

## Series 30UG Underground Expansion Joint with Floating Flange



### Burial Application

Buried pipelines are directly affected by the external loads produced by weight of earth, traffic load, the ground shifting created by uneven sinking of ground and earthquake. The uneven sinking between rigid structure and ground is most detrimental for underground piping.

To solve such differential settlement problems, Kurbo offers Winflex Series 30UG for direct burial application.

### Type Available

- 31UG & 32UG : Used for standard lateral and axial movements in buried piping.
- 33UG : For absorption of 100mm lateral deflection and normal axial movements
- 34UG : For absorption of 200mm lateral deflection and normal axial movements

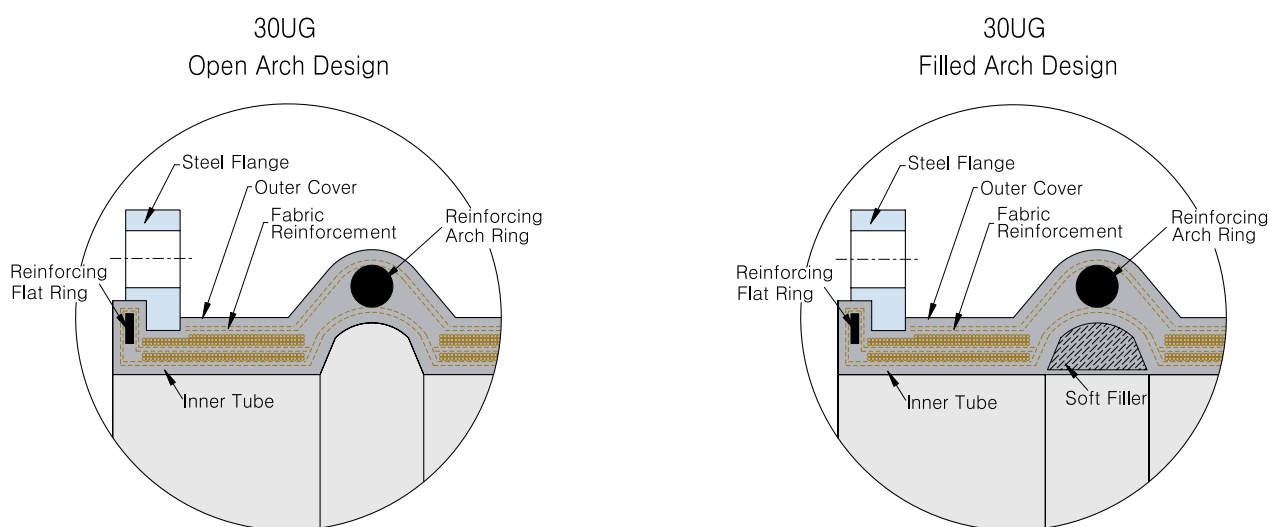
### Features

- Absorb ground/foundation settlement and seismic displacements.
- Prevent any damage or breakage of underground pipeline by accommodating the differential settlement caused by earthquake or uneven ground level change
- Designed to withstand external load of over 2 meters of earth weight plus another vehicle load of two 20tons trucks. For greater loads, please contact Kurbo.
- Available in single, double, triple, multiple arch configurations
- Unique ability to accommodate large lateral movement with short overall length.
- Lateral offset capability can be adjusted with longer length.
- The flanges rotate freely on the rubber bellows, compensating for mating flange misalignment Easy handling and installation.
- Specially formulated rubber has great recovery from movement. Unique ability to return to its original shape.
- Excellent corrosion resistance
- No gasket required.

## ***Solution to Differential Settlement Problems:***

*Prevent any damage of underground piping by accommodating differential settlement caused by uneven ground-level change or seismic activity.*

### **Construction**



#### **Inner Tube**

The inner tube protects the fabric and metal reinforcements from penetration of the media/fluid .

The smooth, leakproof inner tube can be designed to cover a variety of service conditions for chemical, petroleum, sewage, abrasive and corrosive materials.

#### **Fabric Reinforcement**

The body fabric reinforcement is flexible and supporting member between the inner tube and outer cover. Different fabrics are used depending upon the service conditions such as pressure, temperature. All fabric plies are impregnated with rubber to permit flexibility between the fabric plies

#### **Reinforcing Arch Ring and Wire**

The reinforcing ring at the top of the arch to resist the external forces produced by weight of earth, vehicle load etc. This ring is generally used for direct burial application and vacuum service. In some case, reinforcing steel wires are used over and/or below the fabric plies to provide more strength and rigidity to the expansion joint.

#### **Outer Cover**

The outer cover protects the body fabric and metal reinforcements from external conditions. Generally made of synthetic rubber having good resistance to weather, ozone, aging and corrosion.

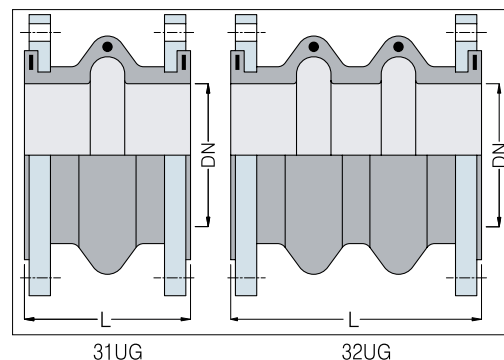
#### **Reinforcing Flat Ring**

The reinforcing flat ring imbedded in the rubber packing prevents separation of the steel flange when pressurized and provides tight seal between flanges.

