

Tiflex Hose

General Catalog



VISION & CONCEPT

Customer satisfaction
That is our subject.



Agile and tough. Moreover, a flexible and powerful body --- tigers.
The company emblem is a dynamic image that develops endlessly
and opens up the future with infinite possibilities in tribute to
the year of the Tiger: our foundation year.

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Handling of Hose (Tiflex Hose)

To use a hose in more safety and for a longer time, please make sure to read "Instruction for Use", "Instruction for Plumbing", "Instruction for Hose Storage", "Instruction for Transportation", "Instruction for Maintenance", and "Metal Fixture and Band".

We are not responsible for a damage in case customers suffered damage due to non-compliance with the precautions for each item. Please be sure to comply with them.

Our products are developed and manufactured for general industrial applications. Customers are requested to confirm in advance for applications that require safety considerations. Do not use for implanting or injecting into the body, or for applications where some remains or may remain in the body. We do not guarantee the adaptability and safety of these applications. Please be noticed to read the handling precautions carefully before using our products.

Instruction for Use

- Value of working pressure shall be expressed as maximum working pressure in case that hose is used at 20 degrees C being bent more than its bending radius. Hoses are not suitable for the usage that almost same amount of pressure as its working pressure is continuously applied to a hose.
- **Working pressure is not a maximum working pressure.** Use with the following pressure if pressure is continuously applied for a long time. (under normal operation pressure) [F-3, WT, Antistatic W, E, A/R W, WA, A/R E, SF, O/R F type] 1/4 or less than each working pressure [WS, WR, WR-S, FC, FC-20, WSU, O/R WS type] 2/3 or less than each working pressure *A/R : Abrasion Resistant *O/R : Oil Resistant
- Refer to each page of hose for its working pressure. Please note that working pressure differs by size even if hose type is same.
- Hose performance (working pressure, end-of-life period, etc.) is under the influence of ambient temperature, fluid temperature, bending status, combination of metal fixture and band. In case that ambient temperature and fluid temperature are 50°C, working pressure will be about 1/2 compared with that when they are 20°C. In addition, at high temperatures exceeding the operating temperature range, metal fittings may come off due to significant deterioration in physical properties, deformation, and softening of the material.
- There are some unusable fluids (acid, alkali, solvent, oil, and chemicals) which affects hose material with swelling or cure phenomenon. Refer to the Chemical Resistance Guide for its availability. Use with 1/3 of working pressure even if it is available. Especially, never use hose(s) with high concentration acid/alkali or highly explosive and flammable chemicals. It might severely damage a human body if a hose breaks while in use.
- Precautions regarding static electricity prevention
 - The antistatic effect varies depending on the characteristics of powders and granular materials used and the conditions of use. Please check before use.
 - The purpose of the static electricity prevention capability is to prevent clogging due to the retention of powders and granular materials used and the influence of static electricity generated around the hose.
 - It is not the ability to remove the charge of powders and granular materials used.
 - Take measures separately to eliminate static electricity from powders and granular materials used, do not allow hose to come into direct contact with or bring it close to open flames, and never use it near dangerous objects.
 - For Tiflex hose E type, Abrasion resistant E type, WSU type, and GL-E type, be sure to connect the ground wire to the equipment / building that is grounded, and check the continuity with a tester or the like.
- Hose cannot be used being buried in the ground. It might be damaged by earth pressure or the hose material might be deteriorated by bacteria affection in the ground.
- In case of use at upstroke part of submersible pump, hose might be damaged due to the hammer pressure at the pump down time. Set the pump pressure less than 1/3 of working pressure.
- Handle slowly and take 3 seconds or more for valve opening and closing not to apply hammer pressure. Hose might be broken due to applying hammer pressure.
- Hose might be discolored/hardened or cracked by ozone due to material deterioration by ultraviolet of sunlight or fluorescent light. If there is a sign of discolored or cracked hose, exchange it to new one immediately.
- Use hose as a consumable item.
- Never use non-food use hose for food use. You might be punished under the provision of law. When using it for drinking water or food, wash it before use. Also, do not immerse hoses or fittings in drinking water or food fluid in the tank. Fluid may remain inside the hose or at the joint, and germs may propagate (adhere).
- Never use hose for medical application. You might be punished under the provision of law.
- Do not use hose as pipe for compressed air. It might cause an accident by hose burst depending on use conditions.
- Please consult us when you use hose for high purity chemical transportation. Component of hose might be eluted into fluid.
- Do not use hose for an application other than specified application (fluid) in this catalog.
- Dispose of used hoses as industrial waste.
- Product containing PVC may generate dioxin when incinerated under 800°C.

Instruction for Plumbing

- Consider not to harm human body or surrounding equipment just in case even if hose is damaged at plumbing.
- Plumb hose with allowance because it can be stretched and contracted by pressure. Do not use hose putting in sheathing pipe or side ditch. Hard part of hose might be damaged and water leakage might happen due to the hose stretch. In addition, protect hose with cushion or protection tube, etc. if a hose contacts with equipment(s) or others due to its stretching and contracting, or its swinging.
- Hoses are consumable goods. As a hose is used for a certain period, it gradually deteriorates. Exchange the hose to new one immediately in case there is a defect or the sign.
- In case a hose is used fixing the both ends, use it under 1/2 of working pressure. In such case, bending radius of the hose might be shortened in part and it might be damaged due to stretch by pressure.
- We recommend to use high pressure hose such as WS, WR, WR-S, FC, FC-20, WSU or O/R WS type which can not be stretched so much even under pressure. *O/R : Oil Resistant
- Hose life might be significantly shortened if you use a hose bending it with shorter bending radius than that specified in this catalogue as bending radius.
- In case that hose is used being extremely bended near the metal fixture, the hose life might be significantly shortened. Plumb a hose making 1~2 meters length of straight part near the metal fixture.
- Do not sling a hose horizontally. It might be broken.
- Be careful not to make an impact to a hose and not to be trapped under vehicle or the other heavy load.
- Do not move machine by pulling a hose or do not move machine or vehicle when hose is still connected.

Handling of Hose (Tiflex Hose)

Instruction for Hose Storage

- Hose should be stored in indoor cool and dark space not to be exposed to direct sunlight or wind and rain. If you store a hose outdoors, it might get discolored or deteriorated by ultraviolet, and rainwater or dust might get into the hose.
- Do not stack hose in piles or do not put heavy load on a hose. Otherwise hose might be deformed.
- Roll a hose with its bending radius or longer, or put it in straight on flat and smooth surface. If hose is extremely bended or stored being put on unlevel surface, it might be deformed.
- Do not store a hose being touched rubber product. Otherwise it might be discolored.
- Store a used hose in a flat place avoiding direct sunlight after removing residues inside of the hose as much as possible and washing.
- Do not remain hose on walkway. It may cause injury by tripping over or stepping.

Instruction for Transportation

- Do not pull or lug a hose on the ground. It may cause surface damage or hole of hose.
- Do not throw or impact a hose. It might be broken.
- When sling up a hose, apply multipoint sling up (Avoid one point sling up).

Instruction for Maintenance

- **Daily Check**
Perform an appearance check before daily use. In case there is a defect, exchange the hose to a new one immediately, or take measures such as defect removal.
【1】 Appearance Check
Stop using a hose immediately and exchange it to a new one if following defects are found.
A. Defect near metal fixture -> Stretch in part, swelling, curve, leakage.
B. External flaw -> External big flaw, crack in hose hard part, cracks at valley between pitches of hose.
C. Hose defect -> Crack, deformation, breaking, inner swelling and peeling.
D. Other marked deterioration -> Marked discolor, hardening, swelling, crack, and etc.
- **【2】 Water pressure test**
Stop using a hose immediately and exchange it to a new one when a regular test value becomes more than 1.5 times of initial value regarding stretch ability of new hose under pressure as criteria. Test must be performed under working pressure. High pressure beyond necessity may shorten hose life.
- Test periodically for connection part, coupling part, clamping part and etc. of a hose because they will be loosened during use.
- We are not responsible in case customers suffered damage due to non-compliance with the above items.

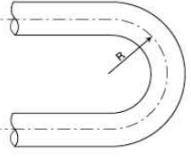
Metal Fixture and Band

- Outer diameter of the nipple which is inserted in a hose should be sub equal or a little larger than inner diameter of the hose. In case OD of a nipple is smaller than ID of a hose, an accident such as water leakage or metal fixture detachment may occur.
- To ensure enough tightness, please read instructions carefully before using commercially available metal fixture or band. Depends on the shape of the fixture or band, working pressure of a hose cannot be maintained or cannot be assembled, so please consult us in advance.
- Please consult us for supply metal fixture beforehand in the same way as the above mentioned paragraph.
- Please note that the pressure resistance of the hose changes depending on the type of band to be tightened, the number of bands, and the tightening force.
- When the material of a nipple or a contact substance is synthetic resin, hose component might move into and the nipple or contact substance might be deteriorated or color might be changed. So please evaluate adequateness enough or consult us.
- Please note that when using a metal fitting such as an outer one for a hose with a reinforcing cord in which the end face of the hose comes into contact with the fluid, when the fluid infiltrates into the reinforcing layer, the specified pressure resistance performance cannot be exerted or the reinforcing cord is deteriorated.

Guide for Hose Selection

Type	Name of Product	Diameter (φ)	Fluid / Application	Features
General Hose	Tiflex Hose F-3 type	19-200	Water, muddy water, slurry and etc.	Suited for delivery and suction use due to smooth inside/outside surface construction.
	Tiflex Hose WT type	25-200		Excels in flexibility.
	Tiflex Hose WS type	25-350		Heavy duty type of Tiflex Hose WT type.
Heavy Duty / Abrasion Resistant Hose	Tiflex Hose WR type	38-300	Muddy water, sand, gravel, cement, slurry.	Maximum working pressure: 1.0MPa (10.2kgf/cm ²) (0.50MPa (5.1kgf/cm ²) for φ 300)
	Tiflex Hose WR-S type	50-200		Maximum working pressure: 2.0MPa (20.4kgf/cm ²)
	Tiflex Hose FC type	38/50	Mortar, cement fluid.	Smooth inside/outside surface construction, excels in heavy duty and abrasion resistance. Maximum working pressure: 1.5MPa (15.3kgf/cm ²)
	Tiflex Hose FC 20 type	50/75	Mortar, cement fluid.	Smooth inside/outside surface construction, excels in heavy duty and abrasion resistance. Maximum working pressure: 2.0MPa (20.4kgf/cm ²)
Antistatic Hose	Tiflex Hose Antistatic W type	25-100	Plastic material for molding, powders and granules.	Antistatic type of Tiflex Hose WT type.
	Tiflex Hose E type	25-100		Smooth inside/outside surface construction, with grounding wire.
Abrasion Resistant Hose	Tiflex Hose Abrasion Resistant W type	38-150	Dust, slurry and grit.	Excels in abrasion resistance, flexibility at low temperatures.
	Tiflex Hose WA type	38-200	Dust, slurry and grit.	Excels in heat and abrasion resistance.
	Tiflex Hose Abrasion Resistant E type	38-200	Powders and granules. (Iron powder, sand and etc.)	Upgraded type of Tiflex Hose E type in abrasion resistance.
	Tiflex Hose WSU type	75-200	Powders and granules. (Iron powder, sand and etc.)	Excels in pressure and abrasion resistance.
Food Grade Hose	Tiflex Hose SF type	25-125	Liquid foods. (Sake, soy sauce, vinegar, soft drinks.)	Complies with Food Sanitation Law in Japan.
Oilproof Hose	Tiflex Hose Oil Resistant F type	25-100	Mineral oil, plant and animal oil. *Except for foods.	Smooth inside/outside surface construction oilproof hose.
	Tiflex Hose Oil Resistant WS type	50-125	Waste liquid, Waste oil.	Oil Resistant type of Tiflex Hose WS type.
Non-PVC Hose	Ti-Eco Light FF type	38-100	Water, muddy water, slurry, liquid food etc.	Eco-friendly hose.
	Ti-Eco Light WT type	38-100		Complies with Food Sanitation Law in Japan.
	Ti-Eco Light Antistatic W type	25-100	Water, muddy water, slurry.	Eco-friendly hose.
	Ti-Eco Light WS type	25-100		Complies with Food Sanitation Law in Japan.
Others	Hi-Net Hose	4-50	Water, air, powders and granules.	Excels in lightweight and flexibility. Complies with Food Sanitation Law in Japan.

Key Terms

<u>Bending Radius</u>	<u>Allowable Pressure</u>	<u>Deformation Temperature under Reduced Pressure</u>
<p>It is minimum usable bending radius which is a distance to the central axis of hose. Hose should not be used with a smaller bending radius than the minimum bending radius.</p> 	<p>It is usable maximum pressure in the range of use from straight pipe to bent pipe with allowable bending radius at 20°C. Please note that the allowable pressure may change depending on service temperature, flexural state, combination of clamp and band. In case that pressure is continuously applied for a long period, hose should be used with less pressure than 1/4 of the allowable value. (2/3 for Tiflex WS, WR, WR-S, FC, FC-20, WSU, O/R WS type.) *O/R : Oil Resistant</p>	<p>It is temperature which a straight pipe deforms under reduced pressure at -0.1 MPa/-760mmHg. It is not available temperature limit.</p>

●Comparative table

Inch	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8
Mm	19	25	32	38	50	65	75	100	125	150	200

Name of Product	Working Pressure Range at 20°C for Each Hose																Deformation Temperature under Reduced Pressure (°C)	Service Temperature Range (°C)	Page
	-0.1	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1	1.5	2	Mpa				
	-1	0	1	2	3	4	5	6	7	8	9	10	15	20	(kgf/cm ³)				
Tiflex Hose F-3 type																	45-70	-10-50	11
Tiflex Hose WT type																	45-60	-10-50	11
Tiflex Hose WS type																	45-70	-10-50	12
Tiflex Hose WR type																	50-65	-10-50	14
Tiflex Hose WR-S type																	65	-10-50	15
Tiflex Hose FC type																	60	-10-50	16
Tiflex Hose FC 20 type																	60	-10-50	16
Tiflex Hose Antistatic W type																	50-60	-10-50	18
Tiflex Hose E type																	55-60	-10-50	19
Tiflex Hose Abrasion Resistant W type																	50-60	-10-50	21
Tiflex Hose WA type																	90-110	-20-80	21
Tiflex Hose Abrasion Resistant E type																	45-60	-10-50	22
Tiflex Hose WSU type																	50-60	-10-50	22
Tiflex Hose Food Grade F type																	55-70	-10-50	24
Tiflex Hose Oil Resistant F type																	60-70	-10-50	24
Tiflex Hose Oil Resistant WS type																	55-65	-10-50	25
Ti-Eco Light FF type																	60-95	-10-50	45
Ti-Eco Light WT type																	70	-10-50	45
Ti-Eco Light Antistatic W type																	70	-10-50	46
Ti-Eco Light WS type																	90	-10-50	46
Hi-Net Hose																	-	-10-60	50

Please refer to the posted pages for details on each hose.

The allowable pressure and deformation Temperature under Reduced Pressure are guidelines for the performance of the hose alone. It depends on the diameter, metal fittings, fixing method, and usage conditions. Please refer to the posted pages for details.

*N/A : Not Applicable

Conversion of Pressure Unit

1MPa = 10.1972 kgf/cm²

1MPa = 9.86923 atm

1MPa = 101972 mmAq

1MPa = 7500.62 mmHg

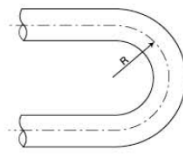
1MPa = 1000KPa = 1000000Pa

Guide for Hose Selection

Type	Name of Product	Diameter	Fluid / Application	Features
General Hose	Tiflex Hose GL type	25-300	Air, wood powder, dust.	Little airflow loss due to smooth inside surface.
	Tiflex Hose GL-2 type	50-150		Lightweight type of Tiflex Hose GL type.
	Tiflex Hose N type	16-400		Using metallic wire for reinforcement.
Abrasion Resistant Hose	Tiflex Hose Abrasion Resistant GL type	38-200	Powders and granules. (Iron powder, aluminum powder, metallic powder, etc.)	One of Tiflex Hose GL types, excels in abrasion resistance and heat resistance.
Oilproof Hose	Tiflex Hose Oil Resistant GL type	38-200	For recovery of oil mist.	Using oil resistant special material (soft part of hose) which is hardly hardened against lubricant oil, cutting oil and etc.
Antistatic Hose	Tiflex Hose GL-E type	38-150	Dust collection for wood working machine, powder and granules.	One of Tiflex Hose GL types, using grounding wire.
	Tiflex Hose GL-ST type	25-300		One of Tiflex Hose GL types, transparent and antistatic.
General Hose	Tiflex Hose P/P2 type	38-300	Air. (include hot air)	Stretchable.
	Tiflex Hose F/R P type	38-300		Endowed with flame retardancy which is equivalent to UL94-HB.
Spot Air Conditioner Hose	Tiflex Hose A type	55-300	For spot cooler.	Freely stretchable and freely fixable.
Heat Resistant Hose	Tiflex Hose AP type	38-200	For air.	Continuous usable temperature is 100°C or lower. Have airtightness.
	Tiflex Hose V series PAL type	50-300	For air conditioning.	Continuous usable temperature is 130°C or lower.
	Tiflex Hose V series AG type	50-300	For air conditioning and hot air generator & circulation system.	Continuous usable temperature is 180°C or lower.
	Tiflex Hose V series FP type	50-300	For air conditioning and hot air generator & circulation system.	Continuous usable temperature is 250°C or lower.
	Tiflex Hose V series SUS type	50-300	For pollution control equipment and burning equipment.	Continuous usable temperature is 400°C or lower.
Silicone Rubber Hose	Silicone Duct Hose SRDH TS type	25-254	For air conditioning.	Heat resistant duct hose with air tightness.
	Silicone Duct Hose SRDH GS type	25-254	For air conditioning.	Heat resistant duct hose with air tightness.
	Silicone Rubber Cleaner Hose TSC type	25-254	For suction exhaust gas of solvent and etc.	Heat resistant Cleaner hose with air tightness.
	Silicone Rubber Cleaner Hose GSC type	25-254	For suction exhaust gas of solvent and etc.	Heat resistant Cleaner hose with air tightness.
	Silicone Rubber Vacuum Hose TSV type	25-254	Use for suction which needs abrasion resistance.	Heat resistant Vacuum hose with air tightness.
	Silicone Rubber Vacuum Hose GSV type	25-254	Use for suction which needs abrasion resistance.	Heat resistant Vacuum hose with air tightness.
	Silicone Rubber Suction Hose TSH type	25-165	Use for pressure feeding and suction of the liquid and powder / granular material.	Heat resistant Suction hose with air tightness.
	Silicone Rubber Suction Hose GSH type	25-165	Use for pressure feeding and suction of the liquid and powder / granular material.	Heat resistant Suction hose with air tightness.
Non-PVC Hose	Ti-Ecolight GL type	32-100	For air, wood powder, dust, food.	Eco-friendly hose. Complies with Food Sanitation Law.
Flame Retardant Hose	Tiflex NH-1 type	100-400	For air conditioning.	Excels in stretchability, bendability, and heat insulating properties. Qualified product as flame retardant material.

*F/R : Flame Retardant

Key Terms

<u>Bending Radius</u>	<u>Allowable Pressure</u>	<u>Allowable Reduced Pressure</u>
<p>It is minimum usable bending radius which is a distance to the central axis of hose. Hose should not be used with a smaller bending radius than the minimum bending radius.</p> 	<p>It is usable maximum pressure in the range of use from straight pipe to bent pipe with allowable radius at 20°C. Please note that the allowable pressure may change depending on service temperature, flexural state, combination of clamp and band. For general use, hose should be used with less pressure than 1/4 of the allowable value.</p>	<p>It is maximum negative pressure which can be applied to a hose at 20°C. Hoses can not be used with any more negative pressure than that. In addition, the allowable reduced pressure gets lower in case that the service temperature becomes higher.</p>

●Comparative table

Inch	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8
mm	19	25	32	38	50	65	75	100	125	150	200

Name of Product	Working Pressure Range at 20°C for Each Hose								Service Temperature Range (°C)	Cuff	Page
	-0.10	-0.05	0	0.05	0.10	0.50	1.0 MPa				
	-1.0	-0.5	0	0.5	1.0	5.0	10.0(kg/cm ²)				
Tiflex Hose GL type									-10~50	Available	27
Tiflex Hose GL-2 type									-10~50	Available	27
Tiflex Hose N type									-10~50	Available	28
Tiflex Hose Abrasion Resistant GL type									-30~80	Available (Only #38, #50)	29
Tiflex Hose Oil Resistant GL type									-10~50	N/A	29
Tiflex Hose GL-E type									-10~50	Available	30
Tiflex Hose GL-ST type									-10~50	Available	31
Tiflex Hose P/P2 type									-20~80	Available	32
Tiflex Hose Flame Retardant P type									-20~80	Available	33
Tiflex Hose A type									-	Available	34
Tiflex Hose AP type									-20~100	N/A	36
Tiflex Hose V series PAL type									-20~130	N/A	37
Tiflex Hose V series AG type									-20~180	N/A	37
Tiflex Hose V series FP type									-20~250	N/A	38
Tiflex Hose V series SUS type									-20~400	N/A	38
Silicone Duct Hose SRDH TS type									-50~150	Selectable	40
Silicone Duct Hose SRDH GS type									-50~200	Selectable	40
Silicone Rubber Cleaner Hose TSC type							0.5		-50~150	Available	41
Silicone Rubber Cleaner Hose GSC type							0.5		-50~200	Available	41
Silicone Rubber Vacuum Hose TSV type							0.7		-50~150	Available	42
Silicone Rubber Vacuum Hose GSV type							0.7		-50~200	Available	42
Silicone Rubber Suction Hose TSH type							0.9		-50~150	Available	43
Silicone Rubber Suction Hose GSH type							0.9		-50~200	Available	43
Ti-Ecolight GL type									-20~50	Available	47
Tiflex NH-1 type									-20~80	N/A	49

Please refer to the posted pages for details on each hose.

