

FLOOR-STANDING AIR CONDITIONERS

SERVICE MANUAL

No.TE040720

Models TAC-42CF TAC-42CHF



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IMPORTANT NOTICE

This service manual is intended for use by individuals possessing adequate backgrounds of electrical, electronic and mechanical experience. Any attempt to repair the appliance may result in personal injury and property damage. The manufacturer or seller cannot be responsible for the interpretation of this information, nor can it assume any liability in connection with its use.

The information, specifications and parameter are subject to change due to technical modification or improvement without any prior notice. The accurate specifications are presented on the nameplate label.

How to order spare parts

To have your order filled promptly and correctly, please furnish the following information:

- 1. Model No. with Indoor or Outdoor
- 2. No. in the Explosion View
- 3. Part Name
- 4. The quantity you ordered

Technical Specifications

| Modul NC. TAC-42.0* TAC-42.0* TAC-42.0* TAC-42.0* Control type Remote Remote Control type Remote Remote Rated coning capacity Bit/h NA 44,500-10,200 Rated coning capacity Bit/h NA 44,500-10,200 Noiscure removal Lares/h 8.0 8.0 Modul removal Lares/h 8.0 8.0 Modul removal Lares/h 8.0 8.0 Outdoor noise level d6(A) 63 63 Eterrical Dar Low d8(A) 63 8.0 Rated current Heating A N/A 7.6 Vallage Range V V N/A 380V-/50/Hz / 3P Refrict and point Heating A N/A 7.6 <th>Model No.</th> <th></th> <th></th> <th>TAC-42CF</th> <th>TAC-42CHF</th> <th></th> <th></th> | Model No. | | | TAC-42CF | TAC-42CHF | | |
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| Control type Kemole Remote Remote Rated coling capacity Btu/h N/A 442000 42000 Rated coling capacity Btu/h N/A 44300 42000 Rated coling capacity Btu/h N/A 44300 42000 COP for heading W/W N/A 10.3 Modet removal Liters/h 8.0 8.0 Indoor noise level dB(A) 55 55 Control to be level dB(A) 64 64 Electrical Data Med. dB(A) 53 S3 Power supity V S80V-/50Hz /3P Voltage Range V S80V-/50Hz /3P Rated current Cooling A 8/0 8.0 S.0 Rated current Cooling W A A A A Refrigerant/Charge Gram R22/3000 R22/3000 | | | | | | | |
| Rate cooling capacity Btu/h 42000 44,500+10,200 Rate heating capacity Btu/h N/A 44,500+10,200 COP for heating W/W N/A 10.3 6.93 COP for heating W/W N/A 10.3 6.93 Indoor noise level at cooling High dB(A) 55 55 Coll door noise level dB(A) 53 63.3 53 Outdoor noise level dB(A) 64 64 64 Elertrical Data Cooling A 80 8.0 8.0 Rated current Cooling A 80 8.0 8.0 8.0 Rated niput Cooling A 8.0 8.0 8.0 8.0 Refrigerant/Data W N/A 45000 4000-5000 7.6 Refrigerant/Data Cooling A 8.0 8.0 8.0 8.0 Rated ourent Cooling W Refrager Ant/Data Refrager Ant/Data 8.0 8.0 Rated ourent Cooling W | •• | | | | | | |
| Rated heating capacity Bu/h NA 44,500+10,200 EER for cooling Bu/h w 9.13 6.93 OCP for heating W/W NA 10.3 Indoor noise level Linersh 6.0 8.0 Indoor noise level Bd/A 655 55 Electrical Data Bd/A 64 64 Prover supply dB(A) 53 53 Voltage Range V 380V-/50Hz /3P Prover supply V 380V-/50Hz /3P Voltage Range V 380V-/50Hz /3P Rated current Cooling A 8.0 8.0 Rated rinput Cooling W 4800 4700 1 Rated current Cooling W NAA 4300*3000 1 Rated system Type Rotary Rotary Rotary Refrigerantic System Type Rotary Rotary 1 Exaporator Gram R223500g 1 1 Evaporator Type< | | | | | | | |
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| Moisure removal Liters/h 8.0 8.0 8.0 8.0 Indoor noise level acoing dB(A) 57 57 | | | | | | | |
| Indoor noise level High dB(A) 57 57 57 Indoor noise level dB(A) 55 55 | • | | - | | | | |
| Indoor noise level at cooling Med. dB(Å) 55 55 55 Outdoor noise level Electrical Data V 64 64 64 Electrical Data V 380V-/50Hz /3P V Notage Range V 380V-/50Hz /3P V Rated current Heating A 8.0 8.0 | Moisture removal | 1 | | | | | |
| cooling Med. de(A) bb | Indoor noise level at | | | | | | |
| Low dB(A) 63 53 64 Electrical Data | | Med. | dB(A) | | 55 | | |
| Image: Second | cooling | Low | dB(A) | 53 | 53 | | |
