

**DC PERMANENT MAGNET MOTORS  
MILITARY QUALITY**

**MODEL GMR  
BULLETIN 230A100**

2796 Culver Ave., Dayton, Ohio 45429  
513/294-1041

**ELECTRICAL SPECIFICATIONS**

**Rating:** 0.10 hp continuous duty.

**Voltage:** 12, 27, 50 and 115 VDC are standard. Other voltages are available if required.

**Speed:** Standard speeds, 4060 rpm to 9600 rpm. Higher and lower variations upon request.

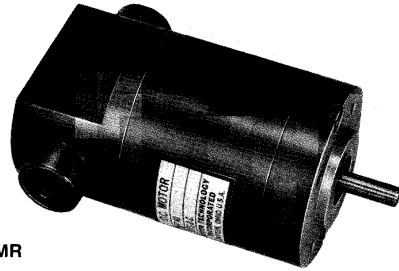
**Connection Method:** Two #18 AWG stranded leads, teflon insulated, 8" shielded leads are standard. Terminal type connections are available.

**Rotation:** Direction of rotation is CCW with red lead plus (+) and viewing shaft end.

**Reversibility:** When input voltage is reversed, motor rotation is reversed instantly.

The Motor Technology, Inc. Model GMR motor is designed to meet typical military application demands. The unit has a high power-to-weight ratio, reliability and excellent efficiency. It is designed to meet the applicable portions of MIL-M-8609 and MIL-E-5272, including the rugged environmental and explosion proof requirements.

Special flanges, pinions, filters and brakes are among the more common examples of design options available. If you have a particular requirement, tell us. Our engineers are responsive and we want to help you make your application a success. For information on mating planetary gearmotors, see Bulletin 231A100.



**MODEL GMR**

**MECHANICAL SPECIFICATIONS**

**Frame:** Magnet housing and machined aluminum end-bells with stainless steel bearing seats.

**Armature:** Varnish impregnated, precision balanced, with diamond turned commutator. Inertia is  $4.6 \times 10^{-3}$  oz.in. sec.<sup>2</sup> (max.).

**Magnet:** Alnico 6.

**Bearings:** Double shielded ABEC-1 ball bearings. Life lubricated per MIL-G-3278.

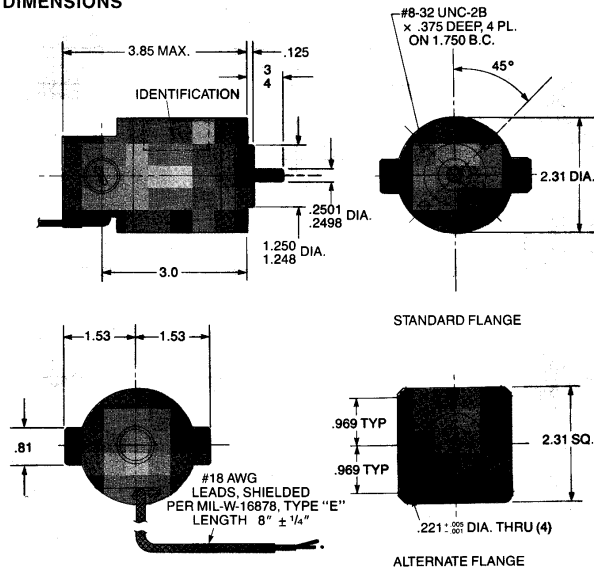
**Brush-holder:** Cartridge type, molded of Durez 1544 with brass insert. Holder is protected by surrounding end-bell casting.

**Shaft:** Precision ground stainless 17-4 PH, heat treated R<sub>c</sub> 40-43.

**Mounting Method:** Either four tapped holes or thru holes depending on flange selected.

**Weight:** 2.25 lb. (max.).

**DIMENSIONS**



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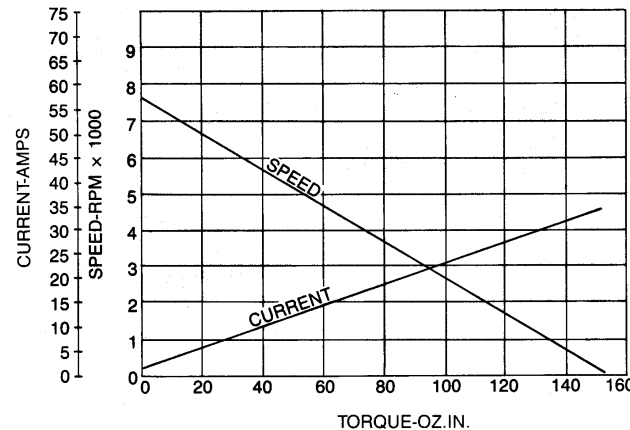
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**BASIC MOTOR DATA — STANDARD PART NUMBERS**

INPUT VOLTAGE DC	NO-LOAD SPEED* RPM	RATED TORQUE OZ. IN.	STALL TORQUE* OZ. IN.	NO-LOAD CURRENT* AMPS	RATED TORQUE CURRENT* AMPS	STALL CURRENT* AMPS	STANDARD GMR PART NUMBERS
12	9140	14	183	2.58	12.0	111	230A100-1
12	7110	21	142	1.83	12.0	67	230A100-2
12	5330	25	107	1.13	10.0	38	230A100-3
27	9600	12.5	192	1.22	5.0	54.5	230A100-4
27	7580	18	152	.91	5.0	34	230A100-5
27	6000	25	120	.63	4.9	21.3	230A100-6
27	4800	25	96	.41	3.9	13.6	230A100-7
50	7020	21	140	.44	2.65	15.7	230A100-8
50	5670	25	114	.30	2.50	10.3	230A100-9
50	4440	25	89	.17	1.90	6.3	230A100-10
115	8180	17.5	164	.23	1.25	9.3	230A100-11
115	6450	24	129	.17	1.25	5.8	230A100-12
115	5110	24	102	.11	1.00	3.6	230A100-13
115	4060	24	82	.06	.75	2.3	230A100-14

\*The standard production tolerance on no-load speed, stall torque and stall current is  $\pm 15\%$ .  
The tolerance on no-load current is  $+25\%$ .  
The tolerance on current at rated load is  $+15\%$ .

**NOMINAL PERFORMANCE CURVES  
230A100-5 at 27 VDC**



For complete engineering information on plotting speed/torque, current/torque curves for other armatures, see bulletin E-1. For Servo data, refer to bulletin E-2.

**ORDERING**

For standard motors, simply order by using the part number listed above corresponding to the performance required.

Special modifications to the GMR motor are available and are ordered as follows:

1. Reference the closest standard P/N in your order.
2. Call out all the special requirements by stating exactly what is required.

We will then assign a special part number to identify your motor. For quick and accurate processing of future orders, just refer to this number.