



Application

Metalastik® Bearer Springs provide a bearing medium between rail vehicle bodies and bogies and are operating worldwide in various suspension applications including locomotives, passenger and freight vehicles

Features

Conventional circular and rectangular bearer springs are designed to support the vehicle body in their compression mode whilst allowing horizontal, lateral and rotational bogie movements by virtue of the more flex-

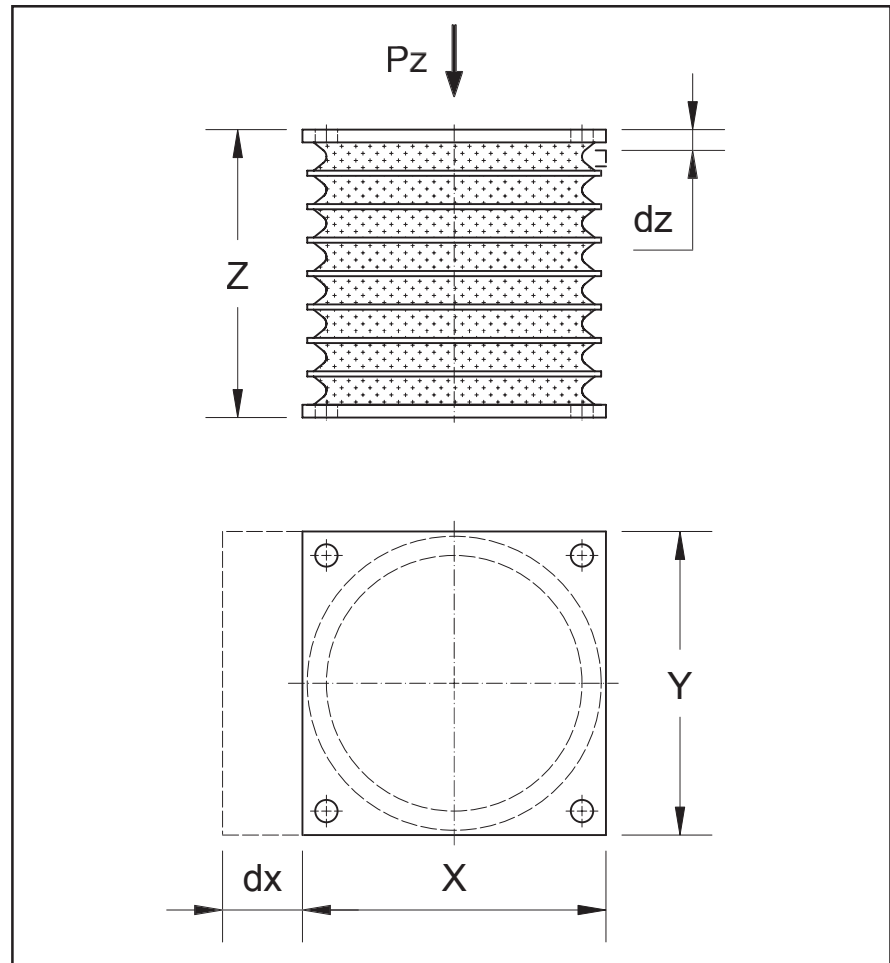
ible shear mode.

Waisted Type Bearer Springs offer optimised performance within limited space envelopes, particularly where large horizontal displacements require to be accommodated.

Further ranges of springs, i.e. Hourglass and Half-Hourglass Bearer Springs with unique performance characteristics are also detailed in this publication.

