



ABT, ABT-V, ABWT, ABWT-V

Spherical Bearings - Self-Lubricating
MIL-B-8942



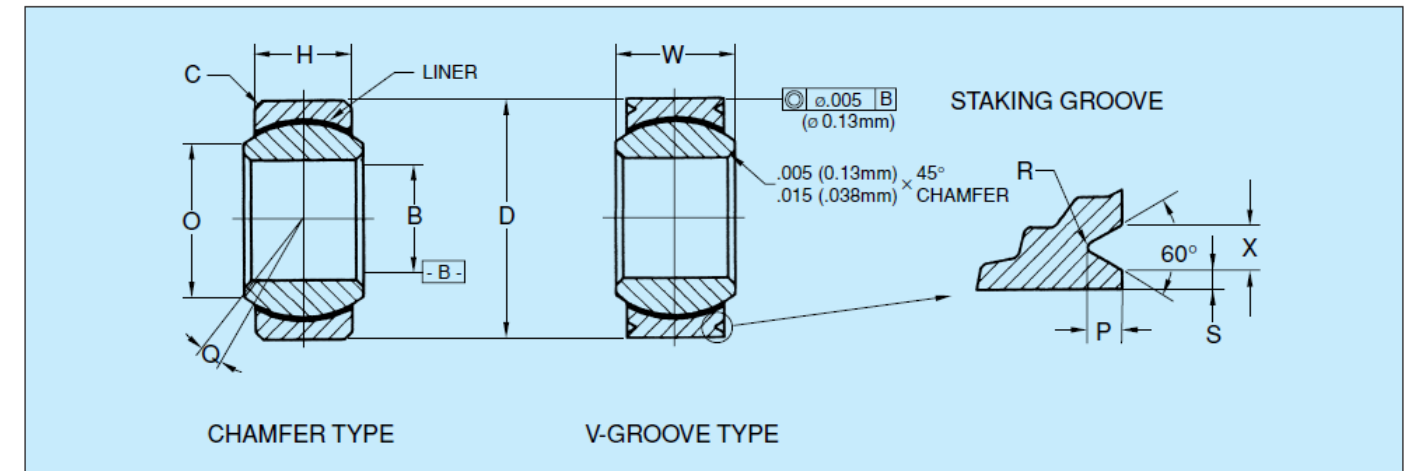
Bearings in the tables below are approved for procurement to MIL-B-8942 and MS21230 through MS21233. Temperature: Operating temperature range per MIL-B-8942 is -65° to 250°F (-54° to 121°C). Broader temperature capabilities are achievable.

MATERIALS

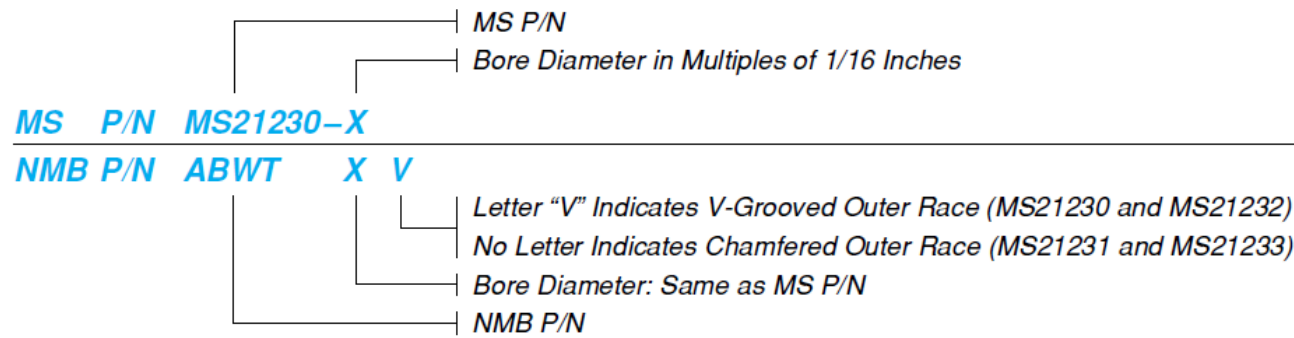
Part No.	Ball	Race	Liner
Catalog No.	CRES 440C AMS 5630, 55-62 HRC	CRES 410 AMS 5613, 23-35 HRC	*Teflon/Fabric Bonded to race I.D. No. Lub. Req'd.

* A trade name of E.I. duPont de Nemours & Co., Inc.

