

## B. LATERAL EXPANSION JOINT

MEGAFLEXON standard lateral expansion joints are available in two designs. The light design, type MLW, MLF, has tie rods which are secured to the flanges by means of nuts and a specially designed spherical disk, allowing angular movement between bolt and flange.

The number of tie rods is dependent on diameter and pressure. MEGAFLEXON standard lateral expansion joint with tie rods is available in a design with single or double tie rods.

The design with tie rods can only be used within a limited pressure range and a temperature range(max. 400 Deg. C).

The heavy-duty design, type LA3, LA4(fig2) has flat iron hinges which are fitted through the flanges and welded onto them on the outside. A hinge, which allows lateral movements, is mounted on the fitting above the center line of the bellows. MEGAFLEXON standard lateral expansion joint with hinges is available as well in a design with a double bellows.

Common to both models is the fact that tie rods and hinges alike have the task of absorbing the thrust forces arising from the operating pressure. The tie rods and hinges make axial expansion impossible.

This means that a lateral expansion joint can only move sideways(laterally) on one or more planes, making it possible for those movements which are perpendicular to the longitudinal direction to be absorbed. Lateral expansion joints are therefore ideal for installation in pipe systems with bends.

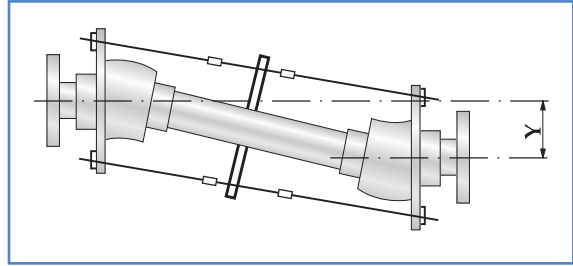
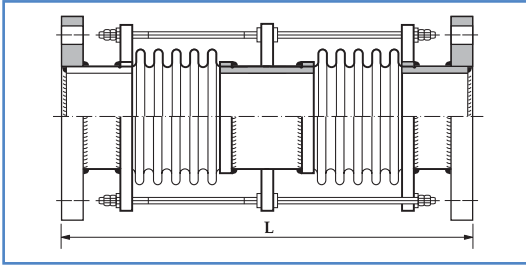
### **a) Advantage**

- Absorb thermal growth in all direction in one plane
- A largely reduced load on fix point

### **b)Disadvantage**

- The changed flow direction

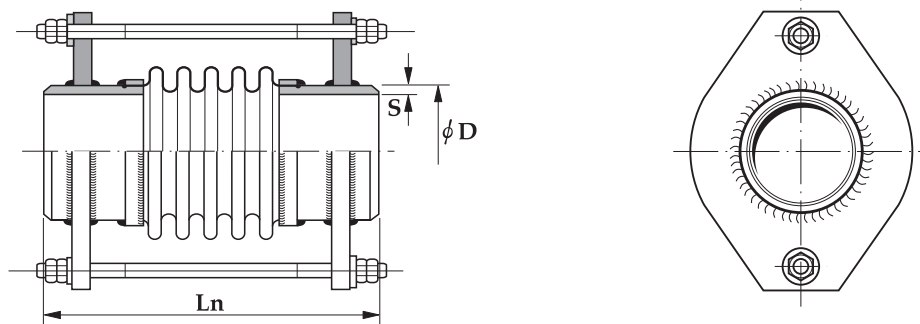
## Universal Type Expansion Joint



DN	No of Convo- lution	Lateral Movement Variation (Y) (mm)									
		Overall Length (L) (mm)									
		1000	1500	2000	2500	3000	3500	4000	4500	5000	
200	3+3	47	84	122	159	197	234	271			
250		56	101	147	193	239	286	332			
300		56	107	158	210	262	314	365			
350		49	95	143	190	238	285	333			
400			78	107	158	209	239	279			
450			69	105	141	177	214	250			
500			65	99	133	168	203	237			
550			62	96	130	164	199	234			
600			54	85	116	148	179	211	242	274	
650			51	80	109	139	168	198	227	257	
700			44	71	98	126	153	180	208	235	
	4+4		53	68	124	160	196	232	269	305	
800	3+3		39	63	87	111	135	159	184	208	
	4+4		47	78	109	141	173	205	238	270	
900	3+3		35	57	78	100	122	143	166	1488	
	4+4		42	70	98	127	156	185	215	244	
1000	3+3			28	47	67	87	106	126	146	165
	4+4			33	58	84	110	136	162	188	215
1200	3+3				40	57	73	90	106	123	139
	4+4				49	71	93	115	137	159	181
1500	3+3				30	43	56	69	83	96	109
	4+4				36	53	71	89	106	124	142
2000	3+3				23	35	46	58	69	81	92
	4+4				28	43	58	73	88	104	120

If it's used for a pipe that should absorb Axial variation at the same time, it must have on anchor.

