



# TOGAWA

## INDUSTRY CORPORATION

### Guide of JAPAN-MADE Plastic Hose Products



Industrial Hose

Food Hose

Painting Hose

Air tool Hose

The others

Engineering Data



# Global Standard Natural Environment

**Our goal is to develop and produce world-class environmental friendly products through our leading-edge technology.**

Anticipating the needs of the age and reacting by our leading-edge technology is **TOGAWA**'s deep-rooted fundamental policy.

In this 21<sup>st</sup> century, remarkable achievement of technology is demanded in a variety of fields.

Through our plastic hoses, **TOGAWA** is always trying to manufacture "environmentally-friendly products" based on our world-class quality and technology.

**Giving the quality top priority, **TOGAWA** is engaged in customer satisfaction and aiming to be an environmental friendly company.**

## **Our effort on ISO9001 "Quality Management System" and ISO14001 "Environmental Management System."**

In July of 2001, our Kyoto Plant and in November of 2003, our Tokyo Plant have acquired approval of ISO9001. Placing the "Customer First" for our quality policy, we have been engaged in promoting full employee participation quality assurance activities. In the midst of ever changing social environment, we are trying to identify the customer's needs in order to suggest, produce and deliver products in an appropriate time for further "Customer Satisfaction".



Kyoto Plant

In March of 2005, our Kyoto Plant has acquired the approval of ISO14001. In an effort to becoming an "Environmentally Friendly Company", we have defined our environmental policy and conduct environmental countermeasures. We also provide "Environmentally Friendly Products" while conforming to the laws and regulations, and keeping the balance with the people and nature.



ISO 9001:Kyoto Plant, Tokyo Plant



ISO 14001:Kyoto Plant



Tokyo Head Office / Tokyo Plant



Shanghai Plant

## **Our Effort in Shanghai Togawa**

Shanghai Togawa, our subsidiary, has also acquired approval of ISO9001 in May of 2005 and ISO 14001 in June of the same year. We are trying to engage in the "Improvement of Management" to meet our customer's needs.



Osaka office

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## For industrial use

This series of hoses can be applied for piping of equipment at factories, installing with various machines (molding and printing machines), and various fluids such as cement fluids used for machine tools, drilling machines, and bridge construction works. Superior in flexibility, transparency, pressure resistance, negative pressure resistance, and oil resistance, this series of hoses are appropriate for industrial use.

### MEGA Oil Resistance Sun Braid Hose

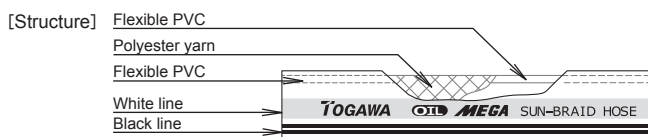


Superior in oil resistance of the specialized resin used. Use this hose for color coding with the MEGA Sun Braid Hose.



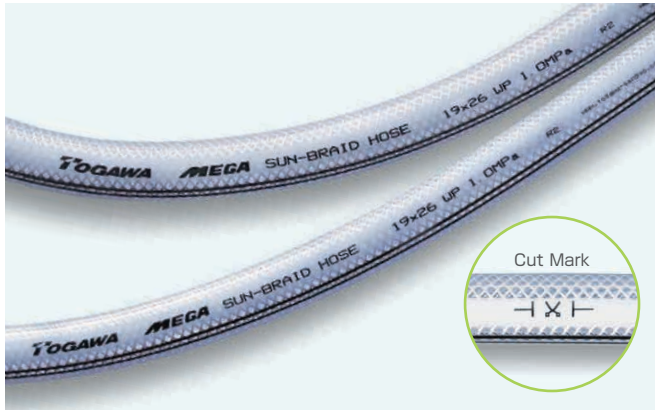
Nominal designation	Inner diameter (mm)	Outer diameter (mm)	Regular size (m)	Maximum working pressure MPa at 20°C	Minimum bending radius (mm)	Regular size weight (kg)
TB-6	6.0	11.0	100	1.5	24	9
TB-8	8.0	13.5	100	1.5	32	12
TB-9	9.0	15.0	100	1.5	36	15
TB-12	12.0	18.0	100	1.2	48	18
TB-15	15.0	22.0	100	1.0	60	26

Fluids	Water	Air	Powder	OIL	Note: Cannot be used for fuel oil
Working Temperature Limit	Between -5°C and +60°C				
Material	Flexible PVC product				
Use	For water supply of machines and factories, air piping, and water supply for engineering, and construction sites.				
Features	Superior in oil resistance, which is appropriate for lubricating oil piping. Can be used for color coding with the MEGA Sun Braid Hose.				

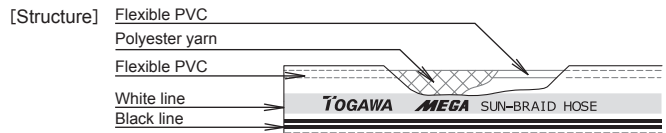


Nominal designation	Inner diameter (mm)	Outer diameter (mm)	Regular size (m)	Maximum working pressure MPa at 20°C	Minimum bending radius (mm)	Regular size weight (kg)
TB-19	19.0	26.0	50	1.0	76	16
TB-25	25.0	33.0	50	1.0	100	23
TB-32	32.0	41.0	50	0.7	128	33
TB-38	38.0	48.0	50	0.6	152	43
TB-50	50.0	62.0	40	0.6	200	55

## MEGA Sun Braid Hose

RoHS2  
compliantRubber-like touch of highly elastic resin.  
The fluids can be visually checked easily.

Fluids	Water Air Powder OIL	Note: Cannot be used for fuel oil
Working Temperature Limit	Between -5°C and + 60°C	
Material	Flexible PVC product	
Use	For water supply of machines and factories, air piping, and water supply for engineering, and construction sites.	
Features	Highly elastic resin is used. The fluids can be visually checked easily.	



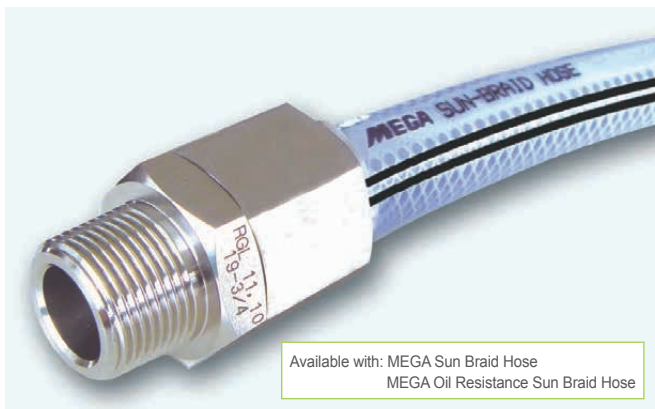
Nominal designation	Inner diameter (mm)	Outer diameter (mm)	Regular size (m)	Maximum working pressure, MPa at 20°C	Minimum bending radius (mm)	Regular size weight (kg)
SB-4	4.0	9.0	100	1.5	16	7
SB-6	6.0	11.0	100	1.5	24	9
SB-8	8.0	13.5	100	1.5	32	12
SB-9	9.0	15.0	100	1.5	36	15
SB-10	10.0	16.0	100	1.2	40	16
SB-12	12.0	18.0	100	1.2	48	18
SB-15	15.0	22.0	100	1.0	60	26
SB-19	19.0	26.0	50	1.0	76	16
SB-22	22.0	29.0	50	1.0	88	18

Nominal designation	Inner diameter (mm)	Outer diameter (mm)	Regular size (m)	Maximum working pressure, MPa at 20°C	Minimum bending radius (mm)	Regular size weight (kg)
SB-25	25.0	33.0	50	1.0	100	23
SB-32	32.0	41.0	50	0.7	128	33
SB-38	38.0	48.0	50	0.6	152	43
SB-50	50.0	62.0	40	0.6	200	55
SB-63	63.0	80.0	20	0.4	252	52
SB-75	75.0	92.0	20	0.3	300	60
SB-90	90.0	108.0	20	0.3	450	73.8
SB-100	100.0	118.0	20	0.3	500	77.8

\* The white lines are available only for the products in which inner diameter is between 12 and 75, and are not applied for the products in which inner diameter is between 6 and 10, 90 and 100.

## MEGA Touch

No leak! No loose! Joints for Hoses!



Available with: MEGA Sun Braid Hose  
MEGA Oil Resistance Sun Braid Hose

## Features

Original structure to fasten hoses tightly and strongly.

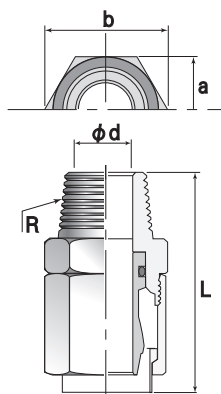
High adhesion without damage your hoses.

No breakage due to excessive fastening.

Easy attach and remove, improve maintenance workability.

Variety of materials : SUS and BsBM also available with RoHS enabled Cd-less BsBM.

Note : Always use within the hose's recommended working pressure range.  
Max.working pressure of MEGA Touch is 1MPa.



Nominal designation of MEGA SUN-BRAID HOSE	MEGA TOUCH Model	R	a	b	φd	L
SB-4	TH4-1/8	1/8	17	19.6	4.0	34.8
	TH4-1/4	1/4			4.0	35.8
SB-6	TH6-1/4	1/4	21	24.3	5.0	45.3
	TH6-3/8	3/8			5.0	47.3
SB-8	TH8-1/4	1/4	22	25.4	7.0	44.7
	TH8-3/8	3/8			7.0	46.7
SB-9	TH9-1/4	1/4	24	27.7	7.0	46.4
	TH9-3/8	3/8			7.0	48.4
SB-10	TH10-1/4	1/4	24	27.7	8.0	46.4
	TH10-3/8	3/8			8.0	48.4
	TH10-1/2	1/2			8.0	50.4
SB-12	TH12-1/4	1/4	26	30.0	8.0	46.3
	TH12-3/8	3/8			10.0	48.3
	TH12-1/2	1/2			10.0	50.3
SB-15	TH15-1/4	1/4	30	34.6	8.0	47.7
	TH15-3/8	3/8			10.0	49.7
	TH15-1/2	1/2			14.0	51.7
	TH15-3/4	3/4			14.0	53.7
SB-19	TH19-1/2	1/2	35	40.5	14.0	59.8
	TH19-3/4	3/4			17.4	63.8
	TH19-1	1			17.4	64.8
SB-22	TH22-1/2	1/2	38	43.9	14.0	61.0
	TH22-3/4	3/4			19.4	65.0
	TH22-1	1			21.0	66.0
SB-25	TH25-3/4	3/4	42	48.5	18.0	65.8
	TH25-1	1			24.0	67.8
SB-32	TH32-1 1/4	1 1/4	54	62.4	28.0	74.3
	TH32-1 1/2	1 1/2			28.0	75.3

Size List: - For material selection, please add "S" for SUS, "B" for BsBM, "Ro" for Cd-less BsBM at the end of the Model name.

\* TH-22 will be made-to-order.  
For unlisted sizes or any questions , please contact our sales department.



## Super Sun Spring Hose

RoHS2  
compliant

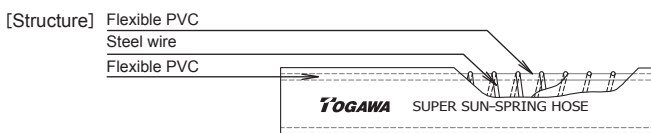
With hard steel wires put inside, this hose withstands to decompression, which is appropriate for vacuuming applications. Superior in transparency, this hose is appropriate for piping of operating oil.



Nominal designation	Inner diameter (mm)	Outer diameter (mm)	Regular size (m)	Maximum working pressure MPa at 20°C	Minimum bending radius (mm)	Regular size weight (kg)
SP-6	6.0	11.0	100	-0.1~0.9	30	10
SP-8	8.0	13.5	100	-0.1~0.9	40	14
SP-9	9.0	15.0	100	-0.1~0.8	45	16
SP-12	12.0	18.0	100	-0.1~0.7	60	23
SP-15	15.0	22.0	100	-0.1~0.6	75	32
SP-19	19.0	26.0	50	-0.1~0.5	95	22
SP-25	25.0	33.0	50	-0.1~0.5	125	27

※-0.1MPa is an approximate value. Depending on the application and conditions of use (temperature, pressure, movement), the hose may deteriorate prematurely, resulting in reduced performance.

Fluids	Water Air Powder OIL	Note: Cannot be used for fuel oil
Working Temperature Limit	Between -5°C and + 60°C	
Material	Flexible PVC product	
Use	For water supply of machines and factories, air piping, and water supply for engineering, and construction sites.	
Features	With steel wires put inside, this hose can be used as a ground wire for conveying powders etc.	



Nominal designation	Inner diameter (mm)	Outer diameter (mm)	Regular size (m)	Maximum working pressure MPa at 20°C	Minimum bending radius (mm)	Regular size weight (kg)
SP-32	32.0	41.0	40	-0.1~0.4	160	31
SP-38	38.0	48.0	40	-0.1~0.4	190	39
SP-50	50.0	62.0	40	-0.1~0.3	250	59
SP-63	63.0	80.0	20	-0.1~0.3	315	54
SP-75	75.0	92.0	20	-0.1~0.3	375	63
SP-90	90.0	108.0	20	0.3	450	76.2
SP-100	100.0	118.0	20	0.3	500	84

## Super Tom Flex Hose

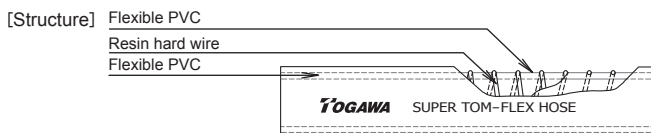
RoHS2  
compliant

Both inner and outer surface are rich in smoothness. Excellent oil resistance.



