------------------------|------------|----------------|------------|----------------|----------------------|-------|
| 01 | Ohm Meter | Fluke | Fluke 77III | 70660741 | | | |
| 02 | Digital Low Resistance Ohm meter | Megger | Ducter DLRO-10 | 1010 59074 | | | |
| 03 | Megohm Meter | Megger | Kyoritsu 3005A | W0236250 | | | |
| 04 | Vibration Meter | Riovibo | VM-63A | 8635005 | | | |
| 05 | Tacho Meter | Lutron | DT2236B | S904643 | | | |
| 06 | Thermometer | Center 350 | M-11 | 100609878 | | | |
| 07 | Current Tester | Kyoritsu | Kyoritsu 2017 | W0140280 | | | |

| | Performed by | Checked by | Witnessed By Customer | Approved by DIS |
|-----------|-----------------|---------------|-----------------------|-----------------|
| Date | 22/05/2021 | 22/05/2021 | 22/05/2021 | 22/05/2021 |
| Signature | | | | |
| Name | Phan Van Phuong | Nguyen Tat Tu | Le Quoc Phong | Bui Huy Vinh |

SUMMARY:

.....

.....

SUGGESTION:

.....

.....

GENERAL PICTURE





CÔNG TY CỔ PHẦN GIẢI PHÁP ĐẦU TƯ RỒNG

TEST REPORT NO

LV MOTOR INSPECTION TEST REPORT

Customer: PM3 BOT POWER PLANT

Add.: PHU MY - PHU MY- BRVT

Tag No:

Inspection Date: 17/05/2021

Report Date: 25/05/2021

MOTOR DATA

Equipment name: Exhaust Air Fan Feeder No: N/A
Manufacturer: Siemens Serial No: N/A
Type: Standing axis KKS No: 11SAM31AN001
Rated voltage: 380/420 [V] Reted current: 3.25 [A]
Rated power: 1.5 [KW] Speed: 2860 [RPM]
Frame size: N/A Power Factor: 0.85 [%]
IP: 55 Insulation class: F
SF: N/A Connection: Y
Bearing DE: 6205-ZZ/C3 Bearing NDE: 6204-ZZ/C3
Lubrication type: N/A Frequency: 50 [Hz]
Heater: N/A
Rotation from NDE: [] CW [] CWW

Other:

MECHANICAL INSPECTION

Table with 4 columns: Item, Checked, N/A, Remark. Rows include Fixation, Cooling fan, Bearing Condition (DE), Check for free movement of Rotor, Frame Corrosion, Cleaning, Bearing Condition (NDE), Amount.

SUMMARY



CÔNG TY CỔ PHẦN GIẢI PHÁP ĐẦU TƯ RỒNG

ELECTRICAL MEASUREMENT

| WINDING RESISTANCE | | | | HEATER | |
|-------------------------------|--|------------------------------|-----------------------------|--|------------------------------|
| Marking | U1-U2 | V1-V2 | W1-W2 | Heater Resistance | |
| Resistance | 12.1Ω | 12.1Ω | 12.1Ω | Heater Resistance Insulation | |
| | | | | Min Heater RI Recommend | >=100MΩ |
| WINDING INSULATION RESISTANCE | | | PHASE INSULATION RESISTANCE | | |
| U-V | > 550MΩ | | Phase 1-2 | > 550MΩ | |
| U-W | > 550MΩ | | Phase 1-3 | > 550MΩ | |
| V-W | > 550MΩ | | Phase 2-3 | > 550MΩ | |
| U-G | > 550MΩ | | Phase 1-G | > 550MΩ | |
| V-G | > 550MΩ | | Phase 2-G | > 550MΩ | |
| W-G | > 550MΩ | | Phase 3-G | > 550MΩ | |
| Connection check | <input checked="" type="checkbox"/> Good | <input type="checkbox"/> N/A | Termination check | <input checked="" type="checkbox"/> Good | <input type="checkbox"/> N/A |
| Min RI Recommend | >=100MΩ | | Min RI Recommend | >=100MΩ | |

