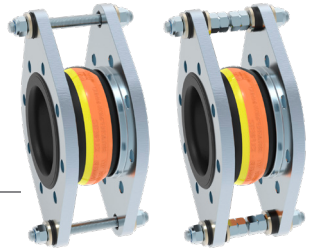
STENFLEX®

RUBBER EXPANSION JOINT TYPE AR-2, AR-4

LATERAL EXPANSION JOINT DN 20 – DN 600



STRUCTURE TYPE AR-2, AR-4 / RUBBER BELLOWS PN 25

- **Type AR-2:** Lateral expansion joint consisting of a rubber bellows with rotable flanges and tie rods (external restraints) to absorb reaction force from internal pressure
- **Type AR-4:** Lateral expansion joint consisting of a rubber bellows with rotable flanges and tie rods (external and internal restraints) to absorb reaction force from internal pressure or vacuum
- Highly elastic molded bellows in various rubber grades
- High-tensile 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*	EPDM	NBR
Colour code	orange/yellow	red/yellow
Possible uses	Hot water, acids, lyes	hydrocarbon containing liquids

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

Technical design	
Max. perm. operating pressure	25 bar*
Max. perm. temperature	+130 °C
Bursting pressure	≥ 75 bar
Vacuum operation	DN 20 – 50 without vacuum supporting ring, DN 65 – 600 with vacuum supporting ring

Max. operating pressure to be set 30 % lower for shock loads.
*Please consider a decrease of pressure due to temperature (see technical annex).

FLANGES / VERSIONS

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

	Standard	**Others**
Dimensions	EN 1092	ANSI, BS etc. Connection dimensions see technical annex page 213 – 215
Materials	1.0038 (S235JR)	1.4541, 1.4571 etc.
Corrosion protection	electrogalvanized	hot-dip galvanized, special varnish and coating, 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 reducing thermal and mechanical tension in pipes and their system components, e.g.
  - pumps
  - compressors
- for muffling vibration and noise
  - at appliances
  - in cooling water and lube oil pipes
- for compensating lateral movement
- to compensate for installation inaccuracies
- in sprinkler systems

TIE ROD RESTRAINTS

- DN 20 – DN 150 Tie rods carried on silencing rubber sockets
- DN 200 – DN 600 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

CERTIFICATES

- CE (PED 2014/68/EU)

