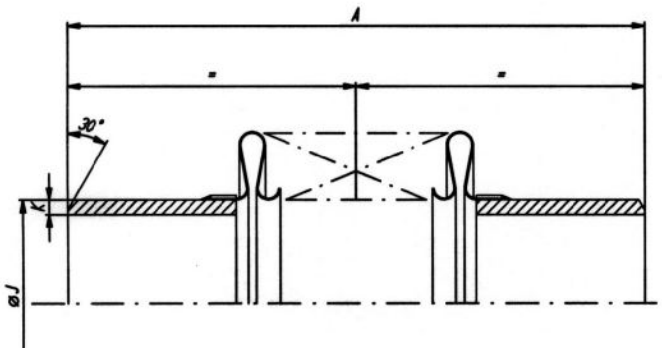
Noise reduction / Ventilation / Cooling

Stainless steel exhaust bellows

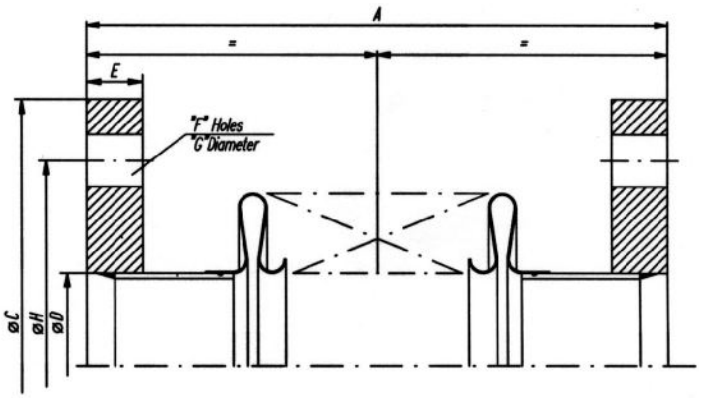
There are two basic types of expansion bellows – singles and doubles, and their purpose is to absorb the movement in any pipework run that is fixed between two fixed points.
Single bellows units are chiefly used to absorb axial movement, while double units are more suitable where lateral movement is present.
To move a bellows in any direction a force must be applied. That force is the product of the movement and the spring rate of the bellows in the direction of the movement.
Novetec supplies a stainless steel bellows with a low stiffness, which achieves in combination with our flexible suspension the best control of vibrations and forces in pipe systems which provides optimal lifetime.

We can deliver bellows with welding ends or flanges. Standard we can supply flanges like DIN 86044, DIN PN 6/10. (For measurements see attached flange tables), if required we are able to deliver other types of flanges e.g. JIS 5K and ANSI 150 LBS or a flange especially made in accordance with your desires. It is also possible to deliver the stainless steel bellows with a rotating flange to simplify assembling.

Single bellows



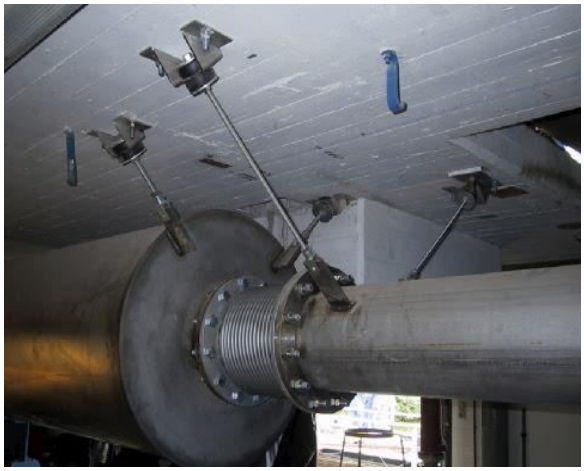
welding ends



flanges

N.B.	050	065	080	100	125	150	200	250	300	350	400	450	500	600	700	800	900	1000
A	195	210	250	290	305	305	310	320	320	330	340	340	340	350	350	350	360	360
J	60	76	89	114	140	168	219	273	324	356	406	457	508	608	-	-	-	-
K	4.5	4.5	4.5	4.5	5.6	5.6	5.6	6.3	6.3	6.3	6.3	6.3	6.3	6.3	-	-	-	-
Max axial	35	38	32	32	32	32	32	40	40	40	64	64	64	64	64	64	64	64
Max lat.	18	16	22	28	22	20	16	17	15	14	13	11	10	9	7.5	7	6	5.5

Combined movements at reduced rates.



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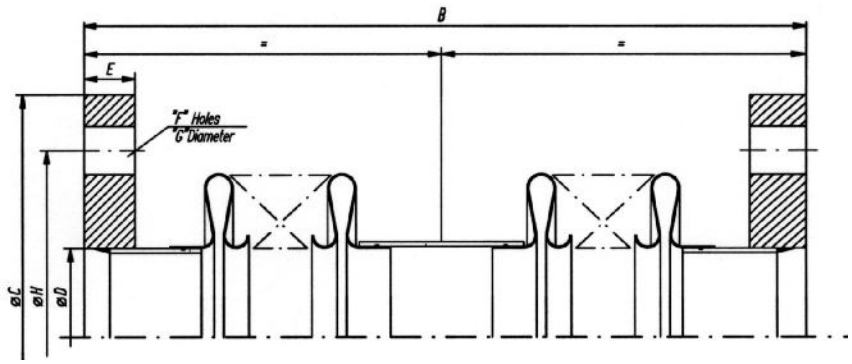
Cold-pull

Bellows are designed for both compression and extension from their natural or “free length.” By pre-setting (or ‘cold-pulling’) the bellows length prior to installation we are able to take full advantage of the available movement. Maximum performance is obtained by allowing movement to be taken equally either side of the free length position. The mentioned movements for the bellows unit must not be exceeded.

Transit bars

Some means of length restriction will be added to the bellows unit before shipment in order to maintain the overall length at its’ factory setting. These may be threaded bars, angle iron or wood blocks. These must be removed after installation in order for the bellows unit to function correctly.

Twin bellows

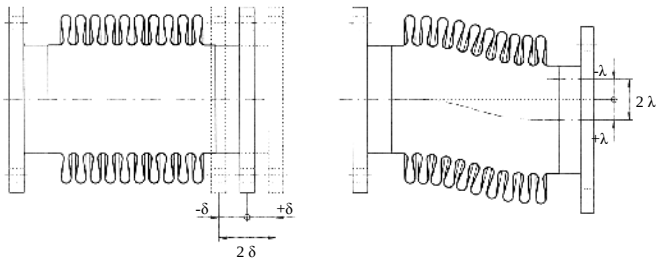


N.B.	080	100	125	150	200	250	300	350	400	450	500	600	700	800	900	1000
B	400	400	400	500	500	500	500	500	600	600	600	600	600	600	600	600
Max axial	80	69	70	75	75	55	64	64	90	90	90	90	90	90	90	90
Max lat.	35	40	60	70	70	32	43	39	75	69	62	52	45	39	35	31

On page 12, 13, and 14 you can find the dimensions of the standard flanges.

Combined movements at reduced rates

NovetecBV can also deliver counterflanges complete with an exhaust-gasket and a set of nuts, bolts and washers. All kinds of flanges are possible.



To calculate the maximal axial and lateral movement you can use the following formula.

$$\frac{d_{max} - d}{d_{max}} \times l_{max} = l$$

$$\frac{l_{max} - l}{l_{max}} \times d_{max} = d$$

δ_{max} = Maximal axial movements.
δ = Existing axial movements.
λ_{max} = Maximal lateral movements.
λ = Existing lateral movements.