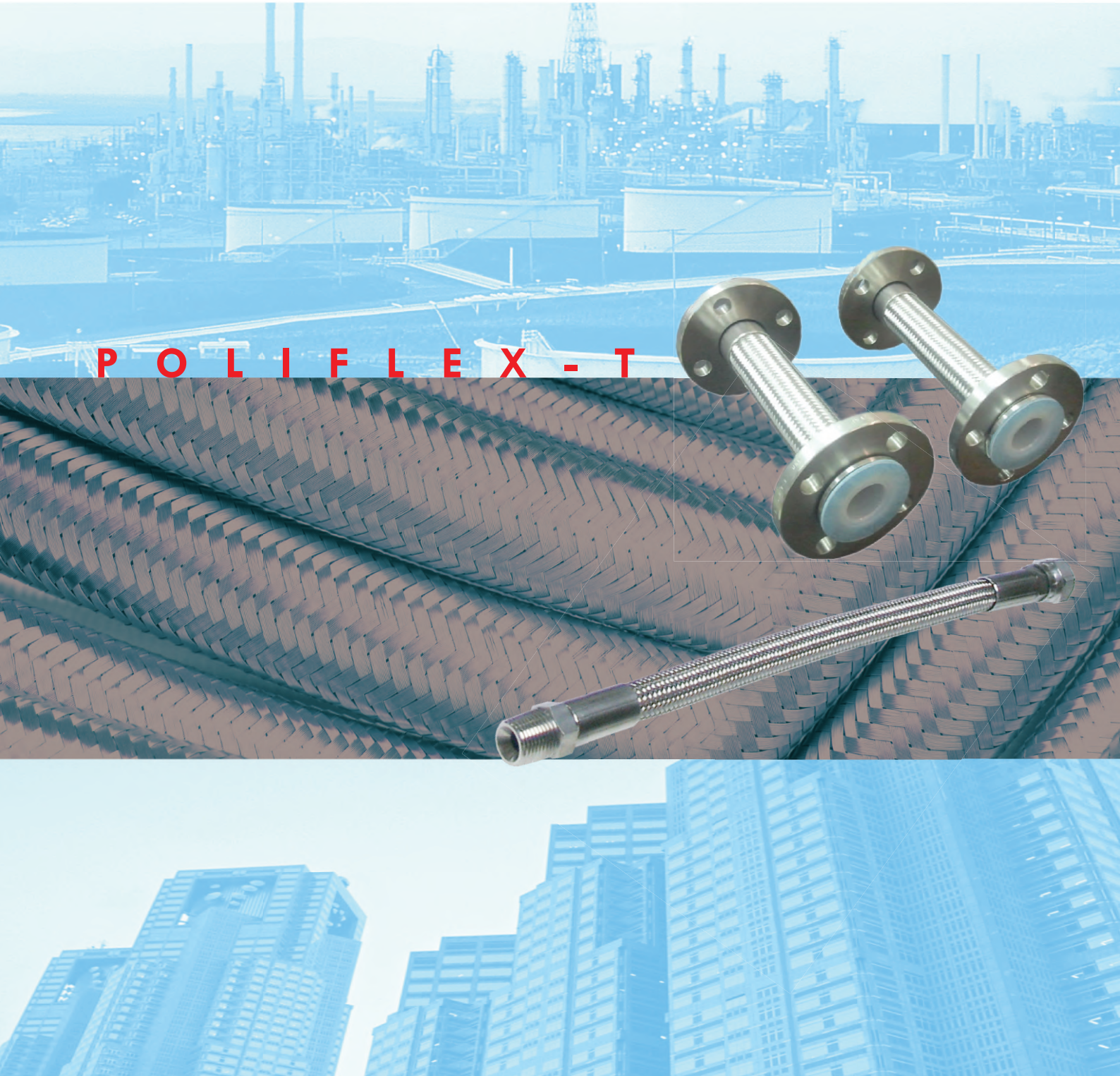
TOZEN
A joint reliance

POLIFLEX-T

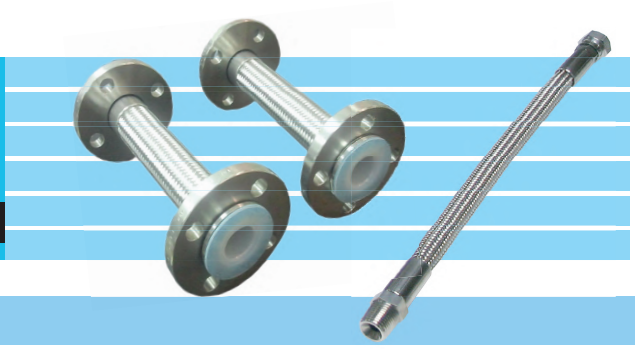
PTFE FLEXIBLE JOINT



PFT-0125

POLIFLEX-T

PTFE FLEXIBLE JOINT



FEATURES

Polytetrafluoroethylene (PTFE) hose has solved the short life problem of metallic hose from using with most dangerous fluids like acids, caustics, chemicals, organic solvent, noxious gas, etc. This material has outstanding chemical resistance to wide variety of chemicals and the long service life that make it ideal for use in hose application. Besides, the nonstick feature of PTFE makes it ideal for food and pharmaceutical process. Many other critical applications of PTFE hose is used for imperative reliability such as submarine and life saving devices. The additional benefit is the reduced maintenance costs and low inventory costs.

