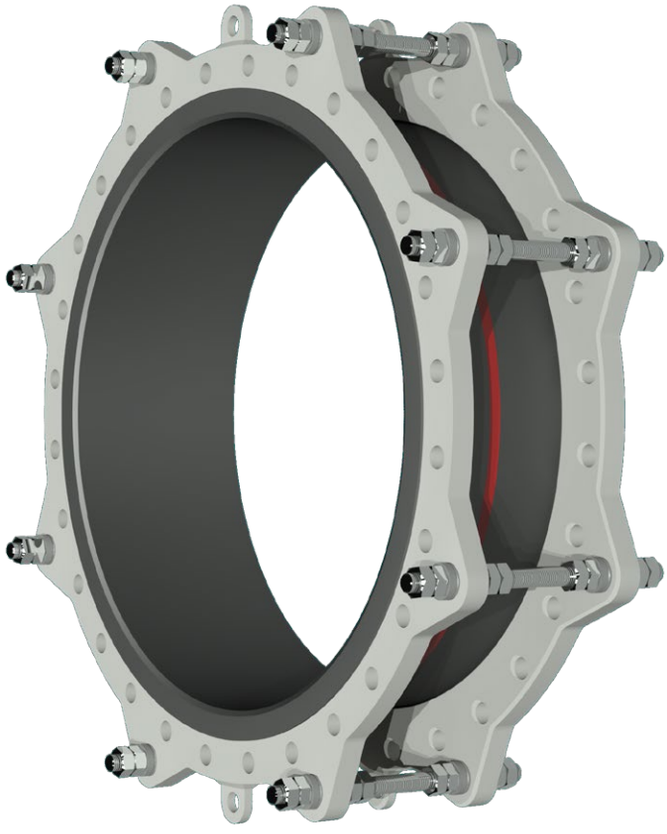
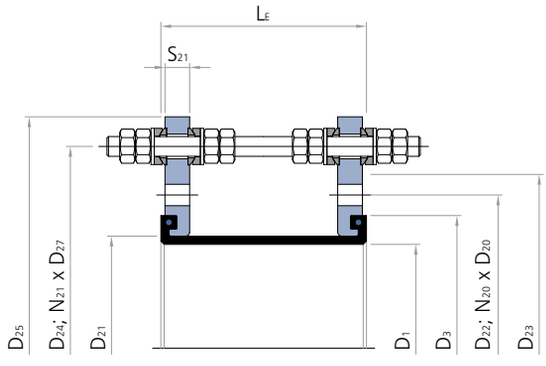
D100M ⌀ 40 - 1,200 mm



> Type D100M

Type key > page 22
D1 0 0 M
- Tie rod variant
- Support ring variant
- Number of arches
- Type

Cross section D100M



Lateral expansion joint without arch

Design: Streamlined, cylindrical rubber bellows with self-sealing rubber bulges, have a cycle life in the tens of millions, constructed with a high-grade leak-proof tube, multiple layers of high-strength cord, a seamless cover, and swivel backing flanges with tie rods borne in spherical washers. Optional with embedded support rings. In compliance with PED 2014/68/EU, FSA Technical Handbook and ASTM F1123 - 87.

Diameters: ⌀ 40 to 1,200 mm, custom diameters possible

Length: Standard L_E = 150 to 400 mm (> page 254)
Custom length on request

Pressure: Up to 10 bar depending on diameter and length
Vacuum stability on request

Movement: For low lateral movements*
(> page 254)

*Installation gap tolerances according to axial movement capability of the expansion joint

Application:
Plant construction, sand/gravel extraction industry, dredgers, food processing e. g. as suction/pressure hoses, in conveying lines, on pumps and vessels

