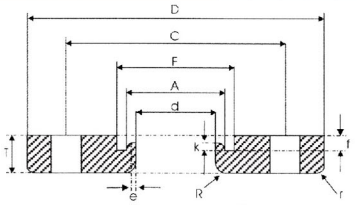
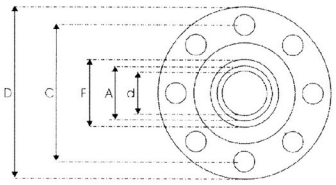
TOPFLEX

TECHNICAL REFERENCE

Table 1 : This list elastomers is used in **TOPFLEX RUBBER FLXIBLE JOINT.**
is only a general guide special elastomer compounds producted by member manufacturers may have different properties.

MATERIAL DESIGNATION		RATING SCALE CODE	ELASTOMER PHYSICAL AND CHEMICAL PROPERTIES COMPARISON																													
ANSI/ASTM D1418-77	ASTM D-2000 SAE J-200	7-Outstanding 3-Fair to good 6-Excellent 2-Fair 5-Very Good 1-Poor to Fair 4-Good 0-Poor X-Not SUITABLE COMMON NAME CHEMICAL GROUP NAME	WATER	CHEMICAL	ANIMAL & VEG. OIL	ALKALI,CONC.	ALKALI,DILUTE	OIL & GASOLINE	LACQUERS	OXYGENATED HYDRO	AROMATIC HYDRO.	ALIPHATIC HYDRO.	ACID, CONC.	ACID, DILUTE	SWELLING IN OIL	RADIATION	WATER ABSORP	ELE. INSULATION	DIELECTRIC STR.	TENSILE STRENGTH	COMP,SET	REBOUND-COLD	REBOUND-HOT	DYNAMIC	IMPERMEABILITY	ABRASION	TEAR	FLAME	COLD	HEAT	OXIDATION	SUNLIGHT	WEATHER	OZONE
EPDM	BA CA DA	EPDM ETHYLENE-PROPYLENE DIENE-TERPOLYMER	5	6	5	6	6	0	3	6	0	0	4	6	0	7	6	6	7	5	4	6	6	5	4	5	4	0	5	6	6	7	6	7
CR	BC BE	NEOPRENE CHLOROPRENE	4	3	4	0	4	4	0	1	2	3	4	6	4	5	4	3	5	4	2	4	5	2	4	5	4	4	4	4	5	5	6	5
IR	AA	NATURAL RUBBER POLYISOPRENE, SYNTHETIC	5	3	X	X	X	0	0	4	0	0	3	3	0	6	5	5	6	6	4	6	6	2	4	6	5	0	5	2	4	0	2	0
NBR	BE BK CH	BUNA-N/NITRILE NITRILE-BUTADIENE	4	3	5	0	4	5	2	0	4	6	4	4	5	5	4	1	0	5	5	4	4	5	6	4	3	0	3	4	4	0	2	2
IIR	AA	BUTYL ISOBUTENE-ISOPRENE	5	6	5	4	4	0	3	4	0	0	4	6	0	4	5	5	5	4	3	0	5	2	2	4	4	0	4	5	6	5	5	6
CSM	CE	HYPALON CHLORO-SULFONYL POLYETHYLENE	5	6	4	4	0	4	0	1	2	3	4	6	4	5	4	3	5	2	2	2	4	2	4	4	3	4	4	4	6	7	6	7





all dimension in mm.

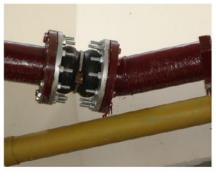
SIZE		JIS10K				ANSI 125/150				PN10				PN16			
mm	inchs	D	C	T	n	D	C	T	n	D	C	T	n	D	C	T	n
25	1"	125	90	14	4	108	79.4	14	4	115	85	14	4	115	85	14	4
32	1.1/4"	135	100	16	4	118	89	16	4	140	100	16	4	140	100	16	4
40	1.1/2"	140	105	16	4	127	98	16	4	150	110	16	4	150	110	16	4
50	2"	155	120	16	4	152	121	16	4	165	125	16	4	165	125	16	4
65	2.1/2"	175	140	18	4	178	140	18	4	185	145	18	4	185	145	18	4
80	3"	185	150	18	8	191	152	18	4	200	160	18	8	200	160	18	8
100	4"	210	175	18	8	229	191	18	8	220	180	18	8	220	180	18	8
125	5"	250	210	20	8	254	216	20	8	250	210	20	8	250	210	20	8
150	6"	280	240	22	8	279	241	22	8	285	240	22	8	285	240	22	8
200	8"	330	290	22	12	343	299	22	8	340	295	22	8	340	295	22	12
250	10"	400	355	24	12	406	362	24	12	395	350	24	12	405	355	24	12
300	12"	445	400	24	16	483	432	24	12	445	400	24	12	460	410	24	12
350	14"	490	445	26	16	533	476	26	12	505	460	26	16	520	470	26	16
400	16"	560	510	28	16	597	540	28	16	565	515	28	16	580	525	28	16
450	18"	620	565	30	20	635	578	30	16	615	565	30	20	640	585	30	20
500	20"	675	620	30	20	699	635	30	20	670	620	30	20	715	650	30	20
600	24"	795	730	30	24	813	749.3	30	20	780	725	30	20	840	770	30	20

