

## Rubber joints with floating flanges Lengt 130mm



Rubber quality	Color band	Property
Neoprene CR	No color band	Excellent weather-resistance. Good oil- and gasoline-resistance. Temperature range: -20°C to +70°C.
EPDM	Red	Outstanding ozone- and sunlight-resistance and suitable for most chemicals, alkaline waste-water, compressed air (oil free). Excellent electrical insulation. Not suitable for oil, gasoline and greases. Temperature range: -25°C to +130°C.
Nitril NBR	Yellow	Very good oil- and gasoline-resistance and suitable for gases, solvents and greases. Good abrasion-resistance. Not applicable to steam and hot water. Temperature range: -20°C to +90°C.
Hypalon CSM	Green	Outstanding ozone- and sunlight-resistance and suitable for most chemicals. Good oil- and gasoline-resistance. Temperature range: -25°C to +80°C.
Butyl IIR	Blue	Very good heat- and weather-resistance, suitable for alkaline waste-water, chemicals and compressed air (oil free). Temperature range: -25°C to +150°C.
Viton FPM	Purple	Suitable for chemicals, oil, gasoline and solvents. Not suitable for chlorines and ketones. Temperature range: -10°C to +180°C.
PTFE	No color band	Outstanding resistance for all media, with the exception of alkali metals at melting point and amides formed from the reaction of a carboxylic acids with an amine. Temperature range: -50°C to +230°C.

## Rubber joints with floating flanges



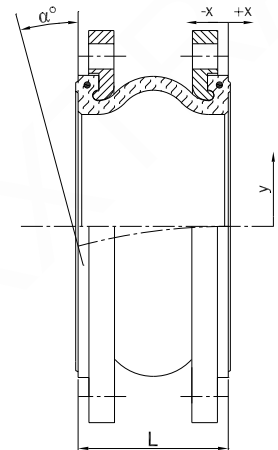
**Burst pressure:**

60 barg (Size 32 to 200 mm)

The maximum allowable pressure and movements must be adjusted by one of the factors below at operating temperatures over 80°C.

85°C	90°C	95°C	100°C	>100°C
0,92	0,83	0,75	0,67	0,6

For all sizes the overall length is 130 mm. The shape of the bellows gives the expansion joint a higher flexibility and allows larger movements. Reinforcement of the bellows by Nylon tire cords and at both ends by hardened steel wire rings. The floating galvanised flanges are drilled according to DIN, ANSI, BS, JIS and other standards. The sealing surfaces provide a fluid and gas-tight seal and make the use of gaskets unnecessary. For high vacuum a vacuum spiral or ring must be used. The maximum allowable temperature is 105°C.



Size mm (in.)	L mm	Axial ( -x ) mm	Axial ( +x ) mm	Lateral ( y ) mm	Angular ( a° )	Max.Pressure barg (PSIG) up to 80°C.	Vacuum mm Hg (in.Hg)
32 (1¼")	130	30	20	20	35°	16(225)	660(26)
40 (1½")	130	30	20	20	35°	16(225)	660(26)
50 (2")	130	30	20	20	35°	16(225)	660(26)
65 (2½")	130	30	20	20	30°	16(225)	660(26)
80 (3")	130	30	20	20	30°	16(225)	660(26)
100 (4")	130	30	20	20	25°	16(225)	660(26)
125 (5")	130	30	20	20	25°	16(225)	660(26)
150 (6")	130	30	20	20	15°	16(225)	660(26)
200 (8")	130	30	20	20	15°	16(225)	660(26)
250 (10")	130	30	20	20	10°	16(225)	660(26)
300 (12")	130	30	20	20	10°	16(225)	660(26)