| Power supply V 380V-/50Hz / 3P Voltage Range V A A Rated current Cooling A 8.0 8.0 Rated input Cooling W 4600 4700 A Rated input Cooling W 4600 4700 A Refrigerating System Erringerating System Refrigerating Refrigerating System Refrigerating Refrigeration Refrigerating Refrigeration Refrigerating Refrigeration Refrigeration Refrigeration Refrigeration Refrigeration Refrigerating Refrigeration Refrigeration Refrigeration Refrigeration Refrigeration Refriger Refrigeration Refrigeration Refrigeration Refriger Refrigeration Refrigeration Refriger Refriger Refriger Refriger Refriger Refriger Refriger Refriger Refrigeration Refriger Refrigerating Refriger Refrigerating | Outdoor noise level | | dB(A) | 64 | 64 | | |
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| Rated input Cooling W 4600 4700 Image: constraint of the state of | Rated current | | | | | | |
| Rated input Heating W N/A 4300+3000 Refrigerant/Charge Gram R22/3500g R22/3500g Compressor Type Rotary Rotary Rotary LRA A | | | | | | | |
| Heating W N/A 4304300 Refrigerating System Compressor Type Rotary Rotary <thr< td=""><td>Rated input</td><td>Cooling</td><td>W</td><td>4600</td><td>4700</td><td></td><td></td></thr<> | Rated input | Cooling | W | 4600 | 4700 | | |
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| $\begin{tabular}{ c c c c c } \hline Flare type Flare type$ | Compressor | LRA | А | | | | |
| Louver fin and Grooved tube type (9.53)CondenserCorrugated fin and Grooved tube type (9.53)Expansion deviceCapillary tubeDefrosting systemMicrocomputer controlled reverse systemFan SystemIndoor air circulation m^3/h 10001000Indoor fan typeCross flowCross flowIndoor fan speedCoolingrpm550/480/380550/480/380Indoor fan speedCoolingrpmS50/480/380S50/480/380Indoor fan notor outputW160160160Outdoor fan motor outputW160160160Outdoor fan speedrpm720720720Outdoor fan speedrpm720720Outdoor fan speedrpm720720160Outdoor fan speedrpm720720170Outdoor fan speedrpm720720Outdoor fan speedrpm720720170Outdoor fan speedrpm720720170Connecting PipeGasInches3/43/4LiquidInches3/43/4100Drainage PipeO.D. 16mm0Outdoorrmm540 x 1765 x 380540 x 1765 x 380Outdoorrmm540 x 1765 x 380540 x 1765 x 380Outdoorrmm625 x 1875 x 46060Outdoorrmm625 x 1875 x 460625 x 1875 x 460Outdoorrmm< | | - | | | | | |
| $ \begin{array}{ c c c c } \hline Corrugated fin and Grooved tube type (9.53) \\ \hline Expansion device & Capillary tube \\ \hline Microccomputer controlled reverse system \\ \hline Indoor fan type \\ \hline Cross flow \\ \hline Heating rpm \\ \hline N/A \\ 550/480/380 \\ \hline Dry \\ rpm \\ \hline Steep \\ rpm \\ 380 \\ 380 \\ \hline 380 \\ \hline Cross \\ \hline Contecting tripe \\ \hline Contection \\ \hline Connecting Pipe \\ \hline Cannecting Pipe \\ \hline Content \\ \hline Size \times Core \\ number \\ \hline Content \\ \hline Contecting Wiring \\ \hline Size \times Core \\ number \\ \hline Content \\ \hline Cundor fan mm \\ S40 \times 1765 \times 380 \\ \hline S40 \times 1765 \times 380 \\ \hline S40 \times 1765 \times 380 \\ \hline Cundor flom \\ \hline Content \\ \hline Cutdoor fan mm \\ \hline S40 \times 1765 \times 380 \\ \hline S40 \times 1765 \times 380 \\ \hline Content \\ \hline Content \\ \hline Content \\ \hline Content \\ \hline Cutdoor fan mm \\ S40 \times 1765 \times 380 \\ \hline S40 \times 1765 \times 380 \\ \hline S40 \times 1765 \times 380 \\ \hline Cutdoor flom \\ \hline Cutdoo \\ \hline Cutdoor flom \\ \hline Cutdoor flom \\ \hline Cutdoo \\ \hline $ | Evaporator | | | | Louver fin and Groo | ved tube type (9 | 53) |
| $ \begin{array}{ c c c c } \hline Expansion device & Capillary tube \\ \hline Defrosting system & Microcomputer controlled reverse system \\ \hline \hline Microcomputer controlled reverse system \\ \hline \hline Indoor ari circulation & m^3/h & 1000 & 1000 & \\ \hline Indoor fan type & Cross flow & Cross flow & \\ \hline \hline Cross flow & Cross flow & \\ \hline \hline Cross flow & Cross flow & \\ \hline \hline Dry & rpm & 550/480/380 & 550/480/380 & \\ \hline \hline Heating & rpm & N/A & 550/480/380 & \\ \hline \hline Dry & rpm & 380 & 380 & \\ \hline Indoor fan motor output & W & 160 & 160 & \\ \hline Outdoor ari circulation & m^3/h & & & \\ \hline Outdoor fan type & & \\ \hline Outdoor fan speed & rpm & 720 & 720 & \\ \hline Outdoor fan speed & rpm & 720 & 720 & \\ \hline Outdoor fan motor output & W & 2000 & 200 & \\ \hline Connections & & \\ \hline Refrigerant coupling & & \\ \hline Capillary & & \\ \hline Capillary & & \\ \hline Connecting Pipe & & \\ \hline Size & \times & Core \\ number & & \\ \hline Dra & speed & rpm & 540 \times 746 & 3/4 & \\ \hline Cunnecting Wiring & & \\ \hline Dra & & \\ \hline Size & \times & Core \\ number & & \\ \hline Dra & & \\ \hline Outdoor & mm & 540 \times 1765 \times 380 & \\ \hline Met dimensions & & \\ \hline Met dimensions & & \\ \hline Net dimensions & & \\ \hline Indoor & mm & 540 \times 1765 \times 380 & 540 \times 1765 \times 380 & \\ \hline Met weight & & \\ \hline Indoor & mm & 625 \times 1875 \times 460 & 66 & \\ \hline Maxing dimensions & & \\ \hline Max & & \\ \hline Max & & \\ \hline Capillary & & \\ \hline Capillary & & \\ \hline Max & & \\ \hline$ | • | | | | | | |
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| | | | | I | | ulleu leverse syste | 111 |
| $ \begin{array}{ c c c c c c } \hline Indoor fan type & Cross flow & Cros$ | | | | 4000 | 1000 | | |
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| | Indoor fan type | | | | | | |
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| $\begin{tabular}{ c c c c c } \hline Sleep rpm 380 380 & all (100) and (100) and$ | | U | rpm | | | | |
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| $ \begin{array}{c c c c c c c c c c c c c c c c c c c $ | | | | 160 | 160 | | |
| $ \begin{array}{c c c c c c c c c c c c c c c c c c c $ | Outdoor air circulation | | m³/h | | | | |
| $ \begin{array}{c c c c c c c c c c c c c c c c c c c $ | Outdoor fan type | | | | | | |
| $\begin{tabular}{ c c c c c } \hline Connections & Flare type & \\ \hline Refrigerant coupling & Gas & Inches & 3/4 & 3/4 & \\ \hline Liquid & Inches & 1/2 & 1/2 & \\ \hline Liquid & Inches & 1/2 & 1/2 & \\ \hline Connecting Wiring & Size & Core \\ number & & \\ \hline Drainage Pipe & & O.D 16mm & \\ \hline Others & & \\ \hline Suitable area & m^2 & 48~60 & 48~60 & \\ \hline Net dimensions & Indoor & mm & 540 \times 1765 \times 380 & 540 \times 1765 \times 380 & \\ \hline (W x H x D) & Outdoor & mm & 990 \times 340 \times 960 & 990 \times 340 \times 960 & \\ \hline Net weight & Indoor & kg & 47 & 47 & \\ \hline Outdoor & kg & 60 & 60 & \\ \hline Packing dimensions & Indoor & mm & 625 \times 1875 \times 460 & \\ \hline (W x H x D) & Outdoor & mm & 1105 \times 420 \times 1005 & \\ \hline Met & Met x D & \\ \hline Gross weight & Indoor & kg & 66 & 66 & \\ \hline \end{tabular}$ | Outdoor fan speed | | | т төрспог тап | Propeller fan | | |
| $\begin{array}{c c c c c c c c c c c c c c c c c c c $ | | | rpm | | | | |
| $\begin{array}{c c c c c c c c c c c c c c c c c c c $ | Outdoor fan motor out | tput | • | 720 | 720 | | |
| $\begin{array}{c c c c c c c c c c c c c c c c c c c $ | | put | • | 720 | 720 | | |
| $\begin{array}{ c c c c c c c } \hline Connecting Pipe & Liquid Inches 1/2 & 1/2 & 1/2 & \\ \hline Size \times Core number & & \\ \hline Size \times Core number & & \\ \hline Drainage Pipe & & O.D 16mm & \\ \hline Others & & \\ \hline Suitable area & & m^2 & 48~60 & 48~60 & \\ \hline Net dimensions & Indoor & mm & 540 \times 1765 \times 380 & 540 \times 1765 \times 380 & \\ \hline (W \times H \times D) & Outdoor & mm & 990 \times 340 \times 960 & 990 \times 340 \times 960 & \\ \hline Net weight & & Indoor & kg & 47 & 47 & \\ \hline Outdoor & kg & 60 & 60 & \\ \hline Packing dimensions & Indoor & mm & 625 \times 1875 \times 460 & 625 \times 1875 \times 460 & \\ \hline (W \times H \times D) & Outdoor & mm & 1105 \times 420 \times 1005 & \\ \hline Gross weight & & Indoor & kg & 66 & 66 & \\ \hline \end{array}$ | Connections | tput | • | 720 | 720 200 | type | |
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| $ \begin{array}{c c c c c c c c c c c c c c c c c c c $ | Connections Refrigerant coupling | Gas | W | 720 200 3/4 | 720 200 Flare 3/4 | type | |
