

Ultra Bush & VP Bushes

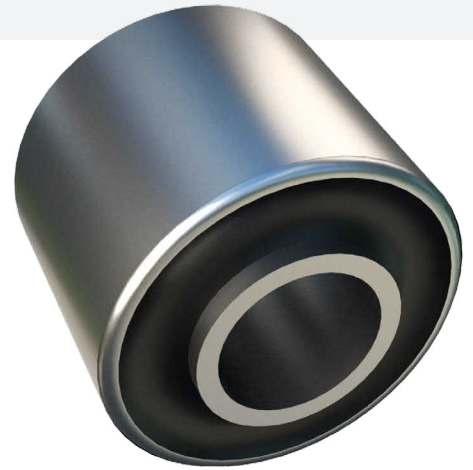
These bushes consist of two concentric sleeves with rubber securely bonded between them. Designed to accommodate torsional movements, axial and radial loads. The rubber is pre-stressed to give maximum dynamic strength and durability.

The bonded rubber takes up full movement. Therefore, lubrication or other bearing maintenance is not required. The bush has excellent sound and vibration isolation characteristics, enabling structures fitted with the sleeves to be silent and vibration free.

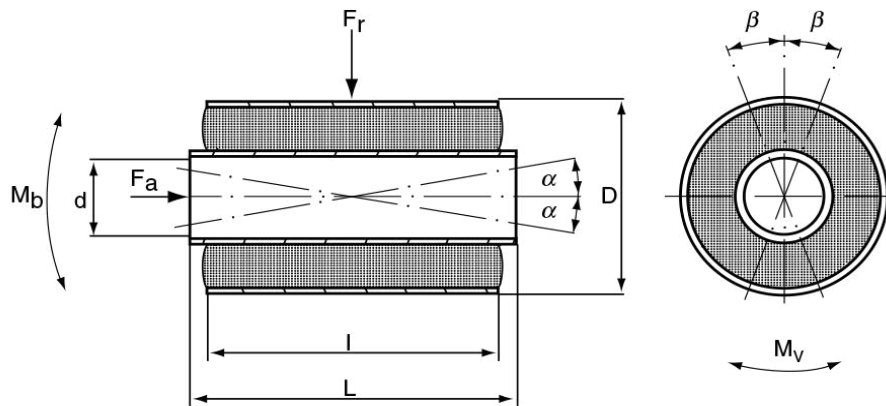
For vehicle suspension, pivot arms and all types of mechanical linkage, this mount permits oscillating movement through the deflection of rubber in shear. Suitable to replace roller bearings where small motions are required (up to 20 degrees). Reduces shock loads and noise transmission in structures.

Typical Applications Include:

- Vehicle suspension arms
- Vibratory feeders
- Conveyor tracks
- Mechanical linkages
- Pivot bearings