## Lateral expansion joints with welding ends



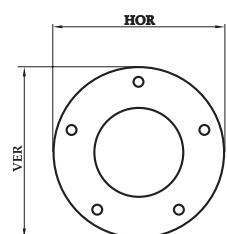
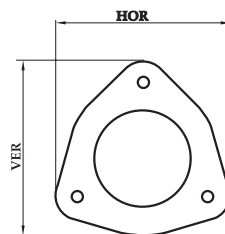
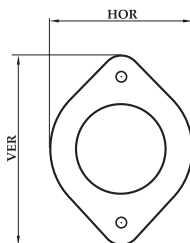
### Design Pressure

150Lbf/in<sup>2</sup>

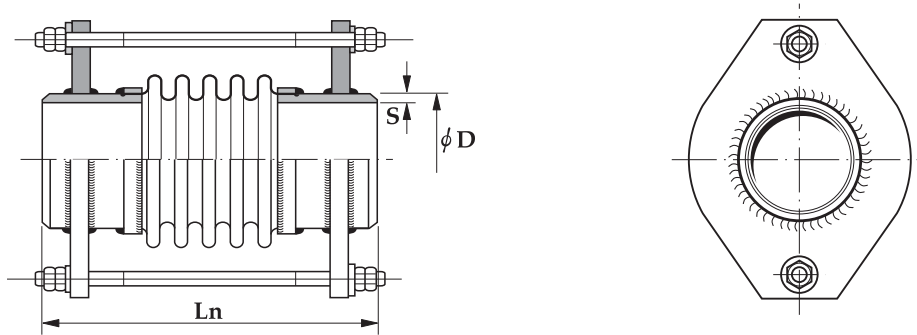
DN	TYPE	Movem.	Ln	Spring rates		Welding ends			Dimensions		Bellows		Bellow-areas	Weight Approx
		+/-AX		AX	LA	φ D	L2	s	HOR	VER	Di	Do		
		(mm)	(mm)	kgf/mm	kgf/mm	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm <sup>2</sup> )	<kg>
40	MLWS-0040-030-10	30	445	6.42	1.02	48.3	145	2.6	90	170	40.5	57.7	1893	4.0
50	MLWS-0050-025-10	25	445	7.14	1.73	60.3	145	2.9	100	180	52.5	69.7	2932	4.4
65	MLWS-0065-025-10	25	440	5.81	2.24	76.1	145	2.9	120	200	68.3	87.5	4766	5.3
80	MLWS-0080-033-10	33	485	8.67	2.85	88.9	145	3.2	150	210	79.1	100.9	6362	8.0
100	MLWS-0100-025-10	25	475	8.06	4.89	114.3	145	3.6	175	245	104.6	130.2	10825	9.9
125	MLWS-0125-022-10	22	475	7.65	7.24	139.7	145	4.0	239	235	130.2	157.8	16286	13.2
150	MLWS-0150-020-10	20	475	8.97	11.42	168.3	145	4.5	260	262	155.0	186.6	22912	15.4
175	MLWS-0175-017-10	17	475	9.89	16.63	193.7	145	5.6	282	295	180.6	212.2	30295	22.1
200	MLWS-0200-016-10	16	525	8.97	20.10	219.1	170	5.6	303	312	206.1	239.7	39022	22.2
250	MLWS-0250-017-10	17	555	9.28	23.36	273.0	170	6.3	347	368	260.0	293.6	60176	29.2
300	MLWS-0300-022-10	22	600	11.93	28.87	323.9	170	8.0	400	423	311.1	347.5	85167	46.9
350	MLWS-0350-020-10	20	600	12.95	37.75	355.6	170	8.0	435	460	342.8	379.2	102354	56.6
400	MLWS-0400-022-10	22	630	11.12	34.18	406.4	170	8.0	506	528	389.9	437.1	134289	78.8
450	MLWS-0450-015-10	15	590	18.36	96.02	457.2	170	8.0	600	600	440.5	489.5	169823	99.3
500	MLWS-0500-023-10	23	775	17.85	67.04	508.0	225	8.0	675	675	485.4	536.4	205004	148.9
550	MLWS-0550-014-10	14	720	23.57	153.46	559.0	225	10.0	725	725	536.4	587.4	247975	157.8
600	MLWS-0600-022-10	22	790	24.08	119.38	609.6	225	10.0	790	790	585.6	654.6	302004	210.9
700	MLWS-0700-019-10	19	905	23.36	153.36	711.0	280	10.0	905	905	687.5	756.5	409415	306.8
800	MLWS-0800-016-10	16	905	25.61	218.36	813.0	280	10.0	1010	1010	789.5	858.5	533267	383.2
900	MLWS-0900-015-10	15	905	28.06	301.53	914.0	280	10.0	1105	1105	890.5	959.5	672006	448.8
1000	MLWS-1000-013-10	13	905	30.61	406.02	1016.0	280	10.0	1210	1210	992.5	1061.5	828382	504.7

### Number of tierods

DN 40 - DN 100; 2[pcs]  
 DN 125 - DN 800; 3[pcs]  
 DN 900; 4[pcs]  
 DN 1000; 5[pcs]



