D100x (B/E/C/M/R/K/L)

NB 40 – NB 1200

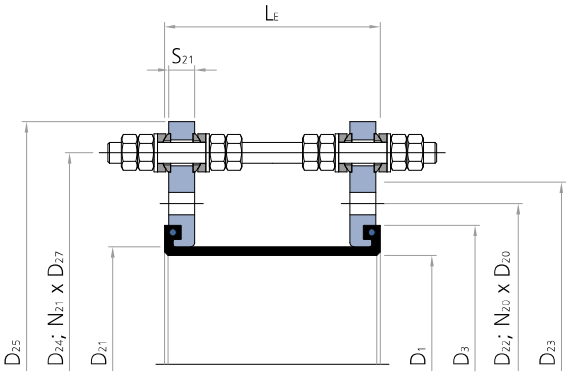
▶ Type D100x (B/E/C/M/R/K/L)

Type key ▶ page 20

D1 0 0 M

- Tie rod variant
- Support ring variant
- Number of arches
- Type

Planning help D100M



Lateral expansion joint without arch

Design: Hydrodynamic, cylindrical rubber bellows with self-sealing rubber bulges and swivel backing flanges with tie rods

Nominal diameters: NB 40 to NB 1200, intermediate sizes possible

Installation length: Standard L_E = 150 to 400 mm (▶ page 188)
Other installation lengths on request

Pressure: Depending on the nominal diameter and installation length up to 10 bar
Vacuum stability on request
Design in accordance with Pressure Equipment Directive PED 2014/68/EU

Movement: For slight lateral movements (▶ page 188)
Installation gap tolerances possible in the context of axial compression and extension

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

Assembly instruction download
www.ditec-adam.de/en/downloads.html

Rubber bellows

Rubber	Fabric	Marking	Max.	Application
EPDM	Nylon		100 °C	Cooling water, hot water, seawater, acids, dilute chlorine compounds
EPDM	Kevlar		100 °C	Cooling water, hot water, seawater, acids, dilute chlorine compounds
EPDMht	Kevlar		120 °C	Cooling water, hot water, seawater, acids, dilute chlorine compounds
EPDMtw	Nylon		100 °C	Drinking water
EPDMtw	Kevlar		100 °C	Drinking water
EPDMaf	Nylon		100 °C	Abrasive materials, water-sand extraction
EPDMaf	Kevlar		100 °C	Abrasive materials, water-sand extraction
EPDMbeige	Nylon		100 °C	Foodstuffs
EPDMbeige	Kevlar		100 °C	Foodstuffs
IIR	Nylon		100 °C	Hot water, acids, bases, gases
IIR	Kevlar		100 °C	Hot water, acids, bases, gases
CSM	Nylon		100 °C	Strong acids, bases, chemicals
CSM	Kevlar		100 °C	Strong acids, bases, chemicals
NBR	Nylon		100 °C	Oils, petrol, solvents, compressed air
NBR	Kevlar		100 °C	Oils, petrol, solvents, compressed air
NBRbeige	Nylon		100 °C	Oil, fatty foods
NBRbeige	Kevlar		100 °C	Oil, fatty foods
CR	Nylon		90 °C	Cooling water, slightly oily water, seawater
CR	Kevlar		90 °C	Cooling water, slightly oily water, seawater
FPM	Kevlar		180 °C	Corrosive chemicals, petroleum distillates
FPMbeige	Kevlar		180 °C	Oil, fatty foods
NR	Nylon		70 °C	Abrasive materials
Silicon	Kevlar or glass		200 °C	Air, saltwater atmosphere, foodstuffs, medical technology

Flanges

Design: Single-part swivel backing flanges with clearance holes, groove to accommodate the rubber bulges and holder for tie rods (control unit type B, E, C, M)

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

Flange norms: DIN, EN, ANSI, AWWA, BS, JIS, special measurements (▶ page 256)

Materials:
Carbon steel: 1.0038 (S235JRG2)
1.0570 (S355J2G3)
Stainless steel: 1.4301 (X5CrNi18-10)
1.4571 (X6CrNiMoTi17-12-2)
Aluminium: AlMg3
Other materials on request

Coating: Primed, hot-dip galvanised, special paint

Optional accessories

Protective hood: UV protection cover, ground protective cover, fire protection cover, splash protective cover (▶ page 44)

