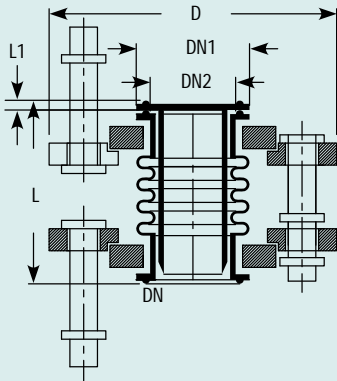


| Cat.Ref. | DN | D | D1 | D2 | L |
|----------|-----|-----|-----|-----|----|
| FBN1* | 25 | 95 | 41 | 31 | 65 |
| FBN1.5* | 40 | 105 | 56 | 43 | 65 |
| FBN2* | 50 | 120 | 69 | 55 | 65 |
| FBN3* | 80 | 155 | 98 | 82 | 65 |
| FBN4* | 100 | 200 | 132 | 111 | 65 |
| FBN6* | 150 | 275 | 184 | 162 | 65 |
| FBN9* | 225 | 350 | 258 | 230 | 65 |
| FBN12 | 300 | 420 | 340 | 308 | 65 |



Vacuum bellows

For pipelines of 80DN and above operating under vacuum, the bellows are provided with an internal sleeve which supports the convolutions without affecting the flexibility of the bellow. These bellows can withstand a temperature of 200°C under full vacuum. For size upto 50DN, line bellows can be used for these applications.

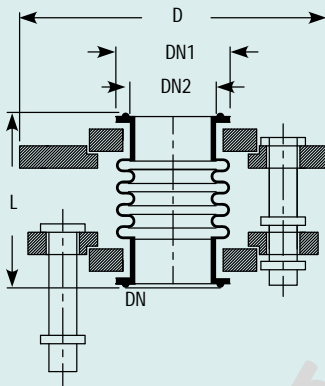
| Cat.Ref. | DN | D | D1 | D2 | L | L1 | t |
|----------|-----|-----|-----|-----|----|----|-----|
| VB3* | 80 | 155 | 98 | 82 | 70 | 5 | 3.0 |
| VB4* | 100 | 200 | 132 | 111 | 70 | 5 | 3.5 |
| VB6* | 150 | 275 | 184 | 162 | 70 | 5 | 4.0 |
| VB9* | 225 | 350 | 253 | 230 | 70 | 5 | 5.0 |
| VB12 | 300 | 420 | 338 | 308 | 70 | 5 | 5.0 |

PTFE BELLOWS - GLASS TO METAL

These bellows are used in installation of glass equipment for following purposes :

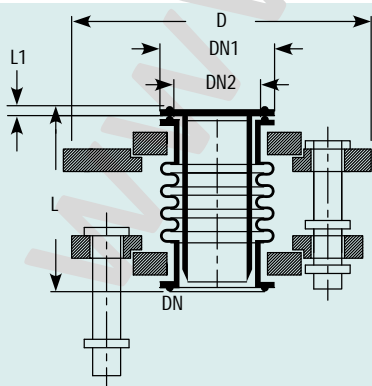
- to minimise the transfer of vibrations from the rotating equipments which are connected to the glass assembly.
- to accommodate the thermal expansion of any metallic (non-glass) equipment which are connected to the glass pipeline.

These are similar to the bellows for glass-to-glass in construction, but having adaptor bellow flange at one end. Generally this adaptor flange is supplied undrilled so that it can be drilled as per the configuration of mating flange. However, this adaptor bellow flange can be supplied drilled AS per "Table E", "Table F" or "ASA 150" standards, if Specified.



Line bellows

| Cat.Ref. | Cat.Ref. | Cat.Ref. | Cat.Ref. | DN | D | L |
|-----------|----------|----------|----------|-----|-----|----|
| Undrilled | Table E | Table F | ASA 150 | | | |
| FBF1* | FBF1/E | FBF1/F | FBF1/A | 25 | 115 | 60 |
| FBF1.5* | FBF1.5/E | FBF1.5/F | FBF1.5/A | 40 | 150 | 65 |
| FBF2* | FBF2/E | FBF2/F | FBF2/A | 50 | 165 | 65 |
| FBF3* | FBF3/E | FBF3/F | FBF3/A | 80 | 200 | 65 |
| FBF4* | FBF4/E | FBF4/F | FBF4/A | 100 | 220 | 65 |
| FBF6* | FBF6/E | FBF6/F | FBF6/A | 150 | 285 | 65 |
| FBF9* | FBF9/E | FBF9/F | FBF9/A | 225 | 395 | 65 |
| FBF12 | FBF12/E | FBF12/F | FBF12/A | 300 | 445 | 65 |



Vacuum bellows

| Cat.Ref. | Cat.Ref. | Cat.Ref. | Cat.Ref. | DN | D | L |
|-----------|----------|----------|----------|-----|-----|----|
| Undrilled | Table E | Table F | ASA 150 | | | |
| VBF3* | VBF3/E | VBF3/F | VBF3/A | 80 | 200 | 70 |
| VBF4* | VBF4/E | VBF4/F | VBF4/A | 100 | 220 | 70 |
| VBF6* | VBF6/E | VBF6/F | VBF6/A | 150 | 285 | 70 |
| VBF9* | VBF9/E | VBF9/F | VBF9/A | 225 | 395 | 70 |
| VBF12 | VBF12/E | VBF12/F | VBF12/A | 300 | 445 | 70 |

* marked items are available fast.