Nominal designation	Inner diameter (mm)	Outer diameter (mm)	Regular size (m)	Maximum working pressure MPa at 20°C	Minimum bending radius (mm)	Regular size weight (kg)
TP-9	9.0	15.0	40	0.8	36	5.6
TP-12	12.0	18.0	60	0.5	48	10.4
TP-15	15.0	22.0	60	0.5	60	15

Fluids	Water Air Powder OIL	Note: Cannot be used for fuel oil
Working Temperature Limit	TP-9~TP19 Between -5°C ~+70°C TP-25 Between -5°C ~+60°C	
Material	Flexible PVC product	
Use	For working machine, printing machine, molding machine, piping of plant (Vacuum Hoses)	
Features	Easy to cut with scissors! It is hard to be squashed.	



Nominal designation	Inner diameter (mm)	Outer diameter (mm)	Regular size (m)	Maximum working pressure MPa at 20°C	Minimum bending radius (mm)	Regular size weight (kg)
TP-19	19.0	26.0	50	0.4	76	15.2
TP-25	25.4	33.0	20	0.4	100	9

RoHS2  
compliant

## Information

•The European RoHS Directive is a directive by the European Union (EU) that restricts the use of certain hazardous substances in electrical and electronic equipment. The directive restricts the use of 6 hazardous substances and 4 additional hazardous substances. Products marked as RoHS2 compliant use plasticizers in the manufacture of hoses made of vinyl chloride resin. However, they do not use phthalate esters or other substances that fall under the RoHS2 substances. RoHS2 compliance is determined by the non-use of restricted substances in raw materials used for products, but this does not apply to unintentional impurities. The above information is based on the latest information available at the time of preparation of this catalog.

## MEGA Foam Sun Braid Hose

RoHS2  
compliant

A hose for cooling water used for printing or molding machines.  
The foamed materials keep away waterdrops from the hose surface.

Industrial Hose



Fluids Water

Working  
Temperature Limit Between -5°C and + 60°C

Material Flexible PVC product

Use For the cooling water used for printing or molding machine  
(for condensation prevention).

Features The foamed materials keep away waterdrops from the  
hose surface.

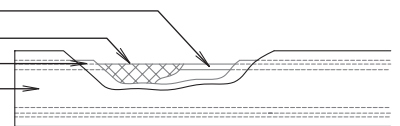
Nominal designation	Inner diameter (mm)	Outer diameter (mm)	Regular size (m)	Maximum working pressure MPa at 20°C	Minimum bending radius (mm)	Regular size weight (kg)
FB-12	12.0	24.0	50	1.2	48	12
FB-15	15.0	29.0	50	1.0	60	17
FB-19	19.0	32.0	50	1.0	76	20
FB-25	25.0	39.0	50	1.0	100	28

[Structure] Flexible PVC

Polyester yarn

Flexible PVC

Foamed PVC



## Super Air Hose

RoHS2  
compliant

Lighter than rubber hoses and superior in workability.  
Withstanding to direct sunlight and blocking cracks.



Fluids Air

Working  
Temperature Limit Between -5°C and + 60°C

Material Flexible PVC product

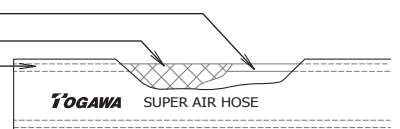
Use For compressors, car maintenance, paint and body  
works, quarrying etc.

Features Lighter than rubber hoses and superior in workability.

[Structure] Flexible PVC

Polyester yarn

Flexible PVC



Nominal designation	Inner diameter (mm)	Outer diameter (mm)	Regular size (m)	Maximum working pressure MPa at 20°C	Minimum bending radius (mm)	Regular size weight (kg)	Lines	
SA-6	6.5	13.0	100	1.0	32.5	12	●	—
SA-7	7.0	13.5	100	1.0	35	12.5	●	—
SA-8	8.0	15.0	100	1.0	40	15	●	●
SA-9	9.5	16.5	100	1.0	47.5	17	●	●

Nominal designation	Inner diameter (mm)	Outer diameter (mm)	Regular size (m)	Maximum working pressure MPa at 20°C	Minimum bending radius (mm)	Regular size weight (kg)	Lines	
SA-12	13.0	21.5	100	1.0	65	28	●	●
SA-19	19.0	27.5	100	1.0	95	39	—	●
SA-25	25.0	34.5	100	1.0	125	55	—	●

## Super Water Hose



Appropriate for washing and sprinkling water on vessels, gas stations, factories, farmlands, golf courses etc.



Nominal designation	Inner diameter (mm)	Outer diameter (mm)	Regular size (m)	Maximum working pressure MPa at 20°C	Minimum bending radius (mm)	Regular size weight (kg)	Lines
SW-12	12.7	19.0	100	0.7	63.5	19.5	●
SW-15	15.0	22.5	100	0.7	75	25.5	●
SW-19	19.0	27.0	100	0.7	95	38	●

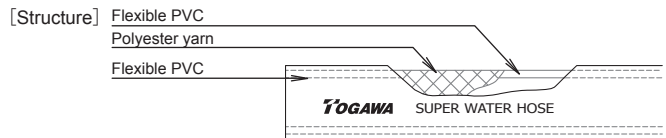
Fluids **Water**

Working Temperature Limit Between -5°C ~+60°C

Material Flexible PVC product

Use Washing and sprinkling water on vessels, factories, farmlands, golf courses, engineering sites, etc.

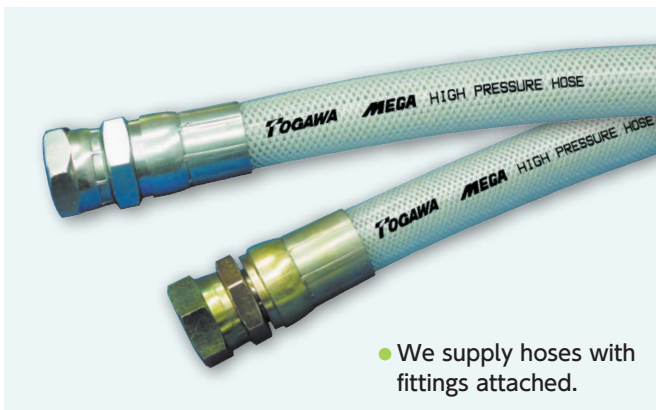
Features Lighter than rubber hoses and superior in workability.



Nominal designation	Inner diameter (mm)	Outer diameter (mm)	Regular size (m)	Maximum working pressure MPa at 20°C	Minimum bending radius (mm)	Regular size weight (kg)	Lines
SW-25	25.0	33.5	100	0.7	125	48	●
SW-32	32.0	43.0	60	0.5	160	48	●
SW-38	38.0	50.0	60	0.5	190	61.2	●

## MEGA High Pressure Hose

With four times pressure resistance of ordinary pressure resistant hose!



Nominal designation	Inner diameter (mm)	Outer diameter (mm)	Regular size (m)	Maximum working pressure MPa at 20°C	Minimum bending radius (mm)	Regular size weight (kg/m)
MB-19	19.0	28.0	100	4.0	90	0.408
MB-25	25.0	35.0	100	4.0	100	0.579
MB-32	32.0	42.0	50	2.0	160	0.715

\* MB-32 will be lot production.

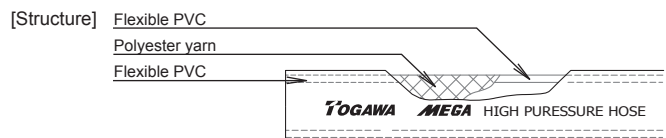
Fluids **Water** **Air** **Powder** **OIL** **Note: Cannot be used for fuel oil**

Working Temperature Limit Between -5°C ~+60°C

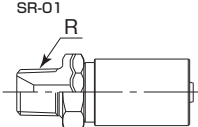
Material Flexible PVC product

Use Delivery hose for construction and civil engineering.

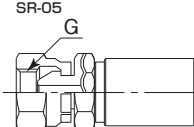
Features High pressure resistance. The fluid can be visually checked easily.



Fittings for Reference:



Fittings for Reference:



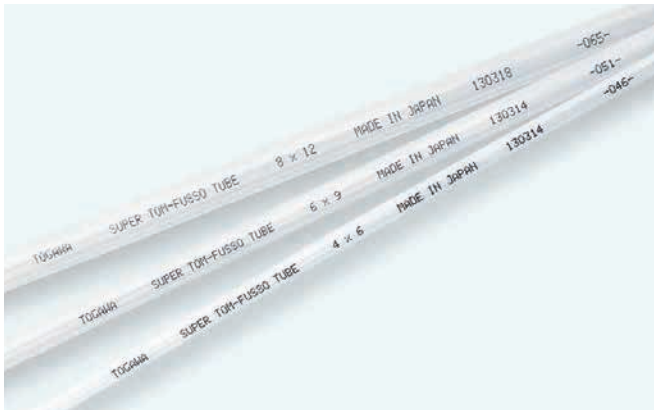
Fittings for Reference	Inner diameter	Screw size
SR-01	19	R3/4
	25	R1
SR-05	19	G3/4
	25	G1



## Super Tom Fusso Tube



The super soft fusso tube with the excellent non-adhesive, low leachability and chemical resistance.



Nominal designation	Inner diameter (mm)	Outer diameter (mm)	Regular size (m)	Maximum working pressure MPa at 20°C	Minimum bending radius (mm)	Regular size weight (kg/m)
FST-4	4.0	6.0	20·100	0.9	17	0.019
FST-6	6.0	9.0	20·100	0.7	26	0.041
FST-8	8.0	12.0	20·100	0.7	46	0.072

## Fluids

## Solvents

## Chemicals

## Working Temperature Limit

Between -20°C ~ +80°C

## Material

Inner fluorine resin product

## Use

For piping of paints, solvents, chemicals, drinking water and foods

## Features

Excellent solvent and chemical resistance and low leachability.

## Features

- A multipurpose tube with excellent chemical resistance and low permeability against the organic solvent. Also has high transparency and flexibility.

## [Structure] Polyurethane resin

Fluorine resin



## Super Tom Fusso-easy Hose



The super soft fusso hose with a conductive resin line.



Nominal designation	Inner diameter (mm)	Outer diameter (mm)	Regular size (m)	Maximum working pressure MPa at 20°C	Minimum bending radius (mm)	Regular size weight (kg)
FE-9	9.0	15.0	20	1.1	45	2.8
FE-12	12.0	18.0	20	1.0	60	3.5
FE-15	15.0	22.0	20	0.8	75	5.1
FE-19	19.0	26.0	20	0.7	95	6.2
FE-25	25.0	33.0	20	0.6	125	9.0

## Fluids

## Solvents

## Chemicals

## Working Temperature Limit

Between -20°C ~ +60°C

## Material

Inner fluorine resin product

## Use

For piping of paints, solvents, chemicals, drinking water and foods.

## Features

Excellent solvent and chemical resistance and low leachability.

## Features

**A versatile chemical hose is now available!**

- As a conductive sleeve is applied around the outer layer, the grounding can be completed just by tightening the metallic joint (when the resistance value is  $9 \times 10^6 \Omega$  or less, and the whole length is 15m or less).

## [Structure]

Polyurethane resin

Polyester yarn

Polyamide resin

Fluorine resin

Conductive resin line





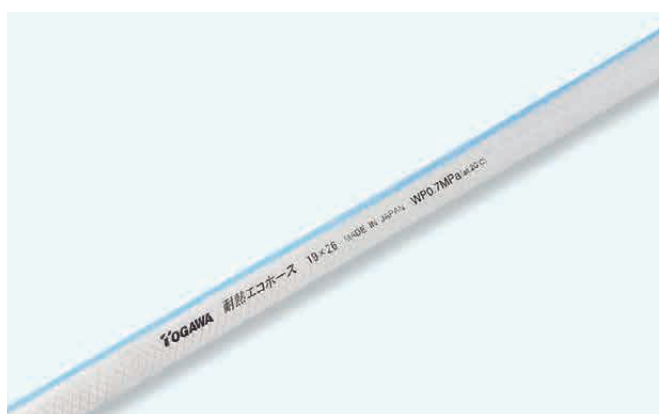
## Food Hose

The food hoses that contain no substances which are suspected of having an environmental hormone or dioxin such as phthalate ester and nonyl phenol. Superior in heat and cold resistances, this series of hoses are harmless and safe.

## Heat-Resistant Eco Hose

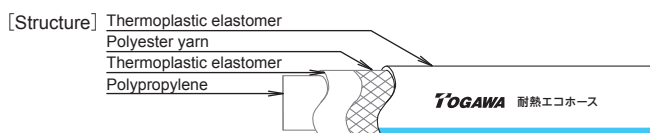


A non-PVC hose which can be used for fatty foods. It is also superior in chemical resistance.