Jobs Reference :














TOPFLEX

SINGLE-SPHERE RUBBER EXPANSION JOINT

With Floating Flanges

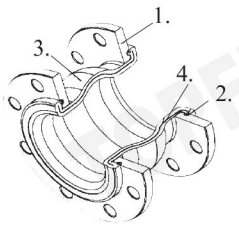


Fig. TS



TOPFLEX Series TS is ideal in heating and air conditioning system. TS Model connectors have EPDM cover, providing excellent resistance to sunlight, ozone, oxidation and resistant to damage from dropping oil. The unit has EPDM tube, which is good for hot & cold water service and mild chemicals. The fully molded Single Sphere design provides greater flexibility, thus protecting mating flanges, especially PVC and fiberglass types. The steel flanges easily rotate on the bellows, which makes it easier to line up the bolt holes during installation when ting flanges are out of line. With a temperature rating of -20°C to 100°C, the standard sizes range from 1" to 12" I.D. can be with the working pressure at 300 psi and size 14" to 24" have working pressure at 150 psi.

MATERIALS

ITEM NO.	DESCRIPTION	MATERIAL
1	Flange	Mild Steel / Stainless Steel
2	Wire	Carbon Steel Wire
3	Elastomer	Synthetic Rubber (EPDM)
4	Reinforcing Fabric	Nylon Cord Fabric

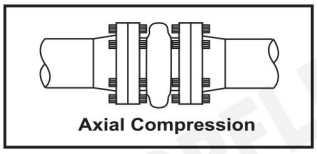
* Optional Material : Flange = Stainless Steel and Elastomer = NBR

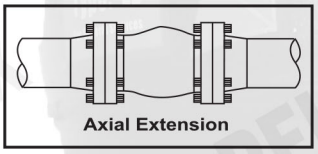
TECHNICAL CONDITION

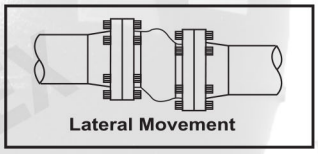
Model	TS	
Size I.D.	1" - 12"	14" - 24"
Working Pressure	300 psi.	150 psi.
Burst Pressure	854 psi.	342 psi.
Vacuum Rating	650 mm/Hg	
Temperature	-20°C to 100°C	

The TOPFLEX Series of single-sphere connectors (with flanges) have allowable movements to axial compression, lateral movement & angular deflections (as per the drawing). We also offer Japanese Standard & American Standard for size 1" to 24" and German standard for size 1" to 12"

ALLOWABLE MOVEMENTS


Axial Compression


Axial Extension


Lateral Movement

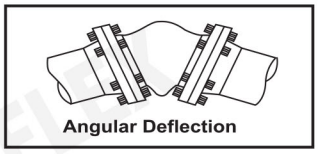

Angular Deflection

TABLE OF MAIN PARAMETERS OF NORMAL CORE DIAMETER, LENGTH, DISPLACEMENT VALUE

Normal core diamete DN		Length (L) (mm.)			Axial displacement						Lateral (mm.)			Angular
					Compression (mm.)			Extension (mm.)						
(mm.)	(inch.)	J	A	G	J	A	G	J	A	G	J	A	G	
25	(1)	95	152.4	130	8	12.7	12	4	9.52	9	8	12.7	12	15°
32	(1.1/4)	95	152.4	130	8	12.7	12	4	9.52	9	8	12.7	12	15°
40	(1.1/2)	95	152.4	130	8	12.7	12	4	9.52	9	8	12.7	12	15°
50	(2)	105	152.4	130	8	12.7	12	5	9.52	9	8	12.7	12	15°
65	(2.1/2)	115	152.4	130	12	12.7	12	6	9.52	9	10	12.7	12	15°
80	(3)	130	152.4	130	12	15.87	12	6	9.52	9	10	12.7	12	15°
100	(4)	135	152.4	130	18	15.87	14	10	9.52	9	12	12.7	14	15°
125	(5)	170	152.4	130	18	15.87	14	10	9.52	9	12	12.7	14	15°
150	(6)	180	152.4	130	18	15.87	14	10	9.52	9	12	12.7	14	15°
200	(8)	205	152.4	130	25	15.87	14	14	9.52	9	22	12.7	14	15°
250	(10)	240	203.2	130	25	15.87	14	14	12.7	9	22	19.05	14	15°
300	(12)	260	203.2	130	25	19.05	16	14	12.7	9	22	19.05	16	15°
350	(14)	265	203.2	-	25	19.05	-	16	12.7	-	22	19.05	-	15°
400	(16)	265	203.2	-	25	19.05	-	16	12.7	-	22	19.05	-	15°
450	(18)	265	203.2	-	25	19.05	-	16	12.7	-	22	19.05	-	15°
500	(20)	265	203.2	-	25	19.05	-	16	12.7	-	22	19.05	-	15°
600	(24)	254	254.0	-	19	19.05	-	13	12.7	-	19	19.05	-	15°

** J = JAPANESE STANDARD, A = AMERICAN STANDARD, G = GERMAN STANDARD

NOTE : 1. Standard material is EPDM. The products are not applicable to oil. Other kinds of rubber material are optional.

