

## Description:

Vibracoustics Ltd 3K Yellow Rubber Bellows are designed as compact, low weight expansion joints which are both very flexible and simple to install. These provide the ideal service connection allowing for installation misalignments and thermal expansion with the attenuation of noise and vibration transmission.

Manufactured in synthetic rubbers reinforced with fabric to achieve a high mechanical strength and are available in a range of sizes suitable for various medium, temperature and environmental conditions.



## Pressure Ratings:

Max burst pressure safety factor is 5 times the working pressure of 4 Bar.

Minimum working pressure (absolute) is 0.7 Bar but can be lowered by fitting a vacuum support ring.

## Typical Applications Include:

- Marine - ship & boat building.
- Offshore plant & equipment.
- Water supply plant & equipment.
- Chemical industry.

## 3K Bellows – Yellow Band Versions:

Suitable for medium:

- Water, salt solutions.
- Weak or diluted acid (except nitric), Alkalies.
- Oils - mineral, vegetable, animal or aerosols.
- Petrol-Benzol mixtures 50:50.

NBR-Nitrile rubber with high tensile strength cord construction.

Operating temperature max water 70°C, max oil 90°C.

## Installation Instructions:

At maximum length or maximum lateral displacement, the permissible angular values are reduced to half the table values.

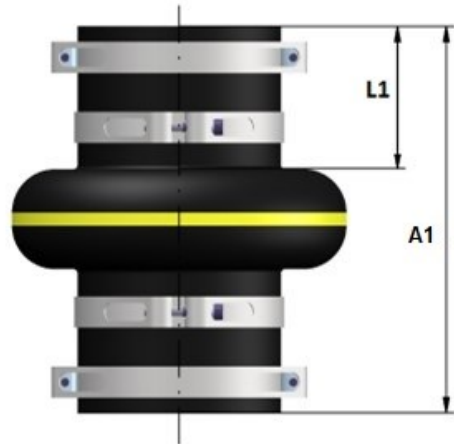
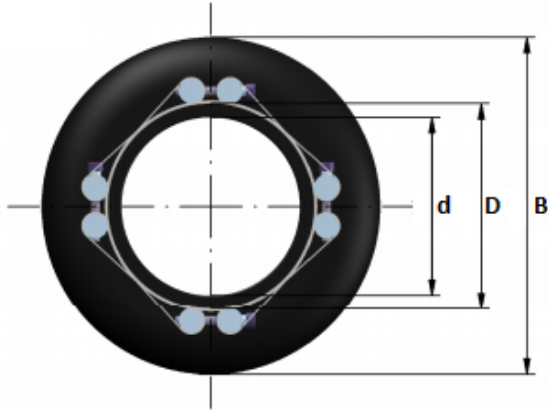
Position 3K bellows in locations where they can be easily accessed for annual maintenance inspections.

4 clamps must be used per bellow for correct installation and to comply with type approval certifications.

DNV GL Type approval certification available upon request.



