

|   |  |  |                           |
|---|--|--|---------------------------|
| <b>SERVICE REPORT PREVENTIVE<br/>MAINTENANCE</b><br><b>PRECISION AIR CONDITIONING (PAC)</b><br><b>PT. HM SAMPOERNA SUKOREJO</b><br><b>PLANT</b> |  |  | FORM NO.                  |
|   |  |  | <b>Tipe Form<br/>PM04</b> |

|              |              |                      |            |
|--------------|--------------|----------------------|------------|
| Lokasi :     | Model Unit : | Team Engineer List : | Date :     |
| Code unit :  | No. Seri :   |                      | Start PM : |
| Nomor Unit : | Periode :    |                      | Close PM : |

|                                  |                                    |
|----------------------------------|------------------------------------|
| <b>CHECKLIST TEAM BRIEFING</b>   |                                    |
| <b>INTENSIVE SAFETY BRIEFING</b> | ? OK                      ? NOT OK |
| <b>TEAM</b>                      |                                    |

| A Filter Section            |                          |                |  |                |                |  |
|-----------------------------|--------------------------|----------------|--|----------------|----------------|--|
| Item Checked                | Spec. Range / Cond. Std. | Actual Checked | Item Checked                               | Spec. Range    | Actual Checked |  |
| 1. Check/Replace filters    | Clean or Dirty           | Clean          | 5. Clean condensate pan                    | Clean or Dirty | Clean          |  |
| 2. Grille area unrestricted | OK / Not OK              | Ok             | 6. Clean trap in condensate drain          | Clean or Dirty | Clean          |  |
| 3. Wipe section clean       | Clean or Dirty           | Clean          | 7. Check/Test filter-clog switch operation | Ok or No       | Ok             |  |
| 4. Coil clean               | Clean or Dirty           | Clean          |  |                |                |  |

| B Blower Section                                 |                          |          |       |          |       |          |       |            |
|--|--------------------------|----------|-------|----------|-------|----------|-------|------------|
| Item Checked                                     | Spec. Range / Cond. Std. | Blower 1 |       | Blower 2 |       | Blower 3 |       | Keterangan |
|  |                          | Before   | After | Before   | After | Before   | After |            |
| 1. Mounting bolts tight                          | Ok or No                 | OK       | OK    | OK       | OK    | OK       | OK    | OK         |
| 2. Fan-guard bolts tight                         | Ok or No                 | OK       | OK    | OK       | OK    | OK       | OK    | OK         |
| 3. Impeller spins freely                         | Ok or No                 | OK       | OK    | OK       | OK    | OK       | OK    | OK         |
| 4. Check/Test air sail switch                    | Ok or No                 | OK       | OK    | OK       | OK    | OK       | OK    | OK         |
| 5. Motor amp draw<br>• Compare to nameplate amps | FLA L1 =---- A           | L1       | L1    | L1       | L1    | L1       | L1    | 1          |
|  | FLA L2 =---- A           | L2       | L2    | L2       | L2    | L2       | L2    | 1          |
|  | FLA L3 =---- A           | L3       | L3    | L3       | L3    | L3       | L3    | 1          |
| 6. Check belt tension and condition              | Ok or No                 | Ok       | Ok    | Ok       | Ok    | Ok       | Ok    | Ok         |
| 7. Check sheave/pulley                           | Ok or No                 | Ok       | Ok    | Ok       | Ok    | Ok       | Ok    | Ok         |

| C Reheat                   |                          |          |       |          |       |          |       |            |
|----------------------------|--------------------------|----------|-------|----------|-------|----------|-------|------------|
| Item Checked               | Spec. Range / Cond. Std. | Heater 1 |       | Heater 2 |       | Heater 3 |       | Keterangan |
|                            |                          | Before   | After | Before   | After | Before   | After |            |
| 1. Reheat amp draw         | FLA =----- A             | 1        | 1     | 1        | 1     | 1        | 1     | 1          |
| 2. Check Heater Resistance | 18-22 ohm                | 1        | 1     | 1        | 1     | 1        | 1     | 1          |
| 3. Inspect elements        | Ok or No                 | Ok       | Ok    | Ok       | Ok    | Ok       | Ok    | Ok         |
| 4. Check wire connections  | Ok or No                 | Ok       | Ok    | Ok       | Ok    | Ok       | Ok    | Ok         |

