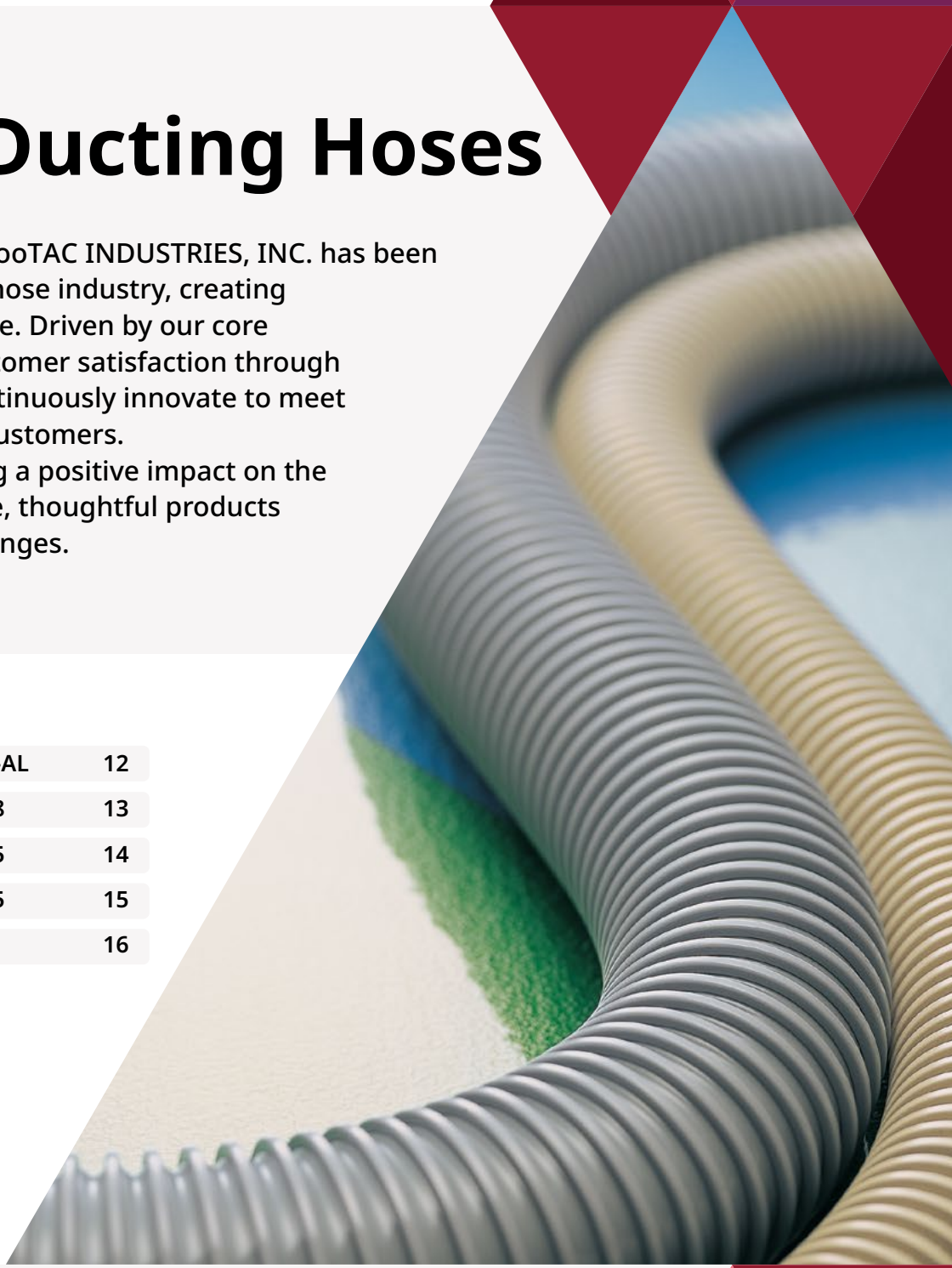
TOTAKU

# TOTAKU Ducting Hoses

Founded in 1952, Nagase RooTAC INDUSTRIES, INC. has been a pioneer in the pipes and hose industry, creating the world's first flexible hose. Driven by our core principle of prioritizing customer satisfaction through exceptional quality, we continuously innovate to meet the evolving needs of our customers.
We are dedicated to making a positive impact on the world by developing unique, thoughtful products that address modern challenges.



## Featured Products


| | | | |
|---|---|---|---|
| DUCT-EE | 02 | DUCT-AL | 12 |
| CLEAR DUCT | 03 | MD-18 | 13 |
| DUCT-D | 04 | MD-25 | 14 |
| DUCT-FR | 05 | MD-45 | 15 |
| HERAN DUCT | 06 | IT-13 | 16 |
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| DUCT-PP | 10 | | |
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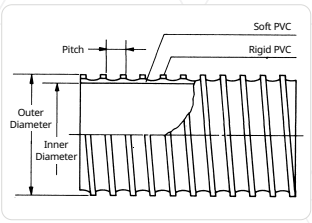
**Notice:**

- The data in this catalog uses values in a straight hose configuration. (The allowable Vacuum Pressure for duct hoses is measured when the hose is in a straight configuration with both ends fixed.)
- The permissible pressure is not the maximum operating pressure. Please refer to the "Operating Pressure Design Table" in the hose handling precautions and configure according to the operating pressure (normal working pressure). Also, please note that the combination of fittings and clamps, operating temperature, and bending conditions may affect performance.

# TOTAKU DUCT-EE

***Part Number - 21107***






(Cuff Mounting Example)



## Features

- This is a standard type of TOTAKU DUCT-D.
- Compared to TOTAKU DUCT-D, it has lower internal resistance, allowing for greater transport capacity.
- It is flexible and lightweight, reducing labor during handling and installation.
- Easy to cut and install, simplifying ductwork.

## Applications

- Useful for indoor air supply and exhaust.
- Ideal for air supply and exhaust in factory equipment.
- Effective for dust collection and other air supply/exhaust needs.
- Suitable for drainage purposes (for surface-level drainage).

## Compatibility Chart for Steel and PVC Pipes

| Hose Nominal Diameter | | Applicable Pipe Type | | | | | | | | SY Band Product Number |
|---|---|---|---|---|---|---|---|---|---|---|
| | | ASTM:A53 Type F | | | | JP standard PVC pipe *(ASTM:D1785equivalent)* | | | | |
| | | Nominal Diameter | | Outer Diameter | | Nominal Diameter | | Outer Diameter | | |
| inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | |
| 3 | 75 | 2.56 | 65 | 3.00 | 76.3 | 2.6 | 65 | 2.99 | 76 | SY75 |
| 3.5 | 90 | 3.15 | 80 | 3.51 | 89.1 | 3.0 | 75 | 3.50 | 89 | SY90 |
| 4 | 100 | 3.54 | 90 | 4.00 | 101.6 | - | - | - | - | SY100 |
| 4.5 | 115 | 3.94 | 100 | 4.50 | 114.3 | 3.9 | 100 | 4.49 | 114 | SY117 |
| 6.5 | 165 | 5.91 | 150 | 6.50 | 165.2 | 5.9 | 150 | 6.50 | 165 | SY165 |

