Vibracoustics™

Products & Services for Vibration, Noise & Shock Control

PRODUCT GROUP	72

RUBBER BELLOWS TYPE 1A & 1S SERIES

Description:

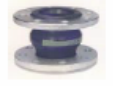
Vibracoustics Ltd Reiflexa ® Bellows are made from various elastomers reinforced with high tensile textile or steel cords to provide the flexible elements in pipe work that are indispensable in today's technically advanced plant and machinery installations. Manufactured in rubber compounds proven over many years, 'Reiflexa'® bellows provide maximum safety and guaranteed high quality.

Reiflexa ® Bellows offer:

- Cost and space saving alternatives, to expensive fixed expansion bends.
- Compensation of thermal or mechanical pipe work movements in axial, lateral and angular directions.
- Vibration isolation and damping of pipe work borne noise.
- Joint faces that form a flexible seal on the mating flange faces.
- Non-electrically conducting types manufactured in a special compound.
- High pressure and temperature types with shock and seaway movement capabilities.
- All bellows are weather, ozone and sunlight degradation resistant.
- Standard PN10/PN16 galvanised steel flanges. Other materials, alternative drillings and Tie-Bar versions are also available.

Quality Control:

Regular pressure and burst test monitoring ensures standards are continually met.

Identification Marking	Description		Suitable for Mediums
Yellow Band 	Inner Lining Outer Cover: Reinforcement: Operation temp.:	ECO or NBR-Nitrile black. ECO or CR(Chloroprene) resistant to oil splashes. Self extinguishing. Nylon cord. Max. 90°C to -25°C, depends medium.	Water, salt solutions, alkalis, mineral oils, vegetable or animal oils, oil aerosols, butane or propane gas, acetalene, and weak or diluted acids(excepting nitric acid). Petrol-Benzol mixtures 50:50.
GS Yellow Steel 	Inner Lining Outer Cover: Reinforcement: Operation temp.:	NBR-Nitrile black, electrically conductive CR(Chloroprene) resistant to oil splashes. Self extinguishing. Galvanised steel wire cord Max. +90°C to -25°C, depends medium.	Water, salt solutions, alkalis, mineral oils, vegetable or animal oils, oil aerosols, butane or propane gas, acetalene, and weak or diluted acids(excepting nitric acid). Petrol-Benzol mixtures 50:50. Flame resistant outer
HO Hot Oil 	Inner Lining Outer Cover: Reinforcement: Operation temp.:	Hydrogenated NBR-Nitrile black. Hydrogenated NBR-Nitrile Weather , ozone, light resistant. Self extinguishing. Nylon cord. Max. 110°C to -25°C, depends medium.	Water, salt solutions, alkalis, mineral oils, vegetable or animal oils, oil aerosols, butane or propane gas, acetalene, and weak or diluted acids(excepting nitric acid). Petrol-Benzol mixtures 50:50. Oil-temp. Max. 110 °C.
Red Band 	Inner Lining Outer Cover: Reinforcement: Operation temp.:	EPDM. EPDM Self extinguishing. Ageing and water resistant. Nylon cord. Max. 90°C to -35°C, depends medium.	Cooling water (not containing petroleum based anti-corrosion additives), warm salt solutions, chlorine solutions, esters and ketones.
HP Red Band 	Inner Lining Outer Cover: Reinforcement: Operation temp.:	EPDM. EPDM Self extinguishing. Ageing and water resistant. Aramid cord. Max. 130°C to -35°C, depends medium.	Hot water system (not containing petroleum based anti-corrosion additives), warm salt solutions, chlorine solutions, esters and ketones. Acid and alkali resistant (not concentrated nitric or sulphuric).
Green Band 	Inner Lining Outer Cover: Reinforcement: Operation temp.:	CMS-Hypalon. CR(Chloroprene) , resistant to oil splashes. Self extinguishing. Nylon cord. Max. 70°C to -35°C, depends medium.	Strong or concentrated acids (excepting concentrated nitric and sulphuric acids). For aggressive acids, max. temperature is reduced. Also suitable for compressed air containing oil aerosols.
White Band 	Inner Lining Outer Cover: Reinforcement: Operation temp.:	NBR-Nitrile white. CR(Chloroprene) resistant to oil splashes. Self extinguishing. Nylon cord. Max. 70°C to -25°C, depends medium.	Drinking water, alcoholic beverages, and all types of foods, including fats & oils.

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GENERAL INFORMATION VRE RUBBER BELLOWS

Classification Society Type Approval:

Vibracoustics Ltd Reiflexa ® Compensators Type 1A / 1S of sizes DN 25-300 in the appropriate colour bands, when fitted with fire sleeves of type F3000, are approved for the use in fuel and lubricating oil, sea water, ballast, bilge, fresh cooling water and sanitary piping systems arranged inside and outside machinery spaces. For applications outside of machinery spaces, the fire sleeve may be omitted.

Limitations:

For fuel and lubricating oil 'GS Yellow Steel' type must be used together with a F3000 fire sleeve to comply with Lloyds Register.

Rubber compensators are not approved at the ships side and in permanently pressurized starting airlines of diesel engines.