| D Steam Generating Humidifier                                       |             |                |  |             |                |
|---|-------------|----------------|--|-------------|----------------|
| Item Checked  | Spec. Range | Actual Checked | Item Checked                             | Spec. Range | Actual Checked |
| 1. Humidifier amp draw  | ..... A     | 1              | 4. Check condition of steam hose         | Ok or No    | Clean          |
| 2. Check drain valve/drain lines/trap for damage/clogs/leaks        | Ok or No    | Ok             | 5. Clean strainer                        | Ok or No    | Clean          |
| 3. Check water fill valve and all supply lines/connection for leaks | Ok or No    | Clean          | 6. Check humidifier bottle (Boiler tank) | Ok or No    | Clean          |
|   |             |                | 7. Check operation of humidifier         | Ok or No    | Ok             |

| E Electrical Panel                                  |                          |                |       |            |
|---|--------------------------|----------------|-------|------------|
| Item Checked  | Spec. Range / Cond. Std. | Actual Checked |       | Keterangan |
|   |                          | Before         | After |            |
| 1. Check fuses                                      | Ok or No                 | Ok             | Ok    | Ok         |
| 2. Check contactors for pitting (Replace if pitted) | Ok or No                 | Ok             | Ok    | Ok         |
| 3. Check/Re-torque wire connections                 | Ok or No                 | Ok             | Ok    | Ok         |

| E Electrical Panel |                                   |                          |                      |                      |            |  |
|--------------------|-----------------------------------|--------------------------|----------------------|----------------------|------------|--|
|                    | Item Checked                      | Spec. Range / Cond. Std. | Actual Checked       |                      | Keterangan |  |
|                    |                                   |                          | Before               | After                |            |  |
|                    | 4. Voltage Line to Neutral Ground | 220 + 10%                | L1/L2/L3 = 1 V       | L1/L2/L3 = 1 V       | 1          |  |
|                    | 5. Voltage Line to Line           | 380 + 10%                | L1L2/L2L3/L1L3 = 1 V | L1L2/L2L3/L1L3 = 1 V | 1          |  |
|                    | 6. Frequency                      | 50 + 10%                 | F = 1 Hz             | F = 1 Hz             | 1          |  |

| F Controls |                                   |                          |                |   |             |                |
|------------|-----------------------------------|--------------------------|----------------|---|-------------|----------------|
|            | Item Checked                      | Spec. Range / Cond. Std. | Actual Checked | Item Checked  | Spec. Range | Actual Checked |
|            | 1. Check/Verify control operation | Ok or No                 | Ok             | 3. Check/Test water-detection device                          | Ok or No    | Ok             |
|            | 2. Check/Test changeover device   | Ok or No                 | Ok             | 4. Check/Test CAN connection between indoor and outdoor units | Ok or No    | Ok             |

| G Refrigeration Piping |  |             |                |   |             |                |
|------------------------|--|-------------|----------------|---|-------------|----------------|
|                        | Item Checked   | Spec. Range | Actual Checked | Item Checked  | Spec. Range | Actual Checked |
|                        | 1. Check refrigerant lines (clamps secure/no rubbing/no leaks) | Ok or No    | Ok             | 3. Check for restriction temperature drop across filter drier | Ok or No    | Clean          |
|                        | 2. Check for moisture (sight glass)                            | Ok or No    | Ok             |   |             |                |

| H Compressor Section |  |                          |         |       |         |       |         |       |            |
|----------------------|--|--------------------------|---------|-------|---------|-------|---------|-------|------------|
|                      | Item Checked   | Spec. Range / Cond. Std. | Comp. 1 |       | Comp. 2 |       | Comp. 3 |       | Keterangan |
|                      |  |                          | Before  | After | Before  | After | Before  | After |            |
|                      | 1. Ampere draw   | OA..... A                | 1       | 1     | 1       | 1     | 1       | 1     | 1          |
|                      | 2. Check oil level   | 55 - 90 PsiG             | 1       | 1     | 1       | 1     | 1       | 1     | 1          |
|                      | 3. Check for oil leaks                                     | 200 - 300 PsiG           | 1       | 1     | 1       | 1     | 1       | 1     | 1          |
|                      | 4. Check compressormounts (springs/bushings)               | Ok or No                 | Ok      | Ok    | Ok      | Ok    | Ok      | Ok    | Ok         |
|                      | 5. Cap tubes (not rubbing)                                 | Ok or No                 | Ok      | Ok    | Ok      | Ok    | Ok      | Ok    | Ok         |
|                      | 6. Check/Re-torque wireconnections (inside compressor box) | Ok or No                 | Ok      | Ok    | Ok      | Ok    | Ok      | Ok    | Ok         |
|                      | 7. Compressor operation (vibration/noise)                  | ..... Hz<br>..... dB     | 1       | 1     | 1       | 1     | 1       | 1     | 1          |
|                      | 8. Check crank-case heater fuses/operation                 | Ok or No                 | Ok      | Ok    | Ok      | Ok    | Ok      | Ok    | Ok         |
|                      | 9. Check for refrigerantleaks                              | Ok or No                 | Ok      | Ok    | Ok      | Ok    | Ok      | Ok    | Ok         |
|                      | 10. Suction pressureCircuit                                | 55 - 90 PsiG             | 1       | 1     | 1       | 1     | 1       | 1     | 1          |
|                      | 11. Discharge PressureCircuit                              | 200 - 300 PsiG           | 1       | 1     | 1       | 1     | 1       | 1     | 1          |
|                      | 12. Superheat Circuit                                      | ..... ?C                 | 1       | 1     | 1       | 1     | 1       | 1     | 1          |
|                      | 13. Low-pressure switchcut out Circuit                     | Ok or No                 | Ok      | Ok    | Ok      | Ok    | Ok      | Ok    | Ok         |
|                      | 14. Low pressure cut inCircuit                             | Ok or No                 | Ok      | Ok    | Ok      | Ok    | Ok      | Ok    | Ok         |
|                      | 15. High pressure cut out Circuit                          | Ok or No                 | Ok      | Ok    | Ok      | Ok    | Ok      | Ok    | Ok         |
|                      | 16. Sight Glass  | Ok or No                 | Ok      | Ok    | Ok      | Ok    | Ok      | Ok    | Ok         |