Request assembly instructions at:
www.ditec-adam.de/en/contact

Bellows elastomers and reinforcements

Elastomer	Fabric	Marking	°C	Application
EPDM	Polyamid		-40 | +100	Cooling water, hot water, seawater, acids, dilute chlorine compounds
EPDM	Aramid		-40 | +100	Cooling water, hot water, seawater, acids, dilute chlorine compounds
EPDMht	Aramid		-40 | +120	Cooling water, hot water, seawater, acids, dilute chlorine compounds
EPDMwras	Polyamid		-40 | +100	Drinking water, foodstuffs
EPDMwras	Aramid		-40 | +100	Drinking water, foodstuffs
EPDMbeige	Polyamid		-40 | +100	Foodstuffs
EPDMbeige	Aramid		-40 | +100	Foodstuffs
IIR	Polyamid		-20 | +100	Hot water, acids, bases, gases
IIR	Aramid		-20 | +100	Hot water, acids, bases, gases
CSM	Polyamid		-20 | +100	Strong acids, bases, chemicals
CSM	Aramid		-20 | +100	Strong acids, bases, chemicals
NBR	Polyamid		-30 | +100	Oils, petrol, solvents, compressed air
NBR	Aramid		-30 | +100	Oils, petrol, solvents, compressed air
NBRbeige	Polyamid		-30 | +100	Oil, fatty foods
NBRbeige	Aramid		-30 | +100	Oil, fatty foods
CR	Polyamid		-20 | +90	Cooling water, slightly oily water, seawater
CR	Aramid		-20 | +90	Cooling water, slightly oily water, seawater
FPM	Aramid		-20 | +180	Corrosive chemicals, petroleum distillates
FPMbeige	Aramid		-20 | +180	Oil, fatty foods
NR	Polyamid		-20 | +70	Abrasive materials
Silicon	Aramid Glass		-60 | +200	Air, saltwater atmosphere, foodstuffs, medical technology

Backing flanges

Design: Single-part integral swivel backing flanges with clearance holes, groove to accommodate the rubber bulges and tie rod holders (tie rod type B, E, C, M)

Single-part swivel backing flanges with clearance holes, groove to accommodate the rubber bulges and tie rod gusset plates (tie rod type R, K, L)

Flange norms: DIN, EN, ANSI, AWWA, BS, JIS, special measurements (> page 298)

Materials: Carbon steel, stainless steel

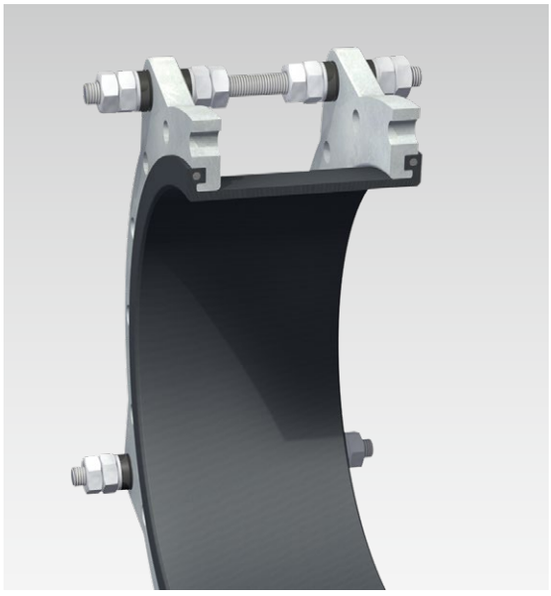
Coating: Primed, hot-dip galvanised, special paint

Accessories

Protective covers: Ground protective shield
Protective shield or cover
Fire protective shield (> page 58)

Flow liners: Cylindrical flow liner
Conical flow liner
Telescoping flow liner (> page 57)

Tie rods

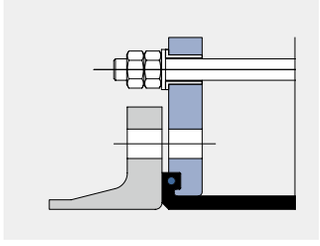


Example: Type D100M

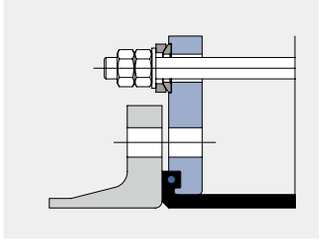
Design: Dimensioning according to design pressure (test pressure) based on the Pressure Equipment Directive

