

INABA DENKO
AMERICA

INTRODUCES

DSH-UP



Simplify drain-up piping installation

August 24, 2021

Drain-up Piping

There are times when a light commercial AC unit is installed indoors with no space to slope piping to drain water from the unit. A drain-trap in close proximity to the unit is the solution.



Traditional Installation

Drain-up Piping



Materials required

- PVC pipes, fittings and PVC cutter
- Cement
- Insulation
- Adhesive Tape and Hangers

Additional installation procedures

1. Measure the length for 4 PVC pipes
2. Cut the PVC pipe into needed lengths
3. Apply cement on 2 points of each elbow (there's a total of 8 points)
4. Attach it to the insulation on 4 PVC pipes and 4 elbows
5. Wrap the adhesive tape at connection points of insulation (there's a total of 8 points)

Issues

- Takes more time and labor
- Attachment failures can result in dew condensation
- Risks of water leakage due to cement application failures
- Risks of cracks on piping due to less flexibility on the material
- Due to the fixed cement, it's difficult to perform the maintenance after the install

Innovative Installation with DSH-UP

DSH-UP is a drain-up hose solution engineered for light commercial indoor AC units including VRF/VRV

DSH-UP Advantages

- **The exclusive insulation technology is a pre-insulated hose**
It decreases on-site insulation work and reduces risk of condensation after installation
- **Pre-connected hose with fittings = No cement or adhesives needed**
Connect fittings to PVC with just a hose band to reduce installation time and avoid the risk of leaking from cement application failures – it also enables easy ongoing maintenance.
- **Fittings are highly visible**
Connections to PVC pipes are visible to insure a secure fit and water-flow check
- **Water leakage checks**
Easily identifies leaks if they occur



DSH-UP Kit Details and Material

Line-up

S **Straight type**

AC unit ← → PVC pipe
Connection by hose band

Code No.	Item No.	A	Pcs/Pkg
φ 08360	DSH-UP20E20S-07	700mm (27-5/8")	10
φ 08370	DSH-UP20E20S-10	1,000mm (39-3/8")	10

Thermal Insulation Cover
for Straight
95 mm (3-3/4")

E **Elbow type**

AC unit ← → PVC pipe
Connection by hose band

Code No.	Item No.	A	Pcs/Pkg
φ 08364	DSH-UP20E20E-07	700mm (27-5/8")	10
φ 08374	DSH-UP20E20E-10	1,000mm (39-3/8")	10

Thermal Insulation Cover
for Elbow
97 mm (3-7/8")

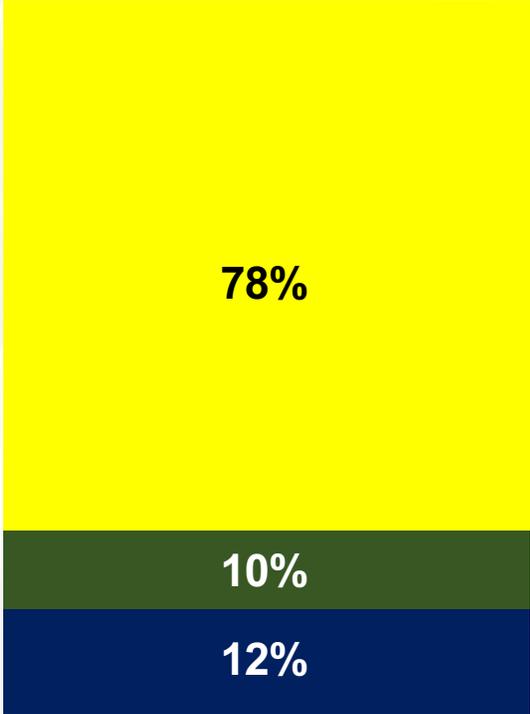
ER **Elbow type**

AC unit ← → PVC pipe
Connection by hose band

Code No.	Item No.	A	Pcs/Pkg
φ 08367	DSH-UP20E20R-07	700mm (27-5/8")	10
φ 08377	DSH-UP20E20R-10	1,000mm (39-3/8")	10

Thermal Insulation Cover
for Elbow
97 mm (3-7/8")