| I Condensor Section |              |             |        |       |            |
|---------------------|--------------|-------------|--------|-------|------------|
|                     | Item Checked | Spec. Range | Before | After | Keterangan |

|  |                |                            |                            |
|--|----------------|----------------------------|----------------------------|
| 1. Coil clean of debris (Clean coil if required)                             | Clean or Dirty |                            |                            |
| 2. Fans free of debris   | Clean or Dirty |                            |                            |
| 3. Fans securely mounted   |                |                            |                            |
| 4. Motor bearings in good condition  |                |                            |                            |
| 5. Check all refrigerant lines for vibration isolation. Support as necessary | Ok or No       |                            |                            |
| 6. Check for refrigerant leaks   | Ok or No       |                            |                            |
| 7. Check surge-protection device (if installed) status-indicator lights      | Ok or No       |                            |                            |
| 8. Check/Re-torque wire connections  | Ok or No       |                            |                            |
| 9. Check contactors for pitting (replace if pitted)                          | Ok or No       |                            |                            |
| 10. Verify operation sequence/set points                                     |                |                            |                            |
| 11. Charge verification:   |                |                            |                            |
| a. Outdoor Ambient Temperature   |                |                            |                            |
| b. Subcooling  |                |                            |                            |
| c. Indoor-unit Return-air Temperature  |                |                            |                            |
| d. Sight-glass level (if Lee-Temp or pumped refrigerant)                     |                |                            |                            |
| 12. Motor amp draw   | FLA = ..... A  | L1/L2/L3 =<br>.....<br>Amp | L1/L2/L3 =<br>.....<br>Amp |

#### J General Function

| Item Checked           | Spec. Range | Actual Checked | Item Checked             | Spec. Range | Actual Checked |
|------------------------|-------------|----------------|--------------------------|-------------|----------------|
| 1. Cooling Test        | Ok or No    |                | 4. Dehumidification Test | Ok or No    |                |
| 2. Heating Test        | Ok or No    |                | 5. Alarm Test            | Ok or No    |                |
| 3. Humidification Test | Ok or No    |                |                          |             |                |

#### K Room Condition

| Item Checked   | Spec. Range | Actual Checked | Item Checked | Spec. Range | Actual Checked |
|----------------|-------------|----------------|--------------|-------------|----------------|
| 1. Temperature | .....<br>°C |                | 2. Humidity  | ..... %     |                |

#### NOTES

Temuan :

Rekomendasi :

#### RESUME

|                          |                             |                 |
|--------------------------|-----------------------------|-----------------|
| JOB COMPLETED ? YES<br>? | ? NO, please check on NOTES | RUNNING HOURS : |
|--------------------------|-----------------------------|-----------------|

#### APPROVAL SIGNING

|                      |                            |                                 |
|----------------------|----------------------------|---------------------------------|
| Approved by<br>ISS,  | Verified By<br>Supervisor, | Service By<br>Team Leader/Staf, |
| ( _____ )<br>No. HP. | ( _____ )<br>No. HP.       | ( _____ )<br>No. HP.            |

Keterangan : Lembar 1 untuk Teknisi; Lembar 2 untuk User; Lembar 3 Arsip Kantor