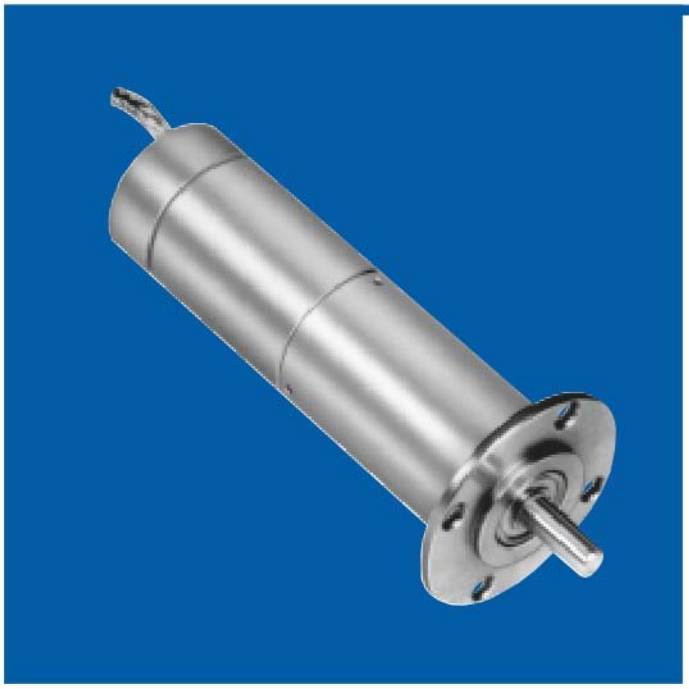
SS GEARMOTORS

DC Permanent Magnet Planetary Gearmotors

A-1430



general design specification: MIL-M-8609

torque rating: Up to 300 oz. in. maximum continuous torque

weight: 5 to 7 ounces depending on ratio

gears: Planetary gearing system. All gears are heat treated for consistently reliable performance and long life

shaft: Precision-ground No. 416 stainless steel. Options: length, smaller diameter, flats, pinions, gears, holes (through or tapped), threaded ends and tapers. Type of steel used may change depending upon variation selected

backlash: Varies with reduction but average unit will have less than 3°

gear inertia: 1.8 x 10_{-6} oz. in. $sec._2$ @ input max

bearings: Output shaft uses double-shielded, life-lubricated ball bearings for -55°C to +85°C operation. Special lubricants available for temperature extremes

cables/leads: Open motor has solder terminals. Enclosed motor has 8" shielded cable per MIL-C-7078 #26 AWG conductors per MIL-W-16878/4

housing: Aluminum

mounting flange: No. 303 stainless steel per ASTM A582

gear train housing: Stress-proof steel

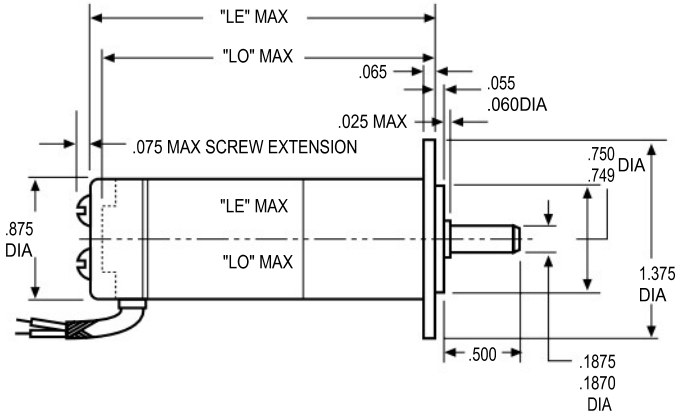
marking: Per MIL-STD-130

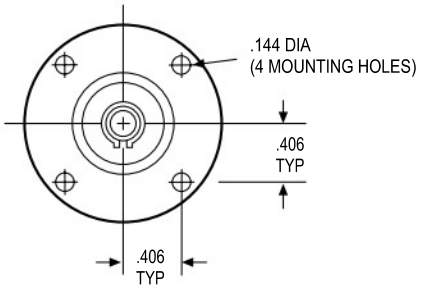
life: 1,000 hours continuous duty for 27 VDC units per MIL-M-8609

options available:

- Internal slip clutch
- RFI filters to meet MIL-I-6181, MIL-I-26600 or MIL-STD-461
- Integral tachometer generators
- Electromechanical brakes

