



HYDRA

Type UBN
Type UFN

Designation

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

Example:

Type UBN: HYDRA universal expansion joint with swivel flanges
Type UFN: HYDRA universal expansion joint with plain fixed flanges

Standard version/materials:

multi-ply bellows: 1.4541
flange: S 235 JRG2 (1.0038)
operating temperature: up to 300°C

Designation (example):

U	B	N	0	6	.	0	1	5	0	.	0	9	6	.	0
Type			Nominal pressure (PN6)			Nominal diameter (DN150)			Movement absorption, nominal (2δ = ±48 = 96 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.

Universal expansion joints

with swivel lap-joint flanges

Type UBN 06...

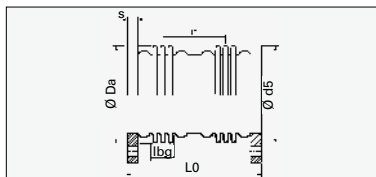
PN 06

Universal expansion joints

with swivel lap-joint flanges

Type UBN 06...

PN 06



Type UBN

Nominal diameter	Nominal axial movement absorption	Type	Order No. standard version	Overall length	Weight approx.	Centre-to-centre spacing of bellows	Flange		
							drilling EN 1092	rim diameter	thickness
DN	$2\delta_N$	UBN 06 ...	—	Lo	G	l*	PN	d	s
—	mm	—	—	mm	kg	mm	—	mm	mm
50	44	.0050.044.0	425677	341	3.8	216	6	90	16
65	55	.0065.055.0	425678	341	4.9	210	6	107	16
80	61	.0080.061.0	425680	364	7.2	224	6	122	18
100	73	.0100.073.0	425681	385	10	232	6	147	18
125	84	.0125.084.0	425683	413	13.5	240	6	178	20
150	96	.0150.096.0	423519	430	14.8	251	6	202	20
200	100	.0200.100.0	423520	470	20.8	293	6	258	22
250	120	.0250.120.0	423521	410	26.1	214	6	312	24
300	100	.0300.100.0	423522	430	31.8	230	6	365	24
350	110	.0350.110.0	423523	440	42.6	231	6	410	26
400	130	.0400.130.0	423524	460	55.7	227	6	465	28
450	140	.0450.140.0	423525	480	64.8	242	6	520	28
500	132	.0500.132.0	423526	490	75.9	266	6	570	28

¹⁾ Movement absorption: 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 rate		
outside diameter	corrugated length	effective cross-section	angular ¹⁾	lateral ¹⁾	axial	lateral	
Da	lbg	A	$2\alpha_N$	$2\lambda_N$	c_a	c_l	c_p
mm	mm	cm ²	degrees	mm	N/mm	N/mm	N/mm bar
89	54	45	31	101	82	5.2	0.5
108	60	68	32	98	78	7.8	1
121	66	88	31	102	77	8.7	1.4
150	78	136	30	99	126	20	1.7
172	84	181	30	101	123	26	2.6
203	90	260	28	101	120	33	3.6
257	85	430	23	99	136	44	4.3
316	90	663	22	66	129	120	10
371	95	927	15	50	96	108	16.9
405	100	1113	15	50	95	127	21.3
461	110	1445	16	50	138	249	22.5
514	115	1817	16	51	135	268	28.2
572	100	2248	14	50	216	441	18.1

Universal expansion joints

with plain fixed flanges

Type UFN 06...

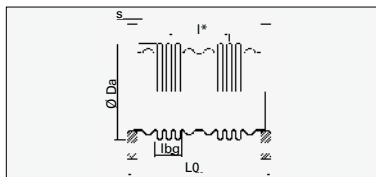
PN 06

Universal expansion joints

with plain fixed flanges

Type UFN 06...

PN 06



Type UFN

Nominal diameter	Nominal axial movement absorption	Type	Order No. standard version	Overall length	Weight approx.	Centre-to-centre spacing of bellows	Flange	
							drilling EN 1092	thickness
DN	2δ _N	UFN 06 ...	—	L ₀	G	I*	PN	s
—	mm	—	—	mm	kg	mm	—	mm
50	44	..0050.044.0	425690	354	4	216	6	16
65	55	..0065.055.0	425691	354	5	210	6	16
80	61	..0080.061.0	425693	376	7	224	6	18
100	73	..0100.073.0	425694	396	9	232	6	18
125	84	..0125.084.0	425695	422	13	240	6	20
150	96	..0150.096.0	423535	439	14	251	6	20
200	100	..0200.100.0	423536	478	19	293	6	22
250	120	..0250.120.0	423537	416	25	214	6	24
300	100	..0300.100.0	423538	437	30	230	6	24
350	110	..0350.110.0	423539	445	40	231	6	26
400	130	..0400.130.0	423540	457	53	227	6	28
450	140	..0450.140.0	423541	477	62	242	6	28
500	132	..0500.132.0	423542	486	71	266	6	28

¹⁾ Movement absorption: 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	lateral	
Da	lbg	A	2α _N	2λ _N	c _δ	c _λ	c _ρ
mm	mm	cm ²	degrees	mm	N/mm	N/mm	N/mm bar
89	54	45	33	101	81	5.2	0.5
108	60	68	33	98	78	7.8	1
121	66	88	32	102	76	8.7	1.4
150	78	136	31	99	125	20	1.7
172	84	181	31	101	122	26	2.6
203	90	260	30	101	120	33	3.6
257	85	430	24	99	136	44	4.3
316	90	663	23	66	129	120	10
371	95	927	16	50	96	108	16.9
405	100	1113	17	50	95	127	21.3
461	110	1445	17	50	138	249	22.5
514	115	1817	16	51	135	268	28.2
572	100	2248	14	50	216	441	18.1