The allowable pressure and deformation Temperature under Reduced Pressure are guidelines for the performance of the hose alone. It depends on the diameter, metal fittings, fixing method, and usage conditions. Please refer to the posted pages for details.

*N/A : Not Applicable

Conversion of Pressure Unit

1MPa = 10.1972 kgf/cm²

1MPa = 9.86923 atm

1MPa = 101972 mmAq

1MPa = 7500.62 mmHg

1MPa = 1000KPa = 1000000Pa

General Hoses

Reliable items that emphasize the basic properties required for hoses. These are used in transportation systems in a wide range of industrial fields.

Tiflex Hose F-3 type

Features

- Transparent PVC making it possible to confirm the contents.
- Light in weight and easy to bend making handling easy.
- Suited for suction and delivery use.

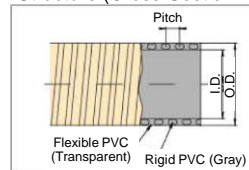
Applications

- Suction and draining of agriculture and civil engineering work.

Hose



Structure (Cross-Section View)



Sizes and properties (F3-□)

Nominal Dia. (φ)	I.D. (mm)	O.D. (mm)	Pitch (mm)	Working Pressure (20°C) MPa or less/ [kgf/cm ² or less]	Deformation Temp. (-0.1MPa/-760mmHg) (°C)	Bending Radius (mm or more)	Ref. Weight (g/m)	Std. Length (m)
19	19.0±0.5	24.5	6.0	0.60 [6.1]	70	115	220	20, 50
25	25.4±0.5	30.4	6.0	0.50 [5.1]	65	275	280	
32	32.0±0.5	38.0	6.5	0.45 [4.6]	65	375	400	
38	38.1±0.5	44.0	7.0	0.40 [4.1]	60	475	529	
50	50.8±1.0	58.0	8.0	0.30 [3.1]	60	610	790	
65	63.5±1.0	72.2	8.5	0.30 [3.1]	55	800	1,130	
75	76.2±1.0	85.1	9.0	0.25 [2.5]	55	1,360	1,440	20, (50)
90	89.0±1.0	99.5	9.5	0.25 [2.5]	55	1,400	1,945	
100	101.6±1.5	112.6	10.0	0.25 [2.5]	55	1,450	2,305	20, 50
125	127.0±1.5	139.5	11.0	0.25 [2.5]	50	2,500	3,100	20
150	152.4±1.5	167.5	13.0	0.25 [2.5]	50	2,900	4,280	10, 20
200	203.0±1.5	221.5	17.2	0.20 [2.0]	45	3,000	7,270	

() is custom-made products.

* For the hose elongation rate due to pressure, please refer to P70.

* For the temperature dependence of the allowable pressure, please refer to P71.

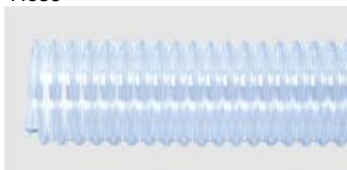
Tiflex Hose WT type

* WT type is right-handed. (However, following * are left-handed.)

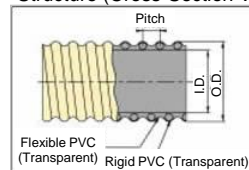
Features

- Spiral shape of outside makes it affluent in flexibility.
- Transparent making it possible to confirm the contents.
- Suited for suction use.

Hose



Structure (Cross-Section View)



Sizes and properties (FF-□)

Nominal Dia. (φ)	I.D. (mm)	O.D. (mm)	Pitch (mm)	Working Pressure (20°C) MPa or less/ [kgf/cm ² or less]	Deformation Temp. (-0.1MPa/-760mmHg) (°C)	Bending Radius (mm or more)	Ref. Weight (g/m)	Std. Length (m)
25	25.0±0.5	31.6	7.5	0.30 [3.1]	60	70	280	20, 50
32	32.0±0.5	39.0	8.5	0.30 [3.1]	60	80	330	
38	38.0±0.5	46.2	9.0	0.30 [3.1]	60	100	512	
(* 48.6)	49.0±0.5	61.7	11.0	0.25 [2.5]	55	110	710	
50	50.6±1.0	59.8	10.0	0.25 [2.5]	55	120	720	
(* 60.5)	60.5±1.0	74.0	12.0	0.25 [2.5]	55	140	950	
65	63.5±1.0	74.1	14.0	0.25 [2.5]	55	150	1,040	
75	76.4±1.0	88.8	15.0	0.25 [2.5]	55	200	1,355	
90	88.9±1.0	104.3	16.0	0.25 [2.5]	55	250	2,060	
100	101.6±1.5	117.2	16.5	0.20 [2.0]	55	300	2,480	
(* 115)	115.0±1.5	132.0	17.0	0.20 [2.0]	55	350	2,500	
125	127.0±1.5	143.0	16.5	0.15 [1.5]	55	400	2,855	20
150	152.4±1.5	173.6	22.0	0.15 [1.5]	50	550	4,605	
(200)	203.7±1.5	229.7	23.0	0.10 [1.0]	45	1,000	8,200	
								10, 20

() are custom-made products.

Tiflex Hose WS type

* WS type is right-handed.

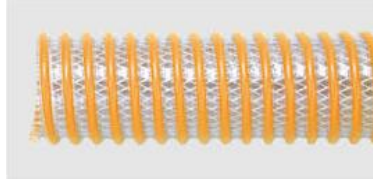
Features

- Heavy duty type of WT type.
- Excels in pressure resistance due to reinforcement cord.
- Light in weight and excels in flexibility.
- Suited for delivery and suction use.

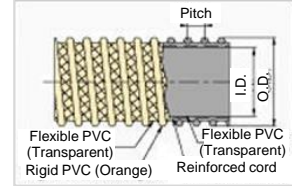
Applications

- Suction and draining for civil engineering work, etc.

Hose



Structure (Cross-Section View)



Sizes and properties (WS-□)

Nominal Dia. (φ)	I.D. (mm)	O.D. (mm)	Pitch (mm)	Working Pressure (20°C) MPa or less/ [kgf/cm ² or less]	Deformation Temp. (-0.1MPa/-760mmHg) (°C)	Bending Radius (mm or more)	Ref. Weight (g/m)	Std. Length (m)
25	25.4±0.5	34.4	8.0	0.50 [5.1]	70	90	320	50
32	31.8±0.5	42.0	9.0	0.50 [5.1]	70	120	440	
38	38.1±0.5	49.5	9.0	0.50 [5.1]	65	150	630	20, 50
50	50.8±1.0	62.8	10.0	0.50 [5.1]	65	200	860	
65	63.5±1.0	78.0	14.3	0.50 [5.1]	60	250	1,230	
75	76.0±1.0	90.8	15.1	0.50 [5.1]	60	350	1,410	
100	101.6±1.5	119.0	16.5	0.50 [5.1]	60	500	2,350	20, (50)
125	127.0±1.5	151.0	22.0	0.50 [5.1]	55	600	3,885	
150	152.4 ^{+2.0} _{-1.5}	180.0	24.0	0.50 [5.1]	55	750	5,130	10, 20
200	203.0 ^{+2.0} _{-1.5}	235.0	28.0	0.50 [5.1]	50	1,200	7,950	
250	254.0 ^{+3.0} _{-2.0}	295.0	32.0	0.25 [2.5]	50	1,800	11,800	5
(300)	304.8 ^{+3.0} _{-2.0}	350.0	34.0	0.25 [2.5]	45	2,100	19,000	
(350)	360.0±3.0	407.0	37.0	0.25 [2.5]	45	2,500	21,600	

() are custom-made products.

Working pressure is different depending on fitting method of metal fixture and band.

(Thorough care should be observed when fitting at work sites.)

* For the hose elongation rate due to pressure, please refer to P70.

* For the temperature dependence of the allowable pressure, please refer to P71.

* For R-power band tightening torque, please refer to P71.



WS type, Outer Socket Caulking



WS type, R-Power Band Tightening



Heavy Duty / Abrasion Resistant Hoses

*Usable when pressure resistance is necessary.
In addition, these hoses excel in durability
compared with general plastic hoses by use of
special material for abrasion resistance.*

Tiflex Hose WR type

* WR type is right-handed.

Features

- Excels in pressure resistance with its working pressure 1.0MPa {10.2kgf/cm²} (In case of outer tube caulking or inner tube expansion metal fitting.)
- Excels in abrasion resistance by use of special material for inner layer.
- Long lengths available making efficiency upgrading of piping work possible.

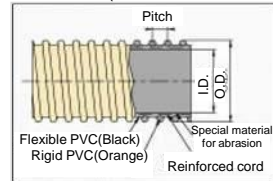
Applications

- Suction and discharge of muddy water such as muddy water shield and reverse.
- Muddy water suction and pressure discharge in civil engineering work.
- Suction and discharge in case that pressure resistance and abrasion resistance are required.

Hose



Structure (Cross-Section View)



Dimension and property (WR-□)

Nominal Dia. (φ)	I.D. (mm)	O.D. (mm)	Pitch (mm)	Working Pressure (20°C) MPa or less/ [kgf/cm ² or less]	Deformation Temp. (-0.1MPa/-760mmHg) (°C)	Allowable Bending Radius (mm or more)	Ref. Weight (g/m)	Std. Length (m)
38	38.1±0.5	52.3	9.0	1.00 [10.2]	65	400	960	50
50	50.8±1.0	66.8	10.0	1.00 [10.2]	65	450	1,300	20, 50
65	63.5±1.0	81.8	14.3	1.00 [10.2]	65	550	1,700	
75	76.2±1.0	97.0	15.1	1.00 [10.2]	65	750	2,200	
100	101.6±1.5	128.0	16.5	1.00 [10.2]	65	1,250	4,180	20, (50)
125	127.0±2.0	156.1	22.0	1.00 [10.2]	60	1,500	5,320	
150	152.4±2.0	187.0	24.0	1.00 [10.2]	60	2,000	7,260	
200	203.0±2.0	245.0	25.0	1.00 [10.2]	60	2,250	11,800	10, 20
(250)	254.0±2.5	300.0	27.0	1.00 [10.2]	50	4,000	18,230	5
(300)	304.8±2.5	351.0	28.0	0.50 [5.1]	50	5,000	21,320	

() are custom-made products.

Working pressure is different depending on fitting method of metal fixture and band.
(Thorough care should be observed when fitting at work sites.)

Working pressure by fitting method of WR type and metal fixture.

Unit: MPa {kgf/cm²}

Nominal Dia. (φ) Fitting Method	Unit: MPa {kgf/cm ² }						
	75 or less	100	125	150	200	250	300
R-Power Band Welding	1.00 [10.2]	1.00 [10.2]	1.00 [10.2]	0.7 [7.1]	0.50 [5.1]	0.50 [5.1]	0.30 [3.1]
Outer Tube Caulking	1.00 [10.2]	1.00 [10.2]	1.00 [10.2]	1.00 [10.2]	1.00 [10.2]	—	—
Inner Tube Expansion	1.00 [10.2]	1.00 [10.2]	—	1.00 [10.2]	1.00 [10.2]	1.00 [10.2]	0.50 [5.1]

* For the hose elongation rate due to pressure, please refer to P70.

* For the temperature dependence of the allowable pressure, please refer to P71.

* For R-power band tightening torque, please refer to P71.



WR type, Outer Socket Caulking



WR type, R-Power Band Tightening and Welding



Tiflex Hose WR-S type

(Custom-Made-Product)

* WR-S type is right-handed.

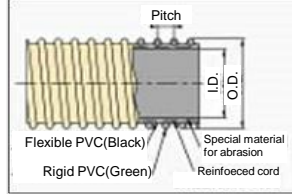
Hose



Example of Metal Fixture Fitting



Structure (Cross-Section View)



Features

- Working pressure is 2.0MPa {20.4kgf/cm²}. (in the case of inner tube expansion metal fitting.)
- Excels in abrasion resistance by use of special material for inner layer.
- Long lengths available making efficiency upgrading of piping work possible.

Sizes and properties (WRS-□)

Nominal Dia. (φ)	I.D. (mm)	O.D. (mm)	Pitch (mm)	Working Pressure (20°C) MPa or less/ [kgf/cm ² or less]	Deformation Temp. (-0.1MPa/-760mmHg) (°C)	Bending Radius (mm or more)	Ref. Weight (g/m)	Std. Length (m)
50	50.8±1.0	70.0	10.0	2.00 [20.4]	65	650	1,580	20, 50
75	76.2±1.0	101.0	15.1	2.00 [20.4]	65	1,100	3,000	
100	101.6±1.5	134.0	16.5	2.00 [20.4]	65	1,500	5,200	
150	152.4±1.5	192.5	24.0	2.00 [20.4]	65	2,050	9,400	20
200	203.0±2.0	250.0	25.0	2.00 [20.4]	65	3,250	14,500	10

The metal fitting shall consist of an inner tube expansion system so that the hose thoroughly exhibits its heavy duty performance.

* For the hose elongation rate due to pressure, please refer to P70.

Applications

- Suction and discharge of muddy water such as muddy water shield and reverse. (Especially suited for sludge removal piping of shield.)
- Muddy water suction and pressure discharge in civil engineering work.
- Suction and pressure discharge of sand, gravel and sludge.
- Suction and discharge in case that pressure resistance and abrasion resistance are required.

Tiflex Hose FC type (Mortar Hose)

* FC type is right-handed.

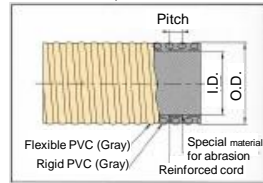
Hose



Example of Metal Fixture Fitting



Structure (Cross-Section View)



Features

- Excels in pressure resistance due to low stretchability under pressure.
- Excels in abrasion resistance.
- Fluid can flow smoothly because inner surface is flat and smooth by use of inner tube expansion metal fitting.
(In the case that hose and fixture are fitted by us.)

Sizes and properties (FC-□)

Nominal Dia. (φ)	I.D. (mm)	O.D. (mm)	Pitch (mm)	Working Pressure (20°C) MPa or less/ [kgf/cm ² or less]	Deformation Temp. (-0.1MPa/-760mmHg) (°C)	Allowable Bending Radius (mm or more)	Ref. Weight (g/m)	Std. Length (m)
(38)	38.5±1.0	52.0	9.0	1.50 [15.3]	60	500	1,180	20, 50
50	51.0±1.0	65.0	10.5	1.50 [15.3]	60	700	1,500	

() are custom-made products.

* For the hose elongation rate due to pressure, please refer to P70.

Applications

- Pressure discharge of mortar at shield construction.
- Pressure discharge of high viscosity substance.

Tiflex Hose FC 20 type(Mortar Hose)

* FC 20type is right-handed.

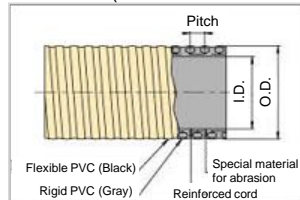
Hose



Example of Metal Fixture Fitting



Structure (Cross-Section View)



Features

- Excels in pressure resistance due to low stretchability under pressure.
- Excels in abrasion resistance.
- Fluid can flow smoothly because inner surface is flat and smooth by use of inner tube expansion metal fitting
(In the case that hose and fixture are fitted by us.)

Sizes and properties (FC20-□)

Nominal Dia. (φ)	I.D. (mm)	O.D. (mm)	Pitch (mm)	Working Pressure (20°C) MPa or less/ [kgf/cm ² or less]	Deformation Temp. (-0.1MPa/-760mmHg) (°C)	Allowable Bending Radius (mm or more)	Ref. Weight (g/m)	Std. Length (m)
50	51.0±1.0	67.0	10.5	2.00 [20.4]	60	700	1,760	20, 50
75	76.5±1.0	96.0	15.0	2.00 [20.4]	60	1,200	3,000	

* For the hose elongation rate due to pressure, please refer to P70.

- FC type with an enhanced allowable pressure to 2.0Mpa [20.4kgf / cm²]

Applications

- Pressure discharge of mortar at shield construction.
- Pressure discharge of high viscosity substance.

Antistatic Hoses

Have a beneficial effect on antistatic in transportation of powder, grain, and plastic pellet.

Tiflex Hose Antistatic W type

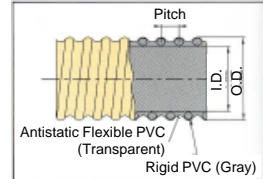
Hose



Example of Metal Fixture Fitting



Structure (Cross-Section View)



Features

- Excels in static prevention effects by use of anti-static build-up PVC.
- Transparent making it possible to confirm the contents.

Applications

- Conveying of plastic pellets.
- Conveying of powders and grains.

Sizes and properties (W[D]-□)

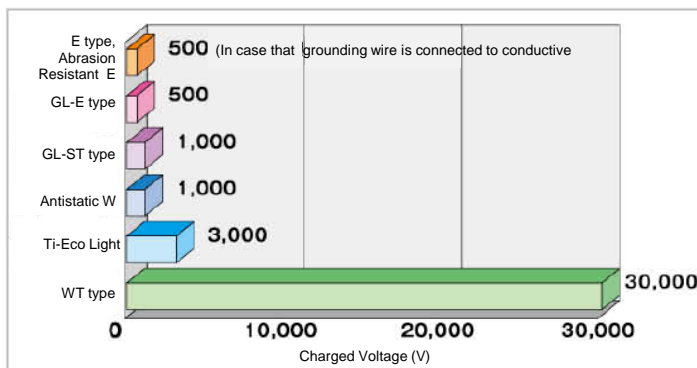
Nominal Dia. (φ)	I.D. (mm)	O.D. (mm)	Pitch (mm)	Working Pressure (20°C) MPa or less/ [kgf/cm ² or less]	Deformation Temp. (-0.1MPa/-760mmHg) (°C)	Bending Radius (mm or more)	Ref. Weight (g/m)	Std. Length (m)
25	25.0±0.5	31.8	7.6	0.30 [3.1]	60	70	270	20, 50
32	32.0±0.5	40.5	8.0	0.25 [2.5]	55	80	420	
38	38.1±0.5	46.5	10.0	0.25 [2.5]	55	100	570	
(45)	46.0±1.0	55.0	10.0	0.25 [2.5]	50	120	840	
48.6	49.0±1.0	58.0	11.0	0.25 [2.5]	50	120	890	
50	50.8±1.0	62.0	11.0	0.25 [2.5]	50	120	940	
60	60.5±1.0	72.0	12.0	0.25 [2.5]	50	150	980	
65	63.5±1.0	76.5	14.5	0.25 [2.5]	50	150	1,300	20, (50)
75	76.2±1.0	90.0	15.0	0.20 [2.0]	50	200	1,650	
(90)	89.0±1.0	104.0	16.5	0.15 [1.5]	50	250	2,100	
(100)	101.6±1.5	117.0	16.5	0.15 [1.5]	50	300	2,300	20, 50

() are custom-made products.



Antistatic Effect

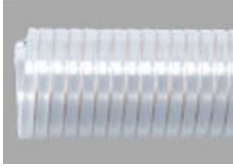
Measured each maximum voltage which is charged to φ38mm hoses after rigid PVC pellets were conveyed.



These are not standard values, but test values.

Tiflex Hose E type

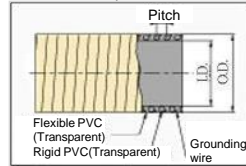
Hose



Example of Metal Fixture Fitting



Structure (Cross-Section View)



Features

- Excels in antistatic effect by use of grounding wire.
- Transparent making it possible to confirm the contents.
- Suited for delivery use.

Applications

- Conveying of plastic pellets.
- Conveying of powders and grains.

Sizes and properties (E-□)

Nominal Dia. (φ)	I.D. (mm)	O.D. (mm)	Pitch (mm)	Working Pressure (20°C) MPa or less/ [kgf/cm ² or less]	Deformation Temp. (-0.1MPa/-760mmHg) (°C)	Bending Radius (mm or more)	Ref. Weight (g/m)	Std. Length (m)
(25)	25.4±0.5	33.3	6.0	0.50 [5.1]	60	210	455	50
(32)	32.0±1.0	40.5	6.5	0.50 [5.1]	60	320	615	
38	38.1±1.0	46.8	7.0	0.50 [5.1]	60	340	700	20, 50
(45)	44.2±1.0	55.0	7.8	0.45 [4.6]	60	400	900	50
48.6	49.3±1.0	58.5	8.0	0.40 [4.1]	60	430	967	
50	50.8±1.0	61.0	8.0	0.40 [4.1]	60	450	1,100	20, 50
60	61.2±1.0	72.0	8.0	0.40 [4.1]	60	520	1,320	
(65)	63.5±1.0	75.4	8.5	0.40 [4.1]	60	560	1,630	
(75)	76.2±1.5	88.5	9.0	0.40 [4.1]	55	730	1,840	
(90)	89.0±1.5	103.0	9.5	0.30 [3.1]	55	1,000	2,180	
(100)	101.6±1.5	116.0	10.0	0.30 [3.1]	55	1,100	2,800	20, 50

() are custom-made products.

* Ground connection is necessary.

* For antistatic effects, please refer to P18.

* Thorough attention should be placed in abrasion of the inner surface by reason that fragments of the grounding wire will get mixed into the conveyed matter when the grounding wire becomes exposed by abrasion of the inner surface during use of the E type for which reason the hose should be replaced with a new hose beforehand.

Pulling out method of copper wire for E type & Antistatic E type

1.

Apply a knife along the hose rigid part and cut the soft part. At this time, make sure that copper wire remains at the edge face of hose.



2.

After the cut of required length of hose soft part for pulling out copper wire, cut in hose rigid part at around of nick end with a knife, and off the nicked part.



3.

Make cut into edge face of the hose along copper wire. Be careful not to cut yourself with a knife.



4.

Pull out the copper wire.



Abrasion Resistant Hoses

Excels in durability compared with general plastic hoses by use of abrasion resistant special materials.

