

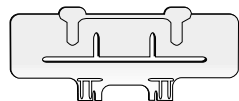
TGL/DGL Installation Instructions

50Hz	TAC 505	TAC 506	0101
VER - F			

General

- These instructions are intended as general guidelines. The air conditioner must be installed by trained and authorized personnel.
- Use the following size copper tubing for connecting the outdoor and indoor units:
Models TGL/DGL 9, 11 - 3/8" and 1/4". Models TGL/DGL 15, 20, 25 - 1/4" and 1/2". Models TGL 30 - 3/8" and 5/8".
- Installation must be performed in accordance with the manufacturer's specifications, using only approved tubing, original electrical cables and accessories.

Standard Accessories



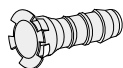
Mounting Bracket



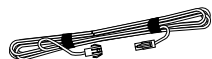
Absorption cushions for DGL and TGL 30



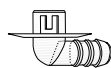
6/7 stations according to the model
Electrical terminal block



Drain hose adapter for DGL/TGL 30



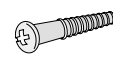
Outdoor sensor TH3, 10m connecting cable



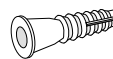
Drain hose adapter for DGL/TGL 9-25



Insulation for Fittings



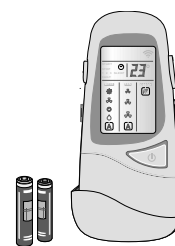
Long Screws



Wall Plugs



User's Manual



Remote Controller and Batteries + Remote Controller Rack

Electrical Requirements

- The air conditioner must be directly connected to an appropriate power source.
- Use 16A fuses for all Models TGL/DGL air conditioners.
- Use a single-length power cable, without extensions.
- When installing a Dual System air-conditioner of DGL series (a single outdoor unit and two separate indoor units) both indoor units must be connected to the mains power supply in order for the system to function properly.

Model	Maximum tubing length in meters (ft)	Maximum height difference between unit in meters (ft)
TGL-9, 11, 15, 20, 25, 30	15 (49')	10 (33')
DGL-9, 11, 15, 20	15 (49')	10 (33')
DGL-11/15	15 (49')	10 (33')

Indoor and Outdoor Unit Location

The indoor and outdoor units should be installed as close to each other as possible. Do not exceed the tubing lengths and height differences which appear in the accompanying table above:

Outdoor Unit

- Make sure to leave sufficient space around the unit. See Figure 1 for minimum required distances between the unit and nearby walls.
- Install the unit in a location with convenient access for service and maintenance purposes.
- Position the unit to minimize motor noise which reaches the customer and neighbours.
- In heating mode, water can form in the condenser. A drainage hose may be attached to the unit. Use the adapter shown Figure 1.
- For opening service door in models TGL 9-25, keep a minimum distance of 0.27m (10" 62") between the unit and the support's end.
- Make sure of installing the unit legs to the support.

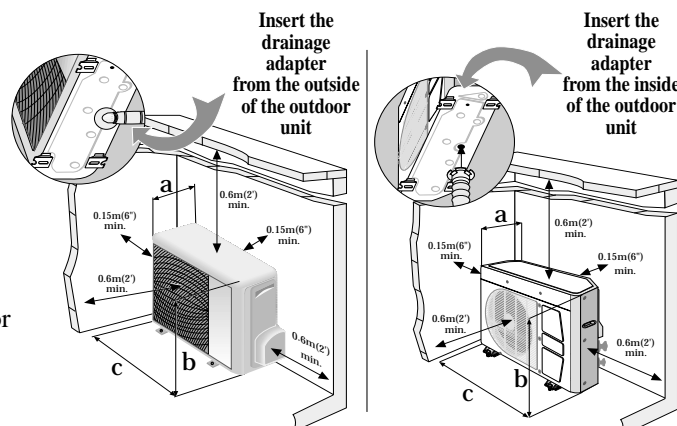


Fig. 1

TGL 9-25

DGL, TGL 30

Outdoor Dimensions mm (")	Model	
	TGL 9-25 Plastic Model	TGL 30 DGL ALL
a	320 (12.59")	265 (10.43")
b	641 (25.23")	540 (21.25")
c	1100 (43.3")	730 (28.74")

