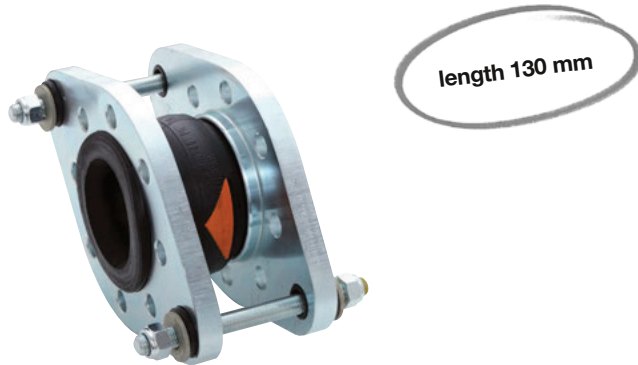


## Rubber expansion joint - Type R-2

Lateral expansion joint DN 25 – DN 300



### Structure type R-2

Lateral expansion joint consisting of a rubber bellows with rotatable flanges and tie rods (external restraints) to absorb reaction force from internal pressure.

### Rubber bellows PN 16

- Flat-convoluted molded bellows in various rubber grades
- Synthetic fibre reinforcement
- Wire-reinforced self-sealing rubber rim
- Electrical impedance  $10^3$  to  $10^6$  Ohm (DIN IEC 93, VDE 0303-30)

Rubber grade*	Colour code	Possible uses
<b>EPDM</b>	<b>orange</b>	<b>Hot water, acids, lyes</b>
<b>NBR</b>	<b>red</b>	<b>Oil</b>
<b>CIIR</b>	<b>white</b>	<b>Drinking water</b>

\*Check or inquire about the resistance of the rubber grade to temperature and medium.

### Technical design

Max. perm. operating pressure	<b>16 bar*</b>
Max. perm. temperature	<b>+100 °C</b>
Bursting pressure	<b>≥ 48 bar</b>
Vacuum operation	<b>DN 25-50 without vacuum supporting ring, DN 65-300 with vacuum supporting ring</b>

Max. operating pressure to be set 30 % lower for shock loads.

\*Please consider a decrease of pressure due to temperature (see technical annex).

### Flanges

#### Version

- Flanges with stabilizing collar and ears to carry the tie rods
- Flange drilling for through bolts, DN 25 with Drill holes
- Special machined groove for rubber rim

#### Dimensions

Standard: DN 25 - DN 150 (PN 16)  
 DN 200 - DN 300 (PN 10)  
 DN 25 - DN 300 (PN 6)  
 according to EN 1092

Others: DIN EN, ANSI, BS etc.

Connection dimensions see technical annex

#### Materials

Standard: 1.0038 (S235JR)

Others: 1.4571

#### Corrosion protection

Standard: electrogalvanized

Others: hot-dip galvanized, special varnish, special coating, etc.

### Applications

- for reducing thermal and mechanical tension in pipes and their system components, e.g.
  - pumps
  - compressors
  - motors
- for muffling vibration and noise
- for compensating lateral movement
- to compensate for installation inaccuracies
- to compensate for ground and foundation settlement or tank settlement during filling

### Tie rod restraints

- DN 25 – DN 150 Tie rods carried on silencing rubber sockets
- DN 200 – DN 300 Tie rods carried on spherical washers and conical seats

### Materials

Standard: tie rods 8.8

Others: stainless steel

### Corrosion protection

Standard: electrogalvanized

Others: hot-dip galvanized

### Accessories

- Vacuum supporting ring
- Internal guide sleeve
- Flame-proof protective cover
- Protective hood
- Protective tube

### Certificates

- CE (DGR 97/23/EG)
- Bureau Veritas
- Det Norske Veritas
- Lloyd's Register of Shipping
- Drinking water