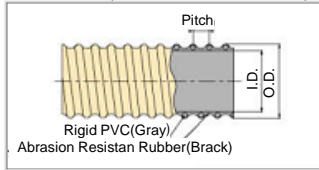
Tiflex Hose Abrasion Resistant W type

* Abrasion Resistant W type is right-handed.

Hose



Structure (Cross-Section View)



Features

- Excels in abrasion resistance more than three times that of the Tiflex hose WT type as material of wear-resistant rubber. (According to the results of the spray wear test conducted by our company)
- Excels in conductivity and antistatic effect.
- Excels in flexibility even at low temperatures in winter, easy to handle.
- Can be used for both delivery and suction.

Applications

- For suction and feeding of gravel, slurry ore, and sandblasting at shipyards and steelworks.
- For collecting incinerator ash.
- Transportation of grains such as rice, wheat and corn.

Sizes and properties (W[M]-□)

Nominal Dia. (φ)	I.D. (mm)	O.D. (mm)	Pitch (mm)	Working Pressure (20°C) MPa or less/ [kgf/cm ² or less]	Deformation Temp. (-0.1MPa/-760mmHg) (°C)	Allowable Bending Radius (mm or more)	Ref. Weight (g/m)	Std. Length (m)
(38)	38.1±1.0	46.3	9.0	0.30 [3.1]	60	100	500	20
50	50.8±1.0	59.3	10.0	0.25 [2.5]	60	120	720	
65	63.5±1.0	74.5	14.0	0.25 [2.5]	60	150	1,000	
75	76.2±1.0	89.3	15.0	0.25 [2.5]	60	200	1,450	
(90)	89.0±1.0	103.5	16.0	0.20 [2.0]	55	270	2,000	
100	101.6±1.5	118.0	16.5	0.20 [2.0]	55	300	2,560	
(125)	126.5±1.5	142.7	22.0	0.15 [1.5]	50	400	3,320	
(150)	152.0±2.0	172.5	22.0	0.10 [1.0]	50	600	5,000	

() are custom-made products.

Tiflex Hose WA type

* WA type is right-handed.

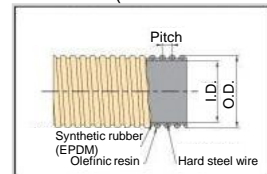
Hose



Example of Metal Fixture Fitting



Structure (Cross-Section View)



Features

- Excels in heat resistance, can stand against 100°C hot-blast in straight duct.
- Excels in conductivity and antistatic effect.

Applications

- Pressure discharge of gravel, mineral slurry, and sandblast.
- For recovery of burned ash.
- Transportation of grains such as rice, wheat and corn.

Sizes and properties (WA-□)

Nominal Dia. (φ)	I.D. (mm)	O.D. (mm)	Pitch (mm)	Working Pressure (20°C) MPa or less/ [kgf/cm ² or less]	Deformation Temp. (-0.1MPa/-760mmHg) (°C)	Allowable Bending Radius (mm or more)	Ref. Weight (g/m)	Std. Length (m)
38	38.1±0.5	48.0	9.0	0.10 [1.0]	110	130	570	20, 50
50	50.8±1.0	62.6	10.0	0.10 [1.0]	110	180	860	
65	63.5±1.0	77.0	14.0	0.10 [1.0]	110	220	1,200	20, (50)
75	76.2±1.0	92.0	15.0	0.10 [1.0]	110	300	1,560	
90	89.0±1.0	107.0	16.0	0.10 [1.0]	110	380	2,070	
100	101.6±1.5	120.5	16.5	0.10 [1.0]	110	570	2,620	
125	126.5±1.5	148.0	22.0	0.10 [1.0]	110	600	3,950	20
150	152.0±1.5	173.0	22.0	0.10 [1.0]	110	900	4,800	
200	205.0±1.5	230.0	24.0	0.10 [1.0]	90	1,000	7,900	10

() are custom-made products.

Tiflex Hose Abrasion Resistant E type

(Custom-made products.)

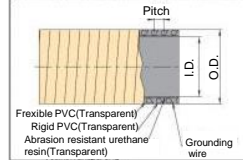
Hose



Example of Metal Fixture Fitting



Structure (Cross-Section View)



Features

- Excels in abrasion resistance by use of abrasion resistant plastic as material of hose inner layer.
- Excels in antistatic effect by use of grounding wire.
- Transparent making it possible to confirm the contents.

Applications

- Conveying of powders and grains.
- Suction and pressure feeding of iron powder, sand, blast, etc.

Sizes and properties (E[M]-□)

Nominal Dia. (φ)	I.D. (mm)	O.D. (mm)	Pitch (mm)	Working Pressure (20°C) MPa or less/ [kgf/cm ² or less]	Deformation Temp. (-0.1MPa/-760mmHg) (°C)	Allowable Bending Radius (mm or more)	Ref. Weight (g/m)	Std. Length (m)
38	38.1±1.0	47.8	7.0	0.50 [5.1]	60	370	800	50
50	50.8±1.0	62.5	8.0	0.40 [4.1]	60	500	1,250	
65	63.5±1.0	77.0	8.5	0.40 [4.1]	60	620	1,495	
75	76.2±1.5	90.8	9.0	0.40 [4.1]	55	800	2,130	
90	89.0±1.5	104.0	9.5	0.30 [3.1]	55	1,100	2,720	
100	101.6±1.5	117.5	10.0	0.30 [3.1]	55	1,120	3,000	20·50
125	126.5±2.0	143.5	11.0	0.25 [2.5]	50	1,650	4,030	
150	151.6±2.0	168.0	13.0	0.20 [2.0]	50	1,980	6,400	
200	204.0±2.0	224.0	16.8	0.20 [2.0]	45	2,970	9,330	10

() are custom-made products.

* For antistatic effects, please refer to P18.

* Thorough attention should be placed in abrasion of the inner surface by reason that fragments of the unding wire will get mixed into the conveyed matter when the grounding wire becomes exposed by abrasion of the inner surface during use of the Abrasion Resistant E type for which reason the hose should be replaced with a new hose beforehand.

Tiflex Hose WSU type

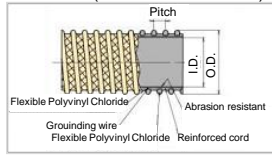
(Custom-made products.)

* WSU type is right-handed.

Hose



Structure (Cross-Section View)



Features

- Excels in abrasion resistance more than ten times that of the Tiflex hose WS type as material of special wear-resistant urethane resin. (According to the results of the spray wear test conducted by our company)
- Can be applicable for transport of fluids including water, as special urethane resin has excellent water resistance.
- Excels in antistatic effect by use of ground wire.
- Excels in pressure resistance and tensile strength by reinforcement of strong sythetic fibers.

Applications

- For transporting slaked lime and activated carbon at a garbage incinerator.
- For transporting ore, sand, etc.
- For transporting other powders and granules that require wear resistance.

* Thorough attention should be placed in abrasion of the inner surface by reason that fragments of the grounding wire will get mixed into the conveyed matter when the grounding wire becomes exposed by abrasion of the inner surface during use of the Abrasion Resistant WSU type for which reason the hose should be replaced with a new hose beforehand.

Sizes and properties (WSU[M]-□)

Nominal Dia. (φ)	I.D. (mm)	O.D. (mm)	Pitch (mm)	Working Pressure (20°C) MPa or less/ [kgf/cm ² or less]	Deformation Temp. (-0.1MPa/-760mmHg) (°C)	Allowable Bending Radius (mm or more)	Ref. Weight (g/m)	Std. Length (m)
75	76.2±1.0	93.3	15.1	0.50 [5.1]	60	750	1,630	20
100	101.6±1.5	122.4	16.5	0.50 [5.1]	60	1,250	2,340	
125	127.0±1.5	151.0	22.0	0.50 [5.1]	55	1,500	3,580	
150	152.4±2.5	177.5	24.0	0.50 [5.1]	55	2,000	4,630	
200	203.0±3.5	234.2	28.0	0.50 [5.1]	50	2,250	7,600	10

Food Grade and Oil Resistant Hoses

Food Grade Hose

Fairly trusted by food industry as food conveying hose due to high operating efficiency.

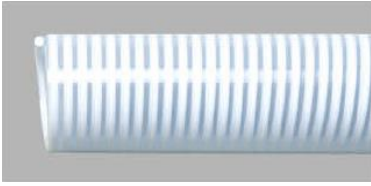
The material of the part in contact with food complies with the Food Sanitation Law and the standards for food and additives (Ministry of Health and Welfare Notification No. 370).

Oil Resistant Hose

Suited for conveying of oil and alcohol by use of good oil resistant material. In addition, provides same level of features as general hoses.

Tiflex Hose SF type

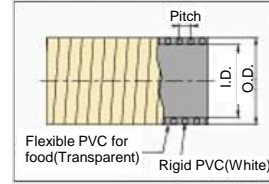
Hose



Example of Metal Fixture Fitting



Structure (Cross-Section View)



Features

- Complies with the Food Sanitation Law and standards for foods and additives (Ministry of Health and Welfare Notification No. 370).
- Can convey even fat, oils and fatty foods. Bis phthalate (2-ethylhexyl) is not used.

Applications

- For conveying of alcohol, soy sauce, and soft drinks.
- For conveying the other foods.

Sizes and properties (F[SH]-□)

Nominal Dia. (φ)	I.D. (mm)	O.D. (mm)	Pitch (mm)	Working Pressure (20°C) MPa or less/ [kgf/cm ² or less]	Deformation Temp. (-0.1MPa/-760mmHg) (°C)	Bending Radius (mm or more)	Ref. Weight (g/m)	Std. Length (m)
(25)	25.4±0.5	32.0	6.0	0.50[5.1]	70	210	350	50
(32)	32.0±0.5	39.0	6.5	0.45[4.6]	70	320	475	
38	38.1±0.5	45.5	7.0	0.40[4.1]	70	340	665	20, 50
50	50.8±1.0	60.5	8.0	0.35[3.6]	65	450	1,090	(20), 50
(65)	63.5±1.0	74.0	8.5	0.35[3.6]	65	560	1,400	20, 50
(75)	76.2 ^{+1.5} _{-0.5}	87.0	9.0	0.35[3.6]	65	730	1,715	
(100)	101.6±1.5	115.0	10.0	0.30[3.1]	60	1,350	2,830	20
(125)	127.0±1.5	141.0	11.0	0.30 [3.1]	55	2,300	3,700	

() are custom-made products.

* Thorough attention should be placed in abrasion of the inner surface by reason that fragments of the rigid material will get mixed into the conveyed matter when the rigid part becomes exposed by abrasion of the inner surface during use for which reason the hose should be replaced with a new hose beforehand.

Tiflex Hose Oil Resistant F type

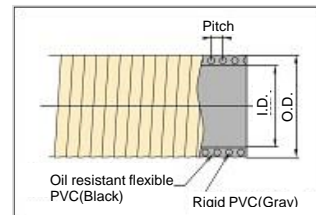
Hose



Example of Metal Fixture Fitting



Structure (Cross-Section View)



Features

- Using special material (soft part of the hose) excels in oil resistance.
- Light in weight and easy to bend making handling easy.
- Flexibility in low temperature get progressed better than our old one.
- Suited for delivery use.

Applications

- Conveying of mineral oil, animal/plant oil, alcohol, kerosene, light oil, heavy oil etc, except food.

Sizes and properties (F[Y]-□)

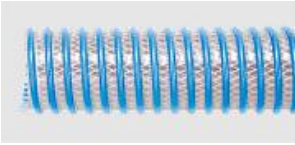
Nominal Dia. (φ)	I.D. (mm)	O.D. (mm)	Pitch (mm)	Working Pressure (20°C) MPa or less/ [kgf/cm ² or less]	Deformation Temp. (-0.1MPa/-760mmHg) (°C)	Allowable Bending Radius (mm or more)	Ref. Weight (g/m)	Std. Length (m)
(25)	25.4±0.5	31.7	6.0	0.50 [5.1]	70	175	370	20, 50
(32)	32.0±0.5	39.0	6.5	0.45 [4.6]	70	250	520	
(38)	38.1±0.5	46.0	7.0	0.40 [4.1]	70	400	660	
50	50.8±1.0	60.5	8.0	0.40 [4.1]	65	625	1,120	
65	63.5±1.0	73.5	8.5	0.40 [4.1]	65	775	1,420	20, (50)
(75)	76.2±1.0	86.8	9.0	0.40 [4.1]	65	1,150	1,780	20, 50
(100)	101.6±1.5	115.0	10.0	0.30 [3.1]	60	1,500	2,890	

() are custom-made products.

Tiflex Hose Oil Resistant WS type

*Oil Resistant WS Type is right-handed.

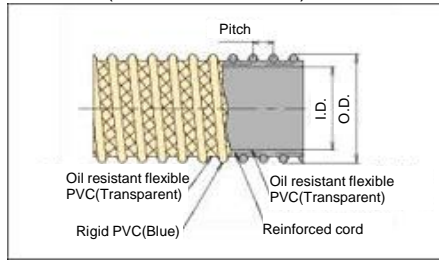
Hose



Example of Metal Fixture Fitting



Structure (Cross-Section View)



Features

- Using special material (soft part of the hose) excels in oil resistance.
- Lightweight, flexible, and easy to handle.
- Excels in tensile strength and pressure resistance due to reinforcement cord, and little elongation.
- Suited for delivery and suction use.

Sizes and properties (GL-□)

Nominal Dia. (φ)	I.D. (mm)	O.D. (mm)	Pitch (mm)	Working Pressure (20°C) MPa or less/ [kgf/cm ² or less]	Deformation Temp. (-0.1MPa/-760mmHg) (°C)	Allowable Bending Radius (mm or more)	Ref. Weight (g/m)	Std. Length (m)
50	50.8±1.0	62.8	10.0	0.50 [05.1]	65	200	860	20, 50
65	63.5±1.0	78.0	14.3	0.50 [05.1]	60	250	1,230	
75	76.0±1.0	90.8	15.1	0.50 [05.1]	60	350	1,500	
100	101.6±1.5	119.0	16.5	0.50 [05.1]	60	500	2,350	
(125)	127.0±1.5	151.0	22.0	0.50 [05.1]	55	600	3,885	20

() is custom-made products.

Applications

- Vacuum hose for suction work vehicles such as waste liquid, waste oil, sludge, etc.



Duct Hoses

*Reliable item focused on fundamental performance.
Used for conveyance system of wide industrial field
which requires higher air/powder conveying
performance and abrasion performance.*

Tiflex Hose GL type

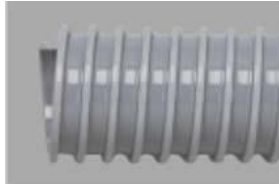
Features

- Light in weight and easy to carry.
- Excels in flexibility.
- Excels in chemical resistance such as acid and alkalis.
- Its low flow resistance makes high conveying capacity attainable.

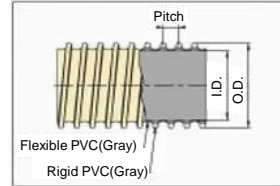
Applications

- For air conditioning.
- Suited for collecting use of powders and grains for dust collect machine.
- Can be used for air conveying of general machineries including woodworking machines, powder spraying machines, and general dust collectors.

Hose



Structure (Cross-Section View)



Sizes and properties (GL-□)

Nominal Dia. (φ)	I.D. (mm)	O.D. (mm)	Pitch (mm)	Working Pressure (20°C) MPa or less/ [kgf/cm ² or less]	Allowable Reduced Pressure (20°C) KPa or less/ [mmHg or less]	Bending Radius (mm or more)	Ref. Weight (g/m)	Std. Length (m)
25	25.0±0.8	32.4	7.6	0.06 [0.6]	-66.5 [-500]	25	185	50
32	32.0±1.0	39.8	8.0	0.06 [0.6]	-66.5 [-500]	32	300	
38	38.1±1.0	45.9	9.0	0.06 [0.6]	-66.5 [-500]	35	370	
45	43.7±1.0	53.5	12.0	0.05 [0.5]	-66.5 [-500]	45	440	
50	50.8 ^{+1.5} _{-1.0}	59.9	12.0	0.05 [0.5]	-66.5 [-500]	50	480	
65	63.5 ^{+1.5} _{-1.0}	72.6	12.0	0.04 [0.4]	-66.5 [-500]	60	600	30
75	76.2 ^{+1.5} _{-1.0}	85.8	14.5	0.04 [0.4]	-33.0 [-250]	75	650	
90	89.0±1.5	98.6	14.5	0.03 [0.3]	-33.0 [-250]	85	730	
100	101.6±1.5	112.0	14.5	0.03 [0.3]	-21.0 [-160]	90	980	20
(115)	114.5 ^{+3.0} ₋₀	125.3	17.5	0.02 [0.2]	-20.0 [-150]	115	1,050	
125	127.0±1.5	137.2	17.5	0.02 [0.2]	-20.0 [-150]	120	1,100	
150	152.4±1.5	163.8	17.5	0.02 [0.2]	-14.5 [-110]	150	1,510	
(165)	166.4±1.5	177.4	17.5	0.02 [0.2]	-14.5 [-110]	165	1,710	
(175)	175.0±1.5	187.0	17.5	0.02 [0.2]	-10.0 [-78]	180	1,800	
200	202.0±2.0	215.0	17.5	0.01 [0.1]	-6.0 [-45]	210	2,340	
250	252.0±2.0	265.7	20.0	0.01 [0.1]	-4.5 [-35]	260	2,910	10, 20
300	303.0±2.0	316.4	20.0	0.01 [0.1]	-3.0 [-23]	310	3,370	

() are custom-made products.

* Exclusive cuff is available.

Tiflex Hose GL-2 type (Custom-made product)

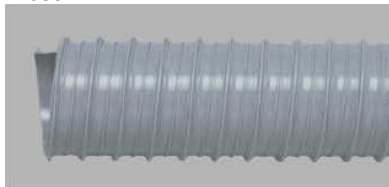
Features

- Lighter in weight than current duct hoses (About 50% lighter in weight than our other hoses.)
- Excels in flexibility.
- Excels in chemical resistance such as acids and alkalis.
- Low flow resistance makes high conveying capacity attainable.

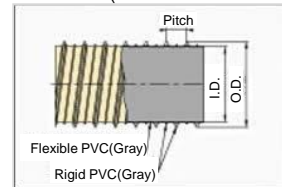
Applications

- For air conditioning.

Hose



Structure (Cross-Section View)



Sizes and properties (GL2-□)

Nominal Dia. (φ)	I.D. (mm)	O.D. (mm)	Pitch (mm)	Working Pressure (20°C) MPa or less/ [kgf/cm ² or less]	Allowable Reduced Pressure (20°C) KPa or less/ [mmHg or less]	Bending Radius (mm or more)	Ref. Weight (g/m)	Std. Length (m)
50	50.8±1.5	57.8	15.0	0.04 [0.4]	-44.0 [-330]	60	240	20
65	63.5±1.5	70.6	15.0	0.04 [0.4]	-28.0 [-210]	70	290	
75	76.2±1.5	83.7	17.0	0.03 [0.3]	-18.5 [-140]	80	390	
100	101.6±1.5	109.7	17.0	0.02 [0.2]	-9.0 [-70]	110	500	
125	127.0±1.5	135.8	20.0	0.02 [0.2]	-6.0 [-45]	135	735	
150	152.4±1.5	161.2	20.0	0.02 [0.2]	-4.0 [-30]	160	882	

Tiflex Hose N type

Since wire might be exposed from a hose end, hose should be handled carefully.

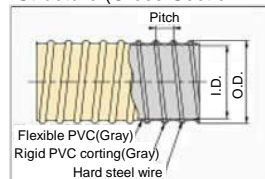
Features

- Light in weight and easy to carry.
- Excels in flexibility.
- Excels in chemical resistance such as acids and alkalis.
- Less thermal deformation by use of metal wire as core wire.

Hose



Structure (Cross-Section View)



Sizes and properties (N-□)

Nominal Dia. (φ)	I.D. (mm)	O.D. (mm)	Pitch (mm)	Working Pressure (20°C) MPa or less/ [kgf/cm ² or less]	Allowable Reduced Pressure (20°C) KPa or less/ [mmHg or less]	Bending Radius (mm or more)	Ref. Weight (g/m)	Std. Length (m)
16	16.7±0.7	21.2	7.5	0.06 [0.6]	-101.0 [-760]	20	110	20
19	19.5±0.7	24.0	8.0	0.06 [0.6]	-101.0 [-760]	23	130	
25	25.5±0.7	30.0	9.0	0.06 [0.6]	-101.0 [-760]	25	170	
32	32.5±0.7	37.0	9.0	0.06 [0.6]	-101.0 [-760]	35	210	
38	38.1±0.7	42.6	9.0	0.06 [0.6]	-101.0 [-760]	40	250	
45	45.5±1.0	52.3	11.5	0.05 [0.5]	-101.0 [-760]	45	400	
50	50.8±1.0	57.6	11.5	0.05 [0.5]	-101.0 [-760]	55	440	
65	63.5 ^{+1.5} _{-0.5}	70.5	11.5	0.04 [0.4]	-73.0 [-550]	70	540	
75	75.5 ^{+1.5} _{-0.5}	82.5	11.5	0.04 [0.4]	-33.0 [-250]	80	770	
90	89.0 ^{+1.5} _{-0.5}	96.0	11.5	0.03 [0.3]	-33.0 [-250]	90	910	
100	102.2 ^{+2.0} _{-0.5}	109.0	14.5	0.03 [0.3]	-21.0 [-160]	100	950	
125	127.0 ^{+2.0} _{-1.0}	134.5	15.5	0.02 [0.2]	-20.0 [-150]	120	1,300	
150	152.6 ^{+2.0} _{-1.5}	160.0	15.5	0.02 [0.2]	-14.5 [-110]	130	1,590	
(175)	177.0 ^{+2.0} _{-1.5}	184.0	16.5	0.02 [0.2]	-13.0 [-100]	170	1,840	
200	204.1 ^{+2.0} _{-1.5}	211.5	16.5	0.01 [0.1]	-8.0 [-62]	200	2,110	
250	252.0 ^{+2.0} _{-2.0}	261.5	16.5	0.01 [0.1]	-6.0 [-45]	250	3,600	(10), 20
(300)	303.0 ^{+3.0} _{-2.0}	312.5	16.5	0.01 [0.1]	-4.5 [-35]	300	4,300	10, 20
(350)	354.0 ^{+3.0} _{-2.0}	363.5	17.0	0.01 [0.1]	-3.0 [-23]	350	5,000	10
(400)	405.0 ^{+3.0} _{-2.0}	414.5	17.0	0.005 [0.05]	-2.0 [-15]	400	5,710	

() are custom-made products.

