

**To users**

- Be sure to ask a specialist contractor for installation.
- Keep this instruction manual in a safe place.
- If you have any questions, please contact our sales representative.

**To Construction Operators**

- Read this installation manual carefully before construction and install correctly.
- Be sure to deliver this instruction manual to the user.
- The water leakage detection sheet is a simple test kit for the water flow test of the drain hose.  
Please note that we shall not be liable for any damage caused by water leakage during and after the test.

**1 Read first.**

This product is an exclusive hose for drain-up piping of commercial A/C. Do not use for other piping.

**Request**

**If the following procedures will not be executed, the expected functions and performance of the product may not be demonstrated.**

- The starting height of the hose shall be less than or equal to the maximum starting height specified by the air conditioner manufacturer.
- This piping is exclusive for indoor use. Do not use the product outdoors.

**2 Precautions for proper and safe use**

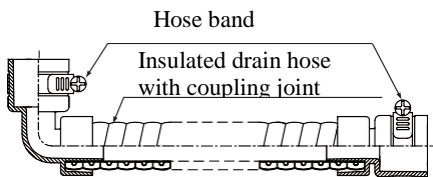
The following explains how to ensure in order to prevent harm to the users and others and damage to property. The degree of harm or damage caused by the incorrect use of the product by ignoring the labeling is classified by the following labeling.

**Notification**

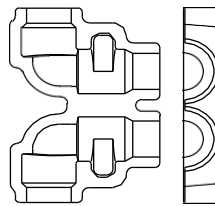
**Failure to comply with the following conditions may result in property damage.**

- Be sure to use the hose band enclosed. Use of other than enclosed hose bands may cause water leakage.
- Use the insulation cover provided for the joint and carry out the insulation work according to the installation procedure. Condensation may occur depending on the environment condition.
- Wind the insulation adhesive tape enclosed in the product to the support part of the hose. Otherwise, condensation may occur due to collapse of the insulation layer due to the self-weight of the hose.

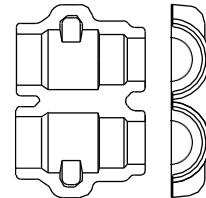
**3 Set Contents (Name of each part)**



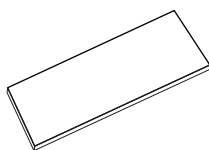
Insulated drain hose with coupling joint x 1 piece  
(Hose band x 2 pieces)



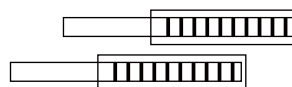
Elbow insulation cover x 1 piece



Straight insulation cover x 1 piece



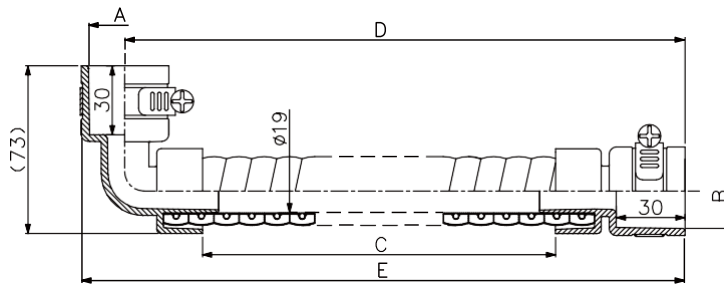
Insulation adhesive tape x 1 sheet  
(Width 50mm× Length 150mm×  
Thickness 3mm)



Water leakage detection sheet x 2 sheets

## 4 Product Specifications

### Dimensions



Unit :mm  
( ) = Reference

Item No.	Applicable PVC Pipe	A	B	C	D	E
DSH-UP20E20S-07	A side : PVC-3/4" SCH40 (VP-20A)	φ26	φ26	700	(791)	(807)
DSH-UP20E20S-10	B side : PVC-3/4" SCH40 (VP-20A)			1000	(1091)	(1107)

### Material and color tone

Name	Material	Color tone
Insulated drain hose with coupling joint	Inner and outer layers of hose film	Polyvinyl chloride
	Hose insulation	30-times foamed polyethylene
	Elbow joint	Polyvinyl chloride
	Straight joint	Polyvinyl chloride
Hose band	SUS	-
Elbow insulation cover	30-times foamed polyethylene	White
Insulation adhesive tape	30-times foamed polyethylene One side : adhesive processing with release paper	White
Water leakage detection sheet	Sheet : Paper Inspection bag : PE	Sheet: White (detection line : blue) Inspection bag: Transparent