TECHNICAL DRAWING



Ultra Bush & VP Bushes

PRODUCT DATA

DRAWING NO.	PART NO.	TYPE	DIMENSIONS (mm)						RADIAL		AXIAL			TORSION		
			Ød	TOLERANCE FOR Ød	Housing		I	L	STIFFNESS (N/mm)	MAX. LOAD (N)	STIFFNESS (N/mm)	MAX. DEFLECTION (mm)	MAX. LOAD (N)	MAX. TORQUE (Nm)	STIFFNESS (Nm/deg)	±β (degrees)
					ØD	TOLERANCE FOR ØD										
13-1232	20-01612	60 °IRHD	8	+0.13/-0	20	0.06/-0.01	15	17	2000	700	205	1.3	147	2	0.17	13
001 18 168	90122	60 NR 11	8	+0.036/-0	20	+0.125/-0.04	35	40	6750	2622	510	13.2	687	3.2	0.5	7
001 18 156	91089	40 NR 11	10	+0.036/-0	20	+0.125/-0.04	18.5	20.5	3670	1068	200	5.8	118	2.7	0.2	12.6
001 18 036	90007	60 NR 11	10	+0.036/-0	20	+0.125/-0.04	20	24	14000	2719	680	5.8	402	2	0.6	3.5
001 18 305	91237	60 NR 11	8	+0.036/-0	22	+0.125/-0.04	12	20	1130	437	140	15.8	226	1.1	0.2	7
001 18 156	90112	60 NR 11	10	+0.036/-0	22	+0.125/-0.04	18.5	20.5	7000	2039	450	6.0	275	2.7	0.5	5.2
001 18 337	91497	60 NR 11	10	+0.036/-0	22	+0.125/-0.04	15	16	4000	1165	280	9.6	275	2	0.6	3.5
001 18 037	90009	60 NR 11	10	+0.036/-0	22	+0.125/-0.04	20	24	7200	1748	530	9.5	515	3	0.6	5
001 18 040	90014	60 NR 11	12	+0.043/-0	22	+0.125/-0.04	24	28	6500	1262	860	6.7	589	4	0.9	4.3
13-1230	10-00249	55 °IRHD	10	+0.13/-0	24	+0.8/-0	15	18	1360	500	170	1.7	275	3	0.24	13
001 18 287	92683	60 NR 11	12	+0.043/-0	24	+0.125/-0.04	36	37	15670	4564	790	11.6	932	6	1.1	5.6
13-4127	10-00021	60 °IRHD	10	+/-0.1	25	+0.05/+0.25	25	20	2000	2300	170	4.4	748	5	0.3	15
13-4128	10-00022	60 °IRHD	10	+/-0.1	25	+0.05/+0.25	40	35	2350	3800	380	3.9	1482	6	0.4	15
001 18 039	90012	40 NR 11	10	+0.036/-0	25	+0.132/-0.05	20	24	1400	680	130	15.5	206	1.2	0.2	6.6
001 18 039	90011	60 NR 11	10	+0.036/-0	25	+0.132/-0.05	20	24	3800	1845	340	15.6	540	2.9	0.4	6.6
001 18 041	90016	60 NR 11	12	+0.043/-0	25	+0.132/-0.05	24	28	8220	3593	540	11.6	638	4.7	0.9	5.4
001 18 043	90018	60 NR 11	12	+0.043/-0	28	+0.132/-0.05	24	28	4500	2622	400	11.5	471	4.2	0.7	6
001 18 043	90076	60 AEM 23	12	+0.043/-0	28	+0.132/-0.05	24	28	4500	2622	400	11.5	471	4.2	0.7	6
001 18 157	90890	40 NR 11	12	+0.043/-0	30	+0.132/-0.05	17	18	580	340	90	13.9	128	1.3	0.2	7.4
001 18 044	49035877	40 NR 11	12	+0.043/-0	30	+0.132/-0.05	24	28	1580	922	160	13.8	226	2.1	0.3	7.2
001 18 157	90113	60 NR 11	12	+0.043/-0	30	+0.132/-0.05	17	18	1500	874	200	14.4	294	3	0.4	7.4
001 18 169	49035876	40 NR 11	12	+0.043/-0	30	+0.132/-0.05	36	40	1670	971	210	14.7	314	2.9	0.4	7.5
001 18 044	90019	60 NR 11	12	+0.043/-0	30	+0.132/-0.05	24	28	2750	1602	300	15.4	471	4.5	0.6	7.2
001 18 169	90123	60 NR 11	12	+0.043/-0	30	+0.132/-0.05	36	40	4000	2330	520	14.4	765	7	0.9	7.5
001 18 050	90028	60 NR 11	16	+0.043/-0	30	+0.132/-0.05	32	38	13410	5341	880	13.1	1177	10	1.9	5.2