* Exclusive cuffs are available.

Tiflex Hose Abrasion Resistant GL type

* Abrasion Resistant GL type is right-handed.

Features

- Excels in abrasion resistance as well as usable in a wide temperature range from low to high temp. (about -30 ~ 80°C)
- Excels in conductivity and endowed with antistatic effects.
- Excels in weather resistance.
- Suits for conveying of powders and particles, dust collection, hot air conveying and exhaust.

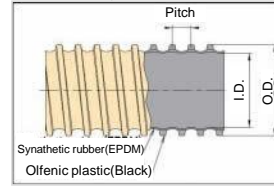
Applications

- Conveying of powders and particles.
- Conveying of iron powder, aluminum powder, metal powder, etc.
- Conveying of wooden chips, pieces of paper and hulled grains.
- Hot air conveying and exhaust.
- Duct collection, conveying and exhaust requiring abrasion resistance, conductivity and heat resistance.

Hose



Structure (Cross-Section View)



Sizes and properties (GL[M]-□)

Nominal Dia. (φ)	I.D. (mm)	O.D. (mm)	Pitch (mm)	Working Pressure (20°C) MPa or less/ [kgf/cm ² or less]	Allowable Reduced Pressure (20°C) KPa or less/ [mmHg or less]	Bending Radius (mm or more)	Ref. Weight (g/m)	Std. Length (m)
38	38.1±1.0	46.0	9.0	0.05 [0.5]	-66.5 [-500]	45	340	30
50	50.8±1.5	61.8	10.5	0.05 [0.5]	-66.5 [-500]	60	500	
65	63.5±1.5	74.7	14.0	0.04 [0.4]	-66.5 [-500]	70	600	
75	76.2±1.5	87.6	16.5	0.04 [0.4]	-33.0 [-250]	80	700	
90	89.8±1.5	101.4	17.0	0.03 [0.3]	-33.0 [-250]	100	780	
100	102.5±2.0	114.6	18.0	0.03 [0.3]	-21.0 [-160]	105	980	20
125	126.0±2.0	140.2	22.5	0.02 [0.2]	-20.0 [-150]	125	1,280	
150	152.0±2.0	167.0	24.0	0.02 [0.2]	-14.5 [-110]	155	1,660	
200	208.0±2.0	223.0	26.0	0.01 [0.1]	-8.0 [-62]	190	2,360	

* Exclusive cuffs(φ38,φ50) are available.

Tiflex Hose Oil Resistant GL type

Features

- Using special material (for hose soft part) with abrasion resistance which is hardly hardened against lubricant oil, cutting oil, etc.
- Light in weight and excels in flexibility.
- Its low flow resistance makes high conveying capacity attainable.

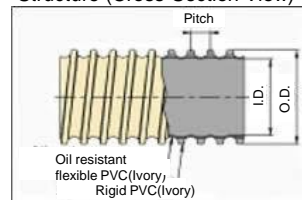
Applications

- For recovery of oil-mist of lathe, milling machine, and machine tool.
- For conveying and exhaust air in the place where oil scatters.

Hose



Structure (Cross-Section View)



Sizes and properties (GL[Y]-□)

Nominal Dia. (φ)	I.D. (mm)	O.D. (mm)	Pitch (mm)	Working Pressure (20°C) MPa or less/ [kgf/cm ² or less]	Allowable Reduced Pressure (20°C) KPa or less/ [mmHg or less]	Bending Radius (mm or more)	Ref. Weight (g/m)	Std. Length (m)
38	38.1±1.0	45.9	9.0	0.06 [0.6]	-66.5 [-500]	35	300	50
50	50.8 ^{+1.5} _{-1.0}	59.9	12.0	0.05 [0.5]	-66.5 [-500]	50	480	
65	63.5 ^{+1.5} _{-1.0}	72.6	12.0	0.04 [0.4]	-66.5 [-500]	60	600	30
75	76.2 ^{+1.5} _{-1.0}	85.8	14.5	0.04 [0.4]	-33.0 [-250]	75	650	
(90)	89.0±1.5	98.6	14.5	0.03 [0.3]	-33.0 [-250]	85	730	
100	101.6±1.5	112.0	14.5	0.03 [0.3]	-21.0 [-160]	90	980	20
125	127.0±1.5	137.5	17.5	0.02 [0.2]	-20.0 [-150]	120	1,100	
150	152.4±1.5	163.8	17.5	0.02 [0.2]	-14.5 [-110]	150	1,550	
200	202.0±2.0	215.0	17.5	0.01 [0.1]	-8.0 [-62]	210	2,340	

() is custom-made products.

Tiflex Hose GL-E type

Features

- Grounding can be done by utilizing the grounding wire put through the hose rigid part by which worries caused by the build-up of static electricity are overcome.
- Low in air flow resistance making it possible to improve the conveying capacity.
- Transparent making it possible to confirm the contents.
- Cutting of hose and exposure of grounding wire are easy.

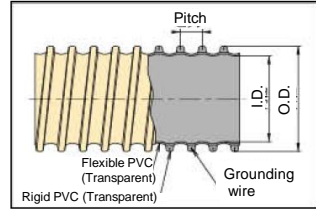
Applications

- Dust collection of wood working machine and pneumatic conveying of powders.
- Indoor piping of clean room where static electricity is undesirable.

Hose



Structure (Cross-Section View)



Sizes and properties (GLE-□)

Nominal Dia. (φ)	I.D. (mm)	O.D. (mm)	Pitch (mm)	Working Pressure (20°C) MPa or less/ [kgf/cm ² or less]	Allowable Reduced Pressure (20°C) KPa or less/ [mmHg or less]	Bending Radius (mm or more)	Ref. Weight (g/m)	Std. Length (m)
38	38.1±1.0	44.5	9.0	0.06 [0.6]	-66.5 [-500]	35	340	20
50	50.8 ^{+1.5} _{-1.0}	59.9	12.0	0.05 [0.5]	-66.5 [-500]	50	520	
65	63.5 ^{+1.5} _{-1.0}	72.6	12.0	0.04 [0.4]	-66.5 [-500]	60	630	
75	76.2±1.5	84.5	14.5	0.04 [0.4]	-33.0 [-250]	75	640	
(90)	89.0±1.5	98.6	14.5	0.03 [0.3]	-33.0 [-250]	85	935	
100	101.6±1.5	112.0	14.5	0.03 [0.3]	-21.0 [-160]	90	950	
125	127.0±1.5	138.2	17.5	0.02 [0.2]	-20.0 [-150]	120	1,120	
150	152.4±1.5	163.8	17.5	0.02 [0.2]	-14.5 [-110]	150	1,430	

() is custom-made products.

* Exclusive cuffs are available.

* Ground connection is necessary.

* For antistatic effect, please refer to P31.

Pulling out and cutting method of grounding wire



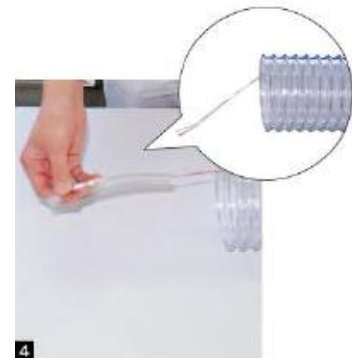
1 Apply a knife along the hose rigid part and cut the soft part.



2 Cut a nick into the hose rigid part with a knife.



3 Bend the nicked part of the hose rigid part with hands several times and break this part.



4 Slowly pull off the hose rigid part.

Setting method of antistatic grounding wire

Connection with Metal Fixture	Connection with Steel Pipe	Connection with Plastic Pipe
<p>In case that exclusive cuff which is fitted the hose connects with a metal fixture.</p>	<p>In case that the cut hose connects with a steel pipe.</p>	<p>Should be grounded directly with grounding wire is coming out from the hose in case of the connection which is difficult to ground.</p>

Tiflex Hose GL-ST type

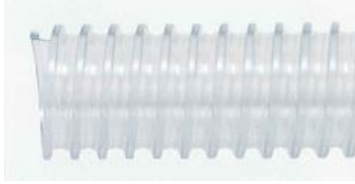
Features

- Transparent type of GL type.
- Transparent making it possible to confirm the contents.
- Light weighted, flexible, and low airflow resistance as same as GL type.
- Excels in antistatic effect because the soft part is made by PVC contains antistatic substance.

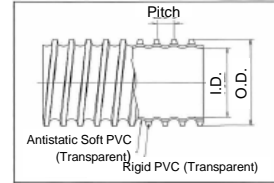
Applications

- Dust collection of wood working machine and pneumatic conveying of powders.
- Indoor piping of clean room where static electricity is undesirable.

Hose



Structure (Cross-Section View)



Sizes and properties (GL[ST]-□)

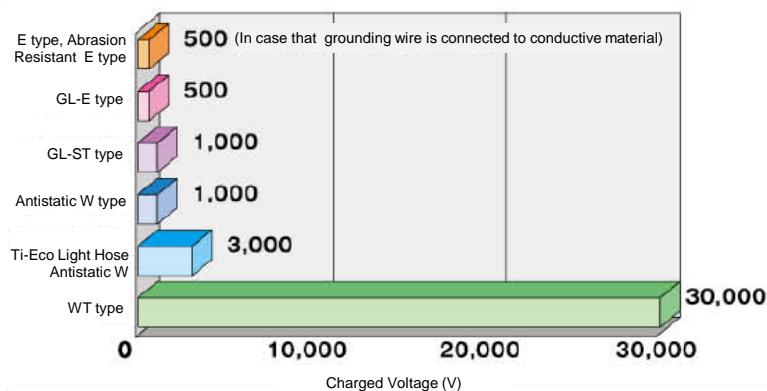
Nominal Dia. (φ)	I.D. (mm)	O.D. (mm)	Pitch (mm)	Working Pressure (20°C) MPa or less/ [kgf/cm ² or less]	Allowable Reduced Pressure (20°C) KPa or less/ [mmHg or less]	Bending Radius (mm or more)	Ref. Weight (g/m)	Std. Length (m)
25	25.0±0.8	32.4	7.6	0.06 [0.6]	-66.5 [-500]	25	200	50
32	32.0±1.0	39.8	8.0	0.06 [0.6]	-66.5 [-500]	32	260	
38	38.1±1.0	45.9	9.0	0.06 [0.6]	-66.5 [-500]	35	320	
50	50.8 ^{+1.5} _{-1.0}	59.9	12.0	0.05 [0.5]	-66.5 [-500]	50	453	
65	63.5 ^{+1.5} _{-1.0}	72.6	12.0	0.04 [0.4]	-66.5 [-500]	60	557	30
75	76.2 ^{+1.5} _{-1.0}	85.8	14.5	0.04 [0.4]	-33.0 [-250]	75	600	
(90)	89.0±1.5	98.6	14.5	0.03 [0.3]	-33.0 [-250]	85	695	
100	101.6±1.5	112.0	14.5	0.03 [0.3]	-21.0 [-160]	90	870	
125	127.0±1.5	137.5	17.5	0.02 [0.2]	-20.0 [-150]	120	960	20
150	152.4±1.5	163.8	17.5	0.02 [0.2]	-14.5 [-110]	150	1,350	
(175)	175.0±1.5	187.0	17.5	0.02 [0.2]	-10.0 [-78]	180	1,892	
200	202.0±2.0	215.0	17.5	0.01 [0.1]	-6.0 [-45]	210	2,338	
(250)	252.0±2.0	265.7	20.0	0.01 [0.1]	-4.5 [-35]	260	2,872	10, 20
(300)	303.0±2.0	316.4	20.0	0.01 [0.1]	-3.0 [-23]	310	3,389	

() are custom-made products.

* Exclusive cuffs are available.

Antistatic Effect

Measured each maximum voltage which is charged to φ 38mm hoses after rigid PVC pellets were conveyed.

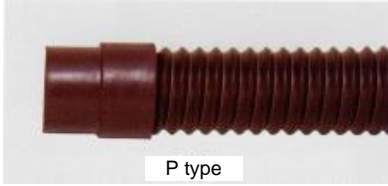


These are not standard values, but test ones.

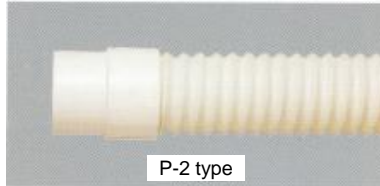
Tiflex Hose P, P-2 type

Since wire might be exposed from a hose end, hose should be handled carefully.

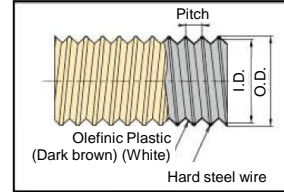
Hose (P type/Color: Dark Brown)



Hose (P-2 type/Color: White)



Structure (Cross-Section View)



Features

- Excels in stretchability. (rate of shrinkage 1/3 ~ 1/4)
Freely stretchable and excels in accommodation property making storage convenient. Also, less space is needed for stocking.
- Hose transportation cost is less making it economical.
- 50% lighter in weight than existing duct hoses. (Compared with Tigers Polymer's other duct hoses)
- Light weight and freely bendable making piping work easy.
- Hose can be bent toward any direction for which reason elbow cuffs are not necessary.

Sizes and properties (P-□, P2-□)

Nominal Dia. (ϕ)	I.D. (mm)	O.D. (mm)	Pitch (mm)	Working Pressure (20°C) MPa or less/ [kgf/cm ² or less]	Allowable Reduced Pressure (20°C) KPa or less/ [mmHg or less]	Bending Radius (mm or more)	Ref. Weight (g/m)	Std. Length (m)
38	37.5	41.5±0.8	9.5	0.018 [0.18]	-17.0 [-130]	30	140	5
50	53.5	57.5±1.0	11.0	0.014 [0.14]	-17.0 [-130]	40	175	
65	67.0	71.0±1.0	11.5	0.011 [0.09]	-17.0 [-130]	50	210	
75	76.5	80.5±1.0	12.0	0.009 [0.09]	-17.0 [-130]	60	245	
90	92.0	96.0±1.0	14.0	0.007 [0.07]	-17.0 [-130]	70	320	
100	102.0	106.0±1.0	14.0	0.007 [0.07]	-17.0 [-130]	75	365	
125	127.5	131.5±1.0	15.0	0.005 [0.05]	-11.0 [-85]	90	435	
150	155.0	159.0±1.0	15.0	0.004 [0.04]	-8.0 [-62]	110	530	
200	202.0	208.0±1.0	19.3	0.003 [0.03]	-6.0 [-45]	140	1,085	
250	253.5	259.5±1.0	21.5	0.002 [0.02]	-4.5 [-35]	180	1,250	
300	302.0	308.0±1.5	24.0	0.002 [0.02]	-4.0 [-30]	230	1,455	

(Note) I.D. shall be measured as the distance between the helical reinforcement wires.

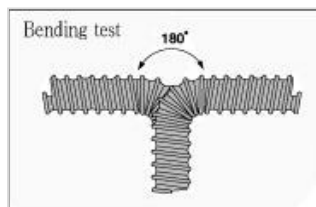
Applications

- For spot cooling and heating.
- For air-conditioning.
- For indoor air conveying and exhaust.
- For exhaust of paint and gas venting.
- For gas conveying (include hot air).
- Can be shaped into various forms making it usable for interior designing as well.

* There are two types. One is Tiflex P type (dark brown) and the other one is P-2 type (white). There is no difference in performance and specification.

Bending Test

Nominal Dia. (ϕ)	Bending Strength (Bent 180°, 25°C, 20 times/min)	Stretching Strength (25°C, 20 times/min)	Tensile Strength (25°C) N {kgf}
50	100,000 times no change	100,000 times no change	392 {40.0}
65	100,000 times no change	100,000 times no change	490 {50.0}
75	100,000 times no change	100,000 times no change	588 {60.0}



[Usable temperature range] -20 to 80°C

However, please consult us because there are case of the stretching performance being affected when used continuously at over 60°C.

Tiflex Hose Flame Retardant P type

Since wire might be exposed from a hose end, hose should be handled carefully.

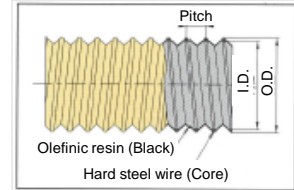
Features

- Flame retardant type of Tiflex Hose P type.
- Endowed with flame retardancy which is equivalent to UL94-HB.
- Excels in flexibility due to the same structure as P type.
(Shrinkage rate 1/3 - 1/4)
- Light in weight and freely bendable. It can make ductwork easy, improve workability and save labor.
- Flame retardant cuffs are also available.

Hose



Structure (Cross-Section View)



Sizes and properties (P[N]-□)

Nominal Dia. (ϕ)	I.D. (mm)	O.D. (mm)	Pitch (mm)	Working Pressure (20°C) MPa or less/ [kgf/cm ² or less]	Allowable Reduced Pressure (20°C) KPa or less/ [mmHg or less]	Bending Radius (mm or more)	Ref. Weight (g/m)	Std. Length (m)
38	37.5	41.5±0.8	9.5	0.018 [0.18]	-17.0 [-130]	30	180	5
50	53.5	57.5±1.0	11.0	0.014 [0.14]	-17.0 [-130]	40	220	
65	67.0	71.0±1.0	11.5	0.011 [0.09]	-17.0 [-130]	50	260	
75	76.5	80.5±1.0	12.0	0.009 [0.09]	-17.0 [-130]	60	310	
90	92.0	96.0±1.0	14.0	0.007 [0.07]	-17.0 [-130]	70	340	
100	102.0	106.0±1.0	14.0	0.007 [0.07]	-17.0 [-130]	75	410	
125	127.5	131.5±1.0	15.0	0.005 [0.05]	-11.0 [-85]	90	460	
150	155.0	159.0±1.0	15.0	0.004 [0.04]	-8.0 [-62]	110	550	
200	202.0	208.0±1.0	19.3	0.003 [0.03]	-6.0 [-45]	140	1,190	
250	253.5	259.5±1.0	21.5	0.002 [0.02]	-4.5 [-35]	180	1,420	
300	302.0	308.0±1.5	24.0	0.002 [0.02]	-4.0 [-30]	230	1,540	

(Note) I.D. shall be measured as the distance between the helical reinforcement wires.

Applications

- Residential parts.
- For spot cooling and heating.
- For air-conditioning.
- For indoor air conveying and exhaust.
- For exhaust of paint and gas venting.
- For gas conveying (include hot air).
- Can be shaped into various forms making it usable for interior designing as well.

Tiflex Hose A type

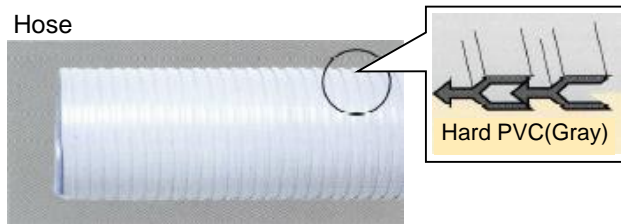
* A type is right-handed.

Features

- Endowed with flame retardancy which is equivalent to UL94-V0.
- Freely stretchable and freely fixable. (Degree of shrinkage 30% ~ 50%)
- Endowed with special construction making use possible by changing the bore diameter. (Degree of bore diameter change $\pm 15\%$)
- Low in flow resistance and also small in abrasion.
- End cuffs are also available.

Applications

- Suited for uses such as spot cooler.
Note: Not suited for applications requiring air-tightness.



Sizes and properties (A-□)

Nominal Dia. (ϕ)	I.D. (mm)	O.D. (mm)	Pitch (mm)	Stretch Rate (Doubled)	Minimum Bending Radius (mm or more)	Ref. Weight (g/m)	Std. Length (m)	
55	55	62.0	7.5	1.30	155	550	10	
65	65	72.0	7.5	1.30	170	680		
75	75	82.0	7.5	1.30	195	750		
90	90	97.0	7.5	1.30	250	870		
100	100	107.0	7.5	1.30	270	1,000		
125	125	132.0	7.5	1.30	330	1,250		
150	150	157.0	7.5	1.30	380	1,500		
175	175	182.0	7.5	1.30	415	1,690	4	
200	200	207.0	7.5	1.30	440	2,000		
250	250	260.0	10.5	1.50	580	3,000		2
300	300	310.0	10.5	1.50	755	3,450		

* Exclusive cuff is available.

* For $\phi 250$ and $\phi 300$, 3m and 4m products are also available.(Custom-made products.) Please contact us.

* Material: PP products are also available. Please contact us.

Heat Resistant Duct Hoses

Tiflex Hose V series is a heat resistant flexible hose with special structure made by originally developed manufacturing method using metals and other special materials in accordance with the application.

We have PAL type, AG type, FP type and SUS type. And AP type is a heat-resistant and airtight flexible hose. They can be selected according to its use conditions.

Tiflex Hose AP type

Features

- Heat resistant flexible hose constructed of special laminated aluminum foil and olefinic resin.
- Excels in airtightness due to using olefinic resin for internal and external of the special laminated aluminum.
- Excels in handling due to its lightweight and flexibility.
- Continuous usable temperature is about 100 °C or lower.

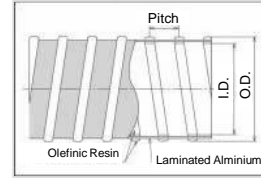
Applications

- For gas conveying (include hot air).
- For air conveying and exhaust requiring airtightness .