Range of Movement:

Movement capacity variations with installed length.

Example:

Installations Length	130mm	140mm	150mm
Lateral Permissible	20mm	10mm	5mm

Temperature Effects On Pressure Rating:

N.B: Optimum performance will be achieved by avoiding installation in tension.

Condition	Temperature °C	Pressure (Bar)
Max. Working Pressure	70	16
	90	10
Test Pressure	20	24
Burst Pressure	20	>50
HP 25-300 max	70	16
	130	10
350-1000 max	70	16
	110	10

N.B: As a general guide pressure ratings and movement capacity are quoted at 50°C. Between 50°C and 70°C reduce value by 25% and from 70 to 100°C reduce values by 40%.

Calculated working life by different temperatures:

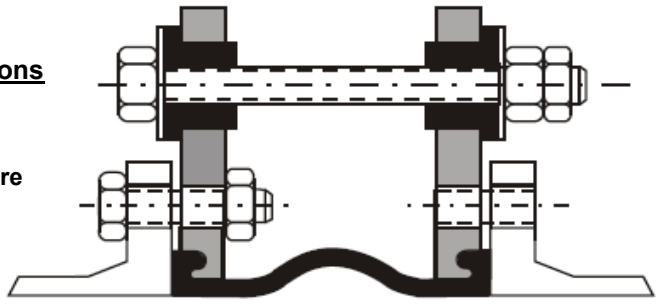
Working Temperature °C	Periodical Use Max 3000/h Per Year	Continuous Use
0 - 30	12 Years	6 Years
30 - 50	9 Years	4.5 Years
50 - 70	7 Years	3.5 Years
70 - 90	5 Years	2.5 Years
90 - 100	2 Years	1.2 Years

Vacuum:

Stable shape of nominal length as listed. In case of stronger vacuum a stabilising spiral required

Special Installation Conditions

Special bush isolated Tie-Bar flanged units are available for containing bellows thrust where required.
See 72-A-50.



Prior to installation, refer to Vibracoustics Ltd Installation Instructions.

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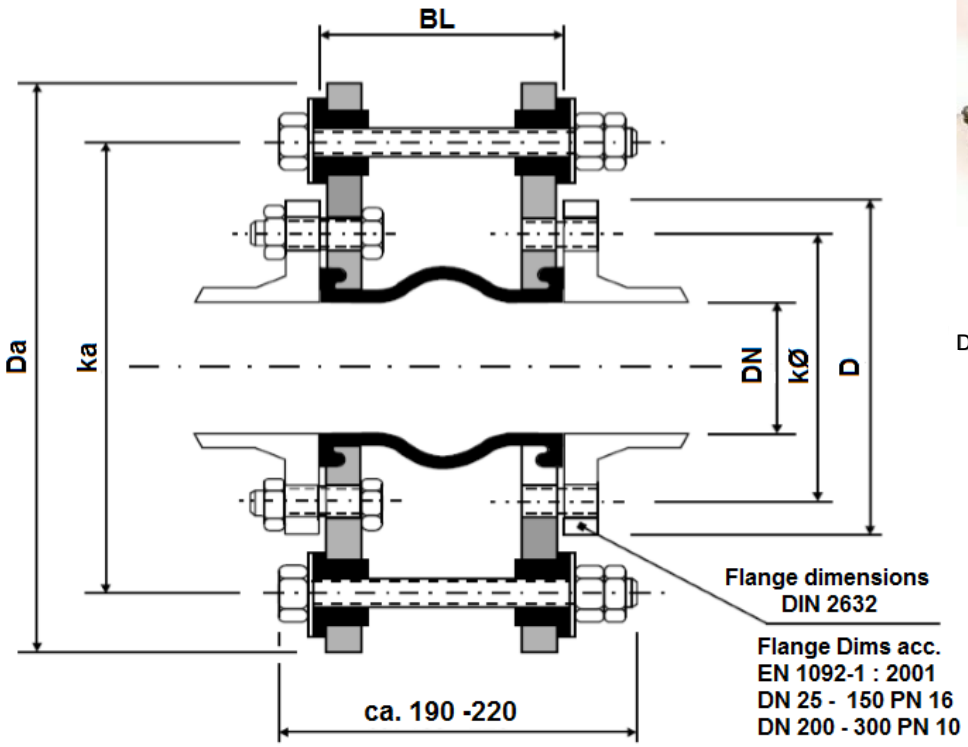
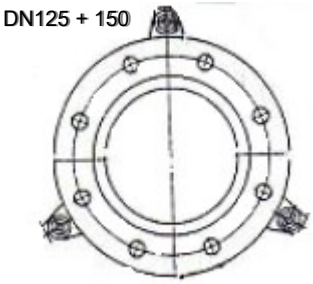
RUBBER BELLOWS TYPE 1A & 1S SERIES

Vibracoustics Ltd VRE Reiflexa ® Compensators Type 1A and 1S with noise reduction tie bars. Standard flange drillings of PN10 / PN16.