001 18 440	54004068	60 NR 11	16	+0.01/-0	30	+0.132/-0.05	25	25	5750	2233	520	12.4	657	13.7	1.2	11
13-4273	20-02673	60 °IRHD	14.3	+0.1/-0.02	30.2	+0.04/-0.04	44.5	50.8	11000	6000	695	1.9	1275	20	1.5	13
001 18 159	90117	60 NR 11	16	+0.043/-0	32	+0.16/-0.06	16	17	1830	1068	380	15.2	589	5	0.9	5.6
001 18 170	90124	60 NR 11	18	+0.043/-0	32	+0.16/-0.06	20	20	10000	3884	540	11.6	638	7.3	1.7	4.4
001 18 047	90021	60 NR 11	14	+0.043/-0	32	+0.16/-0.06	28	32	4000	2330	530	19.2	1040	7	1.0	6.7
001 18 158	90115	60 NR 11	12	+0.043/-0	32	+0.16/-0.06	55	59	8440	7380	750	23.1	1766	11	1.4	7.7
13-0797	10-00217	60 °IRHD	15.9	+0.1/-0.03	33.4	+0/-0.08	60.3	65	18800	9500	960	2.1	1560	31	2.4	13
001 18 171	93000	40 NR 11	18	+0.043/-0	34	+0.16/-0.06	25	25	1420	1651	220	15.3	343	3.8	0.7	5.3
001 18 171	91567	60 NR 11	18	+0.043/-0	34	+0.16/-0.06	25	25	4330	2525	640	15.0	981	9.2	1.7	5.3
001 18 055	90033	60 NR 11	18	+0.043/-0	34	+0.16/-0.06	36	42	12630	4904	1050	11.5	1236	13	2.5	5.3
13-4129	10-00023	60 °IRHD	15	+/-0.1	35	+0.05/+0.25	30	25	3000	3500	220	6.8	1496	9	0.6	15
13-4130	10-00024	60 °IRHD	15	+/-0.1	35	+0.05/+0.25	50	45	6500	6000	520	4.8	2496	15	1	15
001 18 048	90022	40 NR 11	14	+0.043/-0	35	+0.16/-0.06	28	32	1050	612	160	14.4	235	2.9	0.4	7.5
001 18 048	90023	60 NR 11	14	+0.043/-0	35	+0.16/-0.06	28	32	2670	1554	430	14.3	628	6	0.8	7.5
001 18 060	90035	60 NR 11	20	+0.052/-0	38	+0.16/-0.06	40	46	16400	7962	940	17.4	1668	19	3.6	5.3
13-1782	10-00277	60 °IRHD	12.7	+0.18/-0	38.1	+0.13/-0	25.4	31.8	788	1100	163	3.3	471	11	0.52	22
13-1657	10-00271	60 °IRHD	12.7	+0.18/-0	38.1	+0.13/-0	44.5	50.8	2100	2200	300	3.3	932	16	0.73	22
001 18 054	90032	60 NR 11	16	+0.043/-0	40	+0.16/-0.06	32	38	2670	2330	400	24.1	981	10	1.2	8.1
001 18 049	90026	60 NR 11	14	+0.043/-0	40	+0.16/-0.06	28	34	750	874	330	35.0	1177	7	0.8	8.6
001 18 392	91566	60 NR 11	25	+0.052/-0	40	+0.16/-0.06	30	30	21500	6312	1090	10.6	1177	36	5.1	7
001 18 130	90100	60 NR 11	25	+0.052/-0	40	+0.16/-0.06	40	40	27500	10681	1230	10.6	1324	22	5.5	4
001 18 130	477724	60 NBR 68	25	+0.052/-0	40	+0.16/-0.06	40	40	27500	10681	1230	10.6	1324	22	5.5	4
001 18 288	91270	60 NR 11	20	+0.052/-0	40	+0.16/-0.06	36	36	10000	6117	730	21.1	1570	16.6	2.8	6
001 18 061	90037	60 NR 11	20	+0.052/-0	40	+0.16/-0.06	40	46	12540	7671	820	21.1	1766	19	3.2	5.9
001 18 069	90043	60 NR 11	25	+0.052/-0	40	+0.16/-0.06	50	56	57140	19420	2200	8.7	1962	34	9.7	3.5
001 18 069	49004699	60 NBR 68	25	+0.052/-0	40	+0.16/-0.06	50	56	57140	19420	2200	8.7	1962	34	9.7	3.5
001 18 163	90955	60 NR 11	25	+0.052/-0	42	+0.17/-0.07	22	23	5000	2913	750	15.4	1177	15	3.5	4.3
001 18 224	90137	40 NR 11	20	+0.052/-0	44	+0.17/-0.07	38	42	2000	1554	280	28.5	814	7.5	1.1	7
002 18 919	49040213	45 NR 39	20	-0.15	44	+0.17/-0.07	38	42	2000	1554	280	28.5	814	7.5	1.1	7

