

## FEATURES

- Microsoft ® Windows™ based program
- Analysis tool used in design of Inner-Rotor and Outer-Rotor DC Motors
- Computes all relevant motor parameters
- Allows printing of inputs, outputs & graphs
- Multi-window tasking
- Important constants built into program
- Variable definitions instantly available on screen
- Reduces development cycle time and cost
- Instantly check effects of design change
- Maximizes material usage
- On-line design tips
- Reduce number of prototype iterations

## Actual Customer Comments

- “Your software is very intuitive.”
- “It is so easy to use!”
- “You can tell that this software was written by someone who had to design motors for a living.”

## FEATURES con't

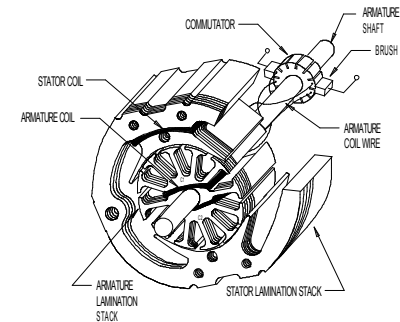
- Inputs:
  - Dimensions, material properties and winding information
  - Square or round frame options
- Outputs:
  - Magnetic circuit information including flux densities and MMF drops
  - Mechanical information, weights and inertias
  - Winding information including copper weight and slot fill
  - Performance; speed-torque, current, losses and efficiency, graph
  - Motor constants
  - Cost data of design

Call or email us for a demo, additional information, or to place an order.

**YEADON ENERGY SYSTEMS, INC.**  
514 W. MAPLE STREET  
IRON RIVER, MI. 49935  
906-265-7937  
[www.yeadoninc.com](http://www.yeadoninc.com)  
[yes@yeadoninc.com](mailto:yes@yeadoninc.com)



## UNIVERSAL MOTOR DESIGN ANALYSIS SOFTWARE



## BENEFITS

- **Design it yourself, faster.**
- **Can pay for itself in one design project.**
- **Saves time and money.**
- **Fast, accurate results.**
- **Optimize motor costs.**

## Order your copy today!

MasterCard, Visa, Discover and American Express are accepted for your convenience.

# SAMPLES OF UNIVERSAL INPUT AND OUTPUT WINDOWS

Yeadon Energy Systems, Inc. \* 514 West Maple Street \* Iron River, MI 49935

**Universal Motor Design 1.1 - DEMO.YU1**

File Edit Input Output Calculate Graph Materials Window Help Services

Designer **AEM** Description **Demo Motor** **Graph** **Calculate**

Arm C&B Stat I L EL 1 **EL 2** Shaft LS \$ In No L Lock Spd1 Spd2 Mec Wdg MC1 MC2 M K \$\$\$

X-Section **YES**

**Armature Dim's**

Armature Steel Type  
M 45

Shape of Armature Slot  
 Round  
 Flat

Da 1.5060 inch  
Da1 1.3260 inch  
Da2 0.8000 inch  
Wast 0.0860 inch  
0.0730

**Speed 1 Load Parameters**

SLoad1	15000.0	RPM	Wa1	7.8502	Watts
Iload1	1.73	Amps	Wb1	0.1907	Watts
TLoad1	8.49	oz-in	Wc1	26.5796	Watts
PoutLoad1	0.1263	Hp	Wf & W1	58.6809	Watts
PoutLoad1	94.2	Watts	CL_Tot1	5.6968	Watts
EffLoad1	48.8	%	Etf1	25.2778	Volts
Wi1	193.2325	Watts			

**Cross-Section of Motor**

Close

**Winding Information**

**Armature Winding Information**

Span	5	Teeth	Cs	2	Sides	Xapf_t	6.120	Ohms
Ztot	1080.0	Conductors	Psi_fa	1.24	Xas	0.374	Ohms	
Zeff	912.4	Conductors	WtcA	0.1251	Xae	0.112	Ohms	
Lmeta	1.2041	inch	WtcA1	2.0014				
Lmta	4.9081	inch	Rac	1.054				
Filla	46.22	%	Rarm	2.634				

**Stator Winding Information**

Lmetf	2.0374	inch	WtcF	0.2218
Lmtf	6.5749	inch	Rfc	1.733
Fillf	49.40	%	Rf	3.466

**Electrical Data 2**

General Electrical Data

Line Current Frequency  
 60 Hertz  
 50 Hertz  
 DC Supply

Et 120.00 Volts  
 P 2 Poles  
 Tamb 23.0 deg C

**Speed-Torque-Current Curve**

The graph displays three curves: a blue curve for RPM (left axis), a green curve for Output Watts (right axis), and a red curve for Efficiency (%). The x-axis represents Torque in oz-in, ranging from 0.0 to 90.0. The left y-axis represents RPM, ranging from 0 to 25000. The right y-axis represents Output Watts, ranging from 0 to 250.0. Key data points are marked: at 10.0 oz-in torque, RPM is 10.0, Output Watts is 20.0, and Efficiency is 20.0%. At 15.0 oz-in torque, RPM is 6.0, Output Watts is 150.0, and Efficiency is 60.0%. At 20.0 oz-in torque, RPM is 4.0, Output Watts is 100.0, and Efficiency is 40.0%. At 30.0 oz-in torque, RPM is 2.0, Output Watts is 50.0, and Efficiency is 20.0%.