2. Standard rated working pressure is 20 bars (up to 300 mm.) to 10 bars (for larger size than 300 mm.)

3. Applicable fluids : Air, Compressed air, water, sea water, hot water, weak acid, alkalis, etc.

4. Flange drilling : JIS, DIN, ANSI, BS and other standard drilling for your specification.

5. Tolerances for installation should not over 30% of Allowable movements.

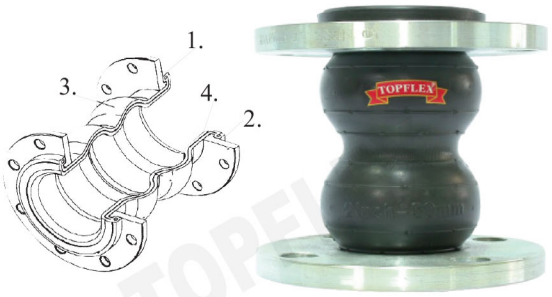
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TOPFLEX

TWIN-SPHERE RUBBER EXPANSION JOINT

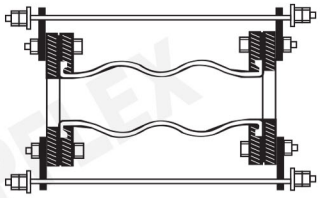
With Floating Flanges

Fig. TT



TOPFLEX Series TT is ideal in heating and air conditioning system. Model TT is Twin-Sphere joint with EPDM cover, providing excellent resistance to sunlight ozone, oxidation and resistant to damage from dropping oil. The unit has EPDM tube, which is good for hot & cold water service and mild chemicals. The fully molded Twin-Sphere design not only provides a high pressure rating, also provide greater flexbility, thus protecting mating flanges, especially PVC and fiberglass types. The steel flanges easily rotate on the bellows which makes it easier to line up the bolt holes during installation when mating flanges are out of line. with a temperature rating of -20°C to 100°C, the Standard size range from 1.1/2" to 12" I.D. can be with the working pressure at 300 psi. and size 14" to 24" have working pressure at 150 psi.

WITH CON ROL RODS



MATERIALS

ITEM NO.	DESCRIPTION	MATERIAL
1	Flange	Mild Steel / Stainless Steel
2	Wire	Carbon Steel Wire
3	Elastomer	Synthetic Rubber (EPDM)
4	Reinforcing Fabric	Nylon cord fabric

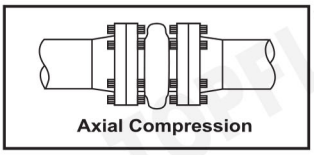
* Optional Material : Flange = Stainless Steel and Elastomer = NBR

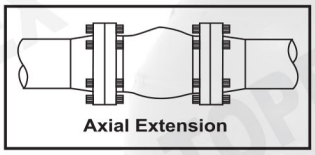
TECHNICAL CONDITION

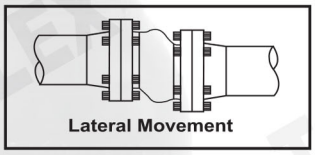
Model	TT	
Size I.D.	1" - 12"	14" - 24"
Working Pressure	300 psi.	150 psi.
Burst Pressure	854 psi.	342 psi.
Vacuum Rating	650 mm/Hg	
Temperature	-20°C to 100°C	

Installed with control rods to prevent internal pressure and motion by over limit usage and vacuum dropping. Control rods and reinforcing ring unit must be installed when pressure (test surge, operating, Starting a pump, etc.) exceeds the rating.

ALLOWABLE MOVEMENTS







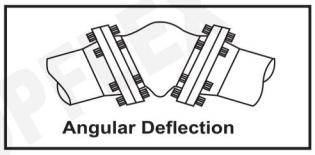


TABLE OF MAIN PARAMETERS OF NORMAL CORE DIAMETER, LENGTH, DISPLACEMENT VALUE

Normal core diameter		Length (L) (mm)	Axial displacement		Lateral (mm)	Angular
(mm)	(inch.)		Compression (mm)	Extension (mm)		
40	(1.1/2)	175	50	30	50	35°
50	(2)	175	50	30	50	35°
65	(2.1/2)	175	50	30	50	35°
80	(3)	175	50	30	50	35°
100	(4)	225	50	35	50	35°
125	(5)	225	50	35	50	35°
150	(6)	225	50	35	50	35°
200	(8)	325	60	35	50	30°
250	(10)	325	60	35	50	30°
300	(12)	325	60	35	50	30°
350	(14)	350	50	40	50	20°
400	(16)	350	50	40	50	20°
450	(18)	350	50	40	50	20°
500	(20)	350	50	40	50	20°
600	(24)	350	50	40	50	20°

NOTE :
1. Standard material is EPDM. The products are not applicable to oil. Other kinds of rubber material are optional.
2. Standard rated working pressure is 20 bars (up to 300 mm.) to 10 bars (for larger size than 300 mm.)
3. Applicable fluids : Air, Compressed air, water, sea water, hot water, weak acid, alkalis, etc.
4. Flange drilling : JIS, DIN, ANSI, BS and other standard drilling for your specification.
5. Tolerances for installation should not over 30% of Allowable movements.

