

# Insulated Copper Tubes



## Features;

- Dual layer structure insulations have 30 times independent crosslinked polyethylene foam with heat resistance up to 120° .
- Seamless extrusion molding enhances adhesion of copper tube and insulation, which achieves high prevention of dew condensation.
- Embossing on the surface film is high resistant to scratches and wrinkle-free.
- Softly annealed copper pipe is applied.
- Flexible material makes bending easility and saving working time

## Material and Characteristic of Copper Pipes - JIS H3300 C1220T

| Material                                    | Chemical Composition (%) |               | Mechanical Property |                                       |              |                |
|---------------------------------------------|--------------------------|---------------|---------------------|---------------------------------------|--------------|----------------|
|                                             | Cu                       | P             | Temper              | Tensile strength (N/mm <sup>2</sup> ) | Elongation   | Grain size(mm) |
| Phosphorous-deoxidized seamless copper pipe | More than 99.90          | 0.015 ~ 0.040 | O                   | More than 205                         | More than 40 | 0.025 to 0.060 |
|                                             |                          |               | 1/2H                | 245 to 325                            | -            | -              |
|                                             |                          |               | H                   | More than 315                         | -            | -              |

## Material and Characteristic of Insulation – JIS A9511 A-PE-C-2

| Material                                                             | Type                                                              | Code     | Thermal Conductivity W/(m·K) | Thermal resistant (°C) | Tensile strength (N/cm <sup>2</sup> ) | Absorbent (g/100cm <sup>2</sup> ) | Thickness shrinkage (120±5°C) |
|----------------------------------------------------------------------|-------------------------------------------------------------------|----------|------------------------------|------------------------|---------------------------------------|-----------------------------------|-------------------------------|
| 30 times independent polyethylene foam with the emboss finished film | Polyethylene Material class A and Polyethylene foam mould class 2 | A-PE-C-2 | Less than 0.043              | Up to 120              | More than 14                          | Less than 2.0                     | Less than 7%                  |

## Category indication for applying refrigeration gas

| Number | Category | Applying refrigeration gas                         |
|--------|----------|----------------------------------------------------|
| ①      | 1        | R22, R407C, R404A, R507 etc...                     |
| ②      | 2        | R22, R410A, R407C, R404A, R507A, R32 etc...        |
| ③      | 3        | High pressure refrigeration gas less than 4.80 Mpa |

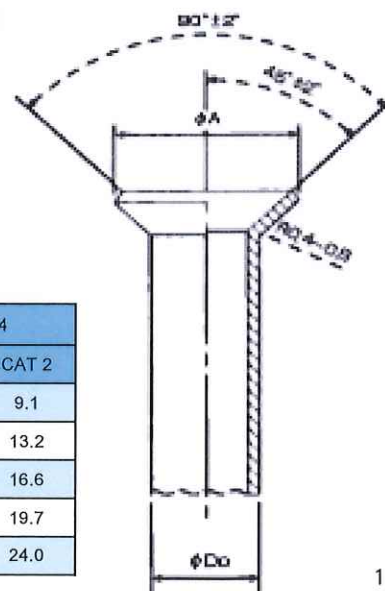
High pressure safety act  
Refrigeration safety act  
Standard

$$t = \frac{P D_o}{2 \sigma_a \eta + 0.8 P}$$

t : Wall thickness of copper pipe (mm)  
P : Designated pressure (Mpa)  
D<sub>o</sub> : Outer diameter of copper pipe (mm)  
σ<sub>a</sub> : Allowable tensile stress (N/mm<sup>2</sup>)  
η : Efficiency of welded joint (I)

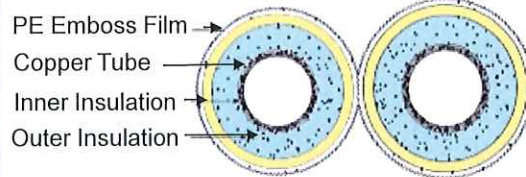
## About Flaring

| Pipe Outer Diameter (mm) | A +0/-0.4 |       |
|--------------------------|-----------|-------|
|                          | CAT 1     | CAT 2 |
| 6.35                     | 9.0       | 9.1   |
| 9.52                     | 13.0      | 13.2  |
| 12.70                    | 16.2      | 16.6  |
| 15.88                    | 19.4      | 19.7  |
| 19.05                    | 23.3      | 24.0  |



# Insulated Copper Tubes

## TD Twin Dia – 20m / 30m coil



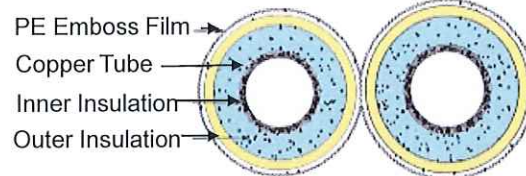
### Features;

- Integrated liquied pipe and gas pipe.
- Easy to separate the pairing.
- Easy to cut to the required length, good to improve working efficiency

