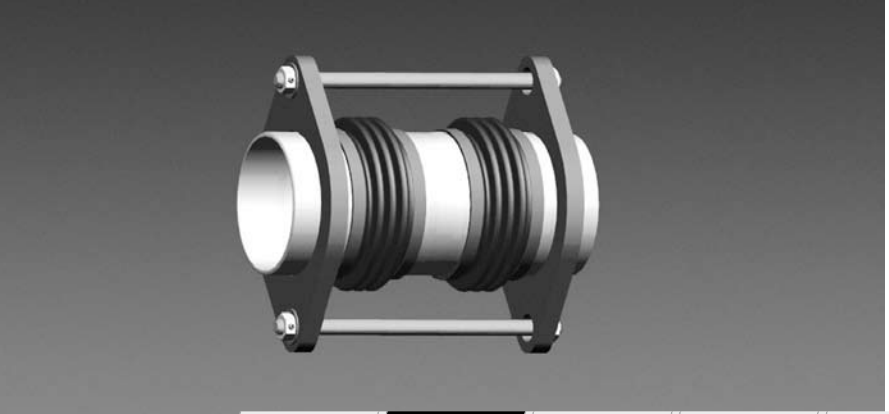


Type LRR
Type LRK
Type LRN

Designation
The designation consists of two parts:
1. the series, defined by 3 letters
2. the nominal size, defined by 10 digits

Example:
Type LRR/LRK: HYDRA lateral expansion joint with weld ends, for movement in all planes

Type LRN: HYDRA lateral expansion joint with plain weld ends, for movement in one plane

Standard version/materials:
multi-ply bellows: 1.4541
weld ends up to DN 300: P 235GH (1.0345), from DN 350: P 265GH (1.0425)
operating temperature: up to 400°C

Designation (example):

L	R	R	1	0	.	0	1	5	0	.	1	0	2	.	0
Type			Nominal pressure (PN10)			Nominal diameter (DN150)					Movement absorption, nominal (2λ = ±51 = 102 mm)				Inner sleeve (0 = ohne, 1 = mit)

Order text to Pressure Equipment Directive 97/23/EC

Please state the following with your order:

- for standard versions
  -> order number
- for different materials
  -> designation
  -> details of materials

According to the Pressure Equipment Directive 97/23/EC, the following information is required for testing and documentation:

Type of pressure equipment according to Art. 1:

- vessel volume V [l]

_____

- piping – nominal size DN

_____

Medium property according to Art. 9:

- group 1 – dangerous
- group 2 – all other fluids

State of medium:

- gaseous or liquid, if pD > 0.5 bar
- liquid, if pD < 0.5 bar

Design data:

max. allowable pressure PS [bar]

_____

max./min. allowable temperature TS [°C]

_____

test pressure PT [bar]

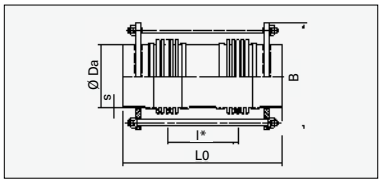
_____

Optional:

category _____

Note: Tell us the dimensions that deviate from the standard dimensions and we can match the expansion joint to your specification.

Lateral expansion joint **Type LRR 06...**
for movement in all planes with weld ends
PN 6

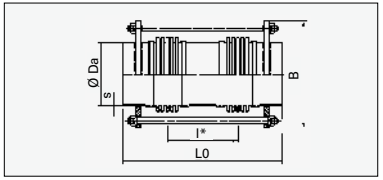


Type LRR

Nominal diameter	Nominal lateral movement absorption	Type **LRR 06 ...**	Order No. standard version	Overall length	Weight approx.	Max. width approx.
DN	$2\lambda_N$	–	–	Lo	G	B
–	mm	–	–	mm	kg	mm
50	51	**.0050.051.0**	440579	360	5	205
50	102	**.0050.102.0**	440580	470	5	205
50	154	**.0050.154.0**	440581	580	6	205
50	196	**.0050.196.0**	440582	670	8	205
65	53	**.0065.053.0**	440583	370	6	225
65	104	**.0065.104.0**	440584	480	6	225
65	151	**.0065.151.0**	440585	580	7	225
65	204	**.0065.204.0**	440586	690	8	225
80	53	**.0080.053.0**	440587	380	6	240
80	102	**.0080.102.0**	440588	490	7	240
80	154	**.0080.154.0**	440589	600	8	240
80	201	**.0080.201.0**	440590	700	8	240
100	52	**.0100.052.0**	440591	380	8	265
100	103	**.0100.103.0**	440592	490	9	265
100	151	**.0100.151.0**	440593	590	9	265
100	204	**.0100.204.0**	440594	700	10	265
125	51	**.0125.051.0**	440595	420	9	290
125	103	**.0125.103.0**	440596	560	10	290
125	153	**.0125.153.0**	440597	690	11	290
125	203	**.0125.203.0**	440598	820	12	290
150	53	**.0150.053.0**	440599	455	15	320
150	101	**.0150.101.0**	440600	575	16	320
150	151	**.0150.151.0**	440601	695	17	320
150	202	**.0150.202.0**	440602	815	19	320

Centre-to-centre spacing of bellows	Weld ends		Adjusting force rate		
	outside-diameter	wall thickness			
l*	Da	s	c_r	c_λ	c_p
mm	mm	mm	N/bar	N/mm	N/mm bar
136	60.3	4	4.1	15	0.40
246	60.3	4	3.1	4.7	0.10
356	60.3	4	2.5	2.3	0.05
445	60.3	4	2.2	1.4	0.03
141	76.1	4	6.1	21	0.60
251	76.1	4	4.6	6.5	0.20
351	76.1	4	3.8	3.3	0.09
461	76.1	4	3.2	1.9	0.05
146	88.9	4	7.6	25	0.50
256	88.9	4	5.8	8	0.20
366	88.9	4	4.8	3.9	0.09
466	88.9	4	4.1	2.4	0.05
141	114.3	4	12	39	1.00
251	114.3	4	9.1	12	0.40
351	114.3	4	7.5	6.2	0.20
461	114.3	4	6.3	3.6	0.10
183	139.7	4	14	38	1.00
323	139.7	4	11	12	0.30
453	139.7	4	8.6	6.1	0.20
583	139.7	4	7.2	3.7	0.10
182	168.3	4.5	19	73	2.00
302	168.3	4.5	15	26	0.80
422	168.3	4.5	12	14	0.40
542	168.3	4.5	10	8.2	0.20

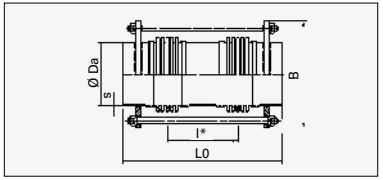
Lateral expansion joint **Type LRR 06...**
for movement in all planes with weld ends
PN 6



Type LRR

Nominal diameter	Nominal lateral movement absorption	Type **LRR 06 ...**	Order No. standard version	Overall length	Weight approx.	Max. width approx.
DN	$2\lambda_N$	–	–	Lo	G	B
–	mm	–	–	mm	kg	mm
200	51	**.0200.051.0**	440603	490	23	375
200	100	**.0200.100.0**	440604	620	25	375
200	153	**.0200.153.0**	440605	750	27	375
200	198	**.0200.198.0**	440606	880	40	375
250	50	**.0250.050.0**	440607	520	37	465
250	102	**.0250.102.0**	440608	660	40	465
250	153	**.0250.153.0**	440609	790	42	465
250	212	**.0250.212.0**	440610	960	64	465
300	50	**.0300.050.0**	440611	535	50	550
300	101	**.0300.101.0**	440612	695	54	550
300	152	**.0300.152.0**	440613	845	58	550
300	196	**.0300.196.0**	440614	1000	90	550
300	296	**.0300.296.0**	440615	1300	113	550
350	52	**.0350.052.0**	440616	585	52	590
350	102	**.0350.102.0**	440617	755	57	590
350	148	**.0350.148.0**	440618	925	79	590
350	195	**.0350.195.0**	440619	1075	88	590
350	300	**.0350.300.0**	440620	1425	111	590
400	51	**.0400.051.0**	440621	645	76	665
400	100	**.0400.100.0**	440622	850	96	665
400	158	**.0400.158.0**	440623	1050	112	665
400	200	**.0400.200.0**	440624	1200	124	665
400	294	**.0400.294.0**	440625	1600	159	665

Centre-to-centre spacing of bellows	Weld ends		Adjusting force rate		
	outside-diameter	wall thickness			
l*	Da	s	c_r	c_λ	c_p
mm	mm	mm	N/bar	N/mm	N/mm bar
186	219.1	6.3	37	109	3.00
316	219.1	6.3	29	38	1.00
446	219.1	6.3	24	19	0.60
535	219.1	6.3	20	13	0.40
191	273	7.1	72	151	6.00
331	273	7.1	56	50	2.00
461	273	7.1	46	26	1.00
590	273	7.1	38	16	0.70
215	323.9	8	136	196	5.00
375	323.9	8	104	64	2.00
525	323.9	8	86	33	0.80
630	323.9	8	73	23	0.60
930	323.9	8	56	10	0.30
239	355.6	6	156	195	6.00
409	355.6	6	119	66	2.00
534	355.6	6	95	39	1.00
684	355.6	6	82	24	0.70
1034	355.6	6	61	11	0.30
255	406.4	6	233	197	9.00
410	406.4	6	176	76	3.00
610	406.4	6	142	34	2.00
760	406.4	6	122	22	1.00
1210	406.4	6	89	9.5	0.40