Bearer Springs (Circular)

55 - 85 mm
Horizontal Deflection



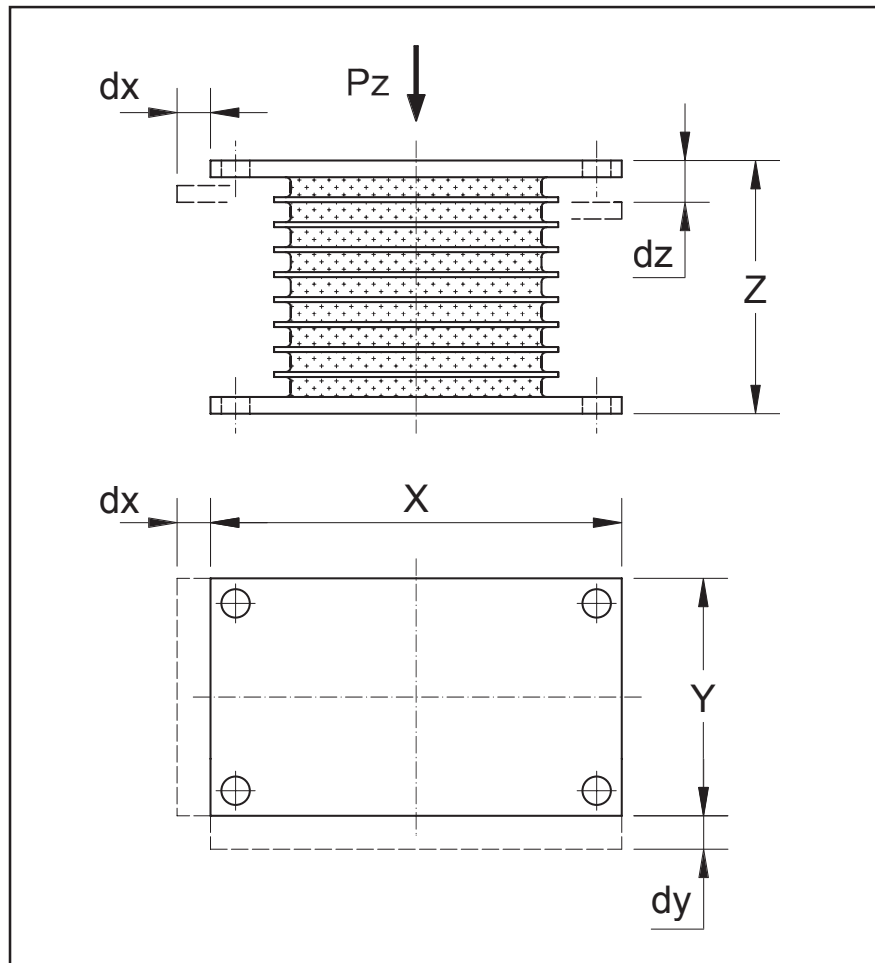
Bearer Springs should not be used at both maximum vertical load capacity and maximum shear deflection. Hence, for any round or square Bearer Spring the multiple of P_z (vertical load) and d_x (shear deflection) should be less than the value quoted in the table.

Parts listed are a selection of a wider range, details of which are available on request.

Product No		17-1139	17-1526	17-1374	17-1326
Vertical Load P_z	kN	54	100	100	180
Vertical Deflection dz	mm	11	14	15	17
Vertical Stiffness (initial)	kN/mm	4.7	6.3	6.1	9.5
Horizontal Deflection dx	mm	56	71	76	85
$P_z \times dx$	max	1350	2700	2700	7600
Dimension X	mm	170	190	280	292
Y	mm	170	190	195	292
Z	mm	150	180	220	213
Unit Mass	kg	9	13.5	28	33

Bearer Springs (Rectangular)

