

**7L TOYONAKA HOT
LABORATORY CO.,LTD.**

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PRODUCTS GUIDE

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LABORATORY CO.,LTD.**

PRODUCTS GUIDE

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OTA PLANT	209 TECHNO FRONT MORIGASAKI 4-6-15 OMORIMINAMI OTA-KU 143-0013 TOKYO	TEL+813-5737-7221 FAX+813-6423-9375
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toyonakahot.com

PLEASE NOTE THAT PRODUCT SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.
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株式会社 豊中ホット研究所





EXPERTISE IS THE KEY TO OUR SUCCESS

TOYONAKA HOT LABORATORY MISSION IS TO CONTRIBUTE
TO THE INDUSTRY AND SOCIETY WITH WORLD-CLASS
TECHNOLOGICAL DEVELOPMENT CAPABILITIES AS A HOSE EXPERT.
WITH THAT EMBEDDED PASSION IN EVERYONE OF US,
WE WILL STRIVE TO FULFILL VARIOUS REQUESTS AND
SHAPE THE FUTURE TOGETHER WITH YOU.



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01

HOT HOSE • HEATED HOSE

HEATED HOSE ARE USED FOR CONSTANT-TEMPERATURE TRANSFER OF WATER, OIL, AIR AND SOLUTIONS. THEY PREVENT COAGULATION, FREEZING AND INCREASING IN VISCOSITY OF RESINS, FATS, OILS AND OTHER VISCOUS FLUIDS. ONE OF THE GREATEST ADVANTAGES OF OUR HEATED HOSE IS THE ELIMINATION OF THE NEED FOR COST AND TIME-CONSUMING HEAT-TRACE AND INSULATION WORK DESIGN.

Lineup

- HEATED HOSE
- HEATED TUBE
- INSULATED HOSE
- HOT/COLD WATER CIRCULATION TYPE TEMPERATURE CONTROL HOSE



HOT HOSE • HEATED HOSE

HEATED HOSE • HEATED TUBE

FLEXIBLE HEATER

OTHER PRODUCTS

FROM LOW TO HIGH TEMPERATURE, FROM LOW TO ULTRA-HIGH PRESSURE

STANDARD TYPE



HEAVY DUTY TYPE



FLAME RETARDANT SHRINKABLE TUBE TYPE(DRIP- AND DUST-PROOF)

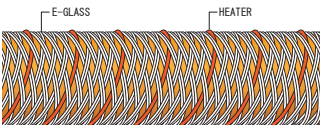


STAINLESS STEEL SHIELD TYPE



HEATER STRUCTURE

HEATERS ARE BRAIDED WITH E-GLASS FIBER TO ENSURE AN EVEN INTER-HEATER PITCH SO THAT HEATERS DO NOT DISLOCATE WHEN THE HOSE MOVES. IN ADDITION, THE STRUCTURE ALSO PREVENTS PARTIAL OVERHEATING , SHORT CIRCUITS AND GROUND FAULTS.



APPLICATIONS

HOT MELT EQUIPMENT	BONDING AND ADHESION: PACKAGING, BOOKBINDING, PLYWOOD, DISPOSABLE DIAPERS
DISPENSER	EPOXY RESIN, SILICONE
AUTOMOTIVE	TRANSFER OF BUTYL RUBBER AND URETHANE
RESIN MOLDING	TRANSFER OF HIGH-VISCOSITY RESINS (PP, PE, ACRYLICS, PVC), MULTI LAYER MOLDING
SCIENCE	GAS SAMPLING, ANALYSIS EQUIPMENT
FOOD & PHARMA	CHOCOLATE, WAX, OIL, GELATINE, COSMETICS
PAINTING	HOT AIR, HOT SPRAY
OTHERS	FUEL CELLS, OPTICAL FIBER
	OIL, GREASE, ASPHALT, TAR-ENAMEL, INK, VAPOR, ANTI-CONDENSATION, ANTI-FREEZE

HEATED HOSE

THIS IS A HEATING HOSE WITH A MAXIMUM THERMAL RESISTANCE OF 400°C, WHICH SPECIALIZES IN THERMAL INSULATION AND HEATING OF FLOWING FLUID AND GAS. HOSES ARE MANUFACTURED ACCORDING TO SPECIFIC REQUIREMENTS SUCH AS SIZE, LENGTH, WORKING TEMPERATURE AND FITTINGS TYPE. IN ADDITION, WE ALSO PROVIDE TEMPERATURE CONTROLLERS THAT ARE COMPATIBLE TO EACH PRODUCT.



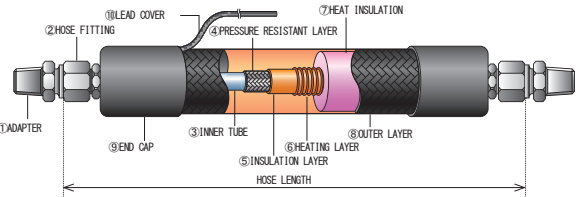
FEATURES

HEAT RESISTANCE TEMPERATURE: UP TO MAX400°C

※PLEASE CONSULT US FOR HIGHER TEMPERATURES

- CAPABLE OF THERMAL INSULATION AND HEATING. THE HEAT-GENERATING LAYER COMPRISES OF EVENLY BRAIDED HEATING ELEMENTS, THUS MINIMIZING DIFFERENCES IN INNER WALL TEMPERATURE DISTRIBUTION.
- CUSTOMERS CAN SELECT HOSE MATERIALS TO MEET THEIR WORKING ENVIRONMENT AND CONDITIONS. HOSES CAN ALSO BE MANUFACTURED TO MEET SPECIAL REQUIREMENTS SUCH AS FLEXIBILITY IN WORKING ENVIRONMENTS WHERE HOSES MOVE CONTINUOUSLY.
- WE CAN DESIGN HOSES WITH WIDE RANGE OF MATERIALS AND FITTINGS TO MATCH WITH REQUIRED SPECIFICATIONS AND APPLICATIONS
- WE CAN DESIGN HOSES WITH FLAME RETARDANT AND NON-FLAMMABLE MATERIALS TO MATCH WITH THE SPECIFICATIONS. WHILE TAKING THE SURFACE TEMPERATURE INTO CONSIDERATION WE STRUCTURE THE HOSE WITH MATERIAL OF HIGH INSULATION EFFICIENCY..

STRUCTURAL DRAWING



MATERIALS

① ADAPTER	STAINLESS STEEL, IRON, BRASS, ETC
② HOSE FITTING	STAINLESS STEEL, IRON, BRASS, FLUORORESIN, ETC
③ INNER TUBE	NYLON, FLUORORESIN, RUBBER, STAINLESS STEEL, ETC
④ PRESSURE RESISTANT LAYER	STAINLESS STEEL 304 WIRE BRAID, FIBER BRAID, ETC
⑤ INSULATION LAYER	HEAT-RESISTANT FIBER BRAID + SILICONE TREATMENT, ETC.
⑥ HEATING LAYER	NICHROME WIRE (HEAT-RESISTANT FIBER BRAID, PFA COATED), ETC
⑦ HEAT INSULATION	SPECIAL HEAT-RESISTANT SPONGE, SPECIAL HEAT-RESISTANT FELT, ETC
⑧ OUTER LAYER	HEAT-RESISTANT RESIN BRAID, SHRINKABLE TUBE, ETC
⑨ END CAP	NPM, SILICONE, ETC
⑩ LEAD COVER	SILICONE-COATED GLASS SLEEVE, ELASTOMER, ETC
POWER CABLE	PFA COATED WIRE, ETC
SENSOR WIRE	THERMOCOUPLES, RTD: Pt-100Ω, ETC



FOR ANY INQUIRIES, PLEASE CONTACT US THROUGH QUOTATION FORM IN OUR WEBSITE.

<https://toyonakahot.com/estimate/hothose/>

HOT HOSE · HEATED HOSE

HTS
HRC
MIP
POL
RSL
US
FIC
HOSE

FLEXIBLE HEATER

OTHER PRODUCTS

HEATED TUBE

THIS IS A HEATING TUBE WITH A MAXIMUM THERMAL RESISTANCE OF 400°C, WHICH SPECIALIZES IN THERMAL INSULATION AND HEATING OF FLOWING FLUID AND GAS SIMILAR TO A HEATED HOSE. THE INNER TUBE IS FURTHER LENGTHENED OUT AT BOTH ENDS, MAKING IT POSSIBLE TO INSERT A DIFFERENT REMOVABLE TRANSFER TUBE FOR AN EASY REPLACEMENT AS REQUIRED.



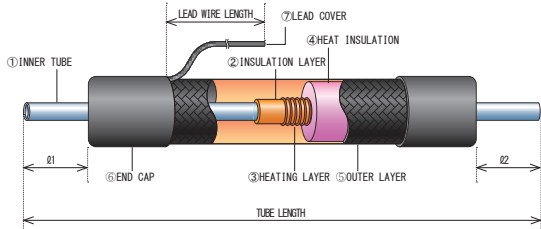
FEATURES

HEAT RESISTANCE TEMPERATURE: UP TO MAX400°C

※PLEASE CONSULT US FOR HIGHER TEMPERATURES

- CAPABLE OF THERMAL INSULATION AND HEATING. THE HEAT-GENERATING LAYER COMPRISES OF EVENLY BRAIDED HEATING ELEMENTS, THUS MINIMIZING DIFFERENCES IN INNER WALL TEMPERATURE DISTRIBUTION.
 - CUSTOMERS CAN SELECT HOSE MATERIALS TO MEET THEIR WORKING ENVIRONMENT AND CONDITIONS.
 - CORE TUBE MATERIALS SUCH AS PFA OR STAINLESS STEEL CAN BE SELECTED TO REALIZE A FLEXIBLE STRUCTURE.
 - WE CAN DESIGN TUBES WITH MATERIALS AND A WIDE RANGE OF FITTINGS MATCHED TO APPLICATIONS AND OFFER SPECIFICATIONS TO SATISFY ANY REQUIREMENTS.
 - WE CAN DESIGN TUBES WITH FLAME RETARDANT AND NON-FLAMMABLE MATERIALS MATCHED TO CONDITIONS.
- IN ADDITION, WHILE TAKING THE SURFACE TEMPERATURE INTO CONSIDERATION WE STRUCTURE THE HOSE WITH MATERIAL OF HIGH INSULATION EFFICIENCY.

STRUCTURAL DRAWING



MATERIALS

① INNER TUBE	NYLON, FLUORORESIN, STAINLESS STEEL, ETC.
② INSULATION LAYER	HEAT-RESISTANT FIBER BRAID + SILICONE TREATMENT, ETC.
③ HEATING LAYER	NICHROME WIRE (HEAT-RESISTANT FIBER BRAID, PFA COATED), ETC.
④ HEAT INSULATION	SPECIAL HEAT-RESISTANT SPONGE, SPECIAL HEAT-RESISTANT FELT, ETC.
⑤ OUTER LAYER	HEAT-RESISTANT RESIN BRAID, SHRINKABLE TUBE, ETC.
⑥ END CAP	NPM, SILICONE, ETC.
⑦ LEAD COVER	SILICONE-COATED GLASS SLEEVE, ELASTOMER, ETC.
POWER CABLE	PFA COATED WIRE, ETC.
SENSOR WIRE	THERMOCOUPLES, RTD: Pt-100Ω, ETC.



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INSULATED HOSE

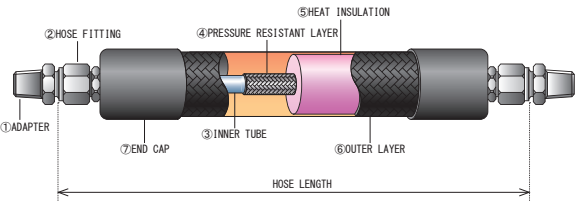
HEATER-LESS HOSE AVAILABLE IN NYLON, PFA, STAINLESS STEEL FLEXIBLE TUBE AND OTHER TYPES OF HOSES AND TUBES STRUCTURED WITH INSULATION MATERIALS FOR HOT AND COLD USAGE. ANTI-SPATTER AND OTHER TREATMENTS ARE ALSO AVAILABLE.