\*O.D : Outer Diameter / \*\*W.T : Width Thickness

| Length (M) | Code  | Model #   | Refrigeration gas category | Copper size (mm) |       | Insulation tube size (mm) |       | Q'ty |
|------------|-------|-----------|----------------------------|------------------|-------|---------------------------|-------|------|
|            |       |           |                            | O.D*             | W.T** | O.D*                      | W.T** |      |
| 20         | 72051 | TD-2320-8 | ③                          | 6.35             | 0.8   | 24                        | 8     | 1    |
|            |       |           |                            | 9.52             | 0.8   | 27                        | 8     |      |
|            | 72042 | TD-2320W  | ③                          | 6.35             | 0.8   | 24                        | 8     | 2    |
|            |       |           |                            | 9.52             | 0.8   | 27                        | 8     |      |
|            | 72052 | TD-2420   | ②                          | 6.35             | 0.8   | 24                        | 8     | 1    |
|            |       |           |                            | 12.70            | 0.8   | 34                        | 10    |      |
|            | 72053 | TD-3520   | ②                          | 9.52             | 0.8   | 27                        | 8     | 1    |
|            |       |           |                            | 15.88            | 1.0   | 37                        | 10    |      |
|            | 73844 | TD-3620Z  | ②                          | 9.52             | 0.8   | 27                        | 8     | 1    |
|            |       |           |                            | 19.05            | 1.2   | 41                        | 10    |      |
| 30         | 71473 | TD-2330   | ③                          | 6.35             | 0.8   | 24                        | 8     | 1    |
|            |       |           |                            | 9.52             | 0.8   | 27                        | 8     |      |
|            | 71474 | TD-2430   | ②                          | 6.35             | 0.8   | 24                        | 8     | 1    |
|            |       |           |                            | 12.70            | 0.8   | 34                        | 10    |      |

## TD-t10 Twin Dia – 20m



**NEW**

\*O.D : Outer Diameter / \*\*W.T : Wall Thickness

| Length (M) | Code  | Model #      | Refrigeration gas category | Copper size (mm) |       | Insulation tube size (mm) |       | Q'ty |
|------------|-------|--------------|----------------------------|------------------|-------|---------------------------|-------|------|
|            |       |              |                            | O.D*             | W.T** | O.D*                      | W.T** |      |
| 20         | 72591 | TD-2320-t10  | ③                          | 6.35             | 0.8   | 28                        | 10    | 1    |
|            |       |              |                            | 9.52             | 0.8   | 31                        | 10    |      |
|            | 72590 | TD-2320-t10W | ③                          | 6.35             | 0.8   | 28                        | 10    | 2    |
|            |       |              |                            | 9.52             | 0.8   | 31                        | 10    |      |
|            | 72592 | TD-2420-t10  | ②                          | 6.35             | 0.8   | 28                        | 10    | 1    |
|            |       |              |                            | 12.70            | 0.8   | 34                        | 10    |      |
|            | 72593 | TD-3520-t10  | ②                          | 9.52             | 0.8   | 31                        | 10    | 1    |
|            |       |              |                            | 15.88            | 1.0   | 37                        | 10    |      |
|            | 72594 | TD-3620-t10  | ②                          | 9.52             | 0.8   | 31                        | 10    | 1    |
|            |       |              |                            | 19.05            | 1.2   | 41                        | 10    |      |

# Insulated Copper Tubes

## SD Single Dia – 20m coil

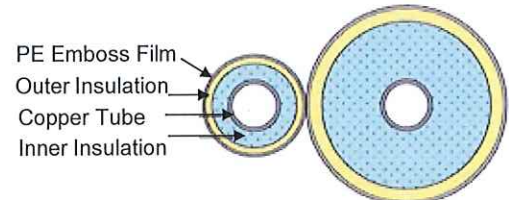


NEW

NEW

| Code  | Model#  | Refrigeration<br>gas CAT | Copper size (mm) |       | Insulation tube (mm) |       | Q'ty |
|-------|---------|--------------------------|------------------|-------|----------------------|-------|------|
|       |         |                          | O.D*             | W.T** | O.D*                 | W.T** |      |
| 72500 | SD-220A | ③                        | 6.35             | 0.8   | 28                   | 10    | 3    |
| 72501 | SD-320A | ③                        | 9.52             | 0.8   | 31                   | 10    | 3    |
| 72002 | SD-420  | ②                        | 12.70            | 0.8   | 34                   | 10    | 2    |
| 72003 | SD-520  | ②                        | 15.88            | 1.0   | 37                   | 10    | 1    |
| 75137 | SD-620Z | ②                        | 19.05            | 1.2   | 41                   | 10    | 1    |