Nominal designation	Inner diameter (mm)	Outer diameter (mm)	Regular size (m)	Maximum working pressure MPa at 20°C	Minimum bending radius (mm)	Regular size weight (kg)
TEH-12	12.0	18.0	60	1.0	48	7.8
TEH-15	15.0	22.0	60	0.8	60	11.4
TEH-19	19.0	26.0	50	0.7	76	11.5
TEH-25	25.0	33.0	40	0.6	100	13.6
TEH-32	32.0	41.0	40	0.5	128	19.2
TEH-38	38.0	48.0	40	0.4	152	24.8
TEH-50	50.0	62.0	40	0.3	200	38.8

Fluids	Water	Air	Various foods	Chemicals	Powder
Working Temperature Limit	Between -5°C and +80°C				
Material	Polyolefin product				
Use	Foods				
Features	A non-PVC hose which can be used for fatty foods. It is also superior in chemical resistance.				



### Notes on the operating temperature and maximum working pressure

If you use this product out of the normal temperatures range, refer to the maximum working pressure fluctuations described in the graph of the pressure resistance data in the P.26, and use the hose in the condition below the specified value. In addition, if you use the hose in more than the maximum working pressure (in accordance with the operating temperature), please take care because it may cause a danger of bursting or significantly shorten the service time of the hose.

## Pure Foods Hose

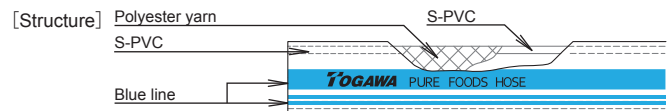


A PVC food hose



Nominal designation	Inner diameter (mm)	Outer diameter (mm)	Regular size (m)	Maximum working pressure MPa at 20°C	Minimum bending radius (mm)	Regular size weight (kg)
PFH-12	12.0	18.0	50	1.0	48	9
PFH-15	15.0	22.0	50	0.8	60	13
PFH-19	19.0	26.0	50	0.7	76	16
PFH-25	25.0	33.0	50	0.6	100	23

Fluids	Water Air Various foods Powder
Working Temperature Limit	Between -5°C and + 70°C
Material	Flexible PVC product
Use	For conveyance of foods and beverages
Features	Conforms to the Food Sanitation Law and does not contain toxic substances. It is safe and secure.

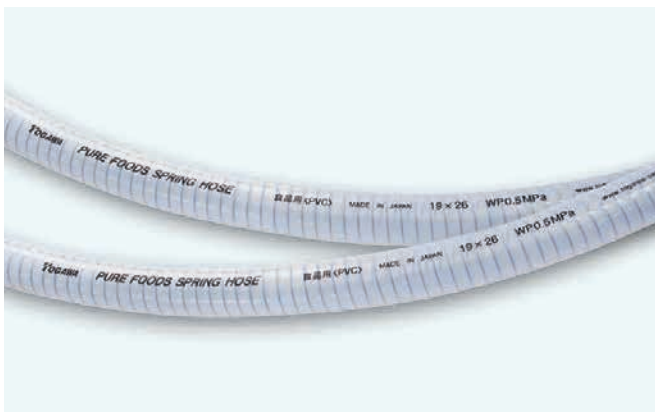


Nominal designation	Inner diameter (mm)	Outer diameter (mm)	Regular size (m)	Maximum working pressure MPa at 20°C	Minimum bending radius (mm)	Regular size weight (kg)
PFH-32	32.0	41.0	50	0.5	128	33
PFH-38	38.0	48.0	50	0.4	152	43
PFH-50	50.0	62.0	40	0.3	200	55

## Pure Foods Spring Hose

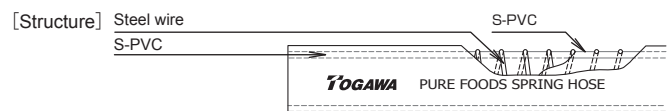


A PVC food hose with steel wire



Nominal designation	Inner diameter (mm)	Outer diameter (mm)	Regular size (m)	Maximum working pressure MPa at 20°C	Minimum bending radius (mm)	Regular size weight (kg)
PFS-12	12.0	18.0	50	0.7	60	11.5
PFS-15	15.0	22.0	50	0.6	75	16
PFS-19	19.0	26.0	50	0.5	95	22
PFS-25	25.0	33.0	50	0.5	125	27

Fluids	Water Air Various foods Powder
Working Temperature Limit	Between -5°C and + 70°C
Material	Flexible PVC product
Use	For conveyance of foods and beverages
Features	Conforms to the Food Sanitation Law and does not contain toxic substances. It is safe and secure.



Nominal designation	Inner diameter (mm)	Outer diameter (mm)	Regular size (m)	Maximum working pressure MPa at 20°C	Minimum bending radius (mm)	Regular size weight (kg)
PFS-32	32.0	41.0	40	0.4	160	31
PFS-38	38.0	48.0	40	0.4	190	39
PFS-50	50.0	62.0	40	0.3	250	59

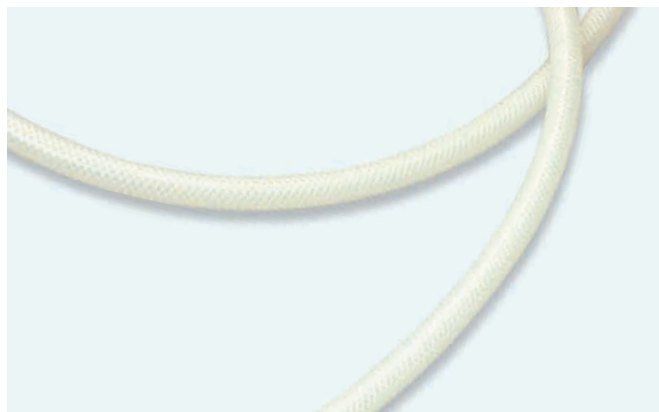


# Silicone Hose

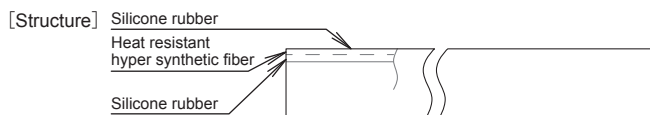


FDA compliant

This hose can be used in a wide range of temperature between -30°C and 150°C.



Fluids	Water Air Various foods Powder
Working Temperature Limit	Between -30°C and + 150°C High-temperature water: 100°C or less, steam: 130°C or less for a short time
Material	Silicone product
Use	For soft drinks, and high-and-low temperature equipment such as air-conditioners, transducers, and office automation devices.
Features	It can be used in a wide range of temperature between -30°C and +150°C.



Nominal designation	Inner diameter (mm)	Outer diameter (mm)	Regular size (m)	Maximum working pressure MPa at 20°C	Minimum bending radius (mm)	Regular size weight (kg)	Delivery unit (roll)
SH-5	4.8	10.6	10	1.0	70	0.8	5
SH-6	6.3	12.3	10	1.0	80	1.1	5
SH-8	7.9	14.3	10	1.0	90	1.3	4
SH-9	9.5	16.5	10	1.0	100	1.7	3
SH-12	12.7	20.1	10	0.5	130	2.3	2
SH-15	15.9	24.1	10	0.5	150	3.1	1

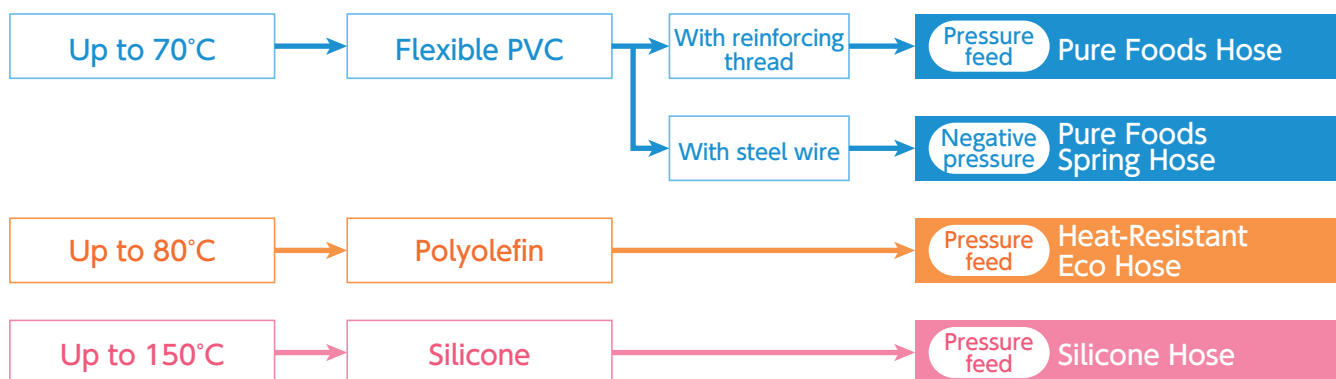
Nominal designation	Inner diameter (mm)	Outer diameter (mm)	Regular size (m)	Maximum working pressure MPa at 20°C	Minimum bending radius (mm)	Regular size weight (kg)	Delivery unit (roll)
SH-19	19.0	28.2	10	0.5	180	4.1	1
SH-25	25.4	35.6	10	0.5	300	5.9	1
SH-32	32.0	43.8	10	0.5	360	8.4	1
SH-38	38.1	50.7	10	0.5	430	10.5	1
SH-50	50.8	65.0	6	0.3	550	9.3	1

## Cautions for food hoses

### Odor and taste

Reactions between the hose and fluids (water, food, cleaning agents, etc.) may cause odors or tastes. Odors and taste may vary from person to person, so be sure to check before and after use.

## Food hose selection chart



## Food hoses and applicable specifications

## Food sanitation law (Announcement No. 370 by the Ministry of Health and Welfare)

		Descriptions of tests	Specifications			
			PVC Elution conditions [Operating temperature 100°C or less]		Polyethylene (PE) and Polypropylene (PP) [Elution conditions Operating temperature 100°C or less]	Nylon (PA) [Elution conditions Operating temperature 100°C or less]
			Announcement No.380	Announcement No.267 Utensils or container packages that contact fatty foods	Announcement No.380	Announcement No.380
General specifications	Materials	Lead	100 µg/g or less	-	100 µg/g or less	100 µg/g or less
		Cadmium	100 µg/g or less	-	100 µg/g or less	100 µg/g or less
		Bis phthalate (2-ethylhexyl)	-	Do not use.(Less than 0.1%)	-	-
	Elution	Precious metals	1 µg/m or less	-	1 µg/m or less	1 µg/m or less
		Potassium permanganate consumed	10 µg/m or less	-	10 µg/m or less	10 µg/m or less
Individual specifications	Material test	Dibutyltin compound	50 µg/g or less	-	-	-
		Cresol phosphoric acid ester	1000 µg/g or less	-	-	-
		Polyvinyl chloride	1 µg/m or less	-	-	-
	Material test	Evaporation residue	heptane	150 µg/m or less	-	150 µg/m or less
			20% ethanol	-	-	30 µg/m or less
			Water	30 µg/m or less	-	
			4% acetic acid	-	30 µg/m or less	
		Caprolactam	20% ethanol	15 µg/m or less	-	15 µg/m or less

## Outline of the specifications

	Announcement and name of the specifications	Descriptions	Target food products
Revised Food Sanitation Law Positive List System	Announcement No.380 by the Health, labour and Welfare Ministry in 2020	Utensils or container packages made of synthetic resin	Fatty foods, alcoholic beverages, and other food products
	Announcement No.196 by the Health, labour and Welfare Ministry in 2020	Self-imposed control of the food sanitation for vinyl chloride resin products	

## Food sanitation law (Announcement No. 380 by the Ministry of Health and Welfare)

Material test		
2-mercaptoimidazoline	Pb	Cd
2-mercaptoimidazoline	100 µg/g or less	100 µg/g or less

Our accepted products	Elution condition	Elution test						
Silicone hose	The test is conducted by soaking in an immersion solution of 2ml per 1cm <sup>2</sup> in 60°C for 30 minutes, and the resulted solution is studied (for the products to be used in the temperature of 100 degrees or more, they are soaked in 95°C for 30 minutes).	Phenol	Formic aldehyde	Zn	Precious metals (As Pb)	Evaporation residue		
		Water	Water	4% acetic acid	4% acetic acid	Water	4% acetic acid	20% ethanol
		5 µg/ml or less	Negative	15 µg/ml or less	1 µg/ml or less	Food and water exceeding PH5	Food of below PH5	Alcoholic beverages and fatty foods
						60 µg/ml or less		

## Our approved products and test menus

Foods Hose	Announcement and general application	Descriptions	Target foods	Specifications standard
Pure Foods Hose Pure Foods Spring Hose	Announcement No.380 (2020)	Utensils or container packages made of vinyl chloride resin	Fatty foods	Materials and elution test The compounding agent "Bis phthalate (2-ethylhexyl)" is below the standard value. Content: 0.1% or less Elution amount: 1µg/ml or less (immersion condition: 25°C for one hour)
Pure Foods Hose Pure Foods Spring Hose Heat-Resistant Eco Hose	Announcement No.380 (2020)	Utensils or container packages made of synthetic resin	Fatty foods Alcoholic beverages Other foods	
Silicone Hose	Announcement No.380 (2020)	Utensils or container packages made of rubbers	Fatty foods	Elution test and evaporation residue In the specifications test, elution amount is 30 µg/ml or less in the condition where the 20% ethanol is used for the immersion solution in 60°C for 30 minutes. In the specifications test, elution amount is 30 µg/ml or less in the condition where the 4% acetic acid and water are used for the immersion solution in 60°C for 30 minutes. In the specifications test, elution amount is 30 µg/ml or less in the condition where the 20% ethanol is used for the immersion solution in 60°C for 30 minutes. In the specifications test, elution amount is 30 µg/ml or less in the condition where the 4% acetic acid and water are used for the immersion solution in 60°C for 30 minutes.
			Alcoholic beverages	
			Other foods	

The Food Sanitation Law applies only to "utensils or containers and packaging in direct contact with food or additives."