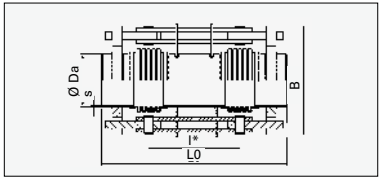


Type LRR

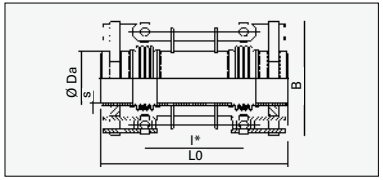
Nominal diameter	Nominal lateral movement absorption	Type **LRR 06 ...**	Order No. standard version	Overall length	Weight approx.	Max. width approx.
DN	$2\lambda_N$	–	–	Lo	G	B
–	mm	–	–	mm	kg	mm
450	50	**.0450.050.0**	440626	655	85	725
450	97	**.0450.097.0**	440627	860	107	725
450	152	**.0450.152.0**	440628	1060	124	725
450	192	**.0450.192.0**	440629	1210	137	725
450	289	**.0450.289.0**	440630	1570	172	725
500	52	**.0500.052.0**	440631	750	130	820
500	104	**.0500.104.0**	440632	965	155	820
500	147	**.0500.147.0**	440633	1115	170	820
500	207	**.0500.207.0**	440634	1315	190	820
500	289	**.0500.289.0**	440635	1615	220	820

Lateral expansion joint **Type LRR 06...**
for movement in all planes with weld ends
PN 6

Centre-to-centre spacing of bellows	Weld ends		Adjusting force rate		
	outside-diameter	wall thickness			
l*	Da	s	c_r	c_λ	c_p
mm	mm	mm	N/bar	N/mm	N/mm bar
260	457	6	284	232	10.00
415	457	6	216	91	4.00
615	457	6	175	42	2.00
765	457	6	154	27	1.00
1120	457	6	118	17	0.50
264	508	6	373	358	13.00
425	508	6	283	138	5.00
575	508	6	246	76	3.00
775	508	6	207	42	2.00
1075	508	6	167	22	0.80



Type LRN



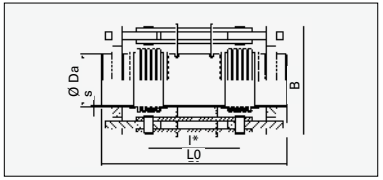
Type LRK

Nominal diameter	Nominal lateral movement absorption	Type **LRN 06 ...** **LRK 06 ...**	Order No. standard version **LRN**	 **LRK**	Overall length	LRN Weight approx.	LRK Weight approx.
DN	$2\lambda_N$	–	–	–	Lo	G	G
–	mm	–	–	–	mm	kg	kg
600	58	**.0600.058.0**	440395	440221	795	208	270
600	108	**.0600.108.0**	440396	440222	905	224	288
600	150	**.0600.150.0**	440397	440223	1055	245	309
600	205	**.0600.205.0**	440398	440224	1255	274	338
600	302	**.0600.302.0**	440399	440225	1605	324	388
700	53	**.0700.053.0**	440400	440226	835	287	355
700	98	**.0700.098.0**	440401	440227	945	304	375
700	152	**.0700.152.0**	440402	440228	1100	334	407
700	211	**.0700.211.0**	440403	440229	1300	373	445
700	299	**.0700.299.0**	440404	440230	1600	431	503
800	51	**.0800.051.0**	440405	440231	915	348	427
800	98	**.0800.098.0**	440406	440232	1045	379	460
800	151	**.0800.151.0**	440407	440233	1210	416	499
800	206	**.0800.206.0**	440408	440234	1410	459	542
800	303	**.0800.303.0**	440409	440235	1760	534	618
900	52	**.0900.052.0**	440410	440236	1015	541	674
900	97	**.0900.097.0**	440411	440237	1145	580	718
900	150	**.0900.150.0**	440412	440238	1395	648	786
900	197	**.0900.197.0**	440413	440239	1510	681	823
900	295	**.0900.295.0**	440414	440240	1910	790	931

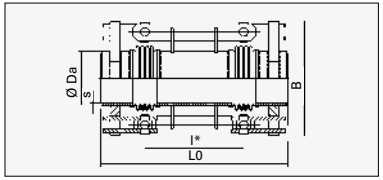
Lateral expansion joint with weld ends
for movement in one plane
for movement in all planes

Type LRN 06...
Type LRK 06...
PN 6

Max. width approx.	Centre-to-centre spacing of bellows	Weld ends outside-diameter	 wall thickness	Adjusting force rate		
B	l*	Da	s	c_r	c_λ	c_p
mm	mm	mm	mm	N/bar	N/mm	N/mm bar
900	363	610	6	461	523	8.00
900	418	610	6	395	231	9.80
900	568	610	6	285	120	5.10
900	768	610	6	208	64	2.70
900	1118	610	6	141	30	1.30
1010	363	711	8	617	674	11.00
1010	418	711	8	528	297	13.00
1010	545	711	8	398	140	9.00
1010	745	711	8	287	73	4.70
1010	1045	711	8	202	36	2.30
1120	383	813	8	768	1264	15.00
1120	448	813	8	646	536	18.00
1120	580	813	8	489	256	12.00
1120	780	813	8	358	137	6.60
1120	1130	813	8	244	64	3.00
1285	433	914	8	1073	1250	15.00
1285	498	914	8	920	553	18.00
1285	748	914	8	599	234	7.60
1285	830	914	8	536	156	7.40
1285	1230	914	8	357	69	3.30



Type LRN



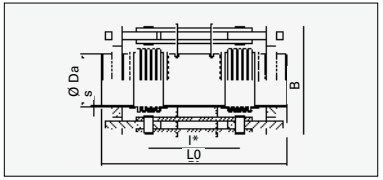
Type LRK

Nominal diameter	Nominal lateral movement absorption	Type **LRN 06 ...** **LRK 06 ...**	Order No. standard version **LRN**	 **LRK**	Overall length	LRN Weight approx.	LRK Weight approx.
DN	$2\lambda_N$	–	–	–	Lo	G	G
–	mm	–	–	–	mm	kg	kg
1000	50	**.1000.050.0**	440415	440241	1035	598	743
1000	104	**.1000.104.0**	440416	440242	1220	655	805
1000	152	**.1000.152.0**	440417	440243	1390	706	860
1000	210	**.1000.210.0**	440418	440244	1640	780	933
1000	303	**.1000.303.0**	440419	440245	2040	897	1050
1200	63	**.1200.063.0**	440420	440246	1155	843	1020
1200	100	**.1200.100.0**	440421	440247	1320	908	1088
1200	155	**.1200.155.0**	440422	440248	1540	991	1173
1200	206	**.1200.206.0**	440423	440249	1790	1090	1272
1200	308	**.1200.308.0**	440424	440250	2290	1288	1470
1400	50	**.1400.050.0**	440425	440251	1340	1172	1480
1400	97	**.1400.097.0**	440426	440252	1480	1249	1572
1400	150	**.1400.150.0**	440427	440253	1880	1447	1770
1400	202	**.1400.202.0**	440428	440254	2280	1644	1967
1400	307	**.1400.307.0**	440429	440255	3080	2039	2363
1600	47	**.1600.047.0**	440430	440256	1540	1737	2275
1600	103	**.1600.103.0**	440431	440257	1780	1836	2398
1600	147	**.1600.147.0**	440432	440258	2180	2081	2643
1600	191	**.1600.191.0**	440433	440259	2580	2325	2887
1600	300	**.1600.300.0**	440434	440260	3580	2936	3498

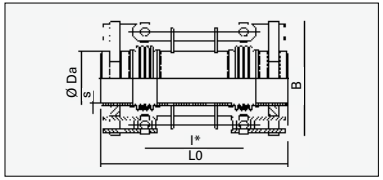
Lateral expansion joint with weld ends
for movement in one plane
for movement in all planes

Type LRN 06...
Type LRK 06...
PN 6

Max. width approx.	Centre-to-centre spacing of bellows	Weld ends outside-diameter	 wall thickness	Adjusting force rate		
B	l*	Da	s	c_r	c_λ	c_p
mm	mm	mm	mm	N/bar	N/mm	N/mm bar
1395	443	1016	8	1294	1518	19.00
1395	560	1016	8	998	542	18.00
1395	695	1016	8	794	286	14.00
1395	945	1016	8	576	150	7.30
1395	1345	1016	8	400	73	3.50
1615	478	1220	10	1673	1380	30.00
1615	610	1220	10	1280	646	21.00
1615	795	1220	10	968	308	15.00
1615	1045	1220	10	729	174	8.30
1615	1545	1220	10	487	78	3.70
1840	720	1420	10	1837	1120	13.00
1840	740	1420	10	1786	529	24.00
1840	1140	1420	10	1160	223	10.00
1840	1540	1420	10	859	122	5.50
1840	2340	1420	10	566	53	2.40
2080	820	1620	10	2613	1286	13.00
2080	940	1620	10	2278	489	19.00
2080	1340	1620	10	1599	241	9.50
2080	1740	1620	10	1231	143	5.60
2080	2740	1620	10	782	58	2.30



Type LRN



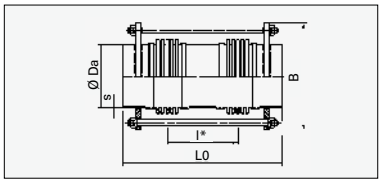
Type LRK

Nominal diameter	Nominal lateral movement absorption	Type **LRN 06 ...** **LRK 06 ...**	Order No. standard version **LRN**	 **LRK**	Overall length	LRN Weight approx.	LRK Weight approx.
DN	$2\lambda_N$	–	–	–	Lo	G	G
–	mm	–	–	–	mm	kg	kg
1800	63	**.1800.063.0**	440435	440261	1480	1811	2449
1800	102	**.1800.102.0**	440436	440262	1880	2076	2714
1800	151	**.1800.151.0**	440437	440263	2380	2408	3045
1800	199	**.1800.199.0**	440438	440264	2880	2739	3377
1800	307	**.1800.307.0**	440439	440265	3980	3467	4105
2000	57	**.2000.057.0**	440440	–	1580	2691	–
2000	102	**.2000.102.0**	440441	–	2080	3114	–
2000	146	**.2000.146.0**	440442	–	2580	3536	–
2000	200	**.2000.200.0**	440443	–	3180	4043	–
2000	306	**.2000.306.0**	440444	–	4380	5056	–