Clean and measure of motor winding resistance/insulation resistance

INSTRUMENTS

| Item | Equipment Name | Brand | Type | Serial No | Certificate date | Traceable Laboratory |
|------|------------------------|--------|------------|-------------|------------------|----------------------|
| 1 | Insulation tester | Megger | S1-554/2 | 110611/1242 | | |
| 2 | Digital low Resistance | Megger | DLRO - 10x | 101059074 | | |

ABNORMALITY/FINDINGS

Specify of any abnormality/findings:

Abnormality:

Comment:

| | Tested by | Checked by | Witnesses by PM3 | Approved by DIS |
|-----------|-----------|------------|------------------|-----------------|
| Name | | | | |
| Signature | | | | |
| Date | | | | |



CÔNG TY CỔ PHẦN GIẢI PHÁP ĐẦU TƯ RỒNG

TEST REPORT NO

LV MOTOR INSPECTION TEST REPORT

Customer: PM3 BOT POWER PLANT



Add.: PHU MY – PHU MY – BRVT

Tag No:

Inspection Date: 17/05/2021

Report Date: 25/05/2021

MOTOR DATA

| | | | |
|--------------------|---|-------------------|---|
| Equipment name: | Exhaust Air Fan | Feeder No: | N/A |
| Manufacturer: | Siemens | Serial No: | N/A |
| Type: | Standing axis | KKS No: | 11SAM31AN002 |
| Rated voltage: | 380/420 [V] | Reted current: | 3.25 [A] |
| Rated power: | 1.5 [kW] | Speed: | 2860 [RPM] |
| Frame size: | N/A | Power Factor: | 0.85 [%] |
| IP: | 55 | Insulation class: | F |
| SF: | N/A | Connection: | Y |
| Bearing DE: | 6205-ZZ/C3 | Bearing NDE: | 6204ZZC3 |
| Lubrication type: | N/A | Frequency: | 50 [Hz] |
| Rotation from NDE: | <input type="checkbox"/> CW  | Heater: | N/A |
| | | | <input checked="" type="checkbox"/> CWW  |

Other:

MECHANICAL INSPECTION

| | <input checked="" type="checkbox"/> Checked | <input type="checkbox"/> N/A | Remark |
|----------------------------------|---|---|--------|
| Fixation | <input checked="" type="checkbox"/> Checked | <input type="checkbox"/> N/A | ..... |
| Cooling fan | <input checked="" type="checkbox"/> Checked | <input type="checkbox"/> N/A | ..... |
| Bearing Condition (DE) | <input type="checkbox"/> Checked | <input checked="" type="checkbox"/> N/A | ..... |
| Check for free movement of Rotor | <input checked="" type="checkbox"/> Checked | <input type="checkbox"/> N/A | ..... |
| Frame Corrosion | <input checked="" type="checkbox"/> Checked | <input type="checkbox"/> N/A | ..... |
| Cleaning | <input checked="" type="checkbox"/> Checked | <input type="checkbox"/> N/A | ..... |
| Bearing Condition (NDE) | <input type="checkbox"/> Checked | <input checked="" type="checkbox"/> N/A | ..... |
| Amount | <input checked="" type="checkbox"/> Checked | <input type="checkbox"/> N/A | ..... |

SUMMARY



CÔNG TY CỔ PHẦN GIẢI PHÁP ĐẦU TƯ RỒNG

ELECTRICAL MEASUREMENT

| WINDING RESISTANCE | | | | HEATER | |
|-------------------------------|-------------------------------|------------------------------|-----------------------------|------------------------------|--|
| Marking | U1-U2 | V1-V2 | W1-W2 | Heater Resistance | |
| Resistance | 12.1Ω | 12.1Ω | 12.1Ω | Heater Resistance Insulation | |
| | | | | Min Heater RI Recommend | >=100MΩ |
| WINDING INSULATION RESISTANCE | | | PHASE INSULATION RESISTANCE | | |
| U-V | >550MΩ | | Phase 1-2 | >550MΩ | |
| U-W | >550MΩ | | Phase 1-3 | >550MΩ | |
| V-W | >550MΩ | | Phase 2-3 | >550MΩ | |
| U-G | >550MΩ | | Phase 1-G | >550MΩ | |
| V-G | >550MΩ | | Phase 2-G | >550MΩ | |
| W-G | >550MΩ | | Phase 3-G | >550MΩ | |
| Connection check | <input type="checkbox"/> Good | <input type="checkbox"/> N/A | | Termination check | <input type="checkbox"/> Good <input type="checkbox"/> N/A |
| Min RI Recommend | >=100MΩ | | Min RI Recommend | >=100MΩ | |