| $ \begin{array}{c c c c c c c c c c c c c c c c c c c $ | Connections Refrigerant coupling Connecting Pipe | Gas Liquid | W Inches Inches | 720 200 3/4 | 720 200 Flare 3/4 | type | |
| | Connections Refrigerant coupling Connecting Pipe | Gas Liquid Size × | W Inches Inches | 720 200 3/4 | 720 200 Flare 3/4 | type | |
| | ConnectionsRefrigerant couplingConnecting PipeConnecting Wiring | Gas Liquid Size × | W Inches Inches | 720 200 3/4 | 720 200 Flare 3/4 1/2 | | |
| $ \begin{array}{c c c c c c c c c c c c c c c c c c c $ | ConnectionsRefrigerant couplingConnecting PipeConnecting WiringDrainage Pipe | Gas Liquid Size × | W Inches Inches | 720 200 3/4 | 720 200 Flare 3/4 1/2 | | |
| $\begin{array}{c c c c c c c c c c c c c c c c c c c $ | ConnectionsRefrigerant couplingConnecting PipeConnecting WiringDrainage PipeOthers | Gas Liquid Size × | W Inches Inches Core | 720 200 3/4 1/2 | 720 200 Flare 3/4 1/2 O.D 1 | | |
| Indoor kg 47 47 Outdoor kg 60 60 60 Packing dimensions (W x H x D) Indoor mm 625 x 1875 x 460 625 x 1875 x 460 625 x 1875 x 460 Gross weight Outdoor mm 1105 x 420 x 1005 1105 x 420 x 1005 666 | Connections Refrigerant coupling Connecting Pipe Connecting Wiring Drainage Pipe Others Suitable area | Gas Liquid Size × number | W Inches Inches Core m ² | 720 200 3/4 1/2 48~60 | 720 200 Flare 3/4 1/2 O.D 1 48~60 | | |
| Net weight O G 60 60 60 Packing dimensions (W x H x D) Indoor mm 625 x 1875 x 460 625 x 1875 x 460 625 x 1875 x 460 Gross weight Indoor mm 1105 x 420 x 1005 1105 x 420 x 1005 625 x 1875 x 460 | Connections Refrigerant coupling Connecting Pipe Connecting Wiring Drainage Pipe Others Suitable area Net dimensions | Gas Liquid Size × number | W Inches Inches Core m ² mm | 720 200 3/4 1/2 48~60 540 × 1765 × 380 | 720 200 Flare 3/4 1/2 O.D 1 48~60 540 × 1765 × 380 | | |
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| Gross weight Outdoor kg 66 66 | ConnectionsRefrigerant couplingConnecting PipeConnecting WiringDrainage PipeOthersSuitable areaNet dimensions(W x H x D)Net weightPacking dimensions | Gas Liquid Size × number Indoor Outdoor Indoor Indoor | W Inches Inches Core m ² mm kg kg mm | 720 200 $3/4$ $1/2$ $48-60$ $540 \times 1765 \times 380$ $990 \times 340 \times 960$ 47 60 $625 \times 1875 \times 460$ | 720 200 Flare 3/4 1/2 O.D 1 48~60 540 × 1765 × 380 990 × 340 × 960 47 60 625 × 1875 × 460 | | |
| - Outdoor kg 66 66 | ConnectionsRefrigerant couplingConnecting PipeConnecting WiringDrainage PipeOthersSuitable areaNet dimensions(W x H x D)Net weightPacking dimensions | Gas Liquid Size × number Indoor Outdoor Indoor Outdoor Indoor Outdoor | W Inches Inches Core m ² mm mm kg kg kg mm mm | 720 200 $3/4$ $1/2$ $48~60$ $540 \times 1765 \times 380$ $990 \times 340 \times 960$ 47 60 $625 \times 1875 \times 460$ $1105 \times 420 \times 1005$ | 720 200 Flare 3/4 1/2 O.D 1 0.D 1 48~60 540 × 1765 × 380 990 × 340 × 960 47 60 625 × 1875 × 460 1105 × 420 × 1005 | | |
| Loading Capacity 201/40/40/HO 26/56/61 26/56/61 | ConnectionsRefrigerant couplingConnecting PipeConnecting WiringDrainage PipeOthersSuitable areaNet dimensions(W x H x D)Net weightPacking dimensions(W x H x D) | Gas Liquid Size × number Indoor Outdoor Indoor Outdoor Indoor Outdoor | W Inches Inches Core mm mm kg kg mm mm kg kg | 720 200 $3/4$ $1/2$ $48-60$ $540 \times 1765 \times 380$ $990 \times 340 \times 960$ 47 60 $625 \times 1875 \times 460$ $1105 \times 420 \times 1005$ 55 | 720 200 Flare 3/4 1/2 O.D 1 0.D 1 48~60 540 × 1765 × 380 990 × 340 × 960 47 60 625 × 1875 × 460 1105 × 420 × 1005 55 | | |
| Luaung Capacity 20/40/140/142 20/30/01 20/30/01 | ConnectionsRefrigerant couplingConnecting PipeConnecting WiringDrainage PipeOthersSuitable areaNet dimensions(W x H x D)Net weightPacking dimensions(W x H x D)Gross weight | Gas Liquid Size × number Indoor Outdoor Indoor Outdoor Indoor Outdoor Indoor Outdoor | W Inches Inches Core mm mm kg kg mm mm kg kg kg | 720 200 $3/4$ $1/2$ $48-60$ $540 \times 1765 \times 380$ $990 \times 340 \times 960$ 47 60 $625 \times 1875 \times 460$ $1105 \times 420 \times 1005$ 55 66 | 720 200 Flare 3/4 1/2 O.D 1 48~60 540 × 1765 × 380 990 × 340 × 960 47 60 625 × 1875 × 460 1105 × 420 × 1005 55 66 | | |