55 - 69 mm
Shear Deflection



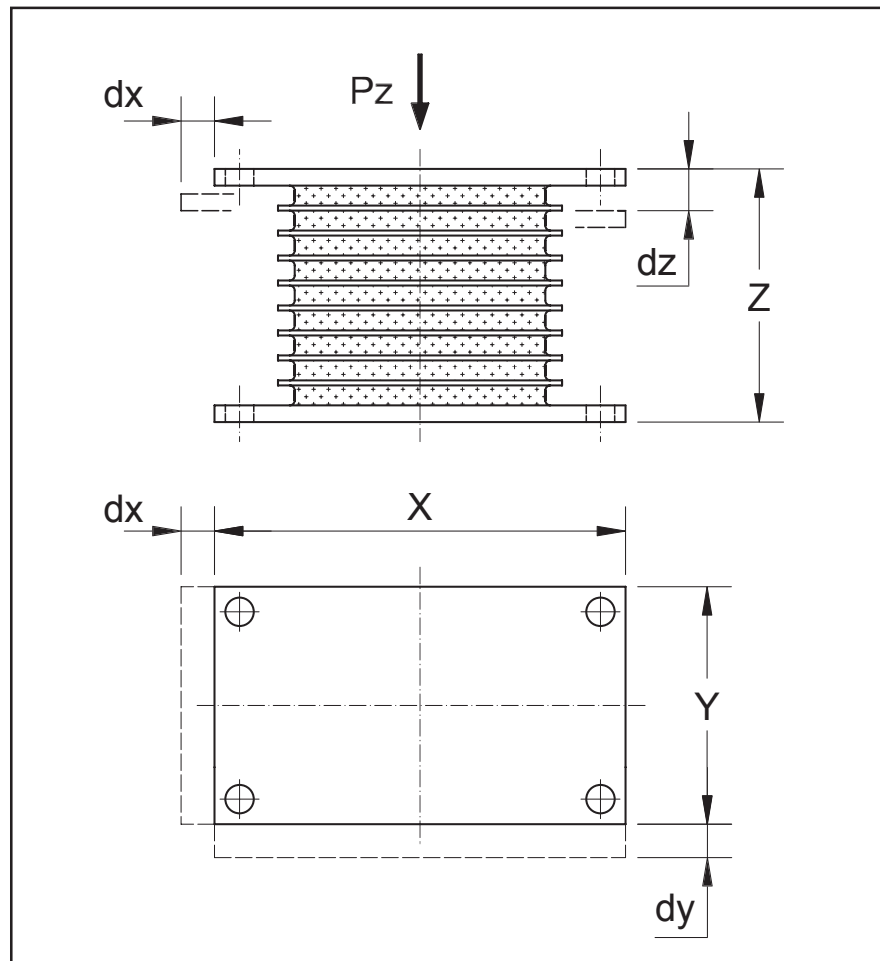
Bearer Springs should not be used at both maximum vertical load capacity and maximum shear deflection. Hence, multiples of P_z (vertical load) $\times d_x$, $P_z \times d_y$ and $P_z (d_x + d_y)$ should be less than the value quoted in the table.

Parts listed are a selection of a wider range, details of which are available on request.

Product No		17-1633	17-1761	17-1341	17-2113	17-1853
Vertical Load P_z	kN	275	240	350	73	90
Vertical Deflection d_z	mm	11	12	14	13	14
Vertical Stiffness (initial)	kN/mm	25	20	25	6	6
Longitudinal Deflection d_x	mm	54	61	65	66	69
Lateral Deflection d_y	mm	42	50	46	48	56
$P_z \times d_x$	max	7340	7320	11400	2400	3100
$P_z \times d_y$	max	4810	6000	7000	1600	2700
$P_z (d_x + d_y)$	max	6360	6930	9560	2040	3020
Dimension X	mm	246	306	349	351	230
Y	mm	216	211	210	217	192
Z	mm	162	188	178	164	180
Unit Mass	kg	23.2	31.8	31.1	26	21

Bearer Springs (Rectangular)