**PHYSICAL AND CHEMICAL PROPERTIES OF ELASTOMERS**

Elastomers	Neoprene	Nat.Rubber	Butyl	Nitrile	Hypalon	EPDM	Viton	Silicone
ASTM D-2000/SAE J-200	BC	AA	AA	BF	CE	BA	HK	GE
ANSI/ASTM D1418-77	CR	IR	IIR	NBR	CSM	EPDM	FKM	SI
Alkali,conc.	0	X	4	0	4	6	0	0
Animal Et Veg.oil	4	X	5	5	4	5	6	5
Chemicals	3	3	6	3	6	6	6	5
Water	4	5	5	4	5	5	5	5
Oxygenated Hydro	1	4	4	0	1	6	0	2
Lacquers	0	0	3	2	0	3	1	0
Oil & Gasoline	4	0	0	5	4	0	6	X
Alkali Dilute	4	X	4	4	4	6	4	2
Acid,dilute	6	3	6	4	6	6	6	6
Acid,conc.	4	3	4	4	4	4	6	2
Aliphatic hydro	3	0	0	6	3	0	6	0
Aromatic hydro	2	0	0	4	2	0	5	0
Electr.insulation	3	5	5	1	3	6	3	6
Water absorption	4	5	5	4	4	6	5	6
Radiation	5	6	4	5	5	7	5	5
Swelling in oil	4	0	0	5	4	0	6	2
Rebound cold	4	6	0	4	2	9	2	6
Comp. set	2	4	3	5	2	4	6	3
Tensile strength	4	6	4	5	2	5	5	0
Dielectric str.	5	6	5	0	5	7	5	4
Abrasion	5	6	4	4	4	5	5	6
Impermeability	4	2	6	4	4	4	5	0
Dynamic	2	2	2	5	2	5	5	2
Rebound hot	5	6	5	4	4	6	4	0
Heat	4	2	5	4	4	6	7	7
Cold	4	5	4	3	4	5	2	6
Flame	4	0	0	0	4	0	6	2
Tear	4	5	4	3	3	4	2	2
Ozone	5	0	6	2	7	7	7	6
Weather	6	2	5	2	6	6	7	6
Sunlight	5	0	5	0	7	7	7	6
Oxidation	5	4	6	4	6	6	7	6

- 7 = Outstanding
- 6 = Excellent
- 5 = Very good
- 4 = Good
- 3 = Fair to good
- 2 = Fair
- 1 = Poor to fair
- 0 = Poor

## Remarks for installation

### Use the right torque for the bolts.

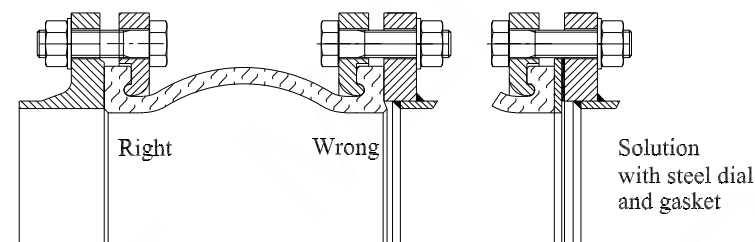
Allowing the joints it's maximum movements and preventing damages to the rubber sphere, the bolts must be inserted through the flange with the heads of the bolts on the joint side. To secure the joint to the pipe the bolts should be tightened crosswise, applying the following torque:

For expansion joints up to a nominal diameter of 80 mm. 60 Nm (max.)

For expansion joints larger than a nominal diameter of 80 mm. 80 Nm (max.)

### Use the right counter flange.

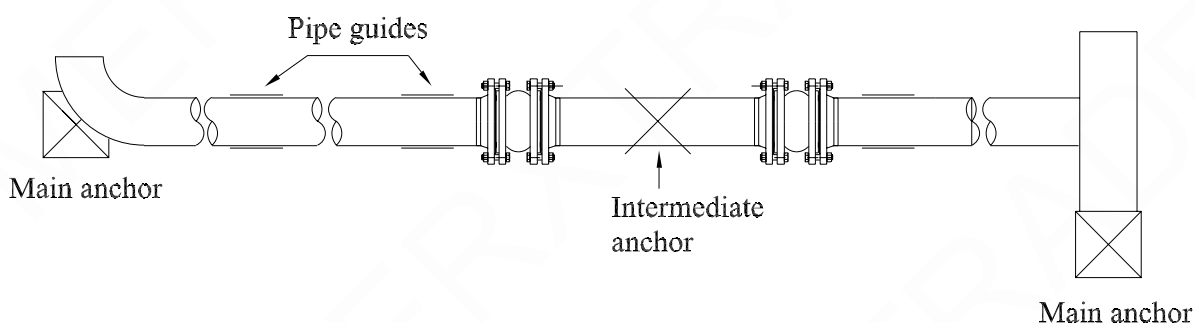
For a proper, durable and safe connection the inner diameter of the counter flange should not be larger than the inner diameter of the rubber joint and should be flat to ensure maximum sealing. Turbulence within the joint could cause noise, pressure loss or even leakage at the connection.



