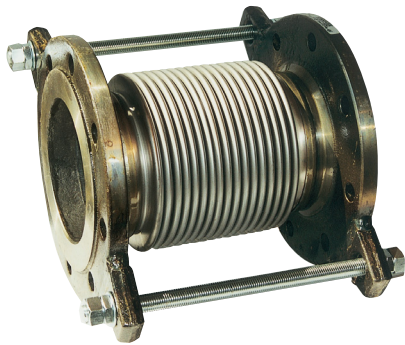


## Steel expansion joint - Type SF-21

Lateral expansion joint DN 32 – DN 500



### Structure type SF-21

- Vacuum-proof lateral expansion joint consisting of a stainless steel bellows and welded flanges
- Flanges with tie rods to absorb reaction force

### Steel bellows 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	

\* 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 with turned seal
- Flange drilling for through bolts

#### Dimensions

Standard: DN 32 - DN 500 (PN 16) according to EN 1092

Others: DIN EN, ANSI, BS etc.

Connection dimensions see technical annex

#### Materials

Standard: 1.0038 (S235JR),  
1.0460 (P250GH)

Others: stainless steel

#### Corrosion protection

Standard: anti-corrosion primed

Others: special varnish, etc.

### Applications

- for compensating lateral movement
- for reducing tension, in pipes and their system components, e.g.
  - pumps
  - compressors
  - motors
  - turbines
  - machines
  - process plants
- for installation in
  - industrial applications
  - gas and water supply
  - exhaust systems
  - heating installations
- to compensate for installation inaccuracies

### Tie rod restraints

- Outer restraints carried on spherical washers/conical seats

#### Materials

Standard: tie rods 8.8

Others: stainless steel

#### Corrosion protection

Standard: electrogalvanized

### Special designs

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

### Accessories

- Internal guide sleeve
- Protective tube
- Gas sealings for DVGW-application

### 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.

### Certificates

- CE (DGR 97/23/EG)
- American Bureau of Shipping
- Bureau Veritas
- DVGW (DN 32 - DN 200)
- Germanischer Lloyd
- Lloyd's Register of Shipping

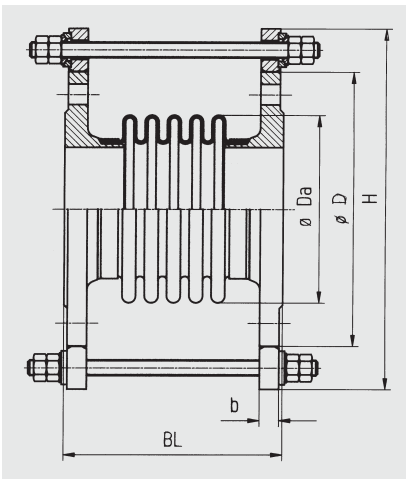


Pressure rate **PN 16** standard program

DN	BL	$\Delta \text{lat}_{\text{tot}}$ Lateral movement	$C_{\text{lat}}$ Lateral spring rate	$F_{\text{fric}}$ Friction force restraints	$\phi D_a$ Bellows outer $\phi$ mm	PN Flange connec- tion EN 1092	$\phi D$ Flange outer $\phi$ mm	H Flange height	b Flange thickness	Weight
	mm	mm	N/mm	N/bar			mm	mm	mm	approx. kg
32	150	8	28	4	54	16	140	220	18	4.2
40	175	10	125	6	66	16	150	230	18	4.5
50	205	14	157	8	79	16	165	245	18	6.4
65	210	14	237	11	96	16	185	265	18	7.8
80	225	13	278	15	115	16	200	280	20	9.4
100	235	14	302	21	137	16	220	320	20	11.9
125	265	14	156	37	168	16	250	350	22	16.5
150	290	14	313	46	197	16	285	385	22	21.0
200	310	14	761	93	253	16	340	440	24	30.0
250	335	10	2571	130	302	16	405	505	26	44.5
300	405	12	1145	88	386	16	460	534	28	66.0
350	415	11	1368	103	420	16	520	594	30	92.0
400	420	10	1995	130	471	16	580	650	32	113.0
450	415	9	2788	248	522	16	640	763	34	149.0
500	420	8	3746	298	572	16	715	828	36	188.0

Table values refer to +20 °C, bellows material 1.4541, 1000 cycles. Max. allowable pressure pulsation of 1.6 bar (brief periods). Please inquire for deviating values.

## Version



### Type SF-21

Outer restraints, carried on spherical washers/conical seats (ball joint)