



Toshiba RAS-10SAVP-E Service Manual

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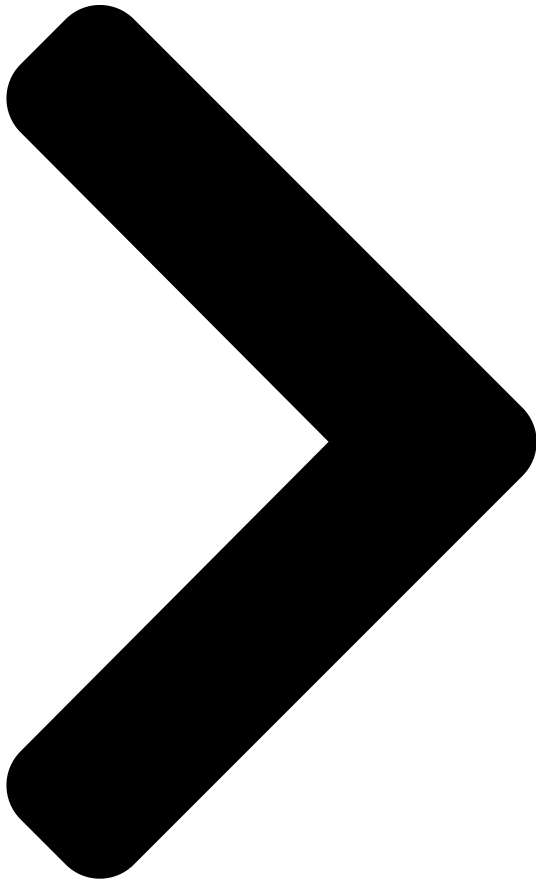
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Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy,
Vantaa

SERVICE MANUAL

AIR-CONDITIONER

Indoor Unit

<High Wall, Heat Pump Type>

(Standard Type)

RAS-B10SKVP-E

RAS-B13SKVP-E

RAS-B16SKVP-E

(North Europe Type)

RAS-10SKVP-ND

RAS-13SKVP-ND

RAS-16SKVP-ND

R410A

www.ilmalämpöpumput.com

FILE NO. A06-011

SPLIT TYPE

Outdoor Unit

<Heat Pump Type>

RAS-10SAVP-E

RAS-13SAVP-E

RAS-16SAVP-E

RAS-10SAVP-ND

RAS-13SAVP-ND

RAS-16SAVP-ND

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Related Manuals for Toshiba RAS-10SAVP-E

[Air Conditioner Toshiba RAS-B10SKVP-E Installation Manual](#)

(148 pages)

[Air Conditioner Toshiba RAS-B10SKVP-E Service Manual](#)

(120 pages)

[Air Conditioner Toshiba RAS-B10SKVP-E Service Manual](#)

Split type air conditioner (119 pages)

[Air Conditioner Toshiba RAS-B10SKVP-E Owner's Manual](#)

Split type air conditioner (91 pages)

[Air Conditioner Toshiba RAS-B10SKVP-E Owner's Manual](#)

Split type; for general public use (31 pages)

[Air Conditioner Toshiba RAS-B10SKVP-E Owner's Manual](#)

Split type (31 pages)

[Air Conditioner Toshiba RAS-B10SKVP-E Installation Manual](#)

(19 pages)

[Air Conditioner Toshiba RAS-B10SKVP-E Installation Manual](#)

Split type air conditioner (19 pages)

[Air Conditioner Toshiba RAS-16SKVP-ND Owner's Manual](#)

(230 pages)

[Air Conditioner Toshiba RAS-10SKVP-ND Installation Manual](#)

(132 pages)

[Air Conditioner Toshiba RAS-4M23SAV-E Service Manual](#)

Split type (121 pages)

[Air Conditioner Toshiba RAS-B10SKVP-E Service Manual](#)

Split type (117 pages)