Tube		Flanges					Weight	Bolts per Flange		Tie Rods
DN	BL	D dia.	k dia.	d2 dia.	Da dia.	Ka dia.	ca. Kg	Thread	ea	ea
32	130/160	140	100	4 x 18	255	202	4	M16	4	2
40	130/160	150	110	4 x 18	255	202	4.1	M16	4	2
50	130/160	165	125	4 x 18	280	225	6	M16	4	2
65	130/160	185	145	4 x 18	303	245	6.4	M16	4	2
80	130/160	200	160	4 x 18	317	260	7.5	M16	4	2
100	130/160	220	180	8 x 18	340	310	9	M16	8	2
125	130/160	250	210	8 x 18	307	- - - - -	10	M16	8	3
150	130/160	285	240	8 x 22	345	- - - - -	11	M20	8	3
175	180	not acc. To DIN			- - - - -	- - - - -				
200	130/160	340	295	8 x 22	460	400	16	M20	8	4
250	130	395	350	12 x 22	514	455	27	M20	12	4
300	130	445	400	12 x 22	560	505	34	M20	12	4

Tie-bar dimensions are examples of existing units, however, other variations exist and these may be offered at time of order. The bellow unit's performance will essentially be unaffected by these variations.

Summary Notes on Type Approval and Classification Approval Certification of Reiflexa rubber bellows in Marine Applications.

In recent years the Classification Societies have amended their rules for Type Approval of Rubber Bellows such that there exist variations between the Rules governing use of the bellows in marine applications between Societies.

Under an agreement between the Societies all other Classification Societies are obliged to **accept** Rubber Bellows Type Approved by one Classification Society even though, under their own rules a Classification Society may not currently be able to approve them for the specific application.

As an example, the Type 'GS Yellow Steel' Bellows are Type Approved for use in machinery spaces without a protection sleeve by Germanischer Lloyd, whilst Lloyds Register rules require a sleeve be added, despite the fact that the Bellow is designed to operate without a sleeve.

Lloyds Register Rules Type Approve only 'GS Yellow Steel' complete with F3000 Flame Protection Sleeve for flammable liquids, e.g. fuel oil, lubricating oil, etc.

The appropriate Type '1A and 1S' Bellows are Type Approved by Germanischer Lloyd for use in machinery spaces when used with a protection sleeve F3000.

Type Approval means that the Bellows are approved for supply for a defined marine usage, however frequently, Surveyor witness will also be required at the factory, before a bellow may be supplied for an application.

N.B. The requirement that, an Approval Certificate level of Certification is needed, must be identified by the Customer, at time of order. The cost of the Approval Certificate process can frequently exceed the cost of the bellows being approved. Similarly, there are occasions where an application technical requirement, cannot be met by a Type Approved Bellow and as a consequence, it is always the responsibility of the end customer to involve the relevant Classification Inspector to vet and approve any proposal.

If in doubt, regarding the specific use of a Type Approved Bellow, the customer should refer to the appropriate Society surveyor. Copies of Type Approval certificates are available on request from Vibracoustics Ltd . Ask Vibracoustics Ltd for a copy of these to help clarify your application requirements.

Vibracoustics Ltd do not accept responsibility for ensuring all client's applications containing Vibracoustics Ltd components, meet Classification Society requirements, this must remain the responsibility of the user in conjunction with the local surveyor.

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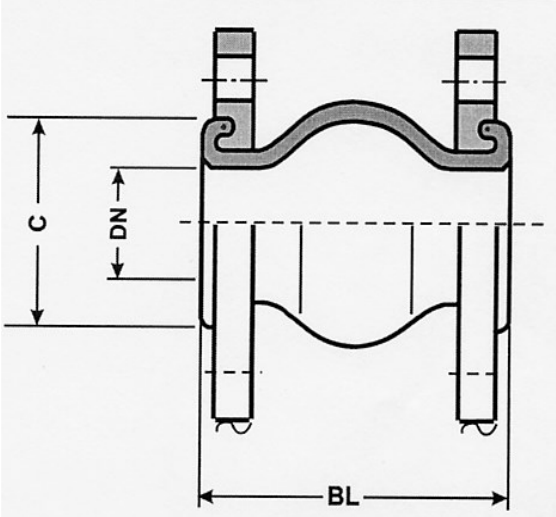
FLANGED RUBBER BELLOWS TYPE 1A

Description:

Vibracoustics Ltd Type 1A Standard Expansion Bellows or Compensators are extremely flexible units with an overall length of 130mm to 300mm, pressure rating 10 bar up to 16 bar.
Tested up to 24 bar, with a guaranteed burst pressure of over 60 bar, the flow-assisting convoluted shape minimises detrimental turbulence and pressure loss.
The Type 1A Bellows are produced in several compound versions, identified by colour banding and/or notation, to meet most application requirements.



High tensile textile cord plies combined with proven synthetic rubber compounds guarantee maximum reliability, and an extended working life.
Produced with profiled end face rubber sealing rings at both ends and vulcanised steel reinforced outer profiles which locates in a special groove in each flange, the bellows guarantee a perfect seal.
Standard units are supplied ready for installation with DIN PN10/PN16 galvanised steel flanges at each end.
These are free to rotate on the bellows for ease of fitting to mating pipe flanges.
Alternative flange drillings and materials including stainless steel, light alloy and plastic are available on request.