Sales composition by type in FY2020



DSH-UP Kit Details and Material

Kit Details	Elbow & Straight	Elbow & Elbow E/ER
Thermal insulated drain hose with coupling joint	1 pc	1 pc
Hose band	2 pcs	2 pcs
Thermal insulation cover - Straight Type	1 pc	-
Thermal insulation cover - Elbow Type	1 pc	2 pcs
Thermal insulation and adhesive tape	1 pc	1 pc
Water leakage check sheet	2 pcs	2 pcs

Material	
Thermal insulated drain hose (Outer Layer)	PVC
Thermal insulated drain hose (Inner Layer)	PVC
Thermal insulated drain hose (Middle Layer)	Foamed PE
Coupling joint	PVC
Hose band	SUS
Thermal insulated cover	Foamed PE
Thermal insulation and adhesive tape (W2" X L6")	Foamed PE

DSH-UP Sales

Total sales in the past seven years

770,000 pcs

DSH-UP Job Examples



Training room in Johnstone Supply, Lacey branch.

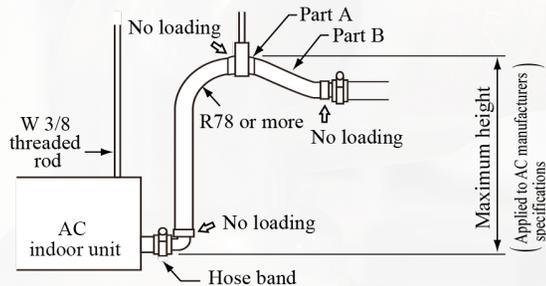


DSH-UP Installation Procedure

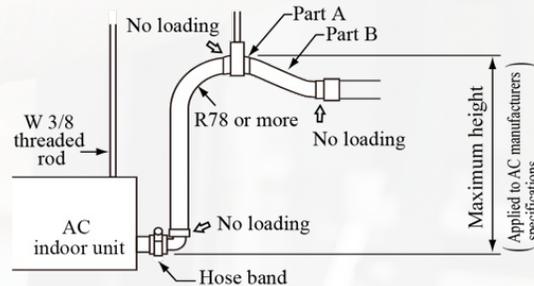
1. Determine the pipe and hose route

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

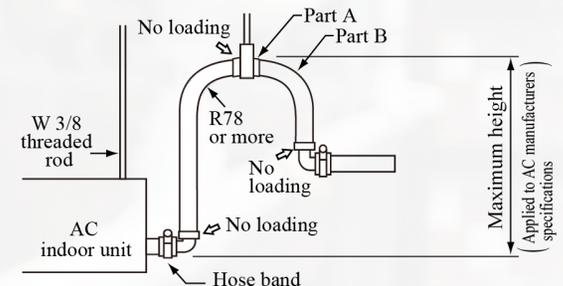
Elbow x Straight Type S



Elbow x Elbow Type E

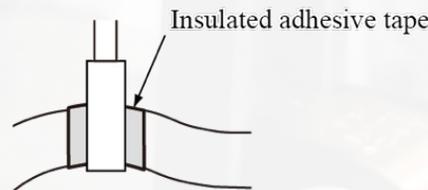


Elbow x Elbow ER

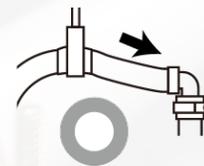


Hose Supporting Part (A)

Wrap insulated adhesive tape around the surface of the hose at the hanging point to prevent dew condensation from hose insulation deformation.



Hose Slope (B)

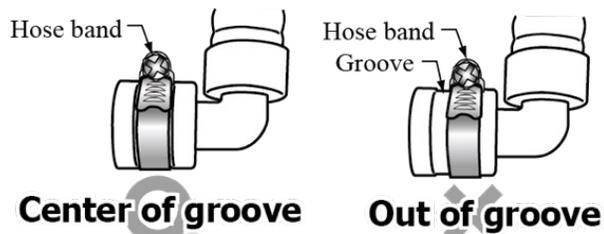


Do not create an adverse slope after the maximum stand-up point.