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PRODUCT DATA

DRAWING NO.	PART NO.	TYPE	DIMENSIONS (mm)						RADIAL		AXIAL			TORSION		
			Ød	TOLERANCE FOR Ød	Housing		I	L	STIFFNESS (N/mm)	MAX. LOAD (N)	STIFFNESS (N/mm)	MAX. DEFLECTION (mm)	MAX. LOAD (N)	MAX. TORQUE (Nm)	STIFFNESS (Nm/deg)	±β (degrees)
					ØD	TOLERANCE FOR ØD										
001 18 224	91711	60 NR 11	20	+0.052/-0	44	+0.17/-0.07	38	42	5000	3884	710	28.5	2060	18	2.6	7
002 18 919	49040227	60 NR 11	20	-0,15	44	+0.17/-0.07	38	42	5000	3884	710	28.5	2060	18	2.6	7
001 18 564	54004164	60 NR 11	25.7	+0.052/-0	44.5	0 / -0.1	38	41.5	9170	5341	640	21.1	1373	42	4.2	10
13-4131	10-00025	60 °IRHD	20	+/-0.1	45	+0.05/+0.25	40	35	4000	6800	330	7.9	2607	24	1.6	15
13-4132	10-00026	60 °IRHD	20	+/-0.1	45	+0.05/+0.25	75	70	8000	13500	820	6.7	5494	48	3.2	15
001 18 181	2118578	40 NR 11	20	+0.052/-0	45	+0.17/-0.07	30	30	1670	1457	230	18.8	441	5.8	0.8	7.1
001 18 181	91034	60 NR 11	20	+0.052/-0	45	+0.17/-0.07	30	30	4110	3593	550	19.2	1079	14	2.0	7.1
001 18 064	90039	60 NR 11	20	+0.052/-0	45	+0.17/-0.07	40	46	5400	5243	650	25.9	1717	19	2.6	7.4
001 18 070	90044	60 NR 11	25	+0.052/-0	45	+0.17/-0.07	50	56	18250	11167	1560	17.3	2747	34	6.4	5.3
001 18 127	90094	60 NR 11	20	+0.052/-0	45	+0.17/-0.07	64	70	14580	16993	1130	30.7	3532	30	4.2	7.2
13-1004	10-00235	60 °IRHD	15.9	+0.15/-0.3	47.7	+0.05/-0.08	44.5	50.8	1981	2500	304	4.2	1226	26	1.3	20
001 18 173	90126	60 NR 11	30	+0.052/-0	48	+0.17/-0.07	56	62	47500	18449	1730	14.5	2551	92	11.5	8
13-4133	10-00027	60 °IRHD	25	+/-0.1	50	+0.05/+0.25	45	40	4500	9000	450	8.4	3780	46	3.3	14
13-4134	10-00028	60 °IRHD	25	+/-0.1	50	+0.05/+0.25	85	80	10500	18000	960	7.8	7488	69	4.9	14
001 18 075	90328	40 NR 11	30	+0.052/-0	50	+0.17/-0.07	60	66	14670	8545	750	15.4	1177	25	5.2	4.8
001 18 065	90040	60 NR 11	20	+0.052/-0	50	+0.17/-0.07	40	46	3420	5243	540	40.1	2207	19	2.3	8.1
001 18 624	93126	60 NR 11	24	+0.052/-0	50	+0.17/-0.07	64	70	12500	9710	660	35.4	2384	46	5.1	9
001 18 072	90045	60 NR 11	25	+0.052/-0	50	+0.17/-0.07	50	56	10000	9710	970	28.8	2845	34	5.2	6.6
001 18 126	90093	60 NR 11	24	+0.052/-0	50	+0.17/-0.07	76	82	21250	16507	1110	26.0	2943	92	6.6	14
001 18 136	92150	40 NR 11	24	+0.052/-0	50	+0.17/-0.07	102	115	15170	17672	940	30.7	2943	70	4.4	15.9
001 18 075	90046	60 NR 11	30	+0.052/-0	50	+0.17/-0.07	60	66	3550	1845	1940	15.4	3041	42	3.0	14
001 18 136	90102	60 NR 11	24	+0.052/-0	50	+0.17/-0.07	102	115	31250	36413	2170	23.1	5101	70	10.6	6.6
002 18 005	49017278	60 NR 91	28	+0.052/-0	52	+0.21/-0.087	48	54	10000	9710	800	19.2	1570	40	5.7	7
002 18 920	49040214	45 NR 97	25	-0,15	55	+0.17/-0.07	55	60	4000	3884	380	25.3	981	17	2.5	6.8
002 18 920	49040228	60 NR 11	25	-0,15	55	+0.21/-0.087	55	60	8000	7768	1000	25.0	2551	35	5.1	6.8
001 18 079	90052	60 NR 11	32	+0.062/-0	55	+0.21/-0.087	65	72	50500	19614	2700	19.2	5297	78	19.0	4.1