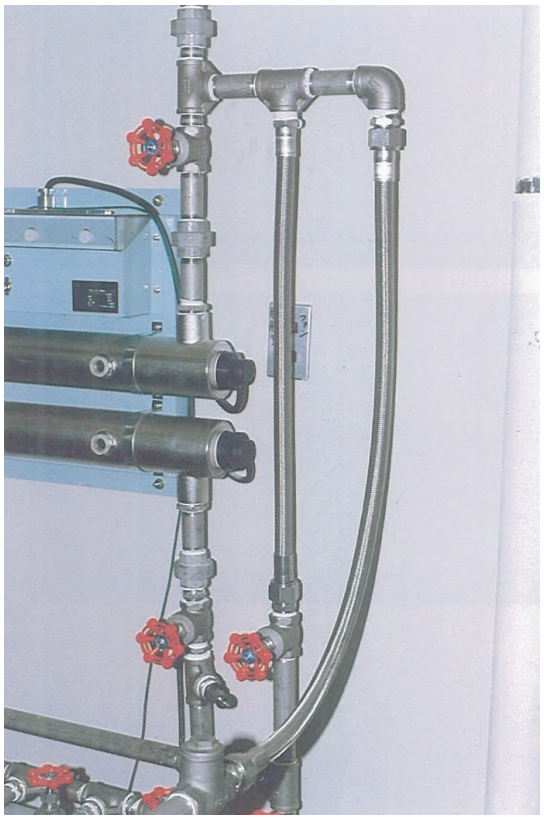
Poliflex-T is available with either a corrugated profile enhancing flexibility or smooth bore for minimizing pressure drop and stabilizing the flow. When completed with stainless steel wire braid, PTFE hose are able to be used under high pressure, continuous flexing, and vibration condition.

TEMPERATURE SERVICE

The service temperature of PTFE is ranging from -73°C to +260°C. However in considering the demand of other factors or parameters such as movement and pressure load, we recommend the maximum service temperature up to 200°C.

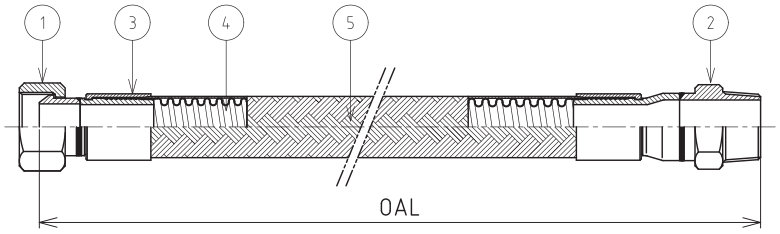
CAUTION

Although PTFE resists most corrosive media, it is not suitable for Alkali metals (such as sodium and potassium, dissolved on metals) and fluorine compounds (such as fluorides, fluorine oxide, fluorine gas, and fluorinated hydrocarbons).



