



Installation Manual

GSI – LINE SET DUCT COVER

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1. Warning - Before installing the GSI Line Set Duct Cover

- **Do not use this product for purposes other than as a Line Set Duct Cover**

Please follow the following SAFETY precautions

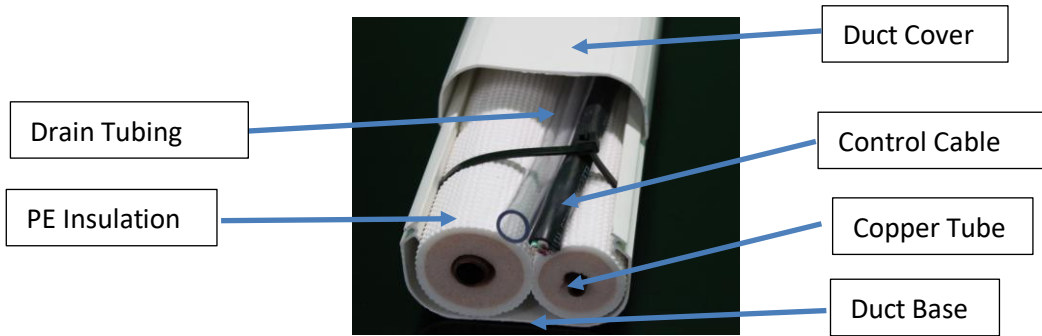
- Wear safety gear such as gloves when installing the GSI Line Set Duct Cover. Also wear protective goggles or similar safety gear to protect eyes from dust when cutting the GSI Line Set Duct Cover with a hacksaw or any other tool.
 - Be careful not to cut your hands when cutting straight ducts or fittings.
 - Ensure to have good footing when working at heights.
- GSI Line Set Duct Cover is not waterproof. Waterproof treatment is required to eliminate the possibility of water entry. Especially where the wall penetration is installed, please complete waterproof treatment by using caulking or putty anywhere there is a connection or seam, penetration part, wall penetration, screw hole, etc. Even during horizontal installation, seal anywhere there is a possibility of water penetration or entry.
- GSI Line Set Duct Cover is suitable for storage within a temperature range of -25°C - 65°C, (-13°F - 149°F) and handling within a temperature range of -10°C - 60°C (14°F - 140°F). In severe winter weather, cut straight ducts after making them warm due to the possibility of cracking. Deformation by heat may occur at temperatures exceeding 65°C (149°F).
- Use panhead screws with a washer head. If flat head or countersunk screws are used, damage to product may occur.
- Pay careful attention when using an impact driver to fix fasteners into product. It may cause damage to the duct cover. Do not use an impact driver when working with uneven wall surfaces because damage to product may occur.
- Be sure to fix the line set tubing, electrical, and drain line to straight sections of duct cover using the Line Set Strap Kit, P/N 5000076. The kit includes 10 ti-down bases and 10 ty-wraps.
- The Line Set Strap Kit (P/N 5000076) is designed to fix pipes inside the straight lengths of 3" (P/N 5000013) or 5" (P/N 5000004) wide 6.5' straight duct cover. Do not apply too much pull force when tightening the ty-wraps as condensation may occur if the insulation is damaged.
- The GSI Line Set Duct Cover is constructed so that a cover on a straight piece of duct will not be disconnected easily by an external force because the straight duct is held in place by fittings on both ends that are screwed in place.
- In severe winter weather, cut straight ducts after making them warm due to the possibility of cracking.