Clean and measure of motor winding resistance/insulation resistance

INSTRUMENTS

| Item | Equipment Name | Brand | Type | Serial No | Certificate date | Traceable Laboratory |
|------|------------------------|--------|------------|-------------|------------------|----------------------|
| 1 | Insulation tester | Megger | S1-554/2 | 110611/1242 | | |
| 2 | Digital low Resistance | Megger | DLRO - 10x | 101059074 | | |

ABNORMALITY/FINDINGS

Specify of any abnormality/findings:

Abnormality:

Comment:

| | Tested by | Checked by | Witnesses by PM3 | Approved by DIS |
|-----------|-----------|------------|------------------|-----------------|
| Name | | | | |
| Signature | | | | |
| Date | | | | |



CÔNG TY CỔ PHẦN GIẢI PHÁP ĐẦU TƯ RỒNG

TEST REPORT NO

LV MOTOR INSPECTION TEST REPORT

Customer: PM3 BOT POWER PLANT

Add.: PHU MY – TAN THANH – BRVT

Inspection Date: 17/05/2021

Tag No:

Report Date: 22/05/2021

MOTOR DATA

| | | | |
|--------------------|-----------------------------|-------------------|---|
| Equipment name: | Exhaust Air Fan | Feeder No: | N/A |
| Manufacturer: | Siemens | Serial No: | N/A |
| Type: | Standing axis | KKS No: | 11SAM32AN001 |
| Rated voltage: | 380/420 [V] | Reted current: | 6.1 [A] |
| Rated power: | 3 [kW] | Speed: | 2890 [RPM] |
| Frame size: | N/A | Power Factor: | 0.85 [%] |
| IP: | 55 | Insulation class: | F |
| SF: | N/A | Connection: | Y |
| Bearing DE: | 6206-ZZ/C3 | Bearing NDE: | 6205-ZZ/C3 |
| Lubrication type: | N/A | Frequency: | 50 [Hz] |
| Rotation from NDE: | <input type="checkbox"/> CW | Heater: | N/A |
| | | | <input checked="" type="checkbox"/> CWW |

Other:

MECHANICAL INSPECTION

| | <input checked="" type="checkbox"/> Checked | <input type="checkbox"/> N/A | Remark |
|----------------------------------|---|---|--------|
| Fixation | <input checked="" type="checkbox"/> Checked | <input type="checkbox"/> N/A | ..... |
| Cooling fan | <input checked="" type="checkbox"/> Checked | <input type="checkbox"/> N/A | ..... |
| Bearing Condition (DE) | <input type="checkbox"/> Checked | <input checked="" type="checkbox"/> N/A | ..... |
| Check for free movement of Rotor | <input checked="" type="checkbox"/> Checked | <input type="checkbox"/> N/A | ..... |
| Frame Corrosion | <input checked="" type="checkbox"/> Checked | <input type="checkbox"/> N/A | ..... |
| Cleaning | <input checked="" type="checkbox"/> Checked | <input type="checkbox"/> N/A | ..... |
| Bearing Condition (NDE) | <input type="checkbox"/> Checked | <input checked="" type="checkbox"/> N/A | ..... |
| Amount | <input checked="" type="checkbox"/> Checked | <input type="checkbox"/> N/A | ..... |