(Designed to German Army Standard VG95959.)

Please refer to our installation instructions, available upon request.

Compensator Dimensions			Permissible Movements			Effective Bellow Area (cm²)	Approx Weight (Kg)	Maximum Vacuum Load (bar Abs.)	Rating (bar)
DN Nominal Bore	C Sealing Ring Dia (mm)	BL Overall Length (mm)	Axial (mm)	Lateral (mm)	Angular Movement (Degrees)				
25	72	130	+20/-30	+/- 20	35	35	1.9	0.2	16
32	72	130	+20/-30	+/- 20	35	35	2.0	0.2	16
40	80	130	+20/-30	+/- 20	35	50	3.5	0.2	16
50	90	130	+20/-30	+/- 20	35	74	4.3	0.2	16
65	105	130	+20/-30	+/- 20	30	87	5.5	0.2	16
80	120	130	+20/-30	+/- 20	30	120	6.2	0.3	16
100	140	130	+20/-30	+/- 20	25	143	7.7	0.4	16
125	165	130	+20/-30	+/- 20	25	210	8.7	0.6	16
150	190	130	+20/-30	+/- 20	15	283	11.3	0.6	16
200	240	130	+20/-30	+/- 20	15	525	16.2	0.7	10
250	290	130	+20/-30	+/- 20	10	636	20.5	0.7	10
300	345	130	+20/-30	+/- 20	10	897	24.0	0.8	10
350	425	200	+20/-30	+/- 20	10	1290	34.0	0.8	10
400	470	200	+20/-30	+/- 20	10	1628	37.5	0.8	10
500	560	200	+20/-30	+/- 20	10	2546	47.0	0.8	10
600	655	200	+20/-30	+/- 20	6	3466	76.0	0.8	10
700	778	260/275	+25/-40	+/- 30	5	4500	130.0	0.9	10
800	878	250/275	+25/-40	+/- 30	4	5600	176.0	0.9	10
900	988	300	+25/-40	+/- 30	4	7000	-	-	10
1000	1088	300	+25/-40	+/- 30	3	8500	-	-	10

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, see index Ref 00-A-01

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VRE RUBBER BELLOWS TYPE 1A

Vibracoustics Ltd Reiflexa ® Type 1A, 1 GS, 1 HO and 1 HP Expansion Bellows are supplied in range of synthetic rubber compounds as listed on datasheet: 72-A-01.

For use with unknown or chemically corrosive media, please refer to Vibracoustics Ltd. Bellows can be supplied on request with special Teflon linings.

Temperature Limit:

Up to a maximum of 130 degrees C (HP type), depending on the medium and application. When operating at maximum temperature, the maximum working pressure rating should be reduced by 30%.

Noise Attenuation:

Excellent fluid and structure-borne noise attenuation is possible due to the textile cord ply/synthetic rubber construction.
When installed, a noise reduction of approx. 25dB is typical, a figure which can be further improved by compressing the bellows when fitted.

Electrical Conductivity:

Resistance greater than 10^6 ohm.

Loadings:

For axial loadings see Fig 1. and Fig 2.
With combined loadings see Fig 3.
In the absence of, or with insufficient number of fixed points, bellows with tie-bars/special flanges can be supplied.
If high vacuum stability is required, stainless steel or plastic vacuum support rings can be supplied.

For installation instructions see leaflet IM09.

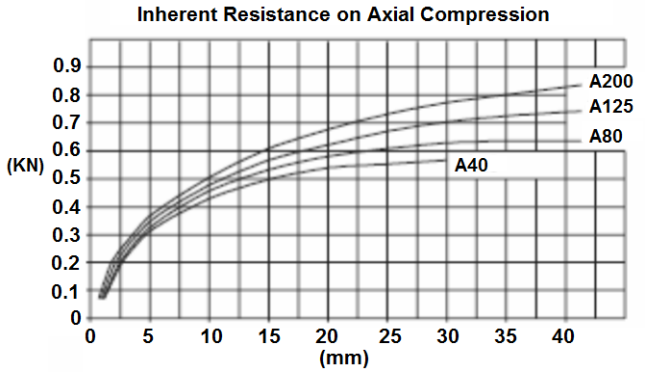


Fig 1.

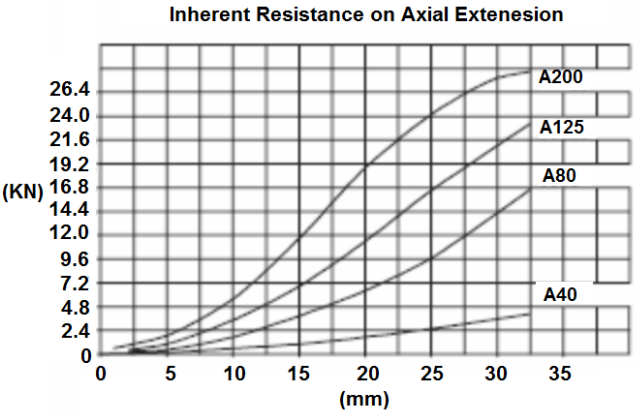


Fig 2.