## Lateral expansion joints with welding ends



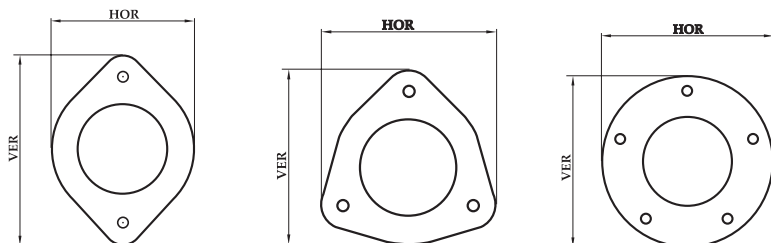
### ■ Design Pressure

300Lbf/in<sup>2</sup>

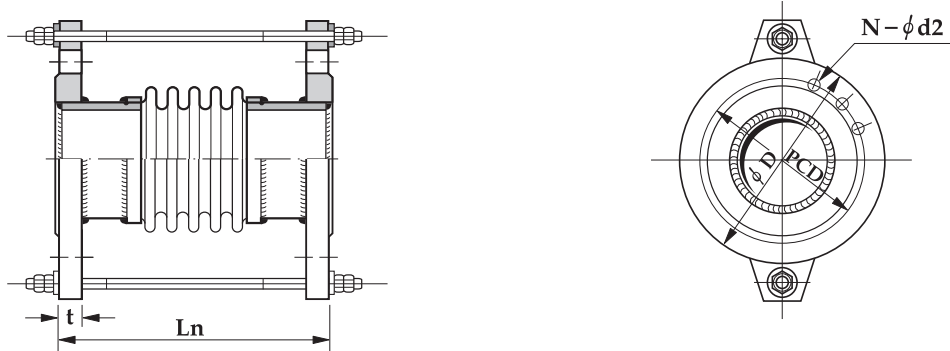
DN	TYPE	Movem.	Ln	Spring rates		Welding ends			Dimensions		Bellows		Bellow-areas	Weight Approx
		+/-AX		AX	LA	phi D	L2	s	HOR	VER	Di	Do		
		(mm)	(mm)	kgf/mm	kgf/mm	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm <sup>2</sup> )	<kg>
40	MLWS-0040-010-20	10	385	10.71	4.18	48.3	145	2.6	90	160	40.5	57.5	1886	3.6
50	MLWS-0050-020-20	20	435	13.26	3.67	60.3	145	2.9	100	170	52.5	70.3	2961	4.5
65	MLWS-0065-014-20	14	410	12.44	7.75	76.1	145	2.9	135	190	68.3	88.1	4803	6.4
80	mLWS-0080-014-20	14	435	15.40	9.18	88.9	145	3.2	150	200	79.1	100.7	6348	7.3
100	MLWS-0100-014-20	14	440	17.04	16.02	114.3	145	3.6	175	230	104.6	131.0	10899	9.7
125	MLWS-0125-016-20	16	465	16.63	17.04	139.7	145	4.0	226	228	130.2	156.6	16151	13.1
150	MLWS-0150-020-20	20	500	23.16	23.26	168.3	145	4.5	256	269	155.0	186.2	22859	20.4
175	MLWS-0175-018-20	18	500	25	33.16	193.7	145	5.6	278	294	180.6	211.8	30233	24.2
200	MLWS-0200-020-20	20	560	23.97	38.97	219.1	170	6.3	313	328	206.2	242.2	39479	31.3
250	MLWS-0250-016-20	16	560	27.75	69.18	273.0	170	7.1	405	405	260.3	296.3	60830	54.0
300	MLWS-0300-008-20	8	630	49.38	251.93	323.9	225	8.0	480	480	311.2	349.2	85634	88.9
350	MLWS-0350-007-20	7	630	53.77	328.97	355.6	225	8.0	510	510	343.0	381.0	102922	98.6
400	MLWS-0400-013-20	13	690	45.40	205.61	406.4	225	10.0	580	580	390.4	440.4	135526	138.8
450	MLWS-0450-012-20	12	810	52.04	277.24	457.2	280	10.0	650	650	441.5	494.5	172021	199.5
500	MLWS-0500-012-20	12	810	69.69	448.26	508.0	280	10.0	695	695	486.5	541.5	207499	223.8
550	MLWS-0550-011-20	11	810	73.67	572.85	559.0	280	10.0	750	750	537.8	592.8	250985	273.2
600	MLWS-0600-016-20	16	875	77.14	457.04	609.6	280	12.0	805	805	586.6	651.6	301031	319.0

### Number of tierods

DN 40 - DN 100;      2[pcs]  
 DN 125 - DN 450;    3[pcs]  
 DN 500 - DN 600;    4[pcs]