[Air Conditioner Toshiba RAS-B10SKVP-E Service Manual](#)

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[Air Conditioner Toshiba RAS-10SKVP-ND Owner's Manual](#)

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[Air Conditioner Toshiba RAS-10SA-E Service Manual](#)

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[Air Conditioner Toshiba RAS-16SKV Series Owner's Manual](#)

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Summary of Contents for Toshiba RAS-10SAVP-E

[Page 1: Service Manual](#)

Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa
FILE NO. A06-011 SERVICE MANUAL AIR-CONDITIONER SPLIT TYPE Indoor Unit Outdoor Unit
<High Wall, Heat Pump Type> <Heat Pump Type> (Standard Type) RAS-B10SKVP-E
RAS-10SAVP-E RAS-B13SKVP-E RAS-13SAVP-E RAS-B16SKVP-E RAS-16SAVP-E (North Europe

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1. SAFETY PRECAUTIONS For general public use Power supply cord of outdoor unit shall be 1.5
mm² (H07RN-F or 60245IEC66) polychloroprene sheathed flexible cord. • Read this "SAFETY
PRECAUTIONS" carefully before servicing.

[Page 4](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup
Oy, Vantaa • DO NOT INSTALL NEAR CONCENTRATIONS OF COMBUSTIBLE GAS OR GAS VAPORS.
FAILURE TO FOLLOW THIS INSTRUCTION CAN RESULT IN FIRE OR EXPLOSION. • TO PREVENT
THE INDOOR UNIT FROM OVERHEATING AND CAUSING A FIRE HAZARD, PLACE THE UNIT WELL
AWAY (MORE THAN 2 M) FROM HEAT SOURCES SUCH AS RADIATORS, HEAT REGISTORS,
FURNACE, STOVES, ETC.

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Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa
3. REFRIGERANT R410A This air conditioner adopts the new refrigerant HFC 6. When an air
conditioning system charged with a (R410A) which does not damage the ozone layer. large
volume of refrigerant is installed in a small...

[Page 10](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup
Oy, Vantaa Table 3-2-1 Thicknesses of annealed copper pipes Thickness (mm) Nominal
diameter Outer diameter (mm) R410A 6.35 0.80 0.80 9.52 0.80 0.80 12.70 0.80 0.80 15.88 1.00
1.00 2. Joints For copper pipes, flare joints or socket joints are used. Prior to use, be sure to
remove all contaminants.

[Page 11](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup
Oy, Vantaa d) Flare Processing Make certain that a clamp bar and copper pipe have been
cleaned. ØD By means of the clamp bar, perform the flare processing correctly. Use either a

flare tool for R410A or conventional flare tool.

[Page 12](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa Table 3-2-6 Flare and flare nut dimensions for R22 Dimension (mm) Nominal Outer diameter Thickness Flare nut width diameter (mm) (mm) (mm) 6.35 9.52 13.0 13.5 12.70 16.2 16.0 12.9 15.88...

[Page 13](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa 3-3. Tools 3-3-1. Required Tools The service port diameter of packed valve of the outdoor unit in the air-water heat pump using R410A is changed to prevent mixing of other refrigerant. To reinforce the pressure-resisting strength, flare processing dimensions and opposite side dimension of flare nut (For Ø12.7 copper pipe) of the refrigerant piping are...

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Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa 3-4. Recharging of Refrigerant When it is necessary to recharge refrigerant, charge the specified amount of new refrigerant according to the following steps. Recover the refrigerant, and check no refrigerant remains in the equipment.

[Page 15](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa 1. Be sure to make setting so that liquid can be charged. 2. When using a cylinder equipped with a siphon, liquid can be charged without turning it upside down.

[Page 16](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa 2. Characteristics required for flux 3-5-3. Brazing • Activated temperature of flux coincides with As brazing work requires sophisticated techniques, the brazing temperature. experiences based upon a theoretical knowledge, it must be performed by a person qualified.