Materials: Carbon steel
Stainless steel

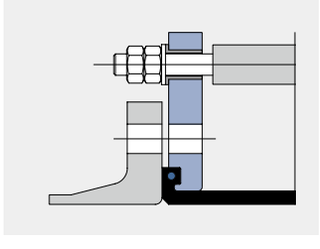
Coating: Spherical washers/ball disks: PTFE coated
Tie rods: galvanised, hot-dip galvanised or PTFE-coated



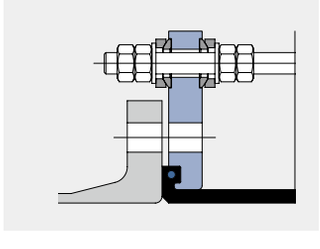
Type D100B
Tie rods mounted outside in rubber bushing to accommodate pressure thrust forces



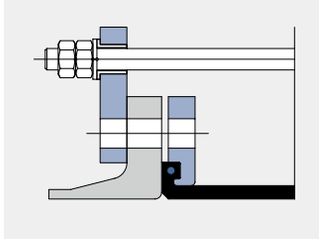
Type D100E
Tie rods mounted outside in spherical washers and ball disks to accommodate pressure thrust forces



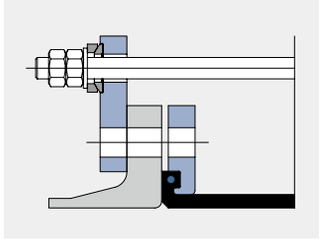
Type D100C
Tie rods mounted outside in rubber bushing and inside with compression sleeve to accommodate pressure/vacuum thrust forces



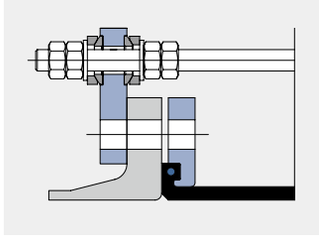
Type D100M
Tie rods mounted outside and inside in spherical washers and ball disks to accommodate pressure/vacuum thrust forces



Type D100R
Gusset plates: Tie rods mounted outside in rubber bushing to accommodate pressure thrust forces

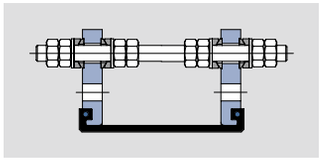


Type D100K
Gusset plates: Tie rods mounted outside in spherical washers and ball disks to accommodate pressure thrust forces



Type D100L
Gusset plates:Tie rods mounted outside and inside in spherical washers and ball disks to accommodate pressure/vacuum thrust forces

Lateral expansion joint, type U110R
on the pump pressure side in a paper mill
∅ 50 mm, 10 bar



