

Type ARN

Designation

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

Example:

Type ARN: HYDRA axial expansion joint with weld ends

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):

A	R	N	1	0	.	0	1	5	0	.	0	6	4	.	0
Type			Nominal pressure (PN10)			Nominal diameter (DN150)			Movement absorption, nominal ($2\delta = \pm 32 = 64$ mm)			Inner sleeve (0 = without, 1 = with)			

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 _____

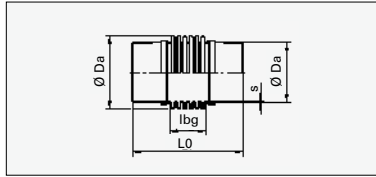
Note: Tell us the dimensions that deviate from the standard dimensions and we can match the expansion joint to your specification.

Axial expansion joints

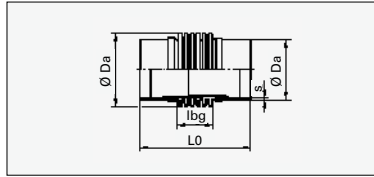
with weld ends

Type ARN 02...

PN 2.5



Type ARN without inner sleeve



Type ARN with inner sleeve

Nominal diameter	Nominal axial movement absorption	Type ARN 02 ...	Order No. standard version		Overall length	Weight approx.		Weld ends	
			without inner sleeve	with inner sleeve		without inner sleeve	with inner sleeve	outside diameter	wall thickness
DN	2δ _N	–	–	–	L ₀	G	G	D	s
–	mm	–	–	–	mm	kg	kg	mm	mm
50	24	.0050.024.0	417017	417122	214	1	1.2	60.3	4
50	44	.0050.044.0	417023	417123	259	1.1	1.3	60.3	4
50	70	.0050.070.0	417024	417124	331	1.7	2.1	60.3	4
65	28	.0065.028.0	417042	417125	214	1.5	1.7	76.1	4
65	60	.0065.060.0	417043	417126	277	1.7	2	76.1	4
65	87	.0065.087.0	417044	417127	350	2.4	3	76.1	4
80	27	.0080.027.0	417046	417128	210	1.7	2	88.9	4
80	64	.0080.064.0	417045	417129	280	2	2.4	88.9	4
80	92	.0080.092.0	417047	417130	358	2.7	3.4	88.9	4
100	46	.0100.046.0	417048	417131	237	2.3	2.7	114.3	4
100	86	.0100.086.0	417049	417132	303	2.7	3.5	114.3	4
100	122	.0100.122.0	417050	417133	420	5.4	6.5	114.3	4
125	45	.0125.045.0	417051	417134	241	2.7	3.2	139.7	4
125	90	.0125.090.0	417052	417135	306	3.2	4.2	139.7	4
125	140	.0125.140.0	417053	417136	456	6.8	8.4	139.7	4
150	54	.0150.054.0	417054	417137	254	3.6	4.3	168.3	4.5
150	99	.0150.099.0	417055	417138	319	4.1	5.4	168.3	4.5
150	160	.0150.160.0	417056	417139	476	8.6	10.6	168.3	4.5
200	70	.0200.070.0	417057	417140	285	6.4	7.8	219.1	6.3
200	130	.0200.130.0	417058	417141	388	8.5	10.6	219.1	6.3
200	190	.0200.190.0	417059	417142	503	13.2	16	219.1	6.3

¹⁾ Inner sleeve, movement absorption: The inner sleeve is designed for axial movement only. The movements (axial, angular, lateral) are to be regarded as alternatives, i.e. the sum of their proportions in percentages should not exceed 100%.

Axial expansion joints

with weld ends

Type ARN 02...

PN 2.5

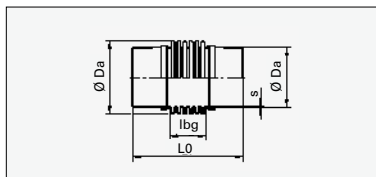
Bellows			Nominal movement absorption ¹⁾ for 1000 loading cycles		Adjusting force rate rate		
outside diameter	corrugated length	effective cross-section	angular ¹⁾	lateral ¹⁾	axial	angular	lateral
			2α _N	2λ _N			
mm	mm	cm ²	degrees	mm	N/mm	Nm/degrees	N/mm
89	54	45.2	35	5.6	105	1.3	307
89	99	45.2	50	19	57	0.7	49
89	171	44.9	50	52	51	0.7	16
107	54	67.8	32	5.2	101	1.9	448
107	117	67.8	50	25	46	0.9	45
108	190	68.1	50	59	49	0.9	19
121	50	88.1	27	4.1	122	3	825
121	120	88.1	50	24	50	1.2	62
121	198	87.6	50	56	51	1.3	23
148	77	135.6	38	8.9	82	3.1	371
148	143	135.6	50	31	44	1.7	57
150	260	135.8	50	79	75	2.9	29
174	65	186	32	6.3	114	5.9	960
174	130	186	50	25	57	3	122
172	280	181	50	85	73	3.8	33
203	78	263	32	7.7	90	6.6	746
203	143	263	50	26	49	3.6	121
203	300	260	50	87	72	5.3	40
255	105	430	32	10	77	9.2	574
256	208	430	50	38	60	7.2	116
257	323	430	50	87	71	8.6	57

Axial expansion joints

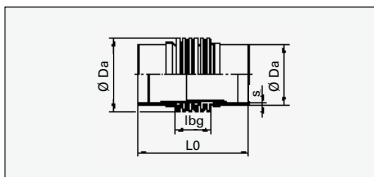
with weld ends

Type ARN 02...

PN 2.5



Type ARN without inner sleeve



Type ARN with inner sleeve

Nominal diameter	Nominal axial movement absorption	Type ARN 02 ...	Order No. standard version		Overall length	Weight approx.		Weld ends	
			without inner sleeve	with inner sleeve		without inner sleeve	with inner sleeve	outside diameter	wall thickness
DN	2δ _N	–	–	–	L ₀	G	G	D	s
–	mm	–	–	–	mm	kg	kg	mm	mm
250	72	.0250.072.0	417062	417143	282	8.9	10.6	273	7.1
250	144	.0250.144.0	417063	417144	384	11.6	14.1	273	7.1
250	204	.0250.204.0	417064	417145	486	17.3	21	273	7.1
300	70	.0300.070.0	417065	417146	279	11.5	14.4	323.9	8
300	126	.0300.126.0	417066	417147	355	12.6	16.6	323.9	8
300	210	.0300.210.0	417067	417148	464	21	26	323.9	8
350	75	.0350.075.0	417068	417149	284	9.9	13.2	355.6	6
350	150	.0350.150.0	417069	417150	384	13.3	18.2	355.6	6
350	210	.0350.210.0	417070	417151	478	19.9	26	355.6	6
400	65	.0400.065.0	417071	417152	289	13.1	16.3	406.4	6
400	117	.0400.117.0	417072	417153	373	15.9	21	406.4	6
400	195	.0400.195.0	417073	417154	499	20	28	406.4	6
450	56	.0450.056.0	417074	417155	272	14.2	17.5	457	6
450	140	.0450.140.0	417075	417156	404	19.2	26	457	6
450	196	.0450.196.0	417076	417157	492	23	31	457	6
500	68	.0500.068.0	417089	417158	320	19.1	23	508	6
500	136	.0500.136.0	417090	417159	412	23	31	508	6
500	221	.0500.221.0	417091	417160	527	28	39	508	6
600	76	.0600.076.0	417092	417161	332	23	29	610	6
600	152	.0600.152.0	417093	417162	436	28	38	610	6
600	228	.0600.228.0	417094	417163	540	33	47	610	6

¹⁾ Inner sleeve, movement absorption: The inner sleeve is designed for axial movement only. The movements (axial, angular, lateral) are to be regarded as alternatives, i.e. the sum of their proportions in percentages should not exceed 100%.