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Specifications Fan motor (for indoor) MF-280-30-5R DC280-340V, 30W Room temp. sensor (TA-sensor) (-) 10kΩ...

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Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa 7. REFRIGERANT CYCLE DIAGRAM 7-1. Refrigerant Cycle Diagram INDOOR UNIT Indoor heat Temp. measurement exchanger Pressure measurement Cross flow fan Max. : 25m Gauge attaching port Min. : 2m Vacuum pump connecting port...

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Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa Item Operation flow and applicable data, etc. Description 1. Basic 1. Operation control operation Receiving the user's operation condition setup, the operation statuses of indoor/outdoor units are controlled. 1) The operation conditions are selected by the remote controller as shown in the below.

[Page 30: Cooling/Heating Operation](#)

Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa Item Operation flow and applicable data, etc. Description 1. Basic 2. Cooling/Heating operation operation The operations are performed in the following parts by controls according to cooling/heating conditions. 1) Receiving the operation ON signal of the remote controller, the cooling or heating operation signal starts being transferred from the indoor controller to the outdoor unit.

[Page 31: Indoor Fan Motor Control](#)

Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa Item Operation flow and applicable data, etc. Description 2. Indoor fan <In cooling operation> motor control (This operation controls the fan speed at indoor unit side.) * Symbols The indoor fan (cross flow fan) is operated by the phase- : Ultra High control induction motor.

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Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa
Item Operation flow and applicable data, etc. Description 3. Outdoor fan The blowing air volume at the outdoor unit side is controlled. 1) The operation command sent motor control from the remote controller is...

[Page 34: Capacity Control](#)

Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa
Item Operation flow and applicable data, etc. Description 4. Capacity The cooling or heating capacity depending on the load is 1) The difference between set control adjusted. temperature on remote controller...

[Page 35: Release Protective Control By Temperature Of Indoor Heat Exchanger](#)

Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa
Item Operation flow and applicable data, etc. Description 6. Release protective <In cooling/dry operation> 1) When temperature of the indoor control by tempera- heat exchanger drops below 5°C, (Prevent-freezing control for indoor heat exchanger)

[Page 36: Quick Heating Control](#)

Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa
Item Operation flow and applicable data, etc. Description 7. Quick heating This function quickens the starting of heating opera- When the following conditions are satis- control tion when indoor/outdoor temperature is low.

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Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa
Item Operation flow and applicable data, etc. Description 9. Louver control This function controls the air direction of the indoor unit. 1) Louver • The position is automatically controlled according to the operation mode (COOL/HEAT).

[Page 38: Sleep Mode Operation](#)

Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa
Item Operation flow and applicable data, etc. Description 10. SLEEP When pushing [SLEEP MODE] button on the remote controller, a MODE quiet and mild operation is performed by reducing the fan speed operation and the compressor speed.

[Page 39: Temporary Operation](#)

Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa
Item Operation flow and applicable data, etc. Description 11. Temporary Pushing [RESET] button starts the temporary operation 1) When pushing [RESET] button, the operation of [AUTO] operation. When keeping [RESET] button temporary [AUTO] operation starts.

[Page 40: Discharge Temperature Control](#)

Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa
Item Operation flow and applicable data, etc. Description 1. Purpose 12. Air purifying control [Detection of abnormality] The air purifying control function is to alert the user to trouble in the ionizing or Air purifying operation air purifying operation.

[Page 41: Pulse Motor Valve \(P.M.v.\) Control](#)

Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa
Item Operation flow and applicable data, etc. Description 14. Pulse motor This function controls throttle amount of the refriger- 1) When starting the operation, move the valve (PMV) ant in the refrigerating cycle.

[Page 42: Clean Operation](#)

Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa
Item Operation flow and applicable data, etc. Description 15. Clean operation 1. Purpose The clean operation is to minimize the growth of mold, bacteria etc. by running the fan and drying

so as to keep the inside of the air conditioner clean.