Lateral expansion joint with weld ends
for movement in one plane
for movement in all planes

Type LRN 06...
Type LRK 06...
PN 6

Max. width approx.	Centre-to-centre spacing of bellows	Weld ends outside-diameter	 wall thickness	Adjusting force rate		
B	l*	Da	s	c_r	c_λ	c_p
mm	mm	mm	mm	N/bar	N/mm	N/mm bar
2280	640	1820	10	4201	1453	52.00
2280	1040	1820	10	2587	551	20.00
2280	1540	1820	10	1748	251	9.00
2280	2040	1820	10	1320	143	5.10
2280	3140	1820	10	858	61	2.20
2575	640	2020	10	6447	1939	64.00
2575	1140	2020	10	3623	612	20.00
2575	1640	2020	10	2519	296	9.80
2575	2240	2020	10	1845	159	5.20
2575	3440	2020	10	1201	67	2.20



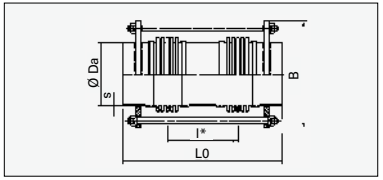
Type LRR

Nominal diameter	Nominal lateral movement absorption	Type **LRR 10 ...**	Order No. standard version	Overall length	Weight approx.	Max. width approx.
DN	$2\lambda_N$	–	–	Lo	G	B
–	mm	–	–	mm	kg	mm
50	51	**.0050.051.0**	440636	360	5	205
50	102	**.0050.102.0**	440637	470	5	205
50	149	**.0050.149.0**	440638	580	6	205
50	202	**.0050.202.0**	440639	720	9	205
65	53	**.0065.053.0**	440640	370	6	225
65	104	**.0065.104.0**	440641	480	6	225
65	146	**.0065.146.0**	440642	580	7	225
65	201	**.0065.201.0**	440643	730	8	225
80	53	**.0080.053.0**	440644	400	7	240
80	101	**.0080.101.0**	440645	520	8	240
80	151	**.0080.151.0**	440646	640	9	240
80	202	**.0080.202.0**	440647	760	10	240
100	50	**.0100.050.0**	440648	410	9	265
100	100	**.0100.100.0**	440649	540	10	265
100	146	**.0100.146.0**	440650	670	11	265
100	203	**.0100.203.0**	440651	850	12	265
125	50	**.0125.050.0**	440652	435	12	290
125	100	**.0125.100.0**	440653	555	13	290
125	153	**.0125.153.0**	440654	675	14	290
125	200	**.0125.200.0**	440655	785	15	290
150	51	**.0150.051.0**	440656	475	17	320
150	102	**.0150.102.0**	440657	605	19	320
150	151	**.0150.151.0**	440658	725	21	320
150	202	**.0150.202.0**	440659	845	22	320

Lateral expansion joint **Type LRR 10...**
for movement in all planes with weld ends
PN 10

Centre-to-centre spacing of bellows	Weld ends		Adjusting force rate		
	outside-diameter	wall thickness			
l*	Da	s	c_r	c_λ	c_p
mm	mm	mm	N/bar	N/mm	N/mm bar
136	60.3	4	4.1	15	0.40
246	60.3	4	3.1	4.7	0.10
356	60.3	4	2.5	2.3	0.05
495	60.3	4	2	1.2	0.03
141	76.1	4	6.1	21	0.60
251	76.1	4	4.6	6.5	0.20
351	76.1	4	3.8	3.3	0.09
501	76.1	4	3	1.6	0.05
161	88.9	4	7.2	35	0.90
281	88.9	4	5.5	12	0.30
401	88.9	4	4.4	5.7	0.10
521	88.9	4	3.7	3.4	0.08
159	114.3	4	11	38	0.90
289	114.3	4	8.4	12	0.30
419	114.3	4	6.7	5.5	0.10
599	114.3	4	5.2	2.7	0.06
167	139.7	4	14	62	2.00
287	139.7	4	11	21	0.60
407	139.7	4	8.8	10	0.30
517	139.7	4	7.5	6.4	0.20
177	168.3	4.5	23	95	2.00
307	168.3	4.5	18	32	0.70
427	168.3	4.5	15	16	0.40
547	168.3	4.5	13	10	0.20

Lateral expansion joint **Type LRR 10...**
for movement in all planes with weld ends
PN 10

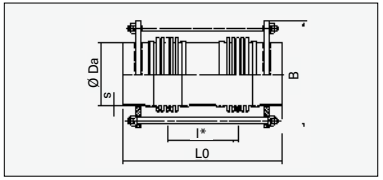


Type LRR

Nominal diameter	Nominal lateral movement absorption	Type **LRR 10 ...**	Order No. standard version	Overall length	Weight approx.	Max. width approx.
DN	$2\lambda_N$	–	–	Lo	G	B
–	mm	–	–	mm	kg	mm
200	52	**.0200.052.0**	440660	530	30	405
200	100	**.0200.100.0**	440661	680	32	405
200	153	**.0200.153.0**	440662	840	35	405
200	206	**.0200.206.0**	440663	1015	53	405
250	52	**.0250.052.0**	440664	565	48	495
250	101	**.0250.101.0**	440665	725	52	495
250	152	**.0250.152.0**	440666	885	56	495
250	198	**.0250.198.0**	440667	1055	81	495
300	51	**.0300.051.0**	440668	590	74	575
300	102	**.0300.102.0**	440669	750	80	575
300	145	**.0300.145.0**	440670	905	103	575
300	196	**.0300.196.0**	440671	1055	116	575
300	292	**.0300.292.0**	440672	1355	140	575
350	50	**.0350.050.0**	440673	610	72	610
350	100	**.0350.100.0**	440674	780	80	610
350	149	**.0350.149.0**	440675	965	100	610
350	195	**.0350.195.0**	440676	1115	111	610
350	296	**.0350.296.0**	440677	1465	135	610
400	51	**.0400.051.0**	440678	715	116	700
400	106	**.0400.106.0**	440679	960	138	700
400	146	**.0400.146.0**	440680	1110	151	700
400	200	**.0400.200.0**	440681	1310	168	700
400	287	**.0400.287.0**	440682	1660	198	700

Centre-to-centre spacing of bellows	Weld ends		Adjusting force rate		
	outside-diameter	wall thickness			
l*	Da	s	c_r	c_λ	c_p
mm	mm	mm	N/bar	N/mm	N/mm bar
219	219.1	6.3	46	119	2.00
369	219.1	6.3	35	42	0.80
529	219.1	6.3	28	20	0.40
668	219.1	6.3	23	13	0.20
227	273	7.1	96	160	2.00
387	273	7.1	74	55	0.80
547	273	7.1	60	28	0.40
676	273	7.1	50	18	0.30
223	323.9	8	160	302	5.00
383	323.9	8	125	102	2.00
488	323.9	8	103	63	1.00
638	323.9	8	89	37	0.60
938	323.9	8	69	17	0.30
237	355.6	6	191	326	6.00
407	355.6	6	145	111	2.00
542	355.6	6	118	62	1.00
692	355.6	6	100	38	0.70
1042	355.6	6	77	17	0.30
275	406.4	6	247	371	8.00
470	406.4	6	182	127	3.00
620	406.4	6	155	73	1.00
820	406.4	6	131	42	0.90
1170	406.4	6	104	21	0.40

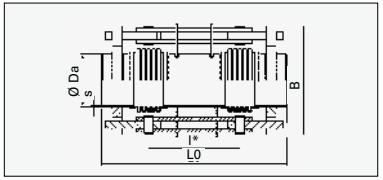
Lateral expansion joint **Type LRR 10...**
for movement in all planes with weld ends
PN 10



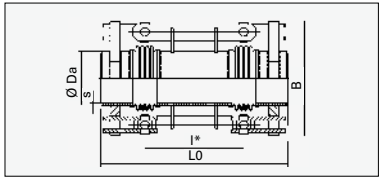
Type LRR

Nominal diameter	Nominal lateral movement absorption	Type **LRR 10 ...**	Order No. standard version	Overall length	Weight approx.	Max. width approx.
DN	$2\lambda_N$	–	–	Lo	G	B
–	mm	–	–	mm	kg	mm
450	51	**.0450.051.0**	440683	715	143	690
450	98	**.0450.098.0**	440684	920	173	690
450	153	**.0450.153.0**	440685	1120	198	690
450	195	**.0450.195.0**	440686	1270	217	690
450	285	**.0450.285.0**	440687	1620	261	690
500	51	**.0500.051.0**	440688	720	161	740
500	105	**.0500.105.0**	440689	945	195	740
500	148	**.0500.148.0**	440690	1095	215	740
500	207	**.0500.207.0**	440691	1295	242	740
500	306	**.0500.306.0**	440692	1695	297	740

Centre-to-centre spacing of bellows	Weld ends		Adjusting force rate		
	outside-diameter	wall thickness			
l*	Da	s	c_r	c_λ	c_p
mm	mm	mm	N/bar	N/mm	N/mm bar
270	457	8	276	473	11.00
425	457	8	212	191	4.00
625	457	8	172	88	2.00
775	457	8	149	57	1.00
1125	457	8	117	27	0.60
264	508	8	331	566	15.00
435	508	8	244	208	5.00
585	508	8	212	115	3.00
785	508	8	178	64	2.00
1185	508	8	135	28	0.70