D100M

> without arch

Installation length (L_E) at design pressure

	up to 10 bar L_E = 150 mm					up to 10 bar L_E = 200 mm					up to 10 bar L_E = 250 mm				
	higher pressures on request														
	Movement				A	Movement				A	Movement				A
∅															
mm	mm	mm	±mm	±°	cm²	mm	mm	±mm	±°	cm²	mm	mm	±mm	±°	cm²
40	8	5	12	0	10	10	6	16	0	10	13	8	20	0	10
50	8	5	11	0	16	10	6	15	0	16	13	8	19	0	16
65	8	5	11	0	28	10	6	14	0	28	13	8	18	0	28
80	8	5	10	0	43	10	6	14	0	43	13	8	17	0	43
100	8	5	10	0	69	10	6	13	0	69	13	8	17	0	69
125	8	5	10	0	115	10	6	13	0	115	13	8	16	0	115
150	8	5	9	0	170	10	6	12	0	170	13	8	15	0	170
200	8	5	9	0	278	10	6	12	0	278	13	8	14	0	278
250	8	5	8	0	449	10	6	11	0	449	13	8	14	0	449
300	8	5	8	0	656	10	6	11	0	656	13	8	13	0	656
350	8	5	8	0	855	10	6	10	0	855	13	8	13	0	855
400	8	5	8	0	1,195	10	6	10	0	1,195	13	8	13	0	1,195
450	8	5	7	0	1,514	10	6	10	0	1,514	13	8	12	0	1,514
500	8	5	7	0	1,886	10	6	10	0	1,886	13	8	12	0	1,886
600	8	5	7	0	2,706	10	6	9	0	2,706	13	8	12	0	2,706
700	8	5	7	0	3,750	10	6	9	0	3,750	13	8	11	0	3,750
800	8	5	7	0	4,914	10	6	9	0	4,914	13	8	11	0	4,914
900	8	5	6	0	6,193	10	6	9	0	6,193	13	8	11	0	6,193
1000	8	5	6	0	7,667	10	6	8	0	7,667	13	8	10	0	7,667
1100	8	5	6	0	9,297	10	6	8	0	9,297	13	8	10	0	9,297
1200	8	5	6	0	11,085	10	6	8	0	11,085	13	8	10	0	11,085

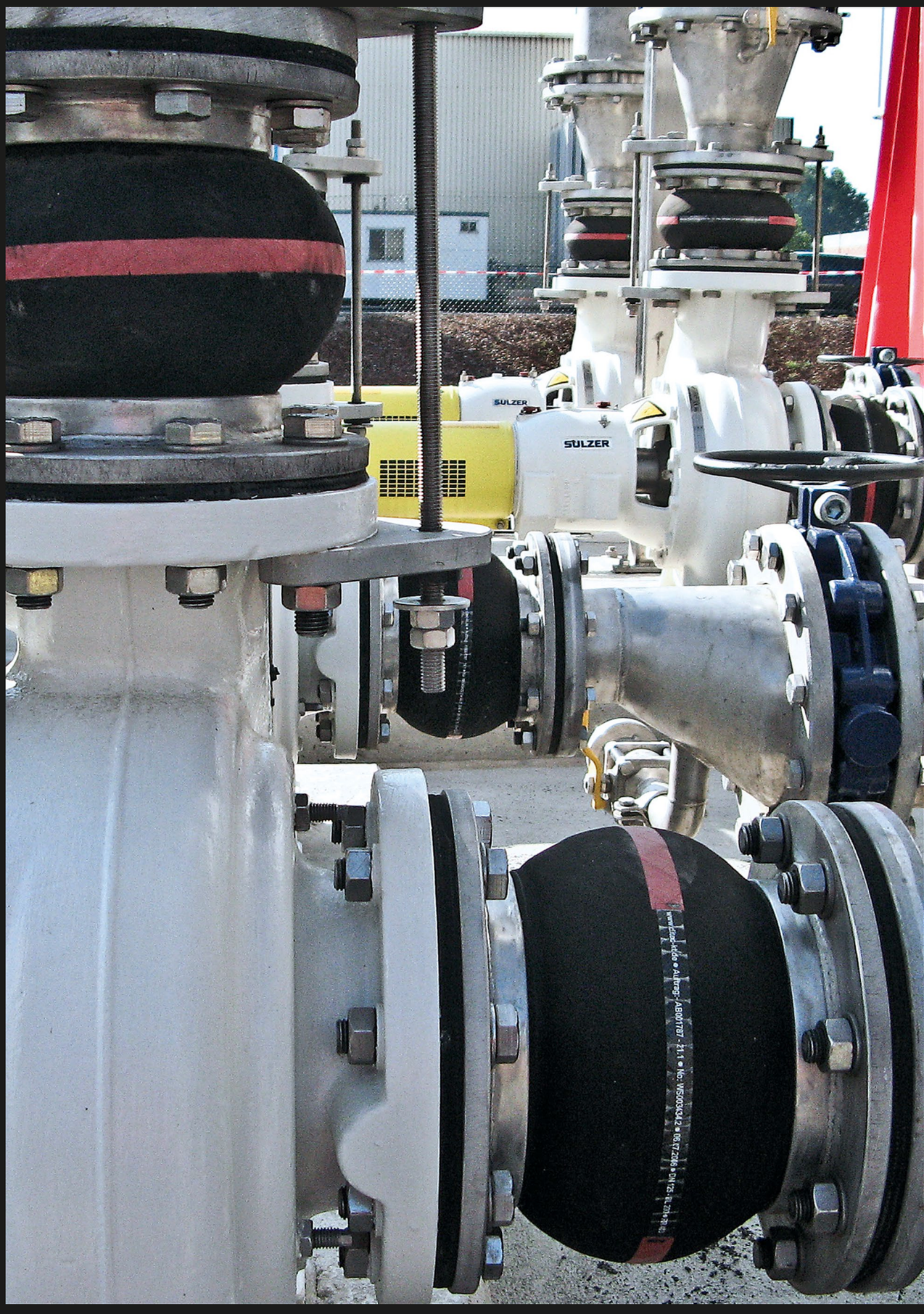
Installation length (L_E) at design pressure