Operation Details

Remote Controller



① ON/OFF Button

• Used to start and stop operation when pressed.

② OPERATION MODE Selection Button

- Used to select the type of operation mode: AUTO, Cooling, Dry, Fan(Only for Cooling Only) and Heating(Only for Heat Pump)
- ③ FAN SPEED CONTROL Button
 - Used to select the indoor fan motor speed: Auto, High, Mid and Low.

④ SLEEP Button

• Used to set or cancel sleep mode operation.

⑤ VANE CONTROL Button

- Used to adjust airflow direction.
- ⑥ UP Button (TOO COOL Button)
 - Used to increase the set room temperature and time.

⑦ DOWN Button (TOO WARM Button)

• Used to decrease the set room temperature and time.

(8) ON TIMER Button

• Used to select ON TIMER operation.

③ OFF TIMER Button

• Used to select OFF TIMER operation.

The indication symbols on LCD:

| Ţ | A U T O Indicator | Ì | Sleep Mode Indicator | 88:88 | Clock Indicator |
|------|-------------------|--------------------------|------------------------------|---------------|---------------------------|
| * | Cooling Indicator | 80 27 | Air Flow Direction Indicator | © † | ON TIMER Indicator |
| ٥ | Dry Indicator | 90.° 99. [°] | Set Room Temp. Indicator | 0 0 | OFF TIMER Indicator |
| SF . | Fan Indicator | See | Fan Speed Indicator | Ųĵ | Order of ON and OFF Timer |
| | | | | | |

Heating Indicator

Elctronic Controller

- 1. Safety Control
 - (1) Time Delay Safety Control
 - 3 minutes delay for compressor---The compressor is ceased for 3minutes to balance the pressure in the refrigeration cycle in order to protect the compressor.
 - 2 minutes delay for 4-way valve---The 4-way valve is ceased for 2 minutes to prevent the refrigerant-gas abnormal noise when the HEATING operation is OFF or switch to the other operation mode.
 - 20 seconds delay for indoor fan--- When the assistant thermistor turns off, the indoor fan operates in low speed for 20 seconds to release the heat of indoor unit.
 - (2) Indoor Pipe Temperature Sensor Frost Prevention Control

When the indoor pipe temperature sensor reads 0 or below for 5 minutes, the indoor pipe temperature sensor frost prevention control starts. The compressor and outdoor fan stop and indoor fan operates at high speed for 3 minutes. After that, if the indoor pipe temperature sensor reads less than 5 this control prolonged until the indoor pipe temperature sensor reads 5 or more.