*For installation, insert directly and secure with an SY band.*

## Standard Dimensions and Properties

| Nominal Diameter | | Inner Diameter | | Outer Diameter | | Pitch | | Reference Weight | | Length | | Allowable Pressure *(at room temperature)* | | Allowable Vacuum Pressure *(at room temperature)* | | Allowable Bend Radius *(to the center axis of the hose)* | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| inch | mm | inch | mm | inch | mm | inch | mm | lbs/ft | g/m | feet | m | psi | MPa | inHg | kPa | inch | mm |
| 1.25 | 32 | 1.28 | 32.4 | 1.52 | 38.6 | 0.33 | 8.4 | 0.15 | 220 | 164 | 50 | 8.70 | 0.06 | 19.49 | -66.00 | 1.26 | 32 |
| 1.5 | 38 | 1.47 | 37.3 | 1.75 | 44.5 | 0.36 | 9.2 | 0.20 | 295 | 164 | 50 | 8.70 | 0.06 | 19.49 | -66.00 | 1.50 | 38 |
| 2 | 50 | 1.99 | 50.6 | 2.37 | 60.2 | 0.39 | 10.0 | 0.39 | 585 | 98 | 30 | 7.25 | 0.05 | 19.49 | -66.00 | 1.97 | 50 |
| 2.5 | 65 | 2.46 | 62.4 | 2.83 | 72.0 | 0.47 | 12.0 | 0.43 | 645 | 98 | 30 | 5.80 | 0.04 | 19.49 | -66.00 | 2.56 | 65 |
| 3* | 75 | 3.01 | 76.4 | 3.40 | 86.4 | 0.51 | 13.0 | 0.52 | 775 | 98 | 30 | 5.80 | 0.04 | 9.74 | -33.00 | 2.95 | 75 |
| 3.5* | 90 | 3.50 | 88.9 | 3.92 | 99.5 | 0.53 | 13.5 | 0.64 | 945 | 98 | 30 | 4.35 | 0.03 | 9.74 | -33.00 | 3.54 | 90 |
| 4* | 100 | 4.00 | 101.6 | 4.42 | 112.2 | 0.59 | 15.0 | 0.69 | 1020 | 98 | 30 | 4.35 | 0.03 | 6.35 | -21.50 | 3.94 | 100 |
| 4.5* | 115 | 4.50 | 114.3 | 4.96 | 125.9 | 0.69 | 17.4 | 0.84 | 1255 | 98 | 20 | 4.35 | 0.03 | 6.35 | -20.00 | 4.33 | 110 |
| 5 | 125 | 4.96 | 125.9 | 5.46 | 138.7 | 0.83 | 21.0 | 0.91 | 1350 | 65 | 20 | 2.90 | 0.02 | 5.91 | -20.00 | 4.92 | 125 |
| 6 | 150 | 6.00 | 152.4 | 6.49 | 164.8 | 0.79 | 20.0 | 1.12 | 1670 | 65 | 20 | 2.90 | 0.02 | 4.28 | -14.50 | 5.91 | 150 |
| 6.5* | 165 | 6.50 | 165.0 | 7.00 | 177.8 | 0.87 | 22.0 | 1.19 | 1770 | 65 | 20 | 2.90 | 0.02 | 2.95 | -10.00 | 5.91 | 150 |
| 7 | 175 | 7.00 | 177.8 | 7.50 | 190.6 | 0.79 | 20.0 | 1.30 | 1935 | 65 | 20 | 2.90 | 0.02 | 2.95 | -10.00 | 6.89 | 175 |
| 8 | 200 | 8.02 | 203.7 | 8.55 | 217.1 | 0.89 | 22.5 | 1.47 | 2190 | 65 | 20 | 1.45 | 0.01 | 1.77 | -6.00 | 7.87 | 200 |
| 9 | 225 | 8.94 | 227.0 | 9.46 | 240.4 | 0.93 | 23.5 | 1.64 | 2440 | 32 | 10 | 1.45 | 0.01 | 1.62 | -5.50 | 8.86 | 225 |
| 10 | 250 | 9.92 | 252.0 | 10.48 | 266.2 | 0.98 | 25.0 | 1.98 | 2950 | 32 | 10 | 1.45 | 0.01 | 1.33 | -4.50 | 9.84 | 250 |
| 11 | 275 | 10.94 | 278.0 | 11.52 | 292.6 | 1.10 | 28.0 | 2.12 | 3150 | 32 | 10 | 1.45 | 0.01 | 1.18 | -4.00 | 10.83 | 275 |
| 12 | 300 | 11.93 | 303.0 | 12.52 | 318.0 | 1.18 | 30.0 | 2.34 | 3480 | 32 | 10 | 1.45 | 0.01 | 0.89 | -3.00 | 11.81 | 300 |

*Sizes marked with an asterisk (*) can be directly connected to steel pipes.*

| Size | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | inch | 1.25 | 1.5 | 2 | 2.5 | 3 | 3.5 | 4 | 4.5 | 5 | 6 | 6.5 | 7 | 8 | 9 | 10 | 11 | 12 |
| | mm | 32 | 38 | 50 | 65 | 75 | 90 | 100 | 115 | 125 | 150 | 165 | 175 | 200 | 225 | 250 | 275 | 300 |
| Cuff Available | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | No | Yes | Yes | No | Yes | Yes | No | No | No | No |

*Note: The 7-inch (φ175) diameter cuff is made of EPDM, while other sizes are made of soft PVC.*

## Operating Temperature Range:

°F: 14 to 122 °C: -10 to 50

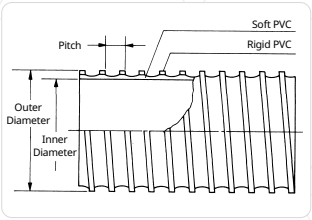
## Notes:

- The permissible pressure varies with operating temperature.

# TOTAKU CLEAR DUCT

***Part Number - 21121***






(Cuff Mounting Example)



## Features

- A transparent type of TOTAKU DUCT-EE, allowing for visual inspection of transported materials

## Applications

- Suitable for dust collection in woodworking machinery.
- Ideal for the transport of powders, granules, and gases.
- Useful for air supply and exhaust in indoor and factory equipment.
- Effective when visual inspection of transported materials is required.
- Suitable for drainage applications (for surface-level drainage).

## Standard Dimensions and Properties

| Nominal Diameter | | Inner Diameter | | Outer Diameter | | Pitch | | Reference Weight | | Length | | Allowable Pressure *(at room temperature)* | | Allowable Vacuum Pressure *(at room temperature)* | | Allowable Bend Radius *(to the center axis of the hose)* | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| inch | mm | inch | mm | inch | mm | inch | mm | lbs/ft | g/m | feet | m | psi | MPa | inHg | kPa | inch | mm |
| 1.25 | 32 | 1.28 | 32.4 | 1.52 | 38.6 | 0.33 | 8.4 | 0.15 | 220 | 164 | 50 | 8.70 | 0.06 | 19.49 | -66.00 | 1.26 | 32 |
| 1.5 | 38 | 1.47 | 37.3 | 1.75 | 44.5 | 0.36 | 9.2 | 0.20 | 295 | 164 | 50 | 8.70 | 0.06 | 19.49 | -66.00 | 1.50 | 38 |
| 2 | 50 | 1.99 | 50.6 | 2.37 | 60.2 | 0.39 | 10.0 | 0.39 | 585 | 98 | 30 | 7.25 | 0.05 | 19.49 | -66.00 | 1.97 | 50 |
| 2.5 | 65 | 2.46 | 62.4 | 2.83 | 72.0 | 0.47 | 12.0 | 0.43 | 645 | 98 | 30 | 5.80 | 0.04 | 19.49 | -66.00 | 2.56 | 65 |
| 3 | 75 | 3.01 | 76.4 | 3.40 | 86.4 | 0.51 | 13.0 | 0.51 | 755 | 98 | 30 | 5.80 | 0.04 | 9.74 | -33.00 | 2.95 | 75 |
| 3.5 | 90 | 3.50 | 88.9 | 3.92 | 99.5 | 0.53 | 13.5 | 0.64 | 950 | 98 | 30 | 4.35 | 0.03 | 9.74 | -33.00 | 3.54 | 90 |
| 4 | 100 | 4.00 | 101.6 | 4.42 | 112.2 | 0.59 | 15.0 | 0.69 | 1020 | 98 | 30 | 4.35 | 0.03 | 6.35 | -21.50 | 3.94 | 100 |
| 5 | 125 | 4.96 | 125.9 | 5.46 | 138.7 | 0.83 | 21.0 | 0.91 | 1350 | 65 | 20 | 2.90 | 0.02 | 5.91 | -20.00 | 4.92 | 125 |
| 6 | 150 | 6.00 | 152.4 | 6.49 | 164.8 | 0.79 | 20.0 | 1.12 | 1670 | 65 | 20 | 2.90 | 0.02 | 4.28 | -14.50 | 5.91 | 150 |
| 8 | 200 | 8.02 | 203.7 | 8.55 | 217.1 | 0.89 | 22.5 | 1.47 | 2190 | 65 | 20 | 1.45 | 0.01 | 1.77 | -6.00 | 7.87 | 200 |

*Sizes marked with an asterisk (*) can be directly connected to steel pipes. For details, please refer to the Compatibility Chart for Steel and PVC Pipes.*
*Cuffs: Made of soft PVC.*

**Operating Temperature Range:**

°F: 14 to 122 °C: -10 to 50

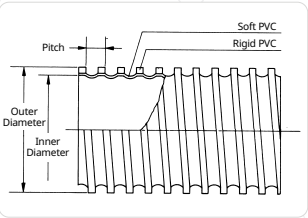
**Notes:**

- The permissible pressure varies with operating temperature.

# TOTAKU DUCT-D

***Part Number - 21101***






Cuff Mounting Example



## Features

- Lightweight and flexible, improving handling and installation efficiency.
- Easy to cut and install, simplifying ductwork.

## Applications

- Suitable for air supply and exhaust in equipment and machinery.
- Ideal for air ventilation systems.
- Effective for dust collection, air supply, and exhaust applications.
- Suitable for drainage purposes (for surface-level drainage).