Hose



Structure (Cross-Section View)

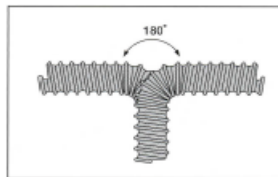


Sizes and properties (AP-□)

Nominal Dia. (φ)	I.D. (mm)	O.D. (mm)	Pitch (mm)	Working Pressure (20°C) MPa or less/ [kgf/cm ² or less]	Allowable Reduced Pressure (20°C) KPa or less/ [mmHg or less]	Bending Radius (mm or more)	Ref. Weight (g/m)	Std. Length (m)
38	38.1±1.0	42.9	11.5	0.06[0.61]	-50.0[-375]	60	120	5, (20)
50	50.8 ^{+1.5} _{-1.0}	56.4	15.0	0.05[0.51]	-40.0[-300]	70	150	
75	76.2 ^{+1.5} _{-1.0}	83.8	23.0	0.04[0.41]	-30.0[-225]	80	250	
100	101.6±1.5	110.0	23.0	0.03[0.31]	-20.0[-150]	100	380	
(125)	126.0 ^{+2.0} _{-1.5}	136.0	30.0	0.02[0.20]	-15.0[-115]	120	450	5, 20
(150)	151.5 ^{+2.0} _{-1.5}	162.3	30.0	0.02[0.20]	-12.0[-90]	180	650	
(200)	202.0±2.0	214.4	30.0	0.01[0.10]	-6.0[-45]	240	1,100	

() are custom-made products.

Nominal Dia. (φ)	Bending Strength (Bent 180° , 25°C, 20 times/min)
38	10,000 times Normal airtightness
50	10,000 times Normal airtightness
75	10,000 times Normal airtightness
100	10,000 times Normal airtightness



Tiflex Hose V series

Since both ends of a hose are sharp metallic edges, hose should be handled carefully.

PAL type

Features

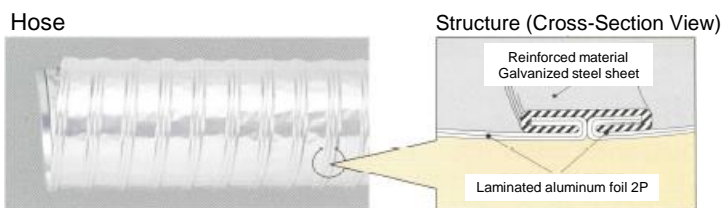
- Heat resistant flexible hose constructed of special laminated aluminum foil and galvanized steel sheet.
- Easy to store, keep, and transport due to light weight and free contractibility.
- Continuous usable temperature is about 130 °C or lower.
- Although using galvanized steel sheet as a reinforced material, it complies with RoHS.

Note: Excels in flexibility but is not suited for repeated flexing.

Note: Not suited for applications requiring air-tightness.

Applications

- Suited for air conditioning, especially for air conveying and exhaust in a ceiling.



Sizes and properties (PAL-□)

Nominal Dia. (φ)	I.D. (mm)	O.D. (mm)	Pitch (mm)	Working Pressure (20°C) MPa or less/ [kgf/cm ² or less]	Allowable Reduced Pressure (20°C) KPa or less/ [mmHg or less]	Allowable Bending Radius (mm or more)	Ref. Weight (g/m)	Std. Length (m)
50	50.8±1.0	54.3	20.0	0.032 [0.33]	-17.0 [-130]	60	360	5
65	65.5±1.0	69.5	20.0	0.029 [0.30]	-17.0 [-130]	70	410	
75	75.5±1.0	79.5	20.0	0.025 [0.25]	-15.0 [-115]	80	480	
90	91.0±1.0	95.0	24.0	0.020 [0.20]	-13.0 [-100]	95	480	
100	101.5±1.5	105.0	24.0	0.020 [0.20]	-13.0 [-100]	105	540	
125	126.0±1.5	130.0	24.0	0.018 [0.18]	-13.0 [-100]	125	695	
150	152.0±1.5	156.0	24.0	0.015 [0.15]	-9.0 [-70]	150	815	
(175)	177.0±2.0	181.0	24.0	0.013 [0.13]	-8.0 [-62]	175	980	
200	202.0±2.0	206.0	24.0	0.010 [0.10]	-6.0 [-45]	200	1,090	
250	253.5±2.5	257.0	24.0	0.008 [0.08]	-3.0 [-23]	255	1,345	
(275)	278.0±2.5	282.0	24.0	0.006 [0.06]	-3.0 [-23]	280	1,540	
300	304.0±3.0	308.0	24.0	0.005 [0.05]	-3.0 [-23]	305	1,680	

() are custom-made products.

Nipple for connecting with steel pipe or two hoses connecting is also available. Please refer to P53.

AG type

Features

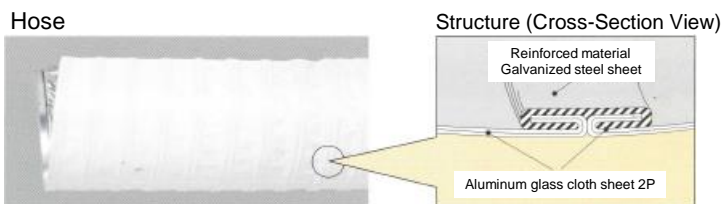
- Heat resistant flexible hose constructed of special laminated aluminum foil, glass-cloth and galvanized steel sheet.
- Light in weight, excels in flame and heat resistance.
- Continuous usable temperature is about 180 °C or lower.
- Special aluminum and glass cloth sheet which is used as a material is Class 1 Fire-Proof Material prescribed in JIS A1322.
- Although using galvanized steel sheet as a reinforced material, it complies with RoHS.

Note: Excels in flexibility but is not suited for repeated flexing.

Note: Not suited for applications requiring air-tightness.

Applications

- Suited for air conditioning, and air conveying and exhaust for hot air generation & circulation system.



Sizes and properties (AG-□)

Nominal Dia. (φ)	I.D. (mm)	O.D. (mm)	Pitch (mm)	Working Pressure (20°C) MPa or less/ [kgf/cm ² or less]	Allowable Reduced Pressure (20°C) KPa or less/ [mmHg or less]	Bending Radius (mm or more)	Ref. Weight (g/m)	Std. Length (m)
50	50.8±1.0	55.3	20.0	0.032 [0.33]	-17.0 [-130]	60	365	5
65	65.5±1.0	70.5	20.0	0.029 [0.30]	-17.0 [-130]	70	470	
75	75.5±1.0	80.5	20.0	0.025 [0.25]	-15.0 [-115]	80	525	
90	91.0±1.0	96.0	24.0	0.020 [0.20]	-13.0 [-100]	95	560	
100	101.5±1.5	106.0	24.0	0.020 [0.20]	-13.0 [-100]	105	630	
125	126.0±1.5	131.0	24.0	0.018 [0.18]	-13.0 [-100]	125	780	
150	152.0±1.5	157.0	24.0	0.015 [0.15]	-9.0 [-70]	150	930	
(175)	177.0±2.0	182.0	24.0	0.013 [0.13]	-8.0 [-62]	175	1,110	
200	202.0±2.0	207.0	24.0	0.010 [0.10]	-6.0 [-45]	200	1,210	
250	253.5±2.5	258.5	24.0	0.008 [0.08]	-3.0 [-23]	255	1,580	
(275)	278.0±2.5	283.5	24.0	0.006 [0.06]	-3.0 [-23]	280	1,730	
300	304.0±3.0	309.5	24.0	0.005 [0.05]	-3.0 [-23]	305	1,840	

() are custom-made products.

Nipple for connecting with steel pipe or two hoses connecting is also available. Please refer to P53.

Tiflex Hose V series

Since both ends of a hose are sharp metallic edges, hose should be handled carefully.

FP type

Features

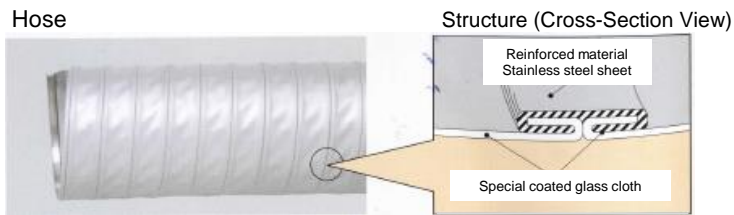
- Constructed of special coated glass cloth and stainless-steel copper plate (SUS304).
- Easy to store, keep, and transport due to light weight and free contractibility.
- Continuous usable temperature is 250°C or lower. Therefore it can be used in higher heat range than PAL and AG type.
- Special coated glass cloth sheet which is used as a material is Class 1 Fire-Proof Material prescribed in JIS A1322.

Note: Not suited for repeated flexing, but is better than PAL type and AG type.

Note: Not suited for applications requiring airtightness.

Applications

- Suit for duct of hot air generation & circulation system.



Sizes and properties (FP-□)

Nominal Dia. (φ)	I.D. (mm)	O.D. (mm)	Pitch (mm)	Working Pressure (20°C) MPa or less/ [kgf/cm ² or less]	Allowable Reduced Pressure (20°C) KPa or less/ [mmHg or less]	Allowable Bending Radius (mm or more)	Ref. Weight (g/m)	Std. Length (m)
50	50.8±1.0	55.3	20.0	0.018 [0.18]	-17.0 [-130]	60	365	5
65	65.5±1.0	70.5	20.0	0.015 [0.15]	-17.0 [-130]	70	475	
75	75.5±1.0	80.5	20.0	0.013 [0.13]	-15.0 [-115]	80	550	
90	91.0±1.0	96.0	24.0	0.010 [0.10]	-13.0 [-100]	95	565	
100	101.5±1.5	106.0	24.0	0.010 [0.10]	-13.0 [-100]	105	625	
125	126.0±1.5	131.0	24.0	0.010 [0.10]	-13.0 [-100]	125	790	
150	152.0±1.5	157.0	24.0	0.008 [0.08]	-9.0 [-70]	150	980	
(175)	177.0±2.0	182.0	24.0	0.006 [0.06]	-8.0 [-62]	175	1,140	
200	202.0±2.0	207.0	24.0	0.005 [0.05]	-6.0 [-45]	200	1,300	
250	253.5±2.5	258.5	24.0	0.003 [0.03]	-3.0 [-23]	255	1,610	
(275)	278.0±2.5	283.5	24.0	0.003 [0.03]	-3.0 [-23]	280	1,780	
300	304.0±3.0	309.5	24.0	0.002 [0.02]	-3.0 [-23]	305	1,910	

() are custom-made products.

Nipple for connecting with steel pipe or two hoses connecting is also available.

Please refer to P53.

SUS type

Features

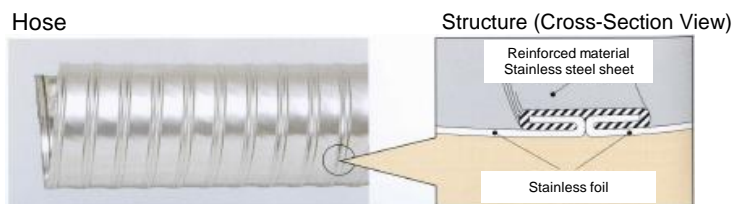
- Constructed entirely of stainless steel (SUS 304).
- Continuous usable temperature is 400°C or lower.

Note: Excels in heat resistance and can be bent but is not suited for repeated flexing.

Note: Not suited for applications requiring airtightness.

Applications

- Suit for fixed piping of equipments for pollution control, devices for physics & chemistry, and burning equipment.



Sizes and properties (SUS-□)

Nominal Dia. (φ)	I.D. (mm)	O.D. (mm)	Pitch (mm)	Working Pressure (20°C) MPa or less/ [kgf/cm ² or less]	Allowable Reduced Pressure (20°C) KPa or less/ [mmHg or less]	Bending Radius (mm or more)	Ref. Weight (g/m)	Std. Length (m)
50	50.8±1.0	53.8	20.0	0.018 [0.18]	-21.0 [-160]	60	330	2
65	65.5±1.0	69.0	20.0	0.015 [0.15]	-21.0 [-160]	70	420	
75	75.5±1.0	79.0	20.0	0.013 [0.13]	-21.0 [-160]	80	480	
90	91.0±1.0	94.5	24.0	0.010 [0.10]	-17.0 [-130]	95	545	
100	101.5±1.5	105.0	24.0	0.010 [0.10]	-15.0 [-115]	105	560	
125	126.0±1.5	129.5	24.0	0.010 [0.10]	-15.0 [-115]	125	700	
150	152.0±1.5	155.5	24.0	0.008 [0.08]	-13.0 [-100]	150	825	
(175)	177.0±2.0	180.5	24.0	0.006 [0.06]	-10.0 [-78]	175	1,060	
200	202.0±2.0	205.5	24.0	0.005 [0.05]	-9.0 [-70]	200	1,080	
250	253.5±2.5	257.0	24.0	0.003 [0.03]	-6.0 [-45]	255	1,400	
(275)	278.0±2.5	281.5	24.0	0.003 [0.03]	-6.0 [-45]	280	1,550	
300	304.0±3.0	307.5	24.0	0.002 [0.02]	-6.0 [-45]	305	1,650	

() are custom-made products.

Nipple for connecting with steel pipe or two hoses connecting is also available.

Please refer to P53.

Silicone Rubber Hoses

Heat resistant hose with air tightness.

Duct hose, cleaner hose, vacuum hose, and suction hose can be selected according to the application and usage conditions.

Silicone Rubber Duct Hose (Custom-made products.)

Since wire might be exposed from a hose end, hose should be handled carefully.

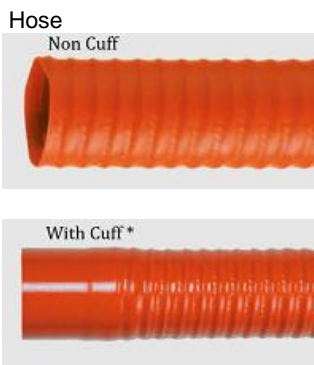
TS type

Features

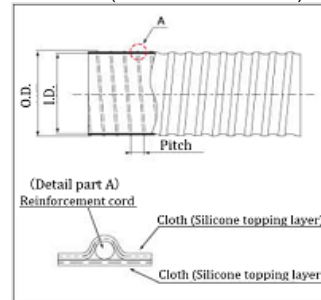
- Light weighted and flexible duct hose which is constructed of heat resistant fabric of polyester cloth (Tetron) coated with silicone rubber and reinforcing wire.
- Excels in heat and cold resistance, and can be used at -50 ~ 150°C.

Applications

- For conveying and exhaust of hot air, exhaust gas and etc.



Structure (Cross-Section View)



*Also able to make with cuff shape at the hose ends.

Dimension and property (SRDH[TS]/[GS]-□)

Nominal Dia. (φ)	I.D. (mm)	O.D. (mm)	Pitch (mm)
25	25.0	(28.0)	8.0
38	38.0	(41.0)	8.0
50	50.0	(53.0)	10.0
65	65.0	(68.0)	10.0
75	75.0	(79.0)	10.0
76	76.3	(80.0)	10.0
90	90.0	(94.0)	12.0
100	100.0	(104.0)	12.0
101	101.3	(105.0)	12.0
125	126.5	(132.0)	13.0
140	139.5	(145.0)	13.0
150	150.0	(155.0)	13.0
165	165.0	(170.0)	13.0
175	178.0	(183.0)	15.0
200	203.0	(208.0)	15.0
254	254.0	(259.0)	16.5

These above mentioned values are not guaranteed values, but standard values.

These standards may change without prior notice.

Standard length is 2m. For a diameter or length other than those mentioned above, please consult us. Outer diameter is not guaranteed value, but standard value.

GS type

Features

- Light weighted and flexible duct hose which is constructed of heat resistant glass cloth coated with silicone rubber and reinforcing wire.
- Excels in heat and cold resistance, and can be used at -50 ~ 200°C.

Applications

- For conveying and exhaust of hot air, exhaust gas and etc.



Silicone Rubber Cleaner Hose (Custom-made products.)

TSC type

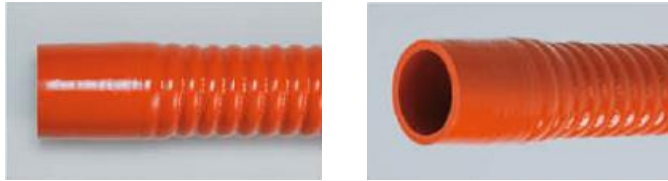
Features

- Light weighted and flexible cleaner hose constructed of heat resistant fabric of polyester cloth coated with silicone rubber, silicone rubber, and reinforcing wire.
- Excels in heat and cold resistance. Continuously usable temperature is -50°C~150°C.

Applications

- Suited for suction exhaust gas of solvent and etc.

Hose



Structure (Cross-Section View)



Dimension and property (SRDH[TS]/[GS]-□)

Nominal Dia. (φ)	I.D. (mm)	O.D. (mm)	Pitch (mm)
25	25.0	(28.0)	10.0
38	38.0	(46.0)	10.0
50	50.0	(59.0)	12.0
65	65.0	(74.0)	13.0
75	75.0	(84.0)	14.0
76	76.3	(85.0)	14.0
90	90.0	(101.0)	14.0
100	100.0	(111.0)	14.0
101	101.3	(112.0)	14.0
125	126.5	(139.0)	15.0
140	139.5	(152.0)	17.0
150	150.0	(163.0)	17.0
165	165.0	(178.0)	19.0
175	178.0	(191.0)	22.0
200	203.0	(216.0)	22.0

These above mentioned values are not guaranteed, but standard ones.

These standards may change without prior notice.

Standard length is 2m. For a diameter or length other than those mentioned above, please consult us.

GSC type

Features

- Light weighted and flexible duct hose constructed of heat resistant fabric of glass cloth silicone rubber, silicone rubber, and reinforcing wire.
- Excels in heat and cold resistance. Continuously usable temperature is -50°C~200°C.

Applications

- Suited for suction exhaust gas of solvent and etc.
Suited for suction exhaust gas of solvent and etc.

Silicone Rubber Vacuum Hose

(Custom-made products.)

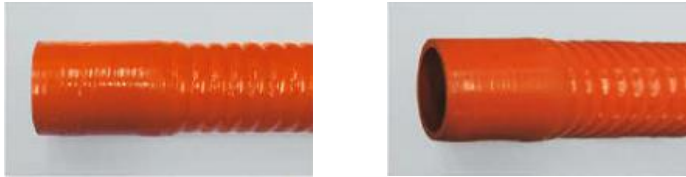
As custom-made, hoses with white color inner surface are also available. Please consult us.

TSV type

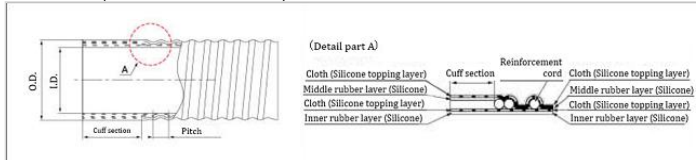
Features

- Duct hose which is constructed of heat resistant fabric of polyester cloth coated with silicone rubber and reinforcing wire.
- Excels in heat and cold resistance. Continuously usable temperature is -50°C~150°C.

Hose



Structure (Cross-Section View)



Applications

- Because there is a rubber layer in the hose inner surface, and used to suction that require wear resistance.

GSV type

Features

- Duct hose constructed of heat resistant fabric of glass cloth silicone rubber, silicone rubber, and reinforcing wire.
- Excels in heat and cold resistance. Continuously usable temperature is -50°C~200°C.

Applications

- Because there is a rubber layer in the hose inner surface, and used to suction that require wear resistance.

Dimension and property (SRDH[TS]/[GS]-□)

Nominal Dia. (φ)	I.D. (mm)	O.D. (mm)	Pitch (mm)
25	25.0	(36.0)	10.0
38	38.0	(49.0)	11.0
50	50.0	(62.0)	12.0
65	65.0	(76.0)	13.0
75	75.0	(86.0)	14.0
76	76.3	(87.0)	14.0
90	90.0	(102.0)	14.0
100	100.0	(113.0)	14.0
101	101.3	(114.0)	14.0
125	126.5	(141.0)	15.0
140	139.5	(154.0)	17.0
150	150.0	(164.0)	17.0
165	165.0	(179.0)	19.0
175	178.0	(192.0)	22.0
200	203.0	(217.0)	22.0
254	254.0	(268.0)	22.0

These above mentioned values are not guaranteed, but standard ones.

These standards may change without prior notice.

Standard length is 2m. For a diameter or length other than those mentioned above, please consult us.

Silicone Rubber Suction Hose

(Custom-made products.)

As custom-made, hoses with white color inner surface are also available. Please consult us.

TSH type

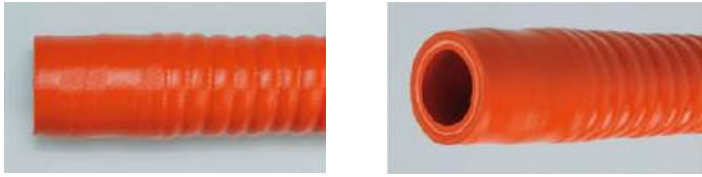
Features

- Duct hose constructed of heat resistant fabric of glass cloth silicone rubber, silicone rubber, and reinforcing wire.
- Excels in heat and cold resistance. Continuously usable temperature is -50°C~200°C.
- Excels in abrasion resistance and pressure resistance due to three rubber layers in hose inner, middle and outer ones.

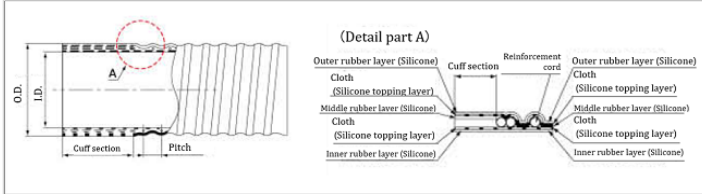
Applications

- Used for suction and pumping of particulate material and liquid at high temperatures.

