

mercia flexibles

Tel. : +44 (0)1584 874999
Email : dilatoflex@merciflexibles.co.uk
Internet : www.merciflexibles.co.uk

Mercia Flexibles
Units 19/20 FlexSpace Enterprise Centre
Ludlow Eco Park
Ludlow
Shropshire. SY8 1FF.
United Kingdom

DILATOFLEX TYPE K and T

Rubber Bellows Expansion Joints / Flexible Pump Compensators



- Grade **CC** Rated for 16 BarG @ 90 °C, and 10 BarG @ **110** °C.
- Manufactured within the European Union.
- Type Approved

DILATOFLEX® K

AUTOSTABLE

Rubber Bellows Expansion Joints - Flexible Pump Bellows Compensators

CC 
Green label

GZ
Orange label

EPC 
Cream label

**Inner
lining
grades**

YP
Yellow label

AR / CN
Red label

DW 
Blue label

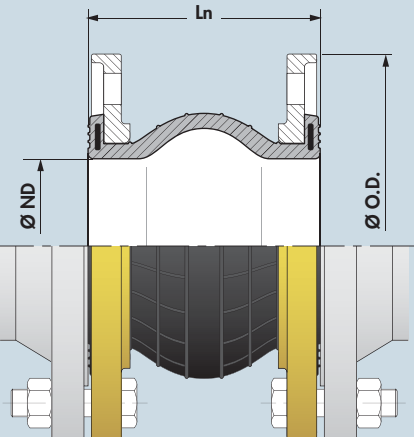
TE
Mauve label



F1
White label

PTFE liner

* see separate technical sheet



Example of Label



DIMENSIONAL DATA						TECHNICAL DATA								
Nominal Diameter		Nominal length (Ln in mm)	O.D. (mm)			Max. permissible pressure (2) bar		Steel ring required for vacuum greater than ...%	Max. Permissible Movements (not concurrent)				AUTOSTABLE ... at its equilibrium length (Lq in mm)	Approx. weight in kg (steel flanges PN10 / PN16)
			Drilling standards (1)						Axial		Lateral	Angular		
			ISO 2084 NF EN 1759-1 NF EN 1092-1											
			PN 10	PN 16	class 150 (PN 20)									
ND mm	NPS inch				T ≤ 100 °C	T > 100 °C								
								Ln - Lc mm	Le - Ln mm	R mm	α° degree			
32	1 1/4	130	140	-	16	10	-	25	10	15	20	130	3.0	
40	1 1/2	130	150	130	16	10	-	25	10	15	20	130	3.4	
50	2	130	165	165	16	10	30	25	10	15	20	130	4.0	
65	2 1/2	130	185	185	16	10	30	25	10	15	20	130	4.7	
80	3	130	200	200	16	10	30	25	10	15	17	130	5.0	
100	4	130	220	220	16	10	30	25	10	15	14	135	6.2	
125	5	130	250	250	16	10	30	25	15	15	14	140	7.7	
150	6	130	285	285	16	10	30	20	15	15	10	140	10.0	
200	8	130	340	340	16	10	30	20	20	15	10	145	12.2	
250	10	130	405	405	16	10	30	15	25	15	8	150	16.7	
300	12	130	445	460	485	16	10	30	15	30	15	7	155	20.0

(1) Other drillings available (e.g. PN6, PN25, BS10D-E...)

Floating flanges in zinc-chromated, hot dip galvanized or stainless (304L or 316L) steel

(2) **DW grade:** W.P. 12 bar at 105°C max. for the whole range.

Its lining grade is homologated A.C.S. (sanitary conformity certification)

It falls into art. 1 item 3.2 of the PED 97/23/CE.

Grade CC WP : 16 BarG @ 90 °C / 10 BarG @ 110 °C.

Technical Sheet

AFD-TS- 002/2 from 2008 - 03 - 07

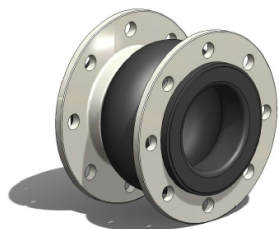
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DILATOFLEX®

Rubber Bellows Expansion Joints - Flexible Pump Bellows Compensators

DILATOFLEX TYPE T

The best among expansion joints

Rubber Bellows Expansion Joints - Flexible Pump Bellows for Pipework for Anti-Vibration, and the Absorption of Movement and Thermal Expansion in Pipelines

CC	16 bar - 90°C
AR/CN	10 bar - 110°C
GZ	16 bar - 90°C
TE	
YP	
AB	16 bar - 100°C
EPC	
DW	16 bar - 90°C
	12 bar - 105°C

The expansion joint Type T allows big displacement, high resistance to pressure and a very good behaviour in exceptional conditions.



Drinking water agreement Grade DW



25 bars @ 55°C possible on request with model DIL-TP.