FEATURES

- FEATURING A PROCESSING METHOD THAT IS BASICALLY THE SAME AS HEATED HOSES WITHOUT THE HEATING PROCESS.
- CAN BE MANUFACTURED WITH THERMOPLASTIC HOSE, METAL PIPES AND INNER HOSE SUPPLIED BY THE CUSTOMER. CAN BE USED FOR A WIDE RANGE OF APPLICATIONS.

STRUCTURAL DRAWING



MATERIALS

① ADAPTER	STAINLESS STEEL, IRON, BRASS, ETC.
② HOSE FITTING	STAINLESS STEEL, IRON, BRASS, FLUORORESIN, ETC.
③ INNER TUBE	NYLON, FLUORORESIN, RUBBER, STAINLESS STEEL, ETC.
④ PRESSURE RESISTANT LAYER	STAINLESS STEEL 304 WIRE BRAID, FIBER BRAID, ETC.
⑤ HEAT INSULATION	SPECIAL HEAT-RESISTANT SPONGE, SPECIAL HEAT-RESISTANT FELT, ETC.
⑥ OUTER LAYER	HEAT-RESISTANT RESIN BRAID, SHRINKABLE TUBE, ETC.
⑦ END CAP	NPM, SILICONE, ETC.



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HOT/COLD WATER CIRCULATION TYPE
TEMPERATURE CONTROL HOSE

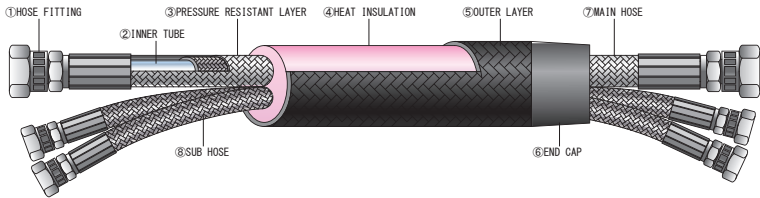
INSTEAD OF HEATING ELEMENTS, THIS HOSE USES HOT OR COLD WATER WHICH IS CIRCULATED BY SUB-HOSES TO CONTROL THE FLUID TEMPERATURE. SINCE THIS STRUCTURE DOESN'T USE ELECTRICITY, THIS HOSE CAN BE USED IN SITES WHERE EXPLOSION-PROOF IS REQUIRED.



FEATURES

- PRODUCTS ARE DESIGNED ACCORDING TO CUSTOMER REQUIREMENTS.
- WE CAN DESIGN PRODUCTS TO BE COMPATIBLE WITH CUSTOMERS' CHILLERS OR CONSTANT TEMPERATURE CIRCULATORS.

STRUCTURAL DRAWING



MATERIALS

① HOSE FITTING	STAINLESS STEEL, IRON, BRASS, ETC
② INNER TUBE	NYLON, FLUORORESIN, ETC
③ PRESSURE RESISTANT LAYER	STAINLESS STEEL 304 WIRE BRAID, ETC
④ HEAT INSULATION	SPECIAL HEAT-RESISTANT SPONGE, ETC
⑤ OUTER LAYER	HEAT-RESISTANT RESIN BRAID, ETC
⑥ END CAP	NPM, SILICONE, ETC
⑦ MAIN HOSE	FOR FLUID TRANSFER
⑧ SUB HOSE	FOR TEMPERATURE CONTROL (WATER, OIL, ETC)

ANTI-DAMAGE, ANTI-BREAK AND SURFACE TEMPERATURE REDUCTION

OUR COMPANY'S ORIGINAL BRAIDING TECHNOLOGY IS APPLIED TO THE OUTER LAYER TO ENHANCE DAMAGE AND BREAKING RESISTANCE PERFORMANCE. THE STRUCTURE ALSO ENABLES REDUCTION OF THE HOSE SURFACE TEMPERATURE.

- ANTI-BREAK
(HAVING SIMILAR EFFECT TO ENTIRE LENGTH SPRING EQUIPPED HOSE)

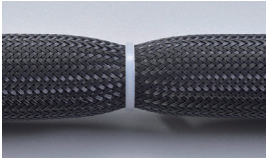


STANDARD TYPE

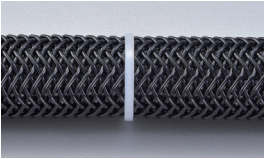


HEAVY DUTY TYPE

- ENSURES PROTECTION WHEN FASTENED WITH BUNDLING BANDS



STANDARD TYPE



HEAVY DUTY TYPE

HEATER FOR FITTINGS

SINCE THE JOINTS OF THE STANDARD TYPE ARE NOT HEATED, PROBLEMS SUCH AS DROP IN TEMPERATURE OR MELTING FAILURE OF THE FLUID MAY ARISE. IN SUCH CASES, JOINT HEATERS ARE EFFECTIVE. SINCE THE HOSE BODY AND HEATERS ARE WIRED IN SERIES, TEMPERATURE IS ADJUSTED TOGETHER WITH THE HOSE BODY, ELIMINATING THE NEED FOR A SEPARATE HEAT REGULATING SYSTEM.

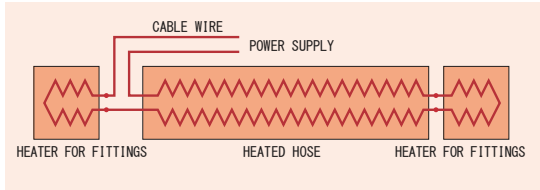


JACKET HEATER TYPE



CORD HEATER TYPE

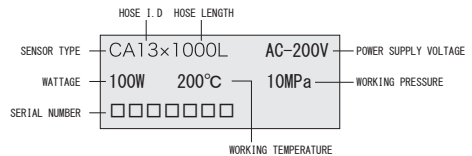
WIRING DIAGRAM



SAFETY PRECAUTIONS

- HEATED HOSE IS NEITHER EXPLOSION-NOR WATER-PROOF
- MAKE SURE TO INSTALL EARTH LEAKAGE BREAKER TO THE POWER SUPPLY.
- MAKE SURE TO USE HEATED HOSE WITH TEMPERATURE CONTROLLER.
- DO NOT APPLY PRESSURE UNTIL THE FLUID IS FULLY MELTED WHEN DEALING WITH THERMOPLASTICS. THE FLUID MAY STILL BE NOT MELTED EVEN THE TEMPERATURE HAD REACHED THE SET VALUE.
- DO NOT STRETCH HEATED HOSE FORCIBLY.
- DO NOT TWIST HEATED HOSE.
- IT IS STRICTLY PROHIBITED TO BEND THE HOSE AT 100mm FROM BOTH HOSE ENDS.
- DO NOT GIVE EXCESSIVE SHOCK.
- DO NOT BEND HEATED HOSE MORE THAN THE MINIMUM BENDING RADIUS.

- AVOID SETTING HEATED HOSE IN A CONDITION WHERE THE AMBIENT TEMPERATURE VARIES AT DIFFERENT PARTS. (EG: BUNDLING THE HOSE, COOL WIND IS BLOWN TO ONE PART ONLY ETC)



- DO NOT USE HEATED HOSE OUT OF (EXCEEDS) THE ENGRAVED SPECIFICATIONS.
- PLEASE GO THROUGH THE INSTRUCTION MANUAL ATTACHED BEFORE USING HEATED HOSE.

02

HIGH PRESSURE THERMOPLASTIC HOSE • SPECIAL HOSE

VARIOUS INDUSTRIAL HOSES THAT ARE PRESSURE-RESISTANT MANUFACTURED ACCORDINGLY FOR EACH APPLICATION. WE OFFER WIDE RANGE OF LINEUPS FROM LOW PRESSURE TO ULTRA HIGH PRESSURE HOSES WHICH SUIT FOR VARIOUS APPLICATIONS SUCH AS CHEMICALS, FOOD, GAS, STEAM, PAINTING, CLEANING AND ETC.

Lineup

- ULTRA HIGH PRESSURE PFA HOSE
- HIGH PRESSURE PFA HOSE
- MEDIUM PRESSURE PFA HOSE
- LOW PRESSURE PFA HOSE
- ULTRA HIGH PRESSURE NYLON HOSE
- HIGH PRESSURE NYLON HOSE
- MEDIUM PRESSURE NYLON HOSE
- LOW PRESSURE NYLON HOSE
- STEAM HOSE
- SPECIAL HOSE



HOT
HOSE, HEATED
HOSE

SPECIAL
HIGH
TEMPERATURE
HOSE

FLEXIBLE
HEATER

OTHER
PRODUCTS

ULTRA HIGH PRESSURE PFA HOSE

THIS IS A FLUORORESIN HOSE CAPABLE OF USE AT PRESSURES OF 70MPa AND 50MPa , COMPATIBLE WITH HIGH PRESSURE INDUSTRIAL TRENDS. DESPITE ABLE TO HANDLE MAXIMUM WORKING PRESSURE OF 70MPa AND 50MPa, THE HOSE RETAINS THE FLEXIBILITY AND OPERABILITY THAT MAKES OUR PRODUCTS BEING CHOSEN BY MANY CUSTOMERS. THE HOSE FEATURES OUTSTANDING COLD AND CHEMICAL RESISTANCE.



APPLICATIONS

- INDUSTRIAL EQUIPMENTS AND DEVICES (GAS, AIR, STEAM, OIL, SOLVENT, CHEMICAL FLUID, RESIN, PAINT, FOOD, ETC)

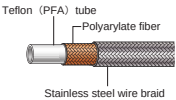
SPECIFICATIONS

- HEAT RESISTANCE -65~230°C
- HOSE INNER DIAMETER $\phi 4 \sim \phi 6$

R370 SERIES (70MPaTYPE)

Model	Name (in)	Size (mm)		Maximum working pressure (MPa)	Maximum impact pressure (MPa)	Minimum burst pressure (MPa)	Minimum bending radius (mm)	Reference weight (g/m)
		ID	OD					
R370-04	1/4	6	12.2	72.5	108.75	290	70	250

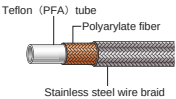
Pressure-resistant layer: High-strength polyarylate fiber + SUS304 hard wire 1WB
Working temperature range: -65~230°C



R350 SERIES (50MPaTYPE)

Model	Name (in)	Size (mm)		Maximum working pressure (MPa)	Maximum impact pressure (MPa)	Minimum burst pressure (MPa)	Minimum bending radius (mm)	Reference weight (g/m)
		ID	OD					
R350-02	1/8	4	8.8	50	75	200	40	125
R350-04	1/4	6	10.9	50	75	200	60	150

Pressure-resistant layer: High-strength polyarylate fiber + SUS304 hard wire 1 WB
Working temperature range: -65~230°C



HIGH PRESSURE PFA HOSE

WITH STAINLESS STEEL WIRE, HIGH-STRENGTH FIBER REINFORCED- FLUORORESIN TUBE, THIS HOSE OFFERS ENHANCED PRESSURE RESISTANCE. ITS OUTSTANDING FATIGUE-, SOLVENT- RESISTANCE AND LIGHTWEIGHT CRITERIA MAKE THIS HOSE POSSIBLE FOR FLEXIBLE OPERATION.