## 3K YELLOW BAND RUBBER BELLOWS



Part No.	Compensator Dimensions (mm)					Type 3K		
	Bore d	D	L1	A1	B	Permissible Movements		
VS 3KY 025.0NB	25	41	44	140	81	-15/+7	± 10	7
VS 3KY 026.9NB	26.9	42	44	140	83	-15/+7	± 10	7
VS 3KY 030.0NB	30	45	44	140	86	-15/+7	± 11	7
VS 3KY 032.0NB	32	47	44	140	94	-15/+7	± 11	7
VS 3KY 033.7NB	33.7	49	44	140	96	-15/+7	± 12	7
VS 3KY 038.0NB	38	54	44	140	107	-15/+7	± 12	7
VS 3KY 040.0NB	40	56	52	160	110	-19/+9	± 14	7
VS 3KY 042.4NB	42.4	58	52	160	114	-19/+9	± 14	7
VS 3KY 044.5NB	44.5	60	52	160	116	-19/+9	± 14	7
VS 3KY 048.3NB	48.3	64	52	160	120	-19/+9	± 14	7
VS 3KY 050.8NB	50.8	66	52	160	123	-19/+9	± 14	7
VS 3KY 054.0NB	54	70	52	160	136	-19/+9	± 14	7
VS 3KY 057.0NB	57	73	52	160	139	-19/+9	± 14	7
VS 3KY 060.3NB	60.3	76	62	180	141	-19/+9	± 14	7
VS 3KY 063.5NB	63.5	79	62	180	144	-19/+9	± 14	7
VS 3KY 076.1NB	76.1	92	62	180	157	-19/+9	± 14	7
VS 3KY 088.9NB	88.9	105	85	225	170	-19/+9	± 15	7
VS 3KY 101.6NB	101.6	119	90	250	194	-20/+10	± 16	7
VS 3KY 108.0NB	108	125	90	250	211	-25/+12	± 16	7
VS 3KY 114.3NB	114.3	132	90	250	217	-25/+12	± 16	7
VS 3KY 115.8NB	115.8	133	90	250	218	-25/+12	± 16	7
VS 3KY 127.0NB	127	146	90	250	229	-25/+12	± 16	7
VS 3KY 133.0NB	133	152	90	250	235	-25/+12	± 16	7
VS 3KY 139.7NB	139.7	158	90	250	242	-25/+12	± 16	7
VS 3KY 168.3NB	168.3	185	90	250	271	-30/+14	± 21	7



## 3K RED BAND RUBBER BELLOWS

### Description:

Vibracoustics Ltd 3K Red Rubber Bellows are designed as compact, low weight expansion joints which are both very flexible and simple to install. These provide the ideal service connection allowing for installation misalignments and thermal expansion with the attenuation of noise and vibration transmission.

Manufactured in synthetic rubbers reinforced with fabric to achieve a high mechanical strength and are available in a range of sizes suitable for various medium, temperature and environmental conditions.



### Pressure Ratings:

Max burst pressure safety factor is 5 times the working pressure of 4 Bar.

Minimum working pressure (absolute) is 0.7 Bar but can be lowered by fitting a vacuum support ring.

### Typical Applications Include:

- Marine - ship & boat building.
- Offshore plant & equipment.
- Water supply plant & equipment.
- Chemical industry.

### 3K Bellows – Red Band Versions:

Suitable for medium:

- Hot water systems (not including petroleum based anti-corrosion additives).
- Warm salt & chlorine solution.
- Esters & Ketones.
- Acid & Alkali resistant (not concentrated nitric or sulphuric)

EPDM rubber with Aramid cord construction.

Operating temperature max 120°C.

### Installation Instructions:

At maximum length or maximum lateral displacement, the permissible angular values are reduced to half the table values.

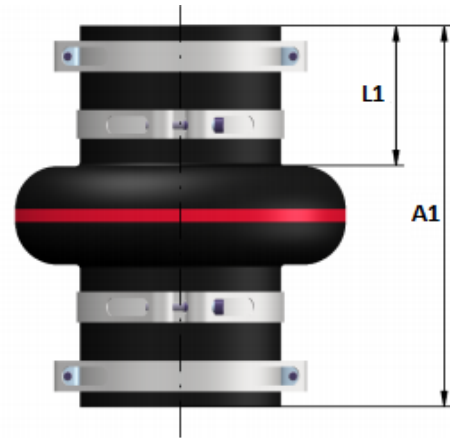
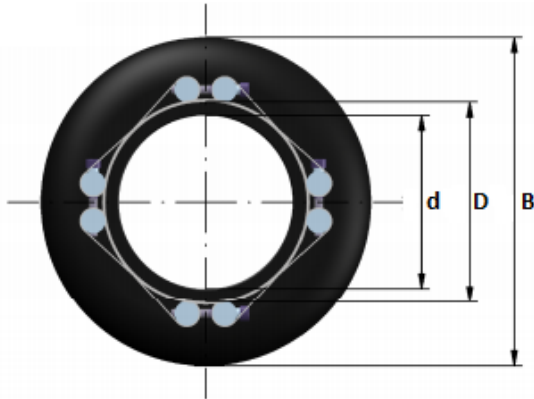
Position 3K bellows in locations where they can be easily accessed for annual maintenance inspections.