## \*Ministry of Health, Labor and Welfare Notification No. 380

According to Notification No. 85 of the Ministry of Health, Labour and Welfare dated April 1, 1986.

The Ministry of Health, Labour and Welfare Notification No. 20 only regulated only infant formula feeding apparatus, and the new Notification No. 85 regulated all rubber products as follows.

In 2012, No. 595 was added as a result of partial revision of test methods, and in 2016, No. 245 was added as a result of the addition of polyethylene naphthalate as a main ingredient.

In 2016, No. 595 was added and No. 245 was stipulated, and the standard standards for containers and packaging for milk, etc., stipulated in the Ministerial Ordinance on Milk, etc., were transferred to the Standards and Standards Notification by No. 380 enforced on December 4, 2020, thereby unifying the standards.

This amendment is based on the following provisions. This revision is not accompanied by any changes in standard values or definitions of terms.



## Painting Hose

A wide variety of products are prepared in this series to support manual spray, spray robot and automatic spray machines. Each product in this series has following features: swelling property is improved; inner roughness is ultimately studied to shorten the setup time; and a ground connection is added for removing the static electricity.

### FA plus-easy Tube



Improved barrier performance and protects fluids from moisture.  
Inner fluorine resin with excellent chemical resistance.



Fluids **Paints** Solvents

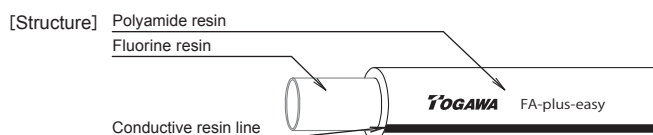
Working Temperature Limit Between -20°C and + 60°C

Material Inner fluorine resin product

Use For piping of paints, solvents and paint robots

Features Conductive resin line on the outer layer, and grounding is just tightening the metal joint  
Excellent moisture barrier for two-component paint type coating

Nominal designation	Inner diameter (mm)	Outer diameter (mm)	Regular size (m)	Maximum working pressure, MPa at 20°C	Minimum bending radius (mm)	Regular size weight (kg)
FA plus-easy-4	2.5	4.0	100	1.2	12	1.11
FA plus-easy-6	4.0	6.0	100	1.2	19	2.17
FA plus-easy-8	6.0	8.0	100	1.2	34	3.07
FA plus-easy-10	8.0	10.0	100	1.2	53	3.96

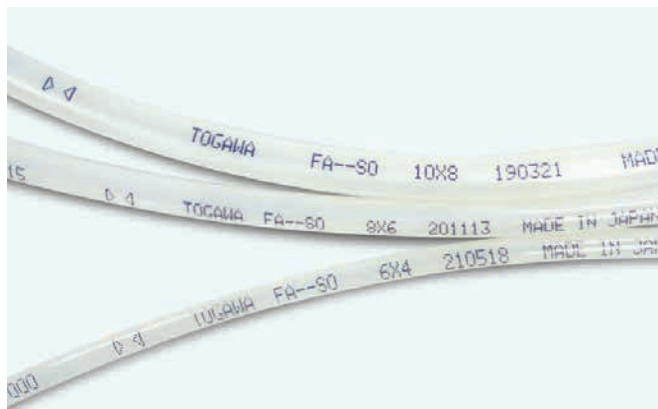




## FA Tube

RoHS2  
compliant

Compared to conventional fluorine tube, the softness and smoothness of inner tube have been improved, attaining superior workability.



Nominal designation	Inner diameter (mm)	Outer diameter (mm)	Regular size (m)	Maximum working pressure MPa at 20°C	Minimum bending radius (mm)	Regular size weight (kg)
FA-6	4.0	6.0	100	1.2	18	2.0
FA-8	6.0	8.0	100	1.2	30	2.8
FA-10	8.0	10.0	100	1.2	50	3.5

Fluids

Paints

Solvents

Working Temperature Limit

Between -20°C and +60°C

Material

Inner fluorine resin product

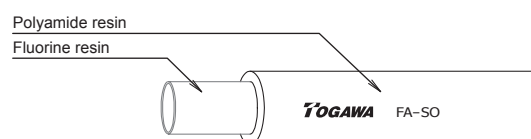
Use

For piping of paints, solvents, and paint robots, and conveyance of foods and beverages.

Features

Compared to conventional fluorine tubes, the retention power against burst pressure after bending the tube has been greatly upgraded.

[Structure]



Painting Hose

## Sun Paint Hose (PB-easy)

RoHS2  
compliant

With the use of polyamide resin, the solvent resistance is significantly improved compared to conventional painting hoses.



Nominal designation	Inner diameter (mm)	Outer diameter (mm)	Regular size (m)	Maximum working pressure MPa at 20°C	Minimum bending radius (mm)	Regular size weight (kg)
PB-easy-7	6.5	10.0	100	1.5	35	5.7

Fluids

Paints

Solvents

Working Temperature Limit

Between -20°C and +60°C

Material

Polyamide/Polyurethane resin product

Use

For piping of paints and solvents

Features

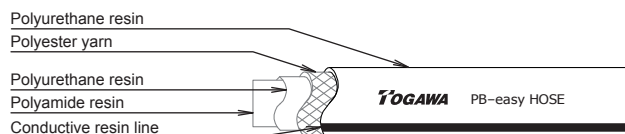
Superior in flexibility and pressure resistance, this hose will improve workability.

Features

A versatile painting hose is now available!

- As a conductive sleeve is applied around the outer layer, the grounding can be completed just by tightening the metallic joint (when the resistance value is  $9 \times 10^6 \Omega$  or less, and the whole length is 15m or less).

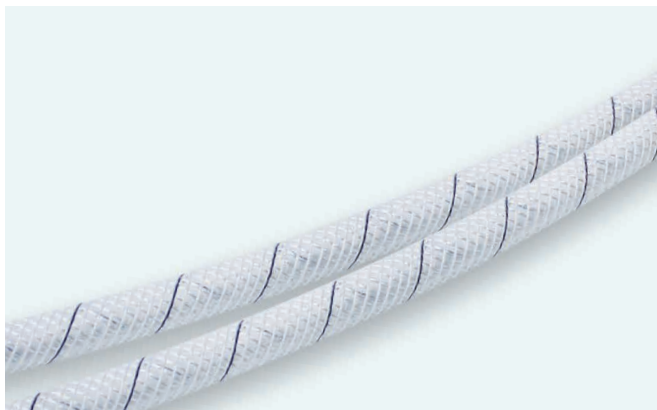
[Structure]



## Sun Paint Hose (PB-with a ground wire)



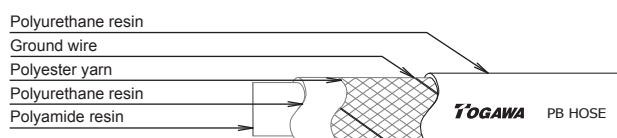
With the use of polyamide resin, the solvent resistance is significantly improved compared to conventional painting hoses.



Nominal designation	Inner diameter (mm)	Outer diameter (mm)	Regular size (m)	Maximum working pressure MPa at 20°C	Minimum bending radius (mm)	Regular size weight (kg)
PB-7	6.5	10.0	100	1.5	35	5.7

Fluids	Paints	Solvents
Working Temperature Limit	Between -20°C and + 60°C	
Material	Polyamide/Polyurethane resin product	
Use	For piping of paints and solvents	
Features	Superior in flexibility and pressure resistance, this hose will improve the workability.	

### [Structure]



## Sun Paint Hose (FUB-easy)



With the use of special resin for the outer layer, this hose is superior in significant flexibility. The fluorine resin, used for the wetted layer, will also demonstrate the significant resistance to water paints.



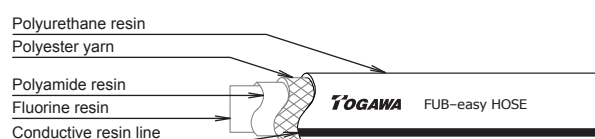
Nominal designation	Inner diameter (mm)	Outer diameter (mm)	Regular size (m)	Maximum working pressure MPa at 20°C	Minimum bending radius (mm)	Regular size weight (kg)
FUB-easy-7	7.0	10.0	100	1.5	33	5.5

Fluids	Paints	Solvents
Working Temperature Limit	Between -20°C and + 60°C	
Material	Inner fluorine resin product	
Use	For piping of paints and solvents	
Features	The fluorine resin, used for the wetted layer, will demonstrate the significant resistance to water paints in addition to oil paints.	

### Features Best choice of manual paint hose!

- As the inner fluorine resin is superior in inner roughness, this hose will help to shorten the setup time for color change.
- As a conductive sleeve is applied around the outer layer, the grounding can be completed just by tightening the metallic joint (when the resistance value is "9 x 10<sup>6</sup> W" or less, and the whole length is 15m or less).

### [Structure]



## UB-easy Air Hose



A versatile conductive air hose is now available!



Nominal designation	Inner diameter (mm)	Outer diameter (mm)	Regular size (m)	Maximum working pressure MPa at 20°C	Minimum bending radius (mm)	Regular size weight (kg)
UB-6510	6.5	10.0	100	1.5	35	5.4
UB-8512	8.5	12.5	100	1.5	45	8.3

### Fluids

Air

### Working Temperature Limit

Between -20°C and + 60°C

### Material

Polyurethane product

### Use

Conductive air hose for painting

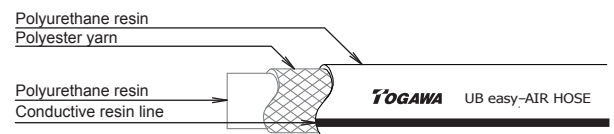
### Features

Just tighten the metal fittings! No need to bare ground wire.

### Features

- As a conductive sleeve is applied around the outer layer, the grounding can be completed just by tightening the metallic joint (when the resistance value is  $9 \times 10^6 \Omega$  or less, and the whole length is 15m or less).

### [Structure]

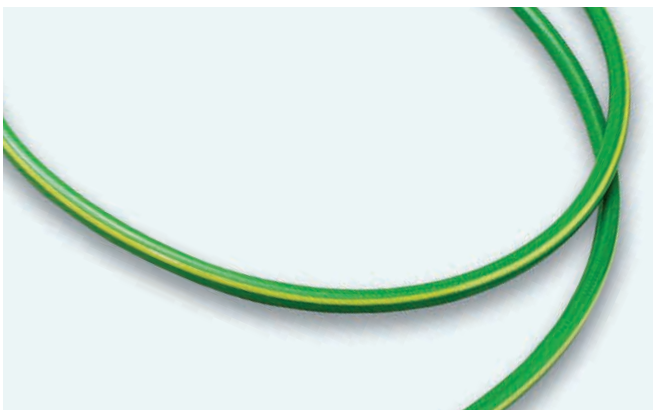


Painting Hose

## Conductive Air Hose



A conductive material is used for inner layer and the grounding can be completed just by connecting a metallic joint.



### Electric resistance value ( $\Omega$ )

Nominal designation	Length of hose (m)	
	10m	20m
SEH-6	$1.0 \times 10^5$	$2.0 \times 10^5$
SEH-8	$1.0 \times 10^5$	$1.5 \times 10^5$

\*1. Purpose: The values of electric resistance of conductive air hoses, 6.5 x 1B x 10 and 8.5 x 1B x 12.5 in 10m and 20m, are measured.

\*2. Test method: A joint (brass) is attached to the conductive air hoses, SE-H6 and SE-H8, and the electric resistance values between the hoses are measured.

### Fluids

Air

### Working Temperature Limit

Between -20°C and + 60°C

### Material

Polyurethane product

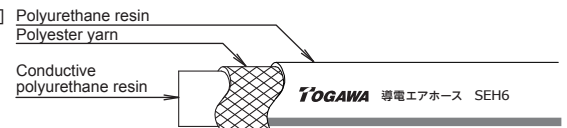
### Use

For antistatic piping of painting

### Features

Stripping off the ground wire is not necessary, which improves the workability. A reliable grounding can be achieved.