APPLICATIONS

- INDUSTRIAL EQUIPMENTS AND DEVICES (STEAM, OIL, SOLVENT, CHEMICAL FLUID, RESIN, PAINT, FOOD, ETC)

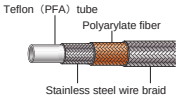
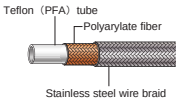
SPECIFICATIONS

- HEAT RESISTANCE -65~230°C
- HOSE INNER DIAMETER $\phi 4 \sim \phi 19$

R340 SERIES (40MPa TYPE)

Model	Name (in)	Size (mm)		Maximum working pressure (MPa)	Maximum impact pressure (MPa)	Minimum burst pressure (MPa)	Minimum bending radius (mm)	Reference weight (g/m)
		ID	OD					
R340-08	1/2	13	20.8	40	60	170	240	590
R340-10	3/4	15.3	23.6	40	60	170	180	650
R340-12	3/4	19	27.9	37.5	56.25	140	270	890

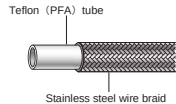
Pressure-resistant layer : R340-10 high-strength polyarylate fiber + SUS304 hard wire 1 WB
Working temperature range : -65~230°C
: R340-08, -12 SUS304 soft wire 1WB + High-strength polyarylate fiber + SUS304 hard wire 1WB



R330 SERIES (30MPaTYPE)

Model	Name (in)	Size (mm)		Maximum working pressure (MPa)	Maximum impact pressure (MPa)	Minimum burst pressure (MPa)	Minimum bending radius (mm)	Reference weight (g/m)
		ID	OD					
R330-02	1/8	4	7.3	32	48	130	35	90
R330-04	1/4	6	10.7	30	45	120	70	210
R330-05	3/8	8	13.6	31	46	125	80	370
R330-08	1/2	13	20.3	30	45	120	180	705

Pressure-resistant layer : R330-02 SUS304 hard wire 1WB
: R330-04 SUS304 hard wire 2WB
: R330-05 SUS304 soft wire 1WB + SUS304 hard wire 1WB
: R330-08 SUS304 hard wire 2WB
Working temperature range : -65~230°C



MEDIUM PRESSURE PFA HOSE

WITH STAINLESS STEEL WIRE REINFORCED FLUORORESIN TUBE. THIS HOSE OFFERS ENHANCED PRESSURE RESISTANCE. ITS OUTSTANDING FATIGUE-, SOLVENT RESISTANCE AND LIGHTWEIGHT CRITERIA MAKE THIS HOSE POSSIBLE FOR FLEXIBLE OPERATION. HIGHLY VERSATILE, THIS PRODUCT IS USED IN A WIDE RANGE OF FIELDS.



APPLICATIONS

- INDUSTRIAL EQUIPMENTS AND DEVICES
(STEAM, OIL, SOLVENT, CHEMICAL FLUID, RESIN, PAINT, FOOD, ETC)

SPECIFICATIONS

- HEAT RESISTANCE R320 SERIES -65~230°C
S SERIES -40~130°C
U SERIES -40~80°C
- HOSE INNER DIAMETER $\phi 5 \sim \phi 25$

R320 SERIES (20MPa TYPE)

Model	Name (in)	Size (mm)		Maximum working pressure (MPa)	Maximum impact pressure (MPa)	Minimum burst pressure (MPa)	Minimum bending radius (mm)	Reference weight (g/m)
		ID	OD					
R320-03	1/8	5	8.5	25	37	100	40	100
R320-04	1/4	6	9.4	21	31	85	60	120
R320-05	3/8	8	11.4	21	30	85	70	170
R320-08	1/2	13	20.5	24	36	96	180	730
R320-12	3/4	19	27.1	20	30	90	230	1100
R320-16	1	25	32.6	20	30	80	280	1360

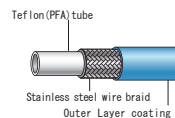
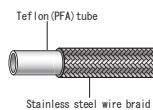
Pressure-resistant layer : R320-03 ~ 05 SUS304 hard wire 1WB
: R320-08 ~ 16 SUS304 hard wire 2WB
Working temperature range : -65~230°C

R320-S SERIES (20MPa SANTOPRENE COATING TYPE)

R320-U SERIES (20MPa URETHANE COATING TYPE)

Model	Name (in)	Size (mm)		Maximum working pressure (MPa)	Maximum impact pressure (MPa)	Minimum burst pressure (MPa)	Minimum bending radius (mm)	Reference weight (g/m)
		ID	OD					
R320-S-04	1/4	6	11.0	21	31	85	60	145
R320-S-05	3/8	8	13.3	21	31	85	70	210
R320-U-04	1/4	6	10.6	21	31	90	60	140
R320-U-05	3/8	8	12.5	21	31	85	70	205
R320-U-08	1/2	13	22.0	24	36	96	180	800

Pressure-resistant layer : R320 (~S/U)-04 ~ 05 SUS304 hard wire 1WB
: R320-U-08 SUS304 hard wire 2WB
Working temperature range : U Series: -40~80°C, S Series: -40~130°C



LOW PRESSURE PFA HOSE

THIS IS STAINLESS STEEL WIRE BRAIDED HOSE WITH FLUORORESIN TUBE. THIS PRODUCT HAS A LONG TRACK RECORD OF USE OVER MANY YEARS FOR THE TRANSFER OF STEAM. THANKS TO THE CHARACTERISTICS OF PFA TUBE, THE HOSE OFFERS OUTSTANDING HEAT-, CHEMICAL RESISTANCE AND INNER SURFACE SMOOTHNESS.



APPLICATIONS

- INDUSTRIAL EQUIPMENTS AND DEVICES
(STEAM, OIL, SOLVENT, CHEMICAL FLUID, RESIN, PAINT, FOOD, ETC)

SPECIFICATIONS

- HEAT RESISTANCE R310 SERIES -65~230°C
P SERIES -40~60°C
S SERIES -40~130°C
R300 SERIES -65~230°C
- HOSE INNER DIAMETER $\phi 6 \sim \phi 32$

R310 SERIES (10MPa TYPE)

Model	Name (in)	Size (mm)		Maximum working pressure (MPa)	Maximum impact pressure (MPa)	Minimum burst pressure (MPa)	Minimum bending radius (mm)	Reference weight (g/m)
		ID	OD					
R310-04	1/4	7	10.2	19	28	84	70	140
R310-06	3/8	9	12.4	18	27	75	90	180
R310-07	1/2	11	14.6	17	27	67	130	220
R310-08	1/2	11	16.4	16	24	64	140	260
R310-10	3/4	16	20.6	12	18	50	170	390
R310-12	3/4	19	24.5	15	22	60	190	590
R310-16	1	25	30.3	15	22	60	250	810
R310-20	1-1/4	32	40.9	15	22	60	450	1600

Pressure-resistant layer : R310-04 ~ 16 SUS304 hard wire 1WB
: R310-20 SUS304 hard wire 2WB
Working temperature range : -65~230°C

R310-P SERIES (10MPa PVC COATING TYPE)

R310-S SERIES (10MPa SANTOPRENE COATING TYPE)

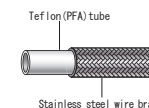
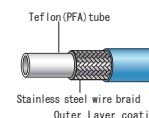
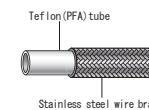
Model	Name (in)	Size (mm)		Maximum working pressure (MPa)	Maximum impact pressure (MPa)	Minimum burst pressure (MPa)	Minimum bending radius (mm)	Reference weight (g/m)
		ID	OD					
R310-P-06	3/8	9	14.6	18	24	75	80	255
R310-P-07	1/2	11	16.8	17	27	67	120	305
R310-S-07	1/2	11	16.8	17	27	67	120	285

Pressure-resistant layer : SUS304 hard wire 1WB
Working temperature range : P Series: -40~60°C, S Series: -40~130°C

R300 SERIES (10MPa OR LESS TYPE)

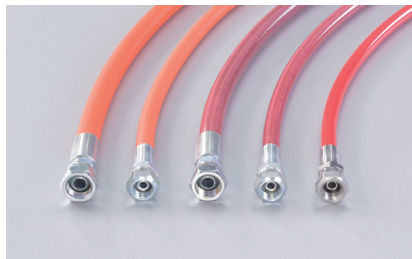
Model	Name (in)	Size (mm)		Maximum working pressure (MPa)	Maximum impact pressure (MPa)	Minimum burst pressure (MPa)	Minimum bending radius (mm)	Reference weight (g/m)
		ID	OD					
R300-04	1/4	6	8.2	5	10	27	35	70
R300-05	3/8	8	9.7	5	9	22	55	90
R300-07	1/2	11	14.6	5	7	20	100	200
R300-12	3/4	19	23.3	10	15	40	160	440

Pressure-resistant layer : R300-04 ~ 07 SUS304 soft wire 1WB
: R300-12 SUS304 hard wire 1WB
Working temperature range : -65~230°C



ULTRA HIGH PRESSURE NYLON HOSE

THIS IS ULTRA HIGH PRESSURE HOSE WITH MAXIMUM WORKING PRESSURE OF 40MPa. DESPITE THE HIGH WORKING PRESSURE, THE HOSE IS FLEXIBLE AND WORKER-FRIENDLY. EXPERIENCE THE HIGH-SPEC HOSE WHERE SAFETY AND WORKABILITY ARE REALIZED.



APPLICATIONS

- AIRLESS PAINTING MACHINES, HIGH-PRESSURE CLEANERS, GENERAL INDUSTRIAL MACHINERY, ETC.

SPECIFICATIONS

- HEAT RESISTANCE

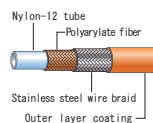
P SERIES	-40~60°C
S SERIES	-40~100°C
FOR WATER	60°C
- HOSE INNER DIAMETER $\phi 6 \sim \phi 19$

R240-P SERIES (40MPa PVC COATING TYPE)

R240-S SERIES (40MPa SANTOPRENE COATING TYPE)

Model	Name (in)	Size (mm)		Maximum working pressure (MPa)	Maximum impact pressure (MPa)	Minimum burst pressure (MPa)	Minimum bending radius (mm)	Reference weight (g/m)
		ID	OD					
R240-P-04	1/4	6	12.3	40	60	175	50	160
R240-P-06	3/8	9	16	40	60	184	90	250
R240-P-08	1/2	12.7	20.2	40	60	165	150	385
R240-P-12	3/4	19	30.3	40	60	171	200	870
R240-S-04	1/4	6	12.3	40	60	175	50	140
R240-S-06	3/8	9	16	40	60	184	90	230

Pressure-resistant layer : High strength polyarylate fiber 1B + SUS 304 hard wire 1WB
Working temperature range : P Series: -40~60°C, S Series: -40~100°C



HIGH PRESSURE NYLON HOSE

THIS IS HIGH PRESSURE HOSE WITH OUTSTANDING SOLVENT RESISTANCE THAT FEATURES POLYAMIDE (NYLON) RESIN INNER TUBE. LIGHT AND FLEXIBLE, THE HOSE FEATURES STAINLESS STEEL WIRE, HIGH STRENGTH FIBER REINFORCED LAYER TO REALIZE OUTSTANDING DURABILITY. HOSES WITH COATING ARE ALSO AVAILABLE TO MATCH APPLICATIONS. THIS IS AN EXTREMELY VERSATILE PRODUCT THAT CAN BE USED IN A WIDE RANGE OF FIELDS.



APPLICATIONS

- AIRLESS PAINTING MACHINES, HIGH-PRESSURE CLEANERS, GENERAL INDUSTRIAL MACHINERY, ETC.