001 18 645	54004214	60 NR 11	32	-0,15	56	+0.21/-0.087	49	54	13930	9467	1000	25.0	2551	64	8.0	8
13-4135	10-00029	60 °IRHD	30	+/-0.2	60	+0.05/+0.25	55	45	5000	12000	530	9.6	5088	78	5.6	14
002 307 649	54004190	60 NR	30	+0.052/-0	60	+0.21/-0.087	24	26	3550	1845	632	16.7	1079	42	3.0	14
001 18 078	90051	60 NR 11	30	+0.052/-0	60	+0.21/-0.087	60	68	11820	12623	1310	25.0	3335	63	9.0	7
001 18 117	49004031	40 NR 11	38	+0.062/-0	64	+0.21/-0.087	80	88	23130	17964	750	26.9	2060	53	11.0	4.8
001 18 561	54004244	60 NR 11	40	+0.062/-0	64	+0.21/-0.087	43	46	15000	8739	1200	21.3	2600	80	11.4	7
001 18 117	90089	60 NR 11	38	+0.062/-0	64	+0.21/-0.087	80	88	56250	43695	2640	27.0	7259	130	27.1	4.8
13-4137	10-00031	60 °IRHD	35	+/-0.2	65	+0.05/+0.25	60	50	8500	16000	720	9.2	6624	92	7.7	12
001 18 220	91092	40 NR 11	30	+0.052/-0	65	+0.21/-0.087	70	70	5150	6506	380	38.0	1472	23	3.6	6.4
001 18 220	95300	60 NBR 68	30	+0.052/-0	65	+0.21/-0.087	70	70	12230	15439	970	37.7	3728	55	8.6	6.4
001 18 220	91318	60 NR 11	30	+0.052/-0	65	+0.21/-0.087	70	70	10540	13303	1030	37.4	3924	55	8.6	6.4
002 18 885	49004145	60 NR 11	30	+0.052/-0	65	+0.21/-0.087	70	70	10540	13303	1030	37.4	3924	55	8.6	6.4
001 18 088	90060	60 NR 11	40	+0.062/-0	65	+0.21/-0.087	80	88	50000	19420	2260	26.6	6131	130	27.7	4.7
001 18 084	90057	60 NR 11	36	+0.062/-0	65	+0.21/-0.087	72	80	19240	19614	1810	34.6	6377	96	16.6	5.8
13-4139	10-00033	60 °IRHD	40	+/-0.2	70	+0.05/+0.25	65	55	17000	20500	870	9.5	8265	138	11.5	12
13-1698	10-00276	60 °IRHD	35	+0.1/-0.07	71.2	+0.05/-0.08	41.1	45	3800	4500	347	5.1	2158	97	6.9	14
001 18 716	49012091	60 NR 11	57	+0.074/-0	73	+0.021/-0.002	62	71	115000	43307	3500	19.2	6867	200	66.7	3
13-4141	10-00035	60 °IRHD	45	+/-0.2	75	+0.05/+0.25	70	60	20000	24000	1100	9.1	10010	240	20	12
001 18 090	90061	60 NR 11	40	+0.062/-0	75	+0.22/-0.1	80	88	18670	27188	1370	33.7	4709	130	19.4	6.7
001 18 093	90063	60 NR 11	45	+0.062/-0	75	+0.22/-0.1	90	100	55580	64766	2260	34.7	7995	185	36.3	5.1
001 18 285	91820	60 NR 11	42	+0.062/-0	78	+0.22/-0.1	45	45	8480	13594	1070	42.3	4611	85	14.2	6
13-4143	10-00037	60 °IRHD	50	+/-0.2	80	+0.05/+0.25	75	65	30000	28500	1350	8.9	12015	275	25	11
001 18 297	91424	60 NR 11	45	+0.062/-0	80	+0.22/-0.1	45	45	7250	8448	870	28.8	2551	90	15.5	5.8
001 18 095	93394	60 NBR 68	50	+0.062/-0	80.0	+0.22/-0.1	100	110	94440	82535	3750	23.1	8829	300	68.2	4.4
001 18 095	90066	60 NR 11	50	+0.062/-0	80	+0.22/-0.1	100	110	94440	82535	3750	23.1	8829	300	68.2	4.4
001 18 141	49039427	45 NR 11	58	+0.074/-0	93	+0.34/-0.13	85	95	15500	15051	1100	28.9	3237	140	29.8	4.7
001 18 141	90106	60 NR 11	58	+0.074/-0	93	+0.34/-0.13	85	95	33000	32043	2330	28.9	6867	281	59.8	4.7
001 18 360	90900	60 NR 11	50	+0.062/-0	95	+0.26/-0.12	100	110	25450	40782	2180	42.4	9418	255	38.1	6.7