## Lateral expansion joints with fixed flange ends



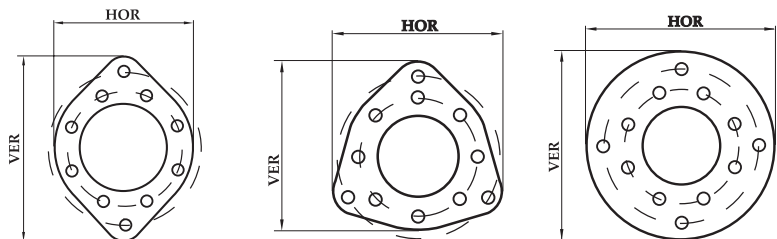
### ■ Design Pressure

150Lbf/in<sup>2</sup>

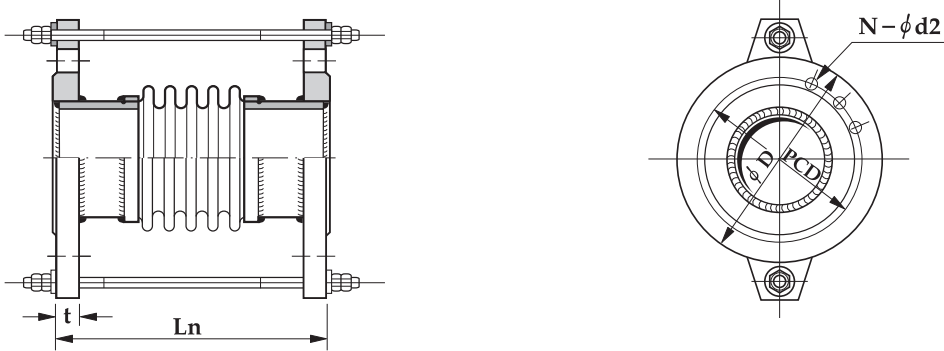
DN	TYPE	Movem.	Ln	Spring rates		Flange ANSI B 16.5					Dimensions		Bellows		Bellow-	Weight	
		+/-AX		AX	LA	φ D	PCD	t	N	φ d2	HOR	VER	Di	Do	areas		Approx
		(mm)	(mm)	kgf/mm	kgf/mm	(mm)	(mm)	(mm)	(EA)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm <sup>2</sup> )	<kg>
40	MLFS-0040-030-10	30	185	6.42	1.02	127	98.4	17.5	4	16	150	225	40.5	57.7	1893	3.4	
50	MLFS-0050-025-10	25	190	7.14	1.73	152	120.6	19.5	4	20	165	240	52.5	59.7	2472	3.7	
65	MLFS-0065-025-10	25	190	5.81	2.24	178	139.7	22.5	4	20	185	260	68.3	87.5	4766	4.4	
80	MLFS-0080-033-10	33	235	8.67	2.85	191	152.4	24.0	4	20	200	275	79.1	100.9	6362	7.8	
100	MLFS-0100-025-10	25	225	8.06	4.89	229	190.5	24.0	8	20	220	295	104.6	130.2	10825	8.3	
125	MLFS-0125-022-10	22	225	7.65	7.24	254	215.9	24.0	8	23	287	288	130.2	157.8	16286	10.9	
150	MLFS-0150-020-10	20	230	8.97	11.42	279	241.3	25.5	8	23	317	323	155.0	186.6	22912	12.3	
200	MLFS-0200-016-10	16	230	8.97	20.10	343	298.4	29.0	8	23	360	378	206.1	239.7	39022	15.4	
250	MLFS-0250-017-10	17	265	9.28	23.36	406	361.9	30.5	12	26	412	433	260.0	293.6	60176	23.8	
300	MLFS-0300-022-10	22	310	11.93	28.87	483	431.8	32	12	26	455	483	311.1	347.5	85167	33.3	
350	MLFS-0350-020-10	20	315	12.95	37.75	535	476.2	35	12	29	521	550	342.8	379.2	102354	43.6	
400	MLFS-0400-022-10	22	355	11.12	34.18	595	539.7	37	16	29	573	610	389.9	437.1	134289	64.4	
450	MLFS-0450-015-10	15	325	18.36	96.02	635	577.8	40	16	32	616	660	440.5	489.5	169823	68.8	
500	MLFS-0500-023-10	23	400	17.85	67.04	700	635	43	20	32	693	730	485.4	536.4	205004	96.5	
600	MLFS-0600-022-10	22	500	34.38	170.61	815	749.3	43	20	35	780	840	585.6	645.6	297637	138.6	
700	MLFS-0700-019-10	19	505	33.36	219.08	927.1	863.6	71	24	35	896	965	687.5	756.5	409415	182.4	
800	MLFS-0800-016-10	16	525	36.53	311.93	1060	978	81	28	41	1015	1080	789.5	858.5	533267	238.5	
900	MLFS-0900-015-10	15	535	40.10	430.71	1168.4	1085	90	32	41	1115	1255	890.5	959.5	672006	274.9	
1000	MLFS-1000-013-10	13	535	43.77	580	1289	1200	90	36	41	1306	1300	992.5	1061.5	828382	325.7	

### Number of tierods

DN 40 - DN 100; 2[pcs]  
 DN 125 - DN 800; 3[pcs]  
 DN 900; 4[pcs]  
 DN 1000; 4[pcs]



## Lateral expansion joints with fixed flange ends



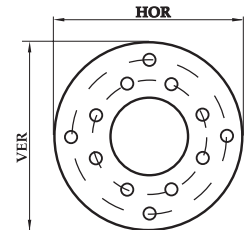
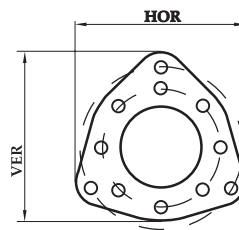
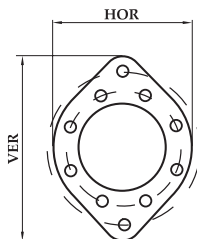
### ■ Design Pressure