TJ-4450-0

Screw Type



No.	Parts	Standard Materials
1	Screw end fitting	SUS304
2	Screw end fitting	SUS304
3	Ferrule	SUS304
4	Corrugated hose	PTFE
5	Wire braid	SUS304

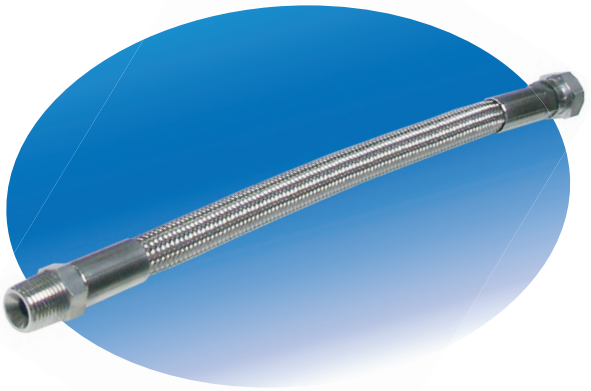
- Screw end fittings can be changeable to SUS316.

SPECIFICATION :

Max. Operating Temperature : 260°C

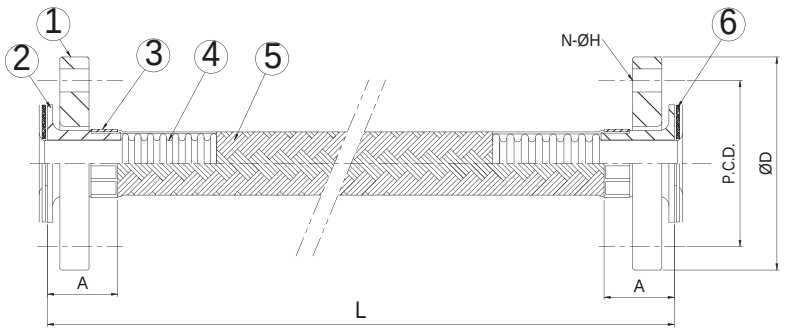
Application : Chemicals, Pharmaceutical, Biomedical, Food, Cosmetic, etc.

The screw end type of PTFE convoluted hose is suitable for small size connection, and it can support higher pressure than flange type but it is not providing 100% PTFE coverage at all wet surface, therefore please specify material to your application such as SUS316.



Nominal Diameter A (Inch)	Min bending radius (mm)	Min ID of Hose (mm)	Wall Thickness (mm)	Max Working Pressure (bar)	Bursting Pressure (bar)	Overall Length				Ineffective Length (mm)
						300mm	500mm	1000mm	2000mm	
						Lateral Movement (mm)				
8 (1/4")	12	5.5	0.75	35	170	69	160	389	848	149
10(3/8")	24	8.5	0.65	35	170	69	160	389	848	149
15(1/2")	29	11.6	0.75	60	250	61	153	382	840	166
20(3/4")	59	19.5	1	60	290	37	147	376	834	178
25(1")	71	24.5	1	40	210	25	141	370	828	192
32(1-1/4")	94	31.5	1	40	210	16	128	365	823	202
40(1-1/2")	118	36.5	1.5	35	175	10	101	360	818	213
50(2")	147	48	1.65	25	135	6	80	356	814	222

TJ-78800 Loose Flanges Type with Flare



No.	Parts	Standard Materials
1	Loose flange	SUS304
2	Lap joint	SUS304
3	Collar	SUS304
4	Corrugated hose	PTFE
5	Wire braid	SUS304
6	Gasket	NON ASBESTOS

- Flanges can be selected in standard of JIS, ANSI, ISO/PN, BS, etc.
- Flange material can be changeable to mild steel, carbon steel, and SUS316.
- Lap joint material can be changeable to SUS316.

SPECIFICATION :

Max. Operating Temperature : 260°C

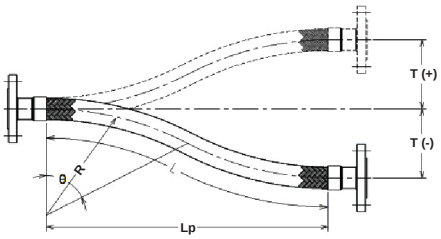
Application : Chemicals, Pharmaceutical, Biomedical, Food, Cosmetic, etc.

The flange type of PTFE convoluted hose with flare over the face of fitting is the benefit for all wet surfaces with providing 100% PTFE coverage. This type protects all parts of hose from abrasive proceeding of fluid.

