Interflex Hose & Bellows Ltd. • *www.interflex.co.uk*
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Rubber Expansion Joint Type 52

DN 32 - DN 600

Type 52 is a low-corrugated rubber expansion joint. Its low corrugation helps to achieve very low flow resistance. It reduces up to 70 % incoming energy. It is also characterised by its variety of installation length. Type 52 is produced in different rubber qualities, which means that a suitable rubber compound is available for almost every application (see material descriptions on the following pages).

Type 52 is primarily used in industrial plants to absorb expansion, vibration and to insulate sound.

Bellow design	Low-corrugated rubber bellow with reinforcement and shaped sealing bead with core ring, self-sealing (no additional seals required). Suitable for swiveling flanges.
Pressure resistance	max. 16 bar, depending on nominal diameter and total length
Vacuum resistance	- DN 32 to 50 vacuum-resistant without additional accessories - DN 65 to 250 up to -200 mbar without additional accessories - DN 300 to 600 not vacuum resistant without additional accessories - DN 65 to 600 vacuum-resistant with vacuum supporting spiral/ring
Flange version	Both sides with swiveling flange made of galvanized steel with clearance holes, drilled according to DIN PN 10 (standard). Other materials and dimensions are possible.
Accessories	- Guide sleeves - Potential equalisation - Flame-resistant protective covers - Dust and splash protection covers - Earth cover / sun protection hoods - Segment tie rods

Specifications for DN 32 - DN 600

Bellow		Bellow design			Permissible operating data						
Color code	Color marking	Core (inner)	Reinforce-ment	Cover (outer)	max. temperatures °C	°C	bar	°C	bar	°C	bar	°C
red		EPDM	Polyamide	EPDM	90							
yellow		NBR	Polyamide	CR	90							
green		CSM	Polyamide	CR	90							
white		NBR light	Polyamide	CR	90							
white-orange		EPDM light	Polyamide	CR	90							
red-red		EPDM	Aramid	EPDM	130	Operation parameters vary depending on the nominal diameter and the total length						
red-blue		IIR	Aramid	EPDM	130							
yellow-blue		NBR	Aramid	CR	120							
green-blue		CSM	Aramid	CR	120							
white-blue		NBR light	Aramid	CR	120							
white-white-orange		EPDM light	Aramid	CR	130							
lilac		FPM	Aramid	ECO	150							

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Rubber Expansion Joint Type 52

Application

Type 52 red
For hot water, sea water, cooling water with chemical additives for treating water, saline solutions, weak acids and weak alkali solutions. Not suitable for oil products or cooling water with additives containing oil, hot air or steam.

Type 52 yellow
For oils, lubricants, fuels, gases, city and natural gas (not liquefied).

Type 52 green
For chemicals, aggressive chemical wastewater and compressor air containing oil.

Type 52 white (NBR)
Like Type 52 yellow, but with light-coloured internal rubber in food-grade. Not approved for drinking water.

Type 52 white / orange (EPDM)
Like Type 52 red, but with light-coloured internal rubber in food-grade. Not approved for drinking water.

Type 52 red / red
Like Type 52 red, but with aramid fabric.

Type 52 red / blue
Like Type 52 red, but with butyle core and aramid fabric.

Type 52 yellow / blue
Like Type 52 yellow, but with aramid fabric.

Type 52 green / blue
Like Type 52 green, but with aramid fabric.

Type 52 white / blue (NBR)
Like Type 52 white, but with aramid fabric.

Type 52 white / white / orange (EPDM)
Like Type 52 white/orange, but with aramid fabric.

Type 52 lilac
For flue gas desulphurisation systems and bio-diesel. Good resistance to benzene, xylene, toluene, fuels with an aromatic content of more than 50 %, aromatic/chlorinated hydrocarbons and mineral acids. Not suitable for water or steam.

For aggressive media, please see the resistance table (can be requested separately).
The bellows should not be painted or insulated. Please refer to the installation instructions.
++++ We will be happy to send you further information on the individual types and designs. ++++

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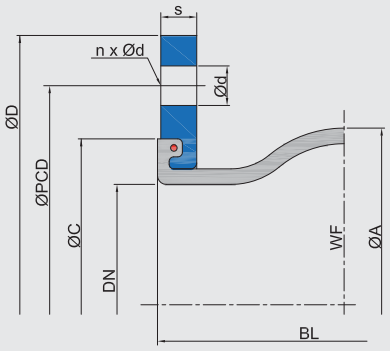
Rubber Expansion Joint Type 52

Design A - without tie rods

Can be used for movement absorption in any direction (for combined movements, see the movement diagram in the technical appendix), noise and vibration insulation.

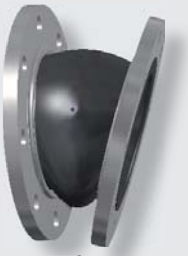
The expansion joints reaction force must be absorbed via suitable piping.