300Lbf/in<sup>2</sup>

DN	TYPE	Movem. +/-AX	Ln	Spring rates		Flange ANSI B 16.5					Dimensions		Bellows		Bellow- areas (mm <sup>2</sup> )	Weight Approx <kg>
				AX	LA	φ D	PCD	t	N	φ d2	HOR	VER	Di	Do		
		(mm)	(mm)	kgf/mm	kgf/mm	(mm)	(mm)	(mm)	(EA)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	
40	MLFS-0040-010-20	10	135	10.71	4.18	156	114.3	21.0	4	23	150	225	40.5	57.7	1893	4.9
50	MLFS-0050-020-20	20	185	13.26	3.67	165	127	22.5	8	20	165	240	52.5	70.3	2961	6.1
65	MLFS-0065-014-20	14	165	12.44	7.75	191	149.2	25.5	8	23	185	260	68.3	88.1	4803	8.1
80	MLFS-0080-014-20	14	190	15.40	9.18	210	168.3	29.0	8	23	200	275	79.1	100.7	6348	10.1
100	MLFS-0100-014-20	14	200	17.04	16.02	254	200	32.0	8	23	235	310	104.6	131.0	10899	14.4
125	MLFS-0125-016-20	16	225	16.63	17.04	279	234.9	35.0	8	23	304	308	130.2	156.6	16151	20.1
150	MLFS-0150-020-20	20	265	23.16	23.26	318	269.9	37.0	12	23	330	337	155.0	186.2	22859	26.9
200	MLFS-0200-020-20	20	380	23.97	38.97	381	330.2	41.5	12	26	395	405	206.2	242.2	39479	40.0
250	MLFS-0250-016-20	16	395	27.75	69.18	445	387.3	48.0	16	29	452	470	260.3	296.3	60830	56.4
300	MLFS-0300-008-20	8	365	49.38	251.93	520	450.8	51.0	16	32	532	545	311.2	349.2	85634	70.2
350	MLFS-0350-007-20	7	380	53.77	328.97	585	514.3	54.0	20	32	593	615	343.0	381.0	102922	103.0
400	MLFS-0400-013-20	13	460	45.40	205.61	650	571.5	57.5	20	35	649	680	390.4	440.4	135526	142.3
500	MLFS-0500-012-20	12	500	69.69	448.26	775	685.8	63.5	24	35	763	800	486.5	541.5	207499	204.9
600	MLFS-0600-016-20	16	565	77.14	457.04	915	812.8	70.0	24	42	845	985	586.6	651.6	301031	233.0

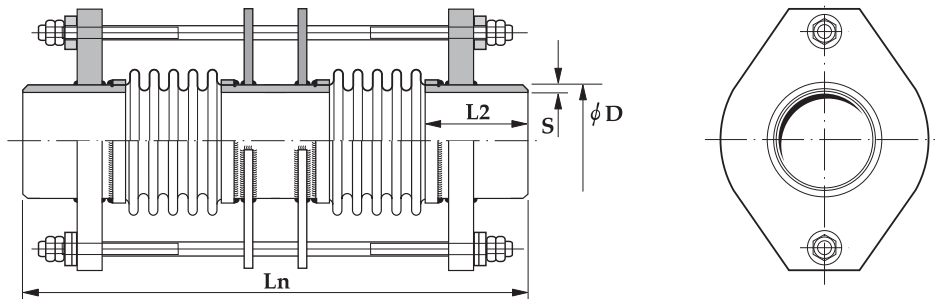
### Number of tierods

- DN 40 - DN 100; 2[pcs]
- DN 125 - DN 600; 3[pcs]
- DN 700; 4[pcs]
- DN 800; 5[pcs]
- DN 900; 6[pcs]
- DN 1000; 7[pcs]





## Lateral expansion joints with welding ends



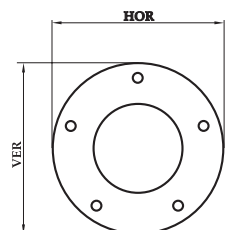
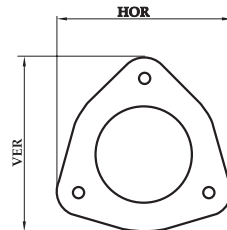
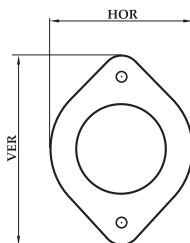
### Design Pressure