Axial expansion joints

with weld ends

Type ARN 02...

PN 2.5

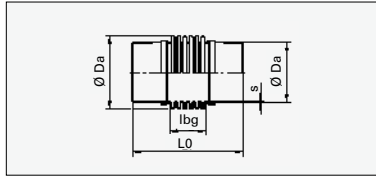
Bellows			Nominal movement absorption ¹⁾ for 1000 loading cycles		Adjusting force rate		
outside diameter	corrugated length	effective cross-section	angular ¹⁾	lateral ¹⁾	axial	angular	lateral
Da	lbg	A	2α _N	2λ _N	c _s	c _α	c _λ
mm	mm	cm ²	degrees	mm	N/mm	Nm/degrees	N/mm
312	102	658	27	8.4	86	16	1057
315	204	663	47	34	61	11	182
316	306	663	50	71	75	14	103
365	95	913	22	6.5	102	26	1981
365	171	913	36	21	56	14	329
371	280	924	50	57	87	23	202
400	100	1101	22	6.7	98	30	2063
402	200	1105	39	27	73	23	395
402	294	1102	50	55	90	28	223
458	105	1439	17	5.3	186	75	4677
458	189	1439	28	17	103	41	789
458	315	1439	39	48	62	25	173
513	88	1817	13	3.4	220	112	9944
513	220	1817	29	21	88	45	639
513	308	1817	35	42	62	31	232
569	92	2244	14	3.9	210	131	10641
569	184	2244	26	16	105	66	1340
569	299	2244	37	41	64	40	308
674	104	3192	13	4.1	205	182	11569
674	208	3192	24	17	102	91	1446
674	312	3192	32	37	68	60	431

Axial expansion joints

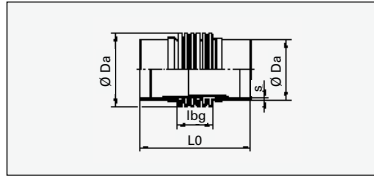
with weld ends

Type ARN 02...

PN 2.5



Type ARN without inner sleeve



Type ARN with inner sleeve

Nominal diameter	Nominal axial movement absorption	Type ARN 02 ...	Order No. standard version		Overall length	Weight approx.		Weld ends	
			without inner sleeve	with inner sleeve		without inner sleeve	with inner sleeve	outside diameter	wall thickness
DN	2δ _N	–	–	–	L ₀	G	G	D	s
–	mm	–	–	–	mm	kg	kg	mm	mm
700	80	.0700.080.0	417095	417164	340	28	34	711	6
700	140	.0700.140.0	417096	417165	424	33	44	711	6
700	220	.0700.220.0	417097	417166	536	39	54	711	6
800	84	.0800.084.0	417098	417167	348	32	42	813	6
800	147	.0800.147.0	417099	417168	435	37	51	813	6
800	231	.0800.231.0	417100	417169	551	45	63	813	6
900	84	.0900.084.0	417101	417170	352	36	48	914	6
900	168	.0900.168.0	417102	417171	472	45	62	914	6
900	231	.0900.231.0	417103	417172	562	51	72	914	6
1000	72	.1000.072.0	417104	417173	332	38	47	1016	6
1000	144	.1000.144.0	417105	417175	428	45	62	1016	6
1000	240	.1000.240.0	417106	417176	556	55	78	1016	6
1200	72	.1200.072.0	417107	417176	332	62	77	1220	8
1200	144	.1200.144.0	417108	417177	428	76	103	1220	8
1200	240	.1200.240.0	417109	417178	556	94	131	1220	8
1400	48	.1400.048.0	417110	417179	304	66	81	1420	8
1400	108	.1400.108.0	417111	417181	434	78	108	1420	8
1400	180	.1400.180.0	417112	417182	590	93	136	1420	8
1600	48	.1600.048.0	417113	417183	304	75	92	1620	8
1600	108	.1600.108.0	417114	417184	434	89	123	1620	8
1600	180	.1600.180.0	417115	417185	590	106	156	1620	8

¹⁾ Inner sleeve, movement absorption: The inner sleeve is designed for axial movement only. The movements (axial, angular, lateral) are to be regarded as alternatives, i.e. the sum of their proportions in percentages should not exceed 100%.

Axial expansion joints

with weld ends

Type ARN 02...

PN 2.5

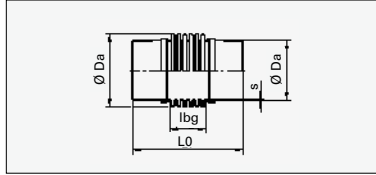
Bellows			Nominal movement absorption ¹⁾ for 1000 loading cycles		Adjusting force rate		
outside diameter	corrugated length	effective cross-section	angular ¹⁾	lateral ¹⁾	axial	angular	lateral
			2α _N	2λ _N			
mm	mm	cm ²	degrees	mm	N/mm	Nm/degrees	N/mm
780	112	4312	12	4	197	237	12990
780	196	4312	20	12	112	135	2434
780	308	4312	27	30	71	85	623
882	116	5575	11	3.9	197	306	15687
882	203	5575	18	12	112	174	2920
882	319	5575	25	29	71	110	750
992	120	7118	9.8	3.5	200	396	18908
992	240	7118	18	14	100	198	2363
992	330	7118	22	27	72	143	909
1095	96	8733	7.7	2.2	270	656	48940
1095	192	8733	14	8.7	135	328	6118
1095	320	8733	21	24	81	197	1323
1295	96	12301	6.5	1.8	406	1391	103923
1295	192	12301	13	7.4	203	695	12981
1295	320	12301	19	20	122	418	2807
1470	104	16309	3.8	1.2	492	2232	142010
1470	234	16309	8.1	5.8	218	989	12469
1470	390	16309	12	16	131	594	2694
1670	104	21150	3.3	1	550	3235	205642
1670	234	21150	7.2	5.1	244	1435	18056
1670	390	21150	11	14	146	859	3901

Axial expansion joints

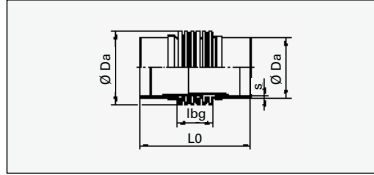
with weld ends

Type ARN 02...