axial -


axial +


lateral ±


angular ±

Dimensions for Design A

DN	Length BL	Bellow ØA	Bellow WF*1	Flange PN 10*2 ØD	Flange PN 10*2 ØPCD	Flange PN 10*2 Ød	Flange PN 10*2 n	Flange PN 10*2 s	Flange PN 10*2 ØC	Movement absorption axial +	Movement absorption axial -	Movement absorption lateral ±	Movement absorption angular ±	Weight*3
	mm	mm	mm²	mm	mm	mm		mm	mm	mm	mm	mm	∠°	kg
32	**150/160**	81	2700	140	100	18	4	15	65	10	20	15	20	3,2
40	**150/160**	86	2700	150	110	18	4	15	74	10	20	15	20	3,6
50	**150/160**	96	3200	165	125	18	4	15	86	10	20	15	20	3,8
65	**150/160**	110	5300	185	145	18	8	15	105	10	20	15	20	5,4
80	**150/160/175**	122	8500	200	160	18	8	15	118	15	20	15	20	7,0
100	**150/160/175**	142	12800	220	180	18	8	15	137	15	20	15	20	8,0
125	**150/160/175**	170	18700	250	210	18	8	18	166	15	20	15	20	9,7
150	**150/160/175**	196	25900	285	240	23	8	18	192	15	20	15	20	13,0
200	**150/175/200**	256	40900	340	295	23	8	20	252	15	20	15	15	16,6
250	**150/175/200/250**	306	59900	395	350	23	12	20	304	15	20	15	10	21,9
300	**150/165/175/200**	356	82200	445	400	23	12	22	354	15	20	15	10	25,2
350	**- see Type 50 or 55 -**	-	-	-	-	-	-	-	-	-	-	-	-	-
400	**- see Type 50 or 55 -**	-	-	-	-	-	-	-	-	-	-	-	-	-
450	**250**	530	204200	615	565	26	20	25	512	15	20	15	6	53,2
500	**250**	580	227900	670	620	26	20	30	563	15	20	15	4	60,0
600	**250**	680	311500	780	725	30	20	30	675	15	20	15	4	78,8

Permissible degree of utilisation for movement areas:
- up to 50 °C: utilisation ~ 100 %
- up to 70 °C: utilisation ~ 75 %
- up to 90 °C: utilisation ~ 60 %

*1 WF = effective area
*2 Other standards/dimensions possible.
*3 at shortest length

Important information

Please note the appropriate fixed point constructions and plain bearings in your piping system!
For more information please refer to our installation instructions.
++++ We will be happy to send you further information on the individual types and designs. ++++

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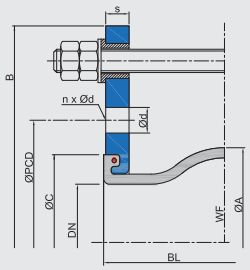
Rubber Expansion Joint Type 52

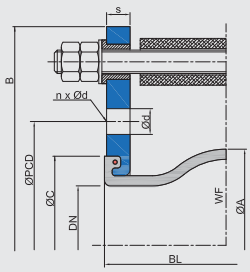
Length limiters

There is a selection of various length limiters / tie rods to absorb the reaction force and to protect the bellow from overstretching or collapsing:

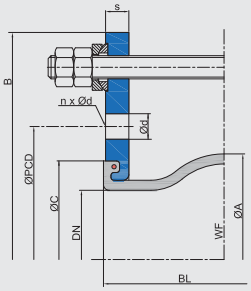
Design B*
with tie rods



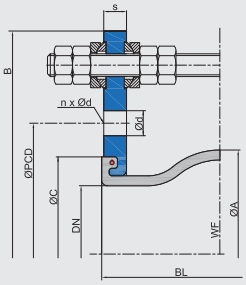
Design C*
with tie rods/thrust limiters



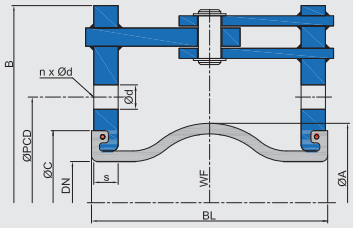
Design E
with tie rods and spherical washers/conical sockets



Design M
with tie rods/thrust limiters and spherical washers/conical sockets



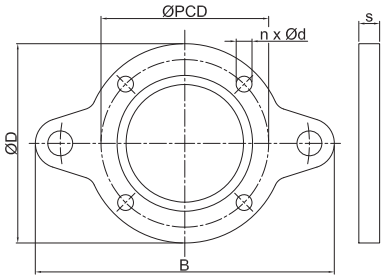
Design F
with hinge



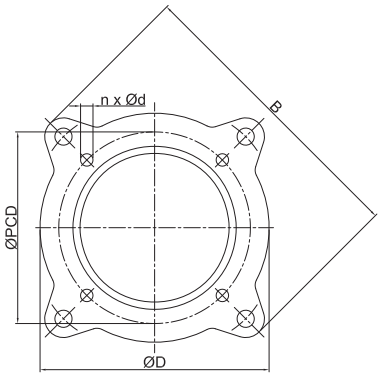
*Note: For Designs B and C
the lateral movement absorption is reduced by around 50 %.

Flange dimensions for designs with tie rods

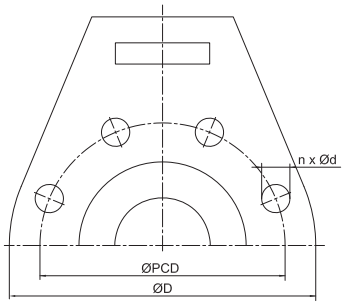
DN	Flange PN 10 (example dimensions)						
	B	ØD	ØPCD	Ød	n	s	ØC
	mm	mm	mm			mm	mm
32	230	140	100	18	4	15	65
40	240	150	110	18	4	15	74
50	255	165	125	18	4	16	86
65	275	185	145	18	8	16	105
80	290	200	160	18	8	18	118
100	310	220	180	18	8	18	137
125	340	250	210	18	8	18	166
150	375	285	240	23	8	18	192
200	440	340	295	23	8	20	252
250	509	395	350	23	12	20	304
300	559	445	400	23	12	22	354
450	760	615	565	26	20	30	512
500	810	670	620	26	20	30	563
600	930	780	725	30	20	30	675



DN 32 - 200



DN 250 - 600



DN 50 - 600 (Design F)