150Lbf/in<sup>2</sup>

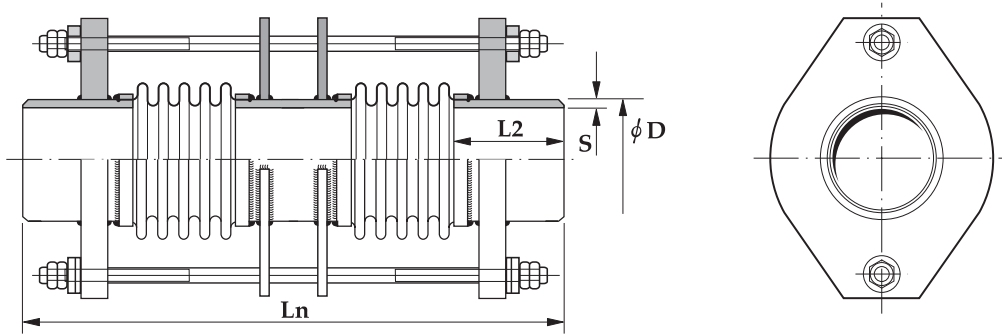
DN	TYPE	Movem.	Ln	Spring rates		Welding ends			Dimensions		Bellows		Bellow-areas	Weight
		+/-AX		AX	LA	φ D	L2	s	HOR	VER	Di	Do		
		(mm)	(mm)	kgf/mm	kgf/mm	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm <sup>2</sup> )	<kg>
40	MLWD-0040-075-10	75	620	6.93	0.10	48.3	145	2.6	90	170	40.5	57.7	1893	5.4
50	MLWD-0050-075-10	75	630	7.65	0.20	60.3	145	2.9	100	180	52.5	69.7	2932	6.3
65	MLWD-0065-075-10	75	615	6.22	0.30	76.1	145	2.9	120	200	68.3	87.5	4766	7.3
80	MLWD-0080-075-10	75	615	9.38	0.71	88.9	145	3.2	150	210	79.1	100.9	6362	10.5
100	MLWD-0100-075-10	75	645	8.67	0.81	114.3	145	3.6	175	245	104.6	130.2	10825	13.5
125	MLWD-0125-075-10	75	660	8.26	1.12	139.7	145	4.0	239	235	130.2	157.8	16286	18.5
150	MLWD-0150-075-10	75	700	9.79	1.42	168.3	145	4.5	260	262	155.0	186.6	22912	22.8
175	MLWD-0175-075-10	75	745	10.81	1.63	193.7	145	5.6	282	295	180.6	212.2	30295	32.7
200	MLWD-0200-075-10	75	805	9.89	1.83	219.1	170	5.6	303	312	206.1	239.7	39022	34.6
250	MLWD-0250-055-10	55	765	12.04	4.18	273.0	170	6.3	347	368	260.0	293.6	60176	43.0
300	MLWD-0300-055-10	55	780	17.95	8.36	323.9	170	8.0	400	423	311.1	347.5	85167	63.0
350	MLWD-0350-055-10	55	815	19.48	8.97	355.6	170	8.0	435	460	342.8	379.2	102354	79.9
400	MLWD-0400-055-10	55	748	14.48	16.22	406.4	170	8.0	506	528	389.9	437.1	134289	98.9
450	MLWD-0450-055-10	55	805	20.20	19.08	457.2	170	8.0	600	600	440.5	489.5	169823	128.5
500	MLWD-0500-055-10	55	910	19.69	29.18	508.0	225	8.0	675	675	485.4	536.4	205004	176.8
550	MLWD-0550-055-10	55	945	21.22	30.51	559.0	225	10.0	725	725	536.4	587.4	247975	202.7
600	MLWD-0600-055-10	55	1005	36.12	39.38	609.6	225	10.0	790	790	585.6	654.6	302004	266.3
700	MLWD-0700-055-10	55	1175	35.10	40.71	711.0	280	10.0	905	905	687.5	756.5	409415	392.1
800	MLWD-0800-055-10	55	1245	38.36	43.97	813.0	280	10.0	1010	1010	789.5	858.5	533267	503.3
900	MLWD-0900-055-10	55	1315	42.04	47.75	914.0	280	10.0	1105	1105	890.5	959.5	672006	603.6
1000	MLWD-1000-055-10	55	1385	46.02	51.83	1016.0	280	10.0	1210	1210	992.5	1061.5	828382	699.1

### Number of tierods

DN 40 - DN 100;      2[pcs]  
 DN 125 - DN 800;    3[pcs]  
 DN 900;                4[pcs]  
 DN 1000;              5[pcs]



## Lateral expansion joints with welding ends



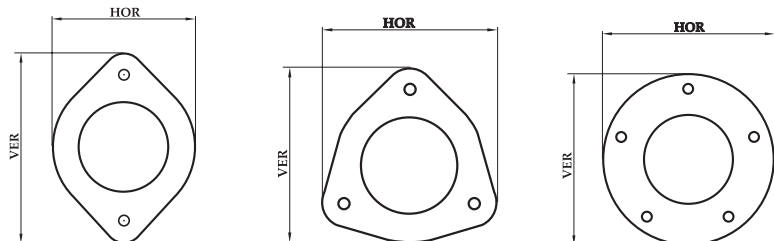
### Design Pressure

300Lbf/in<sup>2</sup>

DN	TYPE	Movem.	Ln	Spring rates		Welding ends			Dimensions		Bellows		Bellow-areas	Weight Approx
		+/-AX		AX	LA	φ D	L2	s	HOR	VER	Di	Do		
		(mm)	(mm)	kgf/mm	kgf/mm	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm <sup>2</sup> )	<kg>
40	MLWD-0040-055-20	55	600	9.69	0.20	48.3	145	2.6	90	160	40.5	57.5	1886	5.3
50	MLWD-0050-055-20	55	610	17.24	0.51	60.3	145	2.9	100	170	52.5	70.3	2961	6.2
65	MLWD-0065-055-20	55	595	13.67	0.71	76.1	145	2.9	135	190	68.3	88.1	4803	8.4
80	MLWD-0080-055-20	55	640	16.93	0.91	88.9	145	3.2	150	200	79.1	100.7	6348	10.8
100	MLWD-0100-055-20	55	625	18.67	2.04	114.3	145	3.6	175	230	104.6	131.0	10899	13.3
125	MLWD-0125-055-20	55	670	21.63	2.44	139.7	145	4.0	226	228	130.2	156.6	16151	18.7
150	MLWD-0150-055-20	55	635	25.40	6.53	168.3	145	4.5	256	269	155.0	186.2	22859	24.0
175	MLWD-0175-055-20	55	670	27.55	7.14	193.7	145	5.6	278	294	180.6	211.8	30233	29.9
200	MLWD-0200-055-20	55	695	26.42	11.12	219.1	170	6.3	313	328	206.2	242.2	39479	35.6
250	MLWD-0250-055-20	55	755	30.61	12.85	273.0	170	8.0	405	405	260.3	296.3	60830	62.5
300	MLWD-0300-055-20	55	980	44.48	13.87	323.9	225	8.0	480	480	311.2	349.2	85634	115.9
350	MLWD-0350-055-20	55	970	48.36	18.97	355.6	225	8.0	510	510	343.0	381.0	102922	129.7
400	MLWD-0400-055-20	55	895	40.81	39.69	406.4	225	10.0	580	580	390.4	440.4	135526	159.5
450	MLWD-0450-055-20	55	1025	46.93	52.75	457.2	280	10.0	650	650	441.5	494.5	172021	219.8
500	MLWD-0500-055-20	55	1070	48.77	62.85	505.0	280	10.0	695	695	486.5	541.5	207499	250.3
550	MLWD-0550-055-20	55	1070	51.53	80.30	559.0	280	10.0	750	750	537.8	592.8	250985	305.4
600	MLWD-0600-055-20	55	1165	53.97	77.04	609.6	280	12.0	805	805	586.6	651.6	301031	343.6