DSH-UP Installation Procedure

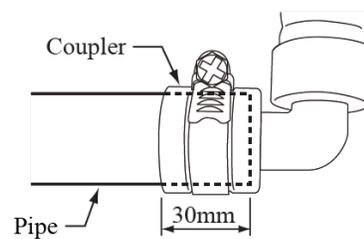
2. Connect coupler to the PVC pipe

1



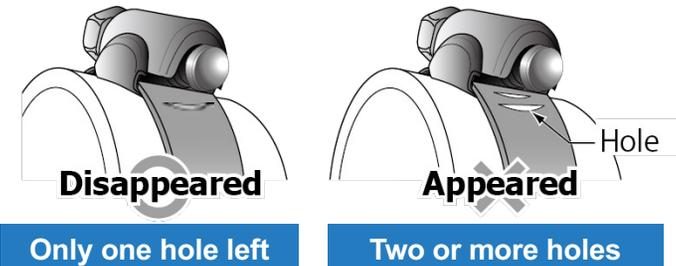
Attach hose band to the center of the groove on a coupler.

2



Insert PVC pipe deep into coupler (30mm).

3



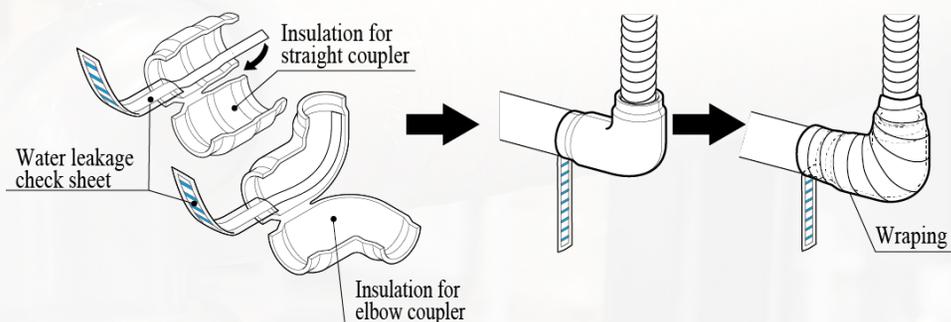
NOTE: Procedures apply when using ASTM D1785. If using other piping, please contact us.

DSH-UP Installation Procedure

3. Install a water leakage check sheet and insulation for couplers

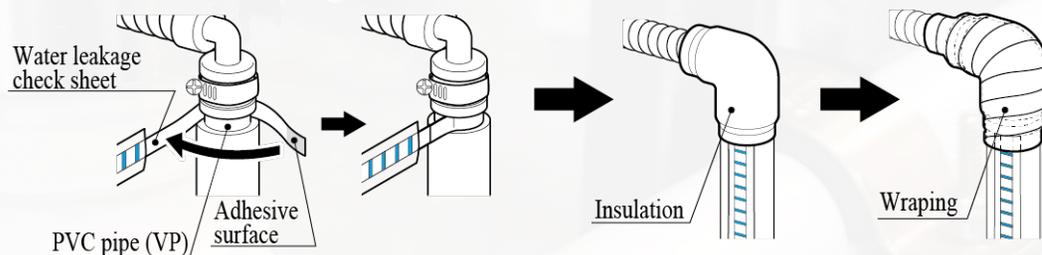
A. Installation for an indoor AC unit pipe or horizontal piping

Attach insulation with a water leakage check sheet and wrap it with adhesive tape.



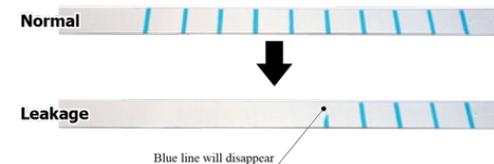
B. Installation for vertical piping

Attach a water leakage check sheet on PVC and insulation for the coupler, then wrap it with adhesive tape.