SPECIFICATIONS

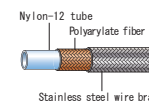
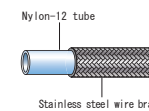
- HEAT RESISTANCE

R100 SERIES	-40~100°C
R215-P SERIES	-40~60°C
R215-S SERIES	-40~100°C
FOR WATER	60°C
- HOSE INNER DIAMETER $\phi 4 \sim \phi 25$

R100 SERIES (21~35MPa STAINLESS STEEL WIRE BRAID TYPE)

Model	Name (in)	Size (mm)		Maximum working pressure (MPa)	Maximum impact pressure (MPa)	Minimum burst pressure (MPa)	Minimum bending radius (mm)	Reference weight (g/m)
		ID	OD					
R100-02	1/8	4	7.4	32	48	130	40	75
R100-04	1/4	6	9.4	22	33	88	50	90
R100-05	3/8	8	11.6	21	31	84	60	140
R100-06	3/8	9	13.0	21	31	84	65	165
R100-08	1/2	12.7	17.6	35	52	140	100	250
R100-12	3/4	19	25.6	25	37	120	190	440
R100-16	1	25	32.5	25	37	105	230	830

Pressure-resistant layer : R100-02 ~ 06 SUS304 hard wire 1WB
: R100-08 ~ 12 high-strength polyarylate fiber 1B + SUS304 hard wire 1WB
: R100-16 high-strength polyarylate fiber 1B + SUS304 hard wire 2WB
Working temperature range : -40~100°C

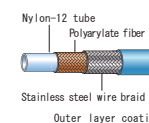
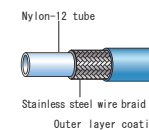


R215-P SERIES (21~35MPa PVC COATING TYPE)

R215-S SERIES (21~35MPa SANTOPRENE COATING TYPE)

Model	Name (in)	Size (mm)		Maximum working pressure (MPa)	Maximum impact pressure (MPa)	Minimum burst pressure (MPa)	Minimum bending radius (mm)	Reference weight (g/m)
		ID	OD					
R215-P-04	1/4	6	11	22	33	88	45	135
R215-P-05	3/8	8	13.3	21	31	84	55	185
R215-P-06	3/8	9	15	21	31	84	60	235
R215-P-08	1/2	12.7	19.5	35	52	140	90	340
R215-P-10	3/4	15.6	24.5	30	45	120	150	495
R215-P-12	3/4	19	28	25	37	120	180	580
R215-S-02	1/8	4	9.2	32	48	130	35	105
R215-S-04	1/4	6	11	22	33	88	45	125
R215-S-05	3/8	8	13.3	21	31	84	55	175
R215-S-08	1/2	12.7	19.5	35	52	140	90	320

Pressure-resistant layer : R215-(P/S)-04 ~ 06 SUS304 hard wire 1WB
: R215-(P/S)-08 ~ 12 high-strength polyarylate fiber 1B + SUS304 hard wire 1WB
Working temperature range : P Series: -40~60°C, S Series: -40 ~ 100°C



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MEDIUM PRESSURE NYLON HOSE

THIS NYLON HOSE IS DESIGNED PRIMARILY FOR USAGE AT LOW TO MEDIUM PRESSURES. ALTHOUGH HAVING QUITE A BIG SIZE OF 1/2", THE HOSE IS FLEXIBLE WITH A MINIMUM BENDING RADIUS OF JUST 70mm. IT FEATURES TRANSPARENT PVC COATING WHICH MAKE THE STAINLESS STEEL WIRE BRAID PRESSURE RESISTANCE LAYER VISIBLE.

APPLICATIONS

- LOW TO MEDIUM PRESSURE PAINTING MACHINES, GENERAL INDUSTRIAL MACHINERY, ETC.

SPECIFICATIONS

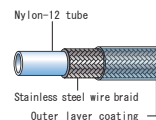
- HEAT RESISTANCE -40~60°C
- HOSE INNER DIAMETER $\phi 12.7$



R210-P SERIES (10MPa PVC COATING TYPE)

Model	Name (in)	Size (mm)		Maximum working pressure (MPa)	Maximum impact pressure (MPa)	Minimum burst pressure (MPa)	Minimum bending radius (mm)	Reference weight (g/m)
		ID	OD					
R210-P-08	1/2	12.7	18.3	10	15	65	70	270

Pressure-resistant layer : SUS soft wire TMB
Working temperature range : -40~60°C



LOW PRESSURE NYLON HOSE

COMPARED TO CONVENTIONAL TYPES, THIS HOSE IS LIGHT AND EXTREMELY FLEXIBLE, MAKING IT EASY TO PERFORM PIPING WORK. PRIMARILY USED FOR DELIVERY AND SUCTION OF PAINT AND OIL, THIS HOSE IS LIGHTER THAN GENERALLY USED RUBBER AND RESIN TYPES AND OFFERS OUTSTANDING SOLVENT RESISTANCE.

APPLICATION

- DELIVERY AND SUCTION OF ALL KINDS OF FLUIDS (EG: PAINTING, HYDRAULICS, CLEANING)

SPECIFICATIONS

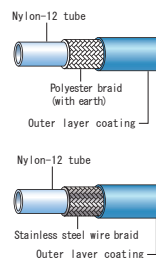
- HEAT RESISTANCE -40~60°C
- HOSE INNER DIAMETER $\phi 6 \sim \phi 19$



RF20-P SERIES (6MPa PVC COATING TYPE)

Model	Name (in)	Size (mm)		Maximum working pressure (MPa)	Maximum impact pressure (MPa)	Minimum burst pressure (MPa)	Minimum bending radius (mm)	Reference weight (g/m)
		ID	OD					
RF20-P-04	1/4	6	13.0	6	9	24	40	130
RF20-P-05	3/8	8	15.0	6	9	24	50	160
RF20-P-08	1/2	12.7	21.0	6	9	24	80	290
RF20-P-12	3/4	19	27.0	6	9	24	150	515

Pressure-resistant layer : RF20-P-04~08 polyester braid (with earth)
RF20-P-12 SUS304 Hard wire TMB
Working temperature range : -40~60°C



STEAM HOSE

THIS IS HOSE FOR STEAM WITH FLUORORESIN AS ITS BASE MATERIAL. STAINLESS STEEL WIRE, HIGH STRENGTH FIBER ARE USED FOR THE PRESSURE RESISTANT LAYER, ENSURING MUCH STABLE PRESSURE RESISTANCE PERFORMANCE AND DURABILITY. HG AND SG TYPES ARE PROVIDED WITH THICK POLYESTER BRAID LAYER IN ADDITION TO THE STANDARD STRUCTURE TO ENHANCE BENDING RESISTANCE. LAYER OF AIR IS ALSO MAINTAINED TO REALIZE REDUCTION OF SURFACE TEMPERATURE.



APPLICATIONS

- LAUNDRY CLEANING AND GARMENT INDUSTRIES

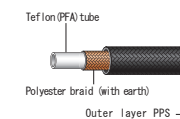
SPECIFICATIONS

- HEAT RESISTANCE 200°C
- HOSE INNER DIAMETER $\phi 5 \sim \phi 11$

R400-03 (1MPa PPS BRAID TYPE)

Model	Name (in)	Size (mm)		Maximum working pressure (Steam) (MPa)	Minimum burst pressure (MPa)	Minimum bending radius (mm)	Reference Weight (g/m)
		ID	OD				
R400-03	1/4	5	10.8	1	50	30	55

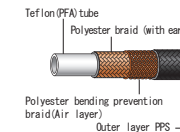
Pressure-resistant layer : High-strength polyarylate fiber (with earth)



R400-03-HG (1MPa PPS BRAID TYPE)

Model	Name (in)	Size (mm)		Maximum working pressure (Steam) (MPa)	Minimum burst pressure (MPa)	Minimum bending radius (mm)	Reference Weight (g/m)
		ID	OD				
R400-03-HG	1/4	5	16.0	1	50	50	100

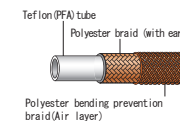
Pressure-resistant layer : High-strength polyarylate fiber (with earth)
Reinforcing layer : Polyester braid



R400-03-SG (1MPa POLYESTER BRAID TYPE)

Model	Name (in)	Size (mm)		Maximum working pressure (Steam) (MPa)	Minimum burst pressure (MPa)	Minimum bending radius (mm)	Reference Weight (g/m)
		ID	OD				
R400-03-SG	1/4	5	15	1	50	50	70

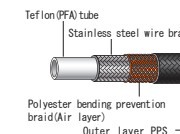
Pressure-resistant layer : High-strength polyarylate fiber (with earth)
Reinforcing layer : Polyester braid



R410-HG SERIES (1MPa PPS BRAID TYPE)

Model	Name (in)	Size (mm)		Maximum working pressure (Steam) (MPa)	Minimum burst pressure (MPa)	Minimum bending radius (mm)	Reference Weight (g/m)
		ID	OD				
R410-04-HG	1/4	6	15.8	1	27	70	140
R410-05-HG	3/8	8	20	1	22	80	190
R410-07-HG	1/2	11	25	1	20	120	320

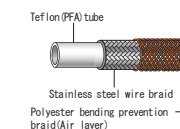
Pressure-resistant layer : SUS soft wire TMB
Reinforcing layer : Polyester braid



R410-SG SERIES (1MPa POLYESTER BRAID TYPE)

Model	Name (in)	Size (mm)		Maximum working pressure (Steam) (MPa)	Minimum burst pressure (MPa)	Minimum bending radius (mm)	Reference Weight (g/m)
		ID	OD				
R410-04-SG	1/4	6	15	1	27	70	120
R410-05-SG	3/8	8	19.5	1	22	80	160
R410-07-SG	1/2	11	25	1	20	120	290

Pressure-resistant layer : SUS soft wire TMB
Reinforcing layer : Polyester braid



HOT
HOSE · HEATED
HOSE

HTS
HPG
HPL
HSL
HSS
HST
HSC
HSE

FLEXIBLE
HEATER

OTHER
PRODUCTS

FIBER BRAIDED NYLON HOSE

THIS HOSE USES DOUBLE BRAIDED POLYESTER FIBER FOR ITS PRESSURE RESISTANT LAYER. A HIGH PRESSURE TYPE, CAPABLE OF USE UP TO A MAXIMUM OF 22MPa. THIS HOSE IS LIGHT AND HAS URETHANE COATING TO ENSURE GOOD WEAR RESISTANCE.

*NOTE: THE HOSE BODY IS NON-CONDUCTIVE

APPLICATIONS

- HIGH PRESSURE CLEANING, GENERAL INDUSTRIAL MACHINES THAT DO NOT REQUIRE CONDUCTIVITY.

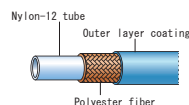
SPECIFICATIONS

- HEAT RESISTANCE -40~80°C
- HOSE INNER DIAMETER $\phi 6 \sim \phi 8$

RWP20-U SERIES (22MPa URETHANE COATING TYPE)

Model	Name (in)	Size (mm)		Maximum working pressure (MPa)	Maximum impact pressure (MPa)	Minimum burst pressure (MPa)	Minimum bending radius (mm)	Reference weight (g/m)
		ID	OD					
RWP20-U-04	1/4	6	12.3	20	33	80	60	80
RWP20-U-05	3/8	8	14.6	22	33	88	120	135

Pressure-resistant layer : RWP20-U-04 high-strength polyester fiber 1B
: RWP20-U-05 high-strength polyester fiber 2B
Working temperature range : -40~80°C



PIPE-CLEANING HOSE

THIS IS POLYARYLATE FIBER BRAIDED NYLON HOSE WITH A SMALL DIAMETER. WITH OUTSTANDING FLEXIBILITY AND LIGHTWEIGHT, THIS HOSE IS IDEAL FOR NARROW PIPES CLEANING. WITH HIGH WORKING PRESSURE OF 20MPa, THIS HOSE IS COMPATIBLE WITH HIGH PRESSURE FLUIDS.

APPLICATIONS

- PIPE CLEANING

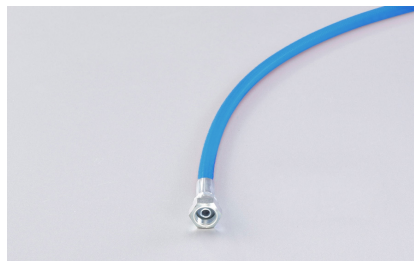
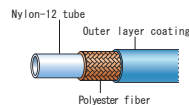
SPECIFICATIONS

- HEAT RESISTANCE -40~60°C
- HOSE INNER DIAMETER $\phi 4.3$

R220-P-02 SERIES (20MPa SPECIAL PVC COATING)

Model	Name (in)	Size (mm)		Maximum working pressure (MPa)	Maximum impact pressure (MPa)	Minimum burst pressure (MPa)	Minimum bending radius (mm)	Reference weight (g/m)
		ID	OD					
R220-P-02	1/8	4.3	9.7	20	30	158	40	70

Pressure-resistant layer : High-strength polyarylate fiber 1WB
Working temperature range : -40~60°C



FLEXIBLE HOSE

THIS FLUORORESIN HOSE IS FLEXIBLE, RESISTANT TO CRUSH AND HAS EXCELLENT BENDING AND SHAPE RETENTION. SINCE THE INNER LAYER IS ETFE, IT HAS EXCELLENT RESISTANCE AGAINST MOST CHEMICALS SUCH AS SOLVENT AND ETC. THIS HOSE IS MAINLY USED FOR DELIVERY AND SUCTION OF PAINT AND OIL. LIGHTER THAN RUBBER AND OTHER RESIN HOSES. THE OUTER LAYER IS LOOSELY BRAIDED SO THAT THE FLUID CAN BE CHECKED.