Indoor Unit

- Make sure to leave sufficient space around the unit. See Figure 2 for minimum required distances between the unit and the ceiling, floor and surrounding walls.
- Locate the unit to ensure free air flow around it.
- A 120 cm. power cable is supplied with the unit. We recommend placing the power outlet near the unit, on its right side.
- Avoid installing the unit near a source of heat, such as direct sunlight, steam or a flame.
- Install the unit in a location with convenient access to refrigerant line connections for service and maintenance purposes.

Indoor Dimensions mm (")	Model	
	TGL 9-20	TGL 25-30
a	185 (7.28")	185 (7.28")
b	260 (10.23")	295 (11.61")
c	815 (32.08")	1080 (42.52")

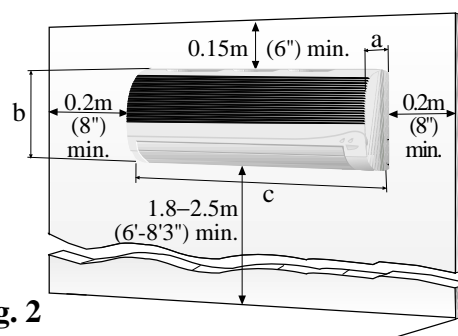


Fig. 2

Installing the Indoor Unit

Refrigerant line routing

- The refrigerant lines may be routed in any of the four directions shown in Figure 3.



Fig. 3

Installing the mounting bracket

- Pull out the mounting bracket attached to the back of the unit. See Figure 4.
- Position the mounting bracket on the wall and level it using a spirit level.
- Mark the four drilling holes on the wall, as they appear in Figure 4.
- Drill the holes, insert the wall plugs and use the long screws to attach the mounting bracket to the wall.
- Check that the bracket is level and securely fastened to the wall.

Drilling a hole in the wall

- If refrigerant routing No. 3 is chosen, a hole in the wall must be performed shown in Figure 6.
- Mark the center of the hole to be drilled shown in Figure 4.
- Drill a 70 mm (3") hole in the wall for the refrigerant lines, drainage hose and electric cables.
- If refrigerant line route nos. 1, 2 or 4 are used, use a small saw blade to carefully remove the corresponding plastic covering on the side panel.
- Fill the remaining wall hole gap with an appropriate sealant material.
- Mount the indoor unit on the mounting bracket (see Figure 6).
- Make sure to drill outwards and downwards, so that the opening in the outside wall is at least 10 mm lower than the opening on the inside.
- Make sure the drainage hose is at the bottom side of the hole.

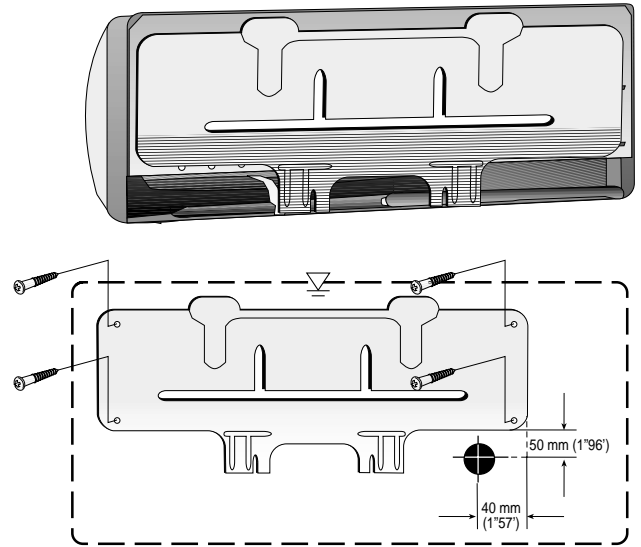


Fig. 4

Drainage water form

- Connect the unattached end of the drainage tube to the drainage hose outlet.
- Seal the drainage connection to prevent leakage.
- Make sure there are no kinks, "U" bends or flattened sections in the tube.
- Check that the drainage functions properly. Fill the pan below the unit's coil with water and observe that it freely drains out. See Figure 5.