Dimensions





ROTATION (VIEWED FROM SHAFT END)
CCW - POSITIVE VOLTAGE TO RED (+), NEGATIVE VOLTAGE TO BLACK (–)
CW - REVERSE POLARITY

NOTE: Consult factory prior to preparing spec control prints. Dimensions are for reference only

A-1430

Standard Part Numbers and Data

SPEED REDUCTION RATIO	MAXIMUM CONTINUOUS TORQUE (oz. in.)	TORQUE MULTIPLIER RATIO	STANDARD PARTS PREFIX*			
			enclosed type		open type	
			dimension LE (in.)	part no. prefix*	dimension LO (in.)	part no. prefix*
3.82:1	1.0	3.1		43A197		43A196
5.77:1	1.5	4.6	2.56	43A200	2.27	43A199
14.58:1	3.0	9.3		43A140		43A100
22.03:1	4.5	14.0	2.78	43A141	2.50	43A101
33.28:1	7.0	21.0		43A142		43A102
55.66:1	10.0	28.0		43A143		43A103
84.11:1	14.0	43.0		43A144		43A104
127.1:1	21.0	65.0	2.95	43A145	2.67	43A105
192:1	30.0	93.0		43A146		43A106
321:1	45.0	130.0		43A147		43A107
485:1	70.0	200.0	3.11	43A148	2.84	43A108
733:1	100.0	300.0		43A149		43A109
1,108:1	150.0	450.0		43A150		43A110
1,853:1	200.0	600.0		43A151		43A111
2,799:1	300.0	900.0		43A152		43A112
4,230:1	300.0	1,400	3.28	43A153	3.00	43A113
6,391:1	300.0	2,100		43A154		43A114
10,689:1	300.0	2,800		43A155		43A115
16,150:1	300.0	4,200		43A156		43A116
24,403:1	300.0	6,400	3.45	43A157	3.17	43A117
36,873:1	300.0	9,700		43A158		43A118

Max. Cont. Torque: The values in this column are based upon gear train strength and capability for 1,000 hrs. minimum life. Max rated torque of motor selected x torque multiplier ratio must not exceed maximum continuous torque of gearbox
Max Intermittent Torque = 2 x Max Cont. Torque
Minimum Gearbox Efficiency = Torque Multiplier Ratio divided by Speed Reduction Ratio x 100

*When You Order

Each of the basic motor armature windings (bottom chart) can be used with any of the gear ratios listed above. To order, state the gear train standard part number prefix, plus a motor armature winding dash number. EXAMPLE: 43A197-1 is a 3.82:1 SS gear train with a "-1" armature winding, 27 volts, 13,500 rpm, 0.25 oz. in. torque, etc.

Basic Motor Data

VOLTAGE (VDC)	SPEED no load (rpm)	TORQUE		CURRENT			CONSTANTS		ARMATURE DASH NUMBER*
		max rated (oz. in.)	** theoretical stall (oz. in.)	max no load (amps)	max rated load (amps)	** nominal stall (amps)	K_T (oz. in./ amp)	R (ohms)	
6	11,000-13,500	.28	1.90	.580	1.00	4.10	.58	1.44	-17
6	8,500-11,000	.38	1.50	.470	1.00	2.70	.73	2.27	-16
12	13,500-17,000	.22	2.60	.340	.54	3.20	.95	3.70	-15
12	10,000-13,000	.33	2.00	.265	.54	1.90	1.32	6.46	-14
27	17,000-20,000	.17	3.60	.230	.26	2.40	1.83	11.40	-13
27	15,000-18,000	.20	3.10	.170	.25	1.70	2.05	16.00	-12
27	12,000-15,000	.25	2.40	.140	.24	1.15	2.50	24.50	-1
27	10,000-13,000	.31	1.80	.120	.23	.76	2.94	36.30	-2
27	8,500-10,500	.45	1.40	.100	.23	.48	3.67	57.10	-3
27	6,500-9,000	.45	1.10	.090	.20	.32	4.41	86.40	-4
27	5,500-7,500	.36	.82	.070	.15	.21	5.29	130.00	-5
50	10,000-13,000	.32	.97	.065	.13	.23	5.58	219.00	-7
50	8,500-10,500	.42	1.20	.070	.13	.26	6.32	196.00	-6

**Because of brush drop and field distortion, current and torque indicated will not always be attainable