

WILLBRANDT Rubber Expansion Joint Type 57

■ not in stock

DN 50 to DN 300

Type 57 is a conical or eccentric rubber expansion joint whose corrugation-free bellow geometry achieves a very low flow resistance. It is suitable for the conveying of media containing solids, even at high flow velocities.








Furthermore, it is characterised by the wide variety of rubber qualities, so that a suitable rubber compound is available for every application (see material descriptions on the following pages). Due to the design, only minimal compression movements can be absorbed! A deviation in the overall length is possible in individual cases and after prior testing.

Type 57 is used in plant engineering and in water and wastewater technology. Here it is used specifically for lateral movement absorption, vibration absorption and noise damping.



Bellow design	Smooth conical/eccentric rubber bellow with reinforcement and moulded sealing bead with core ring (self-sealing - no additional seals required). Suitable for swiveling flanges.	Approvals/Conformity	FDA and EG 1935/2004 conform CE and drinking water approvals available on request.
Flange version	Both sides with swiveling flange made of galvanized steel, drilled according to DIN PN 10 (standard). Other materials and dimensions are possible.	Accessories	<ul style="list-style-type: none"> - Tie rods - Vacuum supporting spiral/rings (vulcanised) - Potential equalisation - Flame-resistant protective covers - Dust and splash protection covers - Earth cover / sun protection cover Further information on page 99 - 105.
Vacuum resistance	Only vacuum-proof with a vulcanised vacuum supporting spiral.		

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
red		EPDM	Polyamid	EPDM	100								
yellow		NBR	Polyamid	NBR	90								
green		CSM	Polyamid	CSM	100								
grey		CR	Polyamid	CR	90								
red-white		EPDM light	Polyamid	EPDM	100								
yellow-white		NBR light	Polyamid	NBR	90								
lilac		FPM	Aramid	FPM	200								
Silicone		Silicone	Aramid	Silicone	200								

* Other rubber compounds/reinforcements on request.

Important information

For aggressive media, please have the material resistance checked by our engineers.
The bellows must not be painted or insulated at media temperatures >50 °C.
Please also note the planning instructions.

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Type 57 red (EPDM)

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

Type 57 yellow (NBR)

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

Type 57 green (CSM)

For chemicals, aggressive, chemical waste water and compressor air containing oil.

Type 57 grey (CR)

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

Type 57 red-white (EPDM light)

Like type 57 red, but with light-coloured rubber in food-grade (FDA and EG 1935/2004 conform). Not approved for drinking water.

Type 57 yellow-white (NBR light)

Like type 57 yellow, but with light-coloured rubber in food-grade (FDA and EG 1935/2004 conform). Not approved for drinking water!

Type 57 lilac (FPM)

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 57 silicone (silicone)

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.

Important information

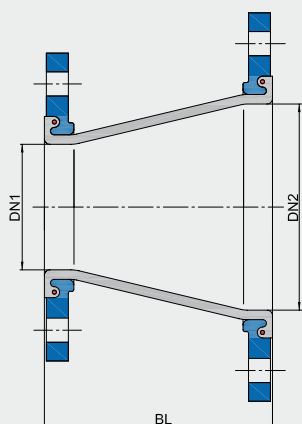
Please note the appropriate fixed point constructions and plain bearings in your piping system, as well as the tolerances as per the FSA Handbook (see the technical appendix on page 117)! For more information please refer to our planning instructions (page 107 - 117).



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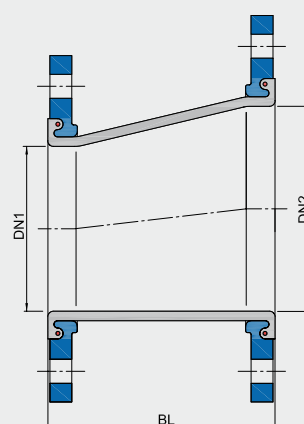
Design A - concentric, without tie rods

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



Design A - eccentric, without tie rods

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



Dimensions for design A Concentric/eccentric

DN1	DN2	Length BL	Bellow WF*	Movement absorption	
		mm	mm ²	axial - mm	lateral ± mm
50	80	250	5000	3	8
50	100	250	7900	3	8
65	80	300	5000	3	8
65	100	300	7900	3	8
80	100	250	7900	3	8
80	125	250	12300	3	7
100	125	250	12300	3	7
100	150	250	17700	3	7
100	200	300	31400	3	7
125	150	250	17700	3	7
125	200	300	31400	4	8
150	200	300	31400	4	8
150	250	250	49100	5	8
200	250	250	49100	4	8
200	300	300	70700	6	8
200	350	300	96200	9	12
250	300	300	70700	4	7
250	350	300	96200	6	9
300	350	300	96200	4	7
300	400	400	125600	7	9

* WF = effective area

Table values correspond to a bellows design with 6 bar operating pressure at 60 °C.
- Free choice of flange connection dimension (DIN, ASTM, JIS, etc.)
- Special overall lengths and nominal diameters are possible in individual cases.

Length limiters/Tie rods

It is advisable to use tie rods/shear limiters on these expansion joints (Design M - see illustration). The conical bellows is inflated by the rise in pressure, which shortens the expansion joint and applies high tensile force to the connections.

It is also available with tie rods only (design E).

