

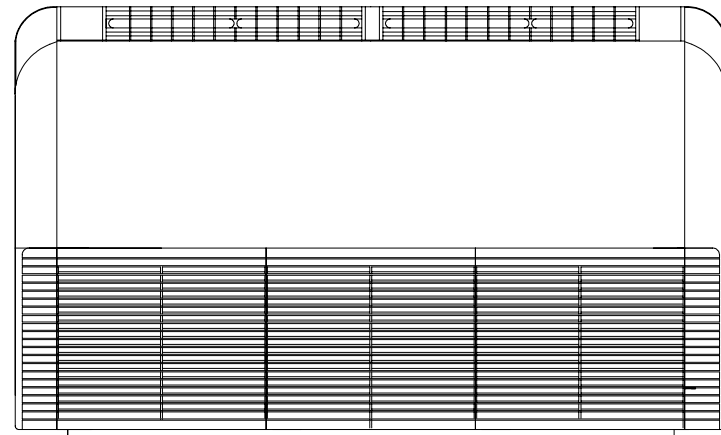


**INSTALLATION INSTRUCTION**

FLOOR/CEILING INDOOR UNIT

MODEL: SMUL 12,18,24,30,36,48,60

Read this instructions carefully before installation.



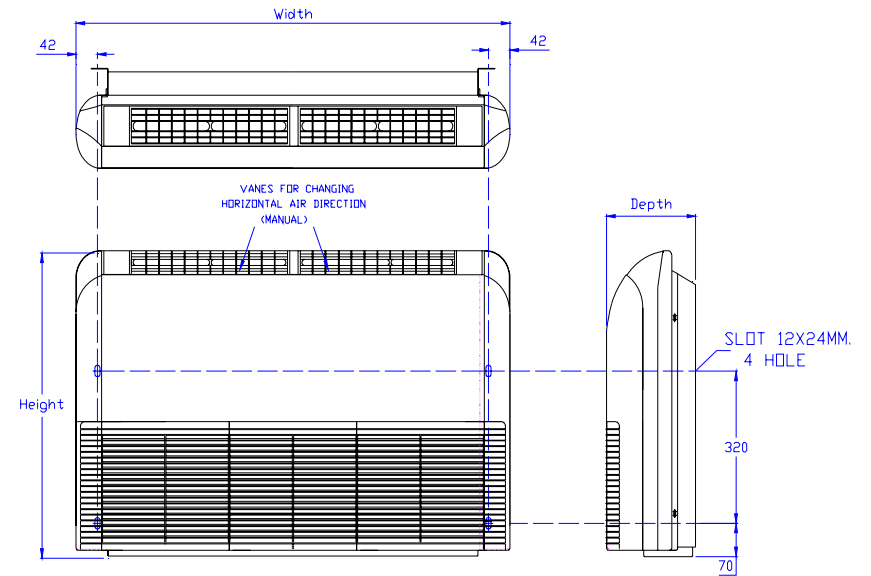
**Note**

Please refer to installation and operation manual of SMUL (Floor / Ceiling Type)

- The appliance shall be installed in accordance with national wiring regulation (IEC 60335 1/A2)
- Appliance is not to be used by children or persons with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction.
- Children being supervised not to play with appliance
- The means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules.
- The power supply must adopt the special circuit that with circuit breaker protection and assure it have enough capacity.
- Supply cords for outdoor use shall not be lighter than polychloroprene sheathed flexible cord (code destination 60245 IEC 57)
- Specified nominal cross sectional area of supply cords for model SMUL-012, SMUL-018, SMUL-024 should be 0.65 mm<sup>2</sup>, and model SMUL-030 should be 1.0 mm<sup>2</sup>

RHEEM REV 01

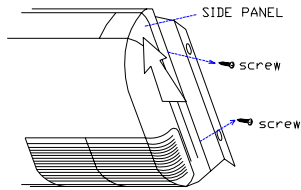
Dimension



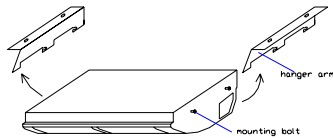
MODEL	Width (mm)	Height (mm)	Depth (mm)
12	1,010	640	210
18	1,010	640	240
24-30	1,310	640	240
36	1,610	640	240
48	1,910	640	240
60	1,910	640	270

Detaching the mounting bracket (Hanger Arm) from the unit.

