

**DC PERMANENT MAGNET MOTORS
HIGH QUALITY INDUSTRIAL**

**MODEL FIL
BULLETIN 210A106**

2796 Culver Ave., Dayton, Ohio 45429
PH: 513/294-1041 FAX: 294-8336

SUPERCEDES 210A105

ELECTRICAL SPECIFICATIONS

Rating: 0.12 hp continuous duty.

Voltage: 12, 27, 50, 115 and 180 VDC are standard. Other voltages available if required.

Speed: Standard speeds, 2840 rpm to 7700 rpm. Higher and lower variations at all voltages upon request.

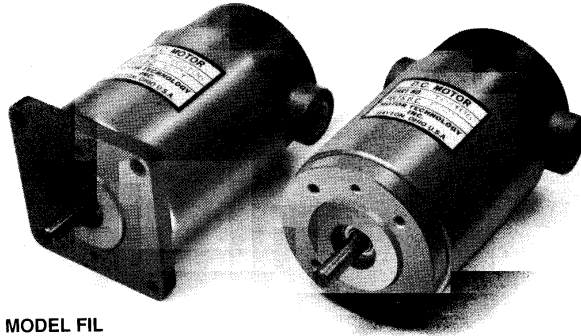
Connection Method: Two #18 AWG stranded leads, teflon insulated, 8" long are standard. Terminal type connections are available.

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. new Model FIL motor is designed to provide solutions to today's demanding industrial needs. The higher power-to-weight ratio, efficiency and small size make this motor an excellent choice in a great number of applications, including medical and aerospace.

We can provide many modifications, including pinions, D.C. series or parallel brakes, flanges, lubricants, gear reductions, etc. See Bulletin 211A200/212 for the gear ratios available.



MODEL FIL

MECHANICAL SPECIFICATIONS

Frame: Steel tubing with machined aluminum end-bells.

Armature: Varnish impregnated, precision balanced, with diamond turned commutator. Inertia is 4.85×10^{-3} oz. in. sec.² (max.).

Magnet: Ceramic type 3540 with a B_R temp. coef. of -0.11% per °F.

Bearings: Double shielded, life lubricated, ABEC-1 ball bearings.

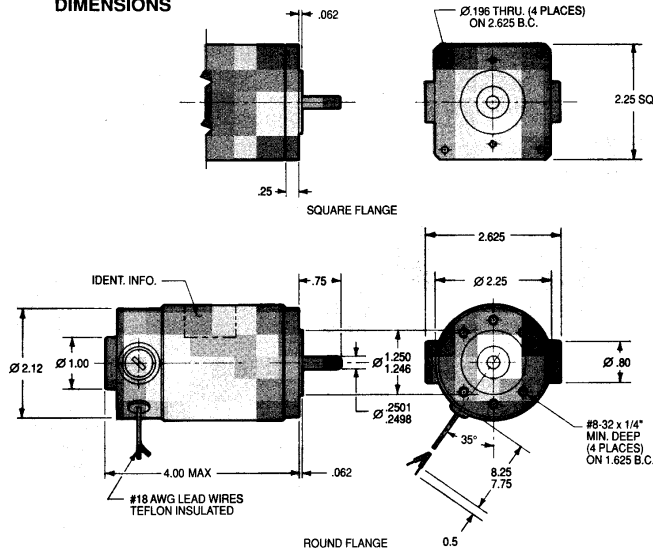
Brush-holder: Cartridge type, molded of Durez 1544 with brass insert. Holder is protected by surrounding end-bell casting.

Shaft: Precision ground stainless 17-4 PH, heat treated H-900.

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

Weight: 2.10 lb. (max.).

DIMENSIONS



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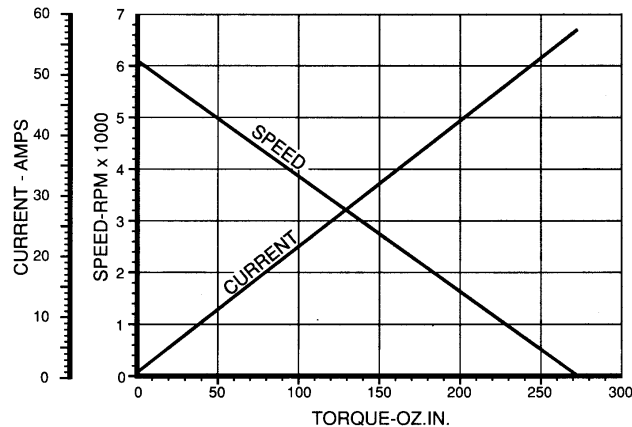
SUPERCEDES 210A105

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 FIL PART NUMBERS
12	4310	20	192	1.26	7.86	64.6	210A106-1
27	7700	17	342	1.09	5.58	91.5	210A106-2
27	6110	22	272	.83	5.43	57.6	210A106-3
27	4850	30	216	.63	5.59	36.3	210A106-4
27	3850	30	171	.49	4.41	22.9	210A106-5
27	3055	30	136	.36	3.46	14.4	210A106-6
50	4490	35	200	.32	3.21	16.8	210A106-7
50	3560	35	158	.24	2.53	10.6	210A106-8
115	6500	21	289	.21	1.31	15.3	210A106-9
115	5160	28	229	.16	1.32	9.65	210A106-10
115	4100	28	182	.12	1.04	6.08	210A106-11
180	5240	27	226	.10	.83	6.18	210A106-12
180	4260	37	180	.08	.88	3.99	210A106-13
180	3460	25	142	.06	.50	2.57	210A106-14
180	2840	25	113	.04	.40	1.67	210A106-15

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

**TYPICAL PERFORMANCE CURVES
210A106-3 at 27 VDC**



For complete engineering information on plotting speed/torque and current/torque curves for other armatures, see Bulletin E-1. For servo data, see 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 FIL 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.