Hose



Structure (Cross-Section View)



GSH type

Features

- Duct hose constructed of heat resistant fabric of glass cloth silicone rubber, silicone rubber, and reinforcing wire.
- Excels in heat and cold resistance. Continuously usable temperature is -50°C~200°C.
- Excels in abrasion resistance and pressure resistance due to three rubber layers in hose inner, middle and outer ones.

Applications

- Used for suction and pumping of particulate material and liquid at high temperatures.

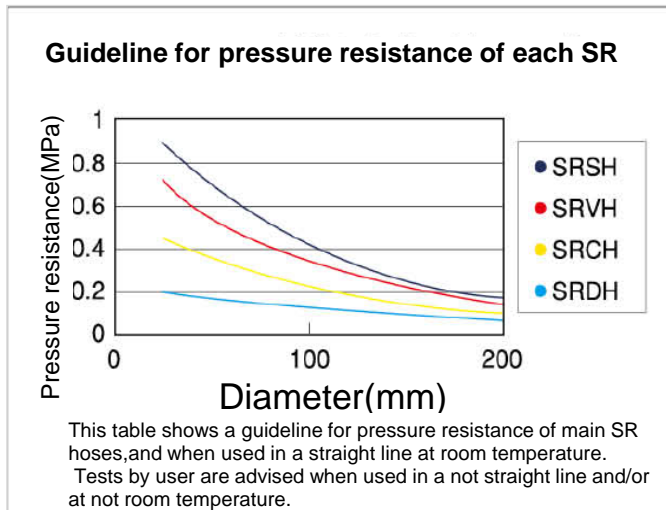
Dimension and property (SRDH[TS]/[GS]-□)

Nominal Dia. (φ)	I.D. (mm)	O.D. (mm)	Pitch (mm)
25	25.0	(43.0)	10.0
38	38.0	(57.0)	11.0
50	50.0	(69.0)	12.0
65	65.0	(84.0)	13.0
76	76.3	(96.0)	14.0
90	90.0	(110.0)	14.0
100	100.0	(120.0)	14.0
101	101.3	(121.0)	14.0
125	126.5	(147.0)	15.0
140	139.5	(160.0)	17.5
150	150.0	(170.0)	17.5
165	165.0	(185.0)	20.0

These above mentioned values are not guaranteed, but standard ones.

These standards may change without prior notice.

Standard length is 2m. For a diameter or length other than those mentioned above, please consult us.



Non-PVC Hoses

Eco-friendly, flexible, and lightweight.

Ti-Eco Light Hose FF type (Custom-made products.)

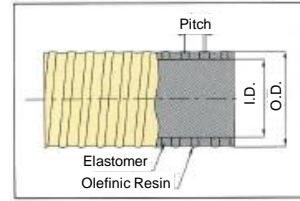
Features

- We use environmental-friendly materials without using phthalate plasticizers.
- Lightweight makes it easy to be handled.
(About 30% lighter in weight than our current PVC products.)
- Complies with Standard of Apparatus, Containers and Packaging based on Japanese Ministry of Health, Labour and Welfare Notification No.370, Food Sanitation Act.
(Except for fat oil and fatty foods.)

Hose



Structure (Cross-Section View)



Sizes and properties (ELFF-□)

Nominal Dia. (φ)	I.D. (mm)	O.D. (mm)	Pitch (mm)	Working Pressure (20°C) MPa or less/ [kgf/cm ² or less]	Deformation Temp. (at -0.1MPa) (°C)※	Bending Radius (mm or more)	Ref. Weight (g/m)	Std. Length (m)
38	38.1±1.0	45.7	7.0	0.20 [2.0]	95.0	450	435	20
50	50.8±1.0	59.2	8.0	0.20 [2.0]	75.0	560	625	
75	76.2±1.0	86.4	9.0	0.15 [1.5]	65.0	900	1,155	
100	101.6±1.5	116.0	14.0	0.10 [1.0]	60.0	1,500	2,100	

Applications

- For general suction and draining.
- For suction and draining of agriculture, civil engineering work and etc.
- For food.
(Except for fat oil and fatty foods.)

Ti-Eco Light Hose WT type

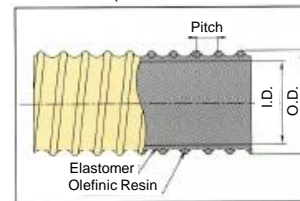
Features

- We use environmental-friendly materials without using phthalate plasticizers.
- Spiral shape of outside, good flexibility and lightweight make it easy to be handled.
(About 30% lighter in weight than our current PVC products.)
- Complies with Standard of Apparatus, Containers and Packaging based on Japanese Ministry of Health, Labour and Welfare Notification No.370, Food Sanitation Act.
(Except for fat oil and fatty foods.)

Hose



Structure (Cross-Section View)



Sizes and properties (ELWT-□)

Nominal Dia. (φ)	I.D. (mm)	O.D. (mm)	Pitch (mm)	Working Pressure (20°C) MPa or less/ [kgf/cm ² or less]	Deformation Temp. (at -0.1MPa) (°C)※	Bending Radius (mm or more)	Ref. Weight (g/m)	Std. Length (m)
38	38.1±0.5	47.5	9.5	0.10 [1.0]	70.0	100	360	20
50	50.8±1.0	62.0	11.0	0.10 [1.0]	70.0	120	565	
65	63.5±1.0	76.5	13.5	0.10 [1.0]	70.0	150	735	
75	76.2±1.0	91.5	15.0	0.10 [1.0]	70.0	200	1050	
100	101.6±1.5	120.0	16.5	0.10 [1.0]	70.0	300	1630	

Applications

- For general suction and draining.
(particularly suitable for suction)
- For food.
(Except for fat oil and fatty foods.)

Ti-Eco Light Hose Antistatic W type

Features

- Excels in static prevention effects by use of antistatic build-up material and conductive fiber.
- We use environmental-friendly materials without using phthalate plasticizers.
- Spiral shape of outside, good flexibility and lightweight make it easy to be handled. (About 30% lighter in weight than our current PVC products.)
- Complies with Standard of Apparatus, Containers and Packaging based on Japanese Ministry of Health, Labour and Welfare Notification No.370, Food Sanitation Act. (Except for fat oil and fatty foods.)

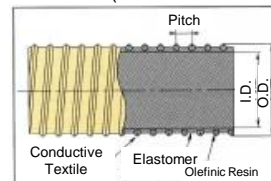
Applications

- Conveying of plastic pellets.
- Conveying of powders and grains.
- For food. (Except for fat oil and fatty foods.)

Hose



Structure (Cross-Section View)



Sizes and properties (ELW [D] -□)

Nominal Dia. (φ)	I.D. (mm)	O.D. (mm)	Pitch (mm)	Working Pressure (20°C) MPa or less/ [kg/cm ² or less]	Deformation Temp. (at -0.1MPa) (°C)※	Bending Radius (mm or more)	Ref. Weight (g/m)	Std. Length (m)
25	25.0±0.5	33.0	7.6	0.10 [1.0]	70	70	185	20
38	38.1±0.5	48.0	9.5	0.10 [1.0]	70	100	360	
48.6	49.0±1.0	60.0	11.0	0.10 [1.0]	70	120	540	
50	50.8±1.0	62.0	11.0	0.10 [1.0]	70	120	560	
60	60.5±1.0	73.0	13.5	0.10 [1.0]	70	150	730	
65	63.5±1.0	76.5	13.5	0.10 [1.0]	70	150	760	
75	76.2±1.0	91.0	15.0	0.10 [1.0]	70	200	1,100	
100	101.6±1.5	119.5	16.5	0.10 [1.0]	70	300	1,660	

Ti-Eco Light Hose GL type

Features

- Resistant to repeated bending.
- Lightweight and excels in flexibility.
(About 40% lighter in weight than our current PVC products.)
- We use environmental-friendly materials without using phthalate plasticizers.
- Complies with Standard of Apparatus, Containers and Packaging based on Japanese Ministry of Health, Labour and Welfare Notification No.370, Food Sanitation Act.
(Except for fat oil and fatty foods.)

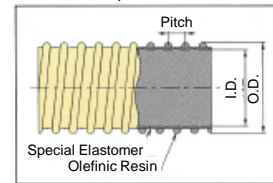
Applications

- Duct for general air induction and exhaust.
- Duct for exhaust ventilation for general industrial machinery.
- Duct for air conditioning.

Hose



Structure (Cross-Section View)



Sizes and properties (ELGL-□)

Nominal Dia. (φ)	I.D. (mm)	O.D. (mm)	Pitch (mm)	Working Pressure (20°C) MPa or less/ [kgf/cm ² or less]	Allowable Reduced Pressure (20°C) KPa or less/ [mmHg or less]	Bending Radius (mm)	Ref. Weight (g/m)	Std. Length (m)
32	32.0±1.0	39.5	8.0	0.06 [0.6]	-40.0 [-300]	50	180	20
38	38.1±1.0	45.6	9.0	0.06 [0.6]	-40.0 [-300]	50	195	
50	50.8±1.0	58.5	12.0	0.05 [0.5]	-40.0 [-300]	60	225	
65	63.5±1.0	71.8	12.0	0.04 [0.4]	-20.0 [-150]	70	325	
75	76.2±1.0	85.2	14.5	0.04 [0.4]	-20.0 [-150]	90	390	
90	89.0±1.5	98.2	14.5	0.03 [0.3]	-15.0 [-113]	100	475	
100	101.6±1.5	110.8	14.5	0.03 [0.3]	-15.0 [-113]	110	540	

*Exclusive cuffs are also available.

Other Hoses

Hoses developed for special applications.

Tiflex Hose NH-1 type (Custom-made products.)

Features

- Excels in stretchability, bending, and also heat resistance.
 - Able to improve the working efficiency, reduce the transportation cost significantly and save the inventory space because it excels in durability and can be contacted to 1/4 in length.
 - Light in weight and excels in noise reduction and condensation prevention performance by use of special flame retardant fabric as liner material.
- * Qualified product as MLIT noncombustible material (Ministry of Land, Infrastructure, Transport and Tourism). No. NM-0601

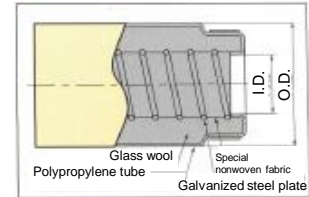
Applications

- Air-conditioning branch pipe of large-scale architectural structure.
 - Various types of air-conditioning branch pipe.
- * Air-conditioning duct hose which is a qualified product of MLIT noncombustible material.
- * Please refer to P65 for pressure loss data.

Hose



Structure (Cross-Section View)



Sizes and properties (NH1-□)

Nominal Dia. (φ)	90 Degrees Minimum Bending Radius (mm)	Product Length (m)
100	190	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
125	230	
150	270	
175	300	
200	450	
225	500	
250	550	
275	600	
300	650	
350	920	
400	1,050	

* Please consult us for lengths other than those mentioned above.

Hinet Hose

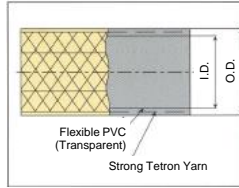
Features

- Excellent transparency making it possible to confirm the contents.
- No elongation observed under pressure due to warp reinforcement.
- Excels in cold resistance, heat resistance, and chemical resistance.
- Complies with Standard of Apparatus, Containers and Packaging based on Japanese Ministry of Health, Labour and Welfare Notification No.370, Food Sanitation Act.
(Except for fat oil and fatty foods.)

Hose



Structure (Cross-Section View)



Applications

- Water supplying and draining for equipments.
- For piping and drain hose of pneumatic/air-conditioning equipment.
- For washing of ship, vehicle and etc.
- For conveying of powders, grains, chemicals and etc.
- For sprayer.
- For civil engineering and construction.
(Please consult us on hoses for special usage such as shower hoses and etc.)

Sizes and properties (HINET-□)

Nominal Dia. (φ)	I.D. x O.D. (mm)	Working Pressure (20°C) MPa or less/ [kg/cm ² or less]	Bending Radius (mm or more)	Ref. Weight (g/m)	Std. Length (m)
4	4.0 x 9.0	1.0[10.2]	35	65	100
6	6.0 x 11.0	1.0[10.2]	40	85	
8	8.0 x 13.5	1.0[10.2]	55	110	
9	9.0 x 15.0	1.0[10.2]	60	140	
10	10.0 x 16.0	1.0[10.2]	70	160	
12	12.0 x 18.0	1.0[10.2]	75	170	50, 100
15	15.0 x 22.0	0.8[8.2]	95	245	
19	19.0 x 26.0	0.8[8.2]	135	310	50
25	25.0 x 33.0	0.6[6.1]	165	440	
32	32.0 x 41.0	0.6[6.1]	210	650	
38	38.0 x 48.0	0.5[5.1]	255	840	
50	50.0 x 62.0	0.5[5.1]	380	1,280	40

Fitting Method with Duct Hoses

Put a hose directly in fitted hose or use cuffs.

In case that outer diameter of a fitted hose is larger than inner diameter of a hose, a cuff must be used because diameter of the hose cannot be expanded.

Use spiral wire band when not use a cuff.

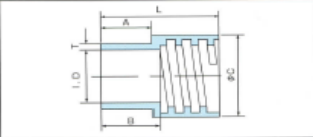
Wire band and ABA band is also applicable when use a cuff.

Cuff for Tiflex Hose GL type, GL-E type, and GL-ST type

Cuff



Structure (Cross-Section View)



Sizes

Nominal Dia. (φ)	I.D. (mm)	L (mm)	A (mm)	B (mm)	T (mm)	φC (mm)	Material
25	25	55	27	30	2	38	Soft Polyvinyl Chloride (Gray)
32	32	65	37	40	2	45	
38	38	71	37	40	3	53	
50	50	73	37	40	3	68	
65	65	74	38	40	3	80	
75	75	80	40	42	3	95	
90	90	87	44	46	3	106	
100	100	106	53	55	3.5	119	
125	125	132	63	66	4	145	
150	150	162	83	86	3.5	173	
200	200	230	110	125	5	222	Synthetic Rubber (EPDM: Gray)

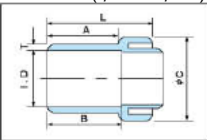
* Please consult us for sizes other than those mentioned above.

Cuff for Tiflex Hose N type

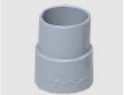
φ 16~ φ 32



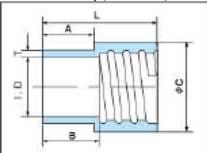
Structure (φ 16~ φ 32)



φ 38~ φ 250



Structure (φ 38~ φ 250)



Sizes

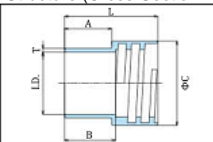
Nominal Dia. (φ)	I.D. (mm)	L (mm)	A (mm)	B (mm)	T (mm)	φC (mm)	Material
16	15.8	35	23	23	2	25.5	Soft Polyvinyl Chloride
19	19.5	42	25	25	2	29	
25	25	45	24	21	2	37	
32	32.5	50	28	28	2.5	41.5	
38	38	75	36	40	3	48	
45	45	65.5	27.3	30	3	59	
50	50	75	37	40	3	64.5	
65	65	81	43	45	3	77.5	
75	75	80	42	45	3	89.5	
90	90	89	45	48	3	102.7	
100	100	96	48	50	3	117.8	
125	125	105	45	49	3.5	142.5	
150	150	160	81	85	4	169	
200	200	230	110	125	5	222	Synthetic Rubber (EPDM: Gray)
250	250	128	64	64	5	268	Synthetic Rubber (EPDM: Black)

* Please consult us for sizes other than those mentioned above.

Cuff for Tiflex Hose Abrasion Resistant GL type



Structure (Cross-Section View)



Sizes

Nominal Dia. (φ)	I.D. (mm)	L (mm)	A (mm)	B (mm)	T (mm)	φC (mm)	Material
38	38	71	37.5	40	3	51	Synthetic Rubber (EPDM: Black)
50	51	75	37	40	3	67.3	

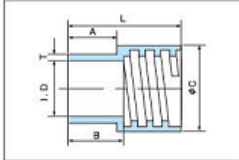
*The hose for right-handed winding

Cuff for Ti-Eco Light Hose GL type

Cuff



Structure (Cross-Section View)



Sizes

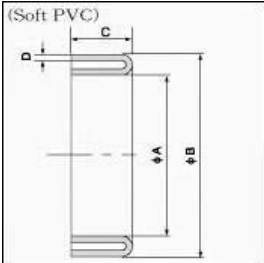
Nominal Dia. (φ)	I.D. (mm)	L (mm)	A (mm)	B (mm)	T (mm)	φ C (mm)	Material
32	32	65	37	40	2	45	Elastomer (White)
38	38	71	37.5	40	3	53	
50	50	73	37	40	3	68	
65	65.5	73.8	37.8	40	3	79.5	
75	75	80	40	42	3	96	
90	90	86.5	43.5	46	3	107	
100	100	106	52.5	55	3.4	120	

End Cuff for Tiflex Hose A type

End Cuff



Structure (Cross-Section View)



Sizes

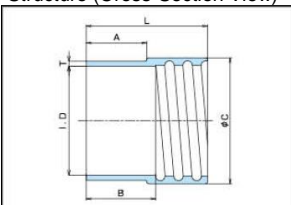
Nominal Dia. (φ)	φ A (mm)	φ B (mm)	C (mm)	D (mm)	Material
55	51	64	18	2.0	Soft Polyvinyl Chloride (Black)
65	61	74	18	2.0	
75	71	84	18	2.0	
90	86	99	20	2.0	
100	94	109	20	2.4	
125	119	134	23	2.4	
150	144	159	23	2.4	
175	169	184	23	2.4	
200	199	214	23	2.4	

Cuff for Tiflex Hose P type, P-2 type & Flame Retardant P type

Cuff



Structure (Cross-Section View)



Sizes

Nominal Dia. (φ)	I.D. (mm)	L (mm)	A (mm)	B (mm)	T (mm)	φ C (mm)	Material
38	38	70	35	40	3	48	Synthetic Rubber (P type, P-2 type: EPDM) (Flame Retardant P type: CR)
50	50	70	35	40	3	62	
65	65	70	35	40	3	75	
75	75	80	40	45	3	87	
90	90	85	43	48	3	99	
100	100	90	45	50	3	113	
125	125	95	45	49	3.5	139	
150	150	100	50	55	3	163	
200	200	100	48	52	5	214	
250	250	128	64	64	5	268	
300	300	160	64	64	5	317	

* Color: P type (Dark Brown), P-2 type (White), Flame Retardant P type (Black)

Connector for Heat Resistant Hose

Connector for Heat Resistant Hose

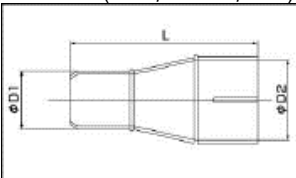
For ϕ 100~ ϕ 300



Sizes

Hose Diameter (ϕ)	ϕ D1 (mm)	ϕ D2 (mm)	L (mm)	Different Type Pipe Std. O.D. (mm)	Material
100	100	119	235	114.3	Galvanized Steel Sheet or SUS304
125	125	144	235	139.8	
150	150	170	275	165.2	
200	200	220	275	216.3	
250	250	272	275	267.4	
300	300	323	275	318.5	

Structure (For ϕ 100~ ϕ 300)



Also available for general duct hose

Nipple

Nipple

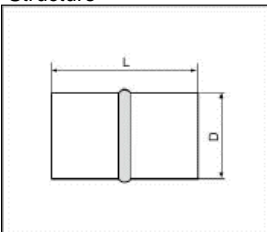


Sizes

Hose Diameter (ϕ)	ϕ D (mm)	L (mm)	Material
50	49	94	Galvanized Steel Sheet or SUS304
75	74	130	
100	98	130	
125	123	130	
150	148	170	
(175)	173	170	
200	198	170	
250	248	170	
(275)	273	170	
300	298	170	

The nipple of SUS ϕ 50 is custom-made product. And ϕ D with 49.4. () are custom-made products.

Structure



Also available for general Tiflex duct hoses

Fitting Method of Metal Fixture

Please specify the metal fixture such as
 < Joint Sleeves with JIS 5kgf / 10kgf
 Flange, Couplers with S / M shape collar
 for Victaulic Couplings, or etc.>

Tigers Polymer Corporation shall not be liable for any accidents caused by fall-off etc. of the fixture in the case of fixtures fitted by any party other than us. Thorough care should be observed when fitting at work sites.

R-Power Band Tightening



Fitting at work site is possible by cutting long lengths.

R-Power Band Tightening & Welding



Type with steel rods for welding to prevent from sudden fall-off of fixture caused by hammering pressure

Inner Coupler Expansion type



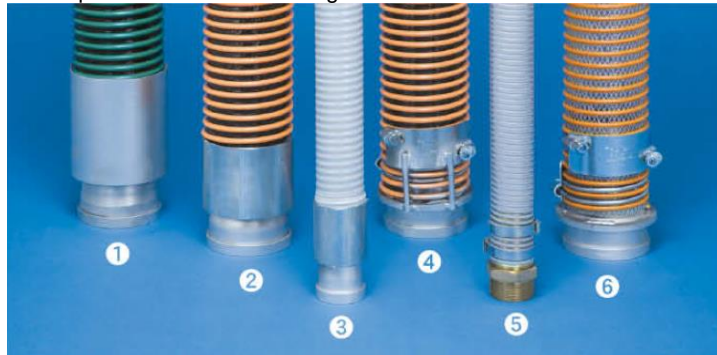
Outer Socket Caulking type



Free of concern of fall-off of fixture by mechanical caulking of coupler and socket. Also, the outer surface of the fixture is free of projections making handling safe and easy.