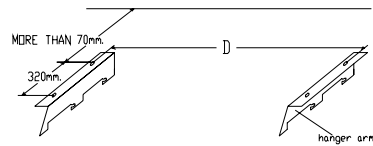
1. Detached the side panel from both side of the unit.



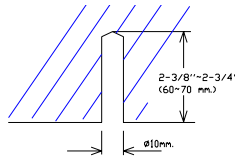
2. Loosen the mounting bolts and remove the hanger arm



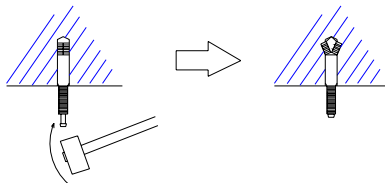
3. Prepare to install the hanger arm on **the ceiling or wall**. Refer to the drawing below and the dimension of the unit.



4. Drill a hole in **the ceiling or wall** for the anchor bolts.



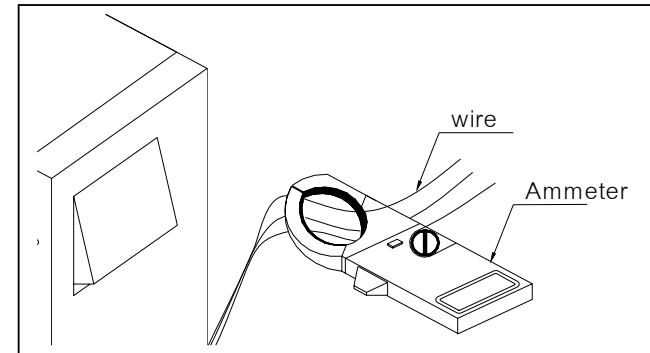
5. Insert the anchor bolts into the drilled hole and drive the pin completely with a hammer. (See drawing below)



## TEST RUNNING

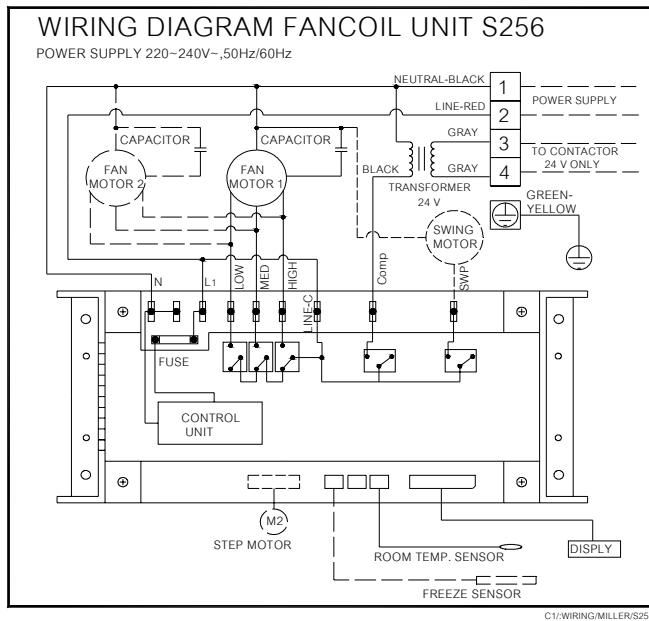
### RUN TEST:

- \* Check electrical main wire "voltage".
- \* Run the air conditioner for 15 minutes or more. Check the electrical current with ammeter and compare with the specification.



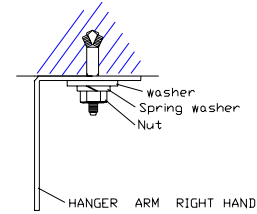
**ELECTRICAL WIRE DIAGRAM**

- \* Wiring as shown in electrical wiring diagram.
- \* Use copper conduction only.
- \* How to tighten screw on terminal block.
  1. Bare the ends of electric wire.
  2. After retaining the wire. Check that all terminal screws are firmly tightened.