[Page 43: Clean Operation Release](#)

Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa
Item Operation flow and applicable data, etc. Description 16. Clean operation Setting the clean operation cancel NOTE: cancel Once J201 is added, the [RESET] button on the unit is designated for Add J201 of the indoor P.C.

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Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa
Item Operation flow and applicable data, etc. Description 17. Select switch on 1. Purpose remote controller This operation is to operate only one indoor unit using one remote controller. 2. Description...

[Page 45: Set Temp. Correction](#)

Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa
Item Operation flow and applicable data, etc. Description 18. Set temp. <Indoor control P.C. board (At shipment)> 1. Purpose correction When the difference between the set temp. of the remote controller and the room temp.

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Item Operation flow and applicable data, etc. Description 19. Outdoor <With Quiet control/Non-select method> 1. Purpose Quiet control For the users who concern about noise of Select "Control" or "No control" by keeping the outdoor unit, this control controls the [RESET] button pushed for 20 seconds.

[Page 47: C Heat Operation \(-Nd Model Only\)](#)

Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa
Item Operation flow and applicable data, etc. Description 20. 8°C HEAT operation Pushing the [8°C] button on the remote <Start> (-ND model only) controller starts HEAT operation with set During stop of air conditioner temp.

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Item Operation flow and applicable data, etc. Description 20. 8°C HEAT operation <Indoor fan control> <Indoor fan control> (-ND model only) When 8°C HEAT operation, the indoor fan control rises up automati- Push [8°C] button.

[Page 49: Cord Heater Control \(-Nd Model Only\)](#)

Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa
Item Operation flow and applicable data, etc. Description 21. Cord heater control <Base plate cord heater control> 1. Purpose (-ND model only) Base plate freeze prevention of the outdoor unit TO temp.

[Page 50: Auto Restart Function](#)

Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa
9-3. Auto Restart Function This indoor unit is equipped with an automatic restarting function which allows the unit to restart operating with the set operating conditions in the event of a power supply being accidentally shut down.

[Page 51: How To Cancel The Auto Restart Function](#)

Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa
9-3-2. How to Cancel the Auto Restart Function To cancel auto restart function, proceed as follows : Repeat the setting procedure : the unit receives the signal and beeps three times.

[Page 52: Remote Controller And Its Functions](#)

Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa
9-5. Remote Controller and Its Functions High power button (Hi POWER) 9-5-1. Parts Name of Remote Controller Push this button to start high power operation. Memory button (MEMO) Infrared signal transmitter Push this button to ready for storing the settings.

[Page 53: Name And Functions Of Indications On Remote Controller](#)

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[Page 55: Installation Procedure](#)

Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa 10. INSTALLATION PROCEDURE 10-1. Safety Cautions For the rear left and left piping Hook 47 mm or more 1 Installation plate Wall Hook 140 mm or more Insert the cushion between...

[Page 56](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa 10-2. Optional Parts, Accessories and Tools 10-2-1. Optional Installation Parts Part Code Parts name Q'ty Refrigerant piping Indoor unit name Liquid side (Outer diameter) Gas side (Outer diameter) 1 ea.

[Page 57](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa 10-2-3. Installation/Service Tools Changes in the product and components In the case of an air conditioner using R410A, in order to prevent any other refrigerant from being charged accidentally, the service port diameter of the outdoor unit control valve (3 way valve) has been changed.

[Page 58](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa 10-3. Indoor Unit 10-3-2. Drilling and Mounting Installation Plate 10-3-1. Installation Location • A place which provides enough spaces around Drilling the indoor unit as shown in the diagram. When install the refrigerant pipes from the rear.

[Page 59](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa 10-3-3. Electrical Work When the installation plate is directly mounted on the wall 1. The supply voltage must be the same as the rated voltage of the air conditioner. 1. Securely fit the installation plate onto the wall by 2.