APPLICATIONS

- PAINTING MACHINE, GENERAL INDUSTRIAL MACHINERY

SPECIFICATIONS

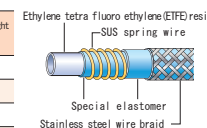
- HEAT RESISTANCE -20~70°C
- HOSE INNER DIAMETER $\phi 12 \sim \phi 32$



RF3W SERIES (3MPa TYPE)

Model	Name (in)	Size (mm)		Maximum working pressure (MPa)	Maximum impact pressure (MPa)	Minimum burst pressure (MPa)	Minimum bending radius (mm)	Reference weight (g/m)
		ID	OD					
RF3W-08	1/2	12	18.8	3	5	12	40	275
RF3W-12	3/4	19	27.4	3	5	12	75	450
RF3W-16	1	25	33.4	3	5	12	100	660
RF3W-20	1-1/4	32	42.0	3	5	12	150	925

Pressure-resistant layer : Special elastomer + SUS304 hard WB
Temperature range : -20~70°C



TWO COMPONENT POLYURETHANE COATING PFA HOSE

THIS HOSE FEATURES HEATING ELEMENTS DIRECTLY BRAIDED ONTO THE PFA TUBE. HEATING IS ACHIEVED BY DIRECT ELECTRICAL CONDUCTION THROUGH THE HOSE, PREVENTING HARDENING OF PAINT. THE HEATING ELEMENT IS INTEGRATED WITH THE HOSE HENCE SAVING MORE SPACE, LIGHTER AND DOES NOT IMPAIR WORKABILITY EVEN AT LONG USAGE.

APPLICATIONS

- TRANSFER OF URETHANE RESIN FOR TWO COMPONENT COATING

SPECIFICATIONS

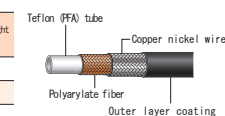
- HEAT RESISTANCE -40~130°C
- HOSE INNER DIAMETER $\phi 6.35 \sim \phi 8$



RCN20-S SERIES (30MPa SANTOPRENE TYPE)

Model	Name (in)	Size (mm)		Maximum working pressure (MPa)	Maximum impact pressure (MPa)	Minimum burst pressure (MPa)	Minimum bending radius (mm)	Reference weight (g/m)
		ID	OD					
RCN20-S-04	1/4	6.35	13.2	30	45	135	60	195
RCN20-S-05	3/8	8	14.6	30	45	125	80	210

Pressure-resistant layer : High-strength polyarylate fiber 1B + copper nickel wire
Working temperature range : -40~130°C
Hose resistance : 0.111 Ω/m



03

FLEXIBLE HEATER

FOR HEATING ALL KIND OF HOPPERS, TANKS, PUMPS, VALVES AND PIPELINES. IDEAL PRODUCTS ARE MADE TO ORDER COMPATIBLE WITH THINGS TO BE HEATED AND WORKING ENVIRONMENTS. WE OFFER A WIDE RANGE OF HEATER TYPES INCLUDING DETACHABLE AND INTEGRATED HEATERS TO MEET ALL KIND OF REQUIREMENTS

Lineup

- JACKET HEATER
- THERMAL INSULATION COVER
- TAPE HEATER (RIBBON HEATER)
- THIN TAPE HEATER
- CORD HEATER
- OTHERS



HOT
HOSE - HEATED
HOSE

SPECIAL
HIGH PRESSURE
HOSE

FLEXIBLE
HEATER

OTHER
PRODUCTS

JACKET HEATER

A COMBINED UNIT COMPRISING OF HEATER AND INSULATION MATERIAL THAT ELIMINATES TIME AND EFFORT USED ON HEAT TRACING AND INSULATION WORK. COMPATIBLE WITH ALMOST ANY SHAPES.

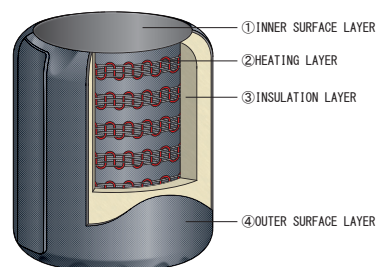
FEATURES

HEAT RESISTANCE TEMPERATURE: UP TO MAX400°C
※PLEASE CONSULT US FOR HIGHER TEMPERATURE.

- THE INSULATION MATERIAL USED IS CAREFULLY SELECTED TO ENSURE A LOW SURFACE TEMPERATURE AND LOWER THE RUNNING COSTS.
- COMPATIBLE TO MOST SHAPES: PIPE, HOPPER, TANK, PUMP, VALVE ETC.
- ULTRA FINE NICHROME WIRE IS SEWN ONTO THE ENTIRE JACKET TO ENSURE OUTSTANDING LIFE-SPAN AND TEMPERATURE DISTRIBUTION BALANCE.



■ STRUCTURAL DRAWING



APPLICATIONS

- HEATING AND THERMAL INSULATION OF PIPELINES IN SEMICONDUCTOR MANUFACTURING EQUIPMENT.
- HEATING AND THERMAL INSULATION OF PIPELINES: ELBOW, FLANGE, U-SHAPES PIPE, V-SHAPED PIPE, VALVE, BENT PIPE, HOPPER ETC
- HEATING AND THERMAL INSULATION OF TANKS: DISTILLATION TANK, MIXING TANK, STORAGE TANK, DRUM, PAIL, VACUUM CONTAINER ETC
- THERMAL INSULATION OF EQUIPMENTS USED IN COLD REGION.
- HEATING AND THERMAL INSULATION OF COMPLEX EXPERIMENT AND RESEARCH APPARATUS.

■ MATERIALS

STRUCTURE	MATERIAL
① INNER SURFACE LAYER	SILICONE COATED CLOTH, GLASS CLOTH, NON-ASBESTOS CLOTH, ALUMINA CLOTH
② HEATING LAYER	NICKEL CHROME WIRE + E-GLASS BRAID, NICKEL CHROME WIRE + ALUMINA FIBER BRAID
③ INSULATION LAYER	GLASS WOOL, SILICA MAT ETC
④ OUTER SURFACE LAYER	SILICONE COATED CLOTH, ALUMINA CLOTH ETC



FOR ANY INQUIRIES, PLEASE CONTACT US
THROUGH QUOTATION FORM IN OUR WEBSITE.

<https://toyonakahot.com/estimate/flexible-heater/>

THERMAL INSULATION COVER

A FLEXIBLE DETACHABLE PRODUCT WITH THERMAL INSULATION INTEGRATED WITH THE OUTER COVER

FEATURES

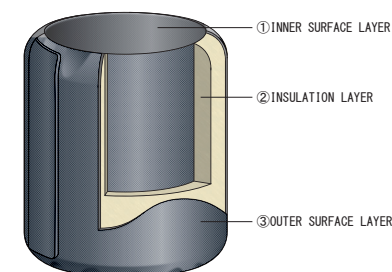
- THE CAREFULLY SELECTED THERMAL INSULATION ENSURES A LOW SURFACE TEMPERATURE.
- HEAT RESISTANCE: MAX700°C
- DETACHABLE USING VELCRO TAPE, STRING OR BAND.
- COMPATIBLE TO MOST SHAPES: PIPE, HOPPER, TANK, PUMP, VALVE ETC.



APPLICATIONS

- THERMAL INSULATION OF PIPELINES: ELBOW, FLANGE, U-SHAPES PIPE, V-SHAPED PIPE, VALVE, BENT PIPE, HOPPER ETC.
- THERMAL INSULATION OF TANKS: DISTILLATION TANK, MIXING TANK, STORAGE TANK, DRUM, PAIL, VACUUM CONTAINER ETC.
- THERMAL INSULATION FOR HEAT TRACING PARTS.
- PREVENTION OF BURNS AND HEAT LOSS

■ STRUCTURAL DRAWING



■ MATERIALS

STRUCTURE	MATERIAL
① INNER SURFACE LAYER	SILICONE COATED CLOTH, GLASS CLOTH, NON-ASBESTOS CLOTH, ALUMINA CLOTH
② INSULATION LAYER	GLASS WOOL, SILICA MAT ETC
③ OUTER SURFACE LAYER	SILICONE COATED CLOTH, ALUMINA CLOTH ETC



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<https://toyonakahot.com/estimate/flexible-heater/>

TAPE HEATER (RIBBON HEATER)

FLEXIBLE HEATER WITH HEAT RESISTANT FIBER BRAIDED NICHROME WIRE, MEANDERLY(ZIGZAG) STRUCTURED. CAN BE USED WITHIN WORKING TEMPERATURE RANGE OF 200°C~500°C.

FEATURES

HEAT RESISTANCE TEMPERATURE: UP TO MAX500°C
AVAILABLE IN 3 MODELS TO MATCH WITH WORKING TEMPERATURE

※PLEASE CONSULT US FOR HIGHER TEMPERATURE.

- FLEXIBLE
IDEAL FOR HEATING AND THERMAL INSULATION BY WRAPPING AROUND PIPES AND TANKS DUE TO ITS FLEXIBILITY AND SHAPE.
- UNIFORM HEAT GENERATION
SINCE THE HEATING ELEMENT IS MEANDERED, IT DEMONSTRATES HEATING EFFECT CLOSES TO PLANAR HEAT GENERATION
- MADE TO ORDER
CAN BE MANUFACTURED ACCORDING TO THE CUSTOMERS' REQUIREMENTS AND WORKING CONDITIONS.

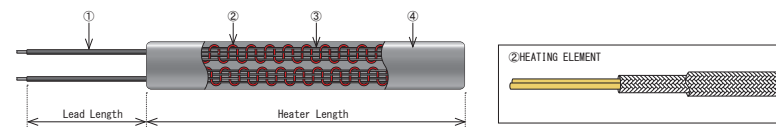
APPLICATIONS

- TEMPERATURE CONTROL OF TANKS, HOPPERS AND PIPELINES
- TEMPERATURE CONTROL OF CHEMICAL EQUIPMENT

SPECIFICATIONS

MODEL	TEMPERATURE
TH200	MAX200°C
TH300	MAX300°C
TH500	MAX500°C

	Electrical capacity		Heater		Lead Length (M)
	Voltage (V)	Wattage (W/M)	Width (mm)	Length (M)	
Standard specification	100	30	15	1~5	0.5
	200				
Also possible	12~440	5~200	10~50	※1	As per specification



MATERIALS

	STRUCTURE	MAX200°C	MAX300°C	MAX500°C
①	LEAD WIRE	PFA MAX250°C NONFLAMMABLE	NICKEL SILICA MAX400°C NONFLAMMABLE	NICKEL SILICA MAX400°C NONFLAMMABLE
②	HEATING ELEMENT	NICHROME	NICHROME	NICHROME
③	INSULATION	E-GLASS MAX400°C NONFLAMMABLE	E-GLASS MAX400°C NONFLAMMABLE	ALUMINA MAX1200°C NONFLAMMABLE
④	FIXED YARN	E-GLASS MAX400°C NONFLAMMABLE	E-GLASS MAX400°C NONFLAMMABLE	ALUMINA MAX1200°C NONFLAMMABLE
⑤	OUTER LAYER	E-GLASS MAX400°C NONFLAMMABLE	E-GLASS MAX400°C NONFLAMMABLE	ALUMINA MAX1200°C NONFLAMMABLE
REMARKS		②③TREATED WITH SILICONE	②③TREATED WITH INORGANIC VARNISH	②③TREATED WITH INORGANIC VARNISH

SPECIAL SPECIFICATIONS (OPTIONAL)

- FIXING STRING PLEASE SPECIFY THE REQUIRED LENGTH
- STAINLESS STEEL OUTER LAYER OUTSTANDING WEAR RESISTANCE (FLEXIBILITY STILL REMAINS)
- DRIP-PROOF USAGE OF SILICONE-COATED CLOTH OUTER LAYER (MAX200°C) ※NOT WATERPROOF
- BUILT-IN SENSOR THERMOCOUPLE OR THERMOSTAT
- TEMPERATURE CONTROLLER CONTROLLER IS AVAILABLE WITH MATCHED SPECIFICATIONS

FOR ANY INQUIRIES, PLEASE CONTACT US THROUGH QUOTATION FORM IN OUR WEBSITE.

