

## Steel expansion joint - Type SF-13

Axial expansion joint DN 20 – DN 1200



### Structure type SF-13

- Vacuum-proof axial expansion joint consisting of two stainless steel bellows (DN 125 - DN 1200 with connecting pipe) and welded flanges
- Guide sleeves to stabilize the expansion joint
- Guide sleeves do not supersede pipe guide bearings

### Steel bellows PN 10 / PN 16

- Multiple convolution bellows in various stainless steel grades
- One ply or multi-ply structure

Material grade *	Material No. as per DIN EN	Temperature**	Possible uses
Stainless steel	1.4541	-196 °C	Low temperature, acids, lyes, gases, fertilizers
	1.4404, 1.4571	up to +550 °C +550 °C	Media containing chloride, oil, soap, drinking water, food stuff, petrol

\* Check or inquire about the resistance of material grades to temperature and medium.  
\*\* Check or inquire about reduction in pressure by temperature.

### Flanges

#### Version

- Welded flanges, up to DN 250 with turned seal
- Flange drilling for through bolts

#### Dimensions

Standard: DN 20 - DN 1200 (PN 10)  
DN 20 - DN 250 (PN 16)  
according to EN 1092

Others: DIN EN, ANSI, BS etc.

Connection dimensions see technical annex

#### Materials

Standard: 1.0038 (S235JR),  
Others: stainless steel, etc.

#### Corrosion protection

Standard: anti-corrosion primed  
Others: special varnish, etc.

### Note

Please comply with the general technical instructions regarding reaction force, moving force, fixed point load, installation instructions, etc.

Subject to technical alterations and deviations resulting from the manufacturing process.

### Applications

- for compensating large axial movement
- for installation in
  - long pipe routings
  - industrial applications
  - heating installations

### Connecting pipe

#### Materials

Standard: 1.0345 (P235GH),  
1.0038 (S235JR), 1.4541

Others: stainless steel etc.

#### Corrosion protection

Standard: anti-corrosion primed

Others: special varnish etc.

### Guide Sleeve

Standard: 1.4541

### Special designs

Other sizes (DN), lengths or pressure ratings on request.

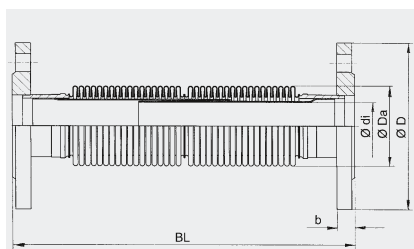
### Accessories

- Protective tube

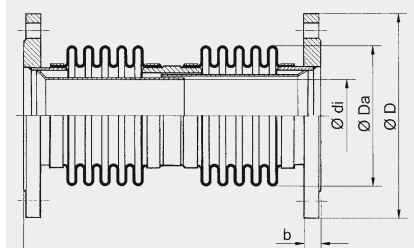
### Certificates

- CE (DGR 97/23/EC)

### Versions



DN 15 - DN 100



DN 125 - DN 250

Type SF-13



**Pressure rate**    **PN 10**    **standard program**

DN	BL	$\Delta ax_{tot}$ Axial movement	$C_{ax}$ Axial spring rate N/mm	A* Effective bellows cross sectional area cm <sup>2</sup>	$\varnothing D_a$ Bellows outer $\varnothing$ mm	$\varnothing d_i$ Guide sleeve inner $\varnothing$ mm	PN Flange connection EN 1092	$\varnothing D$ Flange outer $\varnothing$ mm	b Flange thickness mm	Weight approx. kg
20	270	48	25	7	38	18	16	105	16	2.2
25	285	40	25	16	54	24	16	115	16	2.9
32	285	40	25	16	54	32	16	140	16	3.9
40	320	52	34	25	66	37	16	150	16	4.6
50	340	68	44	36	79	47	16	165	18	6.2
65	380	72	51	54	96	60	16	185	18	8.3
80	380	80	40	78	116	74	16	200	20	10.4
100	410	80	46	115	136	95	16	220	20	11.6
125	495	100	40	173	168	116	16	250	22	18.0
150	555	100	78	243	196	145	16	285	22	23.0
200	565	76	119	422	253	193	10	340	26	35.2
250	570	76	312	620	302	246	10	395	29	46.0
300	750	140	91	993	387	291	10	445	26	91.0
350	750	138	99	1180	419	323	10	505	30	112.0
400	750	136	113	1511	470	373	10	565	32	126.0
450	750	134	126	1883	521	424	10	615	36	159.0
500	750	132	140	2287	571	475	10	670	38	183.0
600	750	132	167	3233	673	577	10	780	42	225.0
700										
800	on request	on request	on request	on request	on request	on request	on request	on request	on request	on request
900	on request	on request	on request	on request	on request	on request	on request	on request	on request	on request
1000	on request	on request	on request	on request	on request	on request	on request	on request	on request	on request
1200	on request	on request	on request	on request	on request	on request	on request	on request	on request	on request

**Pressure rate**    **PN 16**    **standard program**

DN	BL	$\Delta ax_{tot}$ Axial movement	$C_{ax}$ Axial spring rate N/mm	A* Effective bellows cross sectional area cm <sup>2</sup>	$\varnothing D_a$ Bellows outer $\varnothing$ mm	$\varnothing d_i$ Guide sleeve inner $\varnothing$ mm	PN Flange connection EN 1092	$\varnothing D$ Flange outer $\varnothing$ mm	b Flange thickness mm	Weight approx. kg
20	270	48	25	7	38	18	16	105	16	2.2
25	285	40	25	16	54	24	16	115	16	2.9
32	285	40	25	16	54	32	16	140	16	3.9
40	320	52	34	25	66	37	16	150	16	4.6
50	340	68	44	36	79	47	16	165	18	6.2
65	380	72	51	54	96	60	16	185	18	8.3
80	380	80	40	78	116	74	16	200	20	10.4
100	410	80	46	115	136	95	16	220	20	11.6
125	495	100	40	173	168	116	16	250	22	18.0
150	555	100	78	243	196	145	16	285	22	23.0
200	565	140	119	422	253	193	16	340	26	35.2
250	570	104	312	620	302	246	16	405	29	47.9

Table values refer to +20 °C, bellows material 1.4541, 1000 cycles. Max. allowable pressure pulsation of 1.0 bar (brief periods). Please inquire for deviating values. \*Effective bellows cross sectional area is a theoretical value.

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