## Dimensions standard program

DN	BL	Pressure rate	ø di Bellows inner ø	ø C Raised face outer ø	ø E Raised face inner ø	ø W Convolution ø unpressurized	PN Flange connection EN 1092	ø D Flange outer ø	b Flange thickness	H Flange height
25	130	16	31±3	72	39	88	16	115	16	210
32	130	16	31±3	72	39	88	16	140	16	220
40	130	16	39±3	81	45	96	16	150	16	230
50	130	16	49±3	95	56	107	16	165	16	240
65	130	16	65±3	115	72	123	16	185	18	260
80	130	16	77±3	127	84	135	16	200	20	300
100	130	16	100±3	151	109	160	16	220	20	350
125	130	16	127±3	178	133	184	16	250	22	385
150	130	16	153±3	206	161	212	16	285	22	420
200	130	10	202±3	260	209	260	10	340	25	465
250	130	10	252±3	313	262	313	10	395	25	520
300	130	10	303±3	363	312	363	10	445	25	570

From DN 200 higher pressure rate available on request.

## Movement compensation

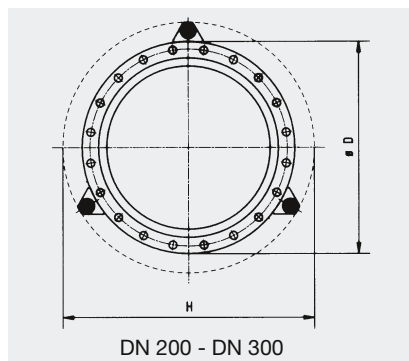
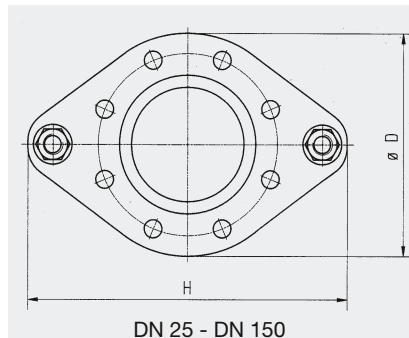
DN	Δ lat Lateral movement ± mm	Permissible vacuum without supporting ring at length BL bar absolute	Weight approx. kg
25	15	-	4.5
32	15	0.6	5.1
40	15	0.6	5.6
50	15	0.6	6.3
65	15	0.7	7.7
80	15	0.65	10.5
100	15	0.6	12.5
125	15	0.75	16.5
150	15	0.65	19.2
200	15	0.7	22.0
250	15	0.7	26.8
300	15	0.8	32.3

## Note

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

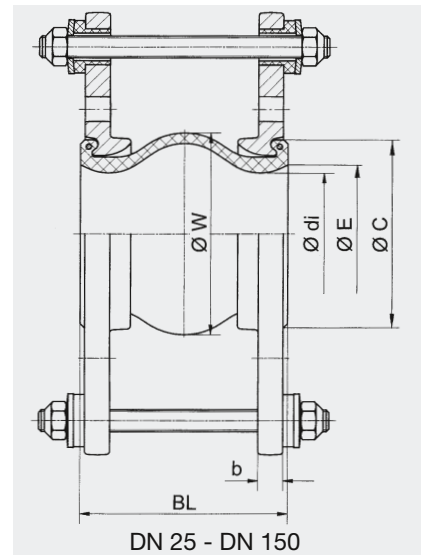
Subject to technical alterations and deviations resulting from the manufacturing process.

## Flange versions



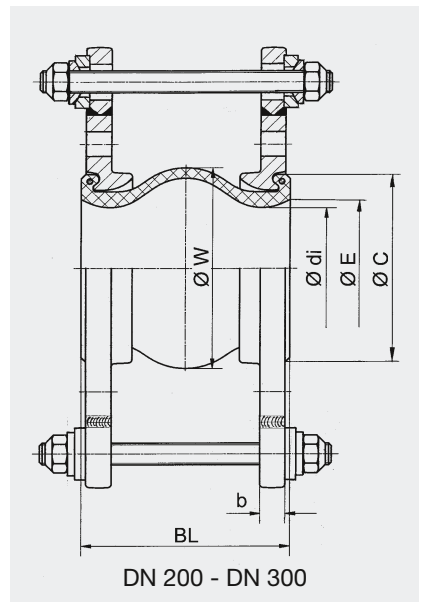
Number of tie rods depending on pressure

## Versions



### Type R-2

Tie rods, external restraints, carried on silencing rubber sockets



### Type R-2

Tie rods, external restraints, carried on spherical washers and conical seats