[Page 60](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa 10-3-5. Piping and Drain Hose Installation Terminal cover Piping and drain hose forming Screw • Since condensation results in machine trouble, make sure to insulate both the connecting pipes Screw Terminal block separately.

[Page 61](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa How to attach the drain cap In case of bottom right or bottom left piping 1. Insert hexagonal wrench (4 mm). • After making slits on the front panel with a knife or similar tool, cut them out with a pair of nippers or an equivalent tool.

[Page 62](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa 10-3-7. Drainage CAUTION 1. Run the drain hose at a downward sloped angle. • Bind the auxiliary pipes (two) and connecting cable with facing tape tightly. NOTE : In case of leftward piping and rear-leftward •...

[Page 63](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa 10-4. Outdoor Unit Precautions for adding refrigerant 10-4-1. Installation Location • Use a scale having at least 10 g per index line precision when adding the refrigerant. • A place which provides enough space around the outdoor unit as shown in the diagram.

[Page 64](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa 10-4-2. Draining the Water 10-4-3. Refrigerant Piping Connection • Holes are provided on the base plate of the Flaring outdoor unit to ensure that the defrost water produced during heating operations is drained off 1.

[Page 65](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa Tightening Connection Use a vacuum pump Align the centers of the connecting pipes and tighten Be sure to use a vacuum pump with counter-flow the flare nut as much as possible with your fingers.

[Page 66](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa Packed Valve handling precautions • Open the valve stem until it touches the stopper. 1 2 3 Once it is in contact with the stopper, refrain from applying any more force than is necessary.

[Page 67: Test Operation](#)

Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa 10-5. Test Operation 10-5-4. If the air conditioner operates incorrectly 10-5-1. Gas Leak Test • If two indoor units are installed in the same room • Check the flare nut connections for gas leaks with or adjoining rooms, when the user tries to operate a gas leak detector and/or soapy water.

[Page 68: How To Diagnose The Trouble](#)

Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa 11. HOW TO DIAGNOSE THE TROUBLE The pulse motor circuits are mounted to both indoor and outdoor units. Therefore, diagnose troubles according to the trouble diagnosis procedure as described below.

[Page 69](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa CAUTION A high voltage (equivalent to the supply voltage) is also energized to ground through the sensors, PMV and other low-voltage circuits. The sensor leads and other wires are covered with insulated tubes for protection.

[Page 70](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa 11-1. First Confirmation 11-1-1. Confirmation of Power Supply Confirm that the power breaker operates (ON) normally. 11-1-2. Confirmation of Power Voltage Confirm that power voltage is AC 220-230-240 ± 10%.

[Page 71: Primary Judgment](#)

Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa 11-2. Primary Judgment To diagnose the troubles, use the following methods. 1) Judgment by flashing LED of indoor unit 2) Self-diagnosis by service check remote controller 3) Judgment of trouble by every symptom Firstly use the method 1) for diagnosis.

[Page 72](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa 11-4. Self-Diagnosis by Remote Controller (Check Code) 1. If the lamps are indicated as shown B to E in Table 11-3-1, execute the self-diagnosis by the remote controller. 2. When the remote controller is set to the service mode, the indoor controller diagnoses the operation condition and indicates the information of the self-diagnosis on the display of the remote controller with the check codes.

[Page 73](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa 11-4-2. Caution at Servicing 1. After servicing, push the START/STOP button to return to the normal mode. 2. After servicing by the check code, turn off breaker of the power supply, and turn on breaker of the power supply again so that memory in the microcomputer returns the initial status.

[Page 74](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa Block distinction Operation of diagnosis function Judgment and action Check Check Block Cause of operation conditioner Remarks code code status Outdoor P.C. Inverter over-current All off Displayed when Even if trying operation again, all...

[Page 75: Judgment Of Trouble By Every Symptom](#)

Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa 11-5. Judgment of Trouble by Every Symptom 11-5-1. Indoor Unit (Including Remote Controller) (1) Power is not turned on (Does not operate entirely) <Primary check> 1. Is the supply voltage normal? 2.