SUMMARY



CÔNG TY CỔ PHẦN GIẢI PHÁP ĐẦU TƯ RỒNG

ELECTRICAL MEASUREMENT

| WINDING RESISTANCE | | | | HEATER | |
|-------------------------------|-------------------------------|------------------------------|-----------------------------|-------------------------------|------------------------------|
| Marking | U1-U2 | V1-V2 | W1-W2 | Heater Resistance | |
| Resistance | 4.2Ω | 4.2Ω | 4.2Ω | Heater Resistance Insulation | |
| | | | | Min Heater RI Recommend | >=100MΩ |
| WINDING INSULATION RESISTANCE | | | PHASE INSULATION RESISTANCE | | |
| U-V | >550MΩ | | Phase 1-2 | >550MΩ | |
| U-W | >550MΩ | | Phase 1-3 | >550MΩ | |
| V-W | >550MΩ | | Phase 2-3 | >550MΩ | |
| U-G | >550MΩ | | Phase 1-G | >550MΩ | |
| V-G | >550MΩ | | Phase 2-G | >550MΩ | |
| W-G | >550MΩ | | Phase 3-G | >550MΩ | |
| Connection check | <input type="checkbox"/> Good | <input type="checkbox"/> N/A | Termination check | <input type="checkbox"/> Good | <input type="checkbox"/> N/A |
| Min RI Recommend | >=100MΩ | | Min RI Recommend | >=100MΩ | |

Clean and measure of motor winding resistance/insulation resistance

INSTRUMENTS

| Item | Equipment Name | Brand | Type | Serial No | Certificate date | Traceable Laboratory |
|------|------------------------|--------|------------|-------------|------------------|----------------------|
| 1 | Insulation tester | Megger | S1-554/2 | 110611/1242 | | |
| 2 | Digital low Resistance | Megger | DLRO - 10x | 101059074 | | |

ABNORMALITY/FINDINGS

Specify of any abnormality/findings:

Abnormality:

Comment:

| | Tested by | Checked by | Witnesses by PM3 | Approved by DIS |
|-----------|-----------|------------|------------------|-----------------|
| Name | | | | |
| Signature | | | | |
| Date | | | | |



CÔNG TY CỔ PHẦN GIẢI PHÁP ĐẦU TƯ RỒNG

TEST REPORT NO

LV MOTOR INSPECTION TEST REPORT

Customer: PM3 BOT POWER PLANT

Add.: PHU MY – TAN THANH – BRVT

Tag No:

Inspection Date:

Report Date:

MOTOR DATA

Equipment name: Exhaust Air Fan Feeder No: N/A
Manufacturer: Siemens Serial No: N/A
Type: Standing axis KKS No: 11SAM32AN002
Rated voltage: 380/420 [V] Reted current: 6.1 [A]
Rated power: 3 [KW] Speed: 2890 [RPM]
Frame size: N/A Power Factor: 0.85 [%]
IP: 55 Insulation class: F
SF: N/A Connection: Y
Bearing DE: 6206ZZC3 Bearing NDE: 6205ZZC3
Lubrication type: N/A Frequency: 50 [Hz]
Heater: N/A
Rotation from NDE: [] CW [] CWW

Other:

MECHANICAL INSPECTION

Table with 4 columns: Item, Checked, N/A, Remark. Rows include Fixation, Cooling fan, Bearing Condition (DE), Check for free movement of Rotor, Frame Corrosion, Cleaning, Bearing Condition (NDE), Amount.

SUMMARY



CÔNG TY CỔ PHẦN GIẢI PHÁP ĐẦU TƯ RỒNG

ELECTRICAL MEASUREMENT

| WINDING RESISTANCE | | | | HEATER | |
|-------------------------------|-------------------------------|------------------------------|-----------------------------|-------------------------------|------------------------------|
| Marking | U1-U2 | V1-V2 | W1-W2 | Heater Resistance | |
| Resistance | 4.1Ω | 4.2Ω | 4.2Ω | Heater Resistance Insulation | |
| | | | | Min Heater RI Recommend | >=100MΩ |
| WINDING INSULATION RESISTANCE | | | PHASE INSULATION RESISTANCE | | |
| U-V | >550MΩ | | Phase 1-2 | >550MΩ | |
| U-W | >550MΩ | | Phase 1-3 | >550MΩ | |
| V-W | >550MΩ | | Phase 2-3 | >550MΩ | |
| U-G | >550MΩ | | Phase 1-G | >550MΩ | |
| V-G | >550MΩ | | Phase 2-G | >550MΩ | |
| W-G | >550MΩ | | Phase 3-G | >550MΩ | |
| Connection check | <input type="checkbox"/> Good | <input type="checkbox"/> N/A | Termination check | <input type="checkbox"/> Good | <input type="checkbox"/> N/A |
| Min RI Recommend | >=100MΩ | | Min RI Recommend | >=100MΩ | |