PN 2.5



Type ARN without inner sleeve



Type ARN with inner sleeve

Nominal diameter	Nominal axial movement absorption	Type ARN 02 ...	Order No. standard version		Overall length	Weight approx.		Weld ends	
			without inner sleeve	with inner sleeve		without inner sleeve	with inner sleeve	outside diameter	wall thickness
DN	2δ _N	–	–	–	L ₀	G	G	D	s
–	mm	–	–	–	mm	kg	kg	mm	mm
1800	48	.1800.048.0	417116	417186	304	85	103	1820	8
1800	108	.1800.108.0	417117	417187	434	100	139	1820	8
1800	180	.1800.180.0	417118	417188	590	119	175	1820	8
2000	48	.2000.048.0	417119	417189	304	94	115	2020	8
2000	108	.2000.108.0	417120	417190	434	111	154	2020	8
2000	180	.2000.180.0	417121	417191	590	132	194	2020	8

¹⁾ Inner sleeve, movement absorption: The inner sleeve is designed for axial movement only. The movements (axial, angular, lateral) are to be regarded as alternatives, i.e. the sum of their proportions in percentages should not exceed 100%.

Axial expansion joints

with weld ends

Type ARN 02...

PN 2.5

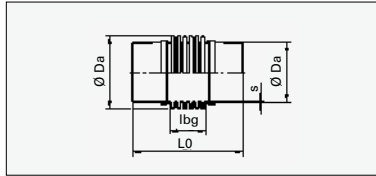
Bellows			Nominal movement absorption ¹⁾ for 1000 loading cycles		Adjusting force rate rate		
outside diameter	corrugated length	effective cross-section	angular ¹⁾	lateral ¹⁾	axial	angular	lateral
Da	lbg	A	2α _N	2λ _N	c _δ	c _α	c _λ
mm	mm	cm ²	degrees	mm	N/mm	Nm/degrees	N/mm
1870	104	26216	3	0.9	607	4493	285864
1870	234	26216	6.4	4.6	270	1999	25101
1870	390	26216	9.8	13	162	1199	5420
2070	104	32717	2.7	0.8	667	6068	385984
2070	234	32717	5.8	4.1	296	2693	33890
2070	390	32717	9	11	178	1619	7318

Axial expansion joints

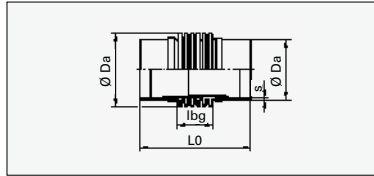
with weld ends

Type ARN 06...

PN 6



Type ARN without inner sleeve



Type ARN with inner sleeve

Nominal diameter	Nominal axial movement absorption	Type ARN 06 ...	Order No. standard version		Overall length	Weight approx.		Weld ends	
			without inner sleeve	with inner sleeve		without inner sleeve	with inner sleeve	outside diameter	wall thickness
DN	2δ _N	–	–	–	L ₀	G	G	D	s
–	mm	–	–	–	mm	kg	kg	mm	mm
50	24	.0050.024.0	417283	417402	214	1	1.2	60.3	4
50	52	.0050.052.0	417184	417403	286	1.4	1.7	60.3	4
65	28	.0065.028.0	417186	417404	214	1.5	1.7	76.1	4
65	46	.0065.046.0	417198	417405	250	1.6	1.9	76.1	4
65	72	.0065.072.0	417199	417406	358	3.5	4.1	76.1	4
80	27	.0080.027.0	417300	417407	210	1.7	2	88.9	4
80	48	.0080.048.0	417301	417408	250	1.9	2.2	88.9	4
80	77	.0080.077.0	417302	417409	364	4	4.7	88.9	4
100	33	.0100.033.0	417303	417410	215	2.2	2.6	114.3	4
100	59	.0100.059.0	417304	417411	268	2.8	3.3	114.3	4
100	93	.0100.093.0	417305	417412	368	5.3	6.3	114.3	4
125	36	.0125.036.0	417306	417413	228	2.6	3.1	139.7	4
125	63	.0125.063.0	417307	417414	267	2.9	3.6	139.7	4
125	98	.0125.098.0	417308	417415	386	6.1	7.4	139.7	4
150	40	.0150.040.0	417309	417416	246	3.7	4.4	168.3	4.5
150	88	.0150.088.0	417310	417417	341	6.1	7.5	168.3	4.5
150	124	.0150.124.0	417311	417418	448	11	12.8	168.3	4.5
200	40	.0200.040.0	417312	417419	244	6.3	7.2	219.1	6.3
200	90	.0200.090.0	417313	417420	333	9.1	10.9	219.1	6.3
200	140	.0200.140.0	417314	417422	432	15.1	17.5	219.1	6.3

¹⁾ Inner sleeve, movement absorption: The inner sleeve is designed for axial movement only. The movements (axial, angular, lateral) are to be regarded as alternatives, i.e. the sum of their proportions in percentages should not exceed 100%.

Axial expansion joints

with weld ends

Type ARN 06...

PN 6

Bellows			Nominal movement absorption ¹⁾ for 1000 loading cycles		Adjusting force rate rate		
outside diameter	corrugated length	effective cross-section	angular ¹⁾	lateral ¹⁾	axial	angular	lateral
			degrees	mm			
Da	lbg	A	2α _N	2λ _N	c _s	c _a	c _l
mm	mm	cm ²	degrees	mm	N/mm	Nm/degrees	N/mm
89	54	45.2	33	5.6	105	1.3	307
89	126	44.9	50	28	70	0.9	39
107	54	67.8	30	5.2	101	1.9	448
107	90	67.8	44	15	61	1.2	102
110	198	68.2	50	50	111	2.2	39
121	50	88.1	26	4.1	122	3	825
121	90	88.1	40	13	67	1.7	144
123	204	87.7	50	48	116	2.9	48
148	55	135.6	27	4.6	116	4.4	1000
149	108	136	43	16	97	3.7	218
151	208	136.2	50	48	115	4.5	72
174	52	186	25	4	142	7.4	1882
174	91	186	39	12	81	4.2	349
173	210	182	50	45	127	6.6	103
202	70	260	23	5.1	164	12	1684
203	165	260	45	26	130	9.5	242
205	272	260	50	61	141	10	102
256	64	430	19	3.6	197	24	4029
257	153	430	37	19	151	18	529
260	252	432	50	50	160	20	217

Axial expansion joints

with weld ends

Type ARN 06...

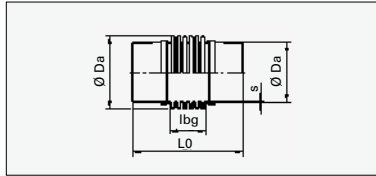
PN 6

Axial expansion joints

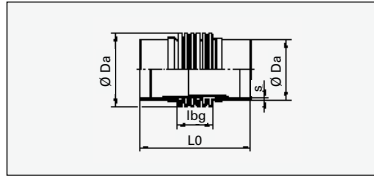
with weld ends

Type ARN 06...