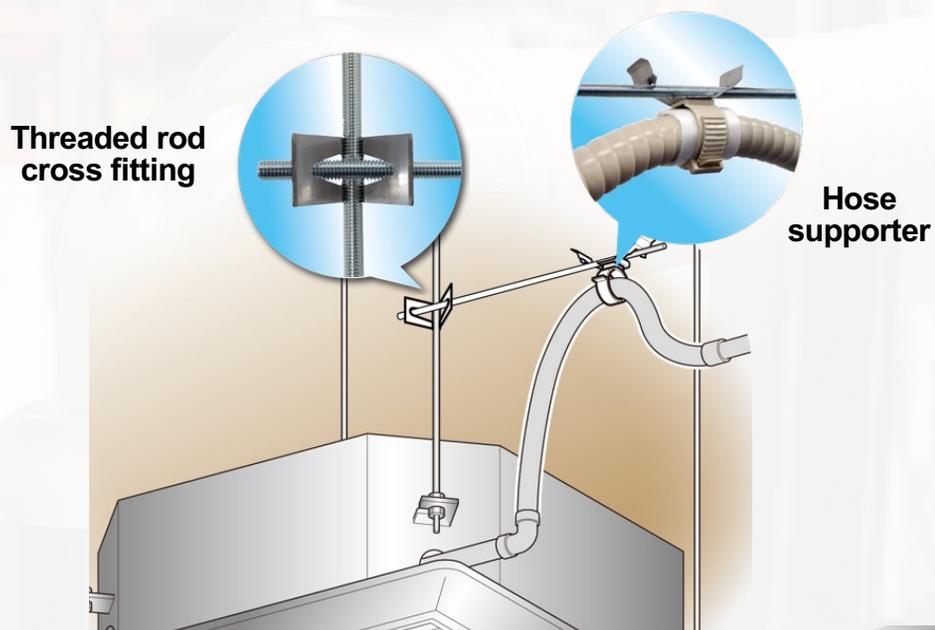
Water leakage check method

Blue lines on the check sheet will disappear when water leakage occurs in the water flow test.

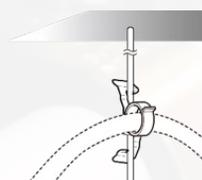


DSH-UP Optional Accessories

Supporters for DSH-UP piping

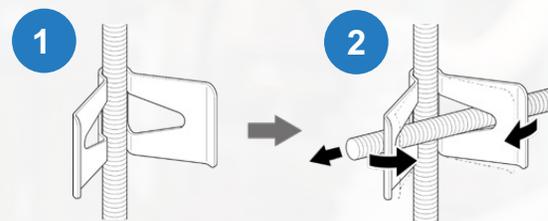


- No tool necessary, one-touch application
- No additional rods or hardware needed to be installed on ceiling or attached to the hanged rod



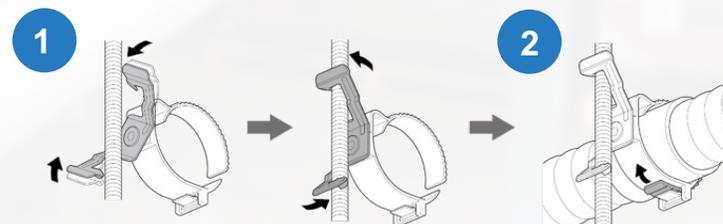
Threaded rod cross fitting: ZB-VF

1. Attach onto a vertical threaded rod
2. Insert a horizontal threaded rod and push the ZB-VF inward.



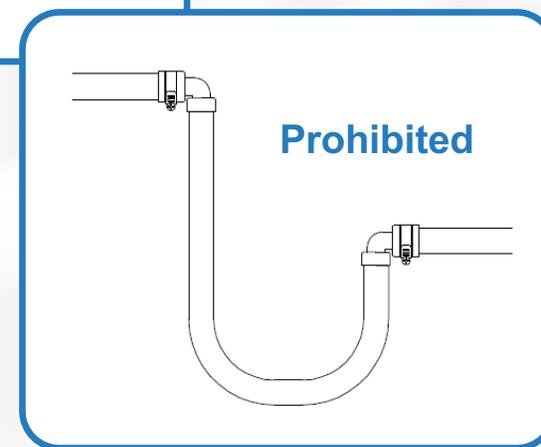
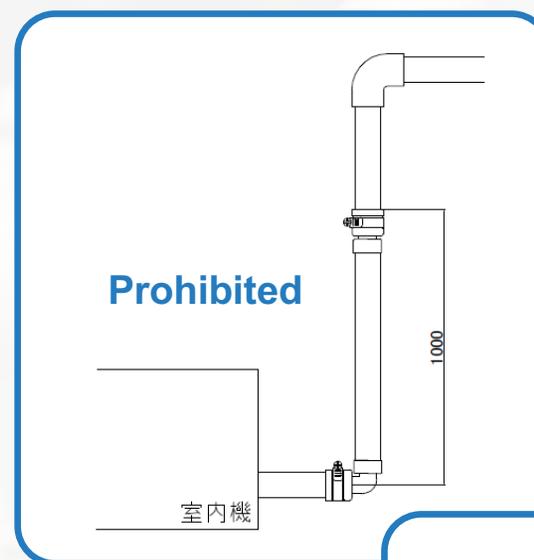
Hose supporter: ZB-HSB