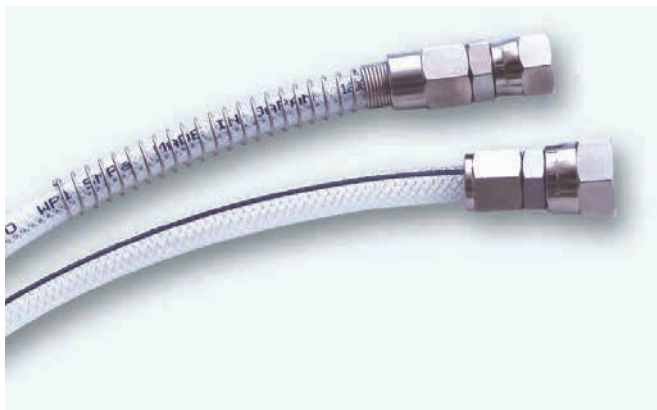
### [Structure]



Nominal designation	Inner diameter (mm)	Outer diameter (mm)	Regular size (m)	Maximum working pressure MPa at 20°C	Minimum bending radius (mm)	Regular size weight (kg)
SEH-6	6.5	10.0	100	1.5	35	5.7
SEH-8	8.5	12.5	100	1.5	45	8.4

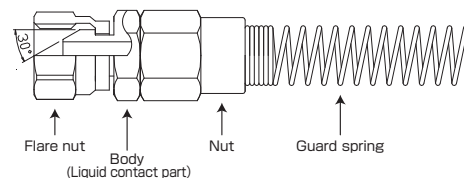


## Joins for Painting Hose



Nominal designation	Joint type	Screw size	Guard spring	Conformed hose	Material
T05-6510 1/4 SB	Female	G 1/4	×	PB-easy 7	Liquid contact part: SUS304
T05-6510 1/4 SBGS	Female	G 1/4	○	PB-7	
T05-6510 3/8 SB	Female	G 3/8	×	FUB-easy 7	Nut: Brass (electroless nickel plating)
T05-6510 3/8 SBGS	Female	G 3/8	○		

[Structure]



## Y-type Joint for Painting Hose



Nominal designation	Tip	Bifurcated part	Material (Body/Nut)
ES-Y 1/4x1/4	G1/4	G1/4	SUS303
ES-Y 3/8x1/4	G3/8	G1/4	SUS303

<Tip>  
Female thread /  
30° outer seat



<Bifurcated part>  
Male thread /  
30° internal seat

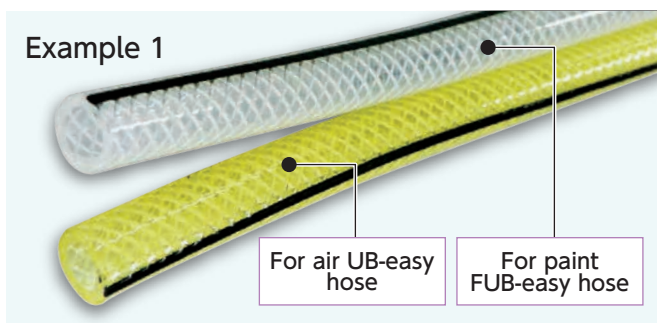
### Features

Fewer connection points, smaller inner surface irregularities, and smaller roughness on the channel's inner surface.

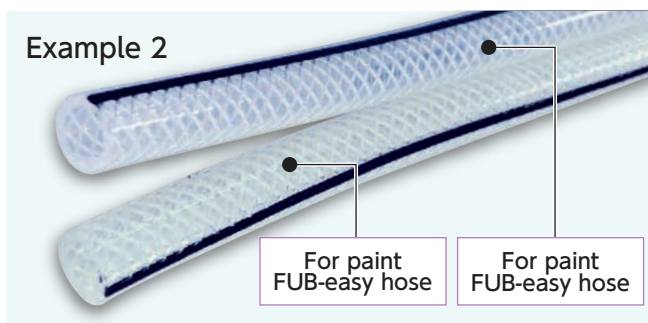
## Paint Twin Hose

## Made-to-order

Example 1



Example 2



Twinning of painting hoses is available on a made-to-order basis.

## List of painting hoses

## Air Hose

To be recommended use  
Electric Conducted Air hoses  
for both of the Air Spray and  
Electric Static Spray Gun.



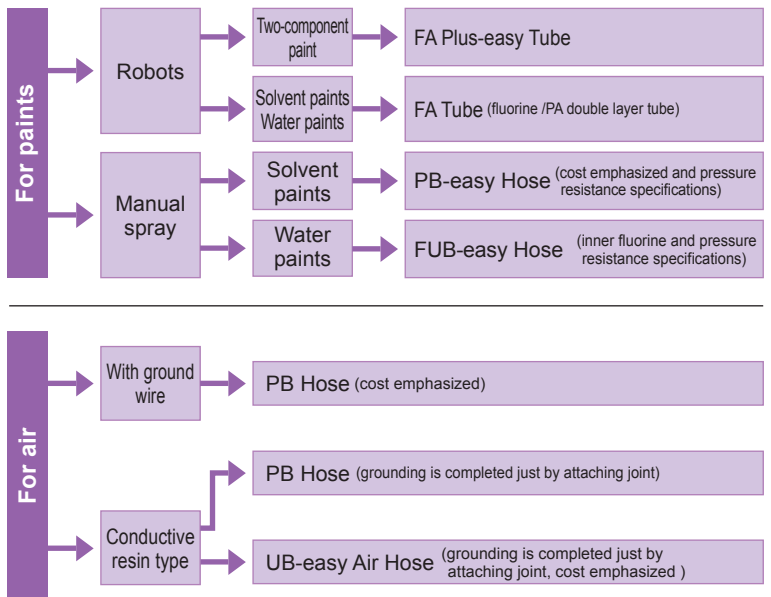
Conductive Air Hose  
(SEH)

UB-easy

Actual working  
pressure (MPa)  
0.5~0.6

## Paint Hose

	Paint Type	Typical Spray Gun	Actual working pressure(MPa)	Tube & Hose
Manual Spray Gun	Under Body Coat	Air-Airless Gun	15~25	Airless Hose
	Stone Guard Coat	A-A Gun	7~8	Airless Hose
	Primer Coat	ES Gun	0.4~0.5	FA Tube FA Plus-easy Tube
	Surface Coat			
	To Coat / Base & Clear			
Robot Auto machine	Under Body Coat	Rust-Proof high viscosity paint Airless gun	15~25	Airless Hose
	Stone Guard Coat	A-A Gun	7~8	Airless Hose
	Primer Coat	Air Spray Gun E/S Spray Gun	0.2~0.3	PB-easy Hose FUB-easy Hose
		HVLP Gun	0.2~0.6	



## Comparison data of manual spray hose

Description (unit)		For solvent paints	For water paints	Test method
		PB-easy Hose	FUB-easy Hose	
Hose size (mm)		6.5x10	7x10	
Immersion test <Immersion solvents: solvent thinner>		+26% (△)	+35% (△)	Togawa method: The hose (25mm) is soaked in an immersion solvent for 20 days and the fluctuation of weight is measured.
Amount of deflection (mm)		54 (○)	41 (○)	Togawa method: A load weight of 100g is applied to the edge of a 150mm tube, and the amount of deflection is measured.
Checking of water paint appropriateness A water paint base is filled in the hose, which is left for 20 days	Condition of paint	The paint is somewhat sticky (△)	The paint is watery (◎)	After leaving the hose for 20 days, the degree of removability by natural force is compared.
	Condition of inner hose	A few residual paints (△)	No residual paints (○)	After removing the residual paints, a water thinner (2 cc) is poured for two times, and the inner part is checked.



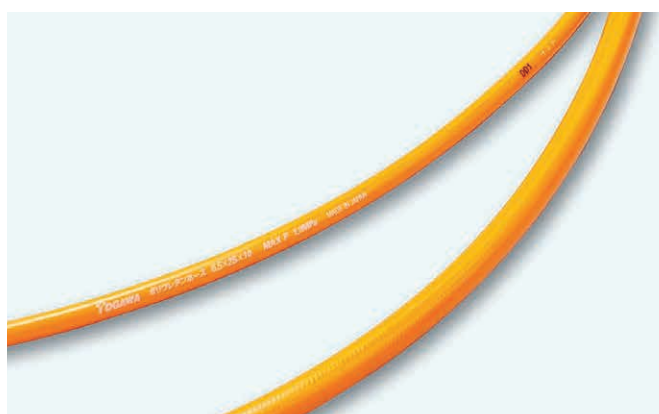
## For Air Tools

A series of air hoses that support maximum working pressure of each application. The hoses can be used for various air tools, spray paint, and air piping at factories with a variety of different colors for color coding.

### Polyurethane Hose



Appropriate for air tools (air-tucker, pegger machine, and impact wrench), paint, spray, in-factory air tools.



Fluids	Air
Working Temperature Limit	Between -20°C and + 60°C
Material	Polyurethane product
Use	For air-paint, air-spray, and in-factory air tools
Features	With flexibility and light weight, this hose is appropriate for construction sites.

Nominal designation	Inner diameter (mm)	Outer diameter (mm)	Regular size (m)	Maximum working pressure MPa at 20°C	Minimum bending radius (mm)	Regular size weight (kg)	Color
TPH-6510	6.5	10.0	100	1.5	30	5.7	● ●
TPH-8512	8.5	12.5	100	1.5	40	8.3	● ●
TPH-1116	11.0	16.0	50	1.5	45	6.5	●

### Performance evaluation

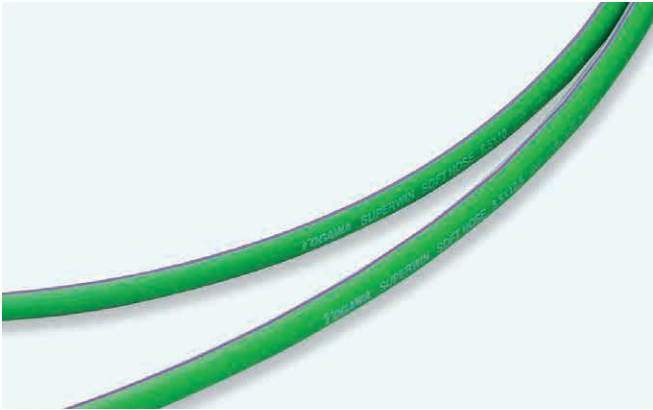
Descriptions	Evaluation	Descriptions	Evaluation
Lightness	★★★★★	Smoothness	★★★★☆
Softness	★★★★☆	Spattering resistance	★★★☆☆

\* All the evaluations were made in-house



## Super Win Soft Hose

With further softness and smoothness, this hose is free from winding or hopping.



Fluids	Air
Working Temperature Limit	Between -5°C and + 60°C
Material	Specialized elastomer product
Use	For air-paint, air-spray, and in-factory air tools
Features	With the increased smoothness, this hose is easy to carry and improves the workability. Superior in water resistance, elasticity, and airtightness, this hose is appropriate for air tool piping.

Nominal designation	Inner diameter (mm)	Outer diameter (mm)	Regular size (m)	Maximum working pressure MPa at 20°C	Minimum bending radius (mm)	Regular size weight (kg)
SWH-6510	6.5	10.0	100	1.5	20	5.8
SWH-8512	8.5	12.5	100	1.5	40	8.3
SWH-1116	11.0	16.0	100	1.5	45	13.4

### Performance evaluation

Descriptions	Evaluation	Descriptions	Evaluation
Lightness	★★★★★	Smoothness	★★★★★
Softness	★★★★★	Spattering resistance	★★★☆☆

\* All the evaluations were made in-house



## Super Tom Spatter Hose

Compared to conventional air hoses, this hose has greater resistance against sparks due to the inclusion of spark



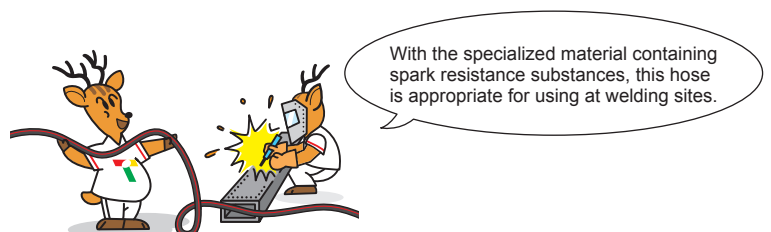
Fluids	Air
Working Temperature Limit	Between -5°C and + 60°C
Material	Specialized elastomer product
Use	For air-paint, air-spray, and in-factory air tools
Features	Compared to conventional urethane hoses, this hose has greater resistance against sparks due to the inclusion of spark resistance substances, which is appropriate for using at welding sites and automobile service garages, etc.

Nominal designation	Inner diameter (mm)	Outer diameter (mm)	Regular size (m)	Maximum working pressure MPa at 20°C	Minimum bending radius (mm)	Regular size weight (kg)
STH-6510	6.5	10.0	100	1.5	30	5.7
STH-8512	8.5	12.5	100	1.5	40	8.3

### Performance evaluation

Descriptions	Evaluation	Descriptions	Evaluation
Lightness	★★★★★	Smoothness	★★★★★
Softness	★★★★☆	Spattering resistance	★★★★★

\* All the evaluations were made in-house



## Sun Tech Air Hose

A convenient and affordable air hose combined with a pair of couplers. The hose is available in a variety of different colors.



### Fluids

Air

### Working Temperature Limit

Between -20°C and +60°C

### Material

Polyurethane product

### Use

For air-paint, air-spray, and in-factory air tools

### Features

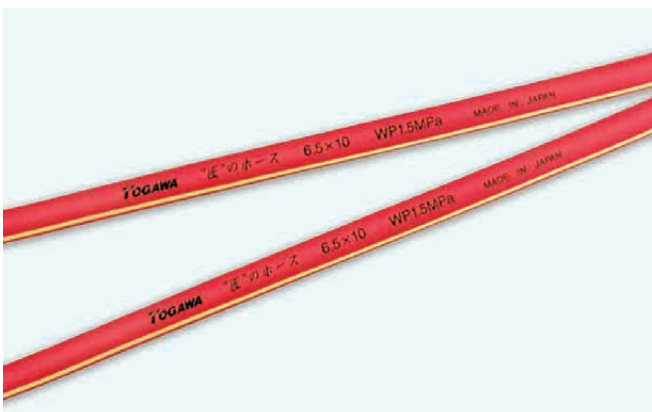
A convenient and affordable air hose with a pair of couplers. Available in a variety of different colors as orange, green, and yellow.