PN 6



Type ARN without inner sleeve



Type ARN with inner sleeve

Nominal diameter	Nominal axial movement absorption	Type ARN 06 ...	Order No. standard version		Overall length	Weight approx.		Weld ends	
			without inner sleeve	with inner sleeve		without inner sleeve	with inner sleeve	outside diameter	wall thickness
DN	2δ _N	–	–	–	L ₀	G	G	D	s
–	mm	–	–	–	mm	kg	kg	mm	mm
250	48	.0250.048.0	417315	417423	252	10	11.1	273	7.1
250	96	.0250.096.0	417316	417424	324	12.2	14.2	273	7.1
250	144	.0250.144.0	417317	417425	420	19.2	22	273	7.1
300	60	.0300.060.0	417318	417426	264	13.3	15.5	323.9	8
300	120	.0300.120.0	417319	417427	344	16.3	20	323.9	8
300	165	.0300.165.0	417320	417428	426	24	29	323.9	8
350	60	.0350.060.0	417321	417429	268	11.8	14.3	355.6	6
350	120	.0350.120.0	417322	417430	352	15.1	19.5	355.6	6
350	165	.0350.165.0	417331	417431	437	24	29	355.6	6
400	52	.0400.052.0	417333	417432	272	14.1	16.9	406.4	6
400	117	.0400.117.0	417334	417433	382	19.4	25	406.4	6
400	169	.0400.169.0	417335	417434	483	29	36	406.4	6
450	56	.0450.056.0	417336	417435	276	16.1	19.4	457	6
450	112	.0450.112.0	417337	417436	368	21	27	457	6
450	182	.0450.182.0	417338	417437	496	33	42	457	6
500	66	.0500.066.0	417339	417438	328	24	28	508	6
500	149	.0500.149.0	417340	417439	453	34	42	508	6
500	215	.0500.215.0	417341	417440	579	56	68	508	6
600	76	.0600.076.0	417342	417441	340	29	35	610	6
600	133	.0600.133.0	417343	417442	424	37	47	610	6
600	216	.0600.216.0	417344	417443	576	66	80	610	6

¹⁾ Inner sleeve, movement absorption: The inner sleeve is designed for axial movement only. The movements (axial, angular, lateral) are to be regarded as alternatives, i.e. the sum of their proportions in percentages should not exceed 100%.

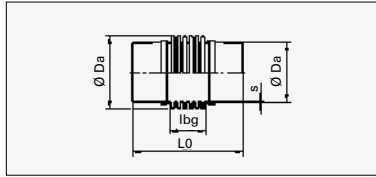
Bellows			Nominal movement absorption ¹⁾ for 1000 loading cycles		Adjusting force rate		
outside diameter	corrugated length	effective cross-section	angular ¹⁾	lateral ¹⁾	axial	angular	lateral
			degrees	mm			
Da	lbg	A	2α _N	2λ _N	c _δ	c _α	c _λ
mm	mm	cm ²	degrees	mm	N/mm	Nm/degrees	N/mm
316	72	663	18	3.9	322	60	7958
316	144	663	32	16	161	30	995
319	240	666	45	39	174	33	394
371	80	924	19	4.6	307	79	8594
371	160	924	34	19	153	40	1074
374	242	927	44	38	182	48	564
402	84	1102	18	4.5	317	98	9549
402	168	1102	31	18	158	49	1194
405	253	1105	40	37	187	58	623
461	88	1445	13	3.5	345	139	12341
461	198	1445	25	18	153	62	1087
462	299	1445	32	39	146	59	454
514	92	1817	13	3.6	337	171	13891
514	184	1817	22	14	168	85	1746
515	312	1817	30	39	144	73	523
572	100	2248	14	4.1	432	272	18701
572	225	2248	26	21	192	121	1643
574	351	2248	35	47	209	132	737
677	112	3197	13	4.4	427	382	20938
677	196	3197	21	14	244	218	3902
678	348	3192	30	39	219	196	1113

Axial expansion joints

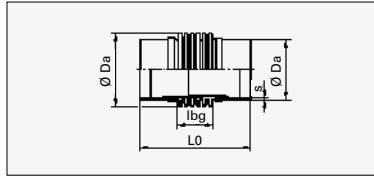
with weld ends

Type ARN 06...

PN 6



Type ARN without inner sleeve



Type ARN with inner sleeve

Nominal diameter	Nominal axial movement absorption	Type ARN 06 ...	Order No. standard version		Overall length	Weight approx.		Weld ends	
			without inner sleeve	with inner sleeve		without inner sleeve	with inner sleeve	outside diameter	wall thickness
DN	2δ _N	–	–	–	L ₀	G	G	D	s
–	mm	–	–	–	mm	kg	kg	mm	mm
700	80	.0700.080.0	417345	417444	340	41	48	711	8
700	140	.0700.140.0	417388	417445	424	51	62	711	8
700	220	.0700.220.0	417389	417446	558	82	98	711	8
800	84	.0800.084.0	417390	417447	364	57	67	813	8
800	168	.0800.168.0	417391	417448	496	80	96	813	8
800	231	.0800.231.0	417392	417449	595	97	117	813	8
900	84	.0900.084.0	417393	417450	364	64	76	914	8
900	168	.0900.168.0	417394	417451	496	91	109	914	8
900	231	.0900.231.0	417395	417452	595	111	133	914	8
1000	66	.1000.066.0	417396	417453	341	64	74	1016	8
1000	132	.1000.132.0	417397	417454	446	87	104	1016	8
1000	220	.1000.220.0	417398	417455	586	117	141	1016	8
1200	69	.1200.069.0	417399	417456	341	89	104	1220	10
1200	138	.1200.138.0	417400	417457	446	116	144	1220	10
1200	230	.1200.230.0	417401	417458	586	153	191	1220	10

¹⁾ Inner sleeve, movement absorption: The inner sleeve is designed for axial movement only. The movements (axial, angular, lateral) are to be regarded as alternatives, i.e. the sum of their proportions in percentages should not exceed 100%

Axial expansion joints

with weld ends

Type ARN 06...

PN 6

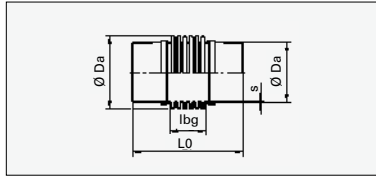
Bellows			Nominal movement absorption ¹⁾ for 1000 loading cycles		Adjusting force rate rate		
outside diameter	corrugated length	effective cross-section	angular ¹⁾	lateral ¹⁾	axial	angular	lateral
			2α _N	2λ _N			
mm	mm	cm ²	degrees	mm	N/mm	Nm/degrees	N/mm
780	112	4301	12	4	410	492	26967
780	196	4301	19	12	234	281	5029
783	330	4307	27	33	235	283	1793
887	132	5581	11	4.4	645	1007	39736
887	264	5581	20	17	322	503	4972
887	363	5581	24	33	234	365	1910
996	132	7118	9.8	3.9	655	1303	51416
996	264	7118	18	15	327	651	6432
996	363	7118	21	29	238	474	2473
1100	105	8742	7	2.2	890	2173	135514
1100	210	8742	13	8.7	445	1087	16947
1100	350	8742	19	24	267	652	3659
1296	105	12282	6.2	1.9	906	3106	193823
1296	210	12282	12	7.7	453	1553	24228
1296	350	12282	17	21	272	932	5231

Axial expansion joints

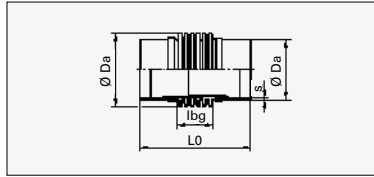
with weld ends

Type ARN 10...