## TDS Twin Dia – 20m coil



NEW

NEW

NEW

| Code  | Model #   | Refrigeration<br>gas CAT | Copper size (mm) |       | Insulation tube (mm) |       | Q'ty |
|-------|-----------|--------------------------|------------------|-------|----------------------|-------|------|
|       |           |                          | O.T*             | W.T** | O.T*                 | W.T** |      |
| 72586 | TDS-2320A | ③                        | 6.35             | 0.8   | 28                   | 10    | 1    |
|       |           |                          | 9.52             | 0.8   | 51                   | 20    |      |
| 72587 | TDS-2420A | ②                        | 6.35             | 0.8   | 28                   | 10    | 1    |
|       |           |                          | 12.70            | 0.8   | 54                   | 20    |      |
| 72588 | TDS-3520A | ②                        | 9.52             | 0.8   | 31                   | 10    | 1    |
|       |           |                          | 15.88            | 1.0   | 57                   | 20    |      |

## SDS Single Dia – 20m coil

| Code  | Model #  | Refrigeration<br>gas CAT | Copper (mm) |       | Insulation tube (mm) |       | Q'ty |
|-------|----------|--------------------------|-------------|-------|----------------------|-------|------|
|       |          |                          | O.T*        | W.T** | O.T*                 | W.T** |      |
| 71582 | SDS-220  | ③                        | 6.35        | 0.8   | 48                   | 20    | 1    |
| 71583 | SDS-320  | ③                        | 9.52        | 0.8   | 51                   | 20    | 1    |
| 71584 | SDS-420  | ②                        | 12.70       | 0.8   | 54                   | 20    | 1    |
| 71585 | SDS-520  | ②                        | 15.88       | 1.0   | 57                   | 20    | 1    |
| 75139 | SDS-620Z | ②                        | 19.05       | 1.2   | 61                   | 20    | 1    |

# CAT PIPE® (Insulated Aluminum Pipe)

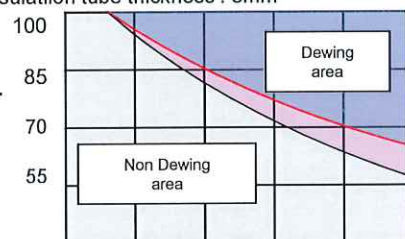


## Features;

- CAT PIPE® is made of soft annealed aluminum alloy and has superior durability and corrosion resistance.
- 1/2 heat conductivity of copper, means less dewing trouble than copper.
- Water proof flare nut & rubber cap are available to prevent galvanic corrosion.
- 1/3 weight of copper, easy to carry and handle.
- Easy to bend (except around flare nut) and cut depends on required length.
- Eco-friendly material : Aluminum's environmental load is lower than copper and this aluminum pipe is recycable.
- More economical and much less price fluctuation than copper.
- Thermal resistance up to 120°C.

## Dewing Data

Aluminium tube size :  $\phi 9.53$   
 Fluid temperature in tube : 5°C  
 Insulation tube inner diameter : 11mm  
 Insulation tube thickness : 8mm



X : outside tube temperature (°C)  
 Y : outside tube relative humidity (%)  
 Red bar : CAT PIPE®  
 Black bar : Insulated copper tube

## About CAT PIPE® Installation

Since CAT PIPE® is softer and has better sealing performance than copper tube, light torque is enough to fasten to achieve high airtightness.



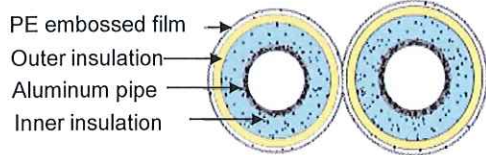
1. Repeated and rapid bending shall be avoided as aluminum pipe is softer than copper tube.
2. Use exclusive flare nut and cap designed to protect from galvanic corrosion.
3. Insert the cap tightly to the bottom of flare nut.
4. Use specialized tool for aluminum to fastening flare nut and union in order to avoid excessive stress to flare part of aluminum pipe. (Massive torque will reduce the thickness of flare part which may cause gas leakage.)
5. Cover exposed part with insulation till top of rubber cap after fastening.
6. Finishing by tape around insulation end is required.

## CAT PIPE Sales History

|      |                                                                                      |
|------|--------------------------------------------------------------------------------------|
| 2009 | Developed and started selling CAT PIPE                                               |
| 2011 | Installed to temporally houses made after great east Japan earthquake                |
| 2012 | Developed specialized tools, exhibited in HVAC                                       |
| 2013 | Developed large diameter CAT PIPE                                                    |
| 2014 | Introduced Aluminum pipe in HVAC                                                     |
| 2015 | large size CAT PIPE is adapted by major general contractor, and start to sell abroad |
| 2016 | Continuous contract was made with popular hotel chain                                |
| 2018 | Registered to NEw Technology Information System (NETIS) in Japan                     |
| 2019 | Installed to school. Another continuous order with general and sub contractor.       |