<https://toyonakahot.com/estimate/flexible-heater/>



EXAMPLE OF PART NUMBER
TH200-10030-155-0.5

MODEL VOLTAGE WATTAGE WIDTH LENGTH LEAD LENGTH

THIN TAPE HEATER

NICHROME ULTRA FINE WIRES ARE ARRANGED IN PARALLEL AND SANDWICHED BETWEEN THIN POLYIMIDE TAPES. IT IS IDEAL FOR PIPELINES HEATING AND THERMAL INSULATION, ESPECIALLY IN PLACES WITH DUST- AND DRIP-PROOF REQUIREMENTS.

FEATURES

- ULTRA THIN DESIGN
WITH THICKNESS OF NO MORE THAN 1mm, IT MAKES IT EASIER TO WORK WITH IN PLACES WITH LIMITED SPACE.
- HIGH HEAT RESISTANCE
MAX180°C.
- HIGH THERMAL EFFICIENCY
THE ULTRA THIN DESIGN ENSURES OUTSTANDING HEAT CONDUCTION WITH LOW ELECTRIC POWER.
- FLEXIBLE
CAN BE USED ON PIPES WITH AN OUTER DIAMETER OF UP TO $\phi 4$.
- DUST- AND DRIP-PROOF STRUCTURE
WITH SUPERB CHEMICAL RESISTANCE, SOLVENT CANNOT PENETRATE THE SURFACE AND CAN BE EASILY WIPED OFF.
- WEAR RESISTANT
THE POLYIMIDE SURFACE PROVIDES EXCELLENT WEAR RESISTANCE
- MADE TO ORDER
CAN BE MANUFACTURED ACCORDING TO CUSTOMERS' REQUIREMENTS AND WORKING CONDITIONS.

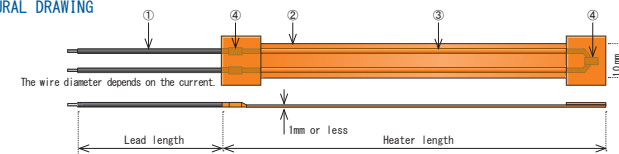
APPLICATIONS

- TEMPERATURE CONTROL IN DUST- AND DRIP-PROOF LOCATIONS.
- TEMPERATURE CONTROL OF PRECISION DEVICES.

	Electrical capacity		Heater		Lead Length (M)
	Voltage (V)	Wattage (W/M)	Width (mm)	Length (M)	
Standard specification	100	30	10	1~5	0.5
	200				
Also possible	12~240	5~50		※1	As per specification

※1 The length of one heater is designed after separate discussion.

STRUCTURAL DRAWING



MATERIALS

	STRUCTURE	MATERIAL	MATERIAL
①	LEAD WIRE	PFA	MAX250°C, NONFLAMMABLE
②	INSULATION	POLYIMIDE	MAX300°C, NONFLAMMABLE
③	HEATING ELEMENT	NICHROME	
④	TERMINAL	NICKEL	SPOT WELDING, TERMINAL CRIMPING

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<https://toyonakahot.com/estimate/flexible-heater/>



EXAMPLE OF PART NUMBER
TTH-10030-105-0.5

MODEL VOLTAGE WATTAGE WIDTH LENGTH LEAD LENGTH

HOT HOSE HEATED HOSE HTS HIP GEC WIPORLSAOSTEHC HOSE

FLEXIBLE HEATER

OTHER PRODUCTS

CORD HEATER

THIS HEATER IS COATED OVER ITS ENTIRE LENGTH (EXCEPT AT THE ENDS) TO MAKE IT DUST- AND DRIP-PROOF.

FEATURES

- FLEXIBLE
FEATURES ULTRA FINE NICHROME WIRE TO PROVIDE EXCELLENT FLEXIBILITY.
- EASY INSTALLATION
OUTLET ON JUST ONE SIDE CAN ALSO BE MANUFACTURED. CAN ALSO BE ATTACHED TO A CONNECTOR.
- HIGH HEAT RESISTANCE
MAX200°C.
- DUST- AND DRIP-PROOF STRUCTURE
THE ENTIRE LENGTH IS COATED TO ENSURE DUST- AND DRIP-PROOF PERFORMANCE.
- MADE TO ORDER
CAN BE MANUFACTURED ACCORDING TO THE CUSTOMERS' REQUIREMENTS AND WORKING CONDITIONS.



SPECIFICATIONS

- TEMPERATURE CONTROL OF VALVES, PIPES AND CYLINDERS.
- PREVENTION OF FREEZING AND CONDENSATION OF WATER SUPPLY EQUIPMENTS

EXAMPLE OF PART NUMBER

CHS-10030-5-0.5-S
MODEL VOLTAGE WATTAGE WIDTH LENGTH LEAD LENGTH OUTLET

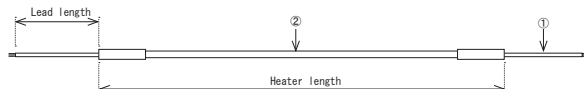
SPECIFICATIONS

MODEL	OUTER LAYER	MAX TEMPERATURE	Electrical capacity		Heater	Lead wire	
CHP	PFA	200°C	Voltage (V)	Wattage (W/M)	Length (M)	Length (M)	Outlet
CHS	SILICONE	180°C	100	30	1~5	0.5	S:Single end W:Both ends
			200				
			Also possible 12~240	5~200	※1	As per specification	

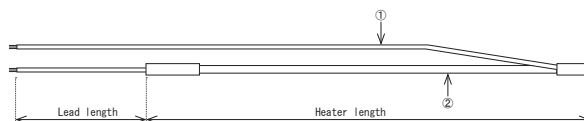
※1 The length of one heater is designed after separate discussion.

STRUCTURAL DRAWING

Lead wire outlet W type
(With lead wire outlets at both ends)



Lead return S type
(With a lead wire outlet at one end)



MATERIALS

	STRUCTURE	MATERIAL	REMARKS
①	LEAD WIRE	PFA	MAX250°C, NONFLAMMABLE
②	OUTER LAYER	CHP TYPE PFA	MAX200°C, NONFLAMMABLE
		CHS TYPE SILICONE	MAX180°C, FLAME RETARDANT



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<https://toyonakahot.com/estimate/flexible-heater/>

OTHERS

WE ARE ALSO HANDLING OTHER TYPE OF HEATERS ACCORDING TO THE CUSTOMERS' REQUIREMENTS. FEEL FREE TO CONTACT US AND WE WILL PROVIDE YOU WITH THE MOST SUITABLE HEATER.

SILICONE RUBBER HEATER

FEATURES

- THE HEATING ELEMENT IS SANDWICHED BETWEEN SILICONE RUBBER SHEETS.
- AS IT IS A FLEXIBLE THIN SHEET, IT HAS EXCELLENT THERMAL EFFICIENCY.

APPLICATIONS

- HIGH TEMPERATURE HEATING OF PRODUCTION LINES.
- HIGH TEMPERATURE HEATING OF PIPELINES AND TANKS.

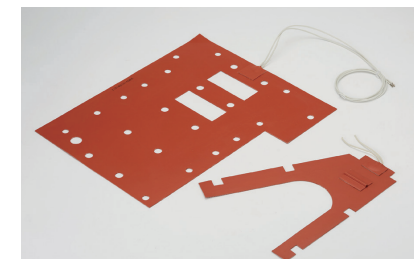


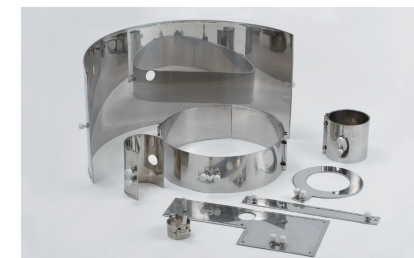
PLATE HEATER

FEATURES

- A THIN PLATE HEATER WITH MICA SHEET INSULATED NICHROME WIRE COVERED WITH STAINLESS STEEL

APPLICATIONS

- HIGH TEMPERATURE HEATING OF PRODUCTION LINES.
- VARIOUS HIGH TEMPERATURE HEAT TREATMENT EXPERIMENTS



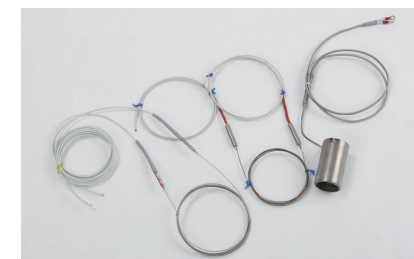
SHEATH HEATER • BAND HEATER

FEATURES

- BAND HEATER
HEATER USING MICA SHEET AS INSULATOR TO HEAT CYLINDRICAL SHAPED ITEMS.
- SHEATH HEATER
HEATER FILLED WITH INSULATION POWDER AND PASSING A HEATING ELEMENT THROUGH THE CENTER OF A METAL PIPE.

APPLICATIONS

- HIGH TEMPERATURE HEATING OF PRODUCTION LINES.
- HEATING OF TANKS.



04

OTHER PRODUCTS

MATERIALS RELATED TO TEMPERATURE CONTROL
: SENSORS, TEMPERATURE CONTROLLERS, SPECIAL
TUBES, THERMAL INSULATION MATERIALS ETC.

Lineup

- SILICONE SPONGE (TUBE)
- SILICONE SPONGE (SHEET)
- INSULATION SPONGE TUBE
- NYLON TUBE
- FLUORORESIN TUBE
- THERMAL INSULATION MATERIALS
- SENSOR
- TEMPERATURE CONTROLLER



HOT
HOSE · HEATED
HOSE

SPECIAL
HIGH-TEMPERATURE
PRELUSION
HOSE

FLEXIBLE
HEATER

OTHER
PRODUCTS

SILICONE SPONGE (TUBE)

THIS PRODUCT IS TUBE-SHAPE MOLDED FROM SILICONE FOAM. IT WAS DEVELOPED IN-HOUSE AS A MATERIAL FOR USE IN FLEXIBLE HOSE MANUFACTURING PROCESS.

FEATURES

- OUTSTANDING HEAT RESISTANCE AND THERMAL INSULATION.
- EXCELLENT DURABILITY AND MOISTURE ABSORPTION RESISTANCE.
- SUPERB SOUND INSULATION MATERIAL.
- STRONG AGAINST REPEATED COMPRESSION FATIGUE.
- FLAME RETARDANT AND DOES NOT PRODUCE TOXIC GAS WHEN BURNED.