PN 10



Type ARN without inner sleeve



Type ARN with inner sleeve

Nominal diameter	Nominal axial movement absorption	Type ARN 10 ...	Order No. standard version		Overall length	Weight approx.		Weld ends	
			without inner sleeve	with inner sleeve		without inner sleeve	with inner sleeve	outside diameter	wall thickness
DN	2δ _N	–	–	–	L ₀	G	G	D	s
–	mm	–	–	–	mm	kg	kg	mm	mm
50	24	.0050.024.0	417459	417506	214	1	1.2	60.3	4
50	46	.0050.046.0	417460	417507	300	1.9	2.2	60.3	4
65	23	.0065.023.0	417461	417508	205	1.4	1.6	76.1	4
65	37	.0065.037.0	417462	417509	232	1.5	1.8	76.1	4
65	60	.0065.060.0	417463	417510	325	3.2	3.6	76.1	4
80	20	.0080.020.0	417464	417511	204	1.7	1.9	88.9	4
80	41	.0080.041.0	417465	417512	248	2	2.3	88.9	4
80	63	.0080.063.0	417466	417513	328	3.6	4.1	88.9	4
100	26	.0100.026.0	417467	417514	208	2.3	2.6	114.3	4
100	53	.0100.053.0	417468	417515	256	2.7	3.2	114.3	4
100	80	.0100.080.0	417469	417516	370	6.3	7.3	114.3	4
125	30	.0125.030.0	417470	417517	232	2.8	3.3	139.7	4
125	53	.0125.053.0	417471	417518	274	3.2	3.9	139.7	4
125	85	.0125.085.0	417472	417519	384	7.1	8.3	139.7	4
150	32	.0150.032.0	417473	417520	236	4.1	4.7	168.3	4.5
150	64	.0150.064.0	417474	417521	296	5.2	6.1	168.3	4.5
150	95	.0150.095.0	417475	417522	384	9.1	10.6	168.3	4.5
200	40	.0200.040.0	417476	417523	248	7.1	8	219.1	6.3
200	80	.0200.080.0	417477	417524	316	8.7	10.3	219.1	6.3
200	110	.0200.110.0	417478	417525	378	13.1	15.1	219.1	6.3

¹⁾ Inner sleeve, movement absorption: The inner sleeve is designed for axial movement only. The movements (axial, angular, lateral) are to be regarded as alternatives, i.e. the sum of their proportions in percentages should not exceed 100%.

Axial expansion joints

with weld ends

Type ARN 10...

PN 10

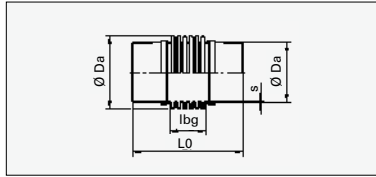
Bellows			Nominal movement absorption ¹⁾ for 1000 loading cycles		Adjusting force rate rate		
outside diameter	corrugated length	effective cross-section	angular ¹⁾	lateral ¹⁾	axial	angular	lateral
Da	lbg	A	2α _N	2λ _N	c _δ	c _α	c _λ
mm	mm	cm ²	degrees	mm	N/mm	Nm/degrees	N/mm
89	54	45.2	31	5.6	105	1.3	307
90	140	44.8	50	28	125	1.6	56
107	45	67.8	26	3.7	122	2.3	781
107	72	67.8	34	9.2	76	1.4	199
110	165	68.2	50	35	134	2.6	66
121	44	87.6	20	2.8	230	5.7	2024
121	88	87.6	35	11	115	2.8	249
123	168	87.7	48	33	141	3.6	88
149	48	136	21	3.1	220	8.4	2507
149	96	136	35	13	110	4.2	313
152	210	136	48	41	172	6.7	104
171	56	182	21	3.7	215	11	2412
171	98	182	31	11	122	6.2	451
174	208	182	46	38	188	9.8	156
203	60	260	19	3.5	360	26	4966
203	120	260	33	14	180	13	621
205	208	260	43	35	185	14	222
257	68	430	19	3.8	340	41	6096
257	136	430	31	15	170	21	781
260	198	432	41	31	203	25	438

Axial expansion joints

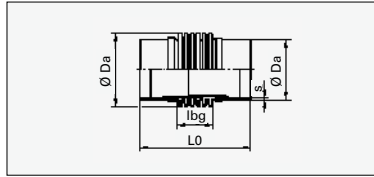
with weld ends

Type ARN 10...

PN 10



Type ARN without inner sleeve



Type ARN with inner sleeve

Nominal diameter	Nominal axial movement absorption	Type ARN 10 ...	Order No. standard version		Overall length	Weight approx.		Weld ends	
			without inner sleeve	with inner sleeve		without inner sleeve	with inner sleeve	outside diameter	wall thickness
DN	2δ _N	–	–	–	L ₀	G	G	D	s
–	mm	–	–	–	mm	kg	kg	mm	mm
250	48	.0250.048.0	417479	417526	252	10	11.1	273	7.1
250	84	.0250.084.0	417480	417527	306	11.7	13.5	273	7.1
250	130	.0250.130.0	417481	417528	484	24	27	273	7.1
300	45	.0300.045.0	417482	417529	247	13.1	15	323.9	8
300	90	.0300.090.0	417483	417530	310	15.8	19.2	323.9	8
300	137	.0300.137.0	417484	417531	514	34	39	323.9	8
350	60	.0350.060.0	417486	417532	272	12.6	15.1	355.6	6
350	105	.0350.105.0	417487	417533	338	15.5	19.7	355.6	6
350	160	.0350.160.0	417488	417534	568	48	55	355.6	6
400	48	.0400.048.0	417489	417535	280	19	22	406.4	6
400	120	.0400.120.0	417490	417536	424	32	38	406.4	6
400	168	.0400.168.0	417491	417537	548	53	61	406.4	6
450	56	.0450.056.0	417492	417538	284	25	29	457	8
450	112	.0450.112.0	417493	417539	384	36	42	457	8
450	168	.0450.168.0	417494	417540	484	46	54	457	8
500	66	.0500.066.0	417495	417541	336	33	38	508	8
500	116	.0500.116.0	417497	417542	417	42	50	508	8
500	192	.0500.192.0	417499	417543	564	71	82	508	8
600	72	.0600.072.0	417500	417544	344	41	46	610	8
600	144	.0600.144.0	417501	417545	460	56	67	610	8
600	216	.0600.216.0	417502	417546	588	89	103	610	8

¹⁾ Inner sleeve, movement absorption: The inner sleeve is designed for axial movement only. The movements (axial, angular, lateral) are to be regarded as alternatives, i.e. the sum of their proportions in percentages should not exceed 100%

Axial expansion joints

with weld ends

Type ARN 10...