Clean and measure of motor winding resistance/insulation resistance

INSTRUMENTS

| Item | Equipment Name | Brand | Type | Serial No | Certificate date | Traceable Laboratory |
|------|------------------------|--------|------------|-------------|------------------|----------------------|
| 1 | Insulation tester | Megger | S1-554/2 | 110611/1242 | | |
| 2 | Digital low Resistance | Megger | DLRO - 10x | 101059074 | | |

ABNORMALITY/FINDINGS

Specify of any abnormality/findings:

Abnormality:


Comment:

| | Tested by | Checked by | Witnesses by PM3 | Approved by NSC |
|-----------|-----------|------------|------------------|-----------------|
| Name | | | | |
| Signature | | | | |
| Date | | | | |

| | |
|--------------------------------------|--|
| TEST REPORT NO. | MAINTENANCE HVAC SYSTEM FAN BALANCING TEST REPORT |
| PM/20-0354 MO-001-05.2021 | |


| No | KKS | KKS description | Group/System |
|----|--------------|-----------------------|----------------------|
| 5 | 11SAM30AN001 | EXH AIR FN AIR HDLG U | HVAC-Ventilation Fan |
| 6 | 11SAM30AN002 | EXH AIR FN AIR HDLG U | HVAC-Ventilation Fan |
| 7 | 11SAM30AN003 | EXH AIR FN AIR HDLG U | HVAC-Ventilation Fan |
| 8 | 11SAM21AN001 | SUPPLY AIR FAN | HVAC-Ventilation Fan |
| 9 | 11SAM21AN002 | SUPPLY AIR FAN | HVAC-Ventilation Fan |

TRUNG TÂM CÂN BẰNG ĐỘNG BÁCH KHOA
BACH KHOA DYNAMIC BALANCING SERVICE CENTER
No. 21, Street 53, Tan Tao Ward, Binh Tan District, Ho Chi Minh City TEL & FAX: +84.(0)8.37540.670
www.bk-balancing.com – EMAIL: bk_balancing@yahoo.com.sg
www.canbangdong.net – EMAIL: canbangdongbk@gmail.com



PHIẾU BÁO CÁO KẾT QUẢ DỊCH VỤ CÂN BẰNG ĐỘNG
BALANCING REPORT
Ngày/Date: 12/05/2021

Khách hàng/Client: BOT PM3 POWER
Địa chỉ/Add:

| | |
|--|---|
| <p>Chi tiết cân bằng/Objects: Quạt hướng trục 11SAM30AN001 Số lượng/Quantity: 01 Phương pháp xử lý/Trim method: <input checked="" type="checkbox"/> Gắn thêm/Add count weights <input type="checkbox"/> Lấy bớt/Remove count weights Phân cấp cân bằng/Target Balancing Quality: G 6.3 Khối lượng Rotor/Rotor mass: 62 Kg Bán kính xử lý/ Trim radius: 260 mm. Tốc độ Làm việc/ RPM: 1.500 RPM Lượng dư cho phép/ Acceptable Residual Unbalance: 4,7g.260mm Tiêu chuẩn áp dụng/Standart Applied: ISO 1940-1 Thời gian/Project duration: Bắt đầu/From: 12/05/2021 kết thúc/To: 12/05/2021</p> |  |
|--|---|

