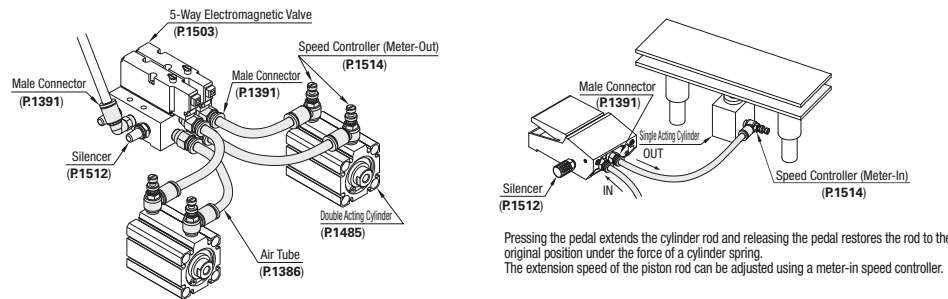


Tubes / One-Touch Couplings - Overview



Example



Function list

Type	PUT/PUTL/PUTSP/EPTU			PUTY/PUTYL		PUTN/PUTNL				PUTHP/PUTHPL	
Photo											
Material	Urethane			Soft Polyurethane		Nylon				Polyamide	
Applicable Fluid	Air	Water*	Vacuum	Air	Vacuum	Oil	Air	Water	Vacuum	Refer to Operating Temperature Range	
Temperature Range Specification	-5~60°C	0~40°C	-5~60°C	-5~60°C	-5~60°C	-5~40°C	-40~100°C	0~80°C	-5~100°C	-40 ~ 120°C (Air, Oil) 0 ~ 80°C (Water)	
Burst Pressure	3.0MPa			1.7MPa		Depends on size.				Depends on size. Refer to specification table.	
Max. Operating Pressure	0.8MPa			0.4MPa		Depends on size.				Depends on size. Refer to specification table.	
Operating Vacuum Level	-			-		-				-	
Features	* Highly water resistant. * PUT/PUTL only. * More flexible than Nylon Tubes with smaller bend radius. * Excellent mechanical (especially wear resistance) strengths.			* Flexibility similar to the Silicon Tubes and easier to handle than the Polyurethane Tubes. * Excellent mechanical (especially wear resistance) strengths.		* Highly oil resistant, and best for oil tubing. * Excellent mechanical (especially wear resistance) strengths.				* Available for oil supplying or oil hydraulic plumbing. * It can take the place of copper pipes.	

Type	PUTNS/PUTNSL			PUTMF/PUTMFL/PUTMSP		PUTS/PUTSL				PUVFN/PUVFLN	
Photo											
Material	Nylon			Polyurethane (Multi-core Type)		Incombustible Polyurethane				Soft Polyurethane	
Applicable Fluid	Air	Water	Vacuum	Air	Vacuum	Air	Water	Vacuum	Air	Vacuum	
Temperature Range Specification	-15 ~ 90°C (Non-Freezing)			-5~60°C		-5~60°C 0~80°C -5~60°C				-15~50°C	
Burst Pressure	2.0MPa			3.0MPa		3.0MPa				1.3MPa	
Max. Operating Pressure	1.0MPa			0.8MPa		0.8MPa				0.4MPa	
Operating Vacuum Level	-			-		-				-	
Features	* Excellent in pressure, abrasion, weather and low temperature resistance, as well as softness. * It is suitable for high pressure pipeline in narrow pitch.			* Suitable for multiple tubing to double acting cylinders, etc. * It is easy to peel and connect to fittings without any pre-processing.		* Connectable to joints without being covered or peeled. * Quickly carbonize upon contact with hot sputter to prevent fusion pitting. * More flexible and easier to handle than the Flame Retardant Nylon Tubes.				* Tubes excellent in flexibility and bending fatigue properties. * Does not easily bend or curl and is ideal for piping in oscillating parts such as suction parts.	