4 clamps must be used per bellow for correct installation and to comply with type approval certifications.

DNV GL Type approval certification available upon request.



## 3K RED BAND RUBBER BELLOWS



Part No.	Compensator Dimensions (mm)					Type 3K		
	Bore d	D	L1	A1	B	Permissible Movements		
VS 3KR 025.0NB	25	44	44	140	82	-15/+7	± 10	7
VS 3KR 026.9NB	26.9	45	44	140	84	-15/+7	± 10	7
VS 3KR 030.0NB	30	48	44	140	87	-15/+7	± 11	7
VS 3KR 032.0NB	32	50	44	140	95	-15/+7	± 11	7
VS 3KR 033.7NB	33.7	52	44	140	97	-15/+7	± 12	7
VS 3KR 038.0NB	38	57	44	140	108	-15/+7	± 12	7
VS 3KR 040.0NB	40	59	52	160	111	-19/+9	± 14	7
VS 3KR 042.4NB	42.4	61	52	160	115	-19/+9	± 14	7
VS 3KR 044.5NB	44.5	63	52	160	117	-19/+9	± 14	7
VS 3KR 048.3NB	48.3	67	52	160	121	-19/+9	± 14	7
VS 3KR 050.8NB	50.8	69	52	160	124	-19/+9	± 14	7
VS 3KR 054.0NB	54	73	52	160	137	-19/+9	± 14	7
VS 3KR 057.0NB	57	76	52	160	140	-19/+9	± 14	7
VS 3KR 060.3NB	60.3	78	62	180	142	-19/+9	± 14	7
VS 3KR 063.5NB	63.5	81	62	180	145	-19/+9	± 14	7
VS 3KR 076.1NB	76.1	94	62	180	158	-19/+9	± 14	7
VS 3KR 088.9NB	88.9	107	85	225	171	-20/+10	± 15	7
VS 3KR 101.6NB	101.6	121	90	250	195	-25/+12	± 16	7
VS 3KR 108.0NB	108	128	90	250	212	-25/+12	± 16	7
VS 3KR 114.3NB	114.3	134	90	250	219	-25/+12	± 16	7
VS 3KR 115.8NB	115.8	135	90	250	218	-25/+12	± 16	7
VS 3KR 127.0NB	127	146	90	250	229	-25/+12	± 16	7
VS 3KR 133.0NB	133	154	90	250	236	-25/+12	± 16	7
VS 3KR 139.7NB	139.7	160	90	250	243	-25/+12	± 16	7
VS 3KR 168.3NB	168.3	187	90	250	272	-30/+14	± 21	7



## 3K2 YELLOW BAND RUBBER BELLOWS

### Description:

Vibracoustics Ltd 3K2 Yellow Rubber Bellows are extended versions of the 3K Bellows. Designed as compact, low weight expansion joints which are both very flexible and simple to install. These provide the ideal service connection allowing for installation misalignments and thermal expansion with the attenuation of noise and vibration transmission.

Manufactured in synthetic rubbers reinforced with fabric to achieve a high mechanical strength and are available in a range of sizes suitable for various medium, temperature and environmental conditions.



### Pressure Ratings:

Max burst pressure safety factor is 5 times the working pressure of 4 Bar.

Minimum working pressure (absolute) is 0.7 Bar but can be lowered by fitting a vacuum support ring.

### Typical Applications Include:

- Marine - ship & boat building.
- Offshore plant & equipment.
- Water supply plant & equipment.
- Chemical industry.

