

## 6.7 | HYDRA diaphragm bellows with narrow profiles

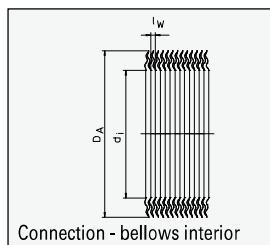
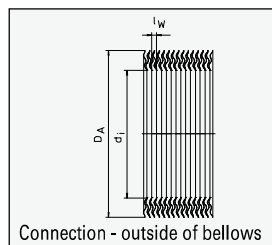
Preferred dimensions

HYDRA

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Reference diameter	Nominal pressure $P_N^{**}$	Bellows profile				Material	Length per diaphragm pair $l_w$	Max. number of diaphragm pairs*	Tolerances		Nominal deflection per corrugation (for 10,000 load cycles)			Spring rate per corrugation ( $\pm 30\%$ )			Effective cross section A	Weight per diaphragm pair
		$d_i$	$D_A$	$n_L$	s				$d_i$	$D_A$	axial $2\delta_{n,0}$	angular $2\alpha_{n,0}$	lateral $2\lambda_{n,0}$	axial $c_\delta$	angular $c_\alpha$	lateral $c_\lambda$		
mm	bar	mm	mm	–	mm	–	mm	–	mm	mm	mm	Degree	mm	N/mm	Nm/degree	N/mm	cm <sup>2</sup>	g
84	10.0	84,0	100	1	0.20	1.4571	1.7	90	$\pm 0.3$	$\pm 0.3$	$0.70 = + 0.14 / - 0.56$	$\pm 0.17$	$\pm 0.0009$	560	10.3	2460000	66.6	7.31
87	7.0	87,0	103	1	0.15	1.4571	1.6	95	$\pm 0.3$	$\pm 0.3$	$0.80 = + 0.16 / - 0.64$	$\pm 0.19$	$\pm 0.0009$	245	4.82	1300000	71.0	5.66
	10.0	87,0	103	1	0.20	1.4571	1.7	90	$\pm 0.3$	$\pm 0.3$	$0.70 = + 0.14 / - 0.56$	$\pm 0.17$	$\pm 0.0008$	710	13.98	3325000	71.0	7.55
92	7.0	92,0	108	1	0.15	1.4571	1.4	110	$\pm 0.3$	$\pm 0.3$	$0.80 = + 0.16 / - 0.64$	$\pm 0.18$	$\pm 0.0007$	315	6.87	2410000	78.1	5.96
	10.0	92,0	108	1	0.20	1.4571	1.6	95	$\pm 0.3$	$\pm 0.3$	$0.70 = + 0.14 / - 0.56$	$\pm 0.16$	$\pm 0.0007$	730	15.9	4277000	78.1	7.94
97	7.0	97,0	113	1	0.15	1.4571	1.6	95	$\pm 0.3$	$\pm 0.3$	$0.80 = + 0.16 / - 0.64$	$\pm 0.17$	$\pm 0.0008$	320	7.70	2070000	86.8	6.25
	10.0	97,0	113	1	0.20	1.4571	1.7	90	$\pm 0.3$	$\pm 0.3$	$0.70 = + 0.14 / - 0.56$	$\pm 0.15$	$\pm 0.0008$	740	17.8	4234000	86.8	8.34
102	7.0	102	118	1	0.15	1.4571	1.5	100	$\pm 0.3$	$\pm 0.3$	$0.80 = + 0.16 / - 0.64$	$\pm 0.17$	$\pm 0.0007$	330	8.71	2660000	95.2	6.55
	10.0	102	118	1	0.20	1.4571	1.7	90	$\pm 0.3$	$\pm 0.3$	$0.70 = + 0.14 / - 0.56$	$\pm 0.15$	$\pm 0.0007$	750	19.8	4710000	95.2	8.74
106	7.0	106	122	1	0.15	1.4571	1.5	100	$\pm 0.3$	$\pm 0.3$	$0.80 = + 0.16 / - 0.64$	$\pm 0.16$	$\pm 0.0007$	330	9.36	2859000	102.2	6.79
	10.0	106	122	1	0.20	1.4571	1.6	95	$\pm 0.3$	$\pm 0.3$	$0.70 = + 0.14 / - 0.56$	$\pm 0.14$	$\pm 0.0007$	750	21.3	5710000	102.2	9.05
112	7.0	112	128	1	0.15	1.4571	1.6	95	$\pm 0.3$	$\pm 0.3$	$0.80 = + 0.16 / - 0.64$	$\pm 0.15$	$\pm 0.0007$	340	10.7	2870000	110.0	7.15
	10.0	112	128	1	0.20	1.4571	1.7	90	$\pm 0.3$	$\pm 0.3$	$0.70 = + 0.14 / - 0.56$	$\pm 0.13$	$\pm 0.0007$	760	23.9	5680000	110.0	9.53
127	7.0	127	143	1	0.15	1.4571	1.6	95	$\pm 0.3$	$\pm 0.3$	$0.80 = + 0.16 / - 0.64$	$\pm 0.14$	$\pm 0.0006$	350	13.9	3740000	143.0	8.04
	10.0	127	143	1	0.20	1.4571	1.7	90	$\pm 0.3$	$\pm 0.3$	$0.70 = + 0.14 / - 0.56$	$\pm 0.12$	$\pm 0.0006$	770	30.6	7280000	143.0	10.72
142	7.0	142	158	1	0.15	1.4571	1.8	20	$\pm 0.3$	$\pm 0.3$	$0.80 = + 0.16 / - 0.64$	$\pm 0.12$	$\pm 0.0006$	350	17.2	3650000	177.0	8.94
	10.0	142	158	1	0.20	1.4571	1.9	20	$\pm 0.3$	$\pm 0.3$	$0.70 = + 0.14 / - 0.56$	$\pm 0.11$	$\pm 0.0006$	770	37.8	7200000	177.0	11.91
	4.0	142	168	1	0.15	1.4571	2.8	20	$\pm 0.3$	$\pm 0.3$	$1.00 = + 0.2 / - 0.8$	$\pm 0.15$	$\pm 0.0012$	220	11.5	1010000	189.0	15.00
	6.0	142	168	1	0.20	1.4571	3.0	20	$\pm 0.3$	$\pm 0.3$	$0.80 = + 0.16 / - 0.64$	$\pm 0.12$	$\pm 0.0010$	570	29.9	2280000	189.0	20.00
147	6.0	147	167	1	0.15	1.4571	1.8	20	$\pm 0.3$	$\pm 0.3$	$0.90 = + 0.18 / - 0.72$	$\pm 0.13$	$\pm 0.0007$	450	24.2	5130000	192.0	11.69
	8.0	147	167	1	0.20	1.4571	2.0	20	$\pm 0.3$	$\pm 0.3$	$0.80 = + 0.16 / - 0.64$	$\pm 0.12$	$\pm 0.0007$	850	45.7	7860000	192.0	15.59
158	8.0	158	178	1	0.20	1.4571	1.8	20	$\pm 0.3$	$\pm 0.3$	$0.80 = + 0.16 / - 0.64$	$\pm 0.11$	$\pm 0.0006$	870	53.3	11300000	221.0	16.63

\*for connection lengths < 20 mm, the maximum number of diaphragm pairs is reduced for longer connection pieces

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