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TOPFLEX

SUPER-FLEX RUBBER EXPANSION JOINT

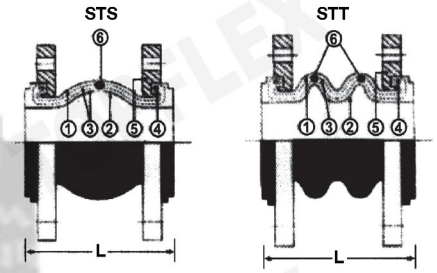
With Floating Flanges (For Vacuum and Underground Service)

Fig. STS, STT

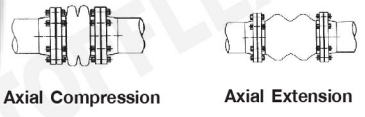


TOPFLEX Series STS and STT are designed for tough demanding industrial applications. As found in : Air Conditioning-Heating and Vantilating Systems, Chemical-Petrochemical and Industrial Process Piping Systems, Power Generating Systems, Marine Service, Pulp&Paper Systems, Water-Wastewater Sewage and Pollution Control Systems. Installed next to mechanical equiptment or between the anchor points of piping system, specify the TOPFLEX SERIES STS and STT to :

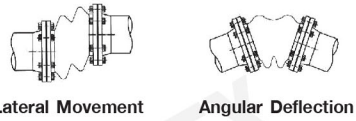
(1) Absorb Pipe/Movement/Stress.
(2) Decrease Systems Noise.
(3) Isolate Vibration.
(4) Compensate alignment/ offset.
(5) Eliminate Electrolysis.
(6) Protect Against Start up/Surge Forces.



The arch reinforcing ring is incorporated for the buried or vacuum serices.



Axial Compression Axial Extension



Lateral Movement Angular Deflection

MATERIALS

ITEM NO.	DESCRIPTION	MATERIAL
1	Outer Cover	Synthetic Rubber (EPDM)
2	Inner Tube	Synthetic Rubber (EPDM)
3	Reinforcing Fabric	Synthetic Fiber
4	Wire	Carbon Steel wire
5	Flange	Mild Steel / Stainless Steel
6	Reinforcing Ring	Carbon Steel

* Optional Material : Flange = Stainless Steel and Elastomer Outer & Inner = NBR

TECHNICAL CONDITION

Model	STS		STT	
Size I.D.	1" - 12"	14" - 24"	1.1/2" - 12"	14" - 24"
Working Pressure	300 psi	150 psi	300 psi	150 psi
Burst Pressure	854 psi	342 psi	854 psi	342 psi
Vacuum Rating	750 mm/Hg			
Temperature	- 20°C to 100°C			

TABLE OF MAIN PARAMETERS OF NORMAL CORE DIAMETER, LENGTH, DISPLACEMENT VALUE

Normal core diameter		Single-Sphere					Twin-Sphere				
(mm)	(inch.)	Length	Compression	Extension	Lateral	Angular	Length	Compression	Extension	Lateral	Angular
25	(1)	95	8	4	8	15°	-	-	-	-	-
32	(1.1/4)	95	8	4	8	15°	-	-	-	-	-
40	(1.1/2)	95	8	4	8	15°	175	50	30	50	35°
50	(2)	105	8	5	8	15°	175	50	30	50	35°
65	(2.1/2)	115	12	6	10	15°	175	50	30	50	35°
80	(3)	130	12	6	10	15°	175	50	30	50	35°
100	(4)	135	20	20	20	15°	225	50	30	50	35°
125	(5)	170	20	20	20	15°	225	50	30	50	35°
150	(6)	180	20	20	20	15°	225	50	30	50	35°
200	(8)	205	20	20	20	15°	325	60	30	50	30°
250	(10)	240	20	20	20	15°	325	60	30	50	30°
300	(12)	260	20	20	20	15°	325	60	30	50	30°
350	(14)	265	30	25	20	15°	350	50	40	50	20°
400	(16)	265	30	25	20	15°	350	50	40	50	20°
450	(18)	265	30	25	20	15°	350	50	40	50	20°
500	(20)	265	30	25	20	15°	350	50	40	50	20°
600	(24)	254	30	25	20	15°	350	50	40	50	20°

NOTE : 1. Standard material is EPDM. The products are not applicable to oil. Other kinds of rubber material are optional.
2. Standard rated working pressure is 20 bars (up to 300 mm.) to 10 bars (for larger size than 300 mm.)
3. Applicable fluids : Air, Compressed air, water, sea water, hot water, weak acid, alkalis, etc.
4. Flange drilling : JIS, DIN, ANSI, BS and other standard drilling for your specification.
5. Tolerances for installation should not over 30% of Allowable movements.