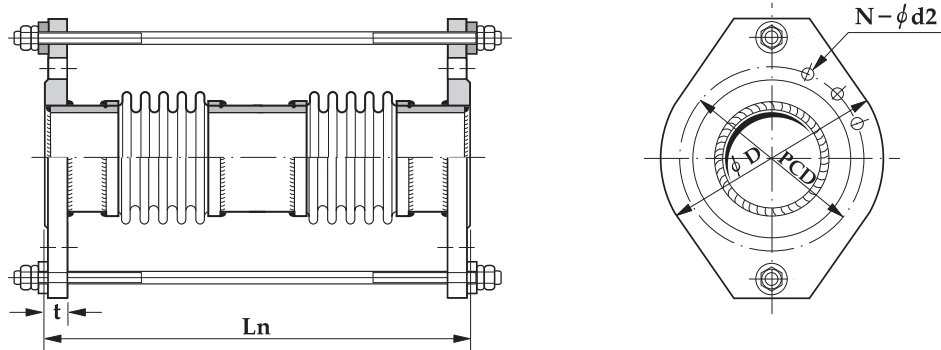
### Number of tierods

DN 40 - DN 100; 2[pcs]  
 DN 125 - DN 450; 3[pcs]  
 DN 550 - DN 600; 4[pcs]





