

**DC PERMANENT MAGNET MOTORS
HIGH QUALITY INDUSTRIAL**

**MODEL HIL
BULLETIN 275A107
SUPERSEDES 275A105**

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

ELECTRICAL SPECIFICATIONS

Rating: 0.33 hp continuous duty.

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

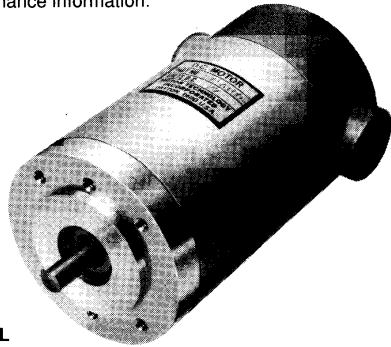
Speed: Standard speeds, 2070 rpm to 5290 rpm. Higher and lower variations upon request.

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 black lead minus (-), viewing from shaft end.

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

The Motor Technology new Model HIL motor was developed to provide 0.33 hp in a small package size. This high quality motor is engineered for reliable and efficient performance in a wide range of applications—including industrial, medical, and aviation. It is available with special modifications, such as RFI/EMI filters, pinions, special mounting flanges, brakes, etc. For helpful application assistance, consult with Motor Technology engineering. See Bulletins 276A220/228 and 276A229/235 for HIL gearmotor specifications and performance information.



MODEL HIL

MECHANICAL SPECIFICATIONS

Frame: Steel tubing with machined aluminum end-bells.

Armature: Varnish impregnated, precision balanced, with diamond turned commutator. Inertia is 16.2×10^{-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.

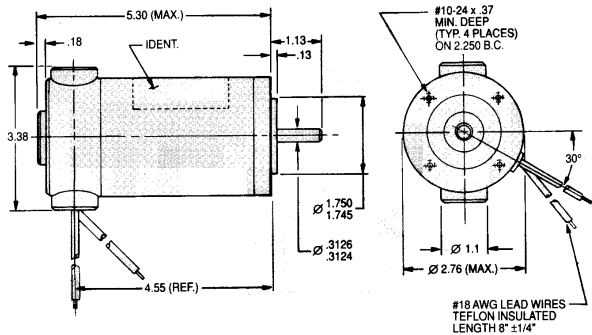
Brush-holder: Cartridge type, molded of Durez 1544 with brass insert. Holder is protected by surrounding end-bell casting.

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

Mounting Method: Four tapped holes are standard. Square flange also available.

Weight: 4.4 lb. (max.).

DIMENSIONS



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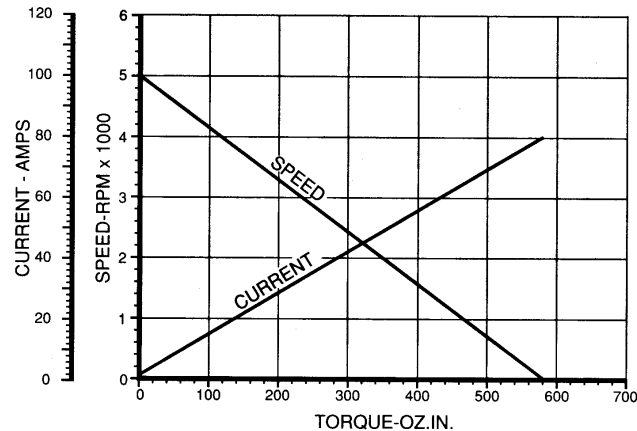
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BASIC MOTOR DATA — STANDARD PART NUMBERS

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 HIL PART NUMBERS
12	3680	60	433	1.4	14.9	99	275A107-1
12	2760	80	325	.95	14.4	56	275A107-2
27	4968	77	585	.96	11.4	80	275A107-3
27	3822	113	450	.66	12.5	48	275A107-4
27	3105	91	365	.50	8.2	31	275A107-5
50	4600	86	541	.46	6.3	37	275A107-6
50	3680	100	433	.34	5.8	24	275A107-7
50	2875	80	338	.24	3.6	15	275A107-8
115	5290	71	622	.25	2.7	21	275A107-9
115	4232	98	498	.18	2.8	14	275A107-10
115	3306	98	389	.13	2.2	8.3	275A107-11
180	4140	100	487	.11	1.8	8.4	275A107-12
180	3312	97	390	.08	1.4	5.4	275A107-13
180	2629	78	309	.06	.89	3.4	275A107-14
180	2070	60	244	.04	.55	2.1	275A107-15

* 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 torque is $+15\%$.

**TYPICAL PERFORMANCE CURVES
275A107-3 at 27 VDC**



ORDERING

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

Special modifications to the HIL 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.

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.