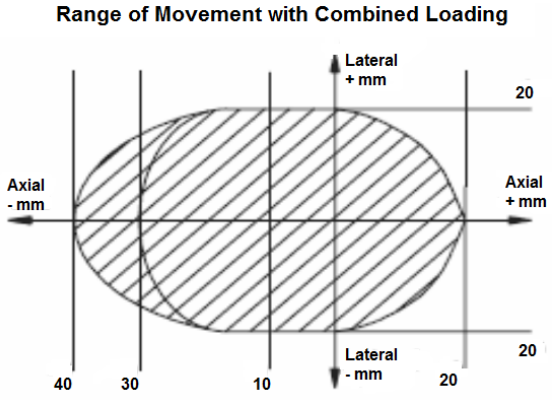
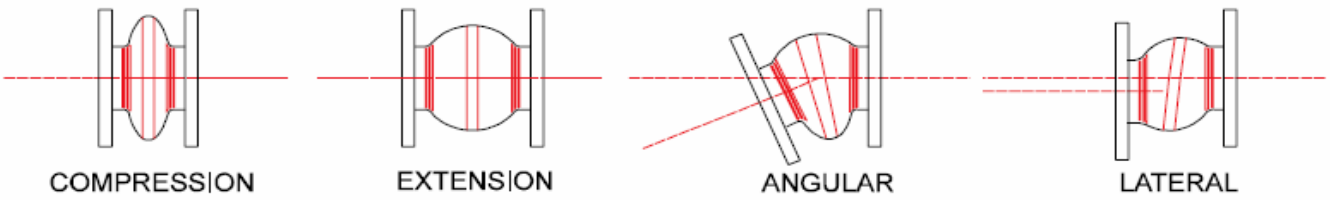


Fig 3.



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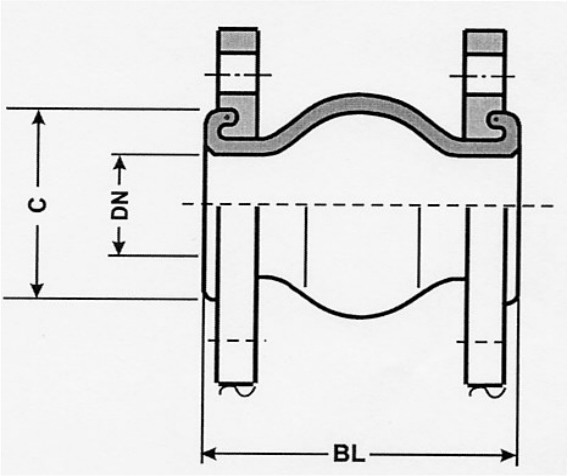
VRE RUBBER BELLOWS TYPE 1HP

Vibracoustics Ltd Reiflexa ® Type 1HP Expansion Bellows or Compensators are extremely flexible units with short overall length and pressure rating up to PN16.

Tested up to 24 bar, with a guaranteed burst pressure of over 60 bar, the flow-assisting convoluted shape minimises detrimental turbulence and pressure loss.

The Type 1 HP 'hot water' bellows are produced with special EPDM compounds for both inner and outer layers and constructed with Aramid cord reinforcement.



Operating Temperatures:
DN 25 - 300 max. 130 deg. C
DN 350 - 1000 max. 110 deg. C

Resistant to weather, ozone and light, the bellows are self extinguishing.

Produced with profiled end face rubber sealing rings at both ends and reinforced outer profiles which locate in a special groove in each flange, the bellows guarantee a perfect seal.

Standard units are supplied ready for installation with galvanised steel flanges to DIN PN10 at each end. These are free to rotate on the bellows for ease of fitting to mating pipe flanges. Alternative drillings and flange materials, including light alloy and plastic are available on request.

Compensator Dimensions			Permissible Movements			Effective Bellows Area (cm²)	Approx. Weight (Kg)	Maximum Vacuum Load (bar Abs.)	Rating (bar)
DN Nominal Bore	C Sealing Ring Dia (mm)	BL Overall Length (mm)	Axial (mm)	Lateral (mm)	Angular Movement (Degrees)				
25	72	130	+/- 30	+/- 30	30	23	1.9	0.2	16
32	72	130	+/- 30	+/- 30	30	23	2	0.2	16
40	79	130	+/- 30	+/- 30	30	30	3.5	0.2	16
50	89	130	+/- 30	+/- 30	30	39	4.3	0.2	16
65	104	130	+/- 30	+/- 30	30	51	5.5	0.2	16
80	120	130	+/- 30	+/- 30	25	68	6.2	0.3	16
100	139	130	+/- 30	+/- 30	20	114	7.7	0.4	16
125	164	130	+/- 30	+/- 30	15	157	8.7	0.6	16
150	189	130	+/- 30	+/- 30	15	211	11.3	0.6	16
200	237	130	+/- 30	+/- 30	10	358	16.2	0.7	10
250	289	130	+/- 30	+/- 30	10	551	20.5	0.7	10
300	338	130	+/- 30	+/- 30	10	804	24	0.8	10
350	390	200	+35/-40	+/- 35	8	1100	34	0.8	10
400	455	200	+35/-40	+/- 35	8	1375	37.5	0.8	10
500	555	200	+35/-40	+/- 35	8	2185	47	0.8	10
600	680	200	+35/-40	+/- 35	8	3080	76	0.8	10
700	770	250	+35/-40	+/- 35	6	4800	130	0.9	10
800	-	250	+35/-40	+/- 35	6	5440	176	0.9	10
900	-	300	+/- 40	+/- 40	5	7100	-	-	10
1000	-	300	+/- 40	+/- 40	5	8700	-	-	10