# CAT·PIPE® (Insulated Aluminum Pipe)

## CAT Aluminum Twin Dia – Pair Coil



| Length<br>(m) | Model No.   | Aluminum Pipe Size |          |                |          | Insulation Size |          |                |          | Package<br>Qty |
|---------------|-------------|--------------------|----------|----------------|----------|-----------------|----------|----------------|----------|----------------|
|               |             | Outer Diameter     |          | Wall Thickness |          | Outer Diameter  |          | Wall Thickness |          |                |
|               |             | Metric             | Imperial | Metric         | Imperial | Metric          | Imperial | Metric         | Imperial |                |
| 20            | CAT-2320S10 | 6.35               | 1/4"     | 0.95           | 0.037    | 24              | 0.945    | 8              | 0.315    | 1              |
|               |             | 9.52               | 3/8"     | 1.0            | 0.039    | 27              | 1.063    | 8              | 0.315    |                |
|               | CAT-2420    | 6.35               | 1/4"     | 0.95           | 0.037    | 24              | 0.945    | 8              | 0.315    | 1              |
|               |             | 12.70              | 1/2"     | 1.2            | 0.047    | 34              | 1.339    | 10             | 0.394    |                |
|               | CAT-3520    | 9.52               | 3/8"     | 1.0            | 0.039    | 27              | 1.063    | 8              | 0.315    | 1              |
|               |             | 15.88              | 5/8"     | 1.3            | 0.051    | 37              | 1.457    | 10             | 0.394    |                |
| 30            | CAT-2330    | 6.35               | 1/4"     | 0.95           | 0.037    | 24              | 0.945    | 8              | 0.315    | 1              |
|               |             | 9.52               | 3/8"     | 1.0            | 0.039    | 27              | 1.063    | 8              | 0.315    |                |
|               | CAT-2430    | 6.35               | 1/4"     | 0.95           | 0.037    | 24              | 0.945    | 8              | 0.315    | 1              |
|               |             | 12.70              | 1/2"     | 1.2            | 0.047    | 34              | 1.339    | 10             | 0.394    |                |
|               | CAT-3530    | 9.52               | 3/8"     | 1.0            | 0.039    | 27              | 1.063    | 8              | 0.315    | 1              |
|               |             | 15.88              | 5/8"     | 1.3            | 0.051    | 37              | 1.457    | 10             | 0.394    |                |

Exclusive waterproof flare nut and rubber cap are sold separately except CAT-2320S10.  
CAA-2320S10 includes 10 each flare nut and rubber cap for both liquid and gas pipe.

## CAT Aluminum Single Dia – 20m Coil



| Model No. | Aluminum Pipe Size |          |                |          | Insulation Size |          |                |          | Package Qty |
|-----------|--------------------|----------|----------------|----------|-----------------|----------|----------------|----------|-------------|
|           | Outer Diameter     |          | Wall Thickness |          | Outer Diameter  |          | Wall Thickness |          |             |
|           | Metric             | Imperial | Metric         | Imperial | Metric          | Imperial | Metric         | Imperial |             |
| CAT-220   | 6.35               | 1/4"     | 0.95           | 0.037    | 24              | 0.945    | 8              | 0.315    | 3           |
| CAT-320   | 9.52               | 3/8"     | 1.0            | 0.039    | 27              | 1.063    | 8              | 0.315    | 3           |
| CAT-420   | 12.70              | 1/2"     | 1.2            | 0.047    | 34              | 1.339    | 10             | 0.394    | 2           |
| CAT-520   | 15.88              | 5/8"     | 1.3            | 0.051    | 37              | 1.457    | 10             | 0.394    | 1           |
| CAT-S-320 | 9.52               | 3/8"     | 1.0            | 0.039    | 51              | 2.008    | 20             | 0.787    | 1           |
| CAT-S-420 | 12.70              | 1/2"     | 1.2            | 0.047    | 54              | 2.126    | 20             | 0.787    | 1           |
| CAT-S-520 | 15.88              | 5/8"     | 1.3            | 0.051    | 57              | 2.244    | 20             | 0.787    | 1           |

## Flare Nut, Waterproof Cap for CAT PIPE®



### Features;

- Originally developed water proof flare nut and rubber cap to prevent galvanic corrosion of Aluminum (pipe) and Copper (union).
- Designed to put the flare part and union in correct position easily in order to reduce the risk of installation mistake.



| Applicable<br>Size (mm) | Tightening Torque |     | Item / Model Number |        |        | Package<br>Qty |
|-------------------------|-------------------|-----|---------------------|--------|--------|----------------|
|                         | Bore (mm)         | N.m | Nut & Cap           | Nut    | Cap    |                |
| 6.35                    | 17                | 16  | VNFNS-2             | VNFN-2 | VNFC-2 | 10             |
| 9.52                    | 22                | 38  | VNFNS-3             | VNFN-3 | VNFC-3 | 10             |
| 12.70                   | 26                | 52  | VNFNS-4             | VNFN-4 | VNFC-4 | 10             |
| 15.88                   | 29                | 70  | VNFNS-5             | VNFN-5 | VNFC-5 | 10             |

## Specialized Tools for CAT PIPE



### Torque Wrench

TY-122 for 1/4" nut / 17mm x 16N · m  
TY-123 for 3/8" nut / 22mm x 38N · m  
TY-124 for 1/2" nut / 26mm x 52N · m  
TY-125 for 5/8" nut / 29mm x 70N · m