PN 10

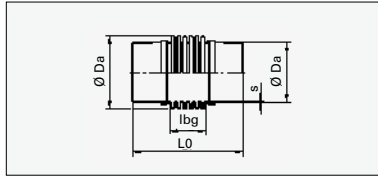
Bellows			Nominal movement absorption ¹⁾ for 1000 loading cycles		Adjusting force rate		
outside diameter	corrugated length	effective cross-section	angular ¹⁾	lateral ¹⁾	axial	angular	lateral
Da	lbg	A	2α _N	2λ _N	c _δ	c _α	c _λ
mm	mm	cm ²	degrees	mm	N/mm	Nm/degrees	N/mm
316	72	663	18	3.9	322	60	7958
316	126	663	27	12	184	34	1472
319	304	665	31	45	183	34	260
372	63	925	15	2.7	496	129	22347
372	126	925	26	11	248	64	2772
374	330	924	30	44	236	62	391
403	88	1103	17	4.7	382	118	10477
403	154	1103	26	14	218	67	1971
412	384	1116	33	54	288	91	424
464	96	1445	12	3.6	752	306	22829
464	240	1445	26	22	301	123	1468
467	364	1449	32	47	304	125	649
518	100	1821	13	3.9	735	376	25852
518	200	1821	23	15	367	188	3231
518	300	1821	28	35	245	125	955
574	108	2248	14	4.4	680	429	25288
574	189	2248	21	13	388	245	4716
576	336	2248	30	40	315	200	1218
678	116	3192	12	4.3	657	588	30045
678	232	3192	21	17	328	294	3756
680	360	3192	28	40	313	281	1491

Axial expansion joints

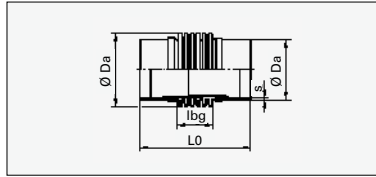
with weld ends

Type ARN 10...

PN 10



Type ARN without inner sleeve



Type ARN with inner sleeve

Nominal diameter	Nominal axial movement absorption	Type ARN 10 ...	Order No. standard version		Overall length	Weight approx.		Weld ends	
			without inner sleeve	with inner sleeve		without inner sleeve	with inner sleeve	outside diameter	wall thickness
DN	$2\delta_N$	–	–	–	Lo	G	G	D	s
–	mm	–	–	–	mm	kg	kg	mm	mm
700	76	.0700.076.0	417503	417547	356	56	63	711	8
700	152	.0700.152.0	417504	417548	484	82	96	711	8
700	209	.0700.209.0	417505	417549	580	102	118	711	8

¹⁾ Inner sleeve, movement absorption: The inner sleeve is designed for axial movement only. The movements (axial, angular, lateral) are to be regarded as alternatives, i.e. the sum of their proportions in percentages should not exceed 100%.

Axial expansion joints

with weld ends

Type ARN 10...

PN 10

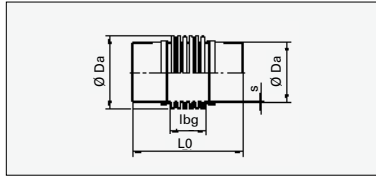
Bellows			Nominal movement absorption ¹⁾ for 1000 loading cycles		Adjusting force rate rate		
outside diameter	corrugated length	effective cross-section	angular ¹⁾	lateral ¹⁾	axial	angular	lateral
Da	lbg	A	$2\alpha_N$	$2\lambda_N$	c_δ	c_α	c_λ
mm	mm	cm ²	degrees	mm	N/mm	Nm/degrees	N/mm
785	128	4307	11	4.4	935	1131	47462
785	256	4307	20	17	467	565	5928
785	352	4307	24	33	340	411	2281

Axial expansion joints

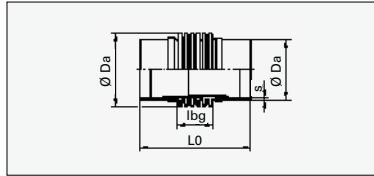
with weld ends

Type ARN 16...

PN 16



Type ARN without inner sleeve



Type ARN with inner sleeve

Nominal diameter	Nominal axial movement absorption	Type ARN 16 ...	Order No. standard version		Overall length	Weight approx.		Weld ends	
			without inner sleeve	with inner sleeve		without inner sleeve	with inner sleeve	outside diameter	wall thickness
DN	2δ _N	–	–	–	L ₀	G	G	D	s
–	mm	–	–	–	mm	kg	kg	mm	mm
50	22	.0050.022.0	417550	417585	214	1.1	1.3	60.3	4
50	42	.0050.042.0	417551	417586	303	2.1	2.4	60.3	4
65	28	.0065.028.0	417552	417587	220	1.6	1.8	76.1	4
65	48	.0065.048.0	417553	417588	292	2.8	3.2	76.1	4
80	23	.0080.023.0	417554	417589	220	2.1	2.4	88.9	4
80	50	.0080.050.0	417555	417590	292	3.2	3.6	88.9	4
100	31	.0100.031.0	417556	417591	225	2.8	3.2	114.3	4
100	58	.0100.058.0	417557	417592	314	5.1	5.7	114.3	4
125	21	.0125.021.0	417558	417593	218	3	3.4	139.7	4
125	42	.0125.042.0	417559	417594	260	3.7	4.3	139.7	4
125	65	.0125.065.0	417560	417595	336	6.1	7	139.7	4
150	24	.0150.024.0	417561	417596	221	3.8	4.3	168.3	4.5
150	48	.0150.048.0	417562	417597	266	4.7	5.5	168.3	4.5
150	73	.0150.073.0	417563	417598	336	7.7	9	168.3	4.5
200	30	.0200.030.0	417564	417599	234	7.6	8.4	219.1	6.3
200	60	.0200.060.0	417565	417600	288	9.7	10.8	219.1	6.3
200	97	.0200.097.0	417566	417601	450	18.7	21	219.1	6.3
250	32	.0250.032.0	417567	417602	256	10.9	12	273	7.1
250	64	.0250.064.0	417568	417603	332	14	15.7	273	7.1
250	103	.0250.103.0	417569	417604	440	23	26	273	7.1

¹⁾ Inner sleeve, movement absorption: The inner sleeve is designed for axial movement only. The movements (axial, angular, lateral) are to be regarded as alternatives, i.e. the sum of their proportions in percentages should not exceed 100%.

Axial expansion joints

with weld ends

Type ARN 16...

PN 16

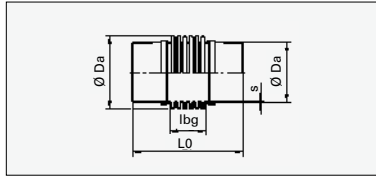
Bellows			Nominal movement absorption ¹⁾ for 1000 loading cycles		Adjusting force rate		
outside diameter	corrugated length	effective cross-section	angular ¹⁾	lateral ¹⁾	axial	angular	lateral
			degrees	mm			
Da	lbg	A	2α _N	2λ _N	c _δ	c _α	c _λ
mm	mm	cm ²	degrees	mm	N/mm	Nm/degrees	N/mm
89	54	46	29	5.2	163	2.1	495
91	143	47.2	41	25	166	2.2	74
108	60	69.4	28	5.7	156	3	573
110	132	70.9	40	22	167	3.3	130
122	60	89.9	23	4.3	322	8	1528
123	132	90.8	38	20	180	4.5	178
150	65	139	23	4.9	302	12	1953
152	154	141	37	22	234	9.2	267
172	42	185	15	1.9	490	25	9744
172	84	185	27	7.7	245	13	1267
174	160	187	36	22	245	13	349
203	45	264	14	2	480	35	11884
203	90	264	25	7.8	240	18	1528
205	160	267	34	21	241	18	483
260	54	441	14	2.3	746	91	21692
260	108	441	26	9.1	373	46	2712
262	270	445	29	36	268	33	311
318	76	674	12	2.8	567	106	12618
318	152	674	20	11	283	53	1577
320	260	679	27	30	286	54	549

Axial expansion joints

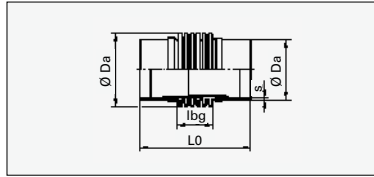
with weld ends

Type ARN 16...