1. Attach onto a threaded rod and turn it, pushing a metal part of the ZB-HSB
2. After hose installation, tighten the band



DSH-UP Precautions

- Stand-up height of the hose should be no longer than 1,000mm. And its maximum height has to be designated by AC manufacturers
- Don't create an adverse slope after the maximum stand-up point of the hose. An adverse slope will result in drain water flowing backward
- Install the hose kit without an excessive load on the hose and couplers. Expect damage to the hose and deformation of couplers from an excessive load
- Prepare the bending radius for R78 (inside the bend)
- Improper installation (example to the right) is prohibited, because the piping could fill with water and not drain properly, which also creates downward tension



DSH-UP Precautions

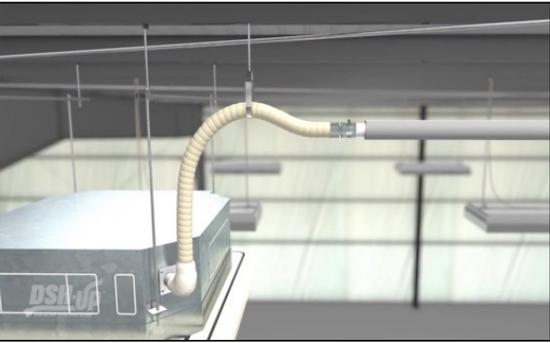
- Attach a hose band to the coupler's groove center. Insert the connection pipe to the back of the joint (30mm).
- After inserting the PVC pipe, tighten the hose band by a screwdriver or wrench until only one hole on the band is left. The standard tightening torque of 400N . cm is insufficient and will result in water leakage.
- Be sure to use our exclusive hose band when installing this hose kit.
- Attach insulation to couplers. There is a possibility of dew condensation, depending on the installation environment.
- Wrap insulated adhesive tape around surface of the hose at the hanging point to prevent dew condensation because of the hose insulation deformation.
- This hose kit is exclusively for indoor use only. Don't use it for outdoor installation.

Marketing Materials

Brochure



Product Animation



Product Photos





Drain Hose Accessories

Insulated Drain-Hose Accessories Indoor Use

DHS Insulated Drain Hose

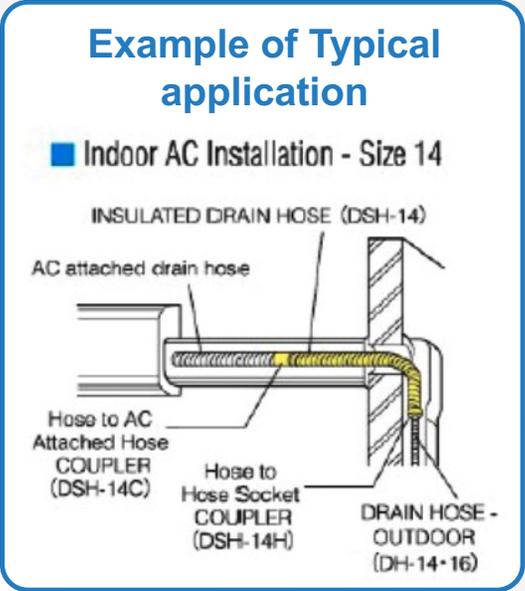


Specifications

- Material: Inner/outer layer PVC, middle layer PE

Features

- Protects the concealed drain line from dew condensation
- Easy to cut with a knife or scissors
- Smooth inner surface enables a smooth water flow
- Independent layers and a spiral insulation layer make bending easy and facilitates installation in tight spaces
- Long enough for one or more installation



Code No.	Item No.	Hose I.D.	Hose O.D.	Length (ft)	Insulation thickness	Pcs/Pkg
C 08310	DHS-14	5/8"	1-1/8"	65'	1/4"	4
C 08960	DHS-20N	3/4"	1-1/4"	65'	1/4"	1

Use only with INABA DENKO drain hose products

Insulated Drain-Hose Accessories Indoor Use

DSH-S Insulated Drain Hose – Hose & Coupler Kit



Specifications

- Material: Hose - Inner/outer layer PVC, middle layer PD
Couplers: Body PVC, Insulation PE