I. KẾT QUẢ/RESULT:

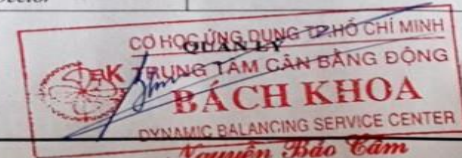
| TT No. | Mô tả/Description | Mặt 1 Plane 1 (g.....mm) | Đánh giá/Judgement |
|--------|-----------------------------------|--------------------------|--------------------|
| 01 | Trước khi xử lý/Before processing | 49g.260mm | |
| 02 | Sau khi xử lý/After Processing | 0,7g.260mm | |

II. THIẾT BỊ/EQUIPMENTS:

| TT No. | Tên, Quy cách/Description | Ghi chú/Remarks |
|--------|--|-----------------|
| 01 | Máy Cân Bằng Động/ Dynamic Balancing machine: <input checked="" type="checkbox"/> Star 3000 <input type="checkbox"/> Star 250 <input type="checkbox"/> Star 20 <input type="checkbox"/> Smart 2 | |

III. NHÂN SỰ/PERSONNEL:

| TT No. | Họ và tên/Name | Chức danh/Title | Ghi chú/Remarks |
|--------|----------------------|--------------------|-----------------|
| 01 | Nguyễn Đình Luân | Xử lý/Processor | |
| 02 | Trần Duy Thiện Trung | Kiểm tra/Inspector | |



BÁCH KHOA
DYNAMIC BALANCING SERVICE CENTER
Nguyễn Bảo Lâm

TRUNG TÂM CÂN BẰNG ĐỘNG BẠCH KHOA

BACH KHOA DYNAMIC BALANCING SERVICE CENTER
 No. 21, Street 53, Tan Tao Ward, Binh Tan District, Ho Chi Minh City. TEL & FAX: +84 (0)8.37540.670
 www.bk-balancing.com – EMAIL: bk_balancing@yahoo.com.sg
 www.canbangdong.net – EMAIL: canbangdongbk@gmail.com


PHIẾU BÁO CÁO KẾT QUẢ DỊCH VỤ CÂN BẰNG ĐỘNG
BALANCING REPORT

Ngày/Date: 12/05/2021

Khách hàng/Client: BOT PM3 POWER
Địa chỉ/Add:
Chi tiết cân bằng/Objects: Quạt hướng trục I1SAM30AN002

Số lượng/Quantity: 01

Phương pháp xử lý/Trim method: Gắn thêm/Add count weights

 Lấy bớt/Remove count weights

Phân cấp cân bằng/Target Balancing Quality: G 6.3

Khối lượng Rotor/Rotor mass: 62 Kg

Bán kính xử lý/ Trim radius: 260 mm.

Tốc độ làm việc/ RPM: 1.500 RPM

Lượng dư cho phép/ Acceptable Residual Unbalance: 4,7g.260mm

Tiêu chuẩn áp dụng/Standart Applied: ISO 1940-1

Thời gian/Project duration: Bắt đầu/From: 12/05/2021 kết thúc/To: 12/05/2021

I. KẾT QUẢ/RESULT:

| TT No. | Mô tả/Description | Mặt 1 Plane 1 (g.....mm) | Đánh giá/Judgement |
|--------|-----------------------------------|--------------------------|--------------------|
| 01 | Trước khi xử lý/Before processing | 14g.260mm | |
| 02 | Sau khi xử lý/After Processing | 0,5g.260mm | |

II. THIẾT BỊ/EQUIPMENTS:

| TT No. | Tên, Quy cách/Description | Ghi chú/Remarks |
|--------|---|-----------------|
| 01 | Máy Cân Bằng Động/ Dynamic Balancing machine: <input checked="" type="checkbox"/> Star 3000 <input type="checkbox"/> Star 250 <input type="checkbox"/> Star 20 <input type="checkbox"/> Smart 2 | |

III. NHÂN SỰ/PERSONNEL:

| TT No. | Họ và tên/Name | Chức danh/Title | Ghi chú/Remarks |
|--------|----------------------|--------------------|-----------------|
| 01 | Nguyễn Đình Luân | Xử lý/Processor | |
| 02 | Trần Duy Thiện Trung | Kiểm tra/Inspector | |