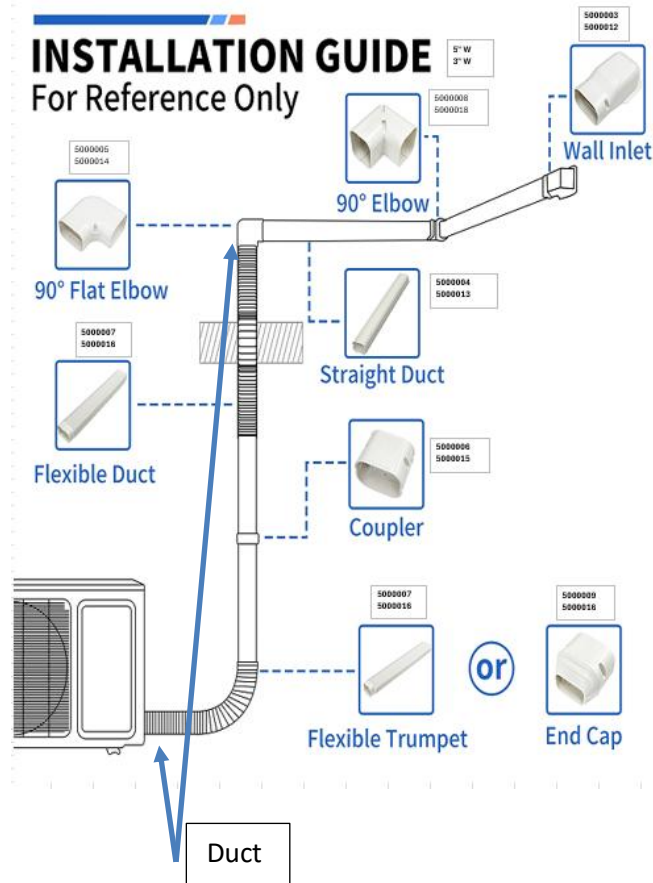
2. Installation Manual

2-1. Pipe configuration



NOTE: Control cable/wire can be accommodated in the GSI LINE SET DUCT COVER

2-2. Application Example



Needs a short piece of straight duct at each end.

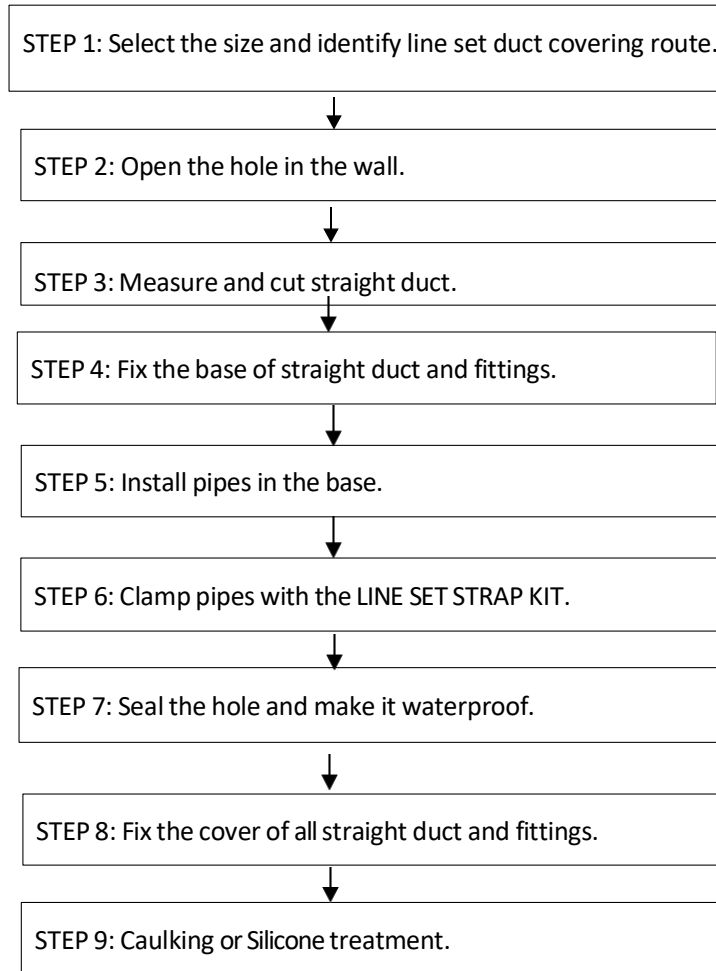




2-3. Installation Procedure

Installation procedure for GSI Line Set Duct Cover shown below.

GSI Line Set Duct Cover is suitable for installation within a temperature range of -20°C-60°C (-4°F-140 °F) and storage within a temperature range of -25°C-65°C (-13°F-149 °F).

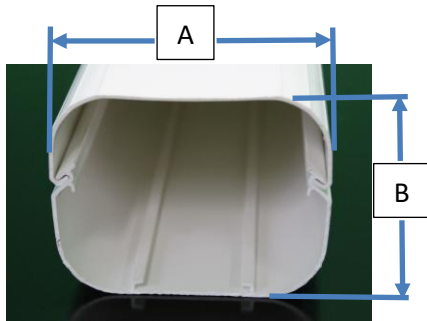


STEP 1: Select the size and identify the route.

Select the size of GSI Duct Cover to install for line sets.

Duct Cover Size (inch)	Liq. and Suct. Insul. Thk. (inch)	Lineset Size - Liquid Line (inch) X Suction Line (inch)							
		1/4" X 3/8"	1/4" X 1/2"	1/4" X 5/8"	3/8" X 5/8"	3/8" X 3/4"	3/8" X 7/8"	1/2" X 1-1/8"	5/8" X 1-1/8"
3	1/2 X 1/2	1	1						
5	1/2 X 1/2	2	2	2	1	1	1	1	1
5	3/4 X 3/4	1	1	1	1	1	1	1	
		* Includes drain hose (O.D. 3/8") and Power / Control cables.							