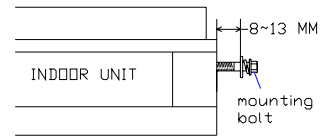


- REMARK: -
- ELECTRICAL WIRE SIZE 2.5 MM<sup>2</sup>.
  - FUZE 3 AMP FOR P.C. BOARD

6. Mount the hanger arm into the anchor bolt with washer, spring washer and nut.

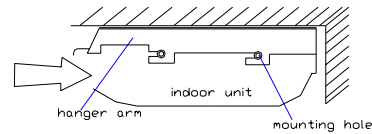


7. Prepare the mounting bolts on the unit as shown below.

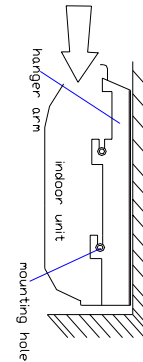


8. Hang the unit on the hanger arm by sliding backward (See figure below). Securely tighten the mounting bolts on both sides.

**Ceiling mounted**



**Wall mounted**



**NOTE:**

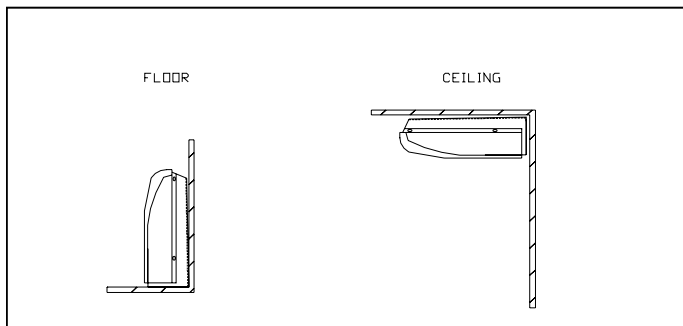
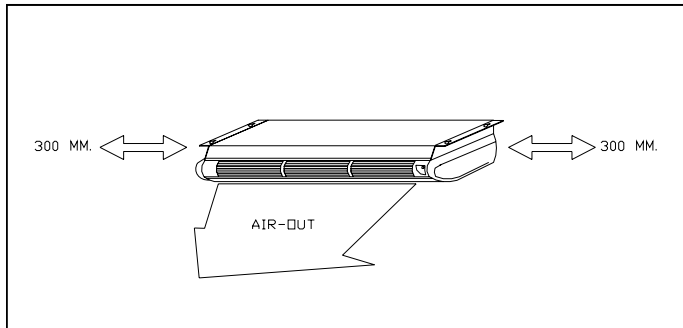
Make sure that the holes for refrigerant piping and drainpipe were prepared before mounting the unit.

## LOCATION FOR INDOOR UNIT

Select the location the indoor unit with the following consideration:

1. The front of the air inlet and outlet shall be free from any obstruction. The outlet air should flow out freely.
2. The wall where the unit is to be mounted should be stiff enough not to resonant and produce noise.
3. The place should allow easy access to install the copper tube pipe to the outdoor.
4. Ensure the clearance on every side of the indoor unit to conform to figure below.
5. From the floor the height should be more than the eye level.

**CAUTION :** Avoid installing the unit form direct sunlight.



## AIR PURGING AND CHECK OF PIPE LEAKAGE

The purpose of air purging is to get rid of moisture and air in the system, otherwise moisture and air may cause and ineffectiveness of compressor which directly effects to the cool air.

### PURGING BY USING VACUUM:

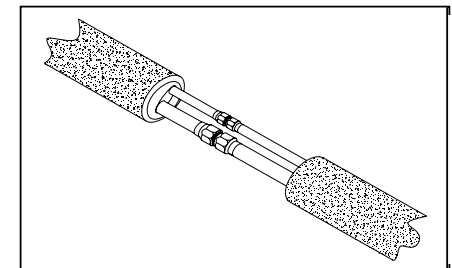
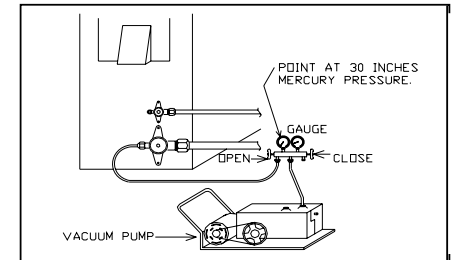
After tighten flare nut between indoor and Outdoor unit.

- Remove the blank cap of three-way Valve by using torque wrench .Check Both high pressure and low-pressure Valve are in closed condition.
- Remove the nut of the service port.
- Connect gauge into the service port.
- Connect gauge into the vacuum pump
- Vacuum until gauge indicate at 30-Inch mercury pressure.
- Remove gauge. Tighten up the nut of service port.