### Dodecagon Torque Wrench

TY-124-V2  
for 1/2" nut /  
26mm x 52N · m

TY-125-V2  
for 5/8" nut /  
29mm x 70N · m



### Tube Cutter for Aluminum Pipe

TY-160

- Applicable Outer Diameter ;  
1/8" to 1-1/8" (3 to 28mm)
- Including one spare blade



### Flare Tool for Aluminum Pipe

TY-100

- Applicable Outer Diameter ;  
1/4", 5/16", 3/8", 1/2", 5/8", 3/4"
- Compatible Refrigerant  
R-410A, R-22, R407C, R404A,  
R-507A etc...
- Surely check the size and surface  
of flare after processing



### Motorized Flare Machine

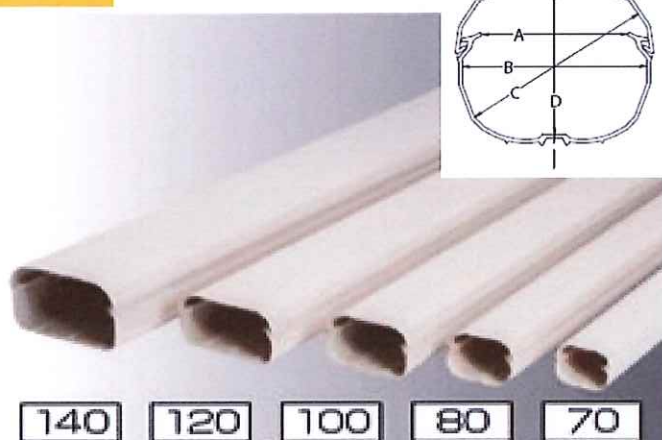
TY-110

- Easy and quick to use.  
Just putting switch button
- Applicable outer diameter;  
1/4" to 5/8"

# TOYO Duct Parts



## TD Duct



### Features;

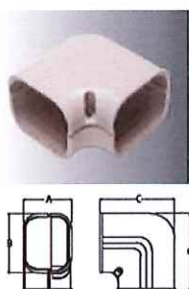
- Polyvinyl chloride which has excellent durability and weatherability is mainly used to prevent deterioration over time.

### Notes for usage;

- As the ducts do not have water proof, contact point on the wall, joint, screw hole etc. are required coating or putty process is required.
- -20 to 60° is the temperature range to use.

| Model # | Size (mm) |     |     |    | Q'ty        |
|---------|-----------|-----|-----|----|-------------|
|         | A         | B   | C   | E  |             |
| TD-70   | 42        | 57  | 63  | 48 | 5pcs x 3c/s |
| TD-80   | 60        | 73  | 78  | 58 | 5cs x 3c/s  |
| TD-100  | 82        | 98  | 103 | 68 | 4pcs x 2c/s |
| TD-120  | 114       | 120 | 125 | 68 | 4pcs x 2c/s |
| TD-140  | 128       | 148 | 155 | 85 | 4pcs x 2c/s |

## DL Duct - Elbow



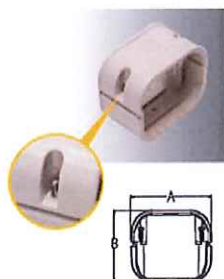
| Model # | Size (mm) |    |     | Q'ty |
|---------|-----------|----|-----|------|
|         | A         | B  | C   |      |
| DL-70   | 73        | 59 | 100 | 20   |
| DL-80   | 86        | 70 | 110 | 20   |
| DL-100  | 110       | 78 | 157 | 12   |
| DL-120  | 130       | 81 | 176 | 10   |
| DL-140  | 163       | 98 | 220 | 6    |

## DLW Duct - Elbow 45°



| Model # | Size (mm) |    |    | Q'ty |
|---------|-----------|----|----|------|
|         | A         | B  | C  |      |
| DLW-70  | 73        | 59 | 60 | 20   |
| DLW-80  | 82        | 73 | 69 | 20   |

## DJ Duct - Joint



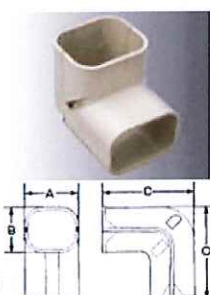
| Model # | Size (mm) |    |    | Q'ty |
|---------|-----------|----|----|------|
|         | A         | B  | C  |      |
| DJ-70   | 73        | 59 | 50 | 50   |
| DJ-80   | 86        | 70 | 50 | 50   |
| DJ-100  | 110       | 78 | 65 | 25   |
| DJ-120  | 130       | 81 | 79 | 20   |
| DJ-140  | 161       | 98 | 89 | 10   |

## DS Duct - Sealing



| Model # | Size (mm) |     |     |     | Q'ty |
|---------|-----------|-----|-----|-----|------|
|         | A         | B   | C   | D   |      |
| DS-80   | 107       | 86  | 120 | 139 | 20   |
| DS-100  | 130       | 110 | 126 | 150 | 20   |
| DS-120  | 159       | 136 | 135 | 159 | 10   |
| DS-140  | 186       | 163 | 150 | 170 | 6    |

