WILLBRANDT **Rubber Expansion Joint Type 57**

■ **not in stock**

DN 50 to DN 300

Type 57 is a conical 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 page). Due to the design, only minimal compression movements can be absorbed! A deviation in the 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 rubber bellow with reinforcement and moulded sealing bead with core ring (self-sealing - no additional seals required). Suitable for swiveling flanges.
Flange version	Both sides with swiveling flange made of galvanized steel, drilled according to DIN PN 10 (standard). Other materials and dimensions are possible.
Vacuum resistance	Only vacuum-proof with a vulcanised vacuum supporting spiral.
Approvals/Conformity	FDA and EG 1935/2004 conform, drinking water approvals available on request. (Detailed overview on page 5.)
Accessories	- 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.

Specifications

Bellow		Bellow design*			Permissible operating data									
Colour code	Colour marking	Core (inner)	Reinforcement	Cover (outer)	Max. temperature °C	°C	bar	°C	bar	°C	bar	°C	bar	°C	bar
red	■	EPDM	Polyamide	EPDM	100										
yellow	■	NBR	Polyamide	NBR	90										
green	■	CSM	Polyamide	CSM	100										
grey	■	CR	Polyamide	CR	90	Expansion joints will designed according to your operating parameters.									
red-white	■□	EPDM light	Polyamide	EPDM	100										
yellow-white	■□	NBR light	Polyamide	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.

WILLBRANDT **Rubber Expansion Joint Type 57**

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.

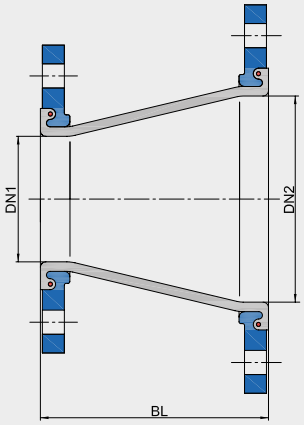
Important information

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).

WILLBRANDT **Rubber Expansion Joint Type 57**

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.



Dimensions for design A, concentric

DN1	DN2	Length BL	Bellow WF*	Movement absorption axial -	Movement absorption lateral ±
		mm	mm²	mm	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 lengths and nominal diameters are possible in individual cases.

Bracings

It is advisable to use tie rods/shear limiters on these expansion joints (Design M - see illustration). The conical bellow 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).