### 3K2 Bellows – Yellow Band Versions:

Suitable for medium:

- Water, salt solutions.
- Weak or diluted acid (except nitric), Alkalis.
- Oils - mineral, vegetable, animal or aerosols.
- Petrol-Benzol mixtures 50:50.

NBR-Nitrile rubber with high tensile strength cord construction.

Operating temperature max water 70°C, max oil 90°C.

### Installation Instructions:

At maximum length or maximum lateral displacement, the permissible angular values are reduced to half the table values.

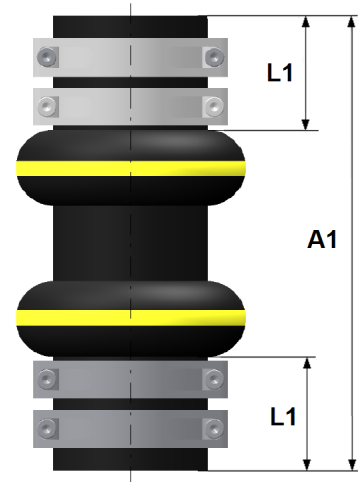
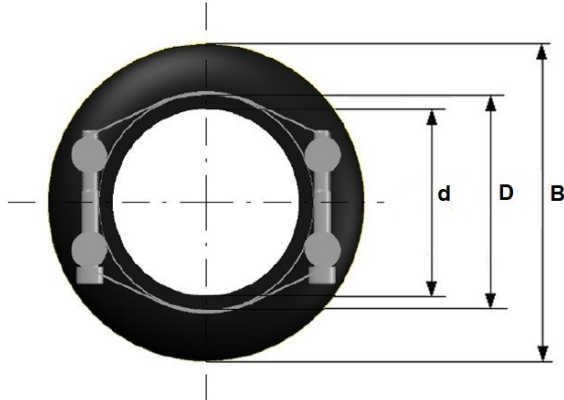
Position 3K2 bellows in locations where they can be easily accessed for annual maintenance inspections.

4 clamps must be used per bellow for correct installation and to comply with type approval certifications.

DNV GL Type approval certification available upon request.



## 3K2 YELLOW BAND RUBBER BELLOWS



Part No.	Compensator Dimensions (mm)					Type 3K2		
	Bore d	D	L1	A1	B	Permissible Movements		
						Axial (mm)	Lateral (mm)	Angular (°)
VS 3K2Y 025.0NB	25	35	55	225	85	-30/+14	± 20	14
VS 3K2Y 032.0NB	32	45	55	225	94	-30/+14	± 24	14
VS 3K2Y 033.7NB	33.7	47	55	225	96	-30/+14	± 24	14
VS 3K2Y 038.0NB	38	50	50	225	116	-30/+14	± 24	14
VS 3K2Y 042.4NB	42.4	55	60	225	123	-38/+18	± 28	14
VS 3K2Y 044.5NB	44.5	58	60	225	124	-38/+18	± 28	14
VS 3K2Y 048.3NB	48.3	61	60	225	125	-38/+18	± 28	14
VS 3K2Y 054.0NB	54	67	60	225	130	-38/+18	± 28	14
VS 3K2Y 057.0NB	57	70	60	225	130	-38/+18	± 28	14
VS 3K2Y 060.3NB	60.3	73	70	285	131	-38/+18	± 28	14
VS 3K2Y 063.5NB	63.5	74	70	285	134	-38/+18	± 28	14
VS 3K2Y 076.1NB	76.1	89	70	285	155	-38/+18	± 28	14
VS 3K2Y 088.9NB	88.9	102	95	360	169	-40/+24	± 30	14
VS 3K2Y 108.0NB	108	125	100	400	202	-50/+24	± 32	14
VS 3K2Y 114.3NB	114.3	131	100	400	205	-50/+24	± 32	14
VS 3K2Y 115.8NB	115.8	133	100	400	205	-50/+24	± 32	14
VS 3K2Y 139.7NB	139.7	157	100	400	234	-50/+24	± 32	14
VS 3K2Y 168.3NB	168.3	185	100	415	292	-60/+28	± 42	14

Specific custom sizes are available on request.



