

WILLBRANDT Rubber Expansion Joint Type 58

DN 50 - DN 3000

Type 58 is a cylindrical rubber expansion joint that achieves very low flow resistance because of its uncorrugated bellow geometry. It is suitable for conveying media that contain solids, even at high flow rates. It is also characterised by its flexible installation length and variety of rubber qualities, which means that a suitable rubber compound is available for every application (see material descriptions on the following pages). Its design means that it can only absorb minimal axial movement!

Type 58 is used in plant engineering, water technology and wastewater technology to absorb lateral movement and vibration and to insulate sound.



Bellow design	Smooth cylindrical rubber bellow with reinforcement and moulded, pressure-resistant solid rubber flanges (self-sealing - no additional seals required). Suitable for accommodating backing flanges.	Flange version	Both sides with backing flange made of galvanized steel, with clearance holes, drilled according to DIN PN 10 (standard). Other materials and dimensions are possible.
Vacuum resistance	Vacuum resistance only short installation lengths. Longer versions should be fitted with a vulcanised vacuum supporting spiral.	Accessories	<ul style="list-style-type: none"> - Potential equalisation - Flame-resistant protective covers - Dust and splash protection covers - Earth cover / sun protection hoods - Segment tie rods
Approvals/Conformity	Drinking water approval, FDA and EG 1935/2004 conform		

Specifications

Bellow		Bellow design			Max. temperature °C	Permissible operating data									
Colour code	Colour marking	Core (inner)	Reinforcement	Cover (outer)		°C	bar	°C	bar	°C	bar	°C	bar	°C	bar
red		EPDM	Polyamide	EPDM	100										
blue		EPDM TW	Polyamide	EPDM	100										
white/red		EPDM beige	Polyamide	EPDM	100										
red		EPDM AF	Polyamide	EPDM	100										
green		CSM	Polyamide	CSM	100										
yellow-grey		NBR	Polyamide	CR	100										
white-grey		NBR beige	Polyamide	CR	100										
grey		CR	Polyamide	CR	90										
red-blue-red		EPDM	Aramid	EPDM	100										
blue-blue-blue		EPDM TW	Aramid	EPDM	100										
white-blue-red		EPDM beige	Aramid	EPDM	100										
orange-blue-orange		EPDM HT	Aramid	EPDM HT	125										
red-blue-red		EPDM AF	Aramid	EPDM	100										
green-blue-green		CSM	Aramid	CSM	100										
yellow-blue-grey		NBR	Aramid	CR	100										
white-blue-grey		NBR beige	Aramid	CR	100										
grey-blue-grey		CR	Aramid	CR	90										
lilac-blue-lilac		FPM	Aramid	FPM	180										
-	-	Silicone	Aramid	Silicone	180										
-	-	Silicone	Glass fabric	Silicone	200										

Important information

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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Application

Type 58 red (EPDM)

For water, sea water, cooling water with glycol or other chemical additives for treating water, saline solutions, weak acids and weak alkali solutions. Unsuitable for aliphatic, aromatic and chlorinated hydrocarbons, oil or oily media.

Type 58 blue (EPDM TW)

Like Type 58 red, but approved for drinking water.

Type 58 white-red (EPDM beige)

Like Type 58 red, but with light-coloured rubber in food-grade.

Type 58 red AF (EPDM AF)

Like Type 58 red, but with abrasion-resistant EPDM rubber compound.

Type 58 green (CSM)

For chemicals, aggressive, chemical wastewater and compressor air containing oil. Electrically insulating.

Type 58 yellow-grey (NBR)

For oils, fats, gases, diesel fuels, kerosene and crude oil. Not suitable for aromatic and chlorinated hydrocarbons, esters and ketones.

Type 58 white-grey (NBR beige)

Like Type 58 yellow-grey, but with light-coloured internal rubber in food-grade. Not approval for drinking water!

Type 58 grey (CR)

For water, wastewater, swimming pool water, salt water, cooling water with anti-corrosive products containing oil, oil mixtures and compressed air containing oil.

Type 58 red-blue-red (EPDM/aramid)

Like Type 58 red, but with aramid fabric.

Type 58 blue-blue-blue AF (EPDM TW/aramid)

Like Type 58 blue, but with aramid fabric.

Type 58 white-blue-red AF (EPDM beige/aramid)

Like Type 58 white-red, but with aramid fabric.

Type 58 orange-blue-orange AF (EPDM HT/aramid)

Like Type 58 red, but with aramid fabric and for temperatures up to +125 °C.

Type 58 red-blue-red AF (EPDM AF/aramid)

Like Type 58 red AF, but with aramid fabric.

Type 58 green-blue-green (CSM/aramid)

Like Type 58 green, but with aramid fabric.

Type 58 yellow-blue-grey (NBR/aramid)

Like Type 58 yellow-grey, but with aramid fabric.

Type 58 white-blue-grey (NBR white/aramid)

Like Type 58 white-grey, but with aramid fabric.

Type 58 grey-blue-grey (CR/aramid)

Like Type 58 grey, but with aramid fabric.

Type 58 lilac-blue-lilac (FPM/aramid)

For flue gas desulphurisation systems and bio-diesel. High chemical resistance to benzene, xylene, toluene, aromatic, chlorinated hydrocarbons, mineral acids and fuels with an aromatic content of more than 50 %. For temperatures of up to +180 °C.

