



COMPUTER ROOM AIR CONDITIONER

S-MEXT-G02-M1

# Service Guideline

SG\_s-MEXT\_G02\_M1\_00\_Z\_01\_22\_EN

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**EN**

|           |                                   | Periodic inspection (one year cycle)   |                                   |   |
|-----------|-----------------------------------|--|-----------------------------------|---|
| Component |                                   | Contents of inspection   | Inspection method                 | Evaluation criteria (standard)                            |
| <b>A</b>  | Decorative panel (design portion) | Dirt/scratches check   | Visual inspection                 | No significant dirt, scratches, deformation               |
| <b>B</b>  | Frame and bottom plates           | Check for rust or peeled off insulation material<br>Check for paint film peeling off or blistering | Visual inspection                 | No significant rust or damage in the insulation material  |
| <b>C</b>  | Panel insulation                  | Check for status of insulation   | Visual inspection                 | No lack or detachment of the material                     |
| <b>D</b>  | Filter (2) (3)                    | Visually inspect for dirt or failure   | Visual inspection                 | Filter material is visible<br>No failure or deformation   |
| <b>E</b>  | Fan casing                        | Visually check for run-out and balance   | Visual inspection                 | No significant run-out                                    |
|           |                                   | Check appearance and presence of stuck dust  | Visual inspection                 | No significant rust, no deformation                       |
| <b>F</b>  | Fan motor                         | Check by listening to noise  | Auditory inspection               | No abnormal noise   |
|           |                                   | Measure insulation resistance  | 500 V<br>Mega-ohmmeter            | 1MΩ or more   |
| <b>G</b>  | Temperature sensor                | Check for good indication, appearance  | Visual inspection                 | Value indicated is correct.<br>No cracks or discoloration |
| <b>H</b>  | Air differential pressure switch  | Loose terminal screws, appearance  | Screwdriver,<br>visual inspection | No loosening<br>No foreign matter deposit                 |
| <b>I</b>  | Graphic display                   | Check visually all the digits and lights are functioning   | Visual inspection                 | No fault display  |
| <b>J</b>  | Microprocessor boards             | Check visually for stuck dust on the circuit board   | Visual inspection                 | No foreign matter deposit                                 |
| <b>K</b>  | Flooding detector                 | Loose terminal screws, appearance  | Screwdriver,<br>visual inspection | No loosening<br>No foreign matter deposit                 |
| <b>L</b>  | Flooding sensor                   | Loose terminal screws, appearance  | Screwdriver,<br>visual inspection | No loosening<br>No foreign matter deposit                 |
| <b>M</b>  | Pressure sensor                   | Check for good indication, appearance  | Visual inspection                 | Value indicated is correct.<br>No cracks or discoloration |
| <b>N</b>  | Fire detector                     | Loose terminal screws, appearance  | Screwdriver,<br>visual inspection | No loosening<br>No foreign matter deposit                 |
| <b>O</b>  | Smoke detector                    | Loose terminal screws, appearance  | Screwdriver,<br>visual inspection | No loosening<br>No foreign matter deposit                 |

- <sup>1</sup> The indicated year durations refer to II Cooling operation without frequent start/stop, assuming an operation of 24 hours per day and 8.760 hours per year.
- <sup>2</sup> The inspection period of the filter is basically set to one month, but since the degree of contamination varies depending on the type of filter and the operating environment, please inspect it at time intervals you deem appropriate to the operating environment.
- <sup>3</sup> Wear and tear parts

| Preventive maintenance |  | Year duration (1)          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
|------------------------|--|----------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|
| Maintenance details    |  | Maintenance cycle          | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| <b>A</b>               | Wash with a mild detergent, apply additional paint   | 8 years                    |   |   |   |   |   |   |   |   | ▲ |    |    |    |    |    |    |
| <b>B</b>               | In case the insulation material peels off, repair or reapply<br>Apply additional paint   | 8 years                    |   |   |   |   |   |   |   |   | ▲ |    |    |    |    |    |    |
| <b>C</b>               | Replace in case of damage<br>Reattach in case of detachment  | 8 years                    |   |   |   |   |   |   |   |   | ▲ |    |    |    |    |    |    |
| <b>D</b>               | Clean when dirty<br>Replace when broken  | 2 years                    | ◆ |   |   | ◆ |   |   | ◆ |   |   | ◆  |    |    | ◆  |    |    |
| <b>E</b>               | Replace in case of significant run-out or unbalance<br>In case of high extent of stuck dust, clean with a brush or wash with water | 13 years                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    | ●  |
| <b>F</b>               | Replace bearing if the sound is loud<br>Replace motor if equal or less than 1MΩ  | 25.000 hrs<br>If redundant |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| <b>G</b>               | In case of malfunctioning, if not possible to calibrate, replace   | 5 years                    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| <b>H</b>               | Retighten if loose. In case the foreign matter deposit is stuck, clean it  | 5 years                    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| <b>I</b>               | In case of faulty, replace part  | 10 years                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| <b>J</b>               | In case the foreign matter deposit is stuck, clean with a brush  | 10 years                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| <b>K</b>               | Retighten if loose. In case the foreign matter deposit is stuck, clean it  | 10 years                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| <b>L</b>               | Retighten if loose. In case the foreign matter deposit is stuck, clean it  | 5 years                    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| <b>M</b>               | In case of malfunctioning, if not possible to calibrate, replace   | 5 years                    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| <b>N</b>               | Retighten if loose. In case the foreign matter deposit is stuck, clean it  | 10 years                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| <b>O</b>               | Retighten if loose. In case the foreign matter deposit is stuck, clean it  | 10 years                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |

**Description of symbols**



graphical element which indicates the period where the failures are random

Random failure is an unexpected sudden failure occurring during the period of durability of the part or system and before the progress of wear and tear, for which technical measures are difficult to carry out, and at the time of occurrence can only be addressed on a statistical basis



graphical element which predicts the starting point of the failures due to wear and tear, and shows the trend of failure ratio increase along the years.



: Adjust or clean according to inspection result



: If anomalies occur after inspection, repair or replace components



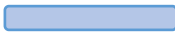
: Replace on a regular basis (wear parts)

|           |  | Periodic inspection (one year cycle)   |  |  |
|-----------|--|--|--|--|
| Component |  | Contents of inspection   | Inspection method  | Evaluation criteria (standard)   |
| <b>P</b>  | Drain pan                                | Check for clogged residual dust, check if drain water flows properly<br>Check for paint film peeling off or blistering | Visual inspection  | No clogging in drainage<br><br>No abnormal rust, no holes                          |
| <b>Q</b>  | Air heat exchanger                       | Check for dust clogging or damages<br>Gas leakage  | Visual inspection<br>Gas detector  | No clogging, no damage<br><br>No leakage detected                                  |
| <b>R</b>  | Onboard pipes                            | Resonance, contact or corrosion of on-board pipes<br>Contact or resonance in the capillary tube                        | Visual inspection<br>Visual inspection                                   | No abnormal resonance, sound or corrosion<br>No abnormal resonance or contact wear |
| <b>S</b>  | Onboard pipes                            | Check for status of insulation   | Visual inspection  | No lack or damage of the material  |
| <b>T</b>  | Terminal block                           | Loose terminal screws  | Screwdriver, visual inspection   | No loosening   |
| <b>U</b>  | Auxiliary electrical heaters             | Appearance of external heat-generating parts<br><br>Check insulation resistance<br><br>Stuck dust                      | Visual inspection<br><br>500 V<br>Mega-ohmmeter<br><br>Visual inspection | No damage or deformation<br><br>1MΩ or more<br><br>No stuck dust                   |
| <b>V</b>  | Safety thermostat for electrical heaters | Appearance   | Visual inspection  | No damage, specially on the electrical connection                                  |
| <b>W</b>  | Steam humidifier (3) (4)                 | Check condition of the humidifier and of steam supply<br>Dirt in the evaporation tank                                  | Visual inspection  | Steam generation occurs in accordance to standards                                 |
| <b>X</b>  | Humidity sensor                          | Check for good indication, appearance  | Visual inspection  | Value indicated is correct.<br>No cracks or discoloration                          |
|           |  |  |  |  |
|           |  |  |  |  |

- <sup>1</sup> The indicated year durations refer to IT Cooling operation without frequent start/stop, assuming an operation of 24 hours per day and 8.760 hours per year.
- <sup>2</sup> The inspection period of the filter is basically set to one month, but since the degree of contamination varies depending on the type of filter and the operating environment, please inspect it at time intervals you deem appropriate to the operating environment.
- <sup>3</sup> Wear and tear parts
- <sup>4</sup> The inspection period of the humidifier cylinder is basically set to one month, but it depends on the water quality

| Preventive maintenance |  |                   | Year duration (1) |   |   |   |   |   |   |   |   |    |    |    |    |    |    |  |
|------------------------|--|-------------------|-------------------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|--|
| Maintenance details    |  | Maintenance cycle | 1                 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |  |
| P                      | Drain pan cleaning and inclination check                         | 8 years           |                   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |  |
|                        | Apply additional paint, if necessary replace drain pan           |                   |                   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |  |
| Q                      | Clean air inlet if clogged                                       | 13 years          |                   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |  |
|                        | If gas leakage is detected, repair or replace                    |                   |                   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |  |
| R                      | Replace or rework pipes in case of significant corrosion         | 13 years          |                   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |  |
|                        | Replace or rework pipes in case of significant wear              |                   |                   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |  |
| S                      | Replace or repair in case of damage                              | 10 years          |                   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |  |
| T                      | Retighten if loose.  | 10 years          |                   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |  |
| U                      | Replace if damaged or deformed                                   | 8 years           |                   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |  |
|                        | Replace if equal or less than 1MΩ                                |                   |                   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |  |
|                        | Clean in case of dust adhesion                                   |                   |                   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |  |
| V                      | Replace in case of damage  | 5 years           |                   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |  |
| W                      | Remove clogging and dirt   | 2 years           |                   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |  |
| X                      | In case of malfunctioning, if not possible to calibrate, replace | 5 years           |                   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |  |
|                        |  |                   |                   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |  |
|                        |  |                   |                   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |  |

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: Adjust or clean according to inspection result



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