Example of label:



Range of diameters:

ND 32 - 40 - 50 - 65 - 80 - 100 - 125
150 - 200 - 250 - 300 - 350 mm

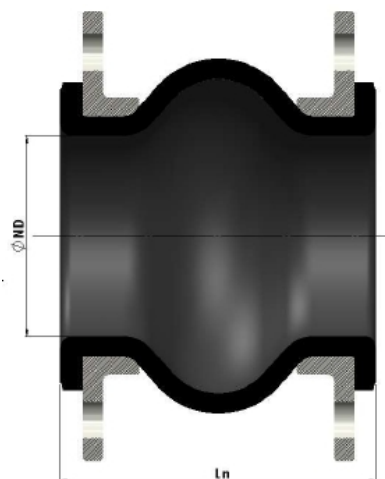
Lengths :

DN 32 to 200 : 150 mm
DN 150 to 350 : 200 mm

Working conditions:

Displacements		Normal*
AXIAL	Compression	30 mm
	Elongation	30 mm
LATERAL		20 mm

*normal conditions : 1 x 10⁶ cycles



Angular displacement												
DN (mm)	32	40	50	65	80	100	125	150	200	250	300	350
Normal (°)	20	20	20	20	20	20	10	10	10	10	10	9

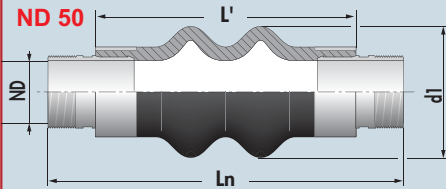
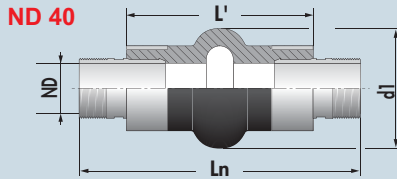
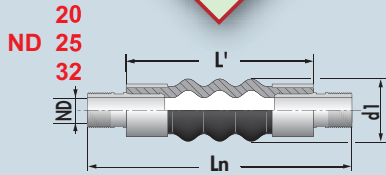
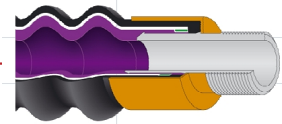
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DILATOFLEX KLEDIL®

Threaded Flexible Rubber Pump Bellows



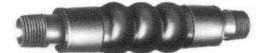
Example of Label

KLEDIL® CC

DIMENSIONAL DATA						TECHNICAL DATA								
Nominal Diameter		BSPT Male Thread (*) former designation	O.D.	L'	Ln	Max. permissible pressure (bar) (1)	Max. permissible vacuum (% vacuum)	Max. Permissible Movements (not concurrent)				Thrust in daN for P= 1 bar	Axial Stiffness at zero pressure in daN for 1cm axial movement	Approximate weight/Kg
								Axial		Lateral	Angular			
								 Compression Ln - Lc mm	 Elongation Le - Ln mm	 Shearing R mm	 angle α° degree			
ND mm	NPS inch		d1 mm											
20	3/4	R 3/4" (20x27)*	50	160	220	12	100	15	8	10	0	3	50	0.45
25	1	R 1" (26x34)*	55	160	220	9	100	15	8	10	0	4	60	0.55
32	1 1/4	R 1 1/4" (33x42)*	66	160	230	9	100	15	8	10	0	9	95	0.80
40	1 1/2	R 1 1/2" (40x49)*	94	160	230	7	70	10	10	6	0	13	130	0.95
50	2	R 2" (50x60)*	105	210	290	7	70	30	30	15	0	42	40	1.50

(1) DW grade = max. operating capabilities are W.P. 8 bar at +105 °C.

Inner lining grade	BSPT Male Thread
 CC Green label	Steel
 DW Blue label	Stainless steel
 EPC Cream label	Stainless steel
 GZ Orange label	Steel



< HVAC & Industrial Water
Max. Temp. 110 °C

< Drinking Water Approved
Max. Temp. 105 °C

< Food Grade Approved
Max. Temp. 95 °C

< Oils, Gas & Fuels
Max. Temp. 90 °C

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AN EFFICIENT SOLUTION FOR A WIDE RANGE OF APPLICATIONS

BUILDING INDUSTRY

- ▶ Central heating and air conditioning
- ▶ Hot and cold water systems
- ▶ Fire extinction systems

POWER GENERATION

- ▶ Cooling systems, pumping stations, etc. for conventional and nuclear power plants

PETROLEUM INDUSTRY

- ▶ Cooling systems
- ▶ Fuel handling

NAVAL CONSTRUCTION

- ▶ Machine cooling systems
- ▶ Sanitary installations
- ▶ Fire extinction systems
- ▶ Fuel handling

METALLURGY

- ▶ Blast furnace gas
- ▶ Compressed air
- ▶ Industrial water systems

WATER TREATMENT

- ▶ Production and distribution of drinking water, waste water treatment

FOOD INDUSTRY

- ▶ Drinking water and other beverage and foodstuff handling systems

CHEMICAL INDUSTRY

Fluid handling systems:

- ▶ acids, bases, hydrocarbons, emulsions, solutions, air, gas, steam, water, etc.