Type LRN



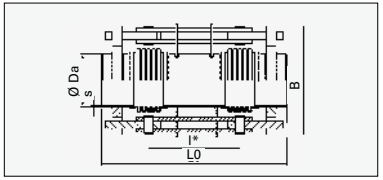
Type LRK

Nominal diameter	Nominal lateral movement absorption	Type **LRN 10 ...** **LRK 10 ...**	Order No. sStandard version **LRN**	 **LRK**	Overall length	LRN Weight approx.	LRK Weight approx.
DN	$2\lambda_N$	–	–	–	Lo	G	G
–	mm	–	–	–	mm	kg	kg
600	55	**.0600.055.0**	440445	440266	840	266	329
600	103	**.0600.103.0**	440446	440267	955	289	354
600	155	**.0600.155.0**	440447	440268	1155	323	389
600	207	**.0600.207.0**	440448	440269	1355	358	423
600	298	**.0600.298.0**	440449	440270	1705	418	484
700	52	**.0700.052.0**	440450	440271	900	422	535
700	111	**.0700.111.0**	440451	440272	1075	471	589
700	152	**.0700.152.0**	440452	440273	1190	502	624
700	208	**.0700.208.0**	440453	440274	1390	548	670
700	307	**.0700.307.0**	440454	440275	1740	629	750
800	51	**.0800.051.0**	440455	440276	970	509	632
800	98	**.0800.098.0**	440456	440277	1105	553	681
800	150	**.0800.150.0**	440457	440278	1270	604	736
800	204	**.0800.204.0**	440458	440279	1470	663	794
800	299	**.0800.299.0**	440459	440280	1820	765	896
900	52	**.0900.052.0**	440460	440281	1070	671	804
900	97	**.0900.097.0**	440461	440282	1205	720	857
900	146	**.0900.146.0**	440462	440283	1370	776	917
900	194	**.0900.194.0**	440463	440284	1570	840	981
900	291	**.0900.291.0**	440464	440285	1970	967	1108

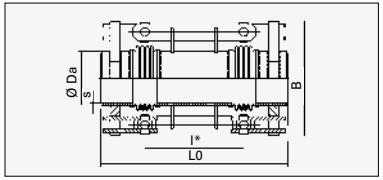
Lateral expansion joint with weld ends
for movement in one plane
for movement in all planes

Type LRN 10...
Type LRK 10...
PN 10

Max. width approx.	Centre-to-centre spacing of bellows	Weld ends outside-diameter	 wall thickness	Adjusting force rate c_r	 c_λ	 c_p
B	l*	Da	s	c_r	c_λ	c_p
mm	mm	mm	mm	N/bar	N/mm	N/mm bar
900	365	610	8	457	791	8.20
900	423	610	8	390	346	9.50
900	623	610	8	259	152	4.20
900	823	610	8	194	85	2.40
900	1173	610	8	134	41	1.10
1065	375	711	8	746	1442	11.00
1065	488	711	8	561	490	11.00
1065	570	711	8	476	294	9.40
1065	770	711	8	348	157	5.00
1065	1120	711	8	236	72	2.30
1165	385	813	10	949	1727	16.00
1165	453	813	10	795	728	18.00
1165	585	813	10	603	348	12.00
1165	785	813	10	443	188	6.70
1165	1135	813	10	303	88	3.10
1315	435	914	10	1065	1711	15.00
1315	503	914	10	911	751	18.00
1315	635	914	10	709	379	13.00
1315	835	914	10	532	214	7.40
1315	1235	914	10	355	95	3.30



Type LRN



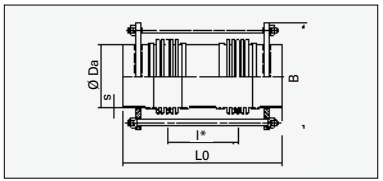
Type LRK

Nominal diameter	Nominal lateral movement absorption	Type **LRN 10 ...** **LRK 10 ...**	Order No. standard version **LRN**	 **LRK**	Overall length	LRN Weight approx.	LRK Weight approx.
DN	$2\lambda_N$	–	–	–	Lo	G	G
–	mm	–	–	–	mm	kg	kg
1000	58	**.1000.058.0**	440465	440286	1260	984	1245
1000	102	**.1000.102.0**	440466	440287	1480	1076	1342
1000	155	**.1000.155.0**	440467	440288	1705	1169	1441
1000	212	**.1000.212.0**	440468	440289	2005	1286	1558
1000	298	**.1000.298.0**	440469	440290	2455	1481	1752
1200	51	**.1200.051.0**	440470	440291	1260	1305	1759
1200	102	**.1200.102.0**	440471	440292	1505	1419	1887
1200	151	**.1200.151.0**	440472	440293	1805	1520	1989
1200	201	**.1200.201.0**	440473	440294	2105	1647	2116
1200	300	**.1200.300.0**	440474	440295	2705	1901	2370
1400	54	**.1400.054.0**	440475	–	1660	2220	–
1400	106	**.1400.106.0**	440476	–	1815	2323	–
1400	155	**.1400.155.0**	440477	–	2215	2599	–
1400	204	**.1400.204.0**	440478	–	2615	2875	–
1400	303	**.1400.303.0**	440479	–	3415	3496	–

Lateral expansion joint with weld ends
for movement in one plane
for movement in all planes

Type LRN 10...
Type LRK 10...
PN 10

Max. Width approx.	Centre-to-centre spacing of bellows	Weld ends outside-diameter	 wall thickness	Adjusting force rate		
B	l*	Da	s	c_r	c_λ	c_p
mm	mm	mm	mm	N/bar	N/mm	N/mm bar
1450	480	1016	10	1586	1742	22.00
1450	665	1016	10	1117	693	13.00
1450	853	1016	10	863	344	9.50
1450	1153	1016	10	631	184	5.10
1450	1603	1016	10	450	93	2.60
1680	480	1220	10	2779	2611	30.00
1680	653	1220	10	2003	904	23.00
1680	953	1220	10	1347	409	11.00
1680	1253	1220	10	1015	232	6.00
1680	1853	1220	10	680	104	2.70
1975	830	1420	10	2497	1582	10.00
1975	858	1420	10	2413	738	19.00
1975	1258	1420	10	1645	343	8.90
1975	1658	1420	10	1248	198	5.10
1975	2458	1420	10	842	90	2.30



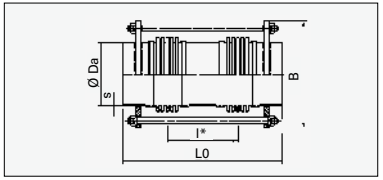
Type LRR

Nominal diameter	Nominal lateral movement absorption	Type **LRR 16 ...**	Order No. standard version	Overall length	Weight approx.	Max. width approx.
DN	$2\lambda_N$	–	–	Lo	G	B
–	mm	–	–	mm	kg	mm
50	50	**.0050.050.0**	440693	380	6	205
50	103	**.0050.103.0**	440694	510	6	205
50	149	**.0050.149.0**	440695	630	7	205
50	199	**.0050.199.0**	440696	780	9	205
65	53	**.0065.053.0**	440697	410	8	225
65	104	**.0065.104.0**	440698	530	9	225
65	145	**.0065.145.0**	440699	640	9	225
65	198	**.0065.198.0**	440700	800	10	225
80	51	**.0080.051.0**	440701	420	9	240
80	102	**.0080.102.0**	440702	550	10	240
80	150	**.0080.150.0**	440703	670	11	240
80	205	**.0080.205.0**	440704	840	13	240
100	50	**.0100.050.0**	440705	425	10	265
100	103	**.0100.103.0**	440706	575	12	265
100	145	**.0100.145.0**	440707	705	13	265
100	202	**.0100.202.0**	440708	905	14	265
125	53	**.0125.053.0**	440709	485	17	290
125	102	**.0125.102.0**	440710	615	19	290
125	151	**.0125.151.0**	440711	735	21	290
125	196	**.0125.196.0**	440712	855	23	290
150	53	**.0150.053.0**	440713	515	24	350
150	100	**.0150.100.0**	440714	645	26	350
150	153	**.0150.153.0**	440715	785	29	350
150	194	**.0150.194.0**	440716	915	32	350

Lateral expansion joint **Type LRR 16...**
for movement in all planes with weld ends
PN 16

Centre-to-centre spacing of bellows	Weld ends		Adjusting force rate		
	outside-diameter	wall thickness			
l*	Da	s	c_r	c_λ	c_p
mm	mm	mm	N/bar	N/mm	N/mm bar
151	60.3	4	3.9	23	0.40
281	60.3	4	2.9	6.5	0.10
401	60.3	4	2.3	3.2	0.05
550	60.3	4	1.9	1.7	0.03
156	76.1	4	5.6	30	0.50
276	76.1	4	4.3	9.6	0.20
386	76.1	4	3.5	4.9	0.08
546	76.1	4	2.8	2.5	0.04
161	88.9	4	7	44	0.90
291	88.9	4	5.3	14	0.30
411	88.9	4	4.3	6.8	0.10
581	88.9	4	3.4	3.4	0.07
173	114.3	4	11	57	0.80
323	114.3	4	7.8	16	0.20
453	114.3	4	6.3	8.4	0.10
653	114.3	4	4.9	4	0.05
187	139.7	4	15	85	1.00
317	139.7	4	12	30	0.50
437	139.7	4	10	16	0.20
557	139.7	4	8.6	9.6	0.10
197	168.3	4,5	28	106	2.00
327	168.3	4,5	22	39	0.60
467	168.3	4,5	18	19	0.30
597	168.3	4,5	16	12	0.20

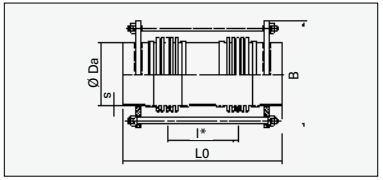
Lateral expansion joint **Type LRR 16...**
for movement in all planes with weld ends
PN 16



