

**DC PERMANENT MAGNET MOTORS
HIGH QUALITY INDUSTRIAL**

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

**MODEL HIR
BULLETIN 275A102**

SUPERSEDES 275A100

ELECTRICAL SPECIFICATIONS

Rating: 0.20 hp continuous duty.

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

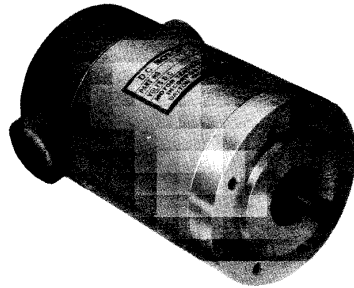
Speed: Standard speeds, 2640 rpm to 5480 rpm. Higher and lower variations upon request.

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 HIR motor was developed to provide 0.20 hp in a small package size. The increasing demand for a powerful motor of this size, with reliability, high quality and efficiency has resulted in it being used in a variety of industrial, medical and general aviation applications. Additionally, special modifications such as RFI/EMI filters, pinions, special mounting flanges, brakes, etc., are available. Consult M.T.I. application engineering for any special problems. See Bulletin 276A200/212 for HIR gearmotor information.



MODEL HIR

MECHANICAL SPECIFICATIONS

Frame: Steel tubing with machined aluminum end-bells.

Armature: Varnish impregnated, precision balanced, with diamond turned commutator. Inertia is 10.8×10^{-3} oz. in. sec.² (max.).

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

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

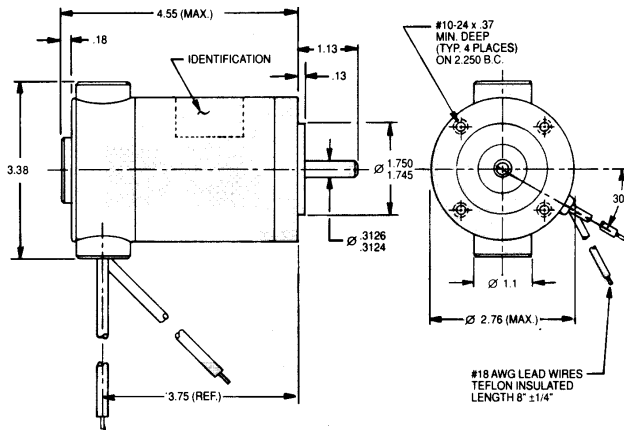
Brush-holder: Cartridge type, molded of Durez 1544 with brass insert. Holder is protected by surrounding end-bell casting.

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

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

Weight: 3.8 lb. (max.).

DIMENSIONS



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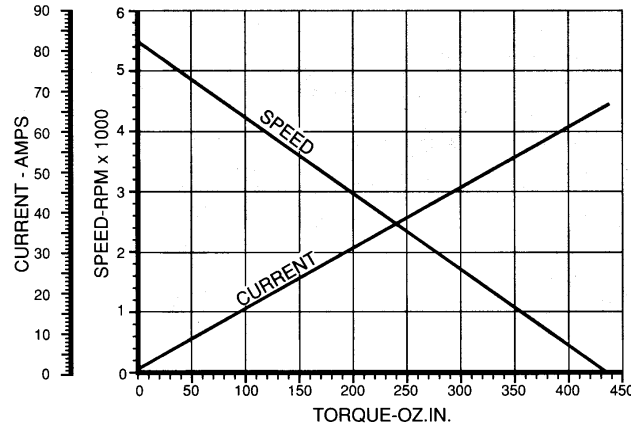
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BASIC MOTOR DATA — STANDARD PART NUMBERS

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 HIR PART NUMBERS
12	5280	42	422	2.2	15.8	139	275A102-1
12	3960	63	317	1.5	16.7	78	275A102-2
12	3170	63	253	1.2	13.3	50	275A102-3
27	5480	40	438	1.0	7.0	66	275A102-4
27	4450	52	356	.80	7.1	44	275A102-5
27	3560	71	285	.60	7.4	28	275A102-6
27	2850	50	228	.47	4.3	18	275A102-7
50	4120	60	330	.39	4.0	20	275A102-8
50	3300	60	264	.30	3.2	13	275A102-9
50	2640	50	211	.23	2.1	8.3	275A102-10
115	4740	48	379	.20	1.7	11.7	275A102-11
115	3790	67	303	.15	1.8	7.5	275A102-12
115	3030	50	243	.12	1.1	4.8	275A102-13
180	3770	68	302	.10	1.1	4.7	275A102-14
180	2970	50	238	.07	.67	2.9	275A102-15

* 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%.

**NOMINAL PERFORMANCE CURVES
275A102-4 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 HIR 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.