Nominal designation	Inner diameter (mm)	Outer diameter (mm)	Regular size (m)	Maximum working pressure MPa at 20°C	Minimum bending radius (mm)	Brackets used	Delivery unit	Color
STC-7010	7.0	10.0	10	1.5	40	Two-touch coupler	10	● ● ●
STC-7020	7.0	10.0	20	1.5	40		10	● ● ●
STC-7030	7.0	10.0	30	1.5	40		10	● ● ●
STC-7100	7.0	10.0	100	1.5	40	—	—	●



## Takumi Air Hose

Characterized by the extraordinary flexibility of the special resin. You may feel as if no hose is attached.



### Fluids

Air

### Working Temperature Limit

Between -5°C and +60°C

### Material

Specialized elastomer product

### Use

For air-paint, air-spray, and in-factory air tools

### Features

Characterized by the extraordinary light weight with the aluminum couplers.

Nominal designation	Inner diameter (mm)	Outer diameter (mm)	Regular size (m)	Maximum working pressure MPa at 20°C	Minimum bending radius (mm)	Brackets used	Delivery unit
TAC-6510	6.5	10.0	10	1.5	20	One-touch aluminum coupler	10
TAC-6520	6.5	10.0	20	1.5	20		10
TAC-6530	6.5	10.0	30	1.5	20		10
TAC-6100	6.5	10.0	100	1.5	20	—	—



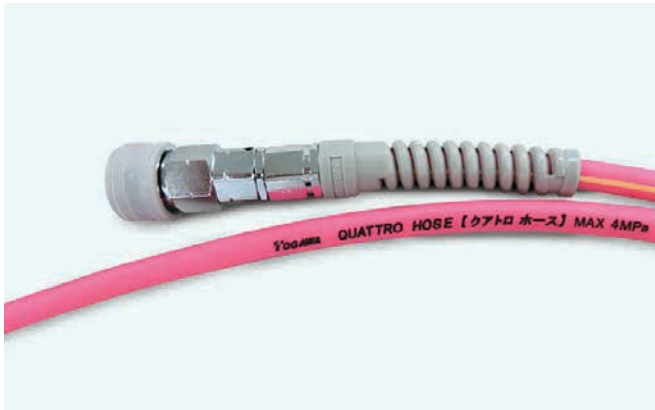
### Super flexible hose with light weight coupler!

This hose can be used in a wide variety of applications such as pegger machines, air-tuckers, and air-spray guns. This hose may be well praised even by professional skilled workers. The couplers, made of aluminum, are characterized by the light weight, resistance to damages, and increased removability and operability. In addition, the couplers are superior in versatility which can be used for a variety of applications ranging from in-factory air piping to hose connection with air tools.



## Quattro Air Hose

The high pressure hose of super flexibility and smoothness which can support up to 4MPa maximum operating pressure.



Fluids	Air
Working Temperature Limit	Between -5°C and + 60°C
Material	Specialized elastomer product
Use	For air tools (pegger machines and air-tuckers) and in-factory air tools.
Features	A high pressure hose that supports up to 4MPa maximum operating pressure and significantly shorten the work hours. With the new proprietary special material, this hose cannot get stuck or kinked easily.

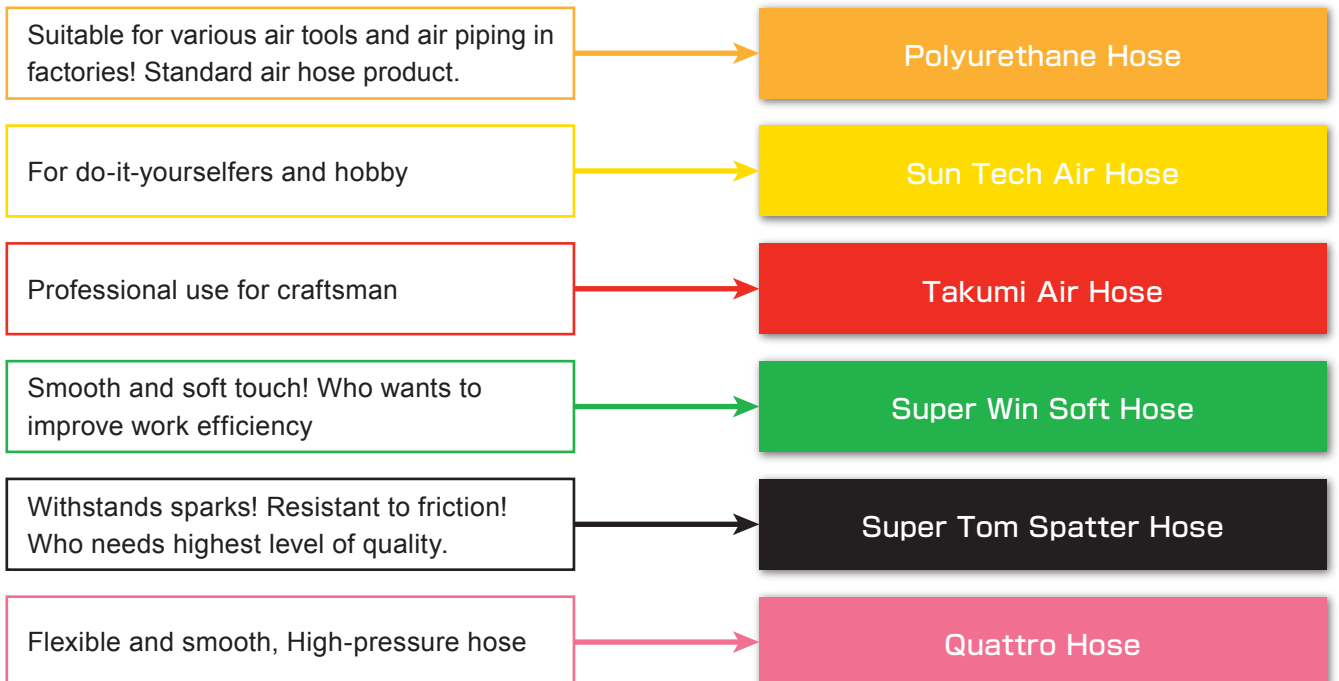
Nominal designation	Inner diameter (mm)	Outer diameter (mm)	Regular size (m)	Maximum working pressure MPa at 20°C	Minimum bending radius (mm)	Brackets used	Delivery unit
QHC-6010	6.0	10.0	10	4.0	18	One-touch aluminum coupler	10
QHC-6020	6.0	10.0	20	4.0	18		10
QHC-6030	6.0	10.0	30	4.0	18		5

### Performance evaluation

Descriptions	Evaluation	Descriptions	Evaluation
Lightness	★★★★★	Smoothness	★★★★★
Softness	★★★★☆	Spattering resistance	★★★★★

\* All the evaluations were made in-house

### Air hose selection chart and Example of use



## Takumi Air Reel



Air reel product

Fluids	Air
Working Temperature Limit	Between -5°C and + 60°C
Use	For air-paint, air-spray, and in-factory air tools.
Features	Reels with rotation function, you can choose the direction.
Super flexible hose "Takumi" Air Hose attached.	

Nominal designation	Hose size	Regular size (m)	Minimum bending radius (mm)	Regular size weight (kg)
Takumi Air Reel (TAR)	6.5×10	30	1.5	8.0

## Quattro Air Reel



Air reel product

Fluids	Air
Working Temperature Limit	Between -5°C and + 60°C
Use	For air-paint, air-spray, and in-factory air tools.
Features	Reels with rotation function, you can choose the direction.
High pressure and super flexible hose Quattro Hose attached.	

Nominal designation	Hose size	Regular size (m)	Minimum bending radius (mm)	Regular size weight (kg)
Quattro Reel (QHR)	6.0×10	30	4.0	8.3

## Sun Tech Air Reel



Air reel product

Fluids	Air
Working Temperature Limit	Between -20°C and + 60°C
Use	For air-paint, air-spray, and in-factory air tools.
Features	Reels with rotation function, you can choose the direction.
Sun Tech Air Hose attached.	

Nominal designation	Hose size	Regular size (m)	Minimum bending radius (mm)	Regular size weight (kg)
Sun Tech Air Reel (STR)	7.0×10	30	1.5	7.8

## Connect Tube (CH)



Fluids	Air
Working Temperature Limit	Between -20°C and +60°C
Material	Polyurethane product
Use	A tube for various pneumatic machines
Features	Superior in oil resistance, this tube is appropriate for in-factory air piping.

Nominal designation	Inner diameter (mm)	Outer diameter (mm)	Regular size (m)	Maximum working pressure MPa at 20°C	Minimum bending radius (mm)	Regular size weight (kg/m)
CH-4 BK	2.5	4.0	100	0.7	10	0.009
CH-6 BK	4.0	6.0	100	0.7	15	0.019
CH-8 BK	5.0	8.0	100	0.7	24	0.037
CH-10 BK	6.5	10.0	50	0.7	30	0.054
CH-12 BK	8.0	12.0	50	0.7	36	0.075

※Standard color is black. Other colors can be manufactured in lot production.



## Connect Coil

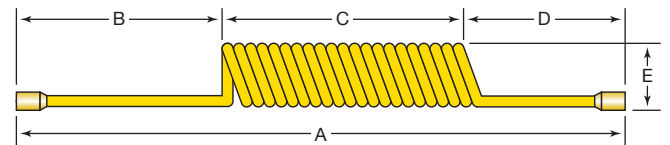
With its spring characteristic, this coil won't get kinks easily, which is appropriate for air tools.



Screw type

Nominal designation	Inner diameter (mm)	Outer diameter (mm)	Working space (m)	Brackets of both ends	Maximum working pressure MPa at 20°C	Delivery Unit
CHU-5080-3	5.0	8.0	2.0	G1/4 Female connector	0.8	10
CHU-5080-5	5.0	8.0	4.0	G1/4 Female connector	0.8	10
CHU-5080-7	5.0	8.0	6.0	G1/4 Female connector	0.8	10
CHU-5080-10	5.0	8.0	8.0	G1/4 Female connector	0.8	10
CHU-6510-3	6.5	10.0	2.0	G1/4 Female connector	0.8	10
CHU-6510-5	6.5	10.0	4.0	G1/4 Female connector	0.8	10
CHU-6510-7	6.5	10.0	6.0	G1/4 Female connector	0.8	10
CHU-6510-10	6.5	10.0	8.0	G1/4 Female connector	0.8	10
CHU-8012-3	8.0	12.0	2.0	G1/4 Female connector	0.8	10
CHU-8012-5	8.0	12.0	4.0	G1/4 Female connector	0.8	10
CHU-8012-7	8.0	12.0	6.0	G1/4 Female connector	0.8	10
CHU-8012-10	8.0	12.0	8.0	G1/4 Female connector	0.8	10

Fluids	Air
Working Temperature Limit	Between -20°C and +60°C
Material	Polyurethane product
Use	For air-paint, air-spray, and in-factory air tools
Features	Because of a coil form, this product will cover broader working space with fewer kinks and wears. As the edges are straightened, no hoses are necessary, and the couplers will improve the workability.



Nominal designation	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
CHU-5080-3	780	500	180	100	42.0
CHU-5080-5	1,000	500	400	100	42.0
CHU-5080-7	1,230	500	630	100	42.0
CHU-5080-10	1,400	500	800	100	42.0
CHU-6510-3	785	500	185	100	52.0
CHU-6510-5	1,000	500	400	100	52.0
CHU-6510-7	1,235	500	635	100	52.0
CHU-6510-10	1,400	500	800	100	52.0
CHU-8012-3	780	500	180	100	65.0
CHU-8012-5	990	500	390	100	65.0
CHU-8012-7	1,190	500	590	100	65.0
CHU-8012-10	1,380	500	780	100	65.0

\* Above values are reference only not standard values.

## Sun Tech Coil

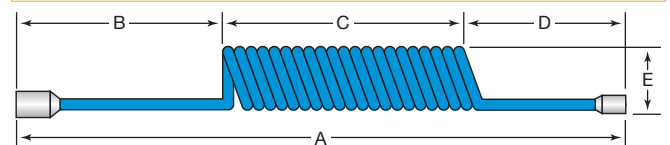
Superior in robustness in addition to high flexibility, elasticity, and wear resistance.



Coupler type

Nominal designation	Inner diameter (mm)	Outer diameter (mm)	Working space (m)	Brackets of both ends	Maximum working pressure MPa at 20°C	Delivery Unit
SCH-5080-3	5.0	8.0	2.0	Two-touch coupler	0.8	10
SCH-5080-5	5.0	8.0	4.0	Two-touch coupler	0.8	10

Fluids	Air
Working Temperature Limit	Between -20°C and +60°C
Material	Polyurethane product
Use	For air-paint, air-spray, and in-factory air tools
Features	Because of a coil form, this product will cover broader working space with fewer kinks and wears. As the edges are straightened, no hoses are necessary, and the couplers will improve the workability.