## DK Duct - Corner



| Model # | Size (mm) |    |     | Q'ty |
|---------|-----------|----|-----|------|
|         | A         | B  | C   |      |
| DK-70   | 73        | 59 | 120 | 20   |
| DK-80   | 86        | 70 | 120 | 20   |
| DK-100  | 110       | 78 | 121 | 20   |
| DK-120  | 129       | 85 | 130 | 6    |
| DK-140  | 161       | 98 | 140 | 6    |

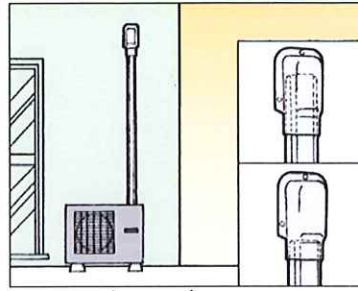
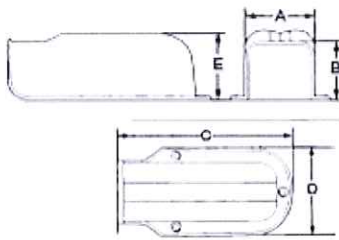
## DIK Duct - Corner Mini



| Model # | Size (mm) |    |     | Q'ty |
|---------|-----------|----|-----|------|
|         | A         | B  | C   |      |
| DIK-80  | 86        | 70 | 103 | 20   |

# TOYO Duct Parts

## DC Duct Cap



Cover the wall hole with duct cap

| Model # | Size (mm) |    |     |     |     | Q'ty |
|---------|-----------|----|-----|-----|-----|------|
|         | A         | B  | C   | D   | E   |      |
| DC-70   | 68        | 57 | 197 | 97  | 66  | 20   |
| DC-80   | 81        | 68 | 211 | 111 | 82  | 15   |
| DC-100  | 110       | 78 | 225 | 145 | 90  | 10   |
| DC-120  | 128       | 80 | 260 | 164 | 110 | 20   |
| DC-140  | 162       | 95 | 291 | 197 | 131 | 15   |

## DHC / DHBC

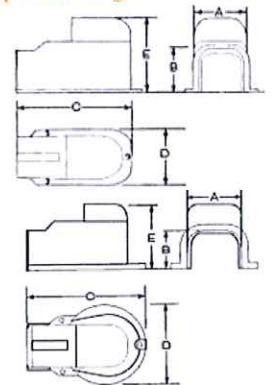
## Dust Waste Ventilation Duct Cap Mini / Big



DHC-80

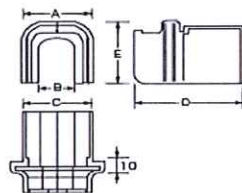


DHBC-80



| Model # | Size (mm) |    |     |     |     | Q'ty |
|---------|-----------|----|-----|-----|-----|------|
|         | A         | B  | C   | D   | E   |      |
| DHC-80  | 81        | 68 | 207 | 109 | 128 | 10   |
| DHBC-80 | 81        | 68 | 228 | 155 | 128 | 10   |

## DIS Conversion Socket



Just Putting to convert the type 80 to 70

| Model #   | Size (mm) |    |    |    |    | Q'ty |
|-----------|-----------|----|----|----|----|------|
|           | A         | B  | C  | D  | E  |      |
| DIS-70-80 | 81        | 63 | 75 | 85 | 68 | 50   |

## DIC / DBC

## Duct Cap Mini / Big

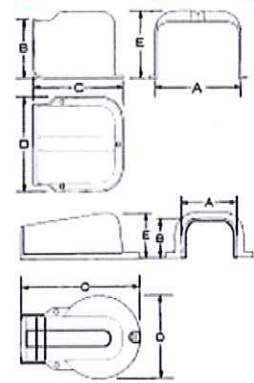
\*DBC: While Supplies Last



DIC-80

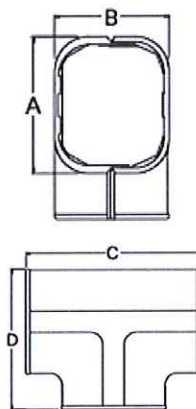


DBC-80



| Model # | Size (mm) |    |     |     |    | Q'ty |
|---------|-----------|----|-----|-----|----|------|
|         | A         | B  | C   | D   | E  |      |
| DIC-80  | 81        | 68 | 120 | 111 | 82 | 20   |
| DBC-80  | 81        | 68 | 215 | 155 | 82 | 20   |

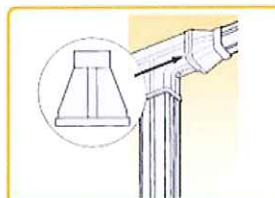
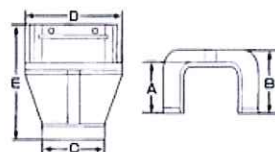
## DT Duct - Tees



| Model # | Size (mm) |    |     |     | Q'ty |
|---------|-----------|----|-----|-----|------|
|         | A         | B  | C   | D   |      |
| DT-80   | 84        | 71 | 140 | 112 | 10   |
| DT-120* | 130       | 81 | 243 | 185 | 5    |