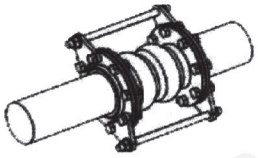
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TOPFLEX

TWIN-SPHERE RUBBER EXPANSION JOINT WITH RING

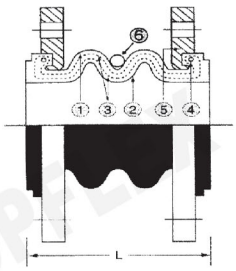
With Floating Flanges

Fig. RTT



WITH CONTROL RODS





TOPFLEX Series RTT is ideal in heating and air conditioning system. Series RTT is Twin-Sphere joint with EPDM cover and carbon steel ring providing excellent resistance to sunlight, ozone oxidation and resistant to damage from dropping oil. The unit has EPDM tube, which is good for hot & cold water service and mild chemicals. The fully molded Twin-Sphere design not only provides a high pressure rating, also provide greater flexibility, thus protecting mating flanges, especially PVC and fiberglass types. The steel flanges easily rotate on the bellows which makes it easier to line up the bolt holes during installation when mating flanges are out of line. With a temperature rating of -20°C to 100°C. The standard size range from 1.1/2" to 12" I.D. can be with the working pressure at 300 psi. and size 14" to 24" have wroking pressure at 150 psi.

MATERIALS

ITEM NO.	DESCRIPTION	MATERIAL
1	Outer Cover	Synthetic Rubber (EPDM)
2	Inner Tube	Synthetic Rubber (EPDM)
3	Reinforcing Fabric	Synthetic Fiber
4	Wire	Carbon Steel Wire
5	Flange	Mild Steel / Stainless Steel
6	Reinforcing Ring	Carbon Steel

* Optional Material : Flange = Stainless Steel and Elastomer Outer & Inner = NBR

TECHNICAL CONDITION

Model	RTT	
Size I.D.	1.1/2" - 12"	14" - 24"
Working Pressure	300 psi	150 psi
Burst Pressure	854 psi	342 psi
Vacuum Rating	650 mm/Hg	
Temperature	-20°C to 100°C	

Installed with control rods to prevent internal pressure and motion by over limit usage and vacuum dropping. Control rods and reinforcing ring unit must be installed when pressure (test surge, operating, starting a pump, etc.) exceeds the rating.

Allowable Movements

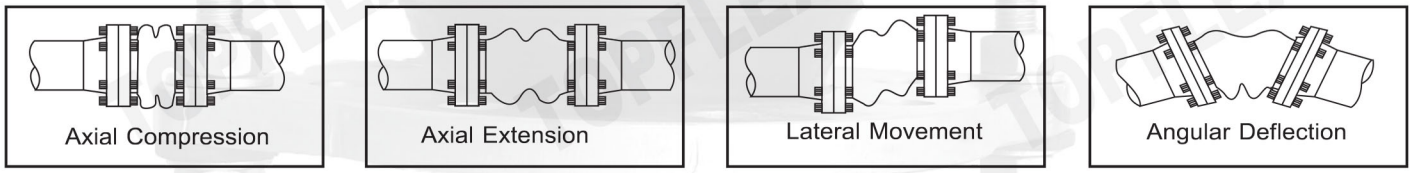


TABLE OF MAIN PARAMETERS OF NORMAL CORE DIAMETER, LENGTH, DISPLACEMENT VALUE

Normal core diameter		Length (L)	Axial displacement		Lateral	Angular
(mm)	(inch.)	(mm)	Compression (mm)	Extension (mm)	(mm)	
40	(1.1/2)	175	50	30	50	35°
50	(2)	175	50	30	50	35°
65	(2.1/2)	175	50	30	50	35°
80	(3)	175	50	30	50	35°
100	(4)	225	50	30	50	35°
125	(5)	225	50	30	50	35°
150	(6)	225	50	30	50	35°
200	(8)	325	50	30	50	30°
250	(10)	325	50	30	50	30°
300	(12)	325	50	30	50	30°
350	(14)	350	50	40	50	20°
400	(16)	350	50	40	50	20°
450	(18)	350	50	40	50	20°
500	(20)	350	50	40	50	20°
600	(24)	350	50	40	50	20°

NOTE :

1. Standard material is EPDM. The products are not applicable to oil. Other kinds of rubber material are optional.
2. Standard rated working pressure is 20 bars (up to 300 mm.) to 10 bars (for larger size than 300 mm.)
3. Applicable fluids : Air, Compressed air, water, sea water, hot water, weak acid, alkalis, etc.
4. Flange drilling : JIS, DIN, ANSI, BS and other standard drilling for your specification.
5. Tolerances for installation should not over 30% of Allowable movements.

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TOPFLEX

TWIN-SPHERE RUBBER EXPANSION JOINT

With Union Threads

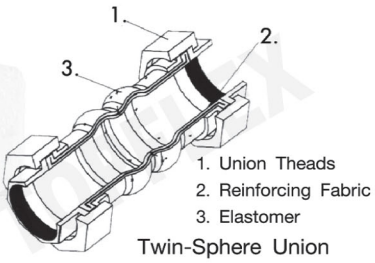
Fig. TU



TOPFLEX Series TU is designed for supply and distribution pipeline service or to connect piping to specific equipment application such as : Pumps, Chillers, Cooling Towers, Compressors, Blowers, Fans, Absorption Machines, etc. Installed next to mechanical equipment or between the anchor points of piping system, specify the TOPFLEX TU to :

(1) Absorb Pipe / Movement / Stress
(2) Decrease System noise
(3) Isolate Vibration
(4) Compensate alignment / offset
(5) Eliminate Electrolysis
(6) Protect Against start up / surge Forces

The TOPFLEX Series TU is engineered for tough, demanding industrial commercial application, as found in : Air conditioning, Heating and ventilating systems, Chemical, Petrochemical and Industrial process piping systems, Power generating plants, Steel mills, Marine service, Pulp & paper system, Water-wastewater sewage andpollution control systems.