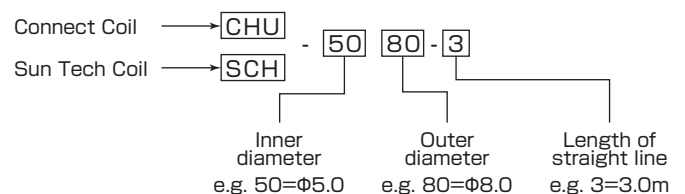


Nominal designation	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
SCH-5080-3	780	500	180	100	42.0
SCH-5080-5	1,000	500	400	100	42.0

\* Above values are reference only not standard values.



### Description of nominal designation



Japan market No.1 "TOGAWA" Brand Spray Hose

**Very Light weight**  
**Long Life**



## HIGH PRESSURE HOSE

Flexible PVC product

**MADE IN JAPAN**

**Special features by using at high pressure...**

- ◆ Can sprinkle agrochemicals to all surfaces of farm products.
- ◆ Can supply liquid fertilizer with uniformly and density.
- ◆ Fog cooling effect will keep greenhouses at a suitable temperature.

Specifications: Working temperature limit : Between -5°C and + 60°C

Nominal designation	Inner diameter (mm)	Outer diameter (mm)	Regular size (m)	Maximum working pressure MPa at 20°C	Burst pressure MPa at 20°C	Brackets
HP-8.5	8.5	14.5	50 • 100	4.0	14.0	ISO
HP-10	10.0	17.0	50 • 100	4.0	14.0	ISO

### Use

For agricultural machines

### Features

Very flexible and easy to handle  
Very light weight

### Fluids



**Water**

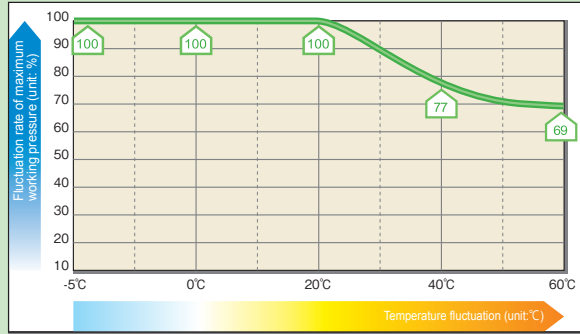


**Agrochemicals**

Note: Cannot be used for fuel oil

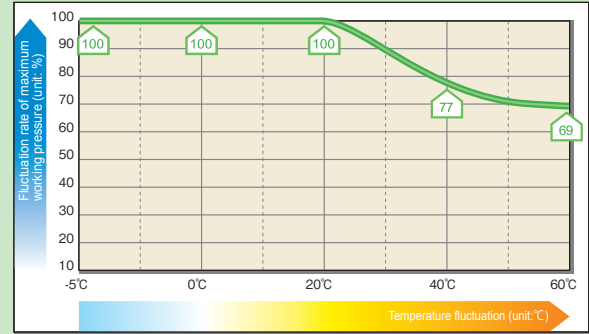
### MEGA Sun Braid Hose

Relationship between the working temperature and the maximum working pressure



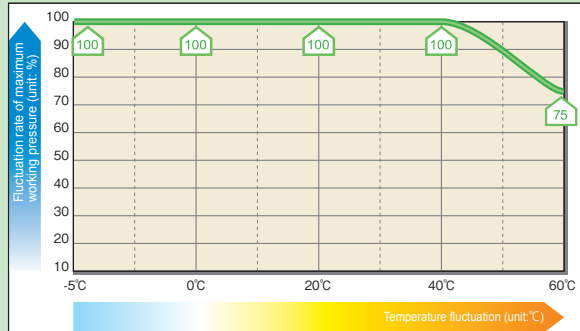
### MEGA Oil Resistance Sun Braid Hose

Relationship between the working temperature and the maximum working pressure



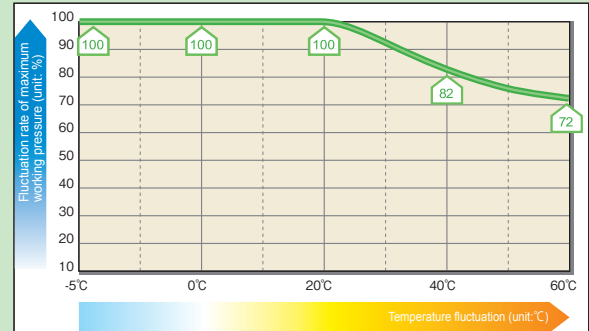
### Super Sun Spring Hose

Relationship between the working temperature and the maximum working pressure



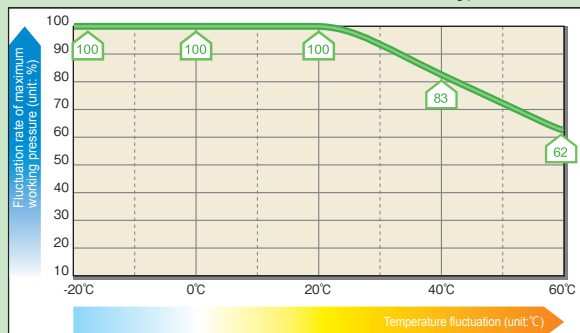
### Super Air Hose

Relationship between the working temperature and the maximum working pressure



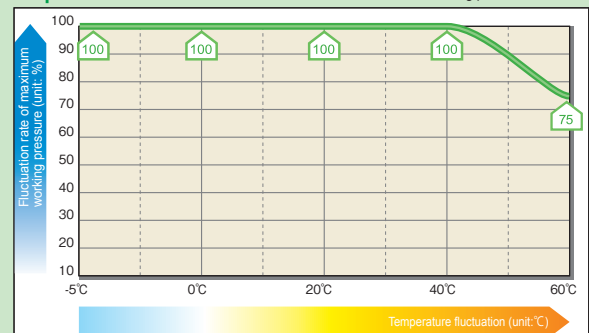
### Polyurethane Hose

Relationship between the working temperature and the maximum working pressure



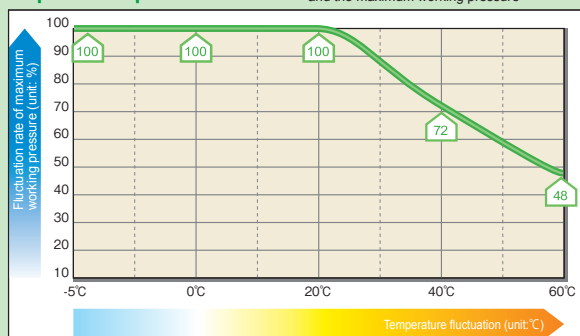
### Super Win Soft Hose

Relationship between the working temperature and the maximum working pressure



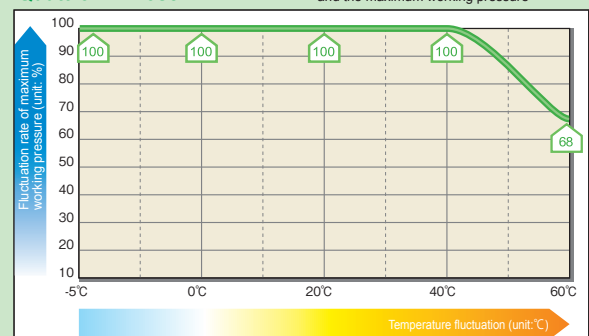
### Super Tom Spatter Hose

Relationship between the working temperature and the maximum working pressure



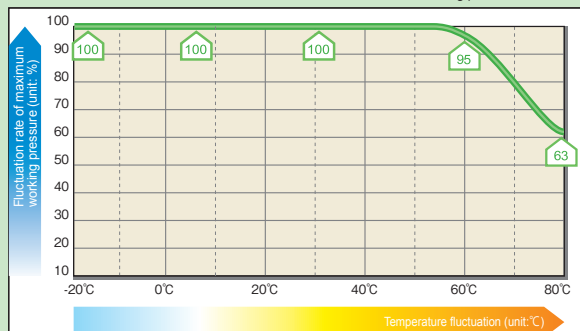
### Quattro Air Hose

Relationship between the working temperature and the maximum working pressure



### Heat-Resistant Eco Hose

Relationship between the working temperature and the maximum working pressure



\* The above pressure resistant data on the graph does not indicate the guaranteed value. Use the data for your reference only.



# Series Selection Chart

Series	Product name	Flexibility	Transparency	Oil resistance	Pressure resistance	Robustness	Negative pressure resistance	RoHS2 Certified	Main Usage	Materials	Outer layer color	Page placed
Industrial Hose	MEGA Oil Resistance Sun Braid Hose	◎	○	◎	◎	△	×	○	Machine Tools	Oil resistance PVC	Transparent green and black white line	3
	MEGA Sun Braid Hose	◎	◎	○	◎	△	×	○	Piping for factory equipment	PVC	Transparent and black white line	4
	Super Sun Spring Hose	○	◎	◎	△	◎	○	○	For conveyance	Oil resistance PVC	Transparent	5
	Super Tom Flex Hose	○	○	◎	△	◎	△	○	Conveying and Piping	Oil resistance PVC	Transparent blue	5
	Foam Sun Braid Hose	△	×	○	◎	△	×	○	Cooling chiller piping	PVC	Black	6
	Super Air Hose	○	×	○	◎	◎	×	○	Air piping	PVC	blue and Black	6
	Super Water Hose	○	×	○	◎	◎	×	○	Water piping	PVC	Green	7
	MEGA High Pressure Hose	○	△	△	◎	○	×	×	Delivery of grout	PVC	Transparent	7
	Super Tom Fusso Tube	○	○	◎	×	△	×	○	Chemicals, paints and foods	Fluorine	Transparent	8
	Super Tom Fusso-easy Hose	△	○	◎	◎	○	×	○	Chemicals, paints and foods	Fluorine	Transparent and black line	8
Series	Product name	Flexibility	Transparency	Oil resistance	Pressure resistance	Robustness	Negative pressure resistance	RoHS2 Certified	Main Usage	Materials	Outer layer color	Page placed
Food Hose	Heat-Resistant Eco Hose	○	○	○	△	○	×	○	For food and beverages	TPE	Milky white and blue line	9
	Pure Foods Hose	◎	○	◎	△	○	×	○	For food and beverages	PVC	Milky white and blue line	10
	Pure Foods Spring Hose	○	○	◎	◎	○	○	○	For food and beverages	PVC	Milky white	10
	Silicone Hose	◎	△	×	×	◎	×	○	For food and chemicals	Silicone	Milky white	11
Series	Product name	Flexibility	Transparency	Solvent resistance	Pressure resistance	Conductivity	Inner smoothness	RoHS2 Certified	Main Usage	Materials	Outer layer color	Page placed
Painting Hose	FA plus-easy Tube	△	○	◎	○	◎	◎	○	For paints	Fluorine	Transparent and black line	13
	FA Tube	△	○	◎	○	×	◎	○	For paints	Fluorine	Transparent	14
	Sun Paint Hose (PB-easy)	◎	◎	○	◎	◎	○	○	For paints	PA	Transparent and black line	14
	Sun Paint Hose (PB-with a ground wire)	◎	◎	○	◎	◎	○	○	For paints	PA	Transparent	15
	Sun Paint Hose (FUB-easy)	○	○	◎	◎	◎	◎	○	For paints	Fluorine	Transparent and black line	15
	UB-easy Air Hose	○	○	×	◎	◎	—	○	For air tool	TPU	Transparent Yellow and black line	16
	Conductive Air Hose (SEH)	○	—	×	◎	◎	—	○	For air tool	TPU	Green and yellow line	16
Series	Product name	Flexibility	Smoothness	Pressure resistance	Kink resistance	Spattering resistance		RoHS2 Certified	Main Usage	Materials	Outer layer color	Page placed
Air tool Hose	Polyurethane Hose (TPH)	○	○	○	○	×	—	○	Piping for factory equipment	TPU	Orange	19
	Super Win Soft Hose	◎	◎	○	◎	×	—	×	For air tool	Special TPE	Green and purple lines	20
	Super Tom Spatter Hose	○	◎	○	◎	◎	—	×	Welding site	Special TPE	Black and red lines	20
	Sun Tech Air Hose	○	○	○	○	×	—	×	For air tool	TPU	Orange,yellow, and green	21
	Takumi Air Hose	◎	◎	○	◎	×	—	×	For air tool	Special TPE	Red and yellow line	21
	Quattro Air Hose	◎	◎	◎	◎	×	—	×	For air tool	Special TPE	Pink and yellow line	22
	Connect Tube (CH)	△	△	○	×	×	—	○	Piping for factory equipment	TPU	Black	23
	Connect Coil	○	△	○	◎	×	—	×	Piping for factory equipment	TPU	Yellow	24
	Sun Tech Coil	○	△	○	◎	×	—	×	Piping for factory equipment	TPU	Blue	24

**Flexibility** : Easy piping work. Brackets can be inserted and attached easily.

**Transparency** : Fluids can be visually checked. Find accumulation easily.

**Oil resistance** : Flexibility lasts long. Prevent fluids leakage due to hose harden and cracks.

**Pressure resistance** : Stable pressure resistance will avoid troubles.

**Robustness** : Flattening resistance enables shorter bending radius. Withstanding external pressure enables smooth conveyance of fluids.