## Standard Dimensions and Properties

| Nominal Diameter | | Inner Diameter | | Outer Diameter | | Pitch | | Reference Weight | | Length | | Allowable Pressure *(at room temperature)* | | Allowable Vacuum Pressure *(at room temperature)* | | Allowable Bend Radius *(to the center axis of the hose)* | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| inch | mm | inch | mm | inch | mm | inch | mm | lbs/ft | g/m | feet | m | psi | MPa | inHg | kPa | inch | mm |
| 1.25 | 32 | 1.28 | 32.4 | 1.52 | 38.6 | 0.30 | 7.5 | 0.17 | 255 | 164 | 50 | 8.70 | 0.06 | 19.49 | -66.00 | 1.26 | 32 |
| 1.5 | 38 | 1.47 | 37.3 | 1.75 | 44.5 | 0.31 | 7.9 | 0.24 | 360 | 164 | 50 | 8.70 | 0.06 | 19.49 | -66.00 | 1.50 | 38 |
| 2 | 50 | 2.00 | 50.8 | 2.35 | 59.8 | 0.43 | 11.0 | 0.37 | 545 | 164 | 50 | 7.25 | 0.05 | 19.49 | -66.00 | 1.97 | 50 |
| 2.5 | 65 | 2.52 | 64.0 | 2.88 | 73.2 | 0.44 | 11.1 | 0.46 | 685 | 98 | 30 | 5.80 | 0.04 | 19.49 | -66.00 | 2.56 | 65 |
| 3* | 75 | 3.01 | 76.5 | 3.38 | 85.9 | 0.46 | 11.7 | 0.55 | 825 | 98 | 30 | 5.80 | 0.04 | 9.74 | -33.00 | 2.95 | 75 |
| 3.5* | 90 | 3.54 | 90.0 | 3.94 | 100.0 | 0.47 | 12.0 | 0.71 | 1050 | 98 | 30 | 4.35 | 0.03 | 9.74 | -33.00 | 3.54 | 90 |
| 4* | 100 | 4.06 | 103.0 | 4.45 | 113.0 | 0.47 | 12.0 | 0.84 | 1245 | 98 | 30 | 4.35 | 0.03 | 6.64 | -22.50 | 3.94 | 100 |
| 5 | 125 | 5.01 | 127.3 | 5.41 | 137.3 | 0.48 | 12.1 | 0.97 | 1445 | 65 | 20 | 2.90 | 0.02 | 3.54 | -12.00 | 4.92 | 125 |
| 6 | 150 | 5.96 | 151.4 | 6.38 | 162.0 | 0.53 | 13.5 | 1.23 | 1830 | 65 | 20 | 2.90 | 0.02 | 2.95 | -10.00 | 5.91 | 150 |
| 7 | 175 | 6.95 | 176.6 | 7.39 | 187.8 | 0.54 | 13.7 | 1.46 | 2170 | 65 | 20 | 1.45 | 0.01 | 2.36 | -8.00 | 6.89 | 175 |
| 8 | 200 | 8.07 | 205.0 | 8.54 | 216.8 | 0.56 | 14.3 | 1.85 | 2760 | 65 | 20 | 1.45 | 0.01 | 1.92 | -6.50 | 7.87 | 200 |
| 10 | 250 | 9.93 | 252.1 | 10.39 | 263.9 | 0.55 | 13.9 | 2.21 | 3290 | 32 | 10 | 1.45 | 0.01 | 1.18 | -4.00 | 9.84 | 250 |
| 12 | 300 | 11.93 | 303.0 | 12.44 | 316.0 | 0.62 | 15.7 | 2.75 | 4090 | 32 | 10 | 1.45 | 0.01 | 0.74 | -2.50 | 11.81 | 300 |

*Sizes marked with an asterisk (*) can be directly connected to steel pipes. For details, please refer to the Compatibility Chart for Steel and PVC Pipes.*
*Note: The 7-inch (φ175 mm) cuff is made of EPDM, while other sizes are made of soft PVC.*

## Operating Temperature Range:

°F: 14 to 122  °C: -10 to 50

## Notes:

- The permissible pressure varies with operating temperature.

# TOTAKU DUCT-FR

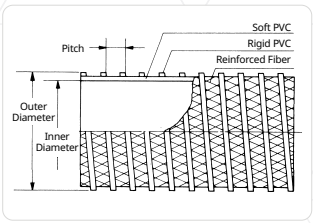


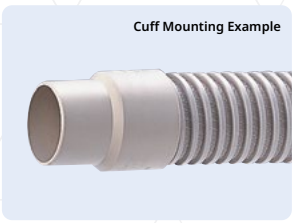

## Features

- Features a reinforcing cord for superior tensile strength and outstanding flexibility and bending durability.
- The ivory-white color transforms the look of traditional vinyl ducts, blending well with modern equipment.

## Applications

- Suitable for air supply and exhaust in equipment and machinery.
- Ideal for air ventilation systems.
- Effective for dust collection, air supply, and exhaust applications.
- Suitable for drainage purposes (for surface-level drainage).




## Standard Dimensions and Properties

| Nominal Diameter | | Inner Diameter | | Outer Diameter | | Pitch | | Reference Weight | | Length | | Allowable Pressure *(at room temperature)* | | Allowable Vacuum Pressure *(at room temperature)* | | Allowable Bend Radius *(to the center axis of the hose)* | | Fitting (Cuff) Available |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| inch | mm | inch | mm | inch | mm | inch | mm | lbs/ft | g/m | feet | m | psi | MPa | inHg | kPa | inch | mm | Yes/No |
| 1.25 | 32 | 1.26 | 32.0 | 1.57 | 40.0 | 0.33 | 8.5 | 0.20 | 300 | 164 | 50 | 14.50 | 0.10 | 14.47 | -49.00 | 1.26 | 32 | Yes |
| 1.5 | 38 | 1.50 | 38.0 | 1.82 | 46.2 | 0.35 | 9.0 | 0.27 | 400 | 164 | 50 | 14.50 | 0.10 | 14.47 | -49.00 | 1.50 | 38 | Yes |
| 2 | 50 | 1.99 | 50.6 | 2.40 | 61.0 | 0.39 | 10.0 | 0.45 | 665 | 98 | 30 | 11.60 | 0.08 | 14.47 | -49.00 | 1.97 | 50 | Yes |
| 2.5 | 65 | 2.46 | 62.4 | 2.86 | 72.6 | 0.47 | 12.0 | 0.49 | 730 | 98 | 30 | 10.15 | 0.07 | 14.47 | -49.00 | 2.56 | 65 | Yes |
| 3* | 75 | 3.01 | 76.4 | 3.42 | 86.8 | 0.59 | 15.1 | 0.53 | 795 | 98 | 30 | 10.15 | 0.07 | 11.81 | -40.00 | 2.95 | 75 | Yes |
| 3.5* | 90 | 3.50 | 88.9 | 3.91 | 99.3 | 0.59 | 15.1 | 0.64 | 950 | 98 | 30 | 10.15 | 0.07 | 8.56 | -29.00 | 3.54 | 90 | Yes |
| 4* | 100 | 4.00 | 101.6 | 4.45 | 113.0 | 0.65 | 16.4 | 0.76 | 1135 | 98 | 30 | 10.15 | 0.07 | 6.35 | -21.50 | 3.94 | 100 | Yes |
| 5 | 125 | 4.96 | 125.9 | 5.48 | 139.3 | 0.83 | 21.0 | 1.10 | 1640 | 65 | 20 | 5.80 | 0.04 | 5.91 | -20.00 | 4.92 | 125 | Yes |
| 6 | 150 | 6.00 | 152.4 | 6.54 | 166.0 | 0.79 | 20.0 | 1.34 | 2000 | 65 | 20 | 4.35 | 0.03 | 5.91 | -20.00 | 5.91 | 150 | Yes |
| 8 | 200 | 8.02 | 203.7 | 8.56 | 217.5 | 0.89 | 22.5 | 1.85 | 2760 | 65 | 20 | 2.90 | 0.02 | 3.25 | -11.00 | 7.87 | 200 | Yes |

*Sizes marked with an asterisk (*) can be directly connected to steel pipes. For details, please refer to the Compatibility Chart for Steel and PVC Pipes.*
*Cuffs: Made of soft PVC.*

## Operating Temperature Range:

°F: 14 to 122 °C: -10 to 50

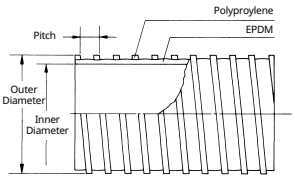
**Notes:**

- The permissible pressure varies with operating temperature.

# TOTAKU HERAN DUCT

***Part Number - 21108***






**Cuff Mounting Example**



## Features

- Offers more than twice the abrasion resistance compared to our PVC ducts.
- Superior resistance to cold and heat.
  (Operating temperature range: -22°F to 176°F / -30°C to 80°C).
- An anti-static duct hose with excellent static prevention properties.
  (Material volume resistivity: $10^5$ Ω·cm or less)
- Highly resistant to ozone cracking, unlike conventional rubber hoses.

## Applications

- Suitable for transporting powders, granules, iron powder, paper scraps, and wood dust.
- Ideal for high-temperature air blowers.
- Effective for duct hose applications requiring abrasion resistance, heat resistance, and conductivity.
- Suitable for drainage purposes (for surface-level drainage).