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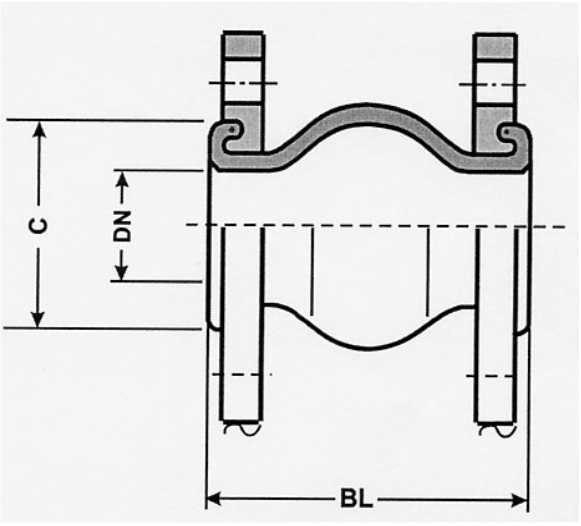
VRE RUBBER BELLOWS TYPE 1S

Vibracoustics Ltd Type 1S Special Expansion Bellows are highly flexible units with an overall length of 160mm. Tested to 25 bar, with a guaranteed burst pressure of over 60 bar, the flow-assisting convoluted shape minimises detrimental turbulence and pressure loss.

The Type 1S Bellows are produced in all compound versions to meet most application requirements.



High tensile textile plies combined with proven synthetic rubber compounds guarantee maximum reliability, and extended working life.

Produced with a vulcanised non-magnetic reinforcement, the profiled rubber sealing rings at both ends are located by a special channel in the flanges to guarantee a perfect seal.

Standard units are supplied ready for installation with galvanised steel flanges to DIN PN10 at each end.

These are free to rotate on the bellows for ease of fitting to mating pipe flanges.

Alternative materials and specifications available on request.

(Designed to German Army Standard VG95 959.)

Compensator Dimensions			Permissible Movements			Effective Bellow Area (cm²)	Approx. Weight (Kg)	Maximum Vacuum (kPa)
DN Nominal Bore	C Sealing Ring Dia. (mm)	BL Overall Length (mm)	Axial (mm)	Lateral (mm)	Angular Movement (Degrees)			
25	61	160	-30/+30	+/-30	10	24	1.6	80
32	61	160	-30/+30	+/-30	10	24	1.9	80
40	77	160	-30/+30	+/-30	10	24	3.5	70
50	90	160	-30/+30	+/-30	10	33	4.4	70
65	105	160	-30/+30	+/-30	10	57	5.6	60
80	114	160	-40/+30	+/-30	10	71	6.3	50
100	141	160	-40/+30	+/-30	10	118	7.8	50
125	168	160	-40/+30	+/-30	10	165	8.9	40
150	196	160	-40/+30	+/-30	10	227	11.8	40
200	252	160	-40/+30	+/-30	10	398	17	40
250	323	160	-40/+30	+/-30	10	638	20.7	30
300	362	160	-40/+30	+/-30	10	962	28.2	20

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VRE RUBBER BELLOWS TYPE 1S

Vibracoustics Ltd Reiflexa ® VRE Type 1S Expansion Bellows are supplied in range of synthetic rubber compounds as listed on datasheet: 72-A-01.

For use with unknown or chemically corrosive media, please refer to Vibracoustics Ltd. Bellows can be supplied on request with special Teflon linings.

Temperature Limit:

Up to a maximum of 130 degrees C (HP type), depending on the medium and application. When operating at maximum temperature, the maximum working pressure rating should be reduced by 30%.
by 30%.

Noise Attenuation:

Excellent fluid and structure-borne noise attenuation is possible due to the textile cord ply/synthetic rubber construction.
When installed, a noise reduction of approx. 25dB is typical, a figure which can be further improved by compressing the bellows when fitted.

Electrical Conductivity:

Resistance greater than 10^6 ohm.

Loadings:

For axial loadings see Fig 1. and Fig 2. With combined loadings see Fig 3. In the absence of, or with insufficient number of fixed points, bellows with tie-bars/special flanges can be supplied.
If high vacuum stability is required, stainless steel or plastic vacuum support rings can be supplied.