Type 58 silicone (silicone/glass fibre or aramid)

Suitable for hot air, acetic acid. Satisfactory resistance to aliphatic engine and gear oils. Also available in foodstuff quality. Excellent resistance to ageing, UV, ozone and weather. Very good radiation resistance. Not for use with steam above 120 °C. No resistance to fuels.

Note!

Detailed material descriptions on pages 5 - 7.

Important information

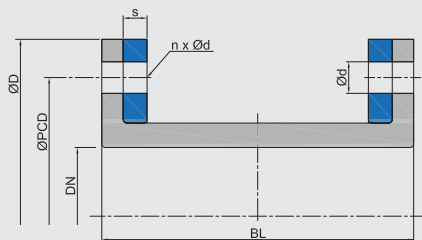
Please note the appropriate fixed point constructions and plain bearings in your piping system, as well as the tolerances as per the FSA Handbook (see the technical appendix on page 118)! For more information please refer to our installation instructions (p. 97 - 116).
 ++++ We will be happy to send you further information on the individual types and designs. ++++

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Design A - without tie rods

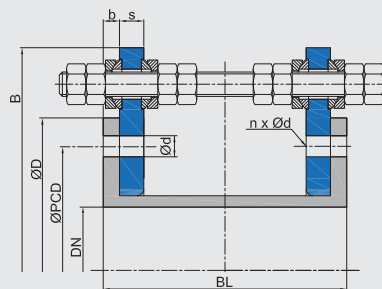
Can be used to absorb compression and lateral movement, as well as to absorb vibration and insulate sound.

Can only absorb minimal expansion.



Design M - with tie rods / shear limiters

For absorbing compression while also absorbing lateral movement. The use of PTFE-coated spherical washers and conical sockets reduces the frictional force considerably during lateral movement. Can be used to absorb vibration and lateral movement.



Note: Can only absorb lateral movement!

Dimensions for Design A / Design M

DN	Overall length BL*1 mm	Bellows		Flange PN 10*3					Movement absorption		Weight kg	
		b mm	WF*2 mm ²	ØD mm	ØPCD mm	Ød mm	n	s mm	B mm	axial - mm		lateral*4 ± mm
50	200 - 1000	Dependent on operating pressure	1963	165	125	18	4	Dependent on operating pressure	255	5	10	4
65	200 - 1000		3317	185	145	18	8		275	5	10	5
80	200 - 1000		5024	200	160	18	8		290	5	10	5
100	200 - 1000		7850	220	180	18	8		310	5	10	6
125	200 - 1000		12266	250	210	18	8		340	5	10	7
150	200 - 1000		17663	285	240	22	8		375	5	10	9
200	200 - 1000		31400	340	295	22	8		462	13	14	11
250	200 - 1000		49063	395	350	22	12		517	13	14	13
300	200 - 1000		70650	445	400	22	12		567	13	13	12
350	200 - 1000		96163	505	460	22	16		627	13	13	14
400	200 - 1000	125600	565	515	26	16	703	13	13	18		
450	200 - 1000	158963	615	565	26	20	753	13	12	25		
500	200 - 1000	196250	670	620	26	20	808	13	12	17		
600	200 - 1000	282600	780	725	30	20	942	13	12	22		
700	200 - 1000	384650	895	840	30	24	1057	13	11	29		
800	200 - 1000	502400	1015	950	33	24	1117	15	13	81		
900	200 - 1000	635850	1115	1050	33	28	1277	15	13	90		
1000	200 - 1000	785000	1230	1160	36	28	1392	15	13	106		
1100	200 - 1000	949850	1345	1270	36	32	1507	15	12	123		
1200	200 - 1000	1130400	1455	1380	39	32	1617	15	12	139		
1300	200 - 1000	1326650	1565	1485	42	32	1727	15	12	155		
1400	200 - 1000	1538600	1675	1590	42	36	1837	15	12	172		
1500	200 - 1000	1766250	1795	1705	48	36	1957	15	12	195		
1600	200 - 1000	2009600	1915	1820	48	40	2100	15	11	222		
1700	200 - 1000	2268650	2015	1920	48	44	2200	15	11	290		
1800	200 - 1000	2543400	2115	2020	48	44	2300	15	11	306		
1900	200 - 1000	2833850	2220	2125	48	48	2406	15	11	327		
2000	200 - 1000	3140000	2325	2230	48	48	2511	15	11	350		
2100	200 - 1000	3461850	2440	2335	56	48	2626	18	13	386		
2200	200 - 1000	3799400	2550	2440	56	52	2736	18	13	416		
2400	200 - 1000	4521600	2760	2650	56	56	2946	18	12	465		
2500	200 - 1000	4906250	2860	2750	56	56	3046	18	12	485		
2600	200 - 1000	5306600	2960	2850	56	60	3146	18	12	501		
2800	200 - 1000	6154400	3180	3070	56	64	3366	18	12	572		
3000	200 - 1000	7065000	3405	3290	62	68	3591	18	12	644		

*1 Overall lengths available from 200 mm to 1000 mm.

*2 WF = effective area

*3 Other standards/dimensions possible.

*4 The lateral movement absorption applies to short installation lengths. The lateral movement absorption increases by 6 mm every 100 mm.

- Maximum size: DN 4000.

- Movement absorption corresponds to bellows design with max. 6 bar operating pressure.