Type LRR

Nominal diameter	Nominal lateral movement absorption	Type **LRR 16 ...**	Order No. standard version	Overall length	Weight approx.	Max. width approx.
DN	$2\lambda_N$	–	–	Lo	G	B
–	mm	–	–	mm	kg	mm
200	50	**.0200.050.0**	440717	545	41	435
200	100	**.0200.100.0**	440718	705	45	435
200	150	**.0200.150.0**	440719	855	49	435
200	200	**.0200.200.0**	440720	1045	65	435
250	52	**.0250.052.0**	440721	640	67	520
250	103	**.0250.103.0**	440722	860	84	520
250	154	**.0250.154.0**	440723	1060	97	520
250	207	**.0250.207.0**	440724	1310	114	520
300	50	**.0300.050.0**	440725	710	109	610
300	95	**.0300.095.0**	440726	880	124	610
300	145	**.0300.145.0**	440727	1080	141	610
300	196	**.0300.196.0**	440728	1330	164	610
300	296	**.0300.296.0**	440729	1830	207	610
350	51	**.0350.051.0**	440730	740	118	580
350	100	**.0350.100.0**	440731	940	139	580
350	149	**.0350.149.0**	440732	1140	160	580
350	199	**.0350.199.0**	440733	1390	186	580
350	306	**.0350.306.0**	440734	1940	244	580
400	52	**.0400.052.0**	440735	760	143	630
400	94	**.0400.094.0**	440736	930	163	630
400	147	**.0400.147.0**	440737	1130	186	630
400	200	**.0400.200.0**	440738	1330	209	630
400	309	**.0400.309.0**	440739	1830	266	630

Centre-to-centre spacing of bellows	Weld ends		Adjusting force rate		
	outside-diameter	wall thickness			
l*	Da	s	c_r	c_λ	c_p
mm	mm	mm	N/bar	N/mm	N/mm bar
213	219.1	6,3	64	174	2.00
373	219.1	6,3	49	57	0.70
523	219.1	6,3	40	29	0.40
672	219.1	6,3	33	18	0.20
266	273	7,1	104	180	3.00
445	273	7,1	77	64	1.00
645	273	7,1	63	31	0.60
895	273	7,1	51	16	0.30
235	323.9	8	154	288	6.00
405	323.9	8	125	97	2.00
605	323.9	8	101	44	0.90
855	323.9	8	81	22	0.50
1355	323.9	8	59	8.7	0.20
260	355.6	8	164	346	7.00
460	355.6	8	127	110	2.00
660	355.6	8	103	54	1.00
910	355.6	8	83	28	0.60
1460	355.6	8	59	11	0.20
260	406.4	8	207	592	10.00
430	406.4	8	165	216	4.00
630	406.4	8	134	101	2.00
830	406.4	8	113	58	1.00
1330	406.4	8	81	23	0.40

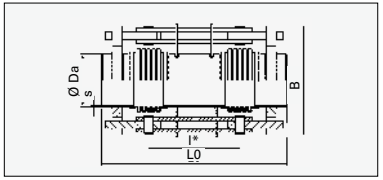


Type LRR

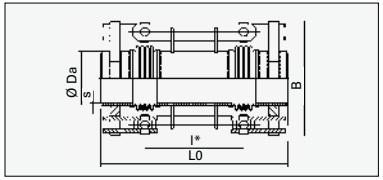
Nominal diameter	Nominal lateral movement absorption	Type **LRR 16 ...**	Order No. standard version	Overall length	Weight approx.	Max. width approx.
DN	$2\lambda_N$	–	–	Lo	G	B
–	mm	–	–	mm	kg	mm
450	50	**.0450.050.0**	440740	800	201	720
450	104	**.0450.104.0**	440741	1020	232	720
450	155	**.0450.155.0**	440742	1220	259	720
450	203	**.0450.203.0**	440743	1420	287	720
450	296	**.0450.296.0**	440744	1870	350	720

Centre-to-centre spacing of bellows	Weld ends		Adjusting force rate		
	outside-diameter	wall thickness			
l*	Da	s	c_r	c_λ	c_p
mm	mm	mm	N/bar	N/mm	N/mm bar
260	457	8	285	719	12.00
480	457	8	220	211	3.00
680	457	8	182	105	2.00
880	457	8	155	63	1.00
1330	457	8	116	27	0.50

Lateral expansion joint **Type LRR 16...**
for movement in all planes with weld ends
PN 16



Type LRN



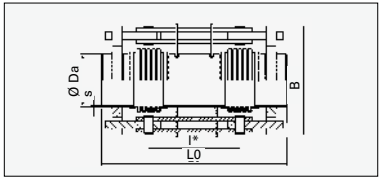
Type LRK

Nominal diameter	Nominal lateral movement absorption	Type **LRN 16 ...** **LRK 16 ...**	Order No. standard version **LRN**	 **LRK**	Overall length	LRN Weight approx.	LRK Weight approx.
DN	$2\lambda_N$	–	–	–	Lo	G	G
–	mm	–	–	–	mm	kg	kg
500	53	**.0500.053.0**	440480	440296	810	251	311
500	107	**.0500.107.0**	440481	440297	945	277	338
500	148	**.0500.148.0**	440482	440298	1095	285	351
500	203	**.0500.203.0**	440483	440299	1295	308	374
500	313	**.0500.313.0**	440484	440300	1695	361	427
600	53	**.0600.053.0**	440485	440301	945	392	502
600	99	**.0600.099.0**	440486	440302	1115	436	551
600	150	**.0600.150.0**	440487	440303	1365	488	603
600	202	**.0600.202.0**	440488	440304	1615	541	655
600	305	**.0600.305.0**	440489	440305	2115	645	760
700	54	**.0700.054.0**	440490	440306	1005	522	640
700	100	**.0700.100.0**	440491	440307	1180	575	698
700	151	**.0700.151.0**	440492	440308	1430	642	765
700	202	**.0700.202.0**	440493	440309	1680	708	831
700	304	**.0700.304.0**	440494	440310	2180	841	964
800	58	**.0800.058.0**	440495	440311	1120	768	1009
800	105	**.0800.105.0**	440496	440312	1300	837	1085
800	153	**.0800.153.0**	440497	440313	1550	921	1170
800	211	**.0800.211.0**	440498	440314	1850	1023	1271
800	307	**.0800.307.0**	440499	440315	2350	1191	1440

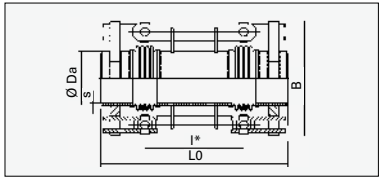
Lateral expansion joint with weld ends
for movement in one plane
for movement in all planes

Type LRN 16...
Type LRK 16...
PN 16

Max. width approx.	Centre-to-centre spacing of bellows	Weld ends outside-diameter	 wall thickness	Adjusting force rate		
B	l*	Da	s	c_r	c_λ	c_p
mm	mm	mm	mm	N/bar	N/mm	N/mm bar
790	338	508	8	350	961	6.60
790	418	508	8	277	362	6.90
790	568	508	8	200	189	3.60
790	768	508	8	146	100	1.90
790	1168	508	8	95	42	0.80
945	398	610	8	519	1057	9.20
945	508	610	8	400	419	8.50
945	758	610	8	263	181	3.70
945	1008	610	8	196	100	2.00
945	1508	610	8	130	44	0.90
1085	403	711	10	690	1263	13.00
1085	515	711	10	531	499	11.00
1085	765	711	10	351	217	4.90
1085	1015	711	10	262	121	2.70
1085	1515	711	10	174	53	1.20
1220	460	813	10	1042	1299	13.00
1220	575	813	10	823	540	12.00
1220	825	813	10	563	253	5.70
1220	1125	813	10	408	133	3.00
1220	1625	813	10	280	63	1.40



Type LRN



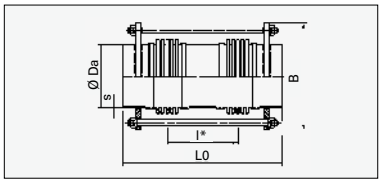
Type LRK

Nominal diameter	Nominal lateral movement absorption	Type **LRN 16 ...** **LRK 16 ...**	Order No. standard version **LRN**	 **LRK**	Overall length	LRN Weight approx.	LRK Weight approx.
DN	$2\lambda_N$	–	–	–	Lo	G	G
–	mm	–	–	–	mm	kg	kg
900	52	**.0900.052.0**	440500	440316	1270	1161	1569
900	104	**.0900.104.0**	440501	440317	1455	1257	1676
900	157	**.0900.157.0**	440502	440318	1670	1360	1787
900	205	**.0900.205.0**	440503	440319	1920	1467	1895
900	293	**.0900.293.0**	440504	440320	2370	1660	2088
1000	51	**.1000.051.0**	440505	440321	1310	1289	1714
1000	102	**.1000.102.0**	440506	440322	1510	1407	1847
1000	154	**.1000.154.0**	440507	440323	1735	1519	1964
1000	210	**.1000.210.0**	440508	440324	2035	1656	2101
1000	303	**.1000.303.0**	440509	440325	2535	1883	2328

Lateral expansion joint with weld ends
for movement in one plane
for movement in all planes

Type LRN 16...
Type LRK 16...
PN 16

Max. width approx.	Centre-to-centre spacing of bellows	Weld ends outside-diameter	 wall thickness	Adjusting force rate		
B	l*	Da	s	c_r	c_λ	c_p
mm	mm	mm	mm	N/bar	N/mm	N/mm bar
1380	535	914	10	1426	1810	9.50
1380	653	914	10	1155	712	10.00
1380	835	914	10	891	353	7.40
1380	1085	914	10	679	205	4.30
1380	1535	914	10	476	101	2.10
1490	555	1016	10	1712	2442	13.00
1490	680	1016	10	1375	945	14.00
1490	868	1016	10	1063	471	9.70
1490	1168	1016	10	780	254	5.20
1490	1668	1016	10	541	122	2.50