[Page 76](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup

Oy, Vantaa (3) Only the indoor motor fan does not operate <Primary check> □ □ 1. Is it possible to detect the power supply voltage (AC220-240V) between on the terminal block? 2. Does the indoor fan motor operate in cooling operation? (In heating operation, the indoor fan motor does not operate for approximately 10 minutes after it is turned on, to prevent a cold air from blowing in.)

[Page 77](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa (4) Indoor fan motor automatically starts to rotate by turning on power supply <Cause> The IC is built in the indoor fan motor. Therefore the P.C. board is also mounted to inside of the motor.

[Page 78](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa (5) Troubleshooting for remote controller <Primary check> Check that A or B selected on the main unit is matched with A or B selected on the remote controller. The unit does not beep at all.

[Page 79](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa 11-5-2. Wiring Failure (Interconnecting and Serial Signal Wire) (1) Outdoor unit does not operate □ □ 1) Is the voltage between of the indoor terminal block varied? Confirm that transmission from indoor unit to outdoor unit is correctly performed based upon the following diagram.

[Page 80](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa 11-6. Check Code 1C (Miswiring in indoor/outdoor units) and 1E <Check procedure> Gas leakage, Discharge temp. error, disconnection of TS/TC gas leakage sensors (Check code 02, 1C) (Check code 03, 1E)

[Page 81: Troubleshooting](#)

Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa 11-7. Troubleshooting 11-7-1. How to Check Whether the Air Purifier is Good or Not Turn off the power breaker once, and turn on again after 10 seconds. Does the OPERATION indicator flash? To item "Power supply is not turned on"...

[Page 82: How To Diagnose Trouble In Outdoor Unit](#)

Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa 11-8. How to Diagnose Trouble in Outdoor Unit 11-8-1. Summarized Inner Diagnosis of Inverter Assembly Table 11-8-1 Diagnosis/Process flowchart Item Contents Summary Preparation Turn "OFF" the power supply breaker, and remove 3P...

[Page 83](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa Diagnosis/Process flowchart Item Contents Summary Check Check winding resistance between phases of compressor, and resistance between outdoor frames by using a tester. → OK if 10MΩ or more • Is not grounded.

[Page 84](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa (3) Check procedures Table 11-9-1 Procedure Check points Causes Turn off the power supply breaker Check whether or not the fuse (F01) Impulse voltage was applied or the and remove the P.C. board is blown.

[Page 85](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa 11-9-2. P.C. Board Layout +12V [1] Sensor characteristic table : Discharge temp. sensor : Room temp. sensor TC, TCJ : Heat exchanger temp. sensor : Outdoor temp. sensor TA, TC, TCJ, TO, TE, TS : Outdoor heat exchanger temp.

[Page 86](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa 11-9-3. Indoor Unit (Other Parts) Part name Checking procedure Room temp. (TA) sensor Disconnect the connector and measure the resistance value with tester. Heat exchanger (TC) sensor (Normal temp.) Heat exchanger (TCJ) sensor Temperature 10°C...

[Page 87](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa 11-9-5. Checking Method for Each Part Part name Checking procedure Electrolytic capacitor 1. Turn OFF the power supply breaker. (For boost, smoothing) 2. Discharge all three capacitors completely. 3. Check that safety valve at the bottom of capacitor is not broken.

[Page 88](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa 11-10. How to Simply Judge Whether Outdoor Fan Motor is Good or Bad 1. Symptom • Outdoor fan motor does not rotate. • Outdoor fan motor stops within several tens seconds though it started rotating.

[Page 89: How To Replace The Main Parts](#)

Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa 12. HOW TO REPLACE THE MAIN PARTS WARNING • Since high voltages pass through the electrical parts, turn off the power without fail before proceeding with the repairs. Electric shocks may occur if the power plug is not disconnected.