For installation instructions see leaflet IM09

Inherent Resistance on Axial Compression

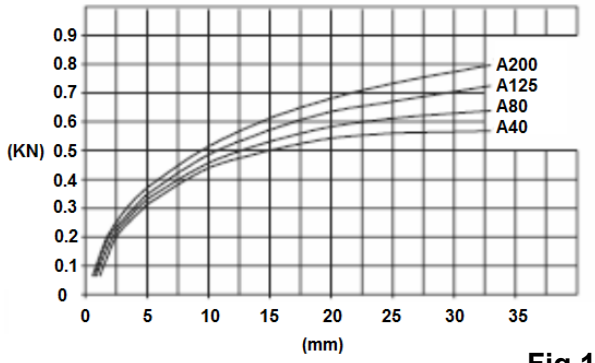


Fig 1.

Inherent Resistance on Axial Extension

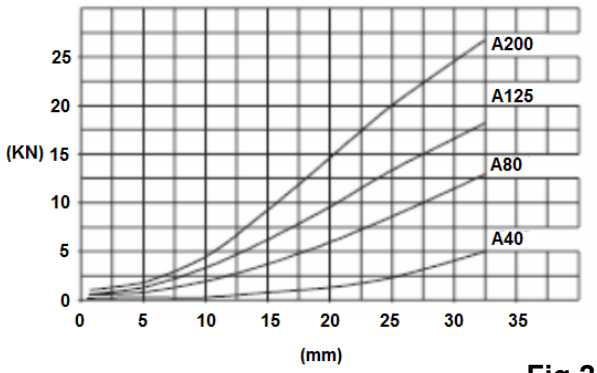


Fig 2.

Range of Movement with Combined Loading

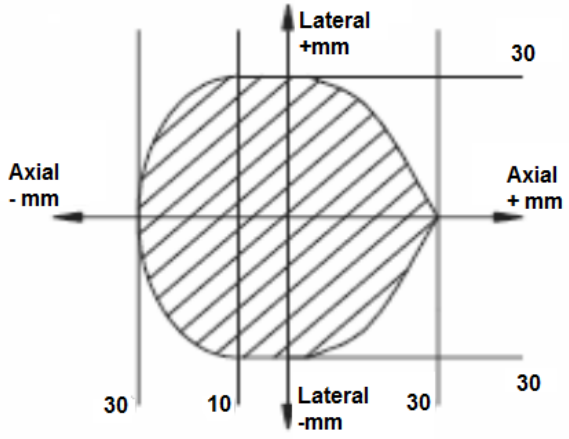
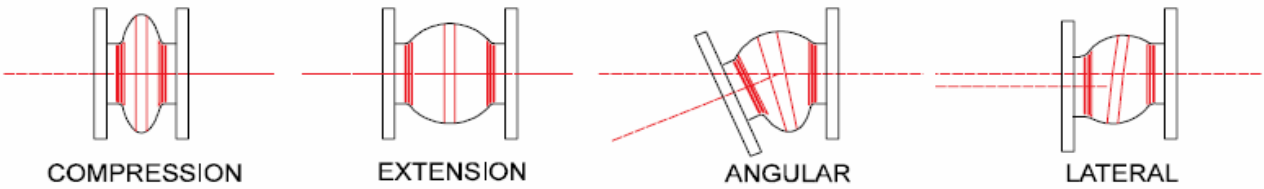


Fig 3.



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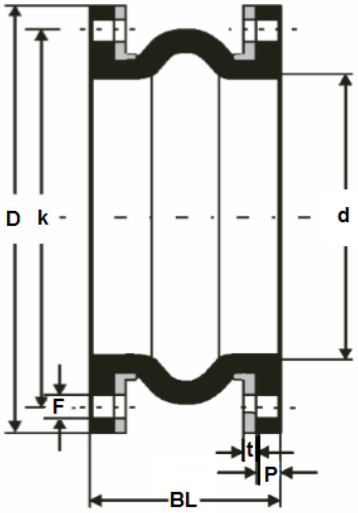
TYPE 2 EXPANSION BELLOWS

Vibracoustics Ltd Reiflexa ® Type 2 Expansion Bellows are produced with integral rubber flanges and are installed using solid steel backing flanges with support collar. The heavy duty construction ensures maximum safety and working life.

The high tensile textile cord plies and synthetic rubber construction provides excellent performance for a short installation length.

Standard units below are available ready for installation.

Various combinations of material are also offered for higher pressures with other flange fixings to DIN, ASA, BS or JIS.