(3) High Temperature Protection Control

During HEATING operation, the outdoor fan motor and compressor are controlled by the indoor pipe temperature to prevent the high temperature of compressor.

Outdoor fan OFF: 56 Outdoor fan ON:50 Compressor OFF:60

Compressor ON:50

- 2. "AUTO" Mode Operation
 - (1) When the "AUTO" mode is selected, the operation mode and initial set temperature are determined by the initial room temperature at start-up of the operation except to turn off the air conditioner and operates it again.
 - (2) If the mode is change to "AUTO" mode from other mode, the "AUTO" mode doesn't operate until compressor stop for more than 3 minutes.

| Mode | Initial room temperature | Initial set temperature |
|---|--------------------------|-------------------------|
| COOLING | 26 or more | 24 |
| DRY | 20 to 25 | 18 |
| HEATING for Heat Pump Type FAN for Cooling Only Type | Less than 20 | 23 |

- In the "AUTO" mode, when the controller receives the up or down single of temperature, the set temperature can adjust by 1 upper or lower. The biggest you can adjust by 2 upper or lower.
- 3. "COOLING" Mode Operation
 - When the COOLING mode is selected without setting temperature, the system will set the set temperature at automatically with the AUTO FAN speed.
 - (2) When selecting the COOLING mode operation, the system will operate according to the setting by the remote controller and the operation is as following:

| Room Temp. | | \sim | | | \sim |
|--------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Set TEMP. +1 | | | | | |
| Set TEMP 1 | | | | | |
| Time | More than 2 min |
| Indoor Fan | Set Speed |
| Compressor | ON | OFF | ON | OFF | ON |
| Outdoor Fan | ON | OFF | ON | OFF | ON |

- "DRY" Mode Operation 4.
 - (1) The system for DRY operation used the same refrigerant circle as the cooling circle.
 - (2) When the system operates in DRY mode, at first it operates in cooling mode at 18 for 3 minutes, and then, the system operates in cooling mode with low speed that regards the temperature of the room temperature sensor reads decrease 2 as the set temperature. During the course of this, the fan speed setted operation is failing but the vane motor can be controlled.
- 5. "HEATING" Mode Operation (Only available for Heat Pump)
 - (1) When the HEATING mode is selected without setting temperature, the system will set the temperature at 23 automatically with the AUTO FAN speed.
 - (2) When selecting the HEATING mode operation, the system will operate according to the setting by the remote controller and the operation is as following:

| Set Temp. + 1 | / | | \sim | | \langle |
|---------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Set Temp 1 | | | | | |
| Room Temp. | | | | | |
| Time | More than 2 min |
| Compressor | ON | OFF | ON | OFF | ON |
| Outdoor fan | ON | OFF | ON | OFF | ON |

- (3) In HEATING mode, the indoor fan motor is controlled by Cold Air Prevention Control.
- (4) Cold Air Prevention Control
 - The function is intend to prevent cold air from being discharged when the heating operation starts or when defrosting.
 - The indoor fan speed will be controlled as following:



The vane angle is at the angle $C(100 \circ)$.

(5) Defrost

Defrosting of the outdoor heat exchange is controlled by the microprocessor with detection by the defrost sensor.

• Defrost starting conditions

When the conditions of a) or b) is satisfy, the defrosting operation starts.

a) Under the heating operation, the compressor cumulative operation time exceeds 40 minutes and the temperature of the outdoor defrost sensor reads lower than - 6 continuously for 3minutes.

b) Under the heating operation, the compressor cumulative operation time exceeds 40 minutes, if the indoor pipe temperature is lower than 32 continuously for 3 minutes.

Note: If haven't the outdoor pipe temperature sensor that use the condition b) to defrost, against use the condition a).