Flow liners: Cylindrical flow liner, conical flow liner, telescoping flow liner (▶ page 43)

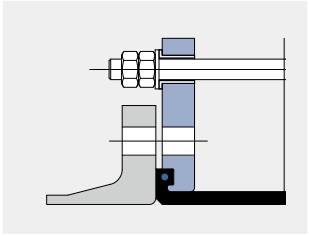
Tie rods

Example: Type D100M

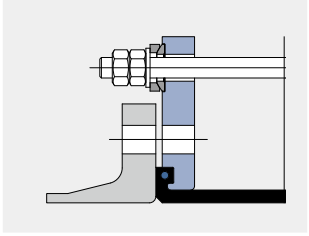
Design: Dimensioning according to design pressure (test pressure) based on the Pressure Equipment Directive

Materials: Carbon steel in strength class 8.8 or stainless steel

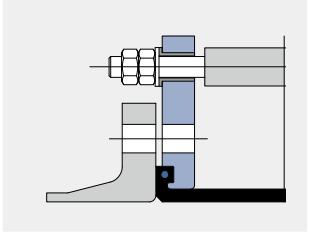
Coating: Spherical bearings and ball disks PTFE-coated
Tie rods galvanised, hot-dip galvanised or PTFE-coated



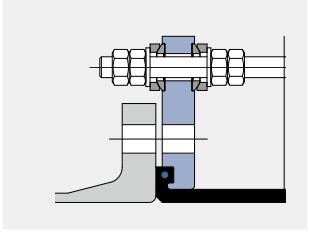
Type D100B
Tie rods mounted outside in rubber bushing to accommodate reaction forces in the event of pressure (up to NB 300)



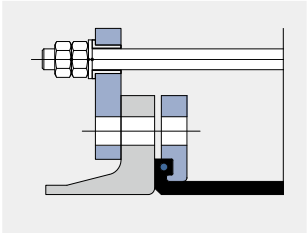
Type D100E
Tie rods mounted outside in spherical bearings and ball disks to accommodate the reaction forces in the event of pressure



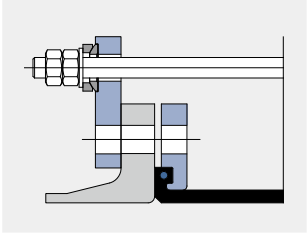
Type D100C
Tie rods mounted outside in rubber bushing and inside in the thrust limiter to accommodate stresses in the event of pressure and vacuum (up to NB 300)



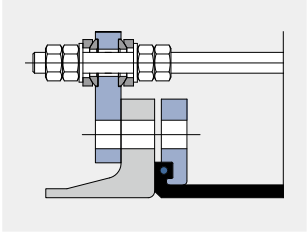
Type D100M
Tie rods mounted outside and inside in spherical bearings and ball disks to accommodate the reaction forces in the event of pressure and vacuum



Type D100R
Control unit plates: Tie rods mounted outside in rubber bushing to accommodate reaction forces in the event of pressure (up to NB 300)

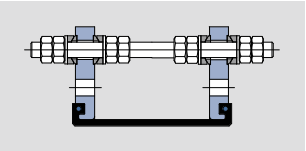


Type D100K
Control unit plates: Tie rods mounted outside in spherical bearings and ball disks to accommodate the reaction forces in the event of pressure



Type D100L
Control unit plates:Tie rods mounted outside and inside in spherical bearings and ball disks to accommodate the reaction forces in the event of pressure and vacuum

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



D100x (B/E/C/M/R/K/L)

▶ without arch

Installation length (L_E) at design pressure

NB	up to 10 bar L_E = 150 mm higher pressures on request Movement				A	up to 10 bar L_E = 200 mm higher pressures on request Movement				A	up to 10 bar L_E = 250 mm higher pressures on request Movement				A
	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 higher pressures on request Movement				A	up to 10 bar L_E = 350 mm higher pressures on request Movement				A	up to 10 bar L_E = 400 mm higher pressures on request Movement				A	NB
mm	mm	±mm	±°	cm²	mm	mm	±mm	±°	cm²	mm	mm	±mm	±°	cm²	
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 D110x.

Individual fabrication possible