**Heat resistance** : High temperature of melting, softening and heat decomposition will keep stable heat resistant.

**Conductivity** : Electrically conducting materials improve electroconductivity and enhance working safety.

**Inner smoothness** : High viscosity fluids also can flow smoothly.



# Engineering Data

Read the following engineering data carefully in order to choose an appropriate hose for the safe use. If you have any questions, please feel free to contact us.

e-mail [global@togawa-sangyo.co.jp](mailto:global@togawa-sangyo.co.jp)

## Chemical resistance and oil resistance data

Fluid name	Tube and hose				
	Flexible PVC	Polyethylene	Polypropylene	Polyamide	Fluorine
Acetaldehyde	▲	△	△	▲	△
Acetic acid (10%)	△	○	○	△	○
Acetic acid (50%)	×	△	△	▲	○
Acetone	×	▲	▲	▲	○
Acetylene	○	○	○	○	○
Aluminum acetate	○	○	○	○	○
Aluminum chloride	△	○	○	△	○
Aluminum nitrate	△	○	○	▲	○
Aluminum sulfate	○	○	○	○	○
Ammonia (anhydrous)	△	○	○	○	○
Ammonia gas	▲	○	—	○	○
Ammonium carbonate	○	○	○	○	○
Ammonium chloride	○	○	○	○	○
Ammonium hydroxide	△	○	○	○	○
Ammonium nitrate	△	○	○	○	○
Ammonium sulfate	○	○	○	○	○
Aqua regia	×	×	▲	×	○
ASTM Oil No. 1	▲	△	△	○	○
ASTM Oil No. 2	▲	△	△	○	○
ASTM Oil No. 3	▲	△	△	○	○
ASTM standard fuel A	—	▲	▲	○	○
ASTM standard fuel B	—	▲	▲	○	○
ASTM standard fuel C	—	▲	▲	○	○
Beer	△	○	○	○	○
Benzene	×	▲	▲	△	○
Benzine	▲	×	▲	△	○
Boric acid	△	○	○	○	○
Brine	○	○	○	○	○
Bromine	×	×	×	×	○
Butyl alcohol	×	△	—	▲	○
Calcium chloride	○	○	○	○	○
Calcium hydroxide	○	○	○	○	○
Carbon dioxide gas	○	○	○	○	○
Carbonate	△	▲	△	—	○
Castor oil	▲	○	○	○	○
Caustic soda (10%)	△	○	○	○	○
Caustic soda (30%)	△	○	○	○	○
Caustic soda (30%, high temperature)	×	△	○	×	○
Chlorinated solvent	×	×	×	×	△
Chlorine gas	▲	▲	▲	×	△
Chloroform	×	×	×	×	△
Citric acid	△	○	○	○	○
Coconut oil	▲	△	○	○	○
Cresol	▲	△	△	×	○
Cupric chloride	△	○	○	○	○
Cyclohexanone	×	▲	▲	▲	○
Dichlorobenzene	×	×	▲	×	○
Diethylether	×	×	▲	△	△
Ethyl acetate	×	▲	▲	○	○
Ethyl alcohol	×	△	△	△	○
Ethylene glycol	×	○	△	○	○
Ferric chloride	○	○	○	○	○
Formaldehyde	△	△	○	▲	○
Formic acid	▲	○	○	▲	○

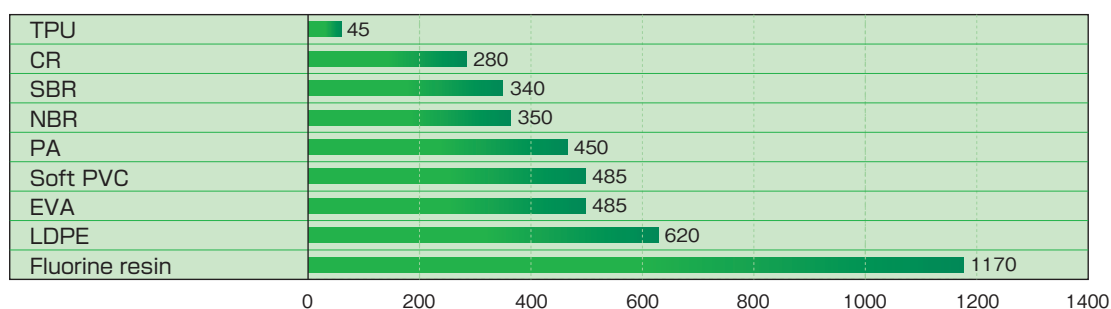
[Description of signs] ○ : No influence or almost no influence △ : Slight influence, but can be used depending on conditions  
▲ : Better not to use × : Not suitable — : No data

## Chemical resistance and oil resistance data

Fluid name	Tube and hose				
	Flexible PVC	Polyethylene	Polypropylene	Polyamide	Fluorine
Fuel oil	×	×	—	○	○
Gasoline	×	△	△	○	○
Glycerin	▲	○	○	○	○
Grease	×	▲	▲	△	○
Hydrochloric acid (10%)	△	○	○	△	○
Hydrochloric acid (20%)	△	○	○	▲	○
Hydrochloric acid (20%, high temperature)	×	▲	△	×	○
Hydrogen	○	○	○	○	○
Hydrogen cyanide	△	○	○	—	○
Hydrogen peroxide (30%)	△	△	○	—	○
Hydrogen peroxide (5%)	△	○	○	—	○
Hydrogen peroxide (5%, high temperature)	△	△	○	—	○
Hypochlorous acid	△	○	○	×	○
Isobutyl alcohol	×	○	○	▲	○
Isopropyl alcohol	×	○	○	△	○
Lactic acid	△	○	○	△	○
Linseed oil	▲	○	○	○	○
Liquid ammonia	△	○	△	○	○
Methyl alcohol	×	△	△	▲	○
Methyl ethyl ketone	×	×	▲	▲	○
Methyl isobutyl ketone	×	▲	▲	▲	○
Mineral oil	▲	▲	△	○	○
Natural gas	○	○	○	○	○
Nikawa	○	○	○	○	○
Nitric acid (10%)	△	○	○	▲	○
Nitric acid (30%, high temperature)	×	▲	▲	×	○
Nitrogen	○	○	○	○	○
Olive oil	▲	△	△	○	○
Oxalic acid	△	○	○	○	○
Oxygen	○	○	○	○	○
Ozone	△	▲	—	×	○
Palmitic acid	△	○	○	○	○
Petroleum	▲	▲	△	○	○
Phosphoric acid (50%)	○	○	○	△	○
Potassium chloride	○	○	○	○	○
Potassium hydroxide	○	○	○	△	○
Propane	○	○	○	○	○
Salt	○	○	○	○	○
Soapy water	○	○	○	○	○
Sodium carbonate	○	○	○	○	○
Sodium hypochlorite (5%)	△	○	○	▲	○
Sodium nitrate	○	○	○	○	○
Soybean oil	▲	○	○	○	○
Sulfuric acid (10%)	○	○	○	○	○
Sulfuric acid (10%, high temperature)	×	△	○	▲	○
Sulfuric acid (30%)	△	○	○	▲	○
Sulfurous acid (10%)	△	○	○	△	○
Toluene	×	▲	▲	△	△
Vegetable oil	▲	○	○	○	○
Vinegar	△	○	○	△	○
Water	○	○	○	○	○
Whisky	○	△	○	×	○
Xylene	×	△	▲	△	○

The temperature is normal temperature. High temperature means 50 °C or more. Since this data is only for reference, please test before actual use.

## Wear performance comparison data



\* Taper wear circle H18  
Measured by the load weight of 2kg for 1000 rounds

Amount of reduction by wearing (mg)

# Safety notice

Follow the safety notices described below to use the Togawa hoses and tubes safe. Although we take utmost care on product quality through our proper quality control, bear in mind following points for using the hose as long as possible. Never fail to follow these safety notices as we cannot assume the responsibilities on the damages caused by the ignorance of these safety notices. If you have any uncertainties, please feel free to contact our sales staff .

\* The following descriptions are common to all of our products.  
 Each product has individual safety notice. Please check the details attached to the product.

## Notice before using hoses and tubes

- 1) The performance and durability of hoses and tubes are largely influenced by the ambient temperature, fluid temperature, and fluid type. Choose a hose or a tube corresponding to the temperature and the fluid.
- 2) Use the hose or tube within the working temperature limit and below the maximum working pressure.
- 3) For the hose and tube that anticipate a hardening or sudden expansion by the fluid used (chemical, agent, acid, alkali, oil, paint etc.), do not use the hose or tube in the maximum upper limit (refer to the article for the chemical resistance in the catalog). Especially, when using a strong toxic chemical, high concentrated acid or alkali, etc., please consult us in advance.
- 4) For painting, use the Sun Paint Hose (PB-with a ground wire), Sun Paint Hose (PB-easy•FUB-easy) or Conductive Air Hose, UB-easy Air Hose as there are possibility of fire etc., by the electrostatic charge.
- 5) For foods, use a food hose. Even if the hoses or tubes are conforming to the guidelines, ordinances etc. of the Ministry of Health, Labour and Welfare, check them carefully before use as the odors or tastes may be sensed differently from person to person. For fatty foods, please feel free to contact our sales staff.
- 6) For special purposes other than above, please feel free to contact our sales staff.

## Notice for using hoses and tubes

- 1) Do not use the hoses or tubes in less than minimum bending radius as it may deteriorate the performance and shorten the life time. If the minimum bending radius is not indicated in the catalog, homepage, or instruction manual, please contact us.
- 2) For attaching a hose or tube, do not bend too much around the area close to the brackets. It may cause damages in an early stage.
- 3) Give some allowance in piping as the length of hoses and tubes may be elastic by the inner pressure.
- 4) Do not give impact on or drag the hoses or tubes, and do not place the hoses or tubes under a vehicle or a heavy object. For the parts which may be bumped into by hard objects such as metals or concrete or the parts which may be contacted by other objects because of vibration or bending, protect these parts with cushioning materials, protective equipment, or springs before use.
- 5) Do not use hoses or tubes at the maximum working pressure for using with equipment that cause a vibration or an impact.
- 6) Before using hoses or tubes, never forget to check whether there are no kinks or twists.
- 7) Do not damage the hoses or tubes with a sharp object (including the package opening). It may cause a burst.
- 8) Use the main cock to stop the water flow. Open or close the valve slowly for adjusting pressure.
- 9) The tube without reinforcement material cannot be used for pressurized applications. However, FA Tube, Sun Tech Coil, and Connect Coil are excluded.
- 10) Please take care so that you won't get hurt from the edge of reinforcement material when cutting the Super Sun Spring Hose.

## Notice for using bracket assemblies

- 1) When inserting a telescopic part of a nipple, do not dip oils or give fire to the hose, tube, or the telescopic part of the nipple. If it is difficult to insert, warm the hose or the tube with lukewarm water.
- 2) Choose a nipple which is appropriate for the hose or tube size, use the nipple in which telescopic part is bigger than the inner diameter of the hose or tube, and insert the nipple into the hose or tube completely. Use a nipple which has no burr or edge. An edge or burr may cause a burst or disconnection of the nipple.
- 3) Fasten the band on the center of telescopic part by using specified tightening torque. When the temperature is high, the hose and tube may become softened. Please refasten the band from time to time.
- 4) Do not use metal wires etc. in place of hose bands and fasten excessively, do not give impacts on the hose or tube with a tool such as a hammer
- 5) Please consult us about the bracket type and the materials/characteristics of the hose and tube, because there are possibility of fluid leakage, bracket disconnection, and a burst by the permanent deformation of the resin after the bracket assembling.
- 6) For the hoses, never use the outer surface seal one-touch bracket for tubes.

### Inspections

- 1) Never fail to conduct a visual inspection (flaws, hardening, softening, color changes, etc.) of hoses and tubes for daily use.
- 2) Never fail to conduct a regular inspection once a month during use of a hose or tube.
- 3) If following abnormalities are found in the daily or regular inspections, discontinue to use the hose or tube immediately and replace it with a new one.
  - (1) Abnormalities around metal parts ... Local expansion, swelling, curving and leakage
  - (2) External flaws ... Outer surface flaws, cracks and water immersion into the reinforcement layer
  - (3) Peeling off of the inner and outer layers
  - (4) Other remarkable deterioration (hardening, oil expansion, cracks, swelling, adhesiveness, deformation, twist, etc.)

### For storage

After the use, wash and remove the residue on the hose or tube, and keep it in an airy place without direct sunlight.  
For the storage of the hose or tube, do not bend or pile up too much, or do not put anything on the hose or tube.

### For disposal

- 1) Dispose the tube or hose after use according to the disposal method provided by the local government.
- 2) The product containing PVC may generate dioxin if incinerated in less the 800°C.

**For any questions and inquires please contact us by email.**

**e-mail [global@togawa-sangyo.co.jp](mailto:global@togawa-sangyo.co.jp)**

**TOGAWA**  
INDUSTRY CORPORATION



## Togawa Industry Corporation

[www.togawa-sangyo.co.jp](http://www.togawa-sangyo.co.jp)



ISO 9001:Kyoto Plant,Tokyo Plant



ISO 14001:Kyoto Plant

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### Note

The reference data and information on the catalog are described based on the data and information obtained at the time of preparing this catalog and may be revised or modified by the updated data or information. The information on danger and harmful effect described in this catalog must be used for reference purpose only and never guarantee the validity.

The specifications of commodity in this catalog may be changed without notice for improvement.

2023. November