### GAS LEAKING CHECK:

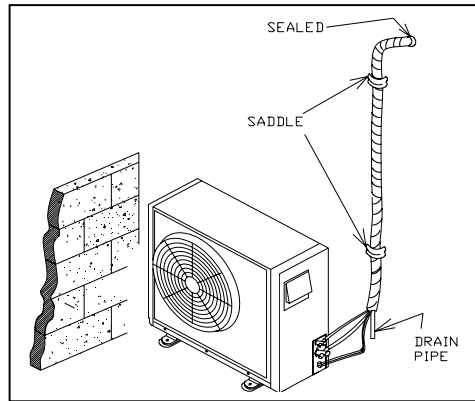
- Check leakage by apply soapsuds to Ever connection and inspect carefully after checking wipe them off completely.

- Use hexagonal wrench to open both high pressures, low -pressure valve to the end (counter clockwise). Tighten the blank cap of three-way Valve.
- Cover indoor unit joint with pipe insulation and 4 plastic bands prevent Condensation at joint.



LIQUID PIPE AND DRAIN PIPE

- \* Drain pipe should be above ground and the end off the pipe does not dip into water all pipes must be restrained wall by saddled.

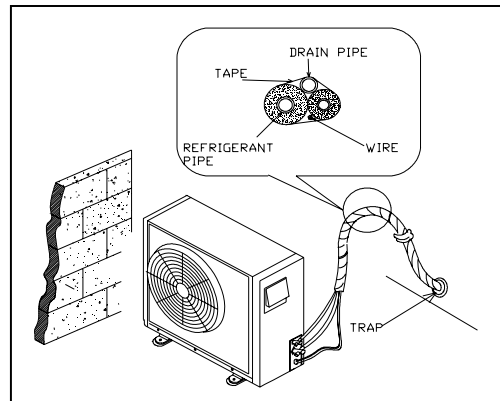


IF THE OUTDOORS UNIT IS INSTALLED LOWER THAN INDOOR UNIT

- \* Taping method ,taping from lower part to upper
- \* All pipes are bound together by tape and restrained to the wall by saddles.

IF THE OUTDOORS UNIT IS INSTALLED HIGHER THAN INDOOR UNIT

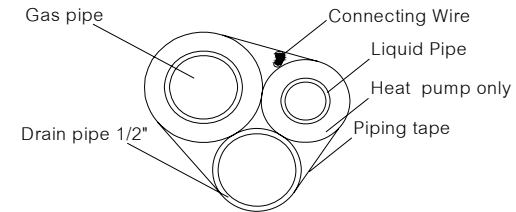
- \* Taping should done from lower to upper part.
- \* All pipes are bound and taped together and trapped the pipes to prevent water returning to the room. (see picture)
- \* Restrain all pipes to the wall with saddles.



REFRIGERANT PIPING WORK

1. Selection of copper pipe for gas pipe and liquid pipe as informed in specific table(see pipe table)
2. For dust moisture protection , before assembly the pipe and its insulation, both end of the pipe must be coverage.
3. Avoid pipe bending as mush as possible. If it is necessary, the bending radius must be more than 3 or 4 cm.

Gas pipe and liquid pipe insulation depending upon copper pipe size and the insulation thickness=3/8"



BTU/HR	PIPING BETWEEN INDOOR & OUTDOOR UNIT			PIP SIZE OD. ( INCH.)		EXTRA CHARGING R-22 FOR PIPE LENGTH MORE THAN 5 M (GRAM/M)
	HEIGHT DIFFERENT		PIPING LENGTH (ONE WAY)	LIQUID	GAS	
	H(CON.ABOVE FANCOIL)	H(CON.UNDER FANCOIL)				
10,000-12,000	15 M.	10 M.	20 M.	1/4	1/2	30
16,000-33,000	20 M.	15 M.	30 M.	3/8	5/8	60
	25 M.	20 M.	55 M.	3/8	7/8	
56,000-60,000	25 M.	20 M.	35 M.	1/2	3/4	120
	25 M.	20 M.	50 M.	1/2	7/8	
	25 M.	20 M.	60 M.	1/2	1-1/8	

4. the connection indoor unit and outdoor unit.
  - Unscrew flare nut for releasing pressure gas in indoor unit .If there is no high-pressure gas blowing out, it is the signal of leaking indoor unit.
  - Fit flare nut with liquid pipe. Flaring the pipe 's end with fare tool.