PN 16



Type ARN without inner sleeve



Type ARN with inner sleeve

Nominal diameter	Nominal axial movement absorption	Type ARN 16 ...	Order No. standard version		Overall length	Weight approx.		Weld ends	
			without inner sleeve	with inner sleeve		without inner sleeve	with inner sleeve	outside diameter	wall thickness
DN	2δ _N	–	–	–	Lo	G	G	D	s
–	mm	–	–	–	mm	kg	kg	mm	mm
300	40	.0300.040.0	417570	417605	268	16.8	18.9	323.9	8
300	80	.0300.080.0	417571	417606	352	23	27	323.9	8
300	120	.0300.120.0	417572	417607	529	42	48	323.9	8
350	40	.0350.040.0	417573	417608	268	18.8	21	355.6	8
350	90	.0350.090.0	417574	417609	373	28	32	355.6	8
350	130	.0350.130.0	417575	417611	496	43	50	355.6	8
400	48	.0400.048.0	417576	417612	288	26	29	406.4	8
400	96	.0400.096.0	417577	417613	392	38	43	406.4	8
400	132	.0400.132.0	417578	417614	470	47	54	406.4	8
450	52	.0450.052.0	417579	417615	288	29	33	457	8
450	104	.0450.104.0	417580	417616	392	43	50	457	8
450	143	.0450.143.0	417581	417617	470	54	62	457	8
500	48	.0500.048.0	417582	417618	312	34	37	508	8
500	96	.0500.096.0	417583	417619	396	46	53	508	8
500	144	.0500.144.0	417584	417620	480	59	68	508	8

¹⁾ Inner sleeve, movement absorption: The inner sleeve is designed for axial movement only. The movements (axial, angular, lateral) are to be regarded as alternatives, i.e. the sum of their proportions in percentages should not exceed 100%

Axial expansion joints

with weld ends

Type ARN 16...

PN 16

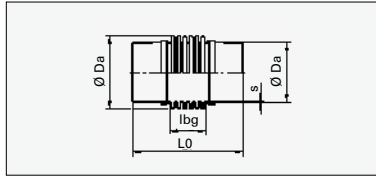
Bellows			Nominal movement absorption ¹⁾ for 1000 loading cycles		Adjusting force rate rate		
outside diameter	corrugated length	effective cross-section	angular ¹⁾	lateral ¹⁾	axial	angular	lateral
Da	lbg	A	2α _N	2λ _N	c _δ	c _α	c _λ
mm	mm	cm ²	degrees	mm	N/mm	Nm/degrees	N/mm
374	84	940	13	3.2	665	174	16955
374	168	940	21	13	332	87	2119
376	345	946	25	40	352	92	537
408	84	1128	12	3	665	208	20268
408	189	1128	20	15	295	92	1790
412	312	1140	26	35	355	112	798
467	104	1476	12	3.8	1065	437	27779
467	208	1476	22	15	532	218	3464
467	286	1476	25	29	387	159	1336
520	104	1851	12	3.7	1030	530	33691
520	208	1851	21	15	515	265	4211
520	286	1851	24	28	374	192	1622
576	84	2282	9.9	2.5	1263	801	78051
576	168	2282	18	10	631	400	9744
576	252	2282	24	22	421	267	2891

Axial expansion joints

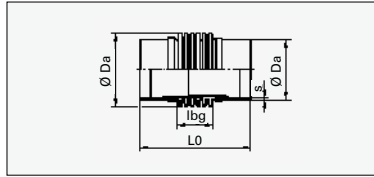
with weld ends

Type ARN 25...

PN 25



Type ARN without inner sleeve



Type ARN with inner sleeve

Nominal diameter	Nominal axial movement absorption	Type ARN 25 ...	Order No. standard version		Overall length	Weight approx.		Weld ends	
			without inner sleeve	with inner sleeve		without inner sleeve	with inner sleeve	outside diameter	wall thickness
DN	2δ _N	–	–	–	L ₀	G	G	D	s
–	mm	–	–	–	mm	kg	kg	mm	mm
50	17	.0050.017.0	417621	417650	210	1.2	1.4	60.3	4
50	32	.0050.032.0	417622	417651	270	1.8	2	60.3	4
65	21	.0065.021.0	417623	417652	215	1.8	2	76.1	4
65	40	.0065.040.0	417624	417653	292	3.2	3.6	76.1	4
80	23	.0080.023.0	417625	417654	220	2.3	2.6	88.9	4
80	42	.0080.042.0	417626	417655	290	3.6	4	88.9	4
100	23	.0100.023.0	417627	417656	212	2.8	3.1	114.3	4
100	48	.0100.048.0	417629	417657	286	4.6	5.2	114.3	4
125	26	.0125.026.0	417630	417658	240	3.9	4.4	139.7	4
125	52	.0125.052.0	417631	417659	304	5.3	6.1	139.7	4
150	29	.0150.029.0	417632	417660	240	4.9	5.5	168.3	4.5
150	58	.0150.058.0	417633	417661	304	6.8	7.7	168.3	4.5
200	26	.0200.026.0	417635	417662	252	8.5	9.4	219.1	6.3
200	52	.0200.052.0	417636	417663	324	11.3	12.6	219.1	6.3
200	71	.0200.071.0	417637	417664	378	15.2	17.1	219.1	6.3
250	24	.0250.024.0	417638	417665	240	11.5	12.5	273	7.1
250	48	.0250.048.0	417639	417666	300	15.1	16.5	273	7.1
250	79	.0250.079.0	417640	417667	380	19.8	22	273	7.1

¹⁾ Inner sleeve, movement absorption: The inner sleeve is designed for axial movement only. The movements (axial, angular, lateral) are to be regarded as alternatives, i.e. the sum of their proportions in percentages should not exceed 100%

Axial expansion joints

with weld ends

Type ARN 25...

PN 25

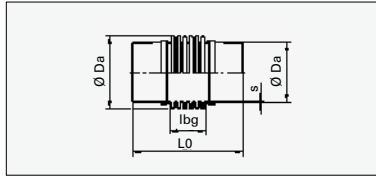
Bellows			Nominal movement absorption ¹⁾ for 1000 loading cycles		Adjusting force rate rate		
outside diameter	corrugated length	effective cross-section	angular ¹⁾	lateral ¹⁾	axial	angular	lateral
			degrees	mm			
Da	lbg	A	2α _N	2λ _N	c _s	c _a	c _l
mm	mm	cm ²	degrees	mm	N/mm	Nm/degrees	N/mm
90	50	44.8	22	3.5	350	4.5	1238
91	110	45	33	15	216	2.8	159
109	55	67.9	23	4.1	328	6.4	1455
111	132	68.1	33	18	260	5.2	205
123	60	87.7	21	4.1	396	10	1910
125	130	88.4	32	17	277	7.1	289
151	52	136.2	18	3	462	18	4577
152	126	136	30	15	286	11	476
174	64	182	18	3.6	612	32	5371
174	128	182	29	14	306	16	671
205	64	260	17	3.4	602	45	7554
205	128	260	27	13	301	22	923
261	72	434	12	2.6	792	97	12998
261	144	434	20	11	396	49	1625
262	198	434	23	19	365	45	789
320	60	665	8.7	1.6	1243	234	44691
320	120	665	16	6.4	621	117	5586
320	200	665	21	18	373	70	1203

Axial expansion joints

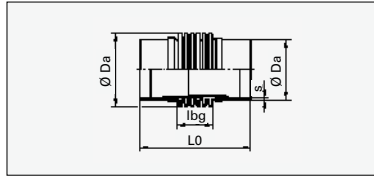
with weld ends

Type ARN 25...