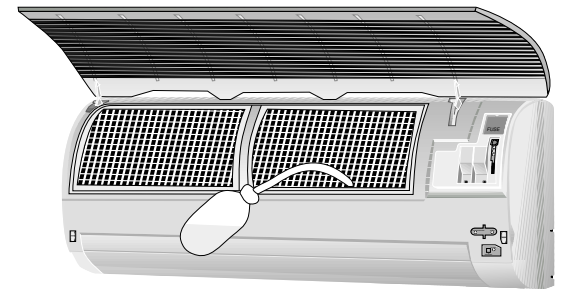


Fig. 5

Wiring the indoor unit

- Remove the air conditioner cover by lifting the lower part and then pulling it gently outward. See Figure 8.
- Remove the two screws from the plastic control cover as shown in Figure 9.
- Route the inter-unit electric cable and the outdoor sensor cable towards the lower right corner of the indoor unit.
- For TGL 25/30 model use a screwdriver to insert the bracket pad wire ends (7 mm) into the terminal block, as shown in Figure 9.
- For TGL 9-20 and DGL models insert the bracket pad wire ends into the terminal block and make sure that the screws are properly fastened.
- Make sure that the wires are connected in accordance with the wiring diagram on the inside of the front cover.
- Attach the inter-unit electric cable with the cable clamp located on the unit.
- Connect the Outdoor Sensor TH3 connector to its mating connector.
- Close the Plastic control cover with two screws. Keep the Electric cable and Outdoor sensor cable in between. See Figure 9. If plastic control cover will close not properly the wiring and cover could be damaged!

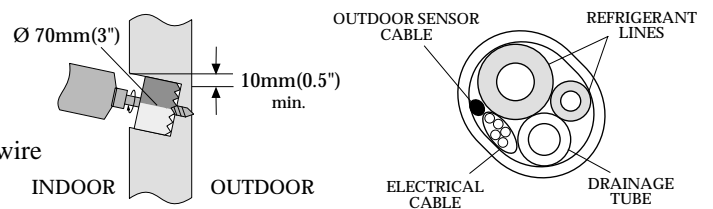
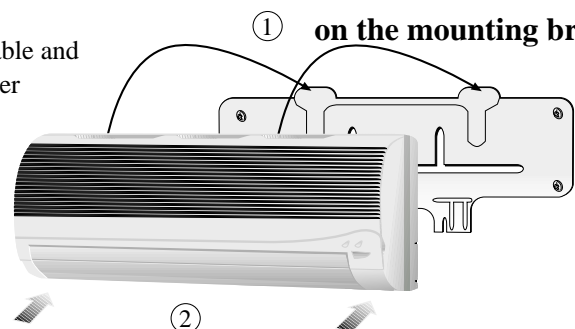


Fig. 6

Attaching the Remote Controller Rack

- Use the two screws supplied to attach the rack to the wall in the location selected by the customer.
- Please inform the customer to ensure proper operation of the air conditioner timer program, there should be a clear "line of sight" available at all times between the remote controller and the air conditioner.

Mount the indoor unit on the mounting bracket



Gently push with the arrow direction

Fig. 7

Piping

- Connect the ends of the refrigerant lines to their appropriate fittings, following the guidelines in the "Connecting the refrigerant lines" section.
- Make sure the drainage hose is at the bottom side of the wall through-hole (see Figure 6).

Installing the outdoor unit

- The outdoor unit must be installed a least 5 cm (2") above a solid surface.
- Make sure that the unit is level.
- For DGL and TGL-30 models fasten the outdoor unit legs to the base, as shown in Figure 10a. Place the rubber absorption cushions (supplied) under the unit's legs to prevent vibrations.



Fig. 8

* Connection 7 (CONT.) in Figures 9, 10, 10a and 11 is only for model TGL 30.