Twin-Sphere Union

MATERIALS

ITEM NO.	DESCRIPTION	MATERIAL
1	Union	FB32
2	Reinforcing Fabric	Nylon Fabric
3	Elastomer	Synthetic Rubber(EPDM)

* Optional Material : Flange = Stainless Steel and Elastomer = NBR

TECHNICAL CONDITION

Model	TU
Size I.D.	1/2"-3"
Working Pressure	150 Psi
Burst Pressure	711 Psi
Vacuum Rating	400 mm/Hg
Temperature	- 20°C to 100°C

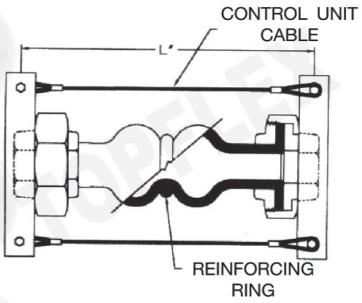


Table of Main Parameters of Normal Core Diameter,Length,Displacement Value

Normal core diameter		Length (L)	Axial displacement		Lateral	Angular
(mm)	(inch.)	(mm)	Compression(mm)	Extension(mm)	(mm)	
15	(1/2)	203	22	6	22	30°
20	(3/4)	203	22	6	22	30°
25	(1)	203	22	6	22	25°
32	(1.1/4)	203	22	6	22	25°
40	(1.1/2)	203	22	6	22	20°
50	(2)	203	22	6	22	15°
65	(2.1/2)	225	22	6	22	12°
80	(3)	225	22	6	22	10°

NOTE : 1. Standard material is EPDM. The products are not applicable to oil. Other kinds of rubber material are optional.

2. Union : Standard item employs BS Union with materials FB32 and FCD40. Also can supply ANSI, DIN and other standard.

3. Applicable fluids : Water, Warm water, Sea water, Weak acids, Alkalis, etc.

5. Tolerances for installation should not over 30% of Allowable movements.

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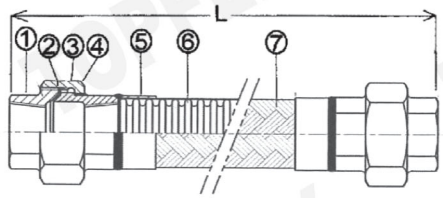
TOPFLEX

STAINLESS STEEL FLEXIBLE JOINT

With Union Ending

Working Pressure 10 bar or up.

Fig. TF-301 (Union)





MATERIALS

DRAWING NO.	DESCRIPTION	MATERIALS (Corrugate) SUS304	MATERIALS (Corrugate) SUS316, 316L, 321
1, 2, 4	Union Screw, Nut, Sleeve	FCMB	FCMB, SUS304, SUS316
3	Packing	Gasket	Gasket
5, 7	Collar, Wire Braid	SUS304	SUS304
6	Corrugated Hose	SUS304	SUS316, SUS316L, SUS321

* Union

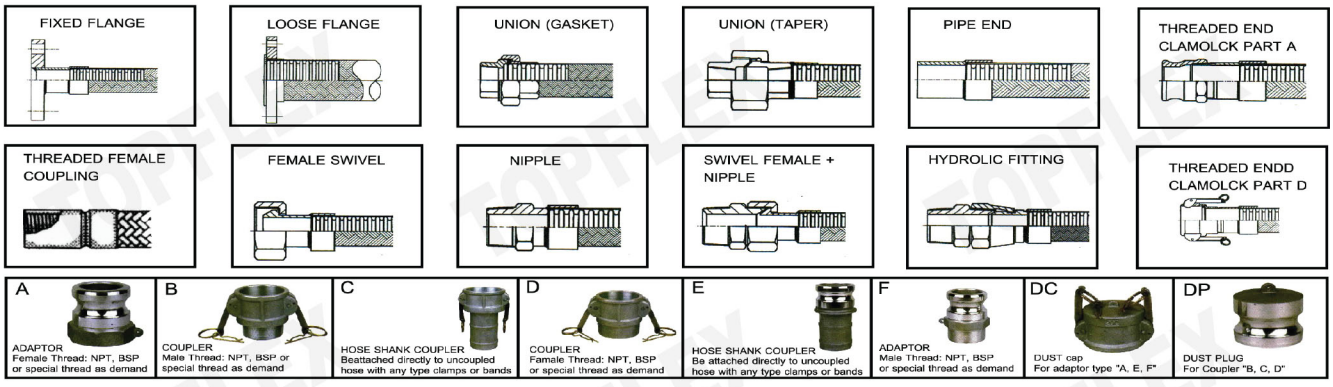
Type / Matrials	FCMB	SUS	Max. Temperature
Union Gasket	GASKET	PTFE	220°C
Union Taper	BRONZE	SUS	250°C