## Standard Dimensions and Properties

| Nominal Diameter | | Inner Diameter | | Outer Diameter | | Pitch | | Reference Weight | | Length | | Allowable Pressure *(at room temperature)* | | Allowable Vacuum Pressure *(at room temperature)* | | Allowable Bend Radius *(to the center axis of the hose)* | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| inch | mm | inch | mm | inch | mm | inch | mm | lbs/ft | g/m | feet | m | psi | MPa | inHg | kPa | inch | mm |
| 1.5 | 38 | 1.50 | 38.0 | 1.84 | 46.8 | 0.37 | 9.5 | 0.23 | 335 | 98 | 30 | 4.35 | 0.030 | 11.81 | -40.00 | 1.77 | 45 |
| 2 | 50 | 1.99 | 50.6 | 2.41 | 61.2 | 0.39 | 10.0 | 0.37 | 550 | 98 | 30 | 4.35 | 0.030 | 11.81 | -40.00 | 2.17 | 55 |
| 2.5 | 65 | 2.46 | 62.4 | 2.87 | 73.0 | 0.47 | 12.0 | 0.41 | 605 | 98 | 30 | 2.90 | 0.020 | 9.74 | -33.00 | 2.56 | 65 |
| 3 | 75 | 3.01 | 76.4 | 3.43 | 87.2 | 0.51 | 13.0 | 0.49 | 725 | 98 | 30 | 2.90 | 0.020 | 7.83 | -26.50 | 2.95 | 75 |
| 3.5 | 90 | 3.50 | 88.9 | 3.95 | 100.3 | 0.53 | 13.5 | 0.60 | 890 | 98 | 30 | 1.45 | 0.010 | 5.91 | -20.00 | 3.54 | 90 |
| 4 | 100 | 4.00 | 101.6 | 4.45 | 113.0 | 0.59 | 15.0 | 0.63 | 935 | 98 | 30 | 1.45 | 0.010 | 5.91 | -20.00 | 3.94 | 100 |
| 5 | 125 | 4.96 | 125.9 | 5.50 | 139.7 | 0.85 | 21.5 | 0.88 | 1315 | 65 | 20 | 1.45 | 0.010 | 4.87 | -16.50 | 4.92 | 125 |
| 6 | 150 | 6.00 | 152.4 | 6.54 | 166.2 | 0.79 | 20.0 | 1.05 | 1560 | 65 | 20 | 1.45 | 0.010 | 3.84 | -13.00 | 5.91 | 150 |
| 8 | 200 | 8.02 | 203.7 | 8.56 | 217.5 | 0.89 | 22.5 | 1.39 | 2070 | 65 | 20 | 0.73 | 0.005 | 3.84 | -13.00 | 7.87 | 200 |
| 10 | 250 | 9.92 | 252.0 | 10.80 | 274.2 | 0.98 | 25.0 | 3.78 | 5620 | 32 | 10 | 0.73 | 0.005 | 4.87 | -16.50 | 13.78 | 350 |
| 12 | 300 | 11.93 | 303.0 | 12.92 | 328.2 | 1.18 | 30.0 | 4.13 | 6150 | 32 | 10 | 0.73 | 0.005 | 4.87 | -16.50 | 13.78 | 350 |

*Sizes marked with an asterisk (*) can be directly connected to steel pipes. For details, please refer to the Compatibility Chart for Steel and PVC Pipes.*
*Dedicated EPDM cuffs are available (1.5 inches to 8 inches / φ38 mm to φ200 mm).*

**Operating Temperature Range:**

°F: -22 to 176  °C: -30 to 80

**Notes:**

- The permissible pressure varies with operating temperature.

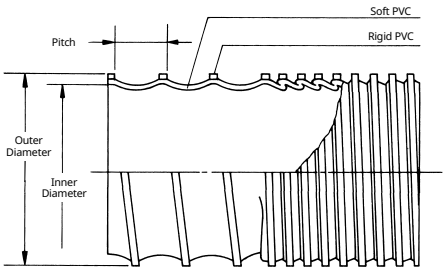
**Scan, tap, or touch for product videos**

**Static Electricity Prevention**

# TOTAKU BELLOWS DUCT

***Part Number - 21104***






## Features

- Can be expanded and contracted freely, allowing for storage at approximately one-third of its size.
- Lightweight despite its large diameter, making it easy to transport.

## Applications

- Ideal for air supply and exhaust in manhole and tunnel construction work.
- Effective for air supply, exhaust, and dust collection in various fields.
- Suitable for drainage purposes (for surface-level drainage).

## Standard Dimensions and Properties

| Nominal Diameter | | Inner Diameter | | Outer Diameter | | Pitch | | Reference Weight | | Length | | Allowable Pressure *(at room temperature)* | | Allowable Vacuum Pressure *(at room temperature)* | | Allowable Bend Radius *(to the center axis of the hose)* | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| inch | mm | inch | mm | inch | mm | inch | mm | lbs/ft | g/m | feet | m | psi | MPa | inHg | kPa | inch | mm |
| 14 | 350 | 13.78 | 350.0 | 14.45 | 367.0 | 1.97 | 50.0 | 2.71 | 4040 | 32 | 10 | 0.73 | 0.005 | 0.40 | -1.35 | 13.78 | 350 |
| 16 | 400 | 15.75 | 400.0 | 16.46 | 418.0 | 2.36 | 60.0 | 3.27 | 4860 | 32 | 10 | 0.58 | 0.004 | 0.28 | -0.95 | 15.75 | 400 |
| 18 | 450 | 17.72 | 450.0 | 18.46 | 469.0 | 2.36 | 60.0 | 3.71 | 5520 | 32 | 10 | 0.58 | 0.004 | 0.28 | -0.95 | 17.72 | 450 |
| 20 | 500 | 19.69 | 500.0 | 20.47 | 520.0 | 2.36 | 60.0 | 4.15 | 6180 | 32 | 10 | 0.44 | 0.003 | 0.28 | -0.95 | 19.69 | 500 |
| 22* | 550 | 21.65 | 550.0 | 22.44 | 570.0 | 2.36 | 60.0 | 4.87 | 7250 | 32 | 10 | 0.44 | 0.003 | 0.21 | -0.70 | 21.65 | 550 |

** This is a made-to-order product. Please contact our company regarding order quantities and other inquiries.*

**Operating Temperature Range:**

°F: 14 to 122  °C: -10 to 50

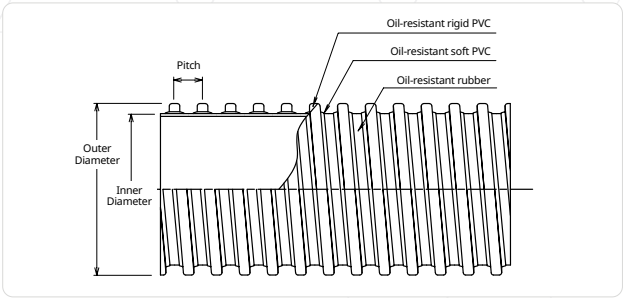
**Notes:**

- The permissible pressure varies with operating temperature.

# TOTAKU DUCT-AROR

***Part Number - 21186***






## Features

- Offers excellent abrasion and oil resistance.
- In addition to abrasion resistance, it also offers superior anti-static properties (Material volume resistivity: $10^5$ Ω·cm or less)

## Applications

- Ideal for transporting waste oil and scrap materials from metal processing.
- Suitable for use in dust collection systems.
- Effective for recovering gasoline vapor.
- Useful for transporting industrial waste containing oil.
- Appropriate for transporting grains and animal feed.

## Standard Dimensions and Properties

| Nominal Diameter | | Inner Diameter | | Outer Diameter | | Pitch | | Reference Weight | | Length | | Allowable Pressure *(at room temperature)* | | Allowable Vacuum Pressure *(at room temperature)* | | Allowable Bend Radius *(to the center axis of the hose)* | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| inch | mm | inch | mm | inch | mm | inch | mm | lbs/ft | g/m | feet | m | psi | MPa | inHg | kPa | inch | mm |
| 1.5 | 38 | 1.50 | 38.0 | 1.85 | 47.1 | 0.37 | 9.5 | 0.31 | 460 | 98 | 30 | 14.50 | 0.10 | 19.49 | -66.00 | 1.50 | 38 |
| 2 | 50 | 2.00 | 50.8 | 2.38 | 60.4 | 0.41 | 10.5 | 0.40 | 590 | 98 | 30 | 10.15 | 0.07 | 19.49 | -66.00 | 1.97 | 50 |
| 2.5 | 65 | 2.52 | 64.0 | 2.89 | 73.5 | 0.58 | 14.8 | 0.51 | 760 | 65 | 20 | 7.25 | 0.05 | 19.49 | -66.00 | 2.56 | 65 |
| 3* | 75 | 3.01 | 76.4 | 3.44 | 87.4 | 0.59 | 15.1 | 0.65 | 960 | 98 | 30 | 7.25 | 0.05 | 9.74 | -33.00 | 2.95 | 75 |
| 4* | 100 | 4.00 | 101.6 | 4.50 | 114.2 | 0.65 | 16.4 | 0.97 | 1440 | 65 | 20 | 4.35 | 0.03 | 9.74 | -33.00 | 3.94 | 100 |

*Sizes marked with an asterisk (*) can be directly connected to steel pipes. For details, please refer to the Compatibility Chart for Steel and PVC Pipes.*

## Operating Temperature Range:

°F: 14 to 122 °C: -10 to 50

**Notes:**

- The permissible pressure varies with operating temperature.

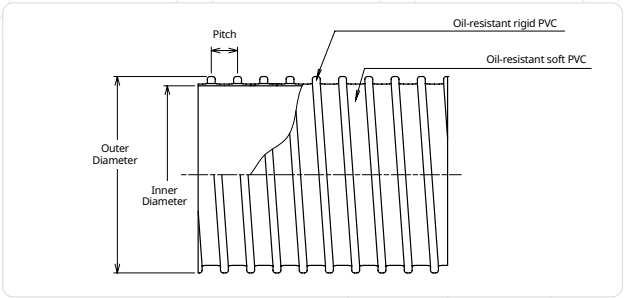
**Scan, tap, or touch for product videos**

Product Overview | Abrasion Resistance | Static Electricity Prevention | Oil Resistance

# TOTAKU DUCT-OR

***Part Number - 21181***






## Features

- Excellent oil resistance.
- Matches equipment with its ivory color.
- Lightweight with superior bending durability.
- Low internal resistance, contributing to efficient and energy-saving operations.