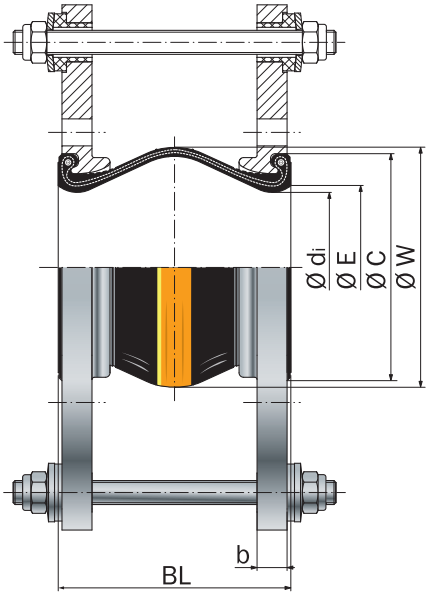
ACCESSORIES

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

DIMENSIONS STANDARD PROGRAM

DN	BL mm	Pressure rate bar	Ø d_i Bellows inner Ø mm	Ø C Raised face outer Ø mm	Ø E Raised face inner Ø mm	Ø W** Convolution Ø mm	PN* Flange connection EN 1092	Ø D Flange outer Ø mm	b Flange thickness mm	H Flange height mm
20	100	25	22 ± 3	51	30	55	25	115	16	195
25	100	25	22 ± 3	51	30	55	25	115	16	195
32	125	25	31 ± 3	72	39	78	25	140	16	220
40	125	25	39 ± 3	81	45	86	25	150	16	230
50	125	25	49 ± 3	95	56	97	25	165	16	240
65	125	25	65 ± 3	115	72	113	25	185	18	260
80	150	25	77 ± 3	127	84	135	25	200	20	300
100	150	25	100 ± 3	151	109	160	25	235	20	350
125	150	25	127 ± 3	178	133	184	25	270	22	385
150	150	25	153 ± 3	206	161	212	25	300	22	420
200	175	25	202 ± 3	260	209	265	25	360	25	485
250	175	25	252 ± 3	313	262	318	25	425	25	550
300	200	25	303 ± 3	363	312	373	25	485	25	610
350	200	25	344 ± 3	423	360	420	25	555	30	680
400	200	25	396 ± 3	474	410	460	25	620	30	745
500	250	35	485 ± 8	584	500	625	25	730	35	910
600	250	25	585 ± 8	684	600	725	25	845	40	1025

* also available with flanges PN 16 and PN 10.
**unpressurized

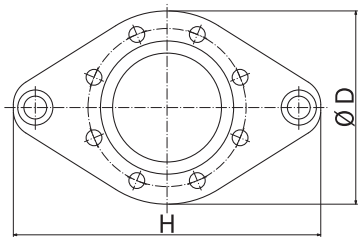


Type AR-2

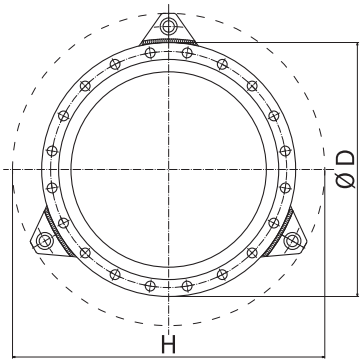
Tie rods, external restraints, carried on silencing rubber sockets

MOVEMENT COMPENSATION / FLANGE VERSIONS

DN	Δ lat Lateral movement ± mm	Permissible vacuum w/o supporting ring at length BL bar absolute	Weight type AR-2 approx. kg
20	10	–	3.9
25	10	–	3.9
32	15	0	5.1
40	15	0.5	5.6
50	15	0.4	6.2
65	15	0.5	7.6
80	15	0.6	10.7
100	15	0.6	13.8
125	15	0.5	18.6
150	15	0.4	21.2
200	15	0.6	27.3
250	15	0.6	35.4
300	15	0.6	42.5
350	15	0.65	74.0
400	15	0.8	85.7
500	15	0.6	168.6
600	20	0.5	220.6

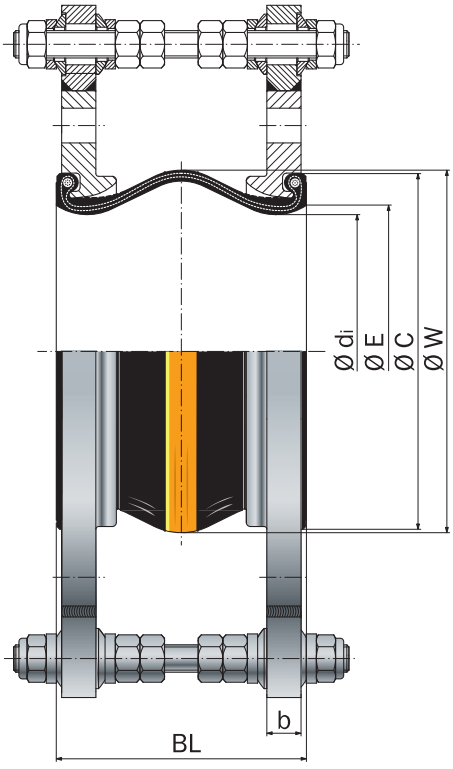


DN 20 – DN 150



DN 200 – DN 600

Number of tie rods depending on pressure



Type AR-4

Design as type AR-2, additional internal restraints, carried on spherical washers and conical seats