## 5 Installation Process

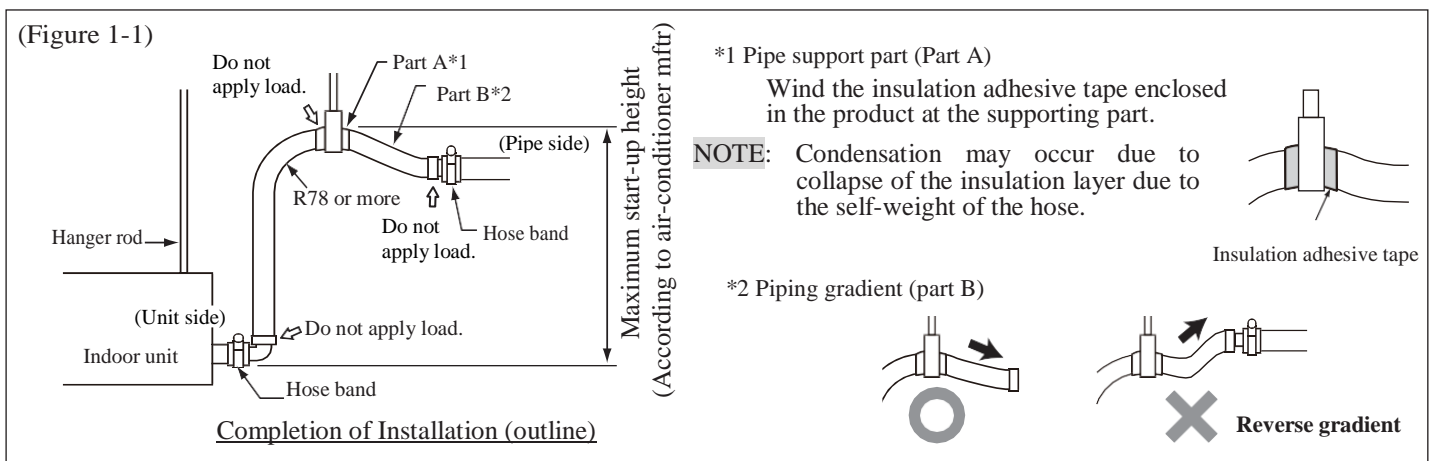
### 1. Check of piping route:

- (1) Check the piping route with R78 or more (inside the bend) for bending radius of the hose so that no load is applied to the hose and the joint. (Figure 1-1)

**NOTE** : Failure to carry out the proper pipe route may result in damage to the hose or leakage of water due to deformation of the coupling joint.

- (2) Check the piping route not to occur a reverse gradient after the maximum start-up point. (Figure 1-1)

**NOTE** : If the piping is not installed correctly, drain water may flow backward and water may leak.



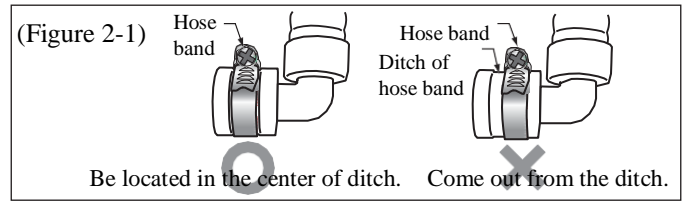
## 2. Connection of the joint:

Connect both the equipment side and the piping side to the joint by [Hose Band Connection].

### 【Hose Band Connection】

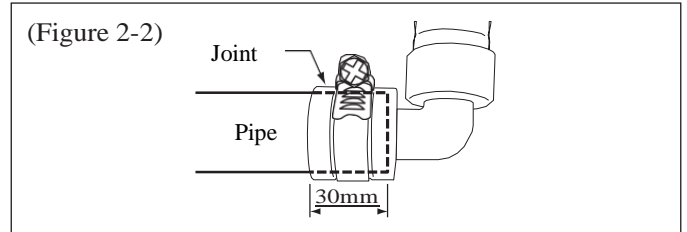
- (1) Make sure that the hose band is attached to the center of ditch on the joint. (Figure 2-1)

**NOTE** : If the hose band is not installed at the correct position, water may leak.



- (2) Insert the connection pipe to the back of the joint (30mm). (Figure 2-2)

**NOTE** : If the hose band is tightened without inserting the pipe to the back, water may leak



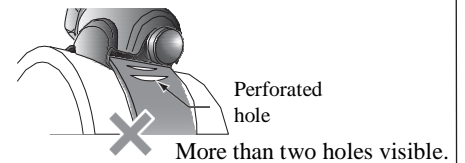
- (3) After the pipe is inserted, tighten the hose band with a screwdriver. (Approximate torque 400N·cm) (Figure. 2-3)

※ Fig. 2-3 shows the case that the tightening is loose.