## Applications

- Useful for the intake and exhaust of oil mist.
- Effective for recovering oil mist from lathes, milling machines, and similar equipment.
- Suitable for drainage purposes (for surface-level drainage).

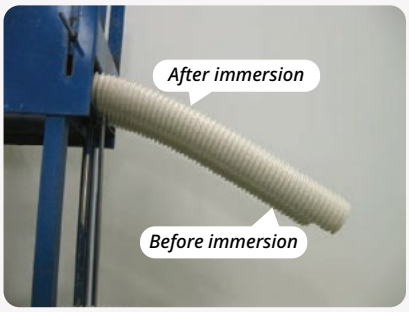
## Standard Dimensions and Properties

| Nominal Diameter | | Inner Diameter | | Outer Diameter | | Pitch | | Reference Weight | | Length | | Allowable Pressure *(at room temperature)* | | Allowable Vacuum Pressure *(at room temperature)* | | Allowable Bend Radius *(to the center axis of the hose)* | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| inch | mm | inch | mm | inch | mm | inch | mm | lbs/ft | g/m | feet | m | psi | MPa | inHg | kPa | inch | mm |
| 2 | 50 | 1.99 | 50.6 | 2.37 | 60.2 | 0.39 | 10.0 | 0.42 | 625 | 98 | 30 | 7.25 | 0.05 | 19.49 | -66.00 | 1.97 | 50 |
| 3* | 75 | 3.01 | 76.4 | 3.40 | 86.4 | 0.51 | 13.0 | 0.52 | 775 | 98 | 30 | 5.80 | 0.04 | 9.74 | -33.00 | 2.95 | 75 |
| 4* | 100 | 4.00 | 101.6 | 4.42 | 112.2 | 0.59 | 15.0 | 0.75 | 1120 | 98 | 30 | 4.35 | 0.03 | 6.35 | -21.50 | 3.94 | 100 |
| 5 | 125 | 4.96 | 125.9 | 5.46 | 138.7 | 0.83 | 21.0 | 0.91 | 1350 | 65 | 20 | 2.90 | 0.02 | 5.91 | -20.00 | 4.92 | 125 |
| 6 | 150 | 6.00 | 152.4 | 6.49 | 164.8 | 0.79 | 20.0 | 1.12 | 1670 | 65 | 20 | 2.90 | 0.02 | 4.28 | -14.50 | 5.91 | 150 |
| 8 | 200 | 8.00 | 203.2 | 8.52 | 216.5 | 0.89 | 22.5 | 1.47 | 2190 | 65 | 20 | 1.45 | 0.01 | 1.77 | -6.00 | 7.87 | 200 |

*Sizes marked with an asterisk (*) can be directly connected to steel pipes. For details, please refer to the Compatibility Chart for Steel and PVC Pipes.*

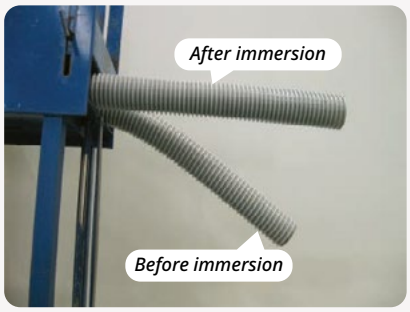
## Oil Resistance (Changes in Flexibility After Oil Immersion)

### TOTAKU Oil-Resistant Duct




No change in flexibility even after immersion in oil for one week. (Kerosene was used in this test.)

### Generic PVC Duct




General PVC duct becomes hardened and is unable to withstand bending after oil immersion.

## Operating Temperature Range:

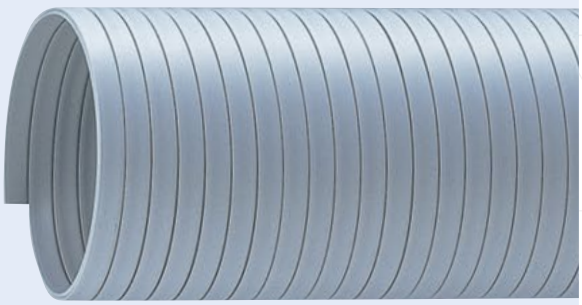
°F: 14 to 122 °C: -10 to 50

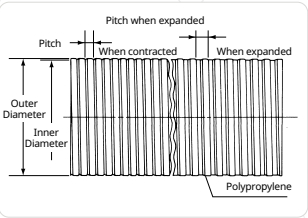
**Notes:**

- The permissible pressure varies with operating temperature.

# TOTAKU RIGID DUCT-PP

***Part Number - 21184***






End Cover Installation Example



## Features

- Achieves a 10-20% weight reduction compared to traditional PVC products.
- Can be freely bent and retains its shape after bending. (Indoor use only. Note: Shape retention decreases as temperature rises.)
- Diameter can be adjusted by twisting the end.
- Easily cut with a knife.
- Ducts can be quickly connected by twisting the ends together. (Wrap the joint with vinyl tape or similar material after connection.)
- Can be incinerated after use.

## Applications

- Suitable for spot coolers.
- Effective for air ventilation supply and exhaust.
- Useful for dust collection in woodworking and metal polishing machinery.
- Appropriate for civil engineering, electrical conduit, agricultural, and other uses

## Standard Dimensions and Properties

| Nominal Diameter | | Inner Diameter | | Outer Diameter | | Pitch *(when expanded)* | | Reference Weight | | Length | | Percentage Change in Diameter | | Expansion-Contraction Ratio | Allowable Bend Radius *(to the center axis of the hose)* | | Maximum Operating Temperature | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| inch | mm | inch | mm | inch | mm | inch | mm | lbs/ft | g/m | feet | m | Expansion | Contraction | - | inch | mm | °F | °C |
| 2 | 55 | 2.17 | 55.0 | 2.39 | 60.8 | 0.28 | 7.0 | 0.30 | 450 | 32 | 10 | 20 | 15 | 1.5 | 5.51 | 140 | 176 | 80 |
| 2.5 | 65 | 2.56 | 65.0 | 2.79 | 70.8 | 0.28 | 7.0 | 0.34 | 510 | 32 | 10 | 20 | 15 | 1.5 | 6.10 | 155 | 176 | 80 |
| 3 | 75 | 2.95 | 75.0 | 3.24 | 82.4 | 0.30 | 7.5 | 0.45 | 675 | 32 | 10 | 20 | 15 | 1.5 | 6.89 | 175 | 176 | 80 |
| 3.5 | 90 | 3.54 | 90.0 | 3.83 | 97.4 | 0.30 | 7.5 | 0.52 | 775 | 32 | 10 | 20 | 15 | 1.5 | 8.27 | 210 | 176 | 80 |
| 4 | 100 | 3.94 | 100.0 | 4.23 | 107.4 | 0.30 | 7.5 | 0.57 | 845 | 32 | 10 | 20 | 15 | 1.5 | 9.06 | 230 | 176 | 80 |
| 5 | 125 | 4.92 | 125.0 | 5.23 | 132.8 | 0.30 | 7.5 | 0.79 | 1175 | 32 | 10 | 20 | 15 | 1.5 | 11.81 | 300 | 167 | 75 |
| 6 | 150 | 5.91 | 150.0 | 6.21 | 157.8 | 0.30 | 7.5 | 0.93 | 1380 | 32 | 10 | 20 | 15 | 1.5 | 13.78 | 350 | 167 | 75 |
| 7 | 175 | 6.89 | 175.0 | 7.20 | 182.8 | 0.30 | 7.5 | 1.20 | 1785 | 32 | 10 | 20 | 15 | 1.5 | 15.75 | 400 | 167 | 75 |
| 8 | 200 | 7.87 | 200.0 | 8.19 | 208.0 | 0.30 | 7.5 | 1.25 | 1855 | 32 | 10 | 20 | 15 | 1.5 | 17.72 | 450 | 167 | 75 |
| 10 | 250 | 9.84 | 250.0 | 10.22 | 259.6 | 0.41 | 10.5 | 2.15 | 3195 | 13 | 4 | 15 | 10 | 1.5 | 37.80 | 960 | 158 | 70 |
| 12 | 300 | 11.81 | 300.0 | 12.19 | 309.6 | 0.41 | 10.5 | 2.68 | 3990 | 13 | 4 | 15 | 10 | 1.5 | 39.37 | 1000 | 158 | 70 |

*Note: This is the length in the contracted state.*
*End covers are available in all sizes.*

## Operating Temperature Range:

°F: 14 to 176 °C: -10 to 80

**Notes:**

- The permissible pressure varies with operating temperature.

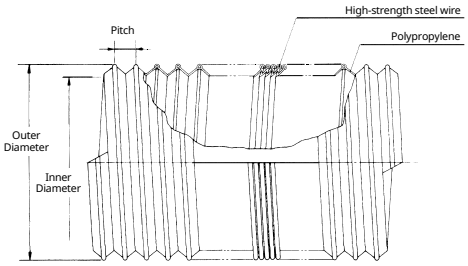
**Scan, tap, or touch for product videos**

**Cutting Method**

# TOTAKU RETRACTABLE DUCT

***Part Number - 15112***






## Features

- Can expand and contract freely, with the ability to be fixed at any angle or direction. (Note: Shape retention may decrease for larger diameters.)
- Reduces to 1/3 to 1/4 of its original length, facilitating easier transport and minimizing storage space before installation.