PERFORMANCE OF CORRUGATE WITH BRAID

SIZE Inch. (mm)	Dimension (mm.)		Type of Corrugate	Type of Braid	Dynamic Bend Radius (mm.)	Number of Braids	Max.Working Pressure kgf/cm (at 20°C)	
	ID	OD					SUS304	SUS316, 316L, 321
1/4" (8)	6	11.6 13.5	Annular	wire	110	1 2	175 200	175 200
3/8" (10)	10	16.5 18.0	Annular	wire	160	1 2	100 120	100 120
1/2" (15)	12	22.0 24.0	Annular	wire	210	1 2	95 105	95 105
3/4" (20)	20	30.0 32.0	Annular	wire	220	1 2	60 80	60 80
1" (25)	25	38.0 40.0	Annular	wire	230	1 2	40 65	50 65
1.1/4"(32)	32	46.5 49.0	Annular	wire	270	1 2	40 60	40 60
1.1/2"(40)	40	55.0 58.0	Annular	wire	310	1 2	34 46	40 58
2" (50)	50	70.0 73.0	Annular	wire	340	1 2	31 43	35 45
2.1/2"(65)	65	85.0 88.0	Annular	wire	500	1 2	27 37	30 40
3" (80)	80	100.0 103.0	Annular	wire	600	1 2	20 30	24 34
4" (100)	100	131.0 134.0	Annular	wire	710	1 2	15 18	20 26

Application Fluid : Oil, Water, Hot Water, Steam, Gas, Air, Chemicals, etc.
Remerks : 1. Type of end connection can offer by custom request.
2. Test Pressure at 1.5 of Max. Working Pressure and Burst Pressure at 4 of Max. Working Pressure.

Fig. TF-304



Buna N: Buna N is standard. It is generally recommended for petroleum derivates, neutral or slightly acidic salt solutions, alcohols ethers, glycols, fats, oils and greases. This compound should give good service from -40 ° F to +250 ° F

neoprene: Recommended for alkaline and acid salt solutions and aldehydes such as for maldehyde. For food service. White neoprene is also available. Temperature recommended -40 ° F to +250 ° F

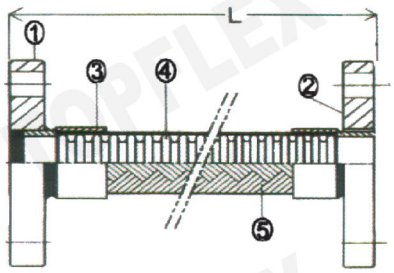
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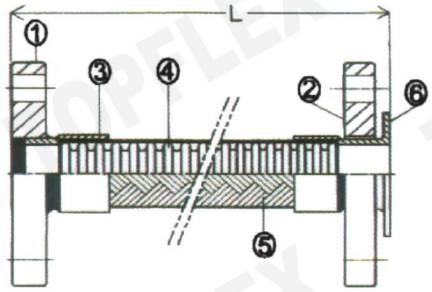
TOPFLEX

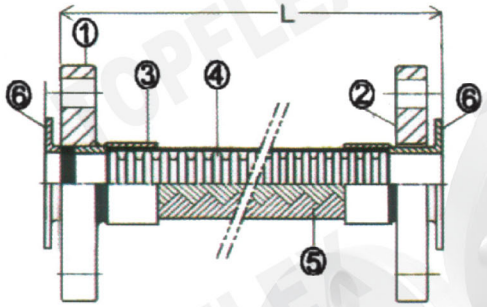
STAINLESS STEEL FLEXIBLE JOINT

With Floating Flanges

Working Pressure 10 bar or up.







MATERIALS Fig. TF-302 (Fixed-Fixed)

DRAWING NO.	DESCRIPTION	MATERIALS (Corrugate) SUS304	MATERIALS (Corrugate) SUS316, 316L, 321
1	Fixed Flange	SS400,SUS304	SS400,SUS304,SUS316
2	Fixed Flange	SS400,SUS304	SS400,SUS304,SUS316
3	Collar	SUS304	SUS304
4	Corrugated Hose	SUS304	SUS316,SUS316L,SUS321
5	Wire Braid	SUS304	SUS304

MATERIALS Fig. TF-303 (Fixed-Loosed)

DRAWING NO.	DESCRIPTION	MATERIALS (Corrugate) SUS304	MATERIALS (Corrugate) SUS316, 316L, 321
1	Fixed Flange	SS400,SUS304	SS400,SUS304,SUS316
2	Loosed Flange	SS400,SUS304	SS400,SUS304,SUS316
3	Collar	SUS304	SUS304
4	Corrugated Hose	SUS304	SUS316,SUS316L,SUS321
5	Wire Braid	SUS304	SUS304
6	Lap Joint	SUS304	SS400,SUS304,SUS316

MATERIALS Fig. TF-303L (Loosed-Loosed)

DRAWING NO.	DESCRIPTION	MATERIALS (Corrugate) SUS304	MATERIALS (Corrugate) SUS316, 316L, 321
1	Loosed Flange	SS400,SUS304	SS400,SUS304,SUS316
2	Loosed Flange	SS400,SUS304	SS400,SUS304,SUS316
3	Collar	SUS304	SUS304
4	Corrugated Hose	SUS304	SUS316,SUS316L,SUS321
5	Wire Braid	SUS304	SUS304
6	Lap Joint	SUS304	SS400,SUS304,SUS316