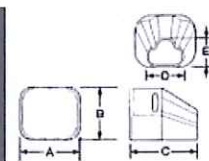
\* DT-120 includes two pcs Reducer DR-120 per quantity

## DR Duct - Reducer

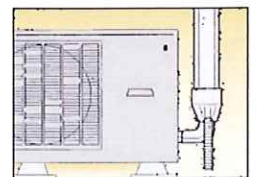


| Model # | Size (mm) |    |    |     |     | Q'ty |
|---------|-----------|----|----|-----|-----|------|
|         | A         | B  | C  | D   | E   |      |
| DR-120  | 68        | 81 | 86 | 130 | 148 | 10   |

## DE Duct - End Cap



For fitting end



| Model # | Size (mm) |    |    |    |    | Q'ty |
|---------|-----------|----|----|----|----|------|
|         | A         | B  | C  | D  | E  |      |
| DE-70   | 73        | 59 | 94 | 52 | 35 | 20   |
| DE-80   | 86        | 70 | 95 | 52 | 45 | 20   |

# Drain Hoses & Accessories

Features;

- High durability consists of dual-layer structure

## WRH Dual Layer Drain Hose



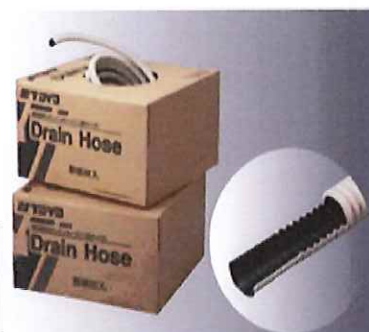
### ■ Connection Pitch 1 m

| Code  | Model # | Inner Diameter | Length | Color | Q'ty |
|-------|---------|----------------|--------|-------|------|
| 70092 | WRH-14N | 14 mm          | 50 mm  | Ivory | 8    |
| 70093 | WRH-16N | 16 mm          | 50 mm  | Ivory | 6    |

### ■ Connection Pitch 0.5 m

| Code  | Model # | Inner Diameter | Length | Color | Q'ty |
|-------|---------|----------------|--------|-------|------|
| 70080 | WRH-14Z | 14 mm          | 50 mm  | Ivory | 4    |

Cuff Diameter 16 - 18φ (mm)



## DRS Branching Joint for Drain Hose



- Apply to WRH-14 / 16
- Suitable to joint indoor and outdoor drain hoses
- Fit into decorative duct
- Ivory color
- Usable as air vent socket by putting in the middle of drain hose.

| Model NO. | Qty per carton |
|-----------|----------------|
| DRS       | 100            |

## DRT Insulation Tube for Drain



- PE foam insulation cover for drain hose to prevent dew condensation on drain hose.
- White color

| Model NO. | I.D.(mm) | W.T.(mm) | Length(m) | Color | Qty per carton |
|-----------|----------|----------|-----------|-------|----------------|
| DRT-EX    | 22       | 4.5      | 2         | white | 80             |

# Outdoor Unit Holder



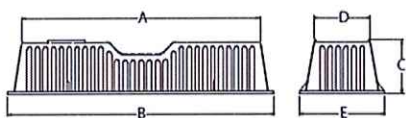
## HB High Base



### Features;

- Made from light weight, excellent weather-resistance, and strength resin.
- Almost no deterioration over time and temperature-related deforming.
- Fixing by screw, easier than bolt locking.
- Easy to install even at narrow space.

Material : PP / Color : Ivory

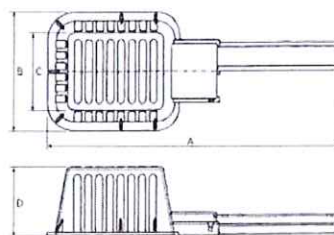


| Model   | Size (mm) |     |    |    |     | Package Qty |
|---------|-----------|-----|----|----|-----|-------------|
|         | A         | B   | C  | D  | E   |             |
| SHB-360 | 360       | 396 | 43 | 78 | 118 | 80          |
| HB-360  | 360       | 403 | 78 | 84 | 130 | 50          |
| HB-450  | 450       | 500 | 90 | 84 | 130 | 30          |

## SFB Adjustable Base

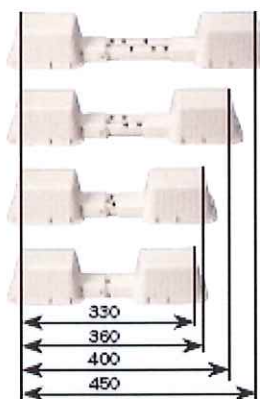


- Adjustable width from 330mm to 450 mm size outdoor unit.
- 4 pieces per an out door unit to hold.