## Applications

- Suitable for hot air (below 176°F / 80°C) supply and exhaust.
- Ideal for air conditioning and ventilation use.
- Effective for equipment exhaust and similar applications.

## Standard Dimensions and Properties

| Nominal Diameter | | Inner Diameter | | Outer Diameter | | Pitch *(when expanded)* | | Reference Weight | | Length | | Cyclic Durability | Bend Cycle Strength | Allowable Bend Radius *(to the center axis of the hose)* | | Maximum Operating Temperature | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| inch | mm | inch | mm | inch | mm | inch | mm | lbs/ft | g/m | feet | m | | | inch | mm | °F | °C |
| 1.5 | 38 | 1.38 | 35 | 1.65 | 42.0 | 0.41 | 10.5 | 0.11 | 165 | 16 | 5 | Over 100,000 cycles (32°F/0°C, 77°F/25°C) | Over 100,000 cycles (left and right 90°) (32°F/0°C, 77°F/25°C) | 1.18 | 30 | 176 | 80 |
| 2 | 50 | 1.97 | 50 | 2.28 | 58.0 | 0.48 | 12.3 | 0.13 | 190 | 16 | 5 | | | 1.57 | 40 | 176 | 80 |
| 2.5 | 65 | 2.48 | 63 | 2.83 | 72.0 | 0.55 | 14.0 | 0.15 | 230 | 16 | 5 | | | 2.17 | 55 | 176 | 80 |
| 3 | 75 | 2.80 | 71 | 3.19 | 81.0 | 0.62 | 15.7 | 0.17 | 255 | 16 | 5 | | | 2.36 | 60 | 176 | 80 |
| 3.5 | 90 | 3.27 | 83 | 3.70 | 94.0 | 0.62 | 15.7 | 0.25 | 365 | 16 | 5 | | | 2.76 | 70 | 176 | 80 |
| 4 | 100 | 3.82 | 97 | 4.25 | 108.0 | 0.67 | 17.0 | 0.30 | 440 | 16 | 5 | | | 3.15 | 80 | 176 | 80 |
| 5 | 125 | 4.84 | 123 | 5.31 | 135.0 | 0.73 | 18.5 | 0.42 | 630 | 16 | 5 | | | 3.94 | 100 | 176 | 80 |
| 6 | 150 | 5.71 | 145 | 6.22 | 158.0 | 0.89 | 22.5 | 0.49 | 730 | 16 | 5 | | | 4.72 | 120 | 176 | 80 |
| 8 | 200 | 7.72 | 196 | 8.25 | 209.5 | 0.96 | 24.5 | 0.62 | 920 | 16 | 5 | | | 6.30 | 160 | 176 | 80 |
| 12 | 300 | 11.57 | 294 | 12.19 | 309.5 | 1.06 | 27.0 | 1.04 | 1555 | 16 | 5 | | | 9.45 | 240 | 176 | 80 |

*Note: This product is sold in standard lengths (with cuffs on both ends).*

## Operating Temperature Range:

°F: -4 to 176  °C: -20 to 80

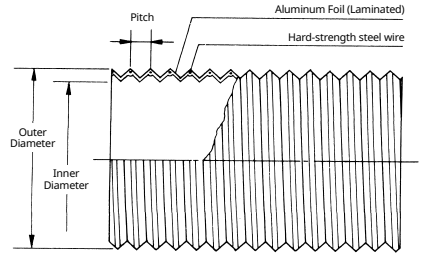
**Notes:**

- The permissible pressure varies with operating temperature.

# TOTAKU DUCT-AL

***Part Number - 21102***






## Features

- Offers flexibility and expandability, making installation in tight spaces easier.
- Can compress to 1/5 of its original length, allowing for compact storage and saving on inventory space.
- Resists repeated bending and provides excellent heat resistance (up to 176°F / 80°C).

## Applications

- Suitable for ducting ventilation fans in residential, apartment, and commercial settings.
- Ideal for air conditioning and ventilation in buildings such as offices and commercial properties.

## Notes

- This material is not non-combustible and should not be used for range hood exhaust systems.
- Continuous operating temperature range: -4°F to 176°F (-20°C to 80°C).

## Standard Dimensions and Properties

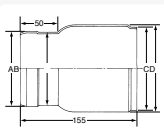
| Nominal Diameter | | Inner Diameter | | Outer Diameter | | Pitch *(when expanded)* | | Reference Weight | | Length | | Allowable Pressure *(at room temperature)* | | Allowable Vacuum Pressure *(at room temperature)* | | Allowable Bend Radius *(to the center axis of the hose)* | | Maximum Operating Temperature | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| inch | mm | inch | mm | inch | mm | inch | mm | lbs/ft | g/m | feet | m | psi | MPa | inHg | kPa | inch | mm | °F | °C |
| 1.5 | 38 | 1.54 | 39 | 1.77 | 45.0 | 0.43 | 10.8 | 0.08 | 125 | 16 | 5 | 2.90 | 0.020 | 9.74 | -33.00 | 1.18 | 30 | 176 | 80 |
| 2 | 50 | 1.97 | 50 | 2.18 | 55.3 | 0.43 | 10.8 | 0.11 | 160 | 16 | 5 | 2.90 | 0.020 | 9.74 | -33.00 | 1.38 | 35 | 176 | 80 |
| 2.5 | 65 | 2.52 | 64 | 2.77 | 70.3 | 0.43 | 10.8 | 0.13 | 195 | 16 | 5 | 2.90 | 0.020 | 9.74 | -33.00 | 1.77 | 45 | 176 | 80 |
| 3 | 75 | 2.95 | 75 | 3.16 | 80.3 | 0.43 | 10.8 | 0.16 | 235 | 16 | 5 | 1.45 | 0.010 | 7.83 | -26.50 | 2.17 | 55 | 176 | 80 |
| 4 | 100 | 3.86 | 98 | 4.15 | 105.3 | 0.43 | 10.8 | 0.20 | 300 | 16 | 5 | 1.45 | 0.010 | 4.87 | -16.50 | 2.76 | 70 | 176 | 80 |
| 4.5 | 117 | 4.45 | 113 | 4.70 | 119.3 | 0.43 | 10.8 | 0.24 | 360 | 16 | 5 | 1.45 | 0.010 | 3.84 | -13.00 | 2.95 | 75 | 176 | 80 |
| 5 | 125 | 4.92 | 125 | 5.13 | 130.3 | 0.43 | 10.8 | 0.25 | 375 | 16 | 5 | 1.45 | 0.010 | 2.95 | -10.00 | 3.54 | 90 | 176 | 80 |
| 6 | 150 | 5.91 | 150 | 6.13 | 155.7 | 0.43 | 10.8 | 0.39 | 580 | 16 | 5 | 1.45 | 0.010 | 2.95 | -10.00 | 4.13 | 105 | 176 | 80 |
| 7 | 175 | 6.89 | 175 | 7.11 | 180.7 | 0.43 | 10.8 | 0.45 | 670 | 16 | 5 | 1.45 | 0.010 | 2.95 | -10.00 | 4.72 | 120 | 176 | 80 |
| 8 | 200 | 7.87 | 200 | 8.10 | 205.7 | 0.43 | 10.8 | 0.53 | 785 | 16 | 5 | 1.45 | 0.010 | 1.92 | -6.50 | 5.91 | 150 | 176 | 80 |
| 10 | 250 | 9.84 | 250 | 10.07 | 255.9 | 0.43 | 10.8 | 0.77 | 1150 | 16 | 5 | 1.16 | 0.008 | 1.92 | -6.50 | 7.28 | 185 | 176 | 80 |
| 12 | 300 | 11.81 | 300 | 12.04 | 305.9 | 0.43 | 10.8 | 0.90 | 1345 | 16 | 5 | 1.02 | 0.007 | 1.18 | -4.00 | 9.06 | 230 | 176 | 80 |

*Notes: The inner diameter is a reference value. When using commercially available insert-type fittings, please verify with the actual product. When inserting nipples or similar components, ensure that the hose is in an expanded state.*

## TOTAKU DUCT-AL Components

Adapter Fitting (Material: PE) ***Part Number 92101***
A reducer fitting designed to easily connect TOTAKU DUCT-AL to the duct connection port of ventilation fans.