APPLICATIONS

- THERMAL INSULATION MATERIAL
- FREEZING PREVENTION
- PIPELINE PROTECTION MATERIAL

SPECIFICATIONS

- WORKING TEMPERATURE -50~200°C
- RELATIVE DENSITY 0.35±0.1
- STRETCH MORE THAN 100%

■ STANDARD TABLE

Model	ID×OD(mm)	Color(standard)	Thickness tolerance	OD tolerance	Maximum length	Minimum lot
SST-8×17-K	φ8 × φ17	Black gray	4.5±1.5	17±1.5	50M	10M
SST-10×17-C	φ10 × φ17	Red pattern	3.5±1.5	17±1.5	50M	10M
SST-10×20-K	φ10 × φ20	Black gray	5.0±1.5	20±2.0	50M	10M
SST-11×23-K	φ11 × φ23	Black gray	6.0±2.0	23±2.5	50M	10M
SST-13×18-K	φ13 × φ18	Black gray	2.5±2.0	18±2.0	50M	10M
SST-16×21-K	φ16 × φ21	Black gray	2.5±2.0	21±2.0	50M	10M
SST-16×23-K	φ16 × φ23	Black gray	3.5±2.0	23±3.0	50M	10M
SST-16×36-K	φ16 × φ36	Black gray	10.0±2.5	36±3.0	50M	10M
SST-17×31-K	φ17 × φ31	Black gray	7.0±2.5	31±3.0	50M	10M
SST-19×33-K	φ19 × φ33	Black gray	7.0±2.5	33±3.0	50M	10M
SST-20×40-K	φ20 × φ40	Black gray	10.0±2.5	40±4.0	50M	10M
SST-25×45-K	φ25 × φ45	Black gray	10.0±2.5	45±4.5	50M	10M
SST-30×50-K	φ30 × φ50	Black gray	10.0±3.0	50±5.0	40M	10M



SILICONE SPONGE (SHEET)

THIS PRODUCT IS SHEET-SHAPE MOLDED FROM SILICONE RUBBER FOAM. USABLE OVER A WIDE TEMPERATURE RANGE AND FEATURES OUTSTANDING PROPERTIES NOT PROVIDED BY OTHER FOAM MATERIALS.

FEATURES

- BLOCKS AIR AND WATER WITH ITS SKIN LAYER AND CLOSED CELLS.
- OUTSTANDING HEAT-COLD RESISTANCE AND THERMAL INSULATION.
- EXCELLENT WEATHER RESISTANCE HENCE CAN BE USED FOR LONGER TIME.
- MAINTAINS DURABILITY AGAINST COMPRESSION FATIGUE

APPLICATIONS

- HEAT RESISTANT MATERIAL
- THERMAL INSULATION MATERIAL
- GASKET&PACKING

SPECIFICATIONS

- WORKING TEMPERATURE -50~200°C
- RELATIVE DENSITY 0.35±0.1
- STRETCH MORE THAN 100%

■ STANDARD TABLE

A TYPE: SHEET WITH EXCELLENT ELASTICITY

Model	Thickness	Dimensions (W×H)		Thickness tolerance
SSA-020	2	300×300	500×500	±0.4
SSA-030	3	300×300	500×500	±0.4
SSA-040	4	300×300	500×500	±0.5
SSA-050	5	300×300	500×500	±0.6
SSA-060	6	—	500×500	±0.6
SSA-080	8	—	500×500	±0.8
SSA-100	10	—	500×500	±0.8
SSA-150	15	—	500×500	±1.0

Please ask about other sizes.

(unit: mm)

C TYPE: SOFT TYPE WITH THIN SKIN LAYER AND FINE FOAM

Model	Thickness	Dimensions (W×H)	Thickness tolerance
SSC-010	1	300×850	±0.3
SSC-020	2	300×850	±0.4
SSC-030	3	300×850	±0.6
SSC-040	4	300×850	±0.8
SSC-050	5	300×850	±1.0

Please ask about other sizes.

(unit: mm)



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INSULATION SPONGE TUBE

THIS PRODUCT IS TUBE-SHAPE MOLDED FROM ETHYLENE PROPYLENE DIENE MONOMER (EPDM) RUBBER. IT IS FLEXIBLE, FLAME RETARDANT AND FEATURES OUTSTANDING THERMAL INSULATION PERFORMANCE.

FEATURES

- WITH EXCELLENT THERMAL INSULATION AND LOW HEAT CONDUCTION, THIS PRODUCT IS IDEAL FOR HEAT AND COLD INSULATION.
- HAVING AN OUTSTANDING COLD RESISTANCE, ITS PHYSICAL PROPERTIES DO NOT CHANGE UP TO -10°C.
- FLAME RETARDANT AND EXCELLENT SELF-EXTINGUISH PERFORMANCE.
- EXCELLENT WEATHER-, OZONE-, OIL-, CHEMICAL- AND METAL CORROSION RESISTANCE.

APPLICATIONS

- THERMAL INSULATION MATERIAL
- FREEZING PREVENTION
- PIPELINE PROTECTION MATERIAL

SPECIFICATIONS

- MATERIAL : EPDM
- WORKING TEMPERATURE : CONTINUOUS: -10~100°C
INTERMITTENT: -10~110°C
- RELATIVE DENSITY : 0.1±0.05 g/cm³
- STRETCH : MORE THAN 100%



■ STANDARD TABLE

Model	ID×OD (mm)	Color (standard)	Thickness tolerance	OD tolerance	Minimum lot
NST-0707	φ7 × φ21	Black	1.5±1.0	2.5±0.5	10M
NST-1305	φ13 × φ23	Black	2.0±1.0	2.5±0.5	10M
NST-1307	φ13 × φ27	Black	2.0±1.0	2.5±0.5	10M
NST-1607	φ16 × φ30	Black	2.0±1.0	2.5±0.5	10M
NST-2010	φ20 × φ40	Black	2.0±1.0	2.5±0.5	10M
NST-2610	φ26 × φ46	Black	2.0±1.0	2.5±0.5	10M
NST-2910	φ29 × φ49	Black	2.0±1.0	2.5±0.5	10M

Please ask about other sizes.

NYLON TUBE

THIS IS A NYLON-12 TUBE, WITH EXCELLENT PRESSURE AND OIL RESISTANCE.

FEATURES

- FLUID : AIR, WATER, LUBRICATING OIL
- TEMPERATURE : AIR: -20~60°C
WATER/LUBRICATING OIL: 0~40°C
- VACUUM PRESSURE : 0.1Torr (-760mmHg)

APPLICATIONS

- PNEUMATIC-HYDRAULIC EQUIPMENT ETC

■ STANDARD TABLE

Model	OD × ID (mm)
TN-A-4×2	4×2
TN-A-6×4	6×4
TN-A-8×6	8×6
TN-A-10×8	10×8
TN-A-12×9	12×9
TN-A-16×13	16×13

Please ask us about other sizes.



3 FROM LEFT: PFA TUBE

3 FROM RIGHT: NYLON TUBE

PFA TUBE

EXCELLENT CHEMICAL RESISTANCE, HENCE SUITABLE FOR INDUSTRIES SUCH AS FOOD, MEDICAL CARE AND CHEMISTRY. THIS TUBE HAS EXCELLENT WEATHER RESISTANCE AND LESS AGING. RESIDUAL ADHESION OF CHEMICALS CAN BE MINIMIZED DUE TO ITS NON-STICK PERFORMANCE.

APPLICATIONS

- SOLVENT · SOLUTION TRANSFER
- TUBING FOR VARIOUS EQUIPMENTS

SPECIFICATIONS

- FLUID : GAS, AIR, STEAM, OIL, SOLVENT, RESIN, PAINT, FOOD ETC
- TEMPERATURE : -65~180°C
- VACUUM PRESSURE : 0.1Torr (-760mmHg)

Please contact us on the fluid you are transferring

■ STANDARD TABLE

Model	OD × ID (mm)	Model	OD × ID (mm)
PFA-A-4×2	4×2	PFA-B-1/8	3.18×1.65
PFA-A-6×4	6×4	PFA-B-1/4	6.35×3.96
PFA-A-8×6	8×6	PFA-B-3/8	9.53×6.35
PFA-A-10×8	10×8	PFA-B-1/2	12.7×9.53
PFA-A-12×10	12×10	PFA-B-3/4	19.05×15.88
PFA-A-16×13	16×13		
PFA-A-23×20	23×20		
PFA-A-28×25	28×25		

Please ask about other sizes.

THERMAL INSULATION MATERIALS

THESE ITEMS ARE USED IN VARIOUS FIELDS PARTICULARLY IN THE PROCESS WHERE EXCELLENT THERMAL- AND ELECTRICAL INSULATION ARE REQUIRED.



■ TAPE



GLASS TAPE
GLASS CLOTH TAPE WITH HIGH HEAT RESISTANCE (200°C). THE ADHESIVE LAYER IS MADE OF FLAME RETARDANT SILICONE.



SILICONE RUBBER TAPE
A SELF-ADHESIVE TAPE THAT HAS EXCELLENT ELECTRICAL PROPERTIES AND CAN ALSO BE USED AS AN INSULATING MATERIAL. IT HAS EXCELLENT COLD- AND HEAT RESISTANCE. (WORKING TEMP.: -50~180°C)



POLYIMIDE TAPE
AN ADHESIVE TAPE SUITABLE FOR BUNDLING AND INSULATING HIGH HEAT RESISTANT WIRES. (HEAT RESISTANT TEMP.: 240°C FOR 10 MINUTES.)

■ INSULATION MATERIAL



INSULATION FELT
NON-ASBESTOS FELT FOR VARIOUS PIPELINES LINING. IT HAS LOW HEAT CONDUCTION AND EXCELLENT HEAT-RESISTANCE AND INSULATION.

■ TUBE



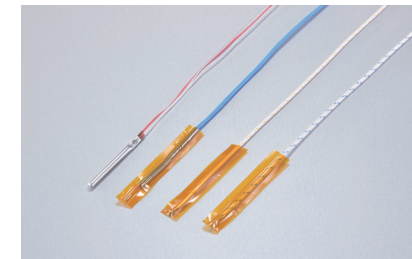
SILICONE GLASS TUBE
TUBE MADE BY APPLYING SILICONE VARNISH TO GLASS SLEEVE AND DRIED. IT IS FLAME RETARDANT, FLEXIBLE AND SUITABLE FOR A WIDE RANGE OF APPLICATIONS.



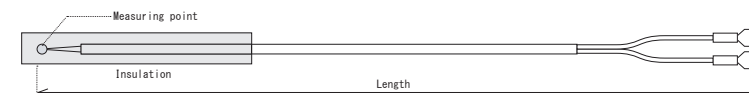
HEAT SHRINKABLE TUBE
VARIOUS SHRINKABLE TUBES WITH EXCELLENT CHEMICAL-, INSULATION RESISTANCE AND FLAME RETARDANT MATERIAL WHICH CAN BE SELECTED ACCORDING TO APPLICATIONS SUCH AS WIRING PROTECTION AND TERMINAL TREATMENT.

SENSOR

- THERMOCOUPLE: K TYPE, J TYPE
SENSOR WITH EXCELLENT INSULATION, COATED WITH SILICONE RUBBER.
- RESISTANCE TEMPERATURE DETECTOR (RTD): Pt-100Ω
SENSOR WHICH MEASURES TEMPERATURE BY UTILIZING THE CHANGE OF PLATINUM ELEMENT RESISTANCE WITH THE RISE OF TEMPERATURE.



■ THERMOCOUPLE

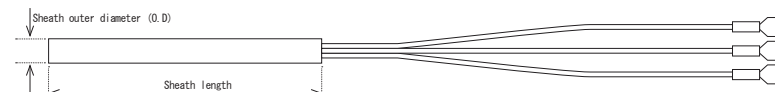


PART NUMBER	MODEL	HEAT RESISTANT	COVER
SE-K-□M	THERMOCOUPLE K TYPE	200°C	GLASS BRAID
SE-J-□M	THERMOCOUPLE J TYPE	200°C	GLASS BRAID
SE-KS-□M	THERMOCOUPLE K TYPE	180°C	SILICONE COATING
SE-JS-□M	THERMOCOUPLE J TYPE	200°C	SILICONE COATING

EXAMPLE OF PART NUMBER

SE-K-□M
LENGTH

■ RTD (Pt-100Ω)



PART NUMBER	MODEL	Sheath O.D.(mm)	Sheath length(mm)	HEAT RESISTANT
SE-PT100	RTD (Pt-100Ω)	3.8	50	200°C

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TEMPERATURE CONTROLLER

PLEASE SPECIFY HEATED HOSE / HEATER
TEMPERATURE CONTROL METHOD AND ANY
SPECIAL SPECIFICATIONS SO THAT WE CAN
MANUFACTURE THE CONTROLLER ACCORDINGLY.