up to 10 bar L_E = 300 mm					up to 10 bar L_E = 350 mm					up to 10 bar L_E = 400 mm					
higher pressures on request															
Movement				A	Movement				A	Movement				A	
															∅
mm	mm	±mm	±°	cm²	mm	mm	±mm	±°	cm²	mm	mm	±mm	±°	cm²	mm
15	9	24	0	10	18	11	28	0	10	20	12	32	0	10	**40**
15	9	23	0	16	18	11	27	0	16	20	12	30	0	16	**50**
15	9	22	0	28	18	11	25	0	28	20	12	29	0	28	**65**
15	9	21	0	43	18	11	24	0	43	20	12	28	0	43	**80**
15	9	20	0	69	18	11	23	0	69	20	12	27	0	69	**100**
15	9	19	0	115	18	11	22	0	115	20	12	25	0	115	**125**
15	9	18	0	170	18	11	21	0	170	20	12	24	0	170	**150**
15	9	17	0	278	18	11	20	0	278	20	12	23	0	278	**200**
15	9	17	0	449	18	11	19	0	449	20	12	22	0	449	**250**
15	9	16	0	656	18	11	19	0	656	20	12	21	0	656	**300**
15	9	15	0	855	18	11	18	0	855	20	12	21	0	855	**350**
15	9	15	0	1,195	18	11	18	0	1,195	20	12	20	0	1,195	**400**
15	9	15	0	1,514	18	11	17	0	1,514	20	12	20	0	1,514	**450**
15	9	14	0	1,886	18	11	17	0	1,886	20	12	19	0	1,886	**500**
15	9	14	0	2,706	18	11	16	0	2,706	20	12	19	0	2,706	**600**
15	9	13	0	3,750	18	11	16	0	3,750	20	12	18	0	3,750	**700**
15	9	13	0	4,914	18	11	15	0	4,914	20	12	18	0	4,914	**800**
15	9	13	0	6,193	18	11	15	0	6,193	20	12	17	0	6,193	**900**
15	9	13	0	7,667	18	11	15	0	7,667	20	12	17	0	7,667	**1000**
15	9	12	0	9,297	18	11	14	0	9,297	20	12	16	0	9,297	**1100**
15	9	12	0	11,085	18	11	14	0	11,085	20	12	16	0	11,085	**1200**

Larger movements see type D110M.

The movement capability of the expansion joints given in the tables is determined for flange dimensions according to DIN PN10. In case of deviating flange dimensions, please contact us.

Customised products available



Universal and lateral expansion joint
on a lye pump suction and discharge side
∅ 125 mm, 5 bar