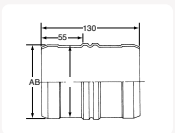





| Nominal Diameter | | A | | B | | C | | D | |
|---|---|---|---|---|---|---|---|---|---|
| inch | mm | inch | mm | inch | mm | inch | mm | inch | mm |
| 100 | 4 | 3.94 | 100 | 3.86 | 98 | 4.37 | 111 | 4.57 | 116 |
| 150 | 6 | 5.91 | 150 | 5.83 | 148 | 6.34 | 161 | 6.54 | 166 |
| 200 | 8 | 7.87 | 200 | 7.80 | 198 | 8.31 | 211 | 8.50 | 216 |

Duct Connector (Material: PE) ***Part Number 92102***
A same-diameter connector used for joining sections of TOTAKU DUCT-AL.






| Nominal Diameter | | A | | B | |
|---|---|---|---|---|---|
| inch | mm | inch | mm | inch | mm |
| 100 | 4 | 3.94 | 100 | 3.86 | 98 |
| 150 | 6 | 5.91 | 150 | 5.83 | 148 |
| 200 | 8 | 7.87 | 200 | 7.80 | 198 |



*Spiral Wire Band*



*ABA Band*

*For installation, use either the Spiral Wire Band or the ABA Band. Note: Available in a range of sizes.*

## Operating Temperature Range:

°F: -4 to 176  °C: -20 to 80

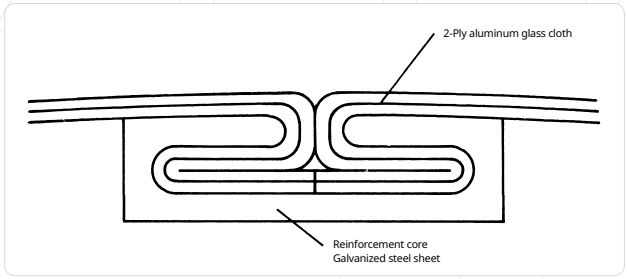
## Notes:

- The permissible pressure varies with operating temperature.

# TOTAKU MD-18

***Part Number - 21114***






## Features

- Made with aluminum foil, glass cloth, and a reinforced core of galvanized steel sheet, suitable for use at temperatures up to 356°F (180°C).
- Fully flexible and easy to expand and contract, simplifying storage, handling, and transport. (Repeated expansion and contraction should be avoided.)
- Uses an aluminum-glass cloth sheet with superior flame-retardant properties. (Certified as Class 1 flame-resistant.)

## Applications

- Ideal for air ventilation systems and intake/exhaust in hot air circulation devices.

## Standard Dimensions and Properties

| Nominal Diameter | | Inner Diameter | | Outer Diameter | | Reference Weight | | Length | | Allowable Pressure *(at room temperature)* | | Allowable Vacuum Pressure *(at room temperature)* | | Allowable Bend Radius *(to the center axis of the hose)* | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| inch | mm | inch | mm | inch | mm | lbs/ft | g/m | feet | m | psi | MPa | inHg | kPa | inch | mm |
| 2 | 50 | 2.01 | 51.0 | 2.15 | 54.5 | 0.27 | 405 | 16 | 5 | 1.02 | 0.007 | 2.51 | -8.5 | 4.33 | 110 |
| 2.5 | 65 | 2.66 | 67.5 | 2.81 | 71.5 | 0.35 | 520 | 16 | 5 | 1.02 | 0.007 | 2.36 | -8.0 | 5.51 | 140 |
| 3 | 75 | 2.99 | 76.0 | 3.15 | 80.0 | 0.39 | 580 | 16 | 5 | 1.02 | 0.007 | 2.07 | -7.0 | 6.30 | 160 |
| 3.5 | 90 | 3.58 | 91.0 | 3.74 | 95.0 | 0.42 | 630 | 16 | 5 | 1.02 | 0.007 | 2.07 | -7.0 | 7.48 | 190 |
| 4 | 100 | 4.04 | 102.5 | 4.17 | 106.0 | 0.48 | 720 | 16 | 5 | 1.02 | 0.007 | 1.92 | -6.5 | 8.27 | 210 |
| 5 | 125 | 5.02 | 127.5 | 5.16 | 131.0 | 0.58 | 860 | 16 | 5 | 1.02 | 0.007 | 1.92 | -6.5 | 9.84 | 250 |
| 6 | 150 | 5.98 | 152.0 | 6.12 | 155.5 | 0.71 | 1050 | 16 | 5 | 1.02 | 0.007 | 1.77 | -6.0 | 11.02 | 280 |
| 7 | 175 | 6.95 | 176.5 | 7.09 | 180.0 | 0.80 | 1185 | 16 | 5 | 1.02 | 0.007 | 1.48 | -5.0 | 13.39 | 340 |
| 8 | 200 | 7.95 | 202.0 | 8.07 | 205.0 | 0.94 | 1400 | 16 | 5 | 1.02 | 0.007 | 1.33 | -4.5 | 14.96 | 380 |
| 10 | 250 | 9.96 | 253.0 | 10.08 | 256.0 | 1.20 | 1780 | 16 | 5 | 1.02 | 0.007 | 0.89 | -3.0 | 20.08 | 510 |
| 12 | 300 | 11.93 | 303.0 | 12.07 | 306.5 | 1.41 | 2100 | 16 | 5 | 1.02 | 0.007 | 0.89 | -3.0 | 24.02 | 610 |

*Repeated bending and expansion is not recommended.*

## Operating Temperature Range:

°F: -4 to 356  °C: -20 to 180

**Notes:**

- The permissible pressure varies with operating temperature.

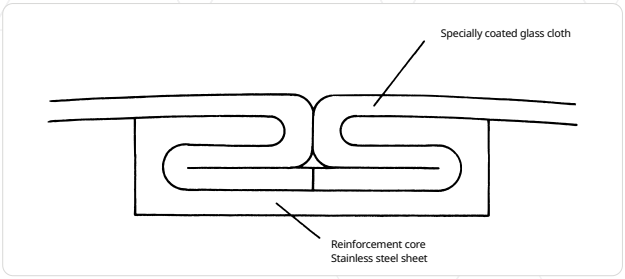
**Scan, tap, or touch for product videos**

**Cutting Method**

# TOTAKU MD-25

***Part Number - 21115***






## Features

- Certified as non-combustible by the Japanese Minister of Land, Infrastructure, Transport and Tourism (Certification No. NM-5255).
- Made with specially coated glass cloth and a reinforced core of stainless steel (SUS304), suitable for use at temperatures up to 482°F (250°C).
- Freely expandable and contractible, making it easy to store, handle, and transport.
- The specially coated glass cloth used offers excellent flame-retardant properties (Certified as Class 1 flame-resistant).

## Applications

- Suitable for hot air circulation devices and as suction ducts for welding sparks.

## Standard Dimensions and Properties

| Nominal Diameter | | Inner Diameter | | Outer Diameter | | Reference Weight | | Length | | Allowable Pressure *(at room temperature)* | | Allowable Vacuum Pressure *(at room temperature)* | | Allowable Bend Radius *(to the center axis of the hose)* | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| inch | mm | inch | mm | inch | mm | lbs/ft | g/m | feet | m | psi | MPa | inHg | kPa | inch | mm |
| 2 | 50 | 2.01 | 51.0 | 2.15 | 54.5 | 0.24 | 360 | 16 | 5 | 1.02 | 0.007 | 2.51 | -8.5 | 4.33 | 110 |
| 2.5 | 65 | 2.64 | 67.0 | 2.81 | 71.5 | 0.32 | 480 | 16 | 5 | 1.02 | 0.007 | 2.36 | -8.0 | 5.51 | 140 |
| 3 | 75 | 2.99 | 76.0 | 3.15 | 80.0 | 0.35 | 525 | 16 | 5 | 1.02 | 0.007 | 2.07 | -7.0 | 6.30 | 160 |
| 3.5 | 90 | 3.58 | 91.0 | 3.72 | 94.5 | 0.37 | 545 | 16 | 5 | 1.02 | 0.007 | 1.92 | -6.5 | 7.48 | 190 |
| 4 | 100 | 4.04 | 102.5 | 4.17 | 106.0 | 0.43 | 635 | 16 | 5 | 1.02 | 0.007 | 1.92 | -6.5 | 8.27 | 210 |
| 5 | 125 | 5.02 | 127.5 | 5.16 | 131.0 | 0.52 | 770 | 16 | 5 | 1.02 | 0.007 | 1.77 | -6.0 | 9.84 | 250 |
| 6 | 150 | 6.00 | 152.5 | 6.12 | 155.5 | 0.61 | 910 | 16 | 5 | 1.02 | 0.007 | 1.18 | -4.0 | 11.02 | 280 |
| 7 | 175 | 6.95 | 176.5 | 7.09 | 180.0 | 0.78 | 1165 | 16 | 5 | 1.02 | 0.007 | 1.18 | -4.0 | 13.39 | 340 |
| 8 | 200 | 7.95 | 202.0 | 8.07 | 205.0 | 0.83 | 1240 | 16 | 5 | 1.02 | 0.007 | 0.89 | -3.0 | 14.96 | 380 |
| 10 | 250 | 9.96 | 253.0 | 10.08 | 256.0 | 1.06 | 1570 | 16 | 5 | 1.02 | 0.007 | 0.89 | -3.0 | 20.08 | 510 |
| 12 | 300 | 11.95 | 303.5 | 12.07 | 306.5 | 1.28 | 1905 | 16 | 5 | 1.02 | 0.007 | 0.89 | -3.0 | 24.02 | 610 |

*Repeated bending and expansion is not recommended.*

## Operating Temperature Range:

°F: -4 to 482  °C: -20 to 250

**Notes:**

- The permissible pressure varies with operating temperature.