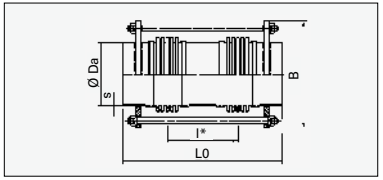
Type LRR

Nominal diameter	Nominal lateral movement absorption	Type **LRR 25 ...**	Order No. standard version	Overall length	Weight approx.	Max. width approx.
DN	$2\lambda_N$	–	–	Lo	G	B
–	mm	–	–	mm	kg	mm
50	50	**.0050.050.0**	440745	410	7	205
50	98	**.0050.098.0**	440746	540	8	205
50	148	**.0050.148.0**	440747	710	10	205
50	205	**.0050.205.0**	440748	910	12	205
65	51	**.0065.051.0**	440749	430	8	225
65	99	**.0065.099.0**	440750	580	9	225
65	153	**.0065.153.0**	440751	780	11	225
65	195	**.0065.195.0**	440752	940	12	225
80	52	**.0080.052.0**	440753	440	11	240
80	103	**.0080.103.0**	440754	580	13	240
80	155	**.0080.155.0**	440755	750	14	240
80	193	**.0080.193.0**	440756	890	16	240
100	50	**.0100.050.0**	440757	475	15	265
100	102	**.0100.102.0**	440758	645	17	265
100	144	**.0100.144.0**	440759	805	19	265
100	192	**.0100.192.0**	440760	990	22	265
125	51	**.0125.051.0**	440761	515	22	320
125	102	**.0125.102.0**	440762	675	25	320
125	153	**.0125.153.0**	440763	865	28	320
125	196	**.0125.196.0**	440764	1050	34	320
150	51	**.0150.051.0**	440765	545	31	380
150	102	**.0150.102.0**	440766	715	35	380
150	151	**.0150.151.0**	440767	915	40	380
150	194	**.0150.194.0**	440768	1120	49	380

Lateral expansion joint **Type LRR 25...**
for movement in all planes with weld ends
PN 25

Centre-to-centre spacing of bellows	Weld ends		Adjusting force rate		
	outside-diameter	wall thickness			
l*	Da	s	c_r	c_λ	c_p
mm	mm	mm	N/bar	N/mm	N/mm bar
156	60.3	4	3.7	27	0.30
286	60.3	4	2.8	8	0.10
455	60.3	4	2.1	3.2	0.04
655	60.3	4	1.6	1.5	0.02
185	76.1	4	5.3	33	0.30
335	76.1	4	3.9	10	0.09
535	76.1	4	2.9	4	0.04
695	76.1	4	2.4	2.3	0.02
176	88.9	4	6.6	52	0.70
316	88.9	4	5	16	0.20
486	88.9	4	3.8	6.8	0.10
626	88.9	4	3.2	4.1	0.06
197	114.3	4	12	74	0.60
367	114.3	4	8.6	21	0.20
527	114.3	4	6.9	10	0.08
712	114.3	4	5.6	5.7	0.05
211	139.7	4	19	82	0.80
371	139.7	4	15	27	0.20
561	139.7	4	11	12	0.10
714	139.7	4	9.4	7.2	0.07
221	168.3	4.5	38	106	1.00
391	168.3	4.5	29	34	0.40
591	168.3	4.5	23	15	0.20
764	168.3	4.5	18	8.8	0.10

Lateral expansion joint **Type LRR 25...**
for movement in all planes with weld ends
PN 25



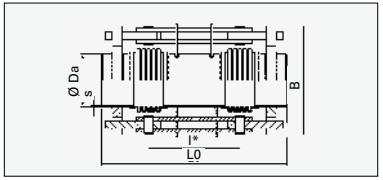
Type LRR

Nominal diameter	Nominal lateral movement absorption	Type **LRR 25 ...**	Order No. standard version	Overall length	Weight approx.	Max. width approx.
DN	$2\lambda_N$	–	–	Lo	G	B
–	mm	–	–	mm	kg	mm
200	50	**.0200.050.0**	440769	670	65	460
200	101	**.0200.101.0**	440770	870	72	460
200	155	**.0200.155.0**	440771	1140	91	460
200	195	**.0200.195.0**	440772	1340	101	460
250	51	**.0250.051.0**	440773	650	94	495
250	101	**.0250.101.0**	440774	870	115	495
250	149	**.0250.149.0**	440775	1120	136	495
250	204	**.0250.204.0**	440776	1420	160	495
300	61	**.0300.061.0**	440777	825	145	545
300	110	**.0300.110.0**	440778	1050	167	545
300	150	**.0300.150.0**	440779	1250	196	545
300	200	**.0300.200.0**	440780	1550	226	545
300	302	**.0300.302.0**	440781	2150	290	545
350	50	**.0350.050.0**	440782	790	158	615
350	100	**.0350.100.0**	440783	1000	182	615
350	145	**.0350.145.0**	440784	1200	205	615
350	190	**.0350.190.0**	440785	1450	235	615
350	291	**.0350.291.0**	440786	2000	299	615

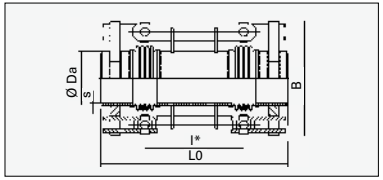
Centre-to-centre spacing of bellows	Weld ends		Adjusting force rate		
	outside-diameter	wall thickness			
l*	Da	s	c_r	c_λ	c_p
mm	mm	mm	N/bar	N/mm	N/mm bar
261	219.1	6.3	68	167	2.00
461	219.1	6.3	52	53	0.50
690	219.1	6.3	39	24	0.20
890	219.1	6.3	33	14	0.10
271	273	7.1	104	220	3.00
450	273	7.1	77	80	1.00
700	273	7.1	59	33	0.50
1000	273	7.1	47	16	0.20
340	323.9	8	116	276	3.00
565	323.9	8	91	100	1.00
765	323.9	8	76	54	0.60
1065	323.9	8	61	28	0.30
1665	323.9	8	44	11	0.10
260	355.6	8	175	497	7.00
470	355.6	8	138	152	2.00
670	355.6	8	114	75	1.00
920	355.6	8	92	40	0.50
1470	355.6	8	67	16	0.20

Lateral expansion joint with weld ends
for movement in one plane
for movement in all planes

Type LRN 25...
Type LRK 25...
PN 25



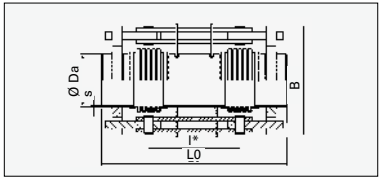
Type LRN



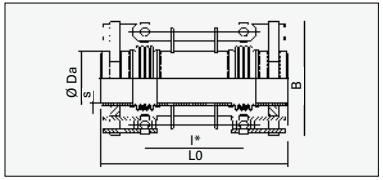
Type LRK

Nominal diameter	Nominal lateral movement absorption	Type **LRN 25 ...** **LRK 25 ...**	Order No. standard version **LRN**	 **LRK**	Overall length	LRN Weight approx.	LRK Weight approx.
DN	$2\lambda_N$	–	–	–	Lo	G	G
–	mm	–	–	–	mm	kg	kg
400	50	**.0400.050.0**	440510	440326	860	217	275
400	100	**.0400.100.0**	440511	440327	1110	252	310
400	153	**.0400.153.0**	440512	440328	1310	280	340
400	203	**.0400.203.0**	440513	440329	1560	313	372
400	295	**.0400.295.0**	440514	440330	2010	372	431
450	51	**.0450.051.0**	440515	440331	905	328	432
450	103	**.0450.103.0**	440516	440332	1110	370	479
450	154	**.0450.154.0**	440517	440333	1360	415	524
450	195	**.0450.195.0**	440518	440334	1560	450	559
450	297	**.0450.297.0**	440519	440335	2060	539	648
500	53	**.0500.053.0**	440520	440336	965	383	493
500	105	**.0500.105.0**	440521	440337	1220	437	549
500	150	**.0500.150.0**	440522	440338	1380	474	589
500	202	**.0500.202.0**	440523	440339	1630	521	636
500	305	**.0500.305.0**	440524	440340	2130	615	730
600	49	**.0600.049.0**	440525	440341	1065	625	850
600	98	**.0600.098.0**	440526	440342	1240	688	921
600	151	**.0600.151.0**	440527	440343	1455	754	989
600	202	**.0600.202.0**	440528	440344	1705	825	1060
600	303	**.0600.303.0**	440529	440345	2205	968	1203

Max. width approx.	Centre-to-centre spacing of bellows	Weld ends outside-diameter	 wall thickness	Adjusting force rate		
B	l*	Da	s	c_r	c_λ	c_p
mm	mm	mm	mm	N/bar	N/mm	N/mm bar
680	375	406,4	8	200	666	4.00
680	600	406,4	8	122	197	1.80
680	775	406,4	8	93	97	1.30
680	1025	406,4	8	70	54	0.70
680	1475	406,4	8	48	26	0.30
785	378	457	8	305	842	5.00
785	530	457	8	213	275	3.70
785	780	457	8	143	123	1.60
785	980	457	8	113	77	1.00
785	1480	457	8	74	33	0.40
845	408	508	8	362	1190	6.60
845	635	508	8	223	362	3.20
845	765	508	8	184	204	2.60
845	1015	508	8	137	113	1.40
845	1515	508	8	91	50	0.60
1000	483	610	10	574	1394	5.20
1000	595	610	10	457	530	5.50
1000	778	610	10	345	252	3.70
1000	1028	610	10	258	141	2.10
1000	1528	610	10	172	62	0.90