Example of Metal Fixture Fitting

- (1) Coupler with S shape collar for inner coupler expansion + spring socket
- (2) Coupler with S shape collar for outer socket caulking + socket
- (3) Coupler with S shape collar for inner coupler expansion + socket
- (4) Coupler with S shape collar + R-power band 2 pieces tightening + steel rods welding
- (5) M-1 metal fixture + Punch band 2 pieces tightening
- (6) Coupler with S shape collar + R-power band 2 pieces tightening



Standard Combination Table of Fixture and Clamp

Fixture and Clamp (Tightening Method)	WR-S	WR	FC FC20	WSU	WS	O/R WS	F-3	E A.R.E	O/R F SF	WT	Antistatic W	WA	A/R W	Applicable Hose Size
Inner Coupler Expansion (With Spring Socket)	◎	◎			◎									WR-S, WR: φ100 or more (*N/A WRφ125) WS: φ250 or more (*N/A φ350)
Inner Coupler Expansion	◎	◎	◎											φ75 or less
Outer Socket Caulking	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	φ19~φ200(Except φ90) E, A/R E: φ100 or less(Except φ90)
R-Power Band		○		○	○	○				◎		◎	◎	WT Right handed, WA, A/R W: φ90 or more WS, O/R WS: φ75 or more
L-Power Band										◎	◎			WT Left-handed: φ115 Antistatic W: φ90 or more
SY Band					○	○				◎		◎	◎	WS, O/R WS: φ65 or less WT Right-handed, WA, A/R W: φ75 or less
LS Band										◎	◎			WT Left-handed: φ48.6, φ60 Antistatic W: φ75 or less
ABA Band					○	○	◎	◎	◎	○	○	○	○	F-3, E, A/R E, SF, O/R F, WT, Antistatic W, A/R W: φ65 or less WS, O/R WS, WA: φ50 or less
Breeze High Torque Band							◎	◎	◎					φ75~φ150 (Except φ90)
Punch Band Expamet Band					○	○	○	○	○	○	○	○	○	φ48.6~φ200 WS, O/R WS: φ50~φ100

◎ : Usable with working pressure for each applicable hose

○ : Usable with 70 percent or less of working pressure for each applicable hose

*O/R : Oil Resistant.

*A/R : Abrasion Resistant.

Note) This table specifies the combinations in case of using our standard couplers with S shape collar or joint sleeves with JIS flange.

In case that the other commercially available metal fixtures are used, please consult us in advance because there might be a case that a hose can not be used with its working pressure or the metal fixture can not be fitted to a hose.

For tightening the R-power band of WR hose, please refer to the allowable pressure for each metal fitting mounting method on page 14.

For duct hoses, it is not possible to fit fixtures with inner coupler expansion or outer socket caulking.

Couplers with
G Shape Collar
for Victaulic



Couplers with
S Shape Collar
for Victaulic



Joint Sleeves with Flange



Threaded Hose Nipples
(M-1 Metal Fixture)



Quick-Acting
Couplers with Locking Lever /



Quick-Acting
Couplers / Adapters
(633CT/633ET)



Spiral Wire Double Bolt Clamps
(R-Power Band)
For right-handed Hose



Spiral Wire Double Bolt
Clamps (L-Power Band)
For left-handed hose



Metal Plate Clamps
(Expamet Band)



Metal Plate Clamps
(Punch Band)



Metal Plate Bolt Clamps
(ABA Band)



Spiral Wire Bolt Clamps
(LS Band)



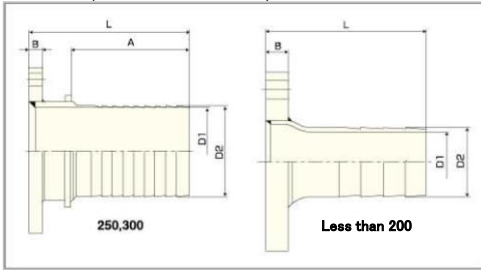
Wire Bolt Clamps
(Wire Band)



Metal Fixture for Hose Fitting (Dimension Table)

Joint Sleeves with JIS Flange

Structure (Cross-Section View)

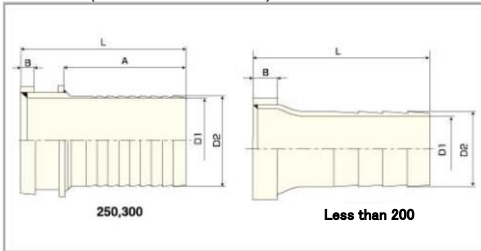


Sizes

Nominal Size (Φ)	A (mm)	B		D1 (mm)	D2 (mm)	L (mm)
		5kgf Flange (mm)	10kgf Flange (mm)			
25	—	10	14	21	27	90
38	—	12	16	32	37.6	130
50	—	14	16	44	50.3	152
65	—	14	18	56.5	63	155
75	—	14	18	68	75.8	160
100	—	16	18	93	101.0	175
125	—	16	20	118	126.5	205
150	—	18	22	143	152.0	230
200	—	20	22	189	203.0	210
250	237	22	24	250	255	323
300	280	22	24	298	306	366

Couplers with S shape collar for Victaulic Couplings

Structure (Cross-Section View)

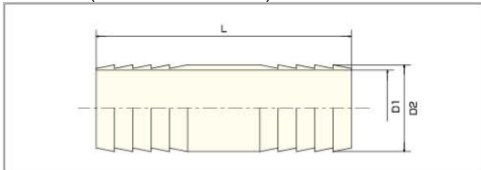


Sizes

Nominal Size (Φ)	A (mm)	B (mm)	D1 (mm)	D2 (mm)	L (mm)
25	—	15	21	27	90
38	—	15	32	37.6	130
50	—	15	44	50.3	152
65	—	15	56.5	63	155
75	—	15	68	75.8	160
100	—	16	93	101	175
125	—	16	118	126.5	205
150	—	16	143	152	230
200	—	19	189	203.0	210
250	237	19	250	255.0	323
300	280	19	298	306.0	366

Hose Nipples HN Type 【Material: Iron】

Structure (Cross-Section View)

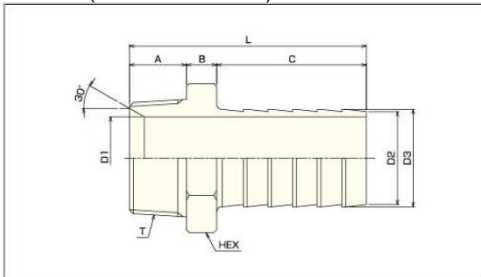


Sizes

Nominal Size (Φ)	D1 (mm)	D2 (mm)	L (mm)
50	48.0	51.0	120
65	60.0	63.5	140
75	74.5	77.0	181
100	97.0	101.0	221
125	121.0	127.0	235
150	146.0	152.0	251
200	197.0	203.0	315

Threaded Hose Nipples (M-1 Metal Fixture)

Structure (Cross-Section View)

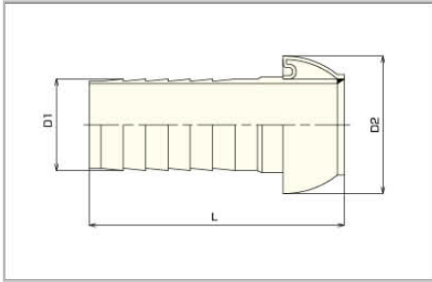


Sizes

Nominal Size (Φ)	T (mm)	A (mm)	B (mm)	C (mm)	E (mm)	D1 (mm)	D2 (mm)	D3 (mm)	L (mm)
6	R1/4	13	8	36	8.5	4	6.0	7.5	57
9	R3/8	15	9	39	9.0	6	9.2	10.5	63
12	R1/2	18	10	44	10.0	9	12.5	14.0	72
19	R3/4	20	12	53	12.0	16	19.0	20.5	85
25	R1	22	12	58	13.0	21	25.0	27.0	92
32	R1-1/4	25	15	65	14.5	27	32.0	34.0	105
38	R1-1/2	26	15	76	14.0	31	38.0	40.3	117
50	R2	30	16	79	14.5	44	49.5	52.0	125
65	R2-1/2	33	18	99	15.0	56	62.5	65.0	150
75	R3	38	18	114	17.0	69	74.5	77.5	170
100	R4	45	22	153	21.5	88	97.0	102.0	220

Quick-Acting Couplers with Locking Lever / Adapters

Structure (Cross-Section View)



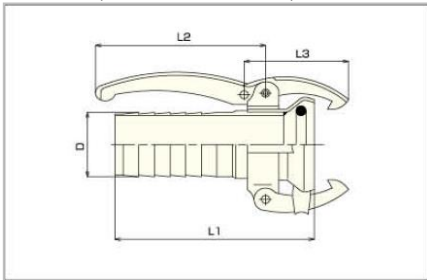
VN Hose Connect Type Sleeve
(Male)

Sizes

Nominal Size (Φ)	D1 (mm)	L (mm)	D2 (mm)	Working Pressure (MPa or less)
VN50 × 38	38.1	155	75	1.17
50 × 50	52	155	75	1.17
70 × 65	63.5	165	100	1.17
89 × 75	76.3	185	134	1.17
108 × 100	101	206	157	0.98
133 × 125	126.5	227	177	0.78
159 × 150	152	255	210	0.78

*Check the allowable pressure of the hose and metal fittings before use.

Structure (Cross-Section View)



MN Hose Connect Type Sleeve
(Female)

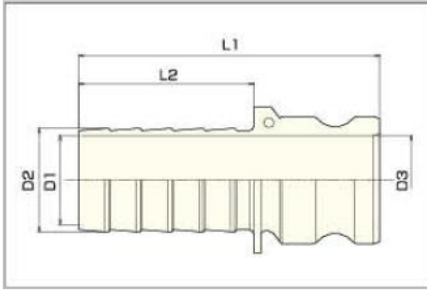
Sizes

Nominal Size (Φ)	D (mm)	L1 (mm)	L2 (mm)	L3 (mm)	Working Pressure (MPa or less)
MN50 × 38	38.1	182	130	90	1.17
50 × 50	52	179	130	90	1.17
70 × 65	63.5	192	150	110	1.17
89 × 75	76.3	220	175	126	1.17
108 × 100	101	240	212	143	0.98
133 × 125	126.5	264	212	143	0.78
159 × 150	152	292	212	143	0.78

*Check the allowable pressure of the hose and metal fittings before use.

Camlock (K633ET)

Structure (Cross-Section View)



Sizes [Aluminium]

Nominal Size (Φ)	D1 (mm)	D2 (mm)	D3 (mm)	L1 (mm)	L2 (mm)	Working Pressure (MPa or less)
38	31	38	34	126	72	1.80
50	43	51	44	143	83	1.80
65	55	64	55	154	90	1.10
75	67	77	72	168	104	0.90
100	92	102	85	183	113	0.70
125	117	127	115	206	127	0.50
150	142	152	149	221	143	0.50

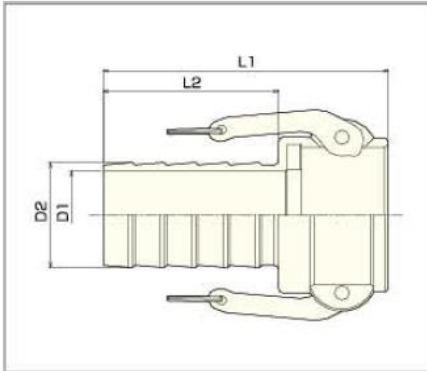
*Check the allowable pressure of the hose and metal fittings before use.

Sizes [Stainless]

Nominal Size (Φ)	D1 (mm)	D2 (mm)	D3 (mm)	L1 (mm)	L2 (mm)	Working Pressure (MPa or less)
25	20	25	22	126	80	1.80
32	26	32	27	137	85	1.80
38	31	38	35	159	87	1.80
50	43	51	43	174	98	1.80
65	55	64	55	188	105	1.60
75	67	77	71	203	120	1.40
100	92	102	94	219	128	1.10

Camlock (K633CT)

Structure (Cross-Section View)



Sizes [Aluminium]

Nominal Size (Φ)	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	Working Pressure (MPa or less)
38	31	38	118	72	1.80
50	43	51	135	83	1.80
65	55	64	146	90	1.10
75	68	77	163	104	0.90
100	90	102	173	113	0.70
125	117	127	189	127	0.50
150	142	152	211	143	0.50

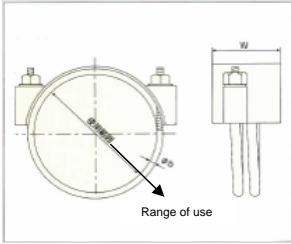
*Check the allowable pressure of the hose and metal fittings before use.

Sizes [Stainless]

Nominal Size (Φ)	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	Working Pressure (MPa or less)
25	20	25	121	80	1.80
32	26	32	132	85	1.80
38	31	38	152	87	1.80
50	43	51	167	98	1.80
65	55	64	180	105	1.60
75	67	77	199	120	1.40
100	92	102	210	128	1.10

Spiral Wire Double Bolt Clamps

R-Power Band (for right-handed hose) Structure (Cross-Section View)

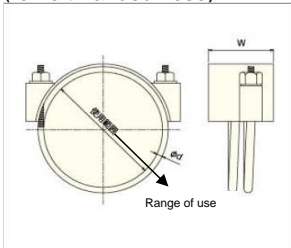


Sizes

Item No.	Range of Use (mm)	W (mm)	φd (mm)	Applicable Hose	Applicable Hose Size (φ)
RP-38	50-40	50	5	WR	38
RP-50M	60-50	50	5	WR	50
RP-65M	73-58	50	5	WA, WS, WR	65
RP-75M	87-72	60	7	WT, WA, WS, WR, A/R W	75
RP-90	100-85	60	7	WT, WA, A/R W	90
RP-100A	118-98	60	7	WT, WA, WS, WR, A/R W	100
RP-115	132-112	60	9		115
RP-125M	143-123	70	9	WT, WA, WS, WR, A/R W	125
RP-150A	173-148	70	9	WT, WA, WS, WR, A/R W	150
RP-200	229-199	80	9	WT, WA, WS, WR	200
RP-250	285-245	90	9	WS, WR	250
RP-300	340-300	90	9	WS, WR	300

* A/R : Abrasion Resistant.

L-Power Band (for left-handed hose)

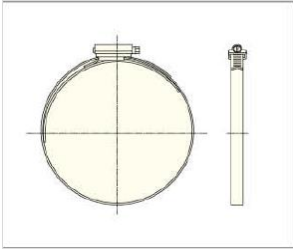


Sizes

Item No.	Range of Use (mm)	W (mm)	φd (mm)	Applicable Hose	Applicable Hose Size (φ)
LP-38	50-40	50	5		38
LP-50M	60-50	50	5		50
LP-65M	73-58	50	5	Antistatic W	65
LP-75M	87-72	60	7	Antistatic W	75
LP-90	100-85	60	7	Antistatic W	90
LP-100A	118-98	60	7	Antistatic W	100
LP-115	132-112	60	9	WT	115
LP-125M	143-123	70	9		125
LP-150A	173-148	70	9		150
LP-200	229-199	80	9		200
LP-250	285-245	90	9		250
LP-300	340-300	90	9		300

Breeze High Torque Band

Structure (Cross-Section View)



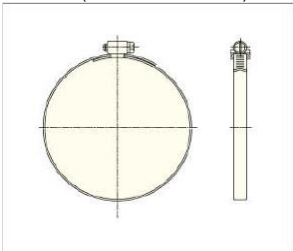
Sizes

Item No.	Range of Use (mm)	Applicable Hose	
		Item Name	Size
HTM350LB/75	70 ~ 92	F-3, E, A/R E	75
HTM500LB/100	108 ~ 130	F-3, E, A/R E	100
HTM600LB/125	133 ~ 156	F-3, E, A/R E	125
HTM700LB/150	159 ~ 191	F-3, E, A/R E	150

* A/R : Abrasion Resistant.

Tridon Band

Structure (Cross-Section View)



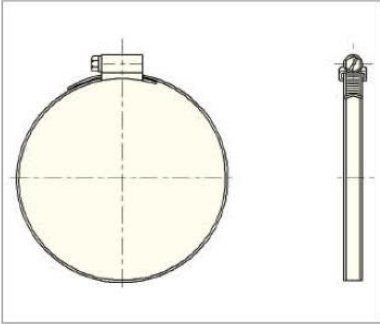
Sizes

Item No.	Range of Use (mm)	Cuff Size of Applicable Duct	Applicable Hose			
			Item Name	Size	Item Name	Size
8	11-25	16				
10	14-27	19	F-3	19		
12	14-32	25	F-3	25		
16	17-38		SF, Oil Resistant F	25		
20	19-44	32	F-3, E, SF, Oil Resistant F	32		
24	27-51	38	F-3, E, SF, Oil Resistant F, AP	38		
28	33-57		E	45		
32	40-63	50	E	48.6	V, F-3, E, SF, Oil Resistant F, AP	50
36	46-70					
40	52-76	65	V type	65		
44	59-82					
48	65-89	75	V type, AP type	75		
56	78-101	90	V type	90		
60	84-108					
64	64-114	100	V type, AP type	100		
72	76-127					
84	95-146	125	V type, AP type	125		
88	102-152					
96	114-165	150	V type	150		
104	127-178		AP type	150		
128	155-216		V type	175	V type	200
152	204-253	200	AP type	200		
188	260-311	300	V type	275	V type	300

ABA Wire Band

ABA Band

Structure (Cross-Section View)

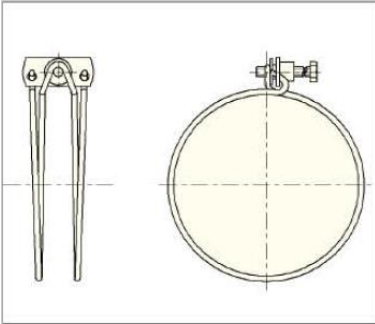


The applicable hose and cuff size are shown as a guide when inserting a nipple with an outer diameter that is approximately equal to the inner diameter of the hose and mouth. When using a nipple with a large outer diameter, it may not be possible to use it, so please contact us.

Sizes

Item No.	Range of Use (mm)	Cuff Size of Applicable Duct	Applicable Hose			
			Item Name	Size	Item Name	Size
8-14	8-15					
11-17	10-17					
13-20	12-22	16				
15-24	15-25	19				
19-28	19-29		F-3	19		
22-32	22-33	25	F-3	25		
26-38	26-39	32	SF, Oil Resistant F	25	F-3	32
32-44	32-45	38	E, SF, Oil Resistant F	32	F-3, AP	38
38-50	38-51		E, SF, Oil Resistant F	38		
44-56	44-57	50	E	45		
50-65	50-66		E	48.6	V, F-3, E, SF, Oil Resistant F, AP	50
58-75	58-76	65	V	65		
68-85	68-86	75	V, AP	75		
77-95	77-96	90	V	90		
87-112	87-113	100	V, AP	100		
104-138	106-139	125	V, AP	125		
130-165	132-166	150	V, AP	150		
150-180	150-181		V	175		
175-205	175-206		V	200		
200-231	200-232	200	AP	200		
226-256	226-257		V	250		
251-282	251-283	250	V	275		
277-307	277-308	300	V	300		

Wire Band
(for hose with Cuff)
Structure (Cross-Section View)



Sizes

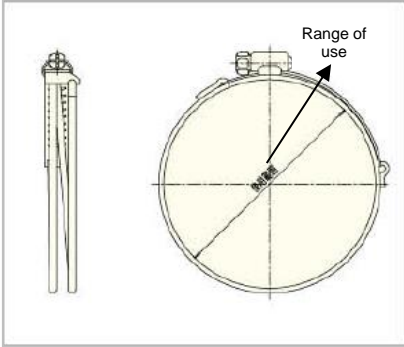
Item No.	Range of Use (mm)	Cuff Size of Applicable Duct	Applicable Hose	
			Item Name	Size
10	10-8			
12	12-10			
13	13-11			
14	14-12			
15	15-13			
16	16-14			
18	18-16			
19	19-17	16		
20	20-17			
22	22-19			
24	24-21	19		
25	25-22			
26	26-23		F-3	19
28	28-25			
30	30-27	25	F-3	25
32	32-29		SF, Oil Resistant F	25
34	34-31		E	25
36	36-32			
38	38-35	32	F-3	32
40	40-36		E, SF, Oil Resistant F	32
42	42-38			
44	44-40	38	F-3	38
46	46-42		SF, Oil Resistant F	38
48	48-44		E	38
50	50-46			
52	52-47			
54	54-49			

Item No.	Range of Use (mm)	Cuff Size of Applicable Duct	Applicable Hose	
			Item Name	Size
56	56-51	50	E	45
58	58-53		E	48.6
			F-3	50
60	60-55		SF	50
64	64-59		E, Oil Resistant F	50
68	68-63			
70	70-65			
75	75-70	65		
80	80-75			
85	85-78	75		
90	90-82			
95	95-88			
100	100-92	90		
105	105-95			
110	110-100	100		
115	115-105			
120	120-110			
125	125-115			
130	130-120			
135	135-125	125		
140	140-130			
145	145-135			
150	150-140			
160	160-150	150		
170	170-160			
180	180-170			
200	200-180			

Spiral Wire Band (for hose without Cuff)

LS Band (for lft-handed hose)

Structure (Cross-Section View)

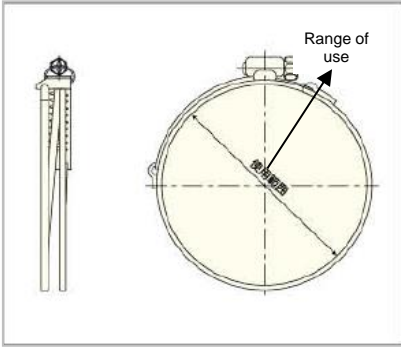


Sizes

Item No.	Range of Use (mm)	Applicable Hose					
		Item Name	Size	Item Name	Size	Item Name	Size
LS-33	33-26	GL, N	25	Antistatic W	25		
LS-37	37-29	GL, N	32				
LS-42	42-34	Antistatic W	32	GL, N, GL-2, Oil Resistant F, GL-E	38		
LS-46	46-38	Antistatic W	38	GL	45		
LS-57	57-49	Antistatic W	45	WT, Antistatic W	48.6	GL, N, GL-2, Oil Resistant F, GL-E	50
LS-62	62-54	Antistatic W	50				
LS-71	71-63	Antistatic W	60	WT	60.5	GL, N, GL-2, Oil Resistant F, GL-E	65
LS-73	73-65	Antistatic W	65				
LS-81	81-73	GL, N, GL-2, Oil Resistant F, GL-E	75				
LS-88	88-68	Antistatic W	75				
LS-101	101-81	Antistatic W	90	GL, N	90		
LS-110	110-90	GL, N, GL-2, Oil Resistant F, GL-E	100				
LS-117	117-97	Antistatic W	100				
LS-121	121-101	GL	115				
LS-131	131-111	WT	115	GL, N, GL-2, Oil Resistant F, GL-E	125		
LS-157	157-137	GL, N, GL-2, Oil Resistant F, GL-E	150				
LS-182	182-162	GL, N	165	GL, N	175		
LS-210	210-190	GL, N, Oil Resistant F	200				
LS-240	240-220						
LS-266	266-246	GL, N	250				
LS-290	290-270						
LS-318	320-300	GL, N	300				

SY Band (for right-handed hose)

Structure (Cross-Section View)



Sizes

Item No.	Range of Use (mm)	Applicable Hose	
		Item Name	Size
SY-33	33-26	WT, WS	25
SY-37	37-29	WT	32
SY-42	42-34	WS, Abrasion Resistant GL(Φ38)	32
SY-46	46-38	WS, WA, WS, Abrasion Resistant W	38
SY-57	57-49	WT, Abrasion Resistant W, Abrasion Resistant GL	50
SY-62	62-54	WS, WA	50
SY-71	71-63	Abrasion Resistant GL	65
SY-73	73-65	WT, WA, WS, Abrasion Resistant W	65
SY-81	81-73	Abrasion Resistant GL	75
SY-88	88-68	WT, WA, WS, Abrasion Resistant W	75
SY-101	101-81	WT, Abrasion Resistant W, Abrasion Resistant GL	90
SY-110	110-90	Abrasion Resistant GL	100
SY-117	117-97	WT, WA, WS, Abrasion Resistant W	100
SY-121	121-101		
SY-131	131-111	Abrasion Resistant GL	125
SY-157	157-137	Abrasion Resistant GL	150
SY-182	182-162		
SY-210	210-190		
SY-220	220-200	Abrasion Resistant GL	200
SY-240	240-220		
SY-266	266-246		
SY-290	290-270		
SY-318	320-300		

Chemical Resistance Guide

This table is based on immersion test <our test data> in chemicals for each item (by using pressed sheet), documents, and other company data (rubber hose manufacturers'). Therefore, this is based on the data under static conditions and a phenomenon (material change) might be different from that under the circumstances of actual use. Please consult us after confirming detailed use conditions. When using a hose, regardless of whether it has superior or inferior chemical resistance, conduct maintenance and inspection based on "Hose handling" on page 4.