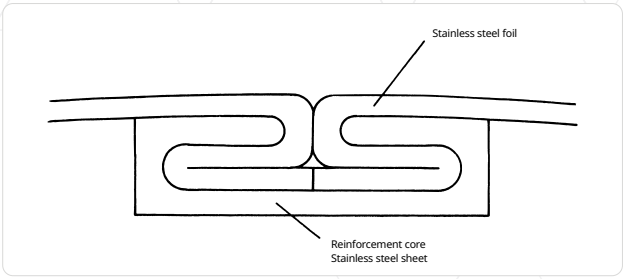
**Scan, tap, or touch for product videos**

**Cutting Method**

# TOTAKU MD-45

***Part Number - 21116***






## Features

- Made entirely of stainless steel (SUS304) with excellent heat resistance, suitable for use at temperatures up to 842°F (450°C).
- Resistant to corrosion from gases containing acids, alkalis, and solvents at room temperature.
- Designed for fixed ducting but can be shaped to include bends. (Not suitable for repeated bending.)

## Standard Dimensions and Properties

| Nominal Diameter | | Inner Diameter | | Outer Diameter | | Reference Weight | | Length | | Allowable Pressure *(at room temperature)* | | Allowable Vacuum Pressure *(at room temperature)* | | Allowable Bend Radius *(to the center axis of the hose)* | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| inch | mm | inch | mm | inch | mm | lbs/ft | g/m | feet | m | psi | MPa | inHg | kPa | inch | mm |
| 2 | 50 | 2.07 | 52.5 | 2.20 | 56.0 | 0.25 | 365 | 6 | 2 | 1.02 | 0.007 | 3.10 | -10.5 | 6.69 | 170 |
| 2.5 | 65 | 2.64 | 67.0 | 2.81 | 71.5 | 0.31 | 460 | 6 | 2 | 1.02 | 0.007 | 2.95 | -10.0 | 8.27 | 210 |
| 3 | 75 | 2.99 | 76.0 | 3.15 | 80.0 | 0.35 | 525 | 6 | 2 | 1.02 | 0.007 | 2.95 | -10.0 | 9.45 | 240 |
| 3.5 | 90 | 3.60 | 91.5 | 3.74 | 95.0 | 0.38 | 570 | 6 | 2 | 1.02 | 0.007 | 2.66 | -9.0 | 11.42 | 290 |
| 4 | 100 | 4.04 | 102.5 | 4.17 | 106.0 | 0.43 | 635 | 6 | 2 | 1.02 | 0.007 | 2.36 | -8.0 | 12.60 | 320 |
| 5 | 125 | 5.02 | 127.5 | 5.16 | 131.0 | 0.52 | 780 | 6 | 2 | 1.02 | 0.007 | 2.07 | -7.0 | 14.96 | 380 |
| 6 | 150 | 6.00 | 152.5 | 6.10 | 155.0 | 0.62 | 930 | 6 | 2 | 1.02 | 0.007 | 1.92 | -6.5 | 16.54 | 420 |
| 7 | 175 | 6.95 | 176.5 | 7.09 | 180.0 | 0.69 | 1030 | 6 | 2 | 1.02 | 0.007 | 1.92 | -6.5 | 20.08 | 510 |
| 8 | 200 | 7.95 | 202.0 | 8.07 | 205.0 | 0.83 | 1240 | 6 | 2 | 1.02 | 0.007 | 1.77 | -6.0 | 22.44 | 570 |
| 10 | 250 | 9.96 | 253.0 | 10.08 | 256.0 | 1.06 | 1570 | 6 | 2 | 1.02 | 0.007 | 1.33 | -4.5 | 30.31 | 770 |
| 12 | 300 | 11.95 | 303.5 | 12.07 | 306.5 | 1.41 | 2100 | 6 | 2 | 1.02 | 0.007 | 1.33 | -4.5 | 36.22 | 920 |

*Repeated bending and expansion is not recommended.*

## Operating Temperature Range:

°F: -4 to 842  °C: -20 to 450

**Notes:**

- The permissible pressure varies with operating temperature.

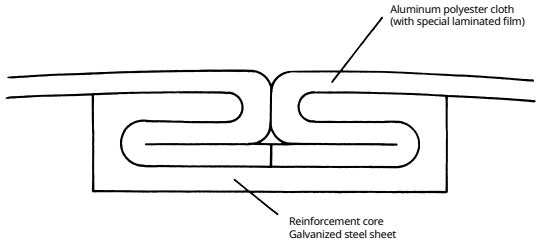
**Scan, tap, or touch for product videos**

**Cutting Method**

# TOTAKU IT-13

***Part Number - 21180***






## Features

- Made with aluminum polyester cloth and galvanized steel sheet, suitable for use at temperatures up to 266°F (130°C).
- Uses a special laminated film to reduce particle emission caused by surface abrasion.
- Fully flexible and easy to expand and contract, simplifying storage, handling, and transport.

## Applications

- Ideal for air supply and exhaust in cleanrooms and other environments requiring low particle emission.
- Suitable for intake and exhaust in hot air generation equipment.

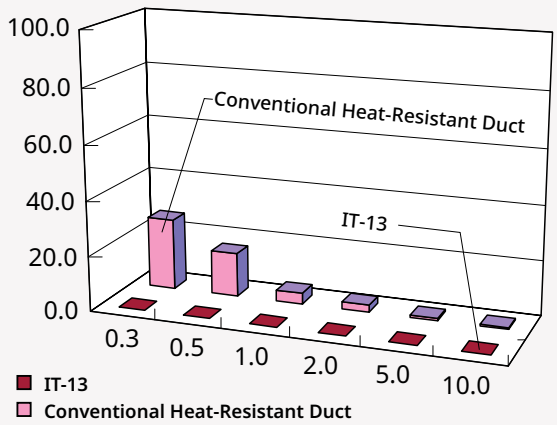
## Notes

- This product uses materials designed to minimize dust generation; however, under certain conditions (such as temperature, fluid type, or pressure), particle emission may still occur. Please verify emission characteristics based on your operating conditions before use.

## Standard Dimensions and Properties

| Nominal Diameter | | Inner Diameter | | Outer Diameter | | Reference Weight | | Length | | Allowable Pressure *(at room temperature)* | | Allowable Vacuum Pressure *(at room temperature)* | | Allowable Bend Radius *(to the center axis of the hose)* | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| inch | mm | inch | mm | inch | mm | lbs/ft | g/m | feet | m | psi | MPa | inHg | kPa | inch | mm |
| 2 | 50 | 2.01 | 51.0 | 2.15 | 54.5 | 0.25 | 365 | 16 | 5 | 1.02 | 0.007 | 2.51 | -8.5 | 4.72 | 120 |
| 2.5 | 65 | 2.66 | 67.5 | 2.81 | 71.5 | 0.30 | 445 | 16 | 5 | 1.02 | 0.007 | 2.36 | -8.0 | 5.51 | 140 |
| 3 | 75 | 2.99 | 76.0 | 3.15 | 80.0 | 0.35 | 520 | 16 | 5 | 1.02 | 0.007 | 2.07 | -7.0 | 6.30 | 160 |
| 4 | 100 | 4.04 | 102.5 | 4.17 | 106.0 | 0.42 | 630 | 16 | 5 | 1.02 | 0.007 | 1.92 | -6.5 | 8.27 | 210 |
| 5 | 125 | 5.02 | 127.5 | 5.16 | 131.0 | 0.51 | 755 | 16 | 5 | 1.02 | 0.007 | 1.92 | -6.5 | 9.84 | 250 |
| 6 | 150 | 5.98 | 152.0 | 6.10 | 155.0 | 0.62 | 925 | 16 | 5 | 1.02 | 0.007 | 1.77 | -6.0 | 11.81 | 300 |
| 7 | 175 | 6.95 | 176.5 | 7.09 | 180.0 | 0.71 | 1050 | 16 | 5 | 1.02 | 0.007 | 1.48 | -5.0 | 11.81 | 300 |
| 8 | 200 | 7.95 | 202.0 | 8.07 | 205.0 | 0.82 | 1225 | 16 | 5 | 1.02 | 0.007 | 1.33 | -4.5 | 15.75 | 400 |
| 10 | 250 | 9.96 | 253.0 | 10.08 | 256.0 | 1.04 | 1550 | 16 | 5 | 1.02 | 0.007 | 0.89 | -3.0 | 23.62 | 600 |
| 12 | 300 | 11.93 | 303.0 | 12.05 | 306.0 | 1.24 | 1840 | 16 | 5 | 1.02 | 0.007 | 0.89 | -3.0 | 23.62 | 600 |

## Particle Emission Comparison




*Note: The data shown represents measured values and are not guaranteed specifications.*

### Test Samples

TOTAKU IT-13, 2 inches (ϕ50 mm); Conventional Heat-Resistant Duct, 2 inches (ϕ50 mm)

### Cleaning Method

Clean air wash

### Measurement Method

A 12-inch (30 cm) duct sample is placed in a clean bench (Class 100) within a cleanroom and subjected to expansion and contraction for 1 minute to induce particle emission, which is then measured.

### Measurement Equipment

Climate Instruments Laser Particle Counter (JQA-certified),
Model CI-500 with a semiconductor laser light source
Sample Flow Rate: 1 CF/Min
Particle Size Range (μm): 0.3, 0.5, 1.0, 2.0, 5.0, 10.0

## Operating Temperature Range:

°F: -4 to 266 °C: -20 to 130

### Notes:

- The permissible pressure varies with operating temperature.