

Section 12

Rubber Bellows

Edition 5

Specifications

A Rubber bellow is a flexible joint made from heat resisting synthetic elastomers and moulded in a spherical shape with metal floating flanges.

Rubber Bellows (Fleixble Rubber Joints) are installed in piping systems to absorb movements in three directions

1. Axial - the movement of elongation and compression along the centre line
2. Lateral - offset movement from the centre line
3. Angular - offset bending about the centre line

Applications - Air, Compressed Air, Water, Sea Water, Hot Water, Weak Acid

Material List	
PART	MATERIAL
Body	EPDM/NBR
Lining	Nylon cord Fabric
Frame	Hard steel wire

Working Conditions	
Working Pressure DN32-DN300	1600kPa
Working Pressure DN350-450	1000kPa
Working Pressure DN450-DN1000	600kPa
Bursting Pressure	6000kPa
Vacuity	86.7 kPa

Summary		
CODE	**RUBBER**	**FLANGE**
RB**	EPDM	AS2129 'E'
RB**N	NBR	AS2129 'E'
RB**D	EPDM	AS2129 'D'
RBA**N	NBR	ANSI B16.5
RBEPN16**	EPDM	BS4504 X AS2129 'E'

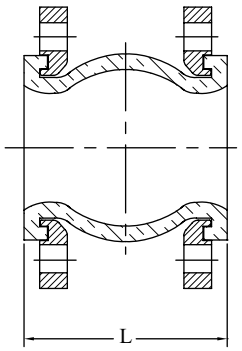
**Denotes size

COMMON NAME	ASTM DESIGNATION D1418-64	TEMPERATURE	COMPOSITION	GENERALLY RESISTANT TO	GENERALLY AFFECTED OR ATTACKED BY
Nitrile or Buna-N	NBR	-25°C + 100°C	Nitrile Butadiene	Many Hydrocarbons, fats, oils, greases, hydraulic fluids and chemical	Ozones, keytones, esters, aldehydes, chlorinated and nitro hydrocarbons
EPDM or EPT	EPDM	-30°C + 120°C	Ethylene-propylene-dieneterpolymer	Animal and vegetable oils, ozone, strong and oxidising chemicals	Mineral oils and solvents, aromatic hydrocarbons

For more information regarding the different flanges used, please refer to the 'Flanges' section

Rubber Bellow (Table E)

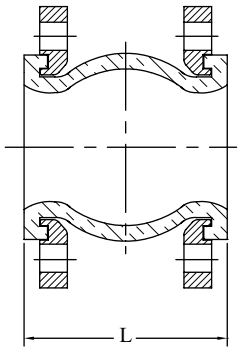
Rubber Bellow (Table E)								
AAP CODE		IMPERIAL SIZE	L	AXIAL COMPRESSION	AXIAL STRETCH	LATERAL DISPLACEMENT	ANGULAR DEFLECTION	APPROX. KG/PC
EPDM	NBR							
RB32		1 1/4	95	9	6	9	15°	2.3
RB40		1 1/2	95	10	6	9	15°	2.75
RB50	RB50N	2	105	10	7	10	15°	3
RB65	RB65N	2 1/2	115	13	7	11	15°	4.1
RB80	RB80N	3	135	15	8	12	15°	5.2
RB100	RB100N	4	135	19	10	13	15°	6
RB125		5	165	19	12	14	15°	10.3
RB150	RB150N	6	180	20	12	22	15°	11.6
RB200		8	190	25	16	22	15°	16
RB250		10	230	25	16	22	15°	24
RB300		12	245	25	16	22	15°	27
RB350		14	265	25	16	22	15°	41
RB400		16	265	25	16	22	15°	50
RB450		18	265	25	16	22	15°	80
RB500		20	265	25	16	22	15°	75
RB600		24	265	25	16	22	15°	120





Rubber Bellow (Table D)

Rubber Bellow (Table D)							
AAP CODE	IMPERIAL SIZE	L	AXIAL COMPRESSION	AXIAL ELONGATION	TRANSVERSE DEFLECTION	ANGULAR DEFLECTION	APPROX. KG/PC
RB250D	10	230	25	16	22	15°	24

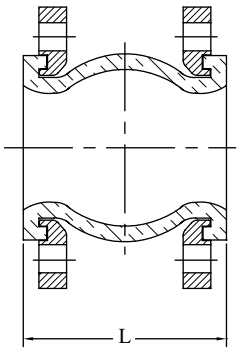




Rubber Bellows (Combination of Table E x BS4504 PN16)

Rubber Bellows (Combination of Table E x BS4504 PN16)							
AAP CODE	IMPERIAL SIZE	L	AXIAL COMPRESSION	AXIAL ELONGATION	TRANSVERSE DEFLECTION	ANGULAR DEFLECTION	APPROX. KG/PC
RBEPN1632	1 1/4	95	9	6	9	15°	2.3
RBEPN1640	1 1/2	95	10	6	9	15°	2.75
RBEPN1650	2	105	10	7	10	15°	3
RBEPN1665	2 1/2	115	13	7	11	15°	4.1
RBEPN1680	3	135	15	8	12	15°	5.2
RBEPN16100	4	150	19	10	13	15°	6
RBEPN16125	5	165	19	12	14	15°	10.3
RBEPN16150	6	180	20	12	22	15°	11.6
RBEPN16200	8	190	25	16	22	15°	16

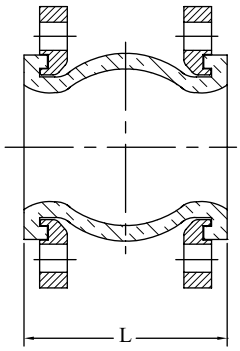




Rubber Bellow (ANSI 150)

Rubber Bellow NBR (ANSI 150)							
AAP CODE	IMPERIAL SIZE	L	AXIAL COMPRESSION	AXIAL ELONGATION	TRANSVERSE DEFLECTION	ANGULAR DEFLECTION	APPROX. KG/PC
RBA50N	2	105	10	7	10	15°	3
RBA65N	2 1/2	115	13	7	11	15°	4.1
RBA80N	3	135	15	8	12	15°	5.2
RBA100N	4	150	19	10	13	15°	6
RBA125N	5	165	19	12	14	15°	10.3





Notes