In case of other line set combinations, to select the GSI Line Set Duct Covering size, refer to the dimensions detailed below:



Size	A (mm/in)	B (mm/in)
3"	68/2.7	58/2.3
5"	128/5.0	78/3.1

Identify the entire piping route.

This will reduce the work time on site through easy selection of the necessary items.

Note: Slightly slope horizontal piping to prevent backward flow of drain water by following the equipment manufacturer's manual.

STEP 2: Open the hole in the wall.

To pass the pipes through the wall, drill the hole according to the drill diameter below.

Hole Diameter

Duct Cover Size (in.)	Drill Diameter (in.)
3"	Φ3
5"	Φ5



Note: Use pan head screw with washer faced head of $\phi 3.5$ mm or $\phi 4.0$ mm ($\phi 9/64$ " or $\phi 5/32$ "") for wall fixing. If fastened with a flat head or countersunk screw, the product might be damaged. Use care when affixing a screw with an impact driver. Too much force may damage the product. For installation on a brick wall, mark the location for each screw, and drill an anchor hole using a masonry bit, then use appropriate anchors and screws.

STEP 3: Measure and cut the straight duct.

Identify the piping route and mark the cut point on the straight duct, setting the base of straight duct at 38.1 mm (1-1/2") past the end of the wall inlet duct cover. Then, cut the base and the cover of the straight duct using a reciprocating saw or duct cutter.

Note: Refer to the manual and precautions before using any duct cutter.

To prevent ducts from cracking at low temperatures, cut ducts slowly or after heating ducts to room temperature or with hot air.

STEP 4: Fix the base of straight duct and fittings.

Using the appropriate fasteners, fix the straight duct to the wall.

Setting the base of straight duct onto the base, fix a screw temporary and set straight duct vertically. Then, fix screws at appropriate locations and use the LINE SET STRAP KIT, P/N 5000076. The Line Set Strap Kit includes 10 bases and 10 ty-wraps that can be inserted into the "DIN rail" on the base of straight ducts, P/N 5000013 (3") or P/N 5000004 (5")



DIN Rail

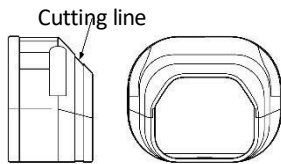




STEP 5: Install pipes in the base.

Install line sets, drain hose and cables in the base of the GSI Line Set Duct cover. Then, connect pipes to the AC outdoor unit.

Note: Be careful when bending piping so kinks do not occur.
When fixing the ty-wrap, do not over-tighten it (prevent deformation of the insulation) to prevent condensation. Cut on cutting line if it is tight.



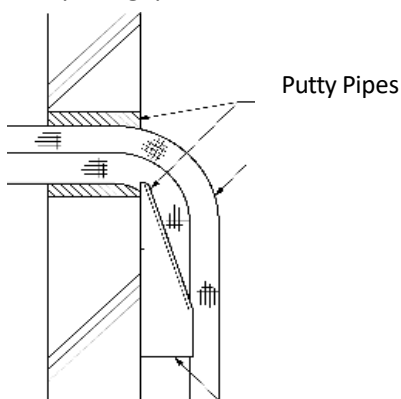
STEP 6: Clamp pipes with the LINE SET STRAP KIT (P/N 5000076).

Fix the pipes using the strap kit.



STEP 7: Seal the hole to make it waterproof.

Fill up the gap between the hole and pipes with putty.





STEP 8: Fix the cover of straight duct and fittings.

After setting the cover of straight duct onto its base, fix the cover of the WALL INLET end fitting, or other fittings onto each base and wall surface.

5000003 (WALL INLET 5" W) and 5000012 (WALL INLET 3" W) have a groove on the inside of its cover for caulking treatment.

Apply Caulking in this area





STEP 9: Caulking treatment.

GSI Line Set Duct Cover is not waterproof. Waterproof treatment is required where there is a possibility of water entry. Especially at the wall penetration, please complete waterproof treatment by using caulking or putty treatment where there is a connection seam part, penetration part, wall installation part, screw hole, etc. Even on a horizontal installation, complete similar treatment where there is a possibility of water entry to ensure the assembly is waterproof.



Also apply caulking all the way around the outer edge close to the wall on the wall inlet.