** Bore coad "3" is not specified on MS21232, but may be ordered to NMB part number "ABT3V"



NMB Part Number Chamfered V-Grooved	(B) Bore Diameter		(D) Outside Diameter		(W) Ball Width		(H) Race Width		(O) Shoulder Diameter		Ball Diameter		(C) Race Chamfered X 45°		(Q) Misalignment	Staking Groove Data				No Load Rotational Breakaway Torque		Static Limit Load		Dynamic Osc. Radial Load		Approx. Weight									
	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm		Inch	mm	Inch	mm	Inch	mm	Inch	mm	lbs	N	lbs	N	lbs	N	lbs	kg				
NARROW	+0.000	+0.000	+0.000	+0.000	+0.000	+0.000	±.005	±0.13	MIN	MIN	Ref.	Ref.	+0.000	+0.000	MIN	+0.000	+0.000	+0.000	+0.000	+0.000	+0.000														
MS21233 MS21232	-.0005	-0.013	-.0005	-0.013	-.002	-0.05							-.030	-0.76		-.010	-0.25	-.010	-0.25	-.010	-0.25														
ABT3 (ABT3V)**	.1900	4.826	.5625	14.288	.281	7.14	.218	5.54	.293	7.44	.406	10.31	.040	1.02	10°	.030	0.76	.015	0.38	.020	0.51	.045	1.14	.5-50	0.06-0.56	3975	17681	150	667	1500	6672	.020	0.009		
ABT4	.2500	6.350	.6562	16.667	.343	8.71	.250	6.35	.364	9.25	.500	12.70	.040	1.02	10°	.030	0.76	.015	0.38	.020	0.51	.045	1.14	1.0-5.0	0.12-0.56	6040	26866	430	1913	2320	10319	.020	0.009		
ABT5	.3125	7.938	.7500	19.050	.375	9.52	.281	7.14	.419	10.64	.562	14.27	.040	1.02	10°	.040	1.02	.020	0.51	.030	0.76	.055	1.40	1.0-5.0	0.12-0.56	8750	38920	700	3114	3430	15257	.030	0.014		
ABT6	.3750	9.525	.8125	20.638	.406	10.31	.312	7.92	.475	12.06	.656	16.66	.040	1.02	9°	.040	1.02	.020	0.51	.030	0.76	.055	1.40	1.0-5.0	0.12-0.56	10540	46882	1100	4893	4200	18682	.040	0.018		
ABT7	.4375	11.112	.9062	23.017	.437	11.10	.343	8.71	.530	13.46	.718	18.24	.040	1.02	8°	.040	1.02	.020	0.51	.030	0.76	.055	1.40	1.0-5.0	0.12-0.56	13200	58714	1400	6227	5700	25354	.050	0.023		
ABT8-1	.5000	12.700	1.0000	25.400	.500	12.70	.390	9.91	.600	15.24	.813	20.65	.040	1.02	8°	.060	1.52	.020	0.51	.030	0.76	.080	2.03	1.0-5.0	0.12-0.56	17900	79619	2100	9341	7900	35139	.070	0.032		
ABT9-1	.5625	14.288	1.0937	27.780	.562	14.27	.437	11.10	.670	17.02	.906	23.01	.040	1.02	8°	.060	1.52	.020	0.51	.030	0.76	.080	2.03	1.0-5.0	0.12-0.56	23200	103194	3680	16369	10300	45814	.090	0.041		
ABT10	.6250	15.875	1.1875	30.162	.625	15.88	.500	12.70	.739	18.77	.968	24.59	.040	1.02	8°	.060	1.52	.020	0.51	.030	0.76	.080	2.03	1.0-5.0	0.12-0.56	30500	135664	4720	20995	13400	59603	.120	0.054		
ABT12	.7500	19.050	1.4375	36.512	.750	19.05	.593	15.06	.920	23.37	1.187	30.15	.040	1.02	8°	.060	1.52	.020	0.51	.030	0.76	.080	2.03	1.0-5.0	0.12-0.56	46400	206387	6750	30024	19700	87626	.210	0.095		
ABT14	.8750	22.225	1.5625	39.687	.875	22.22	.703	17.86	.980	24.89	1.312	33.32	.040	1.02	8°	.060	1.52	.020	0.51	.030	0.76	.080	2.03	2.0-8.0	0.23-0.90	62200	276666	9350	41589	26100	116093	.270	0.122		
ABT16	1.0000	25.400	1.7500	44.450	1.000	25.40	.797	20.24	1.118	28.40	1.500	38.10	.040	1.02	9°	.060	1.52	.020	0.51	.030	0.76	.080	2.03	2.0-8.0	0.23-0.90	82200	365626	12160	54088	34100	151677	.390	0.177		
WIDE																																			
MS21231 MS21230																																			
ABWT3	.1900	4.826	.6250	15.875	.437	11.10	.327	8.31	.300	7.62	.531	13.49	.040	1.02	15°	.030	0.76	.015	0.38	.020	0.51	.045	1.14	.5-50	0.06-0.56	9000	40032	1770	7873	3770	16769	.031	0.014		
ABWT4	.2500	6.350	.6250	15.875	.437	11.10	.327	8.31	.300	7.62	.531	13.49	.040	1.02	15°	.030	0.76	.015	0.38	.020	0.51	.045	1.14	1.0-5.0	0.12-0.56	9000	40032	1770	7873	3770	16769	.031	0.014		
ABWT5	.3125	7.938	.6875	17.462	.437	11.10	.317	8.05	.360	9.14	.593	15.06	.040	1.02	14°	.030	0.76	.015	0.38	.020	0.51	.045	1.14	1.0-5.0	0.12-0.56	9400	41811	1640	7295	4650	20683	.035	0.016		
ABWT6	.3750	9.525	.8125	20.638	.500	12.70	.406	10.31	.466	11.84	.687	17.45	.040	1.02	8°	.040	1.02	.020	0.51	.030	0.76	.055	1.40	1.0-5.0	0.12-0.56	13700	60938	2630	11698	6390	28423	.060	0.027		
ABWT7	.4375	11.112	.9375	23.812	.562	14.27	.442	11.23	.537	13.64	.781	19.84	.040	1.02	10°	.040	1.02	.020	0.51	.030	0.76	.055	1.40	1.0-5.0	0.12-0.56	20700	92074	3650	16235	9390	41767	.080	0.036		
ABWT8	.5000	12.700	1.0000	25.400	.625	15.87	.505	12.83	.607	15.42	.875	22.22	.040	1.02	9°	.040	1.02	.020	0.51	.030	0.76	.055	1.40	1.0-5.0	0.12-0.56	27500	122320	4970	22107	12150	54043	.100	0.045		
ABWT9	.5625	14.287	1.1250	28.575	.687	17.45	.536	13.61	.721	18.31	1.000	25.40	.040	1.02	10°	.040	1.02	.020	0.51	.030	0.76	.055	1.40	1.0-5.0	0.12-0.56	34400	153011	5370	23886	14900	66275	.135	0.061		
ABWT10	.6250	15.875	1.1875	30.162	.750	19.05	.567	14.40	.747	18.97	1.062	26.97	.040	1.02	12°	.040	1.02	.020	0.51	.030	0.76	.055	1.40	1.0-5.0	0.12-0.56	39000	173472	6130	27266	16700	74282	.160	0.073		
ABWT12-1	.7500	19.050	1.3750	34.925	.875	22.22	.630	16.00	.845	21.46	1.250	31.75	.040	1.02	13°	.060	1.52	.020	0.51	.030	0.76	.080	2.03	1.0-5.0	0.12-0.56	52300	232630	7730	34383	22100	98301	.240	0.109		
ABWT14	.8750	22.225	1.6250	41.275	.875	22.22	.755	19.18	.995	25.27	1.375	34.92	.040	1.02	6°	.060	1.52	.020	0.51	.030	0.76	.080	2.03	2.0-8.0	0.23-0.90	67300	299350	10800	48038	28200	125434	.350	0.159		
ABWT16	1.0000	25.400	2.1250	53.975	1.375	34.92	1.005	25.53	1.269	32.23	1.875	47.62	.040	1.02	12°	.060	1.52	.020	0.51	.030	0.76	.080	2.03	2.0-8.0	0.23-0.90	137000	609376	19300	85846	53700	238858	.970	0.440		