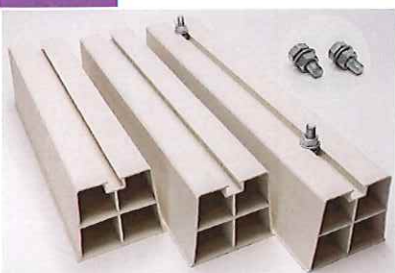


Material : PP / Color : Ivory

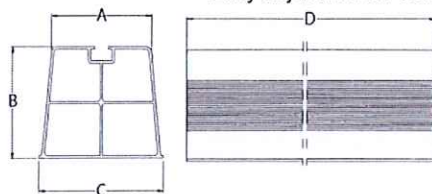
| Model | Size (mm) |     |    |    | Package Qty |
|-------|-----------|-----|----|----|-------------|
|       | A         | B   | C  | D  |             |
| SFB   | 327       | 130 | 85 | 75 | 120         |



## BBB Block Base including Hex Bolt & Nut



- Light weight, high load capacity
- Easy adjustment of bolt places on top ditch



Material : PVC / Color : Ivory

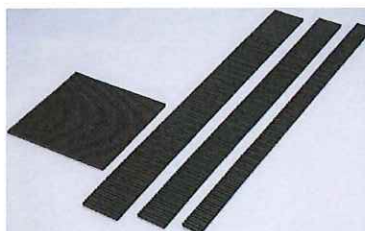
| Model  | Size(mm) |    |     |     | Package Qty |
|--------|----------|----|-----|-----|-------------|
|        | A        | B  | C   | D   |             |
| BBB-36 | 80       | 90 | 100 | 360 | 20          |
| BBB-40 |          |    |     | 400 | 20          |
| BBB-45 |          |    |     | 450 | 20          |

## BBB-C Block Base End Cap



| Model | Package Qty |
|-------|-------------|
| BBB-C | 20          |

## BG Vibration Absorb Rubber



- Grooves both front and back (orientation different) are for cutting.

| Model  | Size (mm) |           |        | Package Qty |
|--------|-----------|-----------|--------|-------------|
|        | Width     | Thickness | Length |             |
| BG-50  | 50        | 10        | 1,000  | 40          |
| BG-75  | 75        | 10        | 1,000  | 30          |
| BG-100 | 100       | 10        | 1,000  | 20          |
| BG-300 | 300       | 10        | 300    | 20          |

# Coat Tapes



VT

## VT Adhesive Vinyl Tape

Suitable for terminal processing of power-cables, wiring, insulation of electrical joints.

| Model No. | Size (mm x m) | Thickness (mm) | Color                                                             | Q'ty |
|-----------|---------------|----------------|-------------------------------------------------------------------|------|
| VT-19×10  | 19 × 10       | 0.2            | Ivory, Gray, White, Black, Brown, Red, Green, Blue, Yellow, Clear | 300  |
| VT-19×20  | 19 × 20       |                |                                                                   | 200  |
| VT-50×20  | 50 × 20       |                |                                                                   | 80   |



MT

## MT Adhesive Vinyl Tape for piping

Thinner type, better for fitting

| Model No. | Size (mm x m) | Thickness (mm) | Color | Q'ty |
|-----------|---------------|----------------|-------|------|
| MT19×10   | 19 × 10       | 0.18           | Ivory | 200  |
| MT19×20   | 19 × 20       |                |       | 200  |
| MT25×20   | 25 × 20       |                |       | 160  |
| MT50×20   | 50 × 20       |                |       | 80   |



KVT

## KVT Co-Tape – Non Adhesive Tape for Piping Protection

| Model No.   | Size (mm x m) | Color                     | Q'ty |
|-------------|---------------|---------------------------|------|
| KVT-50×18   | 50 × 18       | Ivory, White, Light Brown | 100  |
| KVT-75×18   | 75 × 18       | Ivory                     | 80   |
| KVT-50×18B* | 50 × 18       | Ivory                     | 100  |
| KVT-65×14B* | 65 × 14       | Ivory                     | 100  |
| KVT-75×18B* | 75 × 18       | Ivory                     | 80   |

\*Mildew-proof type



LT

SG

## LT Light Tack – Slight Adhesive Tape

• This specially formulated tape does not unfold by itself even fall off during working like left next picture

| Model No. | Size (mm x m) | Thickness (mm) | Color | Q'ty |
|-----------|---------------|----------------|-------|------|
| LT        | 50×18         | 0.15           | Ivory | 80   |

## SG Smooth - Slight Adhesive Tape

• Like "Light Tack", this formulated tape does not unfold by itself when fall off  
• Good workability and fitting by thin tape

| Model No. | Size (mm x m) | Thickness (mm) | Color | Q'ty |
|-----------|---------------|----------------|-------|------|
| SG-50×18  | 50×18         | 0.11           | Ivory | 100  |

While  
Supplies Last

## DNT Insulated Adhesive Tape

• Insulation is fabricated with 30 times expanded independent polyethylene foam to prevent dew condensation.

| Model No.  | Size (mm x m) | Thickness (mm) | Color | Q'ty |
|------------|---------------|----------------|-------|------|
| DNT-60-3   | 60×3          | 4              | White | 60   |
| DNT-60-15  | 60×15         | 4              | White | 10   |
| DNT-100-15 | 100×15        | 4              | White | 6    |

While  
Supplies Last



DNT