Features

- Best value
- No need to box each coupler

Code No.	Item No.	Contents	Pcs/Pkg
C 08350	DHS-14S	INSULATED DRAIN HOSE 65' Hose to A/C Attached Hose COUPLER Hose to Hose Socket COUPLER	DSH-14 x 1 pc DSH-14C x 15 pcs DSH-14H x 15 pcs 4

Insulated Drain-Hose Accessories Indoor Use

DSH-14V Hose to Pipe Adaptor For PVC pipe



Specifications

- Material: PVC

Application

- Connects DSH and PVC pipe.
- Use only with JIS Standard PVC pipe

DSH-20NV Hose to Pipe Adaptor For PVC pipe



Specifications

- Material:
Body - PVC
Insulation - PE

Application

- Connects DSH and PVC pipe.
- Use only with JIS Standard PVC pipe

Code No.	Item No.	Compliant drain hose	Compliant PVC pipe	Pcs/Pkg
C 08570	DSH-14-13V	DSH-14	1/2"	100
C 08580	DSH-14-16V		5/8"	100
C 08590	DSH-14-20V		3/4"	100

Code No.	Item No.	Compliant drain hose	Compliant PVC pipe	Pcs/Pkg
C 08920	DSH-20NV	DSH-20N	3/4"	50

Use only with INABA DENKO drain hose products

Insulated Drain-Hose Accessories Indoor Use

DSH-14C Hose to A/C Attached Hose Coupler

For A/C unit's drain hose joint



Specifications

- Material:
Body – PVC
Insulation - PE

Application

- Connects DSH and an indoor AC unit attached to the drain hose
- Size is fitted for the AC unit's drain hose

DSH-20NC Hose to Pipe Fitting Adaptor

For PVC pipe fitting



Specifications

- Material: PVC

Application

- Connects to the DSH and PVC pipe fittings
- Use it only with the JIS Standard PVC pipe

Code No.	Item No.	Compliant drain hose	Pcs/Pkg
C 08200	DSH-14C	DSH-14	100

Code No.	Item No.	Compliant drain hose	Compliant PVC pipe	Pcs/Pkg
C 08900	DSH-20NC	DSH-20N	3/4"	50

Use only with INABA DENKO drain hose products

Insulated Drain-Hose Accessories Indoor Use

DSH-14J Hose to Hose Coupler

For drain hose extensions



Specifications

- Material: PVC

Application

- Connects DSH and DSH or DH/DHQ

DSH-20NJ Hose to Hose Coupler

For drain hose extension



Specifications

- Material: PVC

Application

- Connects DSH and DSH to extend

Code No.	Item No.	Compliant drain hose	Pcs/Pkg
C 08220	DSH-14J	DSH-14	100

Code No.	Item No.	Compliant drain hose	Pcs/Pkg
C 08940	DSH-20NJ	DSH-20N	50

Use only with INABA DENKO drain hose products

Insulated Drain-Hose Accessories Indoor Use

DSH-14H Hose to Hose Socket Coupler For drain hose (DH, DHQ)



- Specifications**
- Material: PVC
- Application**
- Connects the DSH and the female part of the DH/DHQ

DSH-20NE Hose to Pipe Adaptor Ell For PVC pipe



- Specifications**
- Material: PVC
- Application**
- Connects the DSH and PVC pipe
 - Use it only with the JIS Standard PVC pipe.

Code No.	Item No.	Compliant drain hose	Pcs/Pkg
C 08240	DSH-14H	DSH-14	100

Code No.	Item No.	Compliant drain hose	Compliant PVC pipe	Pcs/Pkg
C 08880	DSH-20NE	DSH-20N	3/4"	50

Use only with INABA DENKO drain hose products

Insulated Drain-Hose Accessories Indoor Use

DSH-20NED Hose to Pipe Adaptor-Insulated EI For PVC pipe



- Specifications**
- Material: Body – PVC
Insulation – PE

- Application**
- Connects the DSH and PVC pipe
 - Use it only with the JIS Standard PVC pipe

For further information, please refer to our catalog, or Instruction Manual on our website.



Code No.	Item No.	Compliant drain hose	Compliant PVC pipe	Pcs/Pkg
C 08820	DSH-20NED	DSH-20N	3/4"	50

Use only with INABA DENKO drain hose products

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