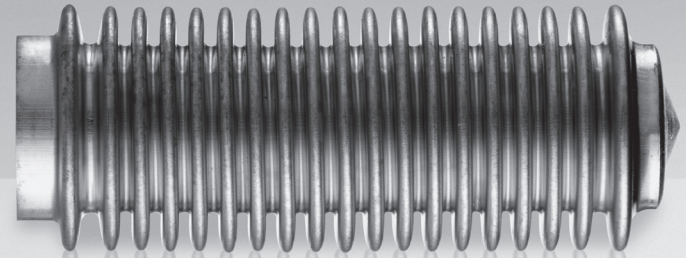


6.5 | HYDRA bronze bellows



Preferred dimensions

Bronze bellows for measurement and control technology

Based on their small spring rates, bronze bellows are especially suited for measurement and control technology applications. They are manufactured with seamless sleeves made of materials 2.1020 (CuSn6) or 2.1030 (CuSn8).

BAO: Bellows without connecting parts

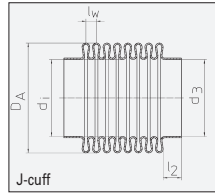
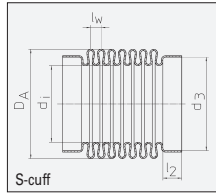
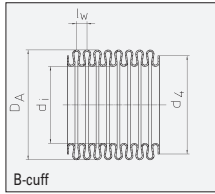
BAT: Bellows with connecting parts

Bellows description (example):

BAO	6.3	x	9.7	x	1	x	0.1	8W	2.1020
BAO: Bellows without connecting part	Inside diameter $d_i = 6,3 \text{ mm}$		Outside diameter $D_A = 9,7 \text{ mm}$		Number of single layers $n_L = 1$		Individual layers thickness s $= 0.1 \text{ mm}$	8 corruga- tions acc. to Section 6.1	Material 2.1020

Preferred dimensions

Preferred dimensions



Reference diameter	Nominal pressure P _N *	Bellows profile				Material	Corrugation length l _w	Max. number of corrugations	ØTolerances		B-cuff Ø d ₄	S-cuff		J-cuff		Nominal deflection per corrugation (for 10,000 load cycles)			Spring rate per corrugation (± 30%)			Effective A	Weight per corrugation g
		d _i	D _A	n _L	s				d _i	D _A		Ø inside d ₃	Length l ₂	Ø inside d ₃	Length l ₂	Axial 2δ _{n,0}	angular 2α _{n,0}	lateral 2l _{n,0}	Axial c ₀	angular c _α	lateral c _l		
mm	bar	mm	mm	-	mm	-	mm	mm	mm	mm	mm	mm	mm	mm	mm	Degree	mm	N/mm	Nm/degree	N/mm	cm ²	g	
4	30	4.06 x 6.0 x 1 x 0.070	2.1020 / 2.1030	0.70	57	±0.2	±0.3	5.5	-	-	4.06	5.0	±0.06	±1.00	±2	207	0.011	32000	0.20	0.02			
5	20	5.34 x 8.0 x 1 x 0.080	2.1020 / 2.1030	0.95	53	±0.2	±0.3	7.0	-	-	5.34	5.0	±0.10	±1.25	±4	120	0.012	17700	0.35	0.04			
6	12	6.24 x 10.0 x 1 x 0.080	2.1020 / 2.1030	1.25	48	±0.2	±0.3	8.5	-	-	6.24	5.0	±0.15	±1.75	±8	51	0.007	6500	0.53	0.06			
	20	6.30 x 9.7 x 1 x 0.10	2.1020 / 2.1030	1.25	48	±0.2	±0.3	8.5	-	-	6.30	5.0	±0.10	±1.20	±4	105	0.015	12900	0.51	0.08			
8	8	8.0 x 12.5 x 1 x 0.080	2.1020 / 2.1030	1.30	231	-0.3/+0.2	±0.3	11.7	-	-	8.0	6.0	±0.20	±1.75	±8	47	0.011	8800	0.85	0.10			
9	6	9.0 x 14.0 x 1 x 0.080	2.1020 / 2.1030	1.45	207	-0.3/+0.2	±0.3	13.0	12.3	2	9.0	6.0	±0.25	±2.10	±11	40	0.012	7500	1.04	0.13			
12	5	12.0 x 19.0 x 1 x 0.090	2.1020 / 2.1030	1.80	167	-0.3/+0.2	±0.4	18.0	16.8	2.5	12.0	6.0	±0.35	±2.10	±14	28	0.015	6200	1.92	0.24			
14	5	14.0 x 22.0 x 1 x 0.10	2.1020 / 2.1030	2.20	136	-0.3/+0.2	±0.5	18.5	19.3	3.5	14.0	6.0	±0.35	±2.00	±14	52	0.037	10400	2.63	0.38			
16	5	16.0 x 24.0 x 1 x 0.11	2.1020 / 2.1030	1.95	154	-0.3/+0.2	±0.5	21.5	21.1	4.0	16.0	6.0	±0.35	±1.60	±11	49	0.043	15400	3.18	0.45			
18	4	18.0 x 28.0 x 1 x 0.11	2.1020 / 2.1030	2.20	136	-0.3/+0.2	±0.5	25.0	25.2	3.0	18.0	6.0	±0.35	±2.10	±11	27	0.031	8800	4.34	0.62			
22	3	22.0 x 34.0 x 1 x 0.12	2.1020 / 2.1030	2.80	125	-0.3/+0.2	±0.5	30.0	30.2	4.0	22.0	8.0	±0.60	±2.00	±20	25	0.064	7500	6.20	1.00			
27	3	27.0 x 39.0 x 1 x 0.13	2.1020 / 2.1030	2.90	138	-0.3/+0.2	±0.5	37.5	37.2	4.0	27.0	8.0	±0.65	±1.90	±19	41	0.097	16000	8.60	1.32			
34	2	34.0 x 50.0 x 1 x 0.15	2.1020 / 2.1030	3.60	111	-0.3/+0.2	±0.5	47.0	45.3	5.0	34.0	10.0	±0.80	±2.00	±22	34	0.131	13800	14.2	2.53			

* outside pressure; in the event of inside pressure loads, column stability must also be guaranteed (buckle resistance)