Type	PUAS/PUASL			PORF/PORFL		PUFE/PUFEL/PUFN				PUJTF/PUJTFL	
Photo											
Material	Conductive Polyurethane			Olefinic Resin		Fluororesin				Fluororesin (ETFE)	
Applicable Fluid	Air	Water	Vacuum	Air	Water	Air	Water	Vacuum	Air	Water	
Temperature Range Specification	-5~60°C			-20~60°C 0~40°C -20~60°C		-65~260°C				-20~80°C	
Burst Pressure	3.0MPa			2.0MPa		Depends on size. Refer to specification table.				Refer to specification table.	
Max. Operating Pressure	0.8MPa			0.5MPa		Depends on size. Refer to specification table.				Refer to specification table.	
Operating Vacuum Level	-			-		-				-	
Features	* Electrically conductive tube is suitable for applications where static electricity is undesirable. * Surface resistivity is 10 ⁹ (Ω) or less.			* Clean and conforms to the Food Sanitation Laws (except oil-processed foods). (Compliant to Health, Labor and Welfare Ministry Notification No. 370) * Highly water resistant and non-hydrolyzable. * Low specific gravity, and light weight. * Low specific gravity, and light weight. * Disposable by combustion without emitting harmful gases. * Suitable for uses in food, beverage, physicochemical and other industries.		* Excels in heat and low temperature resistance. * Inactive to most of corrosive gases, chemicals and solvents. * Highly weather resistant, and does not deteriorate with time. * Incombustible. No toxic substances released.				* Excels in chemical resistance. * Good clarity allows visual checks of contents. * Compliant to Health, Labor and Welfare Ministry Notification No. 20 under Food Sanitation Laws of Japan.	

Type	PUTFB/PUTFBL/PUTFG/PUTFGL			PUTC/PUTCL	
Photo					
Material	Fluoro Rubber			Silicon Rubber	
Applicable Fluid	Oil	Air	Water	Water, Pure Water, Beverage, etc.	
Operating Temperature Range	-20~180°C			-30~150°C	
Burst Pressure	Depends on size. Refer to specification table.			- (Elastic body. Not available under pressure.)	
Max. Operating Pressure	Depends on size. Refer to specification table.			- (Elastic body. Not available under pressure.)	
Operating Vacuum Level	-			- (Elastic body. Not available under pressure.)	
Features	* Excellent in heat resistance, oil resistance, weather resistance and chemical resistance. * Excellent resistance in the environment of ozone and light.			* Compliant to Food Sanitary Act (MHLW Notification No. 201) * Excels in heat and low temperature resistance. * Retains the characteristics as an elastic body within the above temp. range.	

List of Couplings for Tubes

Applicable Fluid	Connection Shape	Applicable Plumbing Components, Fittings	Operating Temperature Range	Operating Vacuum Level	Max. Operating Pressure	Pages
Air (some are for water)		One-Touch Couplings	0~60°C	-100kPa	0.9MPa	P.1391~1395
Air		Miniature One-Touch Coupling Connectors	0~60°C	-100kPa	1MPa	P.1397
Air		Miniature Couplings	0~50°C	-100kPa	0.5~1MPa	P.1398
Air	One-Touch	Compact Air Fittings	-10~60°C	-100kPa	0.8MPa	P.1396
Air, Water		All Stainless Steel One-Touch Couplings	-15~120°C	-100kPa	1MPa	P.1403
Air, Water		Heat-Resistant One-Touch Fittings	0~100°C	-100kPa	1MPa	P.1404
Air, Water, Chemicals		One-Touch Couplings for Clean Applications	0~80°C	-100kPa	0.9MPa	P.1405
Air		Rotary Joints / High Rotary Joints / Multi-circuit Rotary Joints	0~60°C	-100kPa	1MPa	P.1402
Air, Water	Nut-tightened	Couplings for Tubes	0~80°C * It differs depending on the current material.	-100kPa	It applies to Max. Operating Pressure of tubes.	P.1399
Super Pure Water, Acid, Alkali, Organic Solvent		Fluororesin Couplings	0~100°C	-	0.2~0.8MPa	P.1407
Air, Water, Oil		Couplings with Tube Insert	0~60°C * It differs depending on the current fluid.	-100kPa	It applies to Max. Operating Pressure of tubes.	P.1401

- Select tubes and one-touch couplings according to the tube outside diameter. Select nut-tightened couplings according to the tube inside diameter and outside diameter.
- For use of one-touch couplings, if water is used as fluid, use of Tube Inserts in P.1390 is recommended for preventing tubes from dropping out.
- When using Couplings with Tube Insert in P.1401 or Coupling for Tubes in P.1399, make sure that both the O.D. and I.D. of tubes conform with the applicable spec.
- For fittings other than coupling for tubes (such as screw, welded fittings for pipes), refer to the "Pipes, Fittings, Hoses, Valves" index in P.1263~.