- Defrost terminating conditions When the condition c) or d) is satisfy, the defrosting operation stops.
 - c) The outdoor pipe temperature is higher than 20 .
 - d) The defrosting time exceeds 10 minutes.
- Defrosting time chart



(6) Assistant Thermistor Function

Assistant thermistor is add the thermitor of the electricity to rise the heating capacity automatically not effected by the signal of the remote controller about assistant thermistor ON/OFF buttons.

- 1) When the condition all of A~G are satisfy, the assistant thermistor should be on.
 - A. Under the heating operation, the compressor has been running over than 2 minutes.
 - B. The indoor fan operates in normal.
 - C. The system operates not in defrosting.
 - D. The assistant thermistor has been off over than 10 seconds.
 - E. The setted temperature is 3 higher than the room temperature and $15^{\circ}C < T1 < 25^{\circ}C$.
 - F. The room temperature is lower than 15
 - G. The indoor pipe temperature is lower than 45
- 2) When one of the conditions of $A \sim E$ is satisfy, the assistant thermistor is off.
 - A. The compressor is off.
 - B. The room temperature higher than 25
 - C. The indoor pipe temperature is higher than 50 .
 - D. The indoor fan is stopped.
- 6. "FAN" mode operation

The indoor fan motor always turns on at the set speed and the vane motor turns on at the set fattle.

7. 4-way Valve contro

| HEATING | ON |
|-------------|-----|
| COOLING/DRY | OFF |

The 4-way valve reverses for 5 seconds right before start-up of the compressor as following chart:



8. "SLEEP" mode

When the SLEEP button is pressed, the SLEEP mode is selected as following:

- The indoor fan speed is setted at the super low speed.
- When selecting COOLING/DRY operation with SLEEP mode, the set temperature will be raised by 1 1 hour later and by 2 2 hour later.
- When selecting HEATING operation with SLEEP mode, the set temperature will be dropped by 1 1 hour later and 2 2hour later.
- After the System operates in SLEEP mode for 8 hours, it will stop automatically.
- 9. Fan motor control
 - (1) Rotational frequency feedback control

The indoor fan motor is equipped with a rotational frequency sensor, and outputs signal to the microprocessor to feedback the rotational frequency. Comparing the current rotational frequency with the target rotational frequency, the microprocessor adjusts fan motor electric to make the current rotational frequency close to the target rotational frequency. With this control, when the fan speed is switched, the rotational frequency changes smoothly.

- (2) When the rotational frequency feedback signal has not output for 5 seconds (or when the microprocessor can't detect the signal for 5 seconds), the fan motor is regarded locked-up. Then the electric current to the fan motor is shut off. 10 seconds later, the electric current is applied to the fan motor again. During the fan motor lock-up, the POWER indicator lamp flashes on and off to show the fan motor abnormality.
- 10. Auto Fan Speed Control
 - (1) When the auto fan speed is selected, the indoor fan motor speed is automatically controlled by the room temperature and the set temperature.
 - (2) In COOLING mode, the indoor fan motor operates as following:



11. Auto Vane Operation control

(1) Vane motor drive

The unit is equipped with a stepping motor for the vane. The rotating direction, speed, and angle of the motor are controlled by pulse signal transmitted from indoor microprocessor.

(2) Positioning

The vane is once pressed to the vane stopper below to confirm the standard position and then set to the desired angle. The positioning is decided as follows:

- When the ON/OFF button is pressed.
- When the vane control is change from AUTO to MANUAL.
- When the SWING is finished.
- When the test run starts.
- When the power supply turns ON.
- (3) The auto vane changes as follows by pressing the VANE CONTROL button.
- (4) VANE AUTO mode

In vane auto mode, the microprocessor automatically determines the vane angle and operation to make the optimum room-temperature distribution.

(5) SWING mode

When presses the SWING button, the vane swings.

- 12. TIMER Operation
 - (1) To activate the air conditioner at the desire time, follow the procedure specified below(the remote control and air conditioner are switched off):
 - Press the Timer button.
 - Select the desired mode by pressing the Mode button.
 - Select the desired temperature by pressing the ▲ ▼ button (only possible when the 'cool' or 'heat' mode is selected).
 - Select the ventilator speed (low, medium or high) or automatic mode (only possible when the feel, Cool or Heat mode is selected) by pressing the Fan button.

The ventilator always operates in the Auto mode when the Dry mode is selected.

- Select Swing or no Swing by pressing the Swing button.
- Press the Timer button ('h' flashes).
- Use the ▲ ▼ button to select the time at which the air conditioner must activate (between 0 and 10 hours can be set at every half hour-between 10 and 24 hours can be set at every hour).
- Press the Timer button ('h' stops flashing) and the preset time appears in the display.
- Press the Timer button again to delete the selected data from the memory.