## 3K2 RED BAND RUBBER BELLOWS

### Description:

Vibracoustics Ltd 3K2 Red Rubber Bellows are extended versions of the 3K Bellows. Designed as compact, low weight expansion joints which are both very flexible and simple to install. These provide the ideal service connection allowing for installation misalignments and thermal expansion with the attenuation of noise and vibration transmission.

Manufactured in synthetic rubbers reinforced with fabric to achieve a high mechanical strength and are available in a range of sizes suitable for various medium, temperature and environmental conditions.



### Pressure Ratings:

Max burst pressure safety factor is 5 times the working pressure of 4 Bar.

Minimum working pressure (absolute) is 0.7 Bar but can be lowered by fitting a vacuum support ring.

### Typical Applications Include:

- Marine - ship & boat building.
- Offshore plant & equipment.
- Water supply plant & equipment.
- Chemical industry.

### 3K2 Bellows – Red Band Versions:

Suitable for medium:

- Hot water systems (not including petroleum based anti-corrosion additives).
- Warm salt & chlorine solution.
- Esters & Ketones.
- Acid & Alkali resistant (not concentrated nitric or sulphuric).

EPDM rubber with Aramid cord construction.

Operating temperature max 120°C.

### Installation Instructions:

At maximum length or maximum lateral displacement, the permissible angular values are reduced to half the table values.

Position 3K2 bellows in locations where they can be easily accessed for annual maintenance inspections.

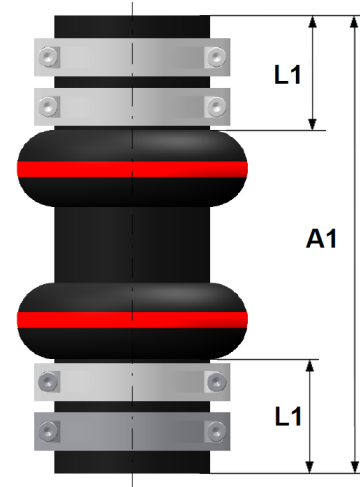
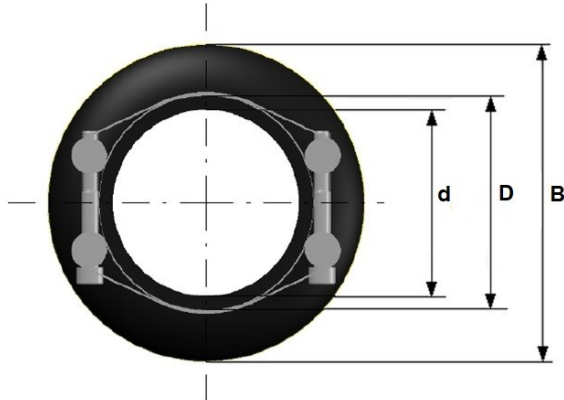
4 clamps must be used per bellow for correct installation and to comply with type approval certifications.

DNV GL Type approval certification available upon request.





