WILLBRANDT **Rubber Expansion Joint Type 61**

■ **partly in stock**

DN 50 to DN 600

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 page).

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. (Detailed overview on page 5.)
		Accessories	- Vacuum supporting spiral/rings - 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)	Reinforce-ment	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.

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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

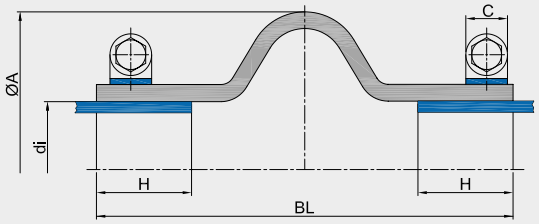
Please note the appropriate fixed point constructions and plain bearings in your piping system, as well as the tolerances as per the FSA Handbook (see the technical appendix on page 117)! You can find information on this in our planning instructions (page 107 - 117).

WILLBRANDT **Rubber Expansion Joint Type 61**

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*1	Length	Bellow		Flange PN 10		Movement absorption*3				Pressure
	BL	di	WF*2	Cylinder end H	Clamp C	axial +	axial -	lateral ±	angular ±	Max.
	mm	mm	cm²	mm	mm	mm	mm	mm	∠°	bar
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

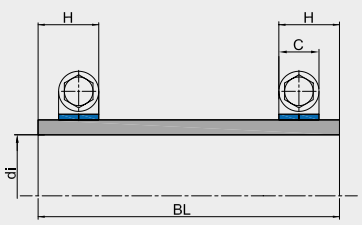
*1 For larger nominal diameters up to DN 1500, feasibility must be checked.
*2 WF = effective area
*3 Utilisation rate of movement absorption decreases at higher temperatures (see technical appendix).

- Intermediate sizes and length changes possible on request.
- Greater movement absorption possible by changing the 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 aporption 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.