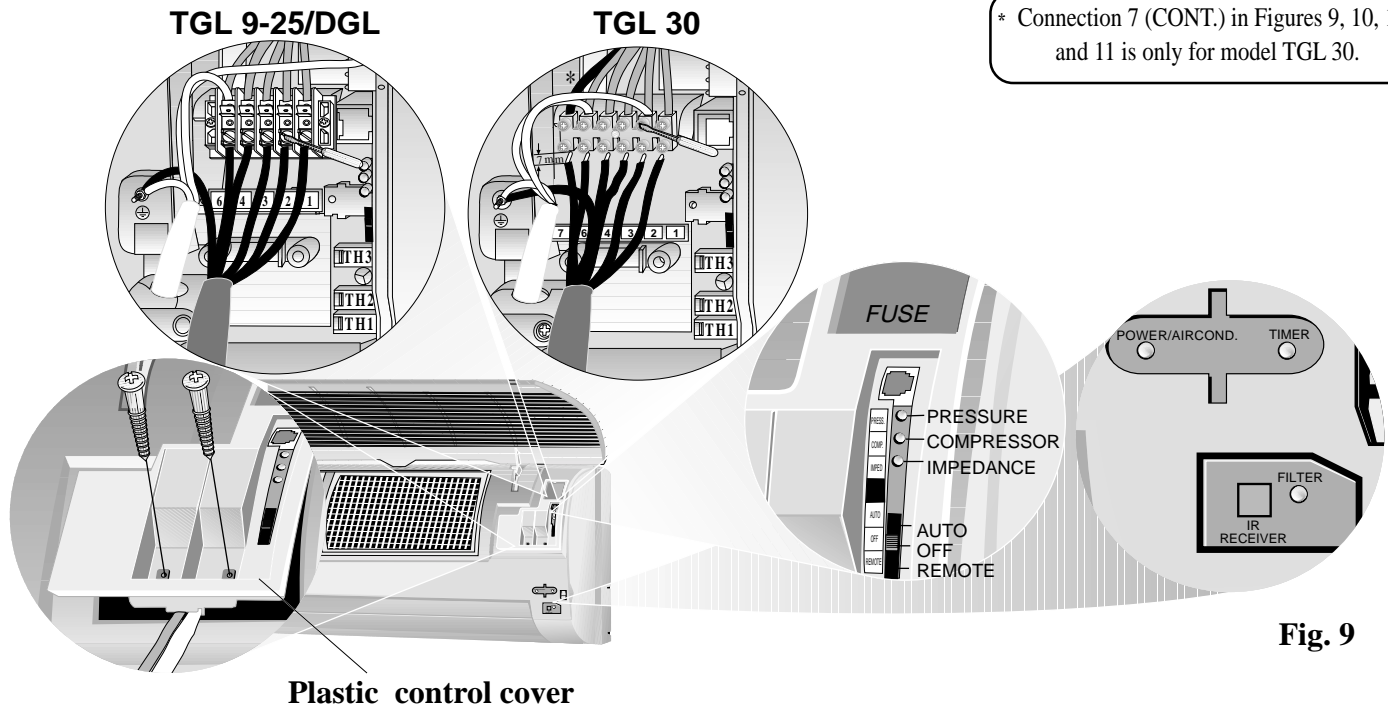


Fig. 9

Wiring the outdoor unit

- Remove the 3 screws of the service door plastic side cover in the outdoor unit.
- Open the service door (plastic cover).
- Attach the electrical terminals supplied to the inter-unit electric cable wires.
- Connect the wires to the terminal block male-female, in accordance with the color coding which appears in Figure 11.
- Connect the outdoor sensor cable TH3, making sure the connector is properly inserted.
- For DGL, and TGL 30 secure the inter-unit electric cable to the outdoor unit with the clamp shown in Figure 10a.
- For TGL 9-25 secure the inter-unit electric cable in between the plastic pins shown in Figure 10.
- Reassemble the plastic side cover.