### Pipe anchors and guides

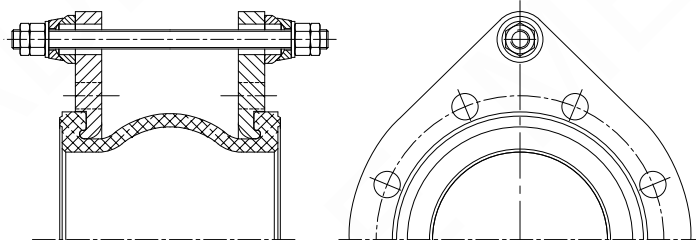
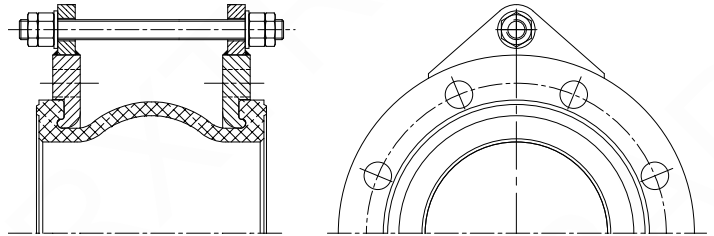
A main pipe anchor must be designed to withstand the forces and moments of the pipe section to which it is attached. In case of a pipe section containing one or more unrestrained expansion joints, these will consist of the full line thrust due to pressure and flow, the forces and/or moments required to deflect the expansion joint or joints (large diameters Spool type), frictional forces due to pipe guides, etc.

An intermediate pipe anchor must be designed to withstand only the forces and/or moments required to deflect the expansion joint or joints, frictional forces due to pipe guides, etc. Correct alignment of the pipe is of vital importance in the proper function of the expansion joint. Install the joint close to an anchor and place a pipe guide behind the joint at a distance of about 1,5 x pipe diameter.



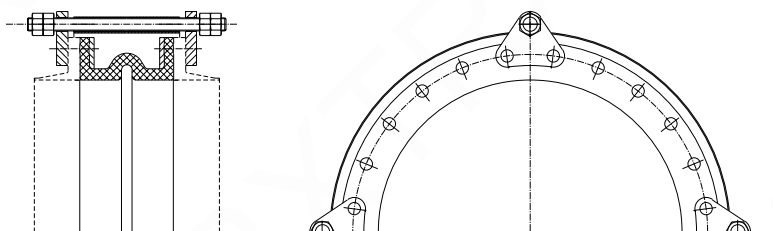
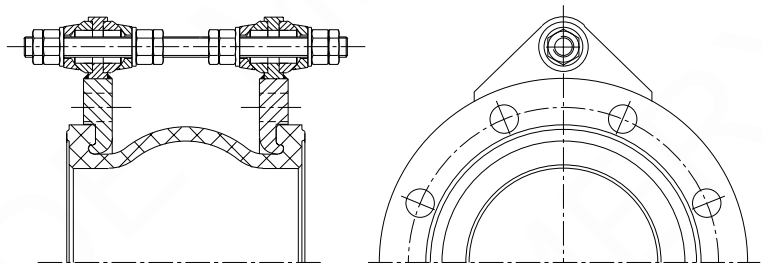
## Remarks for installation

Limit rods to restrict the bellows axial movement range during normal operation. In the event of a main anchor failure, they are designed to prevent bellows over-extension while restraining the full pressure loading and dynamic forces generated by the anchor failure. Lugs are welded to the flanges.



Tie rods with external spherical bearings, whose primary function is to continuously restrain the full bellows pressure thrust during normal operation while permitting only lateral deflection. The lugs are integrated in the oval flanges.

Tie rods with external and internal spherical bearings, whose primary function is to continuously restrain the full bellows pressure thrust during normal operation while permitting only lateral deflection. The lugs are welded to the flanges.



Spool type expansion joint with limits rods to restrict the bellows axial movement range during normal operation. In the event of a main anchor failure, they are designed to prevent bellows overextension or over-compression while restraining the full pressure loading and dynamic forces generated by the anchor failure. The loose lugs are bolted to the steel flanges.

Spool type expansion joint with limits rods to restrict the bellows axial movement range during normal operation. In the event of a main anchor failure, they are designed to prevent bellows overextension or over-compression while restraining the full pressure loading and dynamic forces generated by the anchor failure. The loose lugs are bolted to the steel flanges.

