

WILLBRANDT Rubber Expansion Joint Type 61

 partly in stock

DN 50 to DN 1500

Type 61 is a handmade, low corrugated rubber expansion joint with a low corrugation shape to minimise flow resistance. Both sides of the bellow are designed with cylindrical ends for clamp fastening. It is characterised by its large movement absorption in all directions and a variety of rubber qualities, so that a suitable rubber compound is available for almost every application (see material descriptions on the following pages).

Type 61 is used in plant engineering, waste water technology, engine construction and ventilation technology. Here it is used especially for movement and vibration absorption and for noise damping.



Bellow design	Low corrugated rubber bellow with reinforcement, both ends cylindrical for fixing clamps. The bellow is designed with a corrugation as standard. Uncorrugated and multi-corrugated versions for greater movement absorption are possible.	Vacuum resistance	Only vacuum-proof with vacuum supporting spiral/rings
Connections	Sleeve ends for ISO pipes (standard) for fixing clamps. The clamp width should be at least 20 mm (up to 3 bar: one clamp per side; above 3 bar: two clamps per side).	Approvals/Conformity	FDA and EG 1935/2004 conform CE and drinking water approvals available on request.
Accessories	<ul style="list-style-type: none"> - Vacuum supporting spiral/rings - Potential equalisation - Flame-resistant protective covers - Dust and splash protection covers - Earth cover / sun protection cover <p>Further information on page 99 - 105.</p>		

Specifications

Bellow	Bellow design*					Permissible operating data					
	Colour code	Colour marking	Core (inner)	Reinforce-ment	Cover (outer)	Max. temperature °C	°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.

Expansion joints will be designed according to your operating parameters.

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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Application

Type 61 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 61 yellow (NBR)

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

Type 61 green (CSM)

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

Type 61 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 61 red-white (EPDM light)

Like type 61 red, but with light-coloured rubber in food-grade (FDA and EG 1935/2004 conform). Not approved for drinking water.

Type 61 yellow-white (NBR light)

Like type 61 yellow, but with light-coloured rubber in food-grade (FDA and EG 1935/2004 conform). Not approved for drinking water!

Type 61 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 61 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

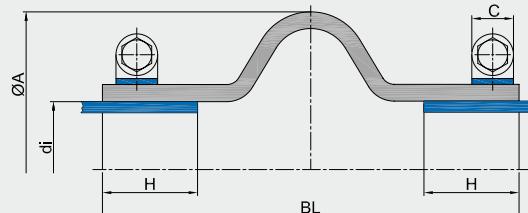
Please note the appropriate fixed point constructions and plain bearings in your piping system, as well as the tolerances as per the FSA Handbook (see the technical appendix on page 117)! You can find information on this in our planning instructions (page 107 - 117).

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Type 61-1 - single-corrugated

Can be used for absorb movements in all directions (for combined movements, refer to the movement diagram in the technical appendix), for vibration and noise damping.

The expansion joint's reaction force must be absorbed through appropriate pipeline guidance (see planning instructions in the appendix).



Dimensions - Type 61-1

DN	Length BL	Bellow		Flange PN 10		Movement absorption ^{*2}				Pressure Max.
		d _i	WF ^{*1}	Cylinder end H	Clamp C	axial + mm	axial - mm	lateral ± mm	angular ± °	
50	250	60.3	155	55	20	15	30	25	21.8	6
65	250	76.1	191	55	20	15	30	25	17.1	6
80	250	88.9	224	55	20	15	30	25	14.0	6
100	250	114.1	297	55	20	15	30	25	11.3	6
125	250	139.7	379	55	20	15	30	25	9.1	6
150	250	168.3	484	55	20	15	30	25	7.6	6
200	250	219.1	703	55	20	15	30	25	5.7	6
250	250	273.0	979	55	20	15	30	25	4.6	6
300	250	323.9	1281	55	20	15	30	25	3.8	6
350	250	355.6	1292	65	25	15	30	15	3.3	6
400	250	406.4	1636	65	25	10	30	15	2.9	6
450	250	457.0	2020	65	25	10	30	15	2.5	6
500	250	508.0	2445	65	25	10	30	15	2.3	6
600	250	610.0	3417	65	25	10	30	15	1.9	4
650	250	660.4	3964	65	25	10	30	15	1.8	4
700	250	711.0	4551	65	25	10	30	15	1.6	4
750	250	762.0	5178	65	25	10	30	15	1.5	4
800	250	813.0	5847	65	25	10	30	15	1.4	4
900	250	914.0	7305	65	25	10	30	15	1.3	4
1000	250	1016.0	8925	65	25	10	30	15	1.3	4
1100	250	1117.6	10496	65	25	10	30	15	1.1	3
1200	250	1219.0	12370	65	25	10	30	15	1.0	3
1300	250	1320.8	14420	65	25	10	30	15	0.9	2
1400	250	1422.0	16627	65	25	10	30	15	0.8	2
1500	250	1524.0	18991	65	25	10	30	15	0.8	2

*1 WF = effective area

*2 Utilisation rate of movement absorption decreases at higher temperatures (see technical appendix).

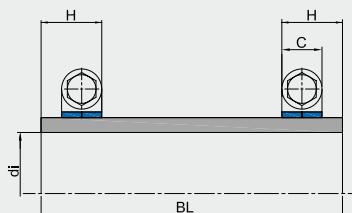
- Intermediate sizes and overall length changes possible on request..

- Greater movement absorption possible by changing the overall length/corrugation profile and by changing to a multi-corrugated type (up to 5 corrugations)..
- The use of a vacuum supporting ringe (Typ 61-...V) reduces the movement absorption axial+ und angular+/- by 60 %.

Designs

Type 61-0 - uncorrugated

Can be used to absorb vibration and insulate sound.
Cannot be used to absorb axial movement.



Type 61-2 - double-corrugated

Can be used to absorb movement in any direction (for combined movements, see the movement diagram in the technical appendix), to absorb vibration and to insulate sound.