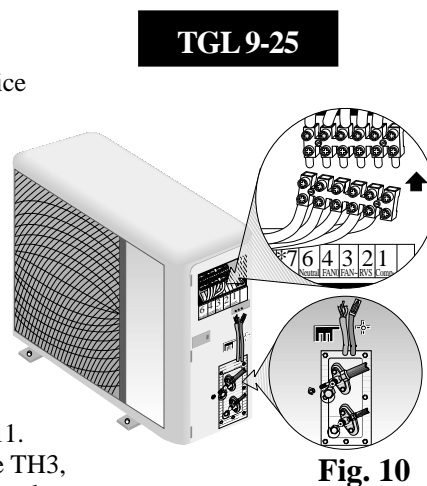


Fig. 10

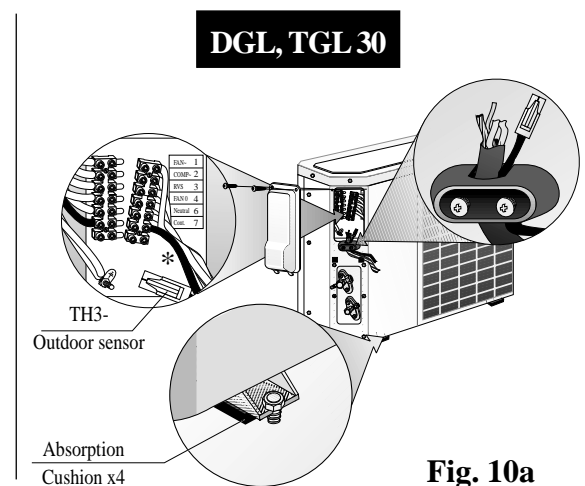


Fig. 10a

Notes:

- A drainage tube can be connected to the outdoor unit to remove condensation formed during heating mode operation. Drainage hose adapter for TGL 9-25 is installed from the outside of the outdoor unit. Drainage hose adapter for TGL 30 and DGL is installed from the inside of the outdoor unit.
- When possible, lead the indoor unit drainage tube to the outdoor unit.
- Make sure that the inter-unit electric cable is properly connected to the outdoor unit, in accordance with the color coding in the wiring diagram attached to the air conditioner.
- Make sure that all screws and wires are properly fastened. Loose wires or connections can cause damage and present a fire hazard!

Connecting the Refrigerant Lines

- To connect the refrigerant lines use only "L" type sealed, dehydrated copper refrigerant tubing. No other type of tubing may be used. Use of other types of tubing will void the manufacturer's warranty.
- Do not open service valves or remove protective caps from tubing ends until all the connections are made.
- Take care to avoid kinks or flattening of the tubing.
- Bend tubing with special bending tools to avoid the formation of sharp bends.
- Keep the tubing free of dirt, sand, moisture and other contaminants to avoid damaging the refrigerant system.
- Avoid sags in the suction line to prevent the formation of oil traps.
- Insulate the tubing with 3/8" - walled thermal pipe insulation. You can save time and improve insulation by inserting the tubing into the insulation before making the connections. The suction and liquid lines should never come in direct contact.

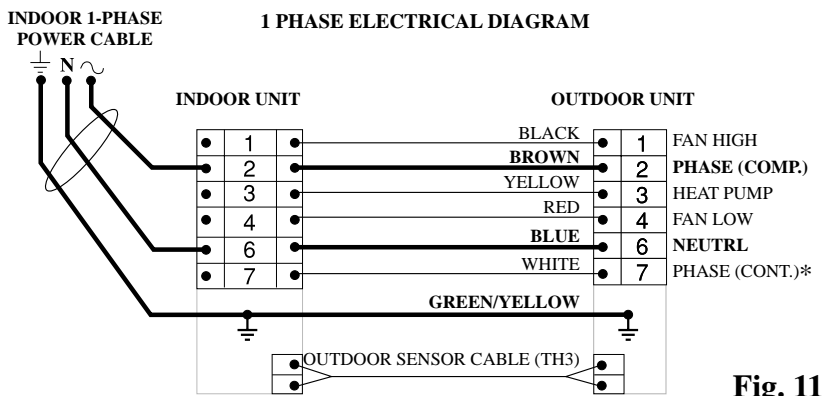


Fig. 11

Flaring and Connecting

- Remove the protective cap from the flare fitting.
- Remove the protective cap from the tubing and cut to the required length. Make sure that the cut is perpendicular and clean, without burrs.
- Slip the flare nut on the tubing and flare the tube end, using standard flaring tools.
- Tighten the nut until resistance is met. Mark the nut and the fitting. Using a suitable wrench, tighten an additional 1/4 turn. Use the following specified torque, according to connection size:
- The valves on the outdoor unit must remain closed until all four connections have been made.

