

STEEL EXPANSION JOINT TYPE SF-21

LATERAL EXPANSION JOINT DN 32 – DN 500



STRUCTURE TYPE SF-21 / STEEL BELLOWS PN 16

- Vacuum-proof lateral expansion joint consisting of a stainless steel bellows and welded flanges
- Flanges with tie rods to absorb reaction force
- Multiple convolution bellows in various stainless steel grades
- Single ply or multi-ply structure

Material grade*	Material No. as per DIN EN	Temperature**	Possible uses
Stainless steel	1.4541	-196 °C up to +550 °C	Low temperature, acids, lyes, gases, fertilizers
	1.4404 1.4571	+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 / VERSIONS

- Welded flanges with turned seal
- Flange drilling for through bolts

	Standard	Others
Dimensions	DN 32 – DN 500 acc. EN 1092-1 PN 10/16	ANSI, BS etc. Connection dimensions see technical annex page 213 – 215
Materials	1.0038 (S235JR) 1.0460 (P250GH)	stainless steel etc.
Corrosion protection	anti-corrosion primed	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 lateral movement
- for reducing tension, in pipes and their system components, e.g.
 - pumps
 - compressors
 - engines
 - 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

- External restraints carried on spherical washers/conical seats

Materials

Standard: tie rods 8.8

Others: stainless steel

Corrosion protection

Standard: electrogalvanized

SPECIAL DESIGN

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

CERTIFICATES

- CE (PED 2014/68/EU)
- American Bureau of Shipping
- Bureau Veritas
- DVGW (DN 32 – DN 200)
- RINA

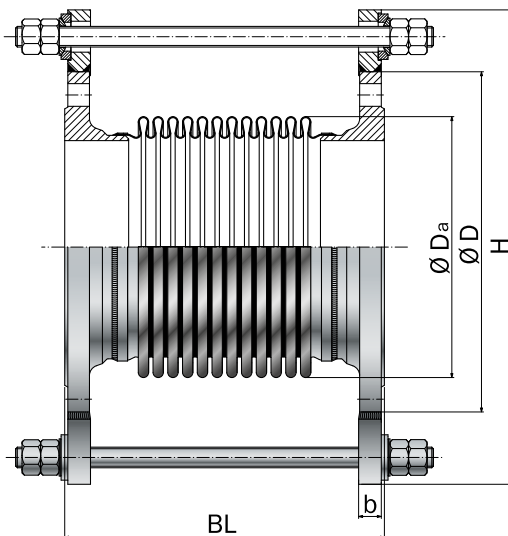
ACCESSORIES

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

PRESSURE RATE STANDARD PROGRAM PN 16

DN	BL	$\Delta \text{lat}_{\text{tot}}$ Lateral movement	C_{lat} Lateral spring rate	F_{fric} Friction force restraints	$\varnothing D_a$ Bellows outer \varnothing mm	PN Flange connection	$\varnothing D$ Flange outer \varnothing mm	H Flange height	b Flange thickness	Weight approx. kg
	mm	mm	N/mm	N/bar		EN1092		mm	mm	
32	150	8	28	4	54	16	140	220	18	4.9
40	175	10	125	5	66	16	150	230	18	5.4
50	205	14	157	6	79	16	165	245	18	6.5
65	210	14	237	9	96	16	185	265	18	7.6
80	225	13	278	12	115	16	200	280	20	9.7
100	235	14	302	18	137	16	220	300	20	10.9
125	265	14	156	35	168	16	250	370	22	19.0
150	290	14	313	45	197	16	285	405	22	22.6
200	310	9	761	73	253	16	340	460	24	33.0
250	335	8	2571	101	302	16	405	525	26	44.2
300	410	12	1145	131	386	16	460	584	28	71.0
350	415	11	1368	155	420	16	520	644	30	94.0
400	420	10	1995	197	471	16	580	704	32	118.0
450	420	9	2788	350	522	16	640	818	34	153.0
500	420	8	3746	425	572	16	715	893	36	193.0

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.

**Type SF-21**

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