* Flange : Material = SS400, SS400(Galv.), SUS304, SUS316, SUS316L, SUS321

PERFORMANCE OF CORRUGATE with Braid

SIZE Inch. (mm)	Dimension (mm.) ID	Dimension (mm.) OD	Type of Corrugate	Type of Braid	Dynamic Bend Radius (mm.)	Number of Braids	Max.Working Pressure kgf/cm (at 20°C) SUS304	Max.Working Pressure kgf/cm (at 20°C) SUS316, 316L, 321
1/4" (8)	6	11.6 13.5	Annular	wire	110	1 2	175 200	175 200
3/8" (10)	10	16.5 18.0	Annular	wire	160	1 2	100 120	100 120
1/2" (15)	12	22.0 24.0	Annular	wire	210	1 2	95 105	95 105
3/4" (20)	20	30.0 32.0	Annular	wire	220	1 2	60 80	60 80
1" (25)	25	38.0 40.0	Annular	wire	230	1 2	40 65	50 65
1.1/4"(32)	32	46.5 49.0	Annular	wire	270	1 2	40 60	40 60
1.1/2"(40)	40	55.0 58.0	Annular	wire	310	1 2	34 46	40 58
2" (50)	50	70.0 73.0	Annular	wire	340	1 2	31 43	35 45
2.1/2"(65)	65	85.0 88.0	Annular	wire	500	1 2	27 37	30 40
3" (80)	80	100.0 103.0	Annular	wire	600	1 2	20 30	24 34
4" (100)	100	131.0 134.0	Annular	wire	710	1 2	15 18	20 26
5" (125)	125	156.0 159.0	Annular	wire	850	1 2	12 14	14 17
6" (150)	150	178.0 181.0	Annular	wire	1,050	1 2	10 12	10 12
8" (200)	200	238.0 241.0	Annular	wire	1,100	1 2	8 10	10 12
10" (250)	250	290.0 293.0	Annular	wire	1,220	1 2	6 8	8 10
12" (300)	300	342.0 345.0	Annular	wire	1,420	1 2	6 8	8 10

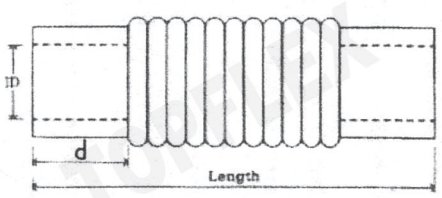
Application Fluid : Oil, Water, Hot Water, Steam, Gas, Air, Chemicals, etc.
Remerks : 1. Type of end connection can offer by custom request.
2. Test Pressure at 1.5 of Max. Working Pressure and Burst Pressure at 4 of Max. Working Pressure.

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TOPFLEX

RUBBER DRAINAGE FLEXIBLE CONNECTOR

Straight End With Clamps / Flanges



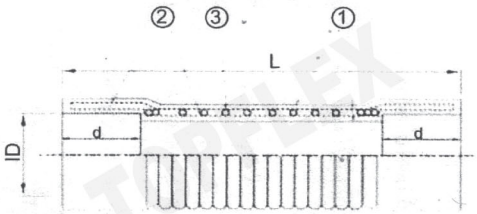


Fig. TF-FD



FEATURES :

1. Movement — Flexdrain is desinged to absorb the lateral movement of pipes by connecting the pipe ends and capable to installation for drainage, underground, non-corrosive sewage or low pressure service with to the high technology. The spiral spring steel wire rod reinforcement and high quality rubber, selected and steel reforcing wire.

2. Simple Installation — Flex drain reduce cost and installation time with stainless steel hose clamps.

3. Applications — To be used in most of water drainage and corrosive sewage or low pressure system to compensate the differential settlement and pipe expansion.

SPECIFICATION & STRUCTURES :

NO.	PART	MATERIALS
1	Inner & Outer Rubber	Natural Rubber (Option : EPDM, NBR)
2	Reinforced Cord	Fabric Nylon Tire Cord
3	Spiral Reinforcement	High Carbon Steel

PERFORMANCE

Working Pressure	5 Kgf/cm^2
Working Temp.	- 20 to 80°C
Test Max. Pressure	10 Kgf/cm^2

DIMENSION AND ALLOWABLE MOVEMENT

Unit : mm.

Size	ID	OD	L	d	Allowable Displacement		
					Lateral	Elongation	Compression
40	50.8	69.6	300	50	50	10	10
50	63.5	79.5	300	50	50	10	10
65	76.2	95.0	300	80	50	10	10
80	88.9	104.9	300	80	50	10	10
100	114.3	130.3	300	100	50	10	10
125	139.7	157.7	300	100	50	10	10
150	165.1	181.1	300	120	50	10	10
200	215.9	231.9	450	125	50	10	10
250	266.7	282.7	600	150	50	10	10
300	317.5	333.5	600	150	50	10	10

Note : - Pipe outside diameters must be clean and smooth.
- Pipelines should be axially aligned in order to achieve the intened services.
- Long length are available upon request. Please contact us for more information.

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