## Lateral expansion joints with fixed flange ends



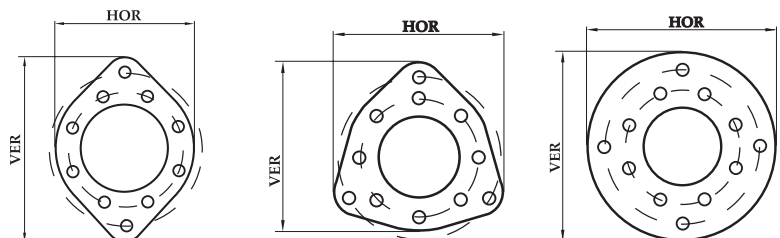
### Design Pressure

150Lbf/in<sup>2</sup>

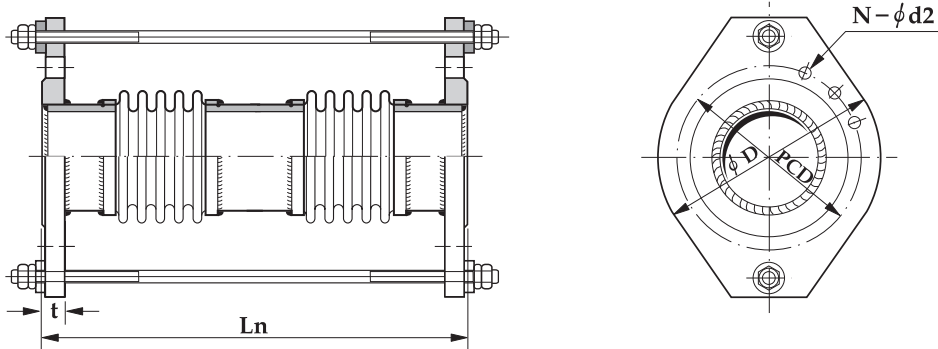
DN	TYPE	Movem. +/-AX	Ln	Spring rates		Flanges acc. to ANSI B16.5					Dimensions		Bellows		Bellow- areas	Weight Approx	
				AX	LA	φ D	PCD	t	N	φ d2	HOR	VER	Di	Do			
		(mm)	(mm)	kgf/mm	kgf/mm	(mm)	(mm)	(mm)	(EA)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm <sup>2</sup> )	<kg>
40	MLFD-0040-075-10	75	360	9.89	0.20	127	98.4	17.5	4	16	150	225	40.5	57.7	1893	4.9	
50	MLFD-0050-075-10	75	375	10.91	0.30	152	120.6	19.5	4	20	165	240	52.5	59.7	2472	5.7	
65	MLFD-0065-075-10	75	360	8.87	0.40	178	139.7	22.5	4	20	185	260	68.3	87.5	4766	6.5	
80	MLFD-0080-075-10	75	365	13.36	1.02	191	152.4	24.0	4	20	200	275	79.1	100.9	6362	10.2	
100	MLFD-0100-075-10	75	395	12.34	1.22	229	190.5	24.0	8	20	220	295	104.6	130.2	10825	12.1	
125	MLFD-0125-075-10	75	415	11.73	1.63	254	215.9	24.0	8	23	287	288	130.2	157.8	16286	16.5	
150	MLFD-0175-075-10	75	455	13.97	2.04	279	241.3	25.5	8	23	317	323	155.0	186.6	22912	19.9	
200	MLFD-0250-075-10	75	515	14.18	2.55	343	298.4	29.0	8	23	360	378	206.1	239.7	39022	28.0	
250	MLFD-0250-055-10	55	475	17.24	6.02	406	361.9	30.5	12	26	412	433	260.0	293.6	60176	37.8	
300	MLFD-0300-055-10	55	490	25.61	11.93	483	431.8	32	12	26	455	483	311.1	347.5	85167	49.5	
350	MLFD-0350-055-10	55	530	27.85	12.85	535	476.2	35	12	29	521	550	342.8	379.2	102354	66.8	
400	MLFD-0400-055-10	55	470	20.71	23.16	596	539.7	37	16	29	573	610	389.9	437.1	134289	84.8	
450	MLFD-0450-055-10	55	540	28.87	27.24	635	577.8	40	16	32	616	660	440.5	489.5	169823	98.3	
500	MLFD-0500-055-10	55	535	28.06	41.63	700	635	43	20	32	693	730	485.4	536.4	205004	124.7	
600	MLFD-0600-055-10	55	715	51.63	56.22	815	749.3	43	20	35	780	840	585.6	645.6	297637	157.5	
700	MLFD-0700-055-10	55	775	50.10	58.16	927.1	863.6	71	24	35	896	965	687.5	756.5	409415	216.8	
800	MLFD-0800-055-10	55	865	54.79	62.85	1060	978	81	28	41	1015	1080	789.5	858.5	533267	278.4	
900	MLFD-0900-055-10	55	945	60.10	68.26	1168.4	1085	90	32	41	1115	1255	890.5	959.5	672006	323.2	
1000	MLFD-1000-055-10	55	1015	65.71	74.08	1289	1200	90	36	41	1306	1300	992.5	1061.5	828382	383.8	

### Number of tierods

DN 40 - DN 100;      2[pcs]  
 DN 125 - DN 800;    3[pcs]  
 DN 900;                6[pcs]  
 DN 1000;              7[pcs]



## Lateral expansion joints with fixed flange ends



### Design Pressure

300Lbf/in<sup>2</sup>

DN	TYPE	Movem.	Ln	Spring rates		Flanges acc. to ANSI B16.5					Dimensions		Bellows		Bellow-areas	Weight Approx
		+/-AX		AX	LA	φ D	PCD	t	N	φ d2	HOR	VER	Di	Do		
		(mm)	(mm)	kgf/mm	kgf/mm	(mm)	(mm)	(mm)	(EA)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm <sup>2</sup> )	<kg>
40	MLFD-0040-055-20	55	345	13.77	0.30	156	114.3	21.0	4	23	225	150	40.5	57.7	1893	4.7
50	MLFD-0050-055-20	55	360	24.69	0.71	165	127	22.5	8	20	240	165	52.5	70.3	2961	5.5
65	MLFD-0065-055-20	55	350	19.59	1.02	191	149.2	25.5	8	23	260	185	68.3	88.1	4803	8.3
80	MLFD-0080-055-20	55	400	24.18	1.32	210	168.3	29.0	8	23	275	200	79.1	100.7	6348	10.5
100	MLFD-0100-055-20	55	385	26.73	2.85	254	200	32.0	8	23	310	235	104.6	131.0	10899	15.8
125	MLFD-0125-055-20	55	430	30.91	3.46	279	234.9	35.0	8	23	308	304	130.2	156.6	16151	21.6
150	MLFD-0150-055-20	55	400	36.32	9.38	318	269.9	37.0	12	23	337	330	155.0	186.2	22859	23.3
200	MLFD-0200-055-20	55	515	37.75	15.81	381	330.2	41.5	12	26	405	395	206.2	242.2	39479	38.3
250	MLFD-0250-055-20	55	590	43.67	18.36	445	387.3	48.0	16	29	470	452	260.3	296.3	60830	57.2
300	MLFD-0300-055-20	55	715	63.57	19.79	520	450.8	51.0	16	32	545	532	311.2	349.2	85634	88.4
350	MLFD-0350-055-20	55	720	69.08	27.04	585	514.3	54.0	20	32	615	593	343.0	381.0	102922	122.8
400	MLFD-0400-055-20	55	665	58.36	56.73	650	571.5	57.5	20	35	680	649	390.4	440.4	135526	151.9
500	MLFD-0500-055-20	55	760	69.69	89.79	775	685.8	63.5	24	35	800	763	486.5	541.5	207499	213.4
600	MLFD-0600-055-20	55	855	77.14	110	915	812.8	70.0	24	42	985	845	586.6	651.6	301031	280.4

### Number of tierods

- DN 40 - DN 100; 2[pcs]
- DN 125 - DN 600; 3[pcs]
- DN 700; 4[pcs]
- DN 800; 5[pcs]
- DN 900; 6[pcs]
- DN 1000; 7[pcs]