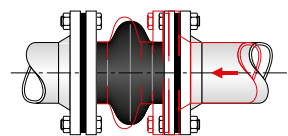
Lining Grade Identification colour and designation	Typical Applications	W.T. Working temperatures
Green label CC	▶ Central heating and air conditioning water	-35 °C +90 °C/ 110 °C
Blue label DW	▶ Drinking Water Approved ▶ Domestic cold and hot water	-25 °C +90 °C/ 105 °C
Cream label EPC	▶ Food products ▶ White Food Grade liner ▶ Option Stainless Steel flanges	-25 °C +95 °C
White label ES	▶ Steel Mesh Reinforced ▶ Superheated water ▶ Hot water vapour	-35 °C +140 °C
Red label AR/CN	▶ Abrasive or corrosive products (weak acids and bases) ▶ Industrial water, sea water ▶ Low-temperature water vapour	-35 °C +90 °C
Orange label GZ	▶ Gas, compressed air, fuel, oil ▶ Petroleum products with aromatic content < 40% ▶ Sanitation water	-20 °C +90 °C
Blue label HH	▶ Industrial and waste water ▶ Hydrogen gas, nitrogen	-20 °C +90 °C
Yellow label YP	▶ Strong acids ▶ Strong bases ▶ Aggressive chemicals	-25 °C +100 °C
Grey label AB	▶ Strong acids ▶ Strong bases ▶ Weak chlorinated products	-35 °C +100 °C
Mauve label TE	▶ Industrial water ▶ Acidic water ▶ Diluted acids and bases	-25 °C +100 °C
White label F1	▶ Special highly aggressive products (Working pressure limited to 6 bar max.)	-35 °C +110 °C



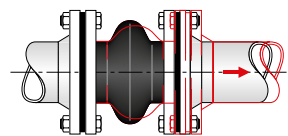
The inner lining to be used for a specific fluid (composition, concentration, temperature, etc.) should be selected according to our Chemical Resistance Chart.

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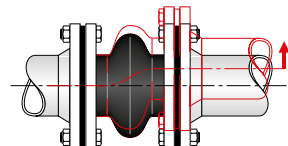
Operating Principles



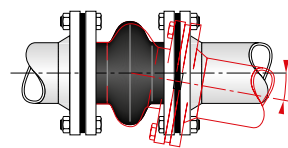
AXIAL COMPRESSION



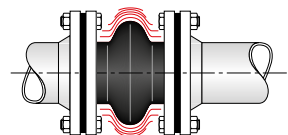
AXIAL ELONGATION



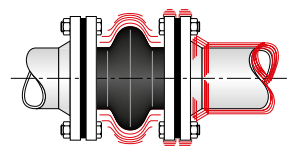
LATERAL DEFLECTION



ANGULAR DEFLECTION



WATER HAMMER REDUCTION

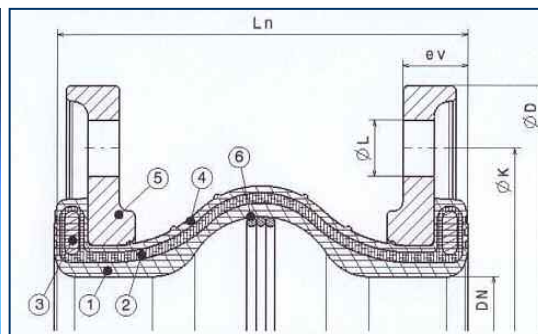
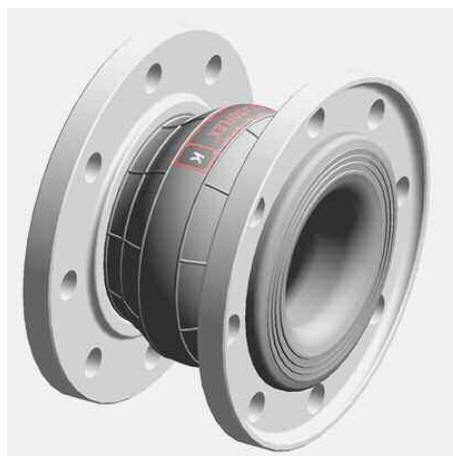


ELIMINATION OF VIBRATION

Rubber Bellows Expansion Joints - Flexible Pump Bellows for Pipework for Anti-Vibration, and the Absorption of Movement and Thermal Expansion in Pipelines

Options :

- Stainless Steel Flanges
- Tied and Hinged Versions
- Vacuum Rings
- Food Grade **EPC** and Potable Water Grade **DW** Versions
- High Pressure Type **KP** Rated for 25 BarG @ 55 °C
- Other Rubber Grades for Chemicals, Oils, etc.
- Type **K1** with PTFE Internal Liner
- Flame Guards
- Longer Length Type **T**, and Double Sphere Type **K2** & **T2**



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