Note: If no buttons are pressed during the programming of the timer function, the remote control will switch off automatically are after 10 seconds.

- (2) To switch the air conditioner off at the desired time, follow the procedure specified below (the remote control and air conditioner are switched off):
 - Press the Timer button.
 - Use the ▲ ▼ button to select the time at which the air conditioner must deactivate (between 0 to 10 hours can be set at every half hour-between 10 to 24 hours can be set at every hour).
 - Press the Timer button ('h' stops flashing), and the preset time will appear in the display.
 - Press the Timer button again to delete the selected data from the memory.

Note: If no buttons are pressed during the programming of the timer function, the remote control will switch off automatically after 10 seconds.

Note: if 'h' is flashing and you press the ON/OFF/RUN button once, the preset temperature will appear in

the display. You can now adjust the temperature with the $\blacktriangle \lor$ button. Press the Timer button again to display the time, which can now also be adjusted \Box If the Timer button is pressed again, the data is stored and the remaining time(that the air conditioner will be in operation) will appear in the display.

Pressing the ON/OFF/RUN button instead of the Timer button deactivates the remote control.

Note: check that the TIMER INDICATOR on the indoor unit lights up after the timer has been set.

Press the Timer function to check the settings in the display.

13. EMERGENCY-TEST Operation

When the EMERGENCY Operation switch is pressed once, COOLING mode is selected and if in 3 seconds the EMERGENCY Operation switch is pressed again, HEATING mode is selected. Then pressed once again, the unit is switch off.

When the remote controller is missing, has failed or the batteries run down, press the EMERGENCY Operation switch on the front of the indoor unit. The unit will start.

The first 30 minutes of operation will be the test run operation. The operation is for servicing. The indoor fan runs at high speed and the system is in continuous operation. The thermostat is ON and the timer is reset to normal.

After 30 minutes of test run operation the system shifts to AUTO COOLING/HEATING mode, and the indoor fan runs in automatic speed. The operation continues unit the EMERGENCY operation switch is pressed or a button on the remote controller is pressed, the normal operation will start.

NOTE: Do not press the EMERGEMCY Operation switch during normal operation.

14.AUTO RESTART Function (Option)

When the indoor unit is controlled with the remote controller, the operation mode, set temperature, and the fan speed are memorized by the indoor electric control PCB. The AUTO RESTART function sets to work the moment power has restored after power failure. Then, the unit will restart automatically.

15. Failure Display and Handling

a) The failure of the resistance of heat sensitive:

When the resistance of heat sensitive reads the temperature is lower than - 50 or over than 110 that judge the heat sensitive is bad.

b) The Outdoor Protection Control

When the system checks the signal from outdoor of the voltage is 0V, the system delay 1 second to start for check the signal again, if checks the signal of the voltage is 0V too, that the system not to star, or operates on normal.

c) Failure Display

When the controller is failure, the buzzer will voice long for three times, and displays the failure from the failure lamp.

d) Failure code

| The failure of room temperature sensor | E3 |
|---|----|
| The failure of indoor pipe temperature sensor | E4 |
| Outdoor protection function | E5 |
| The failure of out unit protection | P6 |

- e) Failure Handling
 - When the room temperature sensor or the indoor pipe temperature sensor is failure, the system will be shut off, the compressor will be OFF, and the outdoor fan and the indoor fan will be OFF. The system doesn't receive the signal of remoter controller except the signal of shut off it. When the failure

system, and it will operate in COOLING or HEATING for 30 minutes, and follows shut off. During

this, it displays the failure and the protection is failing. You must be give the electric again to operate it. In the failure, you can operate the FAN mode.

- When the outdoor protects in the COOLING or DRY, the outdoor unit stops, the indoor fan operates in set speed ; and in the HEATING, the outdoor unit stops, the assistant thermistor stops, the indoor fan operates in cold air prevention control. The system doesn't receive the signal of remoter controller except the signal of shut off it. When the system check the voltage is 220V and the delay control is finished, it operates at normal again.
- When the indoor fan motor is failure, the compressor is stopped, the outdoor fan and indoor fan is stopped and display the failure. The system doesn't receive the signal of remoter controller except the signal of shut off it.
- (6) When gives the control electric, the buzzer voices a long for 0.3 second per cycle.

WIRING DISGRAM

MODEL:TAC-42CHF INDOOR UNIT:



OUTDOOR UNIT:



MODEL: TAC-42CF INDOOR UNIT:



OUTDOOR UINT:



TAC---42C(H)F OUTDOOR UNIT EXPLOSION VIEW





TAC---42C(H)F INDOOR UNIT EXPLOSION VIEW