Type LRN



Type LRK

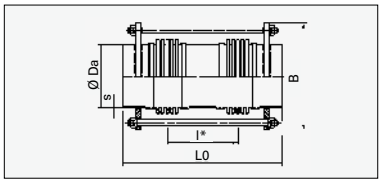
Nominal diameter	Nominal lateral movement absorption	Type **LRN 25 ...** **LRK 25 ...**	Order No. standard version **LRN**	 **LRK**	Overall length	LRN Weight approx.	LRK Weight approx.
DN	$2\lambda_N$	–	–	–	Lo	G	G
–	mm	–	–	–	mm	kg	kg
700	51	**.0700.051.0**	440530	440346	1185	929	1321
700	103	**.0700.103.0**	440531	440347	1420	1035	1442
700	150	**.0700.150.0**	440532	440348	1670	1129	1536
700	207	**.0700.207.0**	440533	440349	1970	1242	1649
700	301	**.0700.301.0**	440534	440350	2470	1431	1838

Max. width approx.	Centre-to-centre spacing of bellows	Weld ends outside-diameter	 wall thickness	Adjusting force rate		
B	l*	Da	s	c_r	c_λ	c_p
mm	mm	mm	mm	N/bar	N/mm	N/mm bar
1150	418	711	10	1126	1889	13.00
1150	585	711	10	785	612	9.50
1150	835	711	10	539	289	4.50
1150	1135	711	10	392	152	2.40
1150	1635	711	10	269	72	1.10

Lateral expansion joint with weld ends
for movement in one plane
for movement in all planes

Type LRN 25...
Type LRK 25...
PN 25

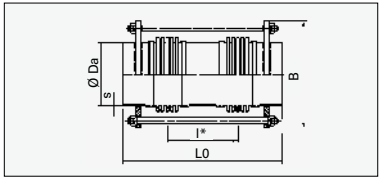
Lateral expansion joint **Type LRR 40...**
for movement in all planes with weld ends
PN 40



Type LRR

Nominal diameter	Nominal lateral movement absorption	Type **LRR 40 ...**	Order No. standard version	Overall length	Weight approx.	Max. width approx.
DN	$2\lambda_N$	–	–	Lo	G	B
–	mm	–	–	mm	kg	mm
50	53	**.0050.053.0**	440787	440	8	205
50	100	**.0050.100.0**	440788	640	10	205
50	146	**.0050.146.0**	440789	840	12	205
50	204	**.0050.204.0**	440790	1090	14	205
65	49	**.0065.049.0**	440791	465	12	225
65	100	**.0065.100.0**	440792	665	14	225
65	156	**.0065.156.0**	440793	915	17	225
65	200	**.0065.200.0**	440794	1115	20	225
80	51	**.0080.051.0**	440795	475	13	240
80	101	**.0080.101.0**	440796	675	16	240
80	156	**.0080.156.0**	440797	925	19	240
80	188	**.0080.188.0**	440798	1075	21	240
100	46	**.0100.046.0**	440799	590	26	325
100	96	**.0100.096.0**	440800	830	32	325
100	146	**.0100.146.0**	440801	1130	40	325
100	197	**.0100.197.0**	440802	1430	46	325
125	46	**.0125.046.0**	440803	600	32	350
125	94	**.0125.094.0**	440804	850	38	350
125	152	**.0125.152.0**	440805	1200	47	350
125	193	**.0125.193.0**	440806	1450	53	350
150	55	**.0150.055.0**	440807	730	53	405
150	96	**.0150.096.0**	440808	980	61	405
150	149	**.0150.149.0**	440809	1330	74	405
150	195	**.0150.195.0**	440810	1630	85	405

Centre-to-centre spacing of bellows	Weld ends		Adjusting force rate		
	outside-diameter	wall thickness			
l*	Da	s	c_r	c_λ	c_p
mm	mm	mm	N/bar	N/mm	N/mm bar
194	60.3	4	3.3	22	0.20
394	60.3	4	2.3	5.2	0.04
594	60.3	4	1.7	2.3	0.02
844	60.3	4	1.3	1.1	0.01
198	76.1	4	5.9	41	0.30
398	76.1	4	4.1	10	0.07
648	76.1	4	3	3.8	0.03
848	76.1	4	2.5	2.2	0.02
202	88.9	4	7.7	51	0.30
402	88.9	4	5.4	13	0.07
652	88.9	4	3.9	4.9	0.03
802	88.9	4	3.3	3.2	0.02
265	114.3	4	18	57	0.50
465	114.3	4	13	21	0.10
765	114.3	4	9.6	7.8	0.06
1065	114.3	4	7.5	4.1	0.03
230	139.7	4	24	93	0.90
480	139.7	4	17	21	0.20
830	139.7	4	12	7.2	0.07
1080	139.7	4	9.8	4.2	0.04
314	168.3	4.5	37	80	0.60
564	168.3	4.5	27	25	0.20
914	168.3	4.5	20	9.5	0.07
1214	168.3	4.5	16	5.4	0.04

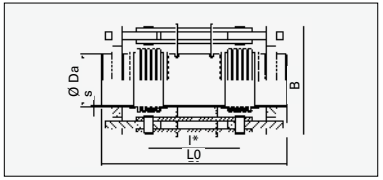


Type LRR

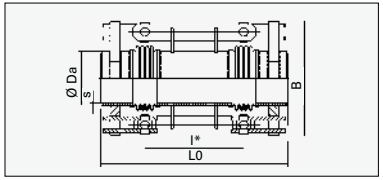
Nominal diameter	Nominal lateral movement absorption	Type **LRR 40 ...**	Order No. standard version	Overall length	Weight approx.	Max. width approx.
DN	$2\lambda_N$	–	–	Lo	G	B
–	mm	–	–	mm	kg	mm
200	54	**.0200.054.0**	440811	760	102	440
200	97	**.0200.097.0**	440812	960	115	440
200	149	**.0200.149.0**	440813	1260	135	440
200	206	**.0200.206.0**	440814	1610	159	440
250	45	**.0250.045.0**	440815	720	140	530
250	97	**.0250.097.0**	440816	970	163	530
250	151	**.0250.151.0**	440817	1320	196	530
250	206	**.0250.206.0**	440818	1670	228	530

Lateral expansion joint **Type LRR 40...**
for movement in all planes with weld ends
PN 40

Centre-to-centre spacing of bellows	Weld ends		Adjusting force rate		
	outside-diameter	wall thickness			
l*	Da	s	c_r	c_λ	c_p
mm	mm	mm	N/bar	N/mm	N/mm bar
300	219.1	6.3	58	209	1.00
500	219.1	6.3	46	75	0.50
800	219.1	6.3	35	29	0.20
1150	219.1	6.3	27	14	0.09
255	273	7.1	107	384	4.00
505	273	7.1	80	98	0.90
855	273	7.1	58	34	0.30
1205	273	7.1	46	17	0.20



Type LRN



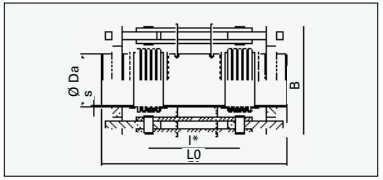
Type LRK

Nominal diameter	Nominal lateral movement absorption	Type **LRN 40 ...** **LRK 40 ...**	Order No. standard version **LRN**	 **LRK**	Overall length	LRN Weight approx.	LRK Weight approx.
DN	$2\lambda_N$	–	–	–	Lo	G	G
–	mm	–	–	–	mm	kg	kg
300	52	**.0300.052.0**	440535	440351	855	194	250
300	101	**.0300.101.0**	440536	440352	1045	219	276
300	147	**.0300.147.0**	440537	440353	1295	248	305
300	194	**.0300.194.0**	440538	440354	1545	276	333
300	297	**.0300.297.0**	440539	440355	2095	339	396
350	51	**.0350.051.0**	440540	440356	915	275	380
350	106	**.0350.106.0**	440541	440357	1135	313	421
350	155	**.0350.155.0**	440542	440358	1385	352	460
350	204	**.0350.204.0**	440543	440359	1635	392	499
350	301	**.0350.301.0**	440544	440360	2135	470	577
400	50	**.0400.050.0**	440545	440361	915	319	424
400	99	**.0400.099.0**	440546	440362	1170	368	475
400	149	**.0400.149.0**	440547	440363	1370	408	516
400	198	**.0400.198.0**	440548	440364	1620	455	563
400	296	**.0400.296.0**	440549	440365	2120	548	656
450	49	**.0450.049.0**	440550	440366	945	394	502
450	107	**.0450.107.0**	440551	440367	1210	455	568
450	154	**.0450.154.0**	440552	440368	1460	505	618
450	201	**.0450.201.0**	440553	440369	1710	555	668
450	304	**.0450.304.0**	440554	440370	2260	665	778

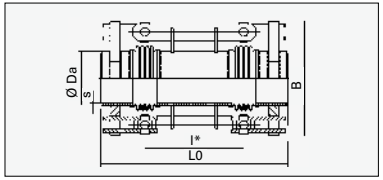
Lateral expansion joint with weld ends
for movement in one plane
for movement in all planes

Type LRN 40...
Type LRK 40...
PN 40

Max. width approx.	Centre-to-centre spacing of bellows	Weld ends outside-diameter	 wall thickness	Adjusting force rate c_r	 c_λ	 c_p
B	l*	Da	s	c_r	c_λ	c_p
mm	mm	mm	mm	N/bar	N/mm	N/mm bar
580	418	323.9	8	112	412	1.90
580	563	323.9	8	82	146	1.50
580	813	323.9	8	56	68	0.70
580	1063	323.9	8	42	39	0.40
580	1613	323.9	8	28	17	0.20
675	395	355.6	8	178	500	2.70
675	568	355.6	8	121	155	1.80
675	818	355.6	8	83	73	0.90
675	1068	355.6	8	63	42	0.50
675	1568	355.6	8	43	19	0.20
725	383	406.6	10	240	764	4.10
725	610	406.6	10	147	229	1.90
725	785	406.6	10	113	112	1.30
725	1035	406.6	10	85	64	0.80
725	1535	406.6	10	57	29	0.30
815	398	457	10	301	1123	5.30
815	605	457	10	192	304	3.20
815	855	457	10	133	148	1.60
815	1105	457	10	102	87	0.90
815	1655	457	10	68	38	0.40