TRUNG TÂM CÂN BẰNG ĐỘNG BÁCH KHOA

BACH KHOA DYNAMIC BALANCING SERVICE CENTER

No. 21, Street 53, Tan Tao Ward, Binh Tan District, Ho Chi Minh City. TEL & FAX: +84 (0)8 37540 670
www.bk-balancing.com – EMAIL: bk_balancing@yahoo.com.sg
www.canbangdong.net – EMAIL: canbangdongbk@gmail.com



PHIẾU BÁO CÁO KẾT QUẢ DỊCH VỤ CÂN BẰNG ĐỘNG
BALANCING REPORT
Ngày/Date: 12/05/2021

Khách hàng/Client: BOT PM3 POWER
Địa chỉ/Add:

Chi tiết cân bằng/Objects: Quạt hướng trục 11SAM21AN001
Số lượng/Quantity: 01
Phương pháp xử lý/Trim method: Gắn thêm/Add count weights s
 Lấy bớt/Remove count weights
Phân cấp cân bằng/Target Balancing Quality: G 6.3
Khối lượng Rotor/Rotor mass: 8 Kg
Bán kính xử lý/ Trim radius: 110 mm.
Tốc độ làm việc/ RPM: 1.500 RPM
Lượng dư cho phép/ Acceptable Residual Unbalance: 1,4g.110mm
Tiêu chuẩn áp dụng/Standart Applied: ISO 1940-1
Thời gian/Project duration: Bắt đầu/From: 12/05/2021 kết thúc/To: 12/05/2021



I. KẾT QUẢ/RESULT:

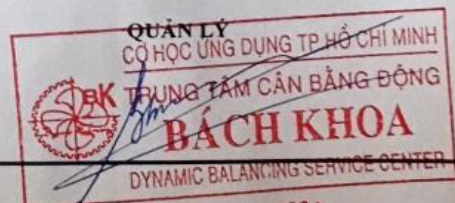
| TT No. | Mô tả/Description | Mặt 1 Plane 1 (g.....mm) | Đánh giá/Judgement |
|--------|-----------------------------------|--------------------------|--------------------|
| 01 | Trước khi xử lý/Before processing | 20g.110mm | |
| 02 | Sau khi xử lý/After Processing | 0,3g.110mm | |

II. THIẾT BỊ/EQUIPMENTS:

| TT No. | Tên, Quy cách/Description | Ghi chú/Remarks |
|--------|---|-----------------|
| 01 | Máy Cân Bằng Động/ Dynamic Balancing machine: <input type="checkbox"/> Star 3000 <input checked="" type="checkbox"/> Star 250 <input type="checkbox"/> Star 20 <input type="checkbox"/> Smart 2 | |

III. NHÂN SỰ/PERSONNEL:

| TT No. | Họ và tên/Name | Chức danh/Title | Ghi chú/Remarks |
|--------|----------------------|--------------------|-----------------|
| 01 | Nguyễn Đình Luân | Xử lý/Processor | |
| 02 | Trần Duy Thiện Trung | Kiểm tra/Inspector | |



Nguyễn Bảo Cầm

TRUNG TÂM CÂN BẰNG ĐỘNG BÁCH KHOA
BÁCH KHOA DYNAMIC BALANCING SERVICE CENTER
 No. 21, Street 53, Tan Tao Ward, Binh Tan District, Ho Chi Minh City. TEL & FAX: +84 (0)8 37540 670
 www.bk-balancing.com – EMAIL: bk_balancing@yahoo.com.sg
 www.canbangdong.net – EMAIL: canbangdongbk@gmail.com

PHIẾU BÁO CÁO KẾT QUẢ DỊCH VỤ CÂN BẰNG ĐỘNG
BALANCING REPORT

Ngày/Date: 12/05/2021

Khách hàng/Client: BOT PM3 POWER

Địa chỉ/Add:

Chi tiết cân bằng/Objects: Quạt hướng trục 11SAM30AN002

Số lượng/Quantity: 01

 Phương pháp xử lý/Trim method: Gắn thêm/Add count weights

 Lấy bớt/Remove count weights

Phân cấp cân bằng/Target Balancing Quality: G 6.3

Khối lượng Rotor/Rotor mass: 62 Kg

Bán kính xử lý/ Trim radius: 260 mm.