[Page 90](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa Part name Procedures Remarks □ Front panel 4) Push "PUSH" part under the front panel and remove hooks of the front panel from the installation plate. Installation plate Pull here...

[Page 91](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa Part name Procedures Remarks □ □ High voltage 1) Follow to the procedure in the item generator 2) Disconnect the connectors of the high-voltage generator, and disconnect the four leads from where they are fitted into the other components.

[Page 92](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa Part name Procedures Remarks □ □ Electric parts 1) Follow the procedure up to 4) in above. TCJ sensor box assembly 2) Remove screw of earth lead attached to the end plate of the evaporator.

[Page 93](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa Part name Procedures Remarks □ Horizontal louver 1) Remove shaft of the horizontal louver from the back body. (First remove the left shaft, and then remove other shafts while sliding the horizontal louver leftward.)

[Page 94](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa Part name Procedures Remarks □ □ Bearing 1) Follow to the procedure in the items 2) Remove the two fixing screws used to secure the left edge panel of the heat exchanger, and...

[Page 95](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa Part name Procedures Remarks □ □ Fan motor 1) Follow to the procedure in the item 2) Loosen the set screw of the cross flow fan. 3) Remove two fixing screws of the motor band (Right), and then remove the motor band (Right).

[Page 96](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa Part name Procedures Remarks □ Cross flow fan <Caution at reassembling> 1) At assembling work of the bearing base, check that the drain pipe is surely incorporated in the back body.

[Page 97](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa 12-2. Microcomputer Part name Procedure Remarks □ Common procedure 1) Turn the power supply off to stop the Replace terminal block, operation of air-conditioner. microcomputer ass'y and the P .C. board ass'y.

[Page 98](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa 12-3. Outdoor Unit Part name Procedure Remarks □ Common 1. Detachment procedure NOTE Wear gloves for this job. Otherwise, you may injure your hands on the parts, etc. 1) Stop operation of the air conditioner, and turn off the main switch of the breaker for air conditioner.

[Page 99](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa Part name Procedure Remarks □ Front cabinet 1. Detachment □ 1) Perform step 1 in 2) Remove the fixing screws (ST1TØ4 × 8L 2 pcs.) used to secure the front cabinet and inverter cover, the screws (ST1TØ4 ×...

[Page 100](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa Part name Procedure Remarks □ □ Inverter 1) Perform work of item 1 in

Inverter cover assembly 2) Remove screw (ST1T04 × 8L 2 pcs.) of the P . C. board upper part of the front cabinet.

[Page 101](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa Part name Procedure Remarks □ Control board 1. Disconnect the leads and connectors connected to assembly the other parts from the control board assembly. 1) Leads CN603 • 3 leads (black, white, orange) connected to terminal block.

[Page 102](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa Part name Procedure Remarks □ Side 1. Side cabinet (right) cabinet □ 1) Perform step 1 in and all the steps in □ 2) Remove the fixing screw (ST1T04 × 8L 5 pcs.) used for securing the side...

[Page 103](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa Part name Procedure Remarks □ □ □ □ □ Compressor 1) Perform work of item 1 of 2) Extract refrigerant gas. 3) Remove the partition board. (ST1T04 × 8L 3 pcs.) 4) Remove the sound-insulation material.

[Page 104](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa Part name Procedure Remarks □ Electronic 1. Detachment expansion □ □ 1) Perform step 1 in , all the steps in and 1 valve coil □ Coil 2) Remove the coil by pulling it up from the anti-turn electronic control valve body.

[Page 105](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa Part name Procedure Remarks TE sensor (outdoor heat exchanging temperature sensor) • Attachment With the leads pointing downward and the sensor leads pointing in the direction shown in the figure, install the sensor onto the straight pipe part of the condenser output pipe.