#### **Steel Flange**

The floating flanges allow for mating flange misalignment—Simple installation

## Type 31UG / 32UG Underground Type Joint

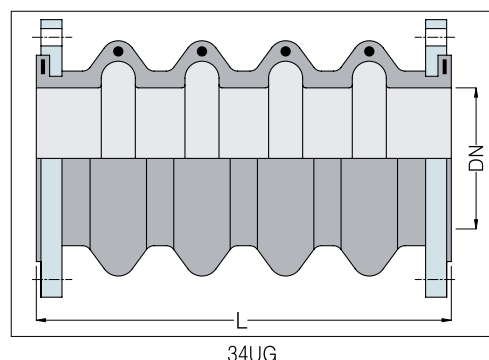


### Type 31UG & 32UG For Normal Movements

Nominal Size		31UG				32UG				Max. Pressure (bar)	Vacuum Rating (mmHg)
		20mm Lateral Deflection			Weight (kg)	50mm Lateral Deflection			Weight (kg)		
DN	inch	L	Comp.	Ext.		L	Comp.	Ext.			
20	0.75	150	20	15	2.2	250	45	30	2.5	10	760
25	1	150	20	15	2.6	250	45	30	2.9	10	760
32	1.25	150	20	15	3.1	250	45	30	3.5	10	760
40	1.5	150	20	15	3.5	250	45	30	4.3	10	760
50	2	150	20	15	4.5	250	45	30	5.1	10	760
65	2.5	150	20	15	5.2	250	45	30	5.9	10	760
80	3	150	20	20	6.1	300	45	30	6.8	10	760
100	4	150	20	20	7.3	300	45	30	8.5	10	760
125	5	150	20	20	10.3	300	45	30	12.7	10	760
150	6	200	20	20	12.7	300	45	30	16.2	10	760
200	8	200	20	20	18.2	300	45	30	23.2	10	760
250	10	200	20	20	27.2	300	45	30	32.4	10	760
300	12	200	20	20	33.4	300	45	30	39.6	10	760
350	14	200	30	25	41.8	350	50	40	51.2	10	760
400	16	200	30	25	49.6	350	50	40	61.8	10	760
450	18	200	30	25	61.3	350	50	40	75.4	10	760
500	20	250	30	25	71.7	350	50	40	88.1	10	760
600	24	250	30	25	98.5	400	50	40	122.4	7	760
700	28	250	30	25	116.5	400	50	40	138.5	7	760
800	32	300	30	25	135.2	400	50	40	157.5	7	760
900	36	300	30	25	152.3	400	50	40	179.3	7	760
1000	40	300	30	25	173.6	450	50	40	196.7	5	760
1100	44	300	30	25	189.3	450	50	40	226.3	5	760
1200	48	300	30	25	218.5	450	50	40	255.3	5	760
1350	54	300	30	25	262.3	450	50	40	301.1	5	760
1500	60	350	30	25	407.8	450	50	40	461.6	5	760

1. Weights are based on KS/JIS 10K flange dimensions, Other flanges are also available
2. Larger sizes than DN1500 are available with Type 21UG or 22UG on request
3. Filled arch design available

## Type 33UG / 34UG Underground Type Joint



### Type 33UG & 34UG For Large Lateral Movements

Nominal Size		33UG				34UG				Max. Pressure (bar)	Vacuum Rating (mmHg)
		100mm Lateral Deflection			Weight (kg)	200mm Lateral Deflection			Weight (kg)		
DN	inch	L	Comp.	Ext.		L	Comp.	Ext.			
20	0.75	350	60	40	3.3	450	70	50	3.9	10	760
25	1	350	60	40	3.7	450	70	50	4.2	10	760
32	1.25	350	60	40	4.3	450	70	50	5.2	10	760
40	1.5	350	60	40	5.3	450	70	50	6.3	10	760
50	2	350	60	40	6.1	450	70	50	7.5	10	760
65	2.5	350	60	40	8.1	450	70	50	9.6	10	760
80	3	350	60	40	9.2	450	70	50	11.2	10	760
100	4	350	60	40	11.4	450	70	50	13.5	10	760
125	5	350	60	40	15.6	450	70	50	17.8	10	760
150	6	500	60	40	20.7	600	70	50	22.2	10	760
200	8	500	60	40	27.0	600	70	50	28.0	10	760
250	10	500	60	40	37.2	600	70	50	43.8	10	760
300	12	550	60	40	45.9	650	70	50	54.7	10	760
350	14	550	70	50	59.7	650	80	60	70.0	10	760
400	16	550	70	50	75.7	650	80	60	85.7	10	760
450	18	550	70	50	97.2	650	80	60	106.7	10	760
500	20	550	70	50	111.0	650	80	60	126.4	10	760
600	24	550	70	50	144.3	650	80	60	169.5	7	760
700	28	650	70	50	172.3	750	80	60	199.4	7	760
800	32	650	70	50	192.0	750	80	60	226.2	7	760
900	36	650	70	50	221.3	750	80	60	257.5	7	760
1000	40	700	70	50	250.3	800	80	60	289.1	5	760
1100	44	700	70	50	281.3	800	80	60	326.5	5	760
1200	48	700	70	50	312.0	800	80	60	358.7	5	760
1350	54	700	70	50	371.7	800	80	60	422.3	5	760
1500	60	750	70	50	591.9	950	80	60	682.7	5	760

1. Weights are based on KS/JIS 10K flange dimensions, Other flanges are also available
2. Larger sizes than DN1500 are available with Type 23UG or 24UG on request
3. Filled arch design available