- Drain hose outlet from indoor unit can be manage in 3 style :rear ,left and right of the indoor unit
- Tighten both flare nuts into gas pipe and liquid pipe at the indoor unit with two holding spanners.

5. Condense drain

- Be sure the unit reasonably level and pitched toward the drain to ensure proper grange.
- Piping material
  - (a) Soft Vinyl chloride Pipe 22 MM. Nominal pipe size.
  - (b) Hard Vinyl chloride (PVC) Coupling 22 mm. Nominal pipe size.
- Connect the soft/hard vinyl chloride pipe to the coupling, see fig.8
- The indoor unit uses gravity to drain: Therefore the piping outside the unit should slope downward.
- "IMPORTANT " Avoid draining as shown in fig. 9.

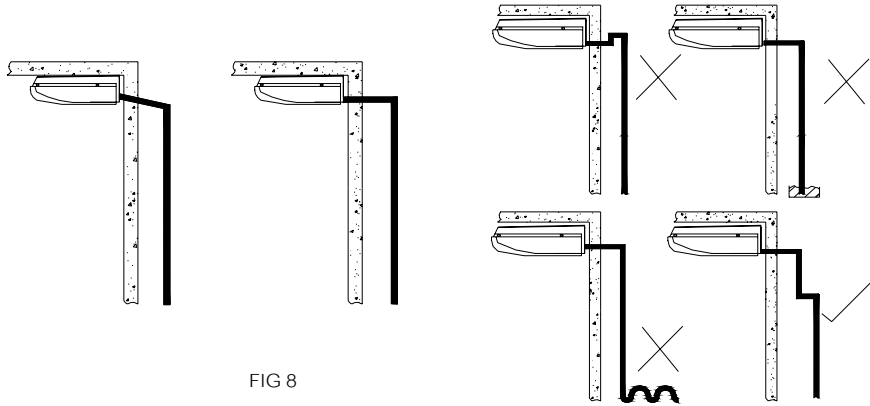


FIG 8

FIG 9

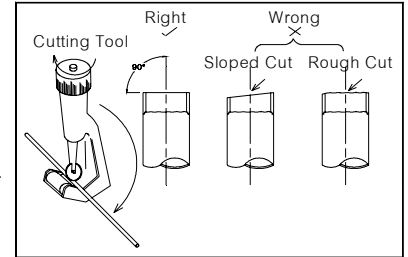
6. Refrigerant piping

- Connections to the indoor unit are flared connection.
  1. Make flared joints for both suction and liquid lines.
  2. Ensure tube and fittings are in line with one another before tightening nut to provide concentric seating of tube on prevent leakage.
- Brazing should be performed with a constant purge of nitrogen trough the piping. This to Keep inside of tube clean.
- Insulate suction and liquid and liquid line separately to prevent sweating.

PIPE PREPARATION

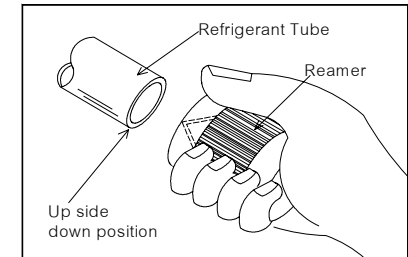
-PIPE & ELECTRICAL WIRE CUTTING

- \* Use cutting tools easily found in the market.
- \* Measure precisely both outer & inner pipe.
- \* Provide Alltel bit longer pipe than the measurement.
- \* Wire must be 1.5 m. longer than the refrigerant tube.



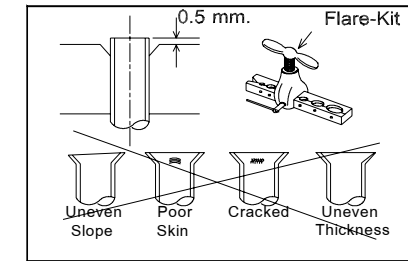
-REAMING

- \* Clean inside of the inner refrigerant tube.
- \* While reaming, the tube end must be on the top of the reamer to prevent any dust going back into the tube.



-FLARING THE PIPE FND

- \* Flare both ends of the pipe with flaring kit by fitting the flare nut on the pipe before flaring.
- Set the die on the pipe so that pipe end is 0.5 mm. Above top of the die .Check if the pipe end is even and perfectly round.



- WIRE CONNECTION AND TAPE COVERING

(See the picture on the right hand side)