3. Heat deformation on GSI Line Set Duct Covering:

(1) What is heat deformation.

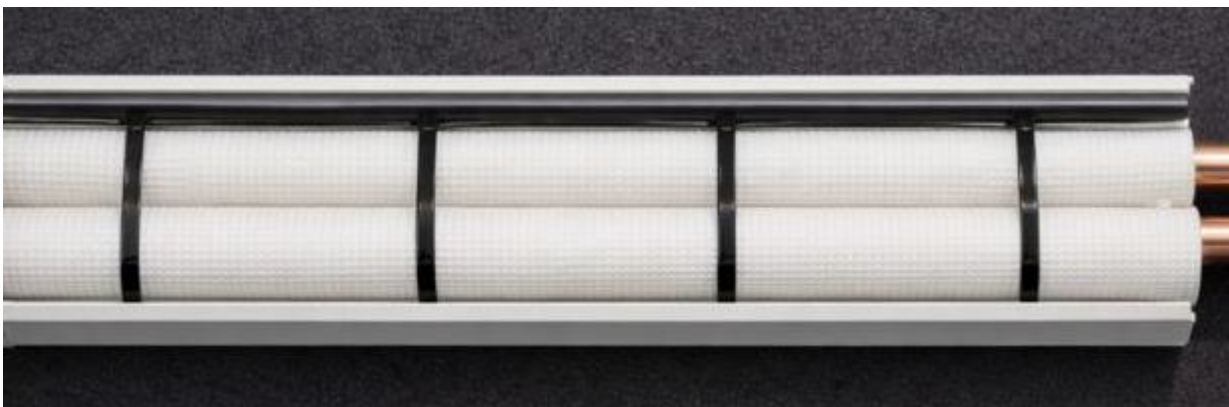
GSI Line Set Duct Covering is made of resin, and it would start softening and deforming when temperature on its surface exceeds 65°C (149 °F). Occasionally with a load applied, it would start softening even at a lower temperature than 65°C (149 °F).

(2) Temperature on GSI Line Set Duct Covering

Temperature on GSI Line Set Duct covering is determined by ambient temperature and the radiant heat caused by direct sunlight. Temperature on it would become higher when receiving the radiant heat of direct sunlight.

(3) Precautionary points

- Storage
Avoid storage where ambient temperature becomes higher than the softening/deformation temperature of the material such as in a car shut tightly under a blazing sun. Also, do not keep the products in the condition where a load is applied.
- Horizontal Installation
Do not apply stress to straight duct by deflection and meandering of pipes, fix pipes by using the GSI LINE SET STRAP KIT. We recommend fixing at least 4 points for 2 meter (78") length straight duct. Also, keep the horizontal piping length that runs outdoors as short as possible.



General Installation Guidelines: Avoid the following installation conditions:

- Where the duct temperature becomes too high due to the radiant heat at the edge of eaves finished by metallic materials.
- A heat storage wall and on a wall painted with heat insulation paint, where the duct temperature is expected to become higher by radiant heat.
- In a poorly ventilated narrow space and around heat generating equipment where the duct temperature is expected to become higher.















Line Set Duct Covering Parts (3")

Picture	GSI P/N	3" LINE SET DUCT COVERING
	5000012	DUCT COVER WALL INLET 3" W
	5000013	DUCT COVER STRAIGHT 3" W X 6.5' L
	5000014	DUCT COVER 90° FLAT ELBOW 3" W
	5000015	DUCT COVER COUPLING 3" W
	5000016	DUCT COVER FLEXIBLE 3" W X 21.25" L
	5000018	DUCT COVER WALL CORNER 90° ELBOW 3" W
	5000019	DUCT COVER END 3" W
	5000020	DUCT COVER CEILING CAP 3" W
	5000021	DUCT COVER TEE JOINT 3" W





Line Set Duct Covering Parts (5")

	GSI P/N	5" LINE SET DUCT COVERING
	5000003	DUCT COVER WALL INLET 5" W
	5000004	DUCT COVER STRAIGHT 5" W X 6.5' L
	5000005	DUCT COVER 90° FLAT ELBOW 5" W
	5000006	DUCT COVER COUPLING 5" W
	5000007	DUCT COVER FLEXIBLE 5" W X 34.65" L
	5000008	DUCT COVER WALL CORNER 90° ELBOW 5" W
	5000009	DUCT COVER END 5" W
	5000010	DUCT COVER CEILING CAP 5" W
	5000011	DUCT COVER TEE JOINT 5" W
	5000076	LINE SET STRAP KIT (INCLUDES 10 BASES AND 10 TY-WRAPS)