Tốc độ làm việc/ RPM: 1.500 RPM

Lượng dư cho phép/ Acceptable Residual Unbalance: 4,7g.260mm

Tiêu chuẩn áp dụng/Standart Applied: ISO 1940-1

Thời gian/Project duration: Bắt đầu/From: 12/05/2021 kết thúc/To: 12/05/2021


I. KẾT QUẢ/RESULT:

| TT No. | Mô tả/Description | Mặt 1 Plane 1 (g.....mm) | Đánh giá/Judgement |
|--------|-----------------------------------|--------------------------|--------------------|
| 01 | Trước khi xử lý/Before processing | 14g.260mm | |
| 02 | Sau khi xử lý/After Processing | 0,5g.260mm | |

II. THIẾT BỊ/EQUIPMENTS:

| TT No. | Tên, Quy cách/Description | Ghi chú/Remarks |
|--------|---|-----------------|
| 01 | Máy Cân Bằng Động/ Dynamic Balancing machine: <input checked="" type="checkbox"/> Star 3000 <input type="checkbox"/> Star 250 <input type="checkbox"/> Star 20 <input type="checkbox"/> Smart 2 | |

III. NHÂN SỰ/PERSONNEL:

| TT No. | Họ và tên/Name | Chức danh/Title | Ghi chú/Remarks |
|--------|----------------------|--------------------|-----------------|
| 01 | Nguyễn Đình Luân | Xử lý/Processor | |
| 02 | Trần Duy Thiện Trung | Kiểm tra/Inspector | |



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PHIẾU BÁO CÁO KẾT QUẢ DỊCH VỤ CÂN BẰNG ĐỘNG

BALANCING REPORT

Ngày/Date: 12/05/2021

Khách hàng/Client: BOT PM3 POWER

Địa chỉ/Add:

Chi tiết cân bằng/Objects: Quạt hướng trục IISAM30AN001

Số lượng/Quantity: 01

Phương pháp xử lý/Trim method: Gắn thêm/Add count weights

Lấy bớt/Remove count weights

Phân cấp cân bằng/Target Balancing Quality: G 6.3

Khối lượng Rotor/Rotor mass: 62 Kg

Bán kính xử lý/ Trim radius: 260 mm.

Tốc độ Làm việc/ RPM: 1.500 RPM

Lượng dư cho phép/ Acceptable Residual Unbalance: 4,7g.260mm

Tiêu chuẩn áp dụng/Standart Applied: ISO 1940-1

Thời gian/Project duration: Bắt đầu/From: 12/05/2021 kết thúc/To: 12/05/2021



I. KẾT QUẢ/RESULT:

| TT No. | Mô tả/Description | Mặt 1 Plane 1 (g.....mm) | Đánh giá/Judgement |
|--------|-----------------------------------|--------------------------|--------------------|
| 01 | Trước khi xử lý/Before processing | 49g.260mm | |
| 02 | Sau khi xử lý/After Processing | 0,7g.260mm | |

II. THIẾT BỊ/EQUIPMENTS:

| TT No. | Tên, Quy cách/Description | Ghi chú/Remarks |
|--------|---|-----------------|
| 01 | Máy Cân Bằng Động/ Dynamic Balancing machine: <input checked="" type="checkbox"/> Star 3000 <input type="checkbox"/> Star 250 <input type="checkbox"/> Star 20 <input type="checkbox"/> Smart 2 | |

III. NHÂN SỰ/PERSONNEL:

| TT No. | Họ và tên/Name | Chức danh/Title | Ghi chú/Remarks |
|--------|----------------------|--------------------|-----------------|
| 01 | Nguyễn Đình Luân | Xử lý/Processor | |
| 02 | Trần Duy Thiện Trung | Kiểm tra/Inspector | |