D (mm)	BL (mm)	Pressure (bar)	Permissible Movement			Effective Bellow Area (cm)	Flanges		Approx. Weight (Kg)
			Lateral (mm)	Axial (mm)	Angular (Degrees)		P (mm)	t (mm)	
175	180	10	-30/+20	± 20	17	295	12	15	14
200	180	10	-30/+20	± 20	15	372	14	15	17
250	180	10	-30/+20	± 20	13	556	16	15	21
300	300/200	10	-30/+20	± 20	11	789	18	15	26
350	300/225	10	-30/+20	± 20	9	1053	20	15	30
400	300/225	10	-30/+20	± 20	7	1390	22	15	34
450	300/250	10	-30/+20	± 20	6	1755	24	15	37
500	300/250/225	10	-30/+20	± 20	5	2147	26	15	40
600	300/250/225	10	-30/+20	± 20	4	3031	28	15	56
700	250/300	10	-30/+20	± 20	3.5	4108	28	15	71
800	250/300	10	-30/+20	± 20	3.2	5327	28	15	85
900	250/300	10	-30/+20	± 20	3	6681	30	15	96
1000	250/300	10	-30/+20	± 20	2.8	8194	30	15	118
1100	250/300	10	-30/+20	± 20	2.7	9866	30	15	136
1200	250/300	6	-30/+20	± 20	2.6	11714	30	15	154
1300	250/300	6	-30/+20	± 20	2.4	13718	30	15	176
1400	250/300	6	-30/+20	± 20	2.2	15851	30	15	201
1500	250/300	6	-30/+20	± 20	2	18162	30	15	238
1600	250/300	6	-30/+20	± 20	1.9	20654	30	15	274
1800	250/300	4	-30/+20	± 20	1.8	26077	30	15	306
2000	250/300	4	-30/+20	± 20	1.7	32106	30	15	343
2200	250/300	4	-30/+20	± 20	1.5	38742	30	15	380
2400	250/300	4	-30/+20	± 20	1.3	46094	30	15	420

Vibracoustics™

Products & Services for Vibration, Noise & Shock Control

PRODUCT GROUP	72

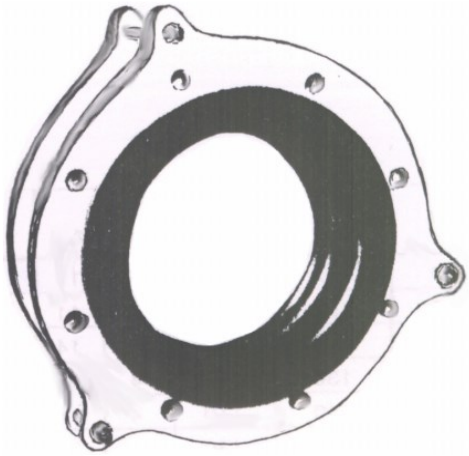
PTK EXPANSION BELLOWS

Vibracoustics Ltd PTK Type Bellows are used in all applications where rubber bellows are excluded due to the corrosive nature of media involved, possibly in combination with high temperatures.

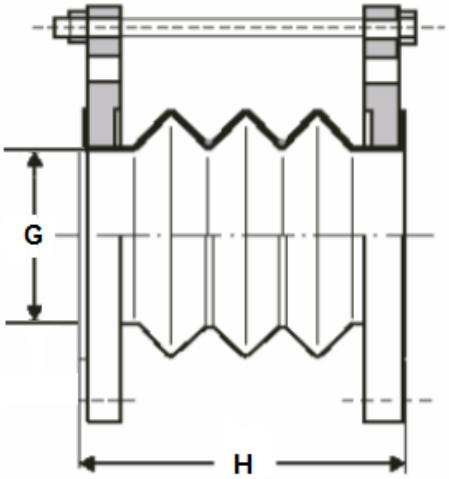
These flexible joints consist of PTFE material moulded under pressure and temperature.

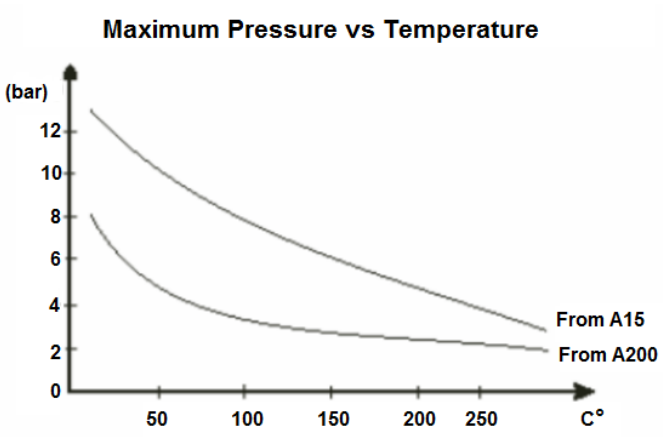
Fibre flow is retained by means of this process, thus providing for high strength and a long working life.

Steel flanges can be supplied with or without tie-bar restraints.



VERSION SHOWN IS WITH
2 STEEL FLANGES AND RESTRAINTS





G Nominal Bore	H (mm)	Permissible Movement		
		Axial (mm)	Lateral (mm)	Angular (Degrees)
15	35	±12	±6	±18
20	45	±12	±6	±18
25	45	±12	±6	±18
32	50	±12	±10	±18
40	50	±12	±15	±20
50	70	±19	±20	±25
65	80	±21	±25	±30
82	95	±25	±25	±30
100	95	±25	±25	±30
125	100	±28	±25	±30
150	100	±28	±20	±30

G Nominal Bore	H (mm)	Permissible Movement		
		Axial (mm)	Lateral (mm)	Angular (Degrees)
200	150	±40	±20	±20
250	150	±40	±10	±10
300	150	±40	±8	±10
350	150	±40	±5	±10
400	160	±40	±5	±10
450	160	±40	±5	±10
500	160	±40	±5	±10
550	160	±40	±5	±6
600	170	±40	±5	±6
700	170	±40	±5	±6
1000	170	±40	±5	±6

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, see index Ref 00-A-01