TEMPERATURE CONTROL

◎ PID CONTROL, SSR OUTPUT

◎ PID CONTROL, SCR OUTPUT

SPECIAL SPECIFICATIONS

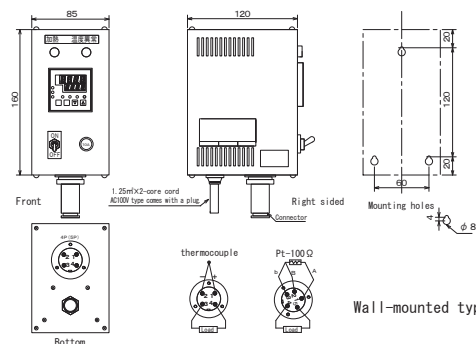
◎ WATERPROOF MAIN BODY BUILT IN A WATERPROOF BOX

◎ VOLTAGE-, AMPERE GAUGES ETC CAN BE INSTALLED



TEMPERATURE CONTROLLER MODEL STANDARD TABLE

		Number of channels	Input type	Output rating	Output type	Power supply voltage	Cable length	Exterior shape	Other		
Model	Manufactured by Itoh Electronics Inc. Manufactured by Oron Corporation										
Number of channels	1CH	1									
	2CH	2									
	3CH	3									
	4CH	4									
	◆CH	◆									
Input type	K thermocouple (CA)	K									
	J thermocouple (IC)	J									
	Pt100Ω	Pt									
	●Sensor	●									
Output	Output rating	Up to 10A	10								
		Up to 15A	15								
		Up to 20A	20								
		◎Up to									
Power supply	Output type	SSR		P							
		SCR		S							
	Power supply voltage	AC100V		1							
		AC200V		2							
	Cable length	3m		— 3M							
		5m		— 5M							
		10m		— 10M							
		▲m		— ▲ M							
		Exterior shape	Wall-mounted	Metacon wall-mounting						:metal-connector	NANABOSHI NCS Series
	Terminal block wall-mounting			:terminal block							— WT
Desktop	Metacon desktop		:metal-connector	NANABOSHI NCS Series	— DM						
	Terminal block desktop		:terminal block		— DT						
Other	None								Unspecified		
	Special option(separate estimate) S is suffixed with the drawing number								—S		



Wall-mounted type

SHIPPING FLOW

STEP1 INQUIRY

PLEASE CONTACT US BY PHONE, FAX OR
WEB FORM.

STEP2 CONFIRMATION OF SPECS

WE WILL PROPOSE THE BEST SPECIFICATIONS
BASED ON CUSTOMERS' REQUIREMENTS.

STEP3 ISSUANCE OF QUOTATION

WHEN YOU ARE SATISFIED WITH THE PRICE AND
TRANSACTION CONDITIONS, PLEASE SEND US
THE PURCHASE ORDER TO CONFIRM THE DEAL.

STEP4 MANUFACTURING

THE PRODUCT WILL BE MANUFACTURED IN OUR
FACTORY ACCORDING TO THE SPECIFICATIONS.

STEP5 PRODUCT INSPECTION-PACKAGING

THE PRODUCT WILL BE INSPECTED
FOR ANY DEFECTS AND PACKED.

STEP6 SHIPPING

THE PRODUCT WILL BE SHIPPED TO YOUR
DESIRED ADDRESS.



■FOR INQUIRIES

FOR PRODUCTS QUOTATION AND INQUIRIES, PLEASE CONTACT OUR TOKYO SALES OFFICE OR
USE THE WEB QUOTATION FORM BELOW.

TOKYO SALES OFFICE

TEL: +813-5843-7531

FAX: +813-5843-7532



WEB QUOTATION FORM

<https://toyonakahot.com/estimate/>

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FLEXIBLE
HEATER

OTHER
PRODUCTS

COMPANY PROFILE

NAME TOYONAKA HOT LABORATORY CO., LTD.
 FOUNDED 1ST AUGUST 1967
 ESTABLISHED 1ST APRIL 1987
 CAPITAL JPY10,000,000
 ADDRESS ■HEAD OFFICE
 3-9-14 NIITAKA
 YODOGAWA-KU 532-0033 OSAKA
 TEL: +816-6396-8525 FAX: +816-6396-8672
 ■OSAKA SALES OFFICE
 4F PICASSO MIKUNI BLDG.
 3-9-14 NIITAKA
 YODOGAWA-KU 532-0033 OSAKA
 TEL: +816-6396-8525 FAX: +816-6396-8672
 ■TOKYO SALES OFFICE
 4F SHIBADAIMON TOSEI BLDG. 1-1-32
 SHIBADAIMON
 MINATO-KU 105-0012 TOKYO
 TEL: +813-5843-7531 FAX: +813-5843-7532
 ■OSAKA PLANT
 4-3-11 SHONAINISHICHO
 TOYONAKA-SHI 561-0832 OSAKA
 TEL: +816-6152-5425 FAX: +816-6152-5472
 ■OTA PLANT
 209 TECHNO FRONT MORIGASAKI 4-6-15
 OMORIMINAMI
 OTA-KU 143-0013 TOKYO
 TEL: +813-5737-7221 FAX: +813-6423-9375
 ■KYUSHU PLANT
 1742-46 TANOCHO-OTSU
 MIYAZAKI-SHI 889-1702 MIYAZAKI
 TEL: +81985-86-1588 FAX: +81985-86-1541

PRESIDENT TOSHIO KAWAHARA

NO. OF
 EMPLOYEES 70 (AS OF 1ST APRIL 2020)

BANK RESONA BANK, LTD.
 TOYONAKAHATTORI BRANCH

MAIN MACHINES

RESIN TUBE EXTRUDER 4 UNITS
 EXTRUDER FOR
 PVC-URETHANE-THERMOPLASTIC
 ELASTOMER COATING 1 UNIT
 BRAIDING MACHINE 16 SPINDLE 5 UNITS
 BRAIDING MACHINE 24 SPINDLE 19 UNITS
 BRAIDING MACHINE 32 SPINDLE 1 UNIT
 BRAIDING MACHINE 48 SPINDLE 3 UNITS
 BRAIDING MACHINE 64 SPINDLE 1 UNIT
 BRAIDING MACHINE 80 SPINDLE 2 UNITS
 HIGH SPEED BRAIDER 16 SPINDLE 3 UNITS
 WINDING MACHINE 8 UNITS
 CRIMPING MACHINE 7 UNITS
 KNITTING MACHINE 2 UNITS
 OVEN 7 UNITS
 SPOT WELDING MACHINE 2 UNITS
 INDUSTRIAL SEWING MACHINE 4 UNITS
 COMPRESSOR 4 UNITS
 PRESSURE TESTING MACHINE 3 UNITS
 WITHSTAND VOLTAGE TESTER 3 UNITS
 BURST PRESSURE TESTING MACHINE 1 UNIT
 TIG WELDING MACHINE 1 UNIT
 ARC WELDING MACHINE 1 UNIT
 CUTTING MACHINE 1 UNIT
 HOSE CLEANING MACHINE 1 UNIT
 SPIRAL WIRE WINDING MACHINE 2 UNITS
 IMPULSE TESTING MACHINE 1 UNIT
 NC LATHE MACHINE 2 UNITS
 ALL PURPOSE LATHE MACHINE 1 UNIT

HISTORY

AUGUST 1967 STARTED THE MANUFACTURE AND SALE OF HIGH PRESSURE, SOLVENT RESISTANT HOSE IN HAKATA-KU, FUKUOKA PREFECTURE.
 MAY 1971 STARTED THE MANUFACTURE AND SALE OF HEATED HOSE AND PIPE HEATER.
 JANUARY 1985 INSTALLED IMPULSE TESTING MACHINE.
 JUNE 1985 STARTED THE MANUFACTURE AND SALE OF TAPE HEATER AND JACKET HEATER.
 APRIL 1986 RELOCATED AND EXPANDED TO TOYONAKA-SHI, OSAKA PREFECTURE FOR DIRECT CONTROL OF SALES AND PLANT. RENAMED TO TOYONAKA HOT LABORATORY.
 JANUARY 1987 STARTED THE MANUFACTURE AND SALE OF AIRLESS HOSE FOR PAINTING.
 APRIL 1987 CORPORATE ORGANIZATION ESTABLISHED AS TOYONAKA HOT LABORATORY CO., LTD. WITH CAPITAL OF 5 MILLION JPY.
 MAY 1987 ESTABLISHED KYUSHU PLANT.
 DECEMBER 1990 INCREASED CAPITAL TO 10 MILLION JPY.
 APRIL 1991 INSTALLED NYLON TUBE EXTRUSION MACHINE.
 NOVEMBER 1991 INSTALLED EXTRUDER FOR PVC-URETHANE-THERMOPLASTIC ELASTOMER COATING.
 MAY 1992 STARTED THE MANUFACTURE AND SALE OF STEAM IRON HOSE.
 DECEMBER 1993 INSTALLED PFA TUBE EXTRUSION MACHINE.
 JANUARY 1994 STARTED THE MANUFACTURE AND SALE OF STEAM HOSE FOR PRESS MACHINE.
 MAY 1995 STARTED THE MANUFACTURE AND SALE OF HIGH FREQUENCY CABLE.
 JANUARY 1999 STARTED THE MANUFACTURE AND SALE OF THIN TAPE HEATER.
 APRIL 1999 ESTABLISHED TOKYO SALES OFFICE
 FEBRUARY 2002 RELOCATED KYUSHU PLANT TO NICHINAN-SHI TO EXPAND BUSINESS
 JULY 2002 ACQUIRED ISO9001:2000 CERTIFICATION.
 FEBRUARY 2003 ESTABLISHED TOKYO PLANT
 JUNE 2006 MERGED WITH TAIYO CO., LTD. AND INTEGRATED MANUFACTURING AND SALES DIVISIONS.
 NOVEMBER 2009 RELOCATED TOKYO SALES OFFICE AND PLANT TO OTA PLANT.
 DECEMBER 2010 INSTALLED IMPULSE TESTING MACHINE.
 APRIL 2015 RELOCATED KYUSHU PLANT TO MIYAZAKI-SHI.
 NOVEMBER 2017 RELOCATED OSAKA SALES OFFICE.
 JANUARY 2019 RELOCATED TOKYO SALES OFFICE
 APRIL 2019 RELOCATED HEAD OFFICE, INTEGRATED AND RELOCATED OSAKA PLANT AND RESEARCH LAB.

MAIN CUSTOMERS

TOYOTA MOTOR CORP. LOTTE CORP. NISSAN MOTOR CO., LTD. SHISEIDO CO., LTD. HONDA MOTOR CO., LTD. KAO CORP. MAZDA MOTOR CORP. TOKYO ELECTRON LTD. JAXA	HISAMITSU PHARMACEUTICAL CO., LTD. SUBARU CORP. LION CORP. SUZUKI MOTOR CORP. UNICHARM CORP. DAIHATSU MOTOR CO., LTD. FUJIKURA LTD. PANASONIC CORP. MINISTRY OF DEFENSE	ISUZU MOTORS LTD. HORIBA LTD. KAWASAKI HEAVY INDUSTRIES LTD. NAOMOTO CORP. OSHIMA SHIPBUILDING CO., LTD. NICHIREKI CO., LTD. MITSUBISHI HEAVY INDUSTRIES LTD. FUJI ELECTRIC CO., LTD.
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ACQUIRED CERTIFICATION

CERTIFICATION REGISTERED OPERATOR ACTIVITIES	ISO9001/JQA-QM8519 TOYONAKA HOT LABORATORY CO., LTD. OSAKA PLANT DESIGN, DEVELOPMENT AND MANUFACTURE OF THERMOPLASTIC PRESSURE RESISTANT HOSE, HEATED HOSE AND RIBBON HEATER-JACKET HEATER FOR PIPELINES HEATING. TOYONAKA HOT LABORATORY CO., LTD. KYUSHU PLANT
RELATED OFFICE REGISTRATION DATE	12th JULY 2002
RENEWED DATE	31st MARCH 2019
REVISED DATE	6th MARCH 2020
VALID UNTIL	30th MARCH 2022