**NOTE** : If the hose band is not enough tightened, water may leak.

**NOTE** : If the hose band is overtightened, it may cause damage.

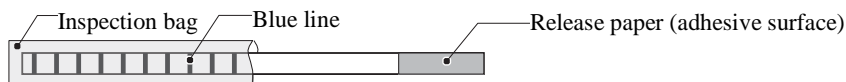
(Figure 2-3) Bad example (The tightening is loose.)



## 3. Setting of water leakage detection sheet and installation of insulation cover:

**Request** Before mounting the water leakage detection sheet

- Use this sheet only for the water flow test of the enclosed drain hose.
- Do not remove the inspection bag. Be sure to carry out the work with a bag attached.
- If water droplets or perspiration adhere to the water leakage detection sheet, the blue line may disappear. Handle the product carefully during installation.
- If the water leakage detection sheet is left in a humid condition for a long time, the blue line may disappear. For this reason, immediately perform the installation and the water flow test after opening the seal.



### 【Setting to indoor unit piping or horizontal piping】

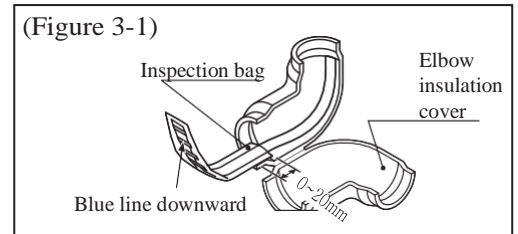
- (1) Set the water leakage detection sheet to the insulation cover.

#### <Set to elbow insulation cover>

Make sure that the inspection bag of the water leakage detection sheet enters 0 to 20 mm from the end of the insulation cover with the blue line downward. (Figure 3-1)

Remove the release paper from the water leakage detection sheet and attach it to the insulation cover.

**Caution** : If the inspection bag is inserted to the insulation cover too deeply (more than 20mm), it may be undetectable

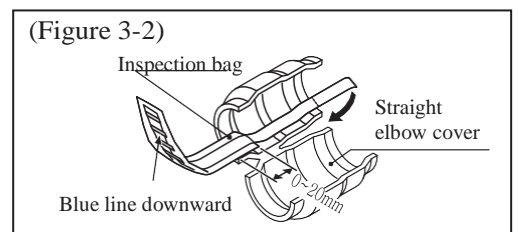


#### <Set to straight insulation cover>

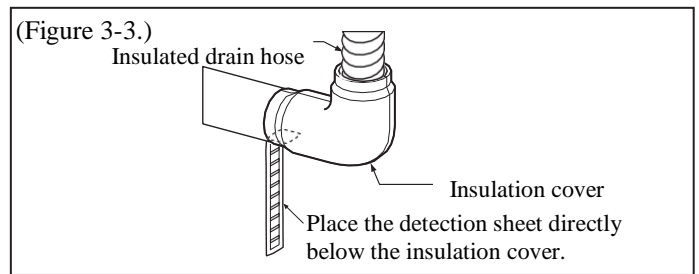
Make sure that the inspection bag of the water leakage detection sheet enters 0 to 20 mm from the end of the insulation cover with the blue line downward.

Remove the release paper from the water leakage detection sheet and bend it to the outside of the insulation cover. (Figure 3-2)

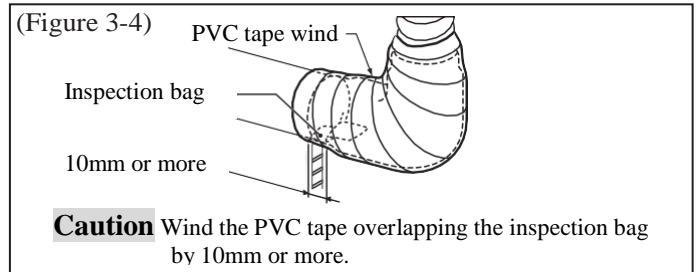
**Caution** : If the inspection bag is inserted in the insulation cover too deeply (more than 20mm), it may be undetectable.



(2) Install an insulation cover to the joint. (Figure 3-3)



(3) Wind PVC tape making no gaps between the pipe and the insulation cover. (Figure 3-4)



(4) Confirmation after installation

Check if the blue line of the water leakage detection sheet has not disappeared more than two hours after the start of water flow. After confirming the blue line has not disappeared, cut the base of the leak detection sheet with scissors avoiding damage to the insulation part.