MS21230		MS21231		MS21232		MS21233	
MS	NMB	MS	NMB	MS	NMB	MS	NMB
MS21230-3	ABWT3V	MS21231-3	ABWT3	MS21232-4	ABT4V	MS21233-3	ABT3
MS21230-4	ABWT4V	MS21231-4	ABWT4	MS21232-5	ABT5V	MS21233-4	ABT4
MS21230-5	ABWT5V	MS21231-5	ABWT5	MS21232-6	ABT6V	MS21233-5	ABT5
MS21230-6	ABWT6V	MS21231-6	ABWT6	MS21232-7	ABT7V	MS21233-6	ABT6
MS21230-7	ABWT7V	MS21231-7	ABWT7	MS21232-8	ABT8V	MS21233-7	ABT7
MS21230-8	ABWT8V	MS21231-8	ABWT8	MS21232-9	ABT9V	MS21233-8	ABT8
MS21230-9	ABWT9V	MS21231-9	ABWT9	MS21232-10	ABT10V	MS21233-9	ABT9
MS21230-10	ABWT10V	MS21231-10	ABWT10	MS21232-12	ABT12V	MS21233-10	ABT10
MS21230-12	ABWT12V	MS21231-12	ABWT11	MS21232-14	ABT14V	MS21233-12	ABT12
MS21230-14	ABWT14V	MS21231-14	ABWT14	MS21232-16	ABT16V	MS21233-14	ABT14
MS21230-16	ABWT16V	MS21231-16	ABWT16			MS21233-16	ABT16