## 3K2 RED BAND RUBBER BELLOWS



Part No.	Compensator Dimensions (mm)					Type 3K2 Permissible Movements		
	Bore d	D	L1	A1	B	Axial (mm)	Lateral (mm)	Angular (°)
VS 3K2R 025.0NB	25	35	55	225	85	-30/+14	± 20	14
VS 3K2R 032.0NB	32	45	55	225	94	-30/+14	± 24	14
VS 3K2R 033.7NB	33.7	47	55	225	96	-30/+14	± 24	14
VS 3K2R 038.0NB	38	50	50	225	116	-30/+14	± 24	14
VS 3K2R 042.4NB	42.4	55	60	225	123	-38/+18	± 28	14
VS 3K2R 044.5NB	44.5	58	60	225	124	-38/+18	± 28	14
VS 3K2Y 048.3NB	48.3	61	60	225	125	-38/+18	± 28	14
VS 3K2R 054.0NB	54	67	60	225	130	-38/+18	± 28	14
VS 3K2R 057.0NB	57	70	60	225	130	-38/+18	± 28	14
VS 3K2R 060.3NB	60.3	73	70	285	131	-38/+18	± 28	14
VS 3K2R 063.5NB	63.5	74	70	285	134	-38/+18	± 28	14
VS 3K2R 076.1NB	76.1	89	70	285	155	-38/+18	± 28	14
VS 3K2R 088.9NB	88.9	102	95	360	169	-40/+24	± 30	14
VS 3K2R 108.0NB	108	125	100	400	202	-50/+24	± 32	14
VS 3K2R 114.3NB	114.3	131	100	400	205	-50/+24	± 32	14
VS 3K2R 115.8NB	115.8	133	100	400	205	-50/+24	± 32	14
VS 3K2R 139.7NB	139.7	157	100	400	234	-50/+24	± 32	14
VS 3K2R 168.3NB	168.3	185	100	415	292	-60/+28	± 42	14

Specific custom sizes are available on request.





## Description:

Vibracoustics Ltd Clamps are for use on our range of 3K & 3K2 Bellows.

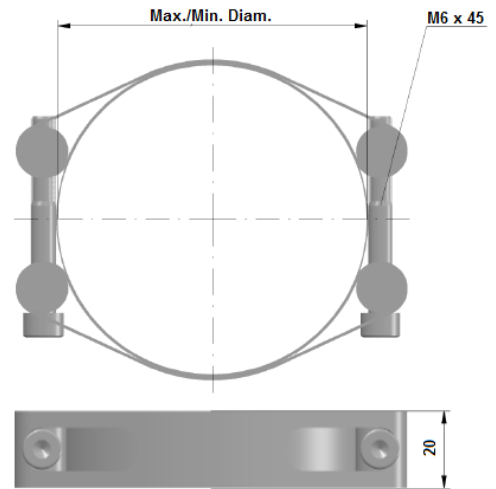
4 clamps to be used with each bellow, 2 per end, to ensure a durable and fully sealed joint.

Specified clamps must be used for type approval certification, available upon request.

Available in galvanised mild steel and stainless steel to suit all applications and environmental conditions.



4 clamps assembled on a 3K Bellow



Part Number	Minimum Diameter Ø	Maximum Diameter Ø	3K Bellow Number
VS AS 025	40	50	VS 3K 25.0NB
VS AS 032	45	55	VS 3K 32.0NB
VS AS 033	45	55	VS 3K 33.7NB
VS AS 038	45	55	VS 3K 38.0NB
VS AS 042	55	65	VS 3K 42.4NB
VS AS 045	55	65	VS 3K 44.5NB
VS AS 048	60	70	VS 3K 48.3NB
VS AS 050	60	70	VS 3K 50.8NB
VS AS 054	65	75	VS 3K 54.0NB
VS AS 060	70	80	VS 3K 60.3NB
VS AS 076	80	90	VS 3K 76.1NB
VS AS 088	95	105	VS 3K 88.9NB
VS AS 108	115	125	VS 3K 108.0NB
VS AS 114	125	135	VS 3K 114.3NB
VS AS 139	150	160	VS 3K 139.7NB
VS AS 156	165	175	VS 3K 156.0NB
VS AS 168	170	180	VS 3K 168.3NB

Above table to show the clamp part numbers, dimensions and the bellow size they are designed to clamp.



Vibracoustics is continually seeking to improve products and reserves the right to change designs and specifications without prior notice or alteration of literature.

For applications and technical assistance please contact [Vibracoustics](http://www.vibracoustics.com), see index Ref 00-A-01

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