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					ØD	TOLERANCE FOR ØD										
001 18 489	54004359	60 NR 11	75	+0.074/-0	100	+0.125/-0.025	50	50	56000	27188	2750	19.2	5396	248	91.9	2.7
001 18 097	90070	60 NR 11	50	+0.062/-0	100	+0.26/-0.12	100	110	17250	33500	1650	59.8	10065	255	35.9	7.1
001 18 102	96921	40 NR 11	50	+0.062/-0	125	+0.42/-0.17	138	195	5600	15536	800	66.2	5396	180	17.1	10.5
001 18 485	54004365	70 NR 11	80	+0.074/-0	125	+0.33/-0.17	107	102	52870	56473	2980	41.3	12557	808	144.3	5.6
001 18 102	96141	60 NR 11	50	+0.062/-0	125	+0.42/-0.17	138	195	12600	33985	1700	73.6	12753	550	52.4	10.5
001 18 318	92770	60 NR 11	70	+0.074/-0	126	+0.33/-0.17	111	120	52000	50492	3200	48.1	15696	610	122.0	5
001 18 772	96165	60 NR 11	100	+0.087/-0	140	+0.42/-0.17	110	120	116360	124288	5100	27.9	14519	1045	316.7	3.3
001 18 641	54004357	60 NR 11	75	+0.074/-0	141	+0.2	155	165	73530	121375	2880	64.5	18933	1840	175.2	10.5
001 18 802	96246	60 NR 11	110	+0.087/-0	160	+0.44/-0.19	170	180	110000	160215	6000	48.1	29430	1850	440.5	4.2
001 18 805	96248	60 NR 11	124	+0.01/-0	180	+0.46/-0.21	220	230	440000	388400	10750	38.5	42183	3000	1000.0	3
001 18 805	96247	70 NR 11	124	+0.01/-0	180	+0.46/-0.21	220	230	460000	446660	15000	38.5	58860	4600	1533.3	3
001 18 531	93059	60 NR 11	136	+0.01/-0	218	+0.44/-0.26	201.6	235	130000	252460	7500	6.7	5150	4700	1000.0	4.7
001 18 531	480706	60 NBR 68	136	+0.01/-0	218	+0.44/-0.26	201.6	235	130000	252460	7500	67.4	51503	4700	1000.0	4.7
002 18 920	49040228	60 NR 511	25	-0.15	55	+0.21/-0.087	55	60	8000	7768	1000	2.6	260	35	5.1	6.8

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