Nominal Diameter A (Inch)	Min bending radius (mm)	Min ID of Hose (mm)	Wall Thickness (mm)	Max Working Pressure (bar)	Bursting Pressure (bar)	Overall Length Lateral Movement (mm) 300mm	500mm	1000mm	2000mm	Ineffective Length (mm)
15(1/2")	29	11.6	0.75	10	40	109	201	430	888	60
20(3/4")	59	19.5	1	10	40	109	201	430	888	60
25(1")	71	24.5	1	10	40	79	183	412	870	100
32(1-1/4")	94	31.5	1	10	40	63	183	412	870	100
40(1-1/2")	118	36.5	1.5	10	40	52	180	412	870	100
50(2")	147	48	1.65	10	40	43	154	412	870	100
65(2-1/2")	230	62.5	1.6	10	40	21	94	400	858	127
80(3")	260	73.5	1.6	10	40	18	84	390	858	127
100(4")	300	94.5	1.82	10	40	12	64	366	846	152
150(6")	520	150	2.5	6	24	4	32	203	834	178

*** 150A (6") : Min Overall Length 400 mm and Eccentric 23.6 mm

Calculation for Hose Length (L) with Movement

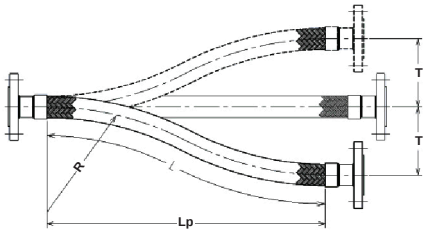


1.Lateral offset Movement

1.1. Theoretical displacement by geometric calculation

Max. offset distance by geometric calculation

Bend Angle θ = 28.65 L/R
L = 0.035R x COS-1 (1-T/2R)
Lp = 2R SIN (COS-1 (1-T/2R))

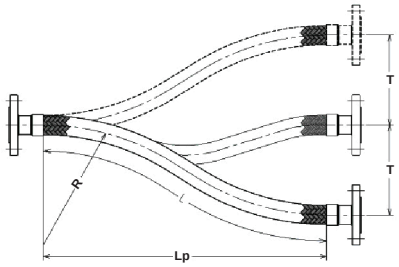


1.2. Practical application with a free retractable end

Recommended Length (L) for offset movement
(Static with one end free)

$$L = \sqrt{6(RT) + T^2}$$

$$Lp = \sqrt{L^2 - T^2}$$



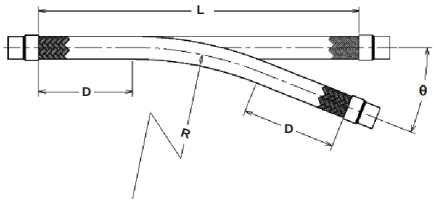
1.3 Practical application with both fixed ends

Recommend Length (L) for offset movement
(Static with both end fixed)

$$L = \sqrt{20(RT)}$$

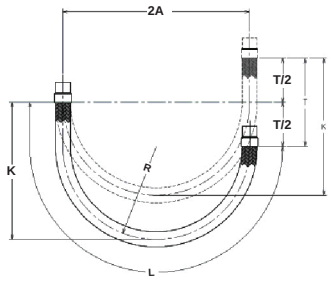
$$Lp = \sqrt{L^2 - T^2}$$

(For repeatedly or dynamic movement “T” should not exceed 25% of “R”)



2. Angular Movement

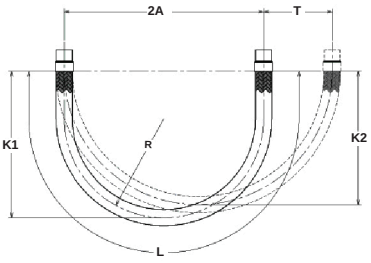
L = 2D + (θ/57.3)R



3. U-Loop arrangement

3.1 Traveling Loop “A”

L = 4R + 0.5T
K = 1.43R + 0.5T



3.2 Travelling Loop “B”

L = 4R + 1.57T
K1 = 1.43R + 0.785T
K2 = 1.43R + 0.5T

TOZEN INDUSTRIAL CO., LTD.
3388/62 18TH FLOOR, SIRINRAT BLDG.,
RAMA IV RD., BANGKOK 10110 THAILAND
TEL : (66) 2029-0100
FAX : (66) 2029-0111
URL : www.tozen.co.th

TOZEN CORPORATION
8-4, ASAHI YOSHIKAWA
SAITAMA 342-008 JAPAN
TEL : 048-993-1030
FAX : 048-993-1038

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