PN 25



Type ARN without inner sleeve



Type ARN with inner sleeve

Nominal diameter	Nominal axial movement absorption	Type ARN 25 ...	Order No. standard version		Overall length	Weight approx.		Weld ends	
			without inner sleeve	with inner sleeve		without inner sleeve	with inner sleeve	outside diameter	wall thickness
DN	2δ _N	–	–	–	L ₀	G	G	D	s
–	mm	–	–	–	mm	kg	kg	mm	mm
300	27	.0300.027.0	417641	417668	250	15.2	17	323.9	8
300	55	.0300.055.0	417642	417669	316	19.8	23	323.9	8
300	82	.0300.082.0	417643	417670	382	24	29	323.9	8
350	30	.0350.030.0	417644	417671	256	19.2	21	355.6	8
350	70	.0350.070.0	417645	417672	352	29	33	355.6	8
350	100	.0350.100.0	417646	417673	424	36	41	355.6	8
400	40	.0400.040.0	417647	417674	309	29	32	406.4	8
400	80	.0400.080.0	417648	417675	434	45	51	406.4	8
400	112	.0400.112.0	417649	417676	562	66	74	406.4	8

¹⁾ Inner sleeve, movement absorption: The inner sleeve is designed for axial movement only. The movements (axial, angular, lateral) are to be regarded as alternatives, i.e. the sum of their proportions in percentages should not exceed 100%.

Axial expansion joints

with weld ends

Type ARN 25...

PN 25

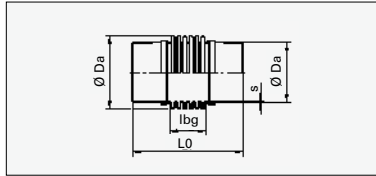
Bellows			Nominal movement absorption ¹⁾ for 1000 loading cycles		Adjusting force rate rate		
outside diameter	corrugated length	effective cross-section	angular ¹⁾	lateral ¹⁾	axial	angular	lateral
Da	lbg	A	2α _N	2λ _N	c _δ	c _α	c _λ
mm	mm	cm ²	degrees	mm	N/mm	Nm/degrees	N/mm
374	66	924	8.6	1.7	1183	309	32515
374	132	924	15	6.9	591	154	4051
374	198	924	19	16	394	103	1204
412	72	1116	8.8	1.9	1540	488	64723
412	168	1116	18	10	660	209	5091
412	240	1116	21	21	462	146	1743
466	125	1444	10	3.8	1392	569	25038
466	250	1444	17	15	696	285	3135
469	378	1450	19	32	592	244	1174

Axial expansion joints

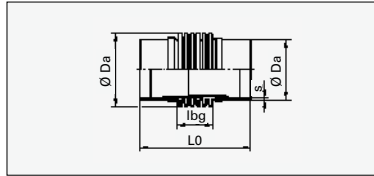
with weld ends

Type ARN 40...

PN 40



Type ARN without inner sleeve



Type ARN with inner sleeve

Nominal diameter	Nominal axial movement absorption	Type ARN 40 ...	Order No. standard version		Overall length	Weight approx.		Weld ends	
			without inner sleeve	with inner sleeve		without inner sleeve	with inner sleeve	outside diameter	wall thickness
DN	2δ _N	–	–	–	L ₀	G	G	D	s
–	mm	–	–	–	mm	kg	kg	mm	mm
50	13	.0050.013.0	417677	417699	204	1.2	1.3	60.3	4
50	26	.0050.026.0	417678	417700	248	1.6	1.8	60.3	4
65	18	.0065.018.0	417679	417701	220	2.2	2.4	76.1	4
65	32	.0065.032.0	417680	417702	268	2.9	3.2	76.1	4
80	17	.0080.017.0	417681	417703	212	2.4	2.7	88.9	4
80	34	.0080.034.0	417682	417704	264	3.2	3.6	88.9	4
100	16	.0100.016.0	417683	417705	225	2.7	3.1	114.3	4
100	36	.0100.036.0	417684	417706	329	4.7	5.4	114.3	4
125	24	.0125.024.0	417685	417707	272	4.7	5.3	139.7	4
125	44	.0125.044.0	417687	417708	363	7.6	8.5	139.7	4
150	29	.0150.029.0	417688	417709	272	6	6.8	168.3	4.5
150	52	.0150.052.0	417689	417710	427	13.6	15	168.3	4.5
200	22	.0200.022.0	417690	417711	260	10.5	11.4	219.1	6.3
200	44	.0200.044.0	417691	417712	340	15.1	16.5	219.1	6.3
200	61	.0200.061.0	417692	417713	400	18.6	20	219.1	6.3
250	21	.0250.021.0	417693	417714	243	13	14	273	7.1
250	49	.0250.049.0	417694	417715	327	19.4	21	273	7.1
250	70	.0250.070.0	417695	417717	390	24	27	273	7.1
300	24	.0300.024.0	417696	417718	276	19.6	22	323.9	8
300	54	.0300.054.0	417697	417719	391	30	34	323.9	8
300	77	.0300.077.0	417698	417720	534	47	53	323.9	8

¹⁾ Inner sleeve, movement absorption: The inner sleeve is designed for axial movement only. The movements (axial, angular, lateral) are to be regarded as alternatives, i.e. the sum of their proportions in percentages should not exceed 100%.

Axial expansion joints

with weld ends

Type ARN 40...

PN 40

Bellows			Nominal movement absorption ¹⁾ for 1000 loading cycles		Adjusting force rate		
outside diameter	corrugated length	effective cross-section	angular ¹⁾	lateral ¹⁾	axial	angular	lateral
Da	lbg	A	2α _N	2λ _N	c _s	c _a	c _l
mm	mm	cm ²	degrees	mm	N/mm	Nm/degrees	N/mm
91	44	45	16	2.3	540	7.1	2521
91	88	45	25	9.5	270	3.5	311
111	60	68.1	19	3.8	574	11	2101
111	108	68.1	26	12	318	6.3	371
125	52	88.4	16	2.6	692	18	4577
125	104	88.4	25	11	346	8.9	566
147	65	132.7	12	2.5	554	21	3417
147	169	131.7	18	15	353	13	313
174	96	181	15	5	691	36	2686
175	187	181	21	18	489	26	511
206	96	262	15	4.8	618	46	3432
208	247	260	20	23	613	46	518
263	80	432	10	2.5	1650	205	22023
263	160	432	17	9.8	825	102	2739
263	220	432	19	18	600	74	1051
322	63	665	7.8	1.5	1913	363	62882
322	147	665	16	8.1	820	156	4964
322	210	665	18	17	574	109	1699
376	92	923	7.5	2.1	2107	553	45003
376	207	923	14	11	936	246	3947
378	350	925	15	26	823	217	1224