A	Tiflex Hose / F-3, WT, Antistatic W, E, SF, Hinet Hose Tiflex Hose / GL, N, GL-2, GL-ST, GL-E Tiflex Hose / WS, FC, FC20, WR(Φ75 or less), WR-S(Φ75 or less)
B	Tiflex Hose / WA, Tiflex Hose / Abrasion Resistant GL
C	Tiflex Hose / WR(Φ100 or more), WR-S(Φ100 or more)
D	Tiflex Hose / Abrasion Resistant E
E	Tiflex Hose / Abrasion Resistant E, Tiflex Hose / WSU

Resistant properties against each fluid (chemical) are as follows:

- = Hardly affected
- △ = Considerably affected (might be used according to conditions)
- × = Unsuitable

Unless otherwise noted, concentration of water solution is saturate and it is at normal temperature.

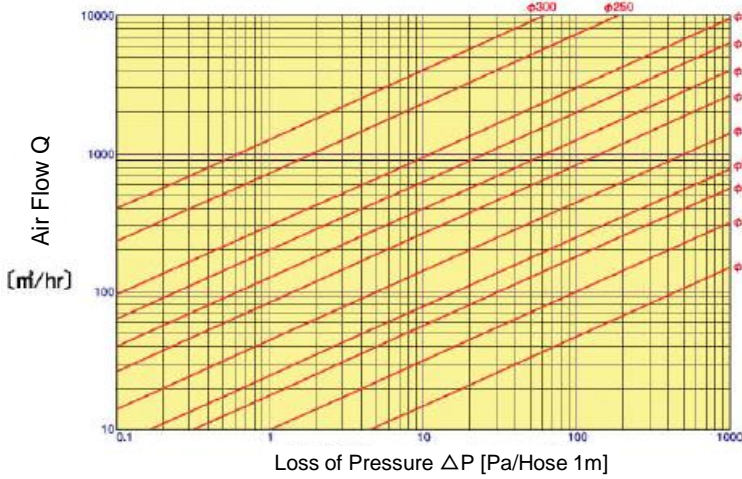
Large Classification	Small Classification	Oil, Solvent, Chemicals {Concentration Weight %}	A	B	C	D	E
Acid		Sulfurous Acid	○	○	○	×	○
		Hydrochloric Acid (10%)	○	○	△	○	○
		Hydrochloric Acid (20%)	○	○	△	△	○
		Hydrochloric Acid (Conc.)	×	△	×	△	○
		Hydrogen Peroxide (3%)	○	△	×	○	○
		Hydrogen Peroxide (30%)	△	×	×	△	○
		Hydrogen Peroxide (80% or more)	×	×	×	×	×
		Chromic Acid Plating Solution (25%)	○	×	×	×	○
		Acetic Acid (10%)	○	○	○	×	○
		Oxalic Acid	○	○	○	○	○
		Nitric Acid (5%)	○	△	×	×	○
		Nitric Acid (50%)	△	△	×	×	×
		Nitric Acid (70%)	×	×	×	×	×
		Nitric Acid (95%)	×	×	×	×	×
		Carbonic Acid	○	○	×	△	○
		Sulfuric Acid (10%)	○	△	×	○	○
		Phosphoric Acid (10%)	○	○	×	△	○
Alkali		Ammonia Aqueous (Ammonium Hydroxide)	△	○	×	○	○
		Ammonia (Gas)	×	○	○	○	△
		Ammonia (Liquid)	×	○	○	○	△
		Calcium Hypochlorite (Conc)	○	○	×	×	○
		Calcium Hypochlorite (15% in chlorine)	○	○	×	○	○
		Aluminum Hydroxide	○	○	○	○	○
		Potassium Hydroxide (10%)	○	○	△	○	○
		Potassium Hydroxide (Conc)	×	○	△	○	○
		Sodium Hydroxide (10%)	○	○	○	○	○
		Sodium Hydroxide (Conc)	×	○	○	○	○
		Barium Hydroxide	○	○	○	○	○
Magnesium Hydroxide	○	○	△	○	○		

Large Classification	Small Classification	Oil, Solvent, Chemicals {Concentration Weight %}	A	B	C	D	E
Other Inorganic Chemicals		Carbon Monoxide	○	○	△	○	○
		Zinc Chloride	○	○	○	○	○
		Aluminum Chloride	○	○	○	○	○
		Ammonium Chloride	○	○	○	○	○
		Potassium Chloride	○	○	○	○	○
		Calcium Chloride (Conc.)	○	○	○	○	○
		Ferrous Chloride	○	○	○	○	○
		Copper Chloride	○	○	○	○	○
		Sodium Chloride	○	○	○	○	○
		Barium Chloride	○	○	○	○	○
		Magnesium Chloride	○	○	○	○	○
		Chlorine (Gas)	△	x	x	x	△
		Ozone	△	○	x	○	○
		Potassium Permanganate	○	○	△	x	○
		Citric Acid	○	○	○	○	○
		Aluminum Acetate	○	○	△	△	△
		Ammonium Acetate (Conc.)	○	○	○	○	○
		Potassium Cyanide	○	○	○	○	○
		Potassium Bromide	○	○	○	○	○
		Potassium Dichromate	○	○	x	○	○
		Bromine	x	x	x	△	x
		Ammonium Bicarbonate	○	○	○	○	○
		Sodium Bicarbonate	○	○	○	○	○
		Ammonium Nitrate	○	○	○	○	○
		Copper Nitrate	○	○	○	○	○
		Hydrogen	○	○	△	○	○
		Carbon Dioxide	○	○	○	○	○
		Calcium Carbonate	○	○	○	○	○
		Magnesium Carbonate	○	○	○	○	○
		Carbon Dioxide	x	x	x	x	△
		Potassium Fluoride	x	○	○	○	○
		Fluorine	x	x	x	△	x
		Iodine	x	x	x	△	x
		Hydrogen Sulfide	x	○	x	△	○
		Aluminum Sulfate	○	○	△	○	○
		Ferric Sulfate	○	○	○	○	○
		Copper Sulfate	○	○	△	○	○
		Magnesium Sulfate	○	○	△	○	○
		Potassium Phosphate	○	○	○	○	○
		Emulsions	○	○	○	○	○
Photographic Developers	○	△	△	○	○		
Salt Water	○	○	○	○	○		

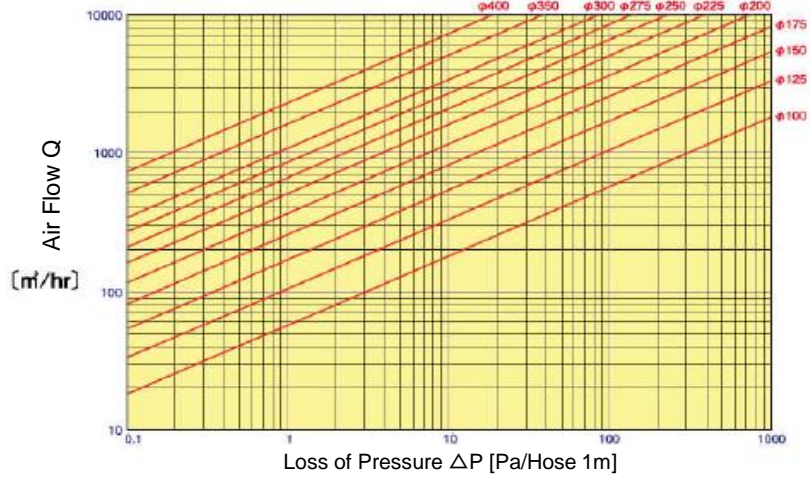
Large Classification	Small Classification	Oil, Solvent, Chemicals {Concentration Weight %}	A	B	C	D	E
Organic Chemicals	Ketone, Ether, etc.	Acetone	x	○	△	x	x
		Diethyl Ether	x	x	x	x	x
		Methyl Ethyl Ketone	x	○	x	x	x
	Chlorinated Solvent	Ethylene Chloride	x	x	x	x	x
		Methylene Chloride	x	x	x	x	x
		Chloroform	x	x	x	x	x
		Carbon Tetrachloride	x	x	x	x	x
		Dichloroethylene	x	x	x	x	x
		Dichlorobenzene	x	x	x	x	x
		Perchloroethylene	x	x	x	x	x
		Monochlorobenzene	x	x	x	x	x
		Aniline	x	△	x	x	△
		Isopropyl Alcohol	△	○	△	x	○
	Other Organic Chemicals	Ethyl Alcohol (6%)	△	○	○	△	○
		Ethyl Alcohol (100%)	x	○	△	x	○
		Ethylene Glycol	○	○	○	○	○
		Oleic Acid	△	△	x	△	○
		Glycerin	○	○	○	○	○
		Creosote Oil	x	x	x	△	x
		Ethyl Acetate	x	△	x	x	x
		Stearic Acid	○	△	△	△	○
		Cetyl Alcohol	○	△	△	△	○
		Dextrin	○	○	○	○	○
		Tetrahydrofuran	x	x	x	x	x
		Toluene	x	x	x	x	x
		Paraffin	△	x	x	○	○
		Phenol	x	△	x	△	△
		Butyl Alcohol	x	△	○	x	△
		Glucose	○	○	○	○	○
		Propylene Glycol	x	○	△	△	○
		Benzyl Alcohol	x	△	x	x	△
		Benzene	x	x	x	x	x
		Formaldehyde (40%)	△	△	x	x	△
Methyl Alcohol (6%)	○	○	○	x	○		
Methyl Alcohol (100%)	x	○	○	x	○		
Aniline Sulfate	○	x	x	○	○		
Mineral Oil	x	x	x	○	x		
Transformer Oil	x	x	x	○	x		

Pressure Loss Graph of Duct Hose

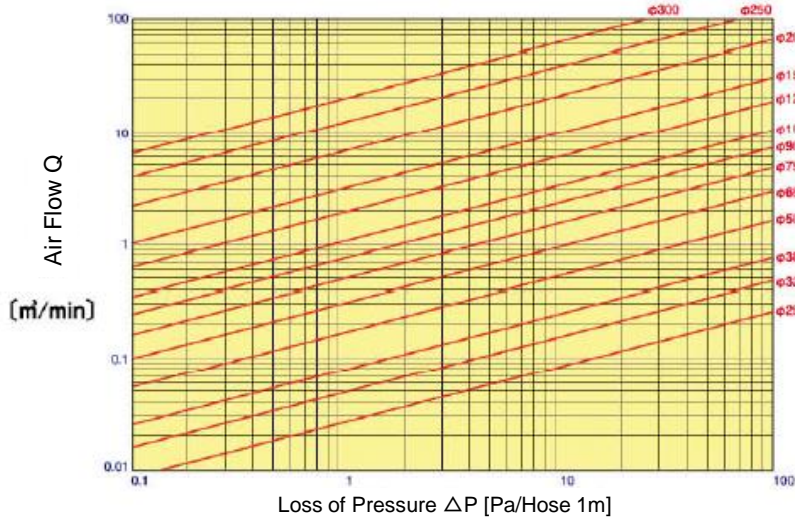
Pressure Loss <Fluid: Gas> of Tiflex (GL, GL-2, GL-E, GL-ST), Tiflex Hose Oil Resistant GL



Pressure Loss <Fluid: Gas> of Tiflex NH-1



Pressure Loss <Fluid: liquid> of Tiflex



Pressure and Stretch Rate

Item Name	Diameter (ϕ)	Hose Stretch Rate (%)				
		0.2MPa (2kgf/cm ²)	0.4MPa (4kgf/cm ²)	0.6MPa (2kgf/cm ²)	0.8MPa (8kgf/cm ²)	1.0MPa (10kgf/cm ²)
Tiflex Hose WR type	38	0.3	0.4	0.5	0.7	0.7
	50	0.4	0.6	0.7	0.8	0.8
	65	0.3	0.4	0.5	0.7	0.8
	75	0.3	0.5	0.6	0.7	0.8
	100	1.0	1.4	1.6	1.9	2.1
	125	1.2	2.0	2.5	2.8	2.9
	150	1.6	2.5	2.7	3.3	3.5
	200	2.1	2.8	3.2	3.8	4.0
	250	2.3	3.2	3.4	4.2	4.5
	300	2.8	3.2	3.5	4.2	4.5
Tiflex Hose WS type	25	3.4	4.3	4.9	—	—
	32	3.7	5.3	7.0	—	—
	38	1.6	3.4	4.4	—	—
	50	2.2	3.2	4.8	—	—
	65	2.0	4.0	8.4	—	—
	75	2.0	3.0	6.1	—	—
	100	1.6	4.4	8.7	—	—
	125	1.7	2.9	—	—	—
	150	2.5	3.4	—	—	—
	200	2.5	4.3	—	—	—
	250	2.7	5.0	—	—	—
	300	3.2	6.0	—	—	—
350	3.2	4.8	—	—	—	
Tiflex Hose F-3 type	19	3.0	7.5	10.0	—	—
	25	3.9	8.9	14.2	—	—
	32	4.3	11.1	15.1	—	—
	38	6.0	13.6	—	—	—
	50	5.2	12.6	—	—	—
	65	7.4	14.3	—	—	—
	75	7.3	15.7	—	—	—
	100	9.5	—	—	—	—
	125	11.5	—	—	—	—
	150	13.1	—	—	—	—
200	14.1	—	—	—	—	
Item Name	Diameter (ϕ)	Hose Stretch Rate (%)				
		0.5MPa (5kgf/cm ²)	1.0MPa (10kgf/cm ²)	1.5MPa (15kgf/cm ²)	2.0MPa (20kgf/cm ²)	—
Tiflex Hose FC type	38	0.4	0.6	0.8	—	—
	50	0.4	0.7	1.0	—	—
Tiflex Hose FC 20 type	50	0.4	0.7	1.0	1.0	—
	75	0.4	0.6	1.0	1.0	—
Tiflex Hose WR-S type	50	0.5	0.6	1.0	2.2	—
	75	1.0	0.7	1.2	1.0	—
	100	1.7	2.0	2.1	1.2	—
	150	2.5	2.8	3.0	3.3	—
	200	2.6	3.2	3.3	3.6	—

※ Above data show a stretch rate of length direction by applying water pressure into a hose at 20°C and under straight pipe condition.

※ Above data is not the standard value, but the test ones.

Temperature and Working Pressure

Pressure performance of the hose is significantly affected depending on the fluid and ambient temperature. The table on the right side indicates examples of working pressure at 20°C and 50°C.

Temp. (°C)	Tiflex Hose F-3 type	Tiflex Hose WS type	Tiflex Hose WR type
20	0.3 [3.1]	0.5 [5.1]	1.0 [10.2]
50	0.15 [1.5]	0.25 [2.6]	0.5 [5.1]

Standard of tightening for R-Power Band

When a hose is tightened by R-Power Band at work site, please refer to the right side table as a guide.

Nominal Dia. (ϕ)	Tiflex Hose WS type		Tiflex Hose New WR type	
	Torque (N, m) {kgf, cm}	Number of band	Torque (N, m) {kgf, cm}	Number of Hose
38	-	-	15 [150]	1
50	10 [100]	2	15 [150]	2
65	10 [100]	2	15 [150]	2
75	10 [100]	2	25[250]	2
100	15 [150]	2	25[250]	2
125	25 [250]	2	30[300]	2
150	25 [250]	2	30[300]	2
200	25 [250]	2	30[300]	2
250	25 [250]	2	30[300]	2
300	25 [250]	2	30[300]	2

Note:

- 1) For WS, WR, WR-S, FC, FC-20, WSU and O/R type, the way of fitting with steel rods for welding to prevent from sudden fall-off of fixture shall be our standard.
We recommend you to order these hoses with appropriate metal
- 2) Use metal fixtures of which sleeve part has jagged surface.
- 3) Retighten accordingly because tightening force of clamps is gradually reduced by stress relaxation. However, be careful not to break hose due to applying exceeded tightening force.
- 4) In case you use a metal fixture on the market, it might not be tightened enough as written above because of the nipple's shape.

*O/R: Oil Resistant

Pressure Unit Conversion Table

	Pa (Pascal)	bar (Atmospheric Pressure)	kgf/cm ²	atm	mmH ₂ O or mmAq (Water Column)	mmHg or Torr (Mercury Column)
Pressure	1	1×10^{-5}	1.02×10^{-5}	9.87×10^{-6}	1.02×10^{-1}	7.50×10^{-3}
	1×10^5	1	1.02	9.87×10^{-1}	1.02×10^4	7.50×10^2
	9.81×10^4	9.81×10^{-1}	1	9.68×10^{-1}	1×10^4	7.36×10^2
	1.01×10^5	1.01	1.03	1	1.03×10^4	7.60×10^2
	9.81	9.81×10^{-5}	1×10^{-4}	9.68×10^{-5}	1	7.36×10^{-2}
	1.33×10^2	1.33×10^{-3}	1.36×10^{-3}	1.32×10^{-3}	1.36×10	1

Guide for Hose Selection

Items		Contents	Check column
Application	Intended Purpose		
	Equipment Name		
Specifications	Dimensions	Inner Diameter	Actual Size (mm)
		Outer Diameter	Actual Size (mm)
		Length	Entire Length include metal fixture or of only hose
		Packing	Acceptance of bend remaining
	Metal Fixtures Cuffs	Necessity / Type of Metal Fixtures	With metal fixture (one or both ends), or only hose With JIS () kgs flange (fixed, loose), S shape collar, G shape collar, male screw, etc. Please consult us about the other special metal fixtures.
		Fitting Method Type of Clamps	Outer socket caulking, inner coupler expansion, R-power band, etc. Please consult us about the other special fitting methods.
	Material	Hose	PVC, Non-PVC, etc.
		Metal Fixture	Iron, stainless, aluminum, etc.
Others		Please consult us about chemical substances which are prohibited to use or the regulation of content amount.	
Fluid	Fluid Type		Liquid (water, oil, chemical), gas, powder, etc.
	Concentration		Concentration (%) of chemicals, etc. pH of acid or alkali.
	Specific Gravity		Specific gravity, density (g/cm ³ , kg/cm ³) of fluid.
	Temperature		Fluid temperature (°C)
	Flow Volume, Flow Rate		m ³ /hour, L/hour, m/second
	Use Conditions		
Use Conditions	Pressure	Maximum Working Pressure	Delivery: MPa (kgf/cm ²) Suction: -kPa (-mmHg, -mmAq)
		Peak Pressure	Pump maximum pressure Assumed impact pressure
		Vertical Interval	Vertical interval of plumbing
	Surrounding Environment	Outside Air Temperature	°C
		Place of Use	Outdoor, indoor, under water, at sea, in soil, etc.
		External Pressure	MPa (kgf/cm ²)
	Installing Method	Conditions of Installation	Plumbing drawing, performance drawing, plumb by slinging or on a floor, etc.
		Bending Radius in Use	Use hoses bent with bending radius or more.
		Operating Cycle	Repeated bending cycle, etc.
Duration of Use		Duration of use (consecutively or continuously)	
Storage	Storage Conditions		Storage period. Storage environment (outdoor, indoor, ambient temperature).
Regulations	Applicable Law and Standard		
Performance	Past Use History		Manufacturer's name, item name, duration of use, etc.

* Please consult us after sufficient confirmation through above content.