Valve Type	Tubing Line (")	Torque	
		kg m	lb ft
Liquid Small	1/4"	1.7	12.3
	3/8"	4	29
Suction Large	3/8"	4	29
	1/2"	5	36
	5/8"	6.5	47
	3/4"	10	72

Air Vacuum and Refrigerant Charge

When all the fittings are connected, air must be expelled, as follows:

- Open the service port cap on the suction line valve (large valve).
- Connect the vacuum pump to the service port via the pressure gauge and operate the pump for 15 minutes.
- Make sure that full vacuum is present and disconnect the vacuum pump.
- Open the liquid line valve (small valve) with an M-5 Allen wrench.
- Open the suction line valve (large valve) with an M-5 Allen wrench.
- The outdoor unit is supplied with sufficient refrigerant for eight meters (26 feet) of tubing. Add refrigerant and oil for each additional meter of tubing used according to the table. If the tubing is shorter than 8 meters, release gas from the system through the service valve into a recycling device.
- Close the service port caps on the suction line.
- Make sure that the valves are properly opened. Be careful not to open them more than required, as this may damage the thread.
- Replace the stem cap. Oil the cap beam and hands tighten the cap, until resistance is met. Use a suitable wrench to tighten the cap by an additional 1/6 turn.
- Check the system for refrigerant leakage using a leak detector.

Tubing Line (")	Add refrigerant and oil if tubing is longer than 8m (26'3"), for each additional 1 meter (3'33") add:			
	Refrigerant gr. / Oz		Oil gr. / Oz	
1/4"-3/8"	15	0.52	10	0.35
1/4"-1/2"	20	0.7	10	0.35
5/8"-3/8"	30	1.05	10	0.35
3/4"-3/8"	30	1.05	20	0.7

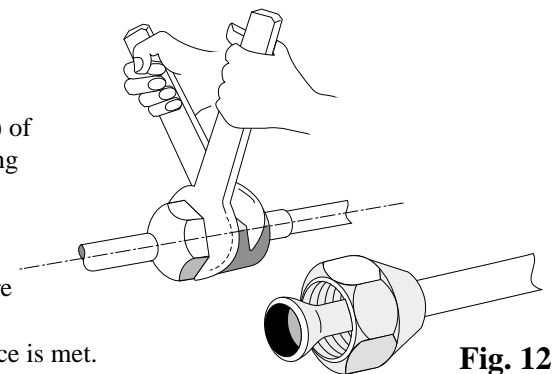


Fig. 12

Finishing the job

- Hide the tubing where possible.
- Make sure that the drainage tube slopes downwards along its entire length.
- Insulate tubing connections with the insulation supplied.
- Fasten tubes to the outside wall.
- Seal the hole through which the cables and tubing pass.
- Connect the air conditioner to the power source and turn it on.
- Check all air conditioner operating modes. Consult the User's Manual.

Indoor unit

- Do all the remote controller buttons function properly?
- Do the display panel lights work properly?
- Does the air deflection louver function properly?
- Does the drainage work?

Outdoor unit

- Are there unusual noises or vibrations during operation?
- Is noise, drain water or air flow from the unit likely to disturb the neighbors?
- Are there any gas leaks?

Explain the following items to the customer, with the aid of the User Manual:

- How to turn the air conditioner on and off; selecting cooling, heating and other operating modes; setting a desired temperature; setting the timer to automatically start and stop air conditioner operation; and the other features of the remote controller and display panel.
- How to remove and clean the air filter.
- How to set the air deflection louver.
- Present the User Manual and this installation sheet to the customer.