[Page 106](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa Part name Procedure Remarks Replacement of 1) Cut the sensor 100 mm longer than old temperature one. Cutting here Thermal sensor for Connector sensor part 2) Cut the protective tube after pulling out it servicing only (200 mm).

[Page 107](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa MCC-5009 www.ilmalämpöpumput.com - 107 -...

[Page 108: Exploded Views And Parts List](#)

Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa 13. EXPLODED VIEWS AND PARTS LIST 13-1. Indoor Unit RAS-B10SKVP-E, RAS-B13SKVP-E, RAS-B16SKVP-E 216 213 225, 226 218, 219 221, 222, 224 * The parts in the following parts list are conformed to RoHS.

[Page 109](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa 407, 408, 409 * The parts in the following parts list are conformed to RoHS. Therefore be sure to use the following parts for repairing and replacing. Location Part Location...

[Page 110](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa RAS-10SKVP-ND, RAS-13SKVP-ND, RAS-16SKVP-ND 216 213 225, 226 218, 219 221, 222, 224 * The parts in the following parts list are conformed to RoHS. Therefore be sure to use the following parts for repairing and replacing.

[Page 111](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa 411, 412, 413 * The parts in the following parts list are conformed to RoHS. Therefore be sure to use the following parts for repairing and replacing. Location Part Location...

[Page 112](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa 13-2. Outdoor Unit RAS-10SAVP-E, RAS-13SAVP-E, RAS-16SAVP-E 28, 29 30, 31 13, 16, 19, 22 14, 15, 17, 18, 20, 21, 23, 24, 25 www.ilmalämpöpumput.com - 112 -...

[Page 113](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa * The parts in the following parts list are conformed to RoHS. Therefore

be sure to use the following parts for repairing and replacing. Location Part Location Part Description Description...

[Page 114](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa RAS-10SAVP-ND, RAS-13SAVP-ND, RAS-16SAVP-ND 28, 29 30, 31 13, 16, 19, 22 14, 15, 17, 18, 20, 21, 23, 24, 25 49 CORD, HEATER, Ass'y www.ilmalämpöpumput.com - 114 -...

[Page 115](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa * The parts in the following parts list are conformed to RoHS. Therefore be sure to use the following parts for repairing and replacing. Location Part Location Part Description Description...

[Page 116](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa 13-3. P.C. Board Layout RAS-10SAVP-E-INV, RAS-13SAVP-E-INV, RAS-16SAVP-E-INV 701 Sensor, TE 702 Sensor, TS 703 Sensor, TO 704 Sensor, TD (Ø4) * The parts in the following parts list are conformed to RoHS.

[Page 117](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa RAS-10SAVP-ND-INV, RAS-13SAVP-ND-INV, RAS-16SAVP-ND-INV 701 Sensor, TE 702 Sensor, TS 703 Sensor, TO 704 Sensor, TD (Ø4) * The parts in the following parts list are conformed to RoHS. Therefore be sure to use the following parts for repairing and replacing.

[Page 118: Set Up Of Service P.c. Board](#)

Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa 14. SET UP OF SERVICE P.C. BOARD Before replacing the P .C. board, set up the P .C. board according to the following table. When repaired P.C. board should be electric discharge of capacitor. (C12, C13, C14)

[Page 119](#) Toshiba ilmalämpöpumppujen myynti, huolto ja asennus: Jäähdytinpalvelu RefGroup Oy, Vantaa TOSHIBA CARRIER CORPORATION 2 CHOME 12-32, KONAN, MINATOKU, TOKYO, 108-0075, JAPAN Copyright © 1999 to 2007 TOSHIBA CARRIER CORPORATION, ALL Rights Reserved. www.ilmalämpöpumput.com...

This manual is also suitable for:

[Ras-b10skvp-eRas-16savg-eRas-10skvp-ndRas-10savg-ndRas-13skvp-ndRas-13savg-nd](#) ... [Show all](#)