70 - 108 mm
Shear Deflection



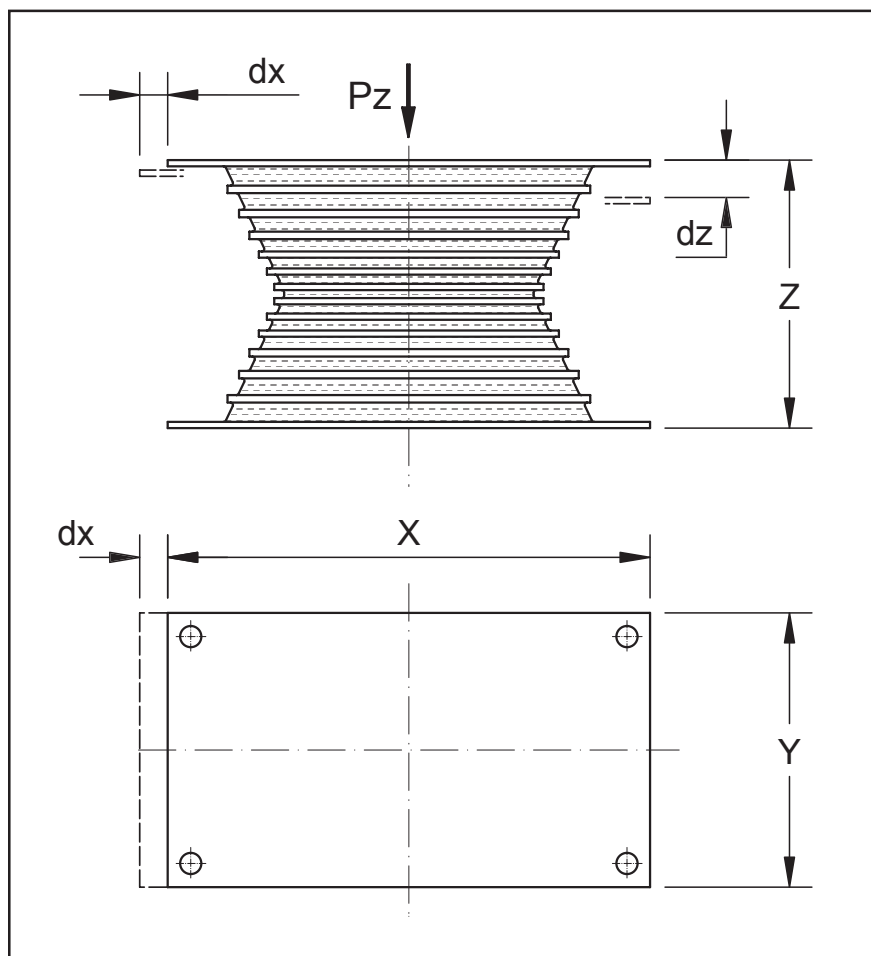
Bearer Springs should not be used at both maximum vertical load capacity and maximum shear deflection. Hence, multiples of P_z (vertical load) $\times d_x$, $P_z \times d_y$ and $P_z (d_x + d_y)$ should be less than the value quoted in the table.

Parts listed are a selection of a wider range, details of which are available on request.

Product No		17-2079	17-1279	17-1172	17-1260
Vertical Load P_z	kN	126	95	300	41
Vertical Deflection dz	mm	14	17	16	27
Vertical Stiffness (initial)	kN/mm	8	5	17	1.4
Longitudinal Deflection dx	mm	70	83	83	108
Lateral Deflection dy	mm	45	52	50	81
$P_z \times dv$	max	7670	3940	12400	2160
$P_z \times dy$	max	4900	2440	7900	1600
$P_z (dx + dy)$	max	6670	3940	11800	2160
Dimension X	mm	360	432	432	330
Y	mm	220	241	241	191
Z	mm	182	218	216	299
Unit Mass	kg	23	42	49	35

Bearer Springs (Waisted)

<140 mm Shear Deflection



Parts listed are a selection of a wider range, details of which are available on request.

Product No		17-1665	17-1762
Vertical Load Pz	kN	120	160
Vertical Deflection dz	mm	4	12.5
Longitudinal Deflection dx	mm	110	140
Dimension X	mm	387	395
Y	mm	220	368
Z	mm	215	268
Unit Mass	kg	37.3	49