Type LRN



Type LRK

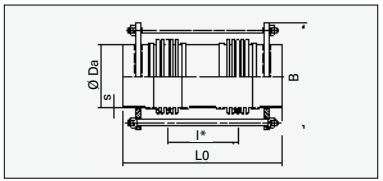
Nominal diameter	Nominal lateral movement absorption	Type **LRN 40 ...** **LRK 40 ...**	Order No. standard version **LRN**	 **LRK**	Overall length	LRN Weight approx.	LRK Weight approx.
DN	$2\lambda_N$	–	–	–	Lo	G	G
–	mm	–	–	–	mm	kg	kg
500	47	**.0500.047.0**	440555	440371	1140	589	813
500	96	**.0500.096.0**	440556	440372	1405	665	897
500	146	**.0500.146.0**	440557	440373	1755	756	988
500	196	**.0500.196.0**	440558	440374	2105	847	1079
500	296	**.0500.296.0**	440559	440375	2805	1028	1260

Lateral expansion joint with weld ends
for movement in one plane
for movement in all planes

Type LRN 40...
Type LRK 40...
PN 40

Max. width approx.	Centre-to-centre spacing of bellows	Weld ends outside-diameter	 wall thickness	Adjusting force rate		
B	l*	Da	s	c_r	c_λ	c_p
mm	mm	mm	mm	N/bar	N/mm	N/mm bar
890	495	508	10	386	1071	4.10
890	703	508	10	267	341	2.80
890	1053	508	10	176	148	1.20
890	1403	508	10	131	82	0.70
890	2103	508	10	87	36	0.30

Lateral expansion joint **Type LRR 63...**
for movement in all planes with weld ends
PN 63

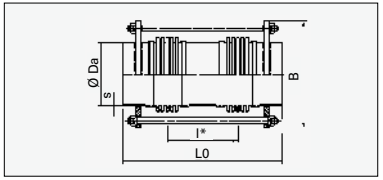


Type LRR

Nominal diameter	Nominal lateral movement absorption	Type **LRR 63 ...**	Order No. standard version	Overall length	Weight approx.	Max. width approx.
DN	$2\lambda_N$	–	–	Lo	G	B
–	mm	–	–	mm	kg	mm
50	50	**.0050.050.0**	440819	540	11	205
50	96	**.0050.096.0**	440820	790	14	205
50	155	**.0050.155.0**	440821	1140	17	205
50	198	**.0050.198.0**	440822	1390	20	205
65	55	**.0065.055.0**	440823	570	17	255
65	96	**.0065.096.0**	440824	820	21	255
65	145	**.0065.145.0**	440825	1120	25	255
65	203	**.0065.203.0**	440826	1470	30	255
80	50	**.0080.050.0**	440827	590	26	300
80	98	**.0080.098.0**	440828	890	32	300
80	152	**.0080.152.0**	440829	1240	39	300
80	191	**.0080.191.0**	440830	1490	44	300
100	50	**.0100.050.0**	440831	700	45	350
100	98	**.0100.098.0**	440832	1000	55	350
100	155	**.0100.155.0**	440833	1400	67	350
100	197	**.0100.197.0**	440834	1700	76	350
125	55	**.0125.055.0**	440835	740	62	410
125	99	**.0125.099.0**	440836	1040	75	410
125	143	**.0125.143.0**	440837	1340	89	410
125	201	**.0125.201.0**	440838	1740	106	410
150	50	**.0150.050.0**	440839	750	85	385
150	98	**.0150.098.0**	440840	1050	103	385
150	153	**.0150.153.0**	440841	1450	127	385
150	195	**.0150.195.0**	440842	1750	145	385

Centre-to-centre spacing of bellows	Weld ends		Adjusting force rate		
	outside-diameter	wall thickness			
l*	Da	s	c_r	c_λ	c_p
mm	mm	mm	N/bar	N/mm	N/mm bar
260	60.3	4	3.4	31	0.10
510	60.3	4	2.3	7.9	0.04
860	60.3	4	1.6	2.8	0.01
1110	60.3	4	1.3	1.7	0.01
265	76.1	4	6.6	36	0.20
515	76.1	4	4.5	9.5	0.04
815	76.1	4	3.3	3.8	0.02
1165	76.1	4	2.5	1.9	0.01
265	88.9	4	12	47	0.30
565	88.9	4	7.7	10	0.07
915	88.9	4	5.5	4	0.03
1165	88.9	4	4.6	2.4	0.02
290	114.3	5	19	80	0.50
590	114.3	5	13	19	0.10
990	114.3	5	9.5	6.9	0.05
1290	114.3	5	7.8	4.1	0.03
318	139.7	6,3	29	79	0.50
618	139.7	6,3	21	21	0.10
918	139.7	6,3	16	9.5	0.05
1318	139.7	6,3	12	4.6	0.03
295	168.3	6,3	36	158	0.90
595	168.3	6,3	26	39	0.20
995	168.3	6,3	18	14	0.08
1295	168.3	6,3	15	8.2	0.05

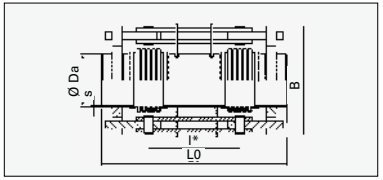
Lateral expansion joint **Type LRR 63...**
for movement in all planes with weld ends
PN 63



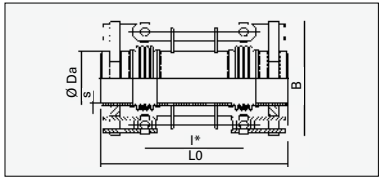
Type LRR

Nominal diameter	Nominal lateral movement absorption	Type **LRR 63 ...**	Order No. standard version	Overall length	Weight approx.	Max. width approx.
DN	$2\lambda_N$	–	–	Lo	G	B
–	mm	–	–	mm	kg	mm
200	53	**.0200.053.0**	440843	910	150	475
200	95	**.0200.095.0**	440844	1210	177	475
200	142	**.0200.142.0**	440845	1610	213	475
200	199	**.0200.199.0**	440846	2110	257	475

Centre-to-centre spacing of bellows	Weld ends		Adjusting force rate		
	outside-diameter	wall thickness			
l*	Da	s	c_r	c_λ	c_p
mm	mm	mm	N/bar	N/mm	N/mm bar
405	219.1	8	57	204	0.70
705	219.1	8	42	67	0.20
1105	219.1	8	32	27	0.09
1605	219.1	8	24	13	0.04



Type LRN



Type LRK

Nominal diameter	Nominal lateral movement absorption	Type **LRN 63 ...** **LRK 63 ...**	Order No. standard version **LRN**	 **LRK**	Overall length	LRN Weight approx.	LRK Weight approx.
DN	$2\lambda_N$	–	–	–	Lo	G	G
–	mm	–	–	–	mm	kg	kg
250	51	**.0250.051.0**	440560	440376	920	264	366
250	104	**.0250.104.0**	440561	440377	1215	310	414
250	153	**.0250.153.0**	440562	440378	1515	356	460
250	202	**.0250.202.0**	440563	440379	1815	402	506
300	48	**.0300.048.0**	440564	440380	950	302	407
300	100	**.0300.100.0**	440565	440381	1200	347	455
300	150	**.0300.150.0**	440566	440382	1500	399	507
300	200	**.0300.200.0**	440567	440383	1800	451	559
300	299	**.0300.299.0**	440568	440384	2400	555	664
350	49	**.0350.049.0**	440569	440385	1045	372	481
350	97	**.0350.097.0**	440570	440386	1260	420	534
350	147	**.0350.147.0**	440571	440387	1560	477	592
350	198	**.0350.198.0**	440572	440388	1860	535	649
350	299	**.0350.299.0**	440573	440389	2460	650	764
400	52	**.0400.052.0**	440574	440390	1120	547	772
400	102	**.0400.102.0**	440575	440391	1470	646	874
400	152	**.0400.152.0**	440576	440392	1870	759	987
400	196	**.0400.196.0**	440577	440393	2220	805	973
400	297	**.0400.297.0**	440578	440394	3020	1004	1142

Lateral expansion joint with weld ends
for movement in one plane
for movement in all planes

Type LRN 63...
Type LRK 63...
PN 63

Max. width approx.	Centre-to-centre spacing of bellows	Weld ends outside-diameter	 wall thickness	Adjusting force rate		
B	l*	Da	s	c_r	c_λ	c_p
mm	mm	mm	mm	N/bar	N/mm	N/mm bar
575	385	273	10	110	418	2.00
575	658	273	10	63	114	0.80
575	958	273	10	43	53	0.40
575	1258	273	10	32	30	0.20
625	425	323.9	11	140	545	1.90
625	625	323.9	11	93	162	1.30
625	925	323.9	11	62	72	0.60
625	1225	323.9	11	47	40	0.30
625	1825	323.9	11	31	18	0.10
695	448	355.6	12	163	873	2.60
695	605	355.6	12	118	306	2.00
695	905	355.6	12	78	132	0.90
695	1205	355.6	12	58	73	0.50
695	1805	355.6	12	38	32	0.20
780	510	406.4	15	239	661	2.80
780	835	406.4	15	143	196	1.20
780	1235	406.4	15	96	88	0.50
780	1585	406.4	15	74	53	0.30
780	2385	406.4	15	49	23	0.10