

APPLICATION SYSTEMS अनुप्रयोग प्रणाली

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ISO 9001:2008 QM-032
Certified

**Gear Box / Gear Transmission Test
Set up.**

Dynamometer, Controls & Test Bed



Installation at Rossi Geared Motor Pvt Ltd, Coimbatore, INDIA

Dynamometer upto 10000 Nm Capacity to test Various types of Gear Boxes – Worm, Worm Helical, Helical, Bevel & Planetary Gear Boxes.

Set up comprises Dynamometer, Computerized Control Panel with Data acquisition, to monitor, Input Electric Power & Output Mechanical Power, with Efficiency measurement, T-Slotted Test Bed with X, Y & Motorised Z axis (Length, Width & Height) with Motor Mounting Portable Table (Castor Wheels with Locks) with X,Y & Motorised Z axis adjustments



Installation at Rossi Geared Motor Pvt Ltd, Coimbatore, INDIA



Installation at POWER BUILD LTD, Anand, Gujarat

Dynamometer up to 10000 Nm Capacity to test Various types of Gear Boxes – Worm, Worm Helical, Helical, Bevel & Planetary Gear Boxes.



Installation at POWER BUILD LTD, Anand, Gujarat



Installation at TERYAIR Equipments, Vasai, Maharashtra

Specially designed Bevel Gearbox for Sea under water operation, for Ship / Vessel direction control, is tested on Dynamometer for Torque, Speed & Power Performance & Endurance. Each Gear box is Loaded up to 150% Torque Capacity, up to 3600 RPM for 2 minutes in clockwise & 2 minutes in anti-clockwise direction - continuously for 8 hour.



Installation at TERYAIR Equipments, Vasai, Maharashtra



Installation at GNA Udyog Ltd, Butala, Phagwada, Punjab.

Truck Engine, Gear Box/Transmission & Cardan Shaft, all in-line Test



Installation at Steer Engineering Pvt Ltd, Coimbatore & Banglore

Helical Gear Box test on Eddy Current Dynamometer



Installation at Deekay Gears, Bhandup, Mumbai.

Bevel Gear Box testing on Eddy Current Dynamometer



Installation at Deekay Gears, Bhandup, Mumbai

Bevel Gear Box testing on Eddy Current Dynamometer. Eddy Current Dynamometer, Self Cooled, to avoid water cooling hassles.



Installation at Deekay Gears, Bhandup, Mumbai

Bevel Gear
Box testing on
Eddy Current
Dynamometer.
Eddy Current
Dynamometer,
Self Cooled, to
avoid water
cooling
hassles.



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Installation at Deekay Gears, Bhandup, Mumbai



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Computerized Control panel with Data acquisition & Control

Our Proprietary APPSYS MOTOR TEST / GEAR BOX TEST software developed for motor test to monitor & display Motor Input Power, Output Power, Efficiency, Input Voltage, Motor No Load Current, Full Load Current, No Load & Full Load Speed, No Load & Full Load Torque, Power factor, Motor temperature, bearing temperature, winding temperature.

- PC based Motor test set up, Window XP / Win7 operating systems, PC hardware, Core 2 Duo PC with built in RAM & PCI Card with necessary Digital & Analogue inputs & outputs, Power analyzer,
- Input Power (*Motor Power Sensor to sense Motor Power - To monitor Motor electrical Input Power & for Calculation of efficiency*) & Output Power, Speed, Torque, Efficiency are displayed on Monitor & stored in table & graphs in MS Excel format.
- PC Auto & PC Manual mode selector Soft push button switch on Monitor screen. In PC Auto mode, Data is captured on predetermined (Site settable) time & Torque Loading in 100 steps (independently settable), whereas in PC Manual mode – Data is captured manually by pressing data capture soft button on screen. Captured data is exported to MS Excel in Table forms & in Graphs form to show Torque-Speed characteristics, Torque-Current and Speed-Current, Efficiency characteristics, Torque-Speed Oscillations at steady state Torque at different temperatures, Temp measurements etc. & custom characteristics required by clients.



Control Panel on PC Monitor – Test Configuration

Gear Box Test Setup

POWER BUILD LIMITED
Profile Mode

Sat, Aug 03, 2013
01:41:17 PM

pbl_3.8.2013

V



412.3

Voltage

I



9.0

Current

N



31

RPM

P_{input}



5.09

Input Power

P_{output}



4.88

Output Power

T

1503

Torque (Nm)

Eff

95.9

Efficiency (%)

Loading Device

Powder Dyno

Dyno Torque %



30.0

Temperatures °C

Outlet Water: 31

Motor: 28

Gear Box: 34

Gear Oil: 30

Gear Bearing: 31

Step #

3

Remaining Settling Time

11 00

Step #	Torque Nm	Settling Time m:m:s:s
1	300.0	1 0 : 0 0
2	1000.0	1 5 : 0 0
3	1500.0	1 5 : 0 0
0	0.0	0 0 : 0 0
0	0.0	0 0 : 0 0

Control ON/OFF

Stop Test

Emergency

Capture Data

Clear Report

Data

Graphs

Controls

- Outlet Water Temp OK
- Motor Body Temp OK
- Motor Coil Temp OK
- Gear Oil Temp OK
- Gear Bearing Temp OK
- Motor Current OK

Test Setup Manufactured by



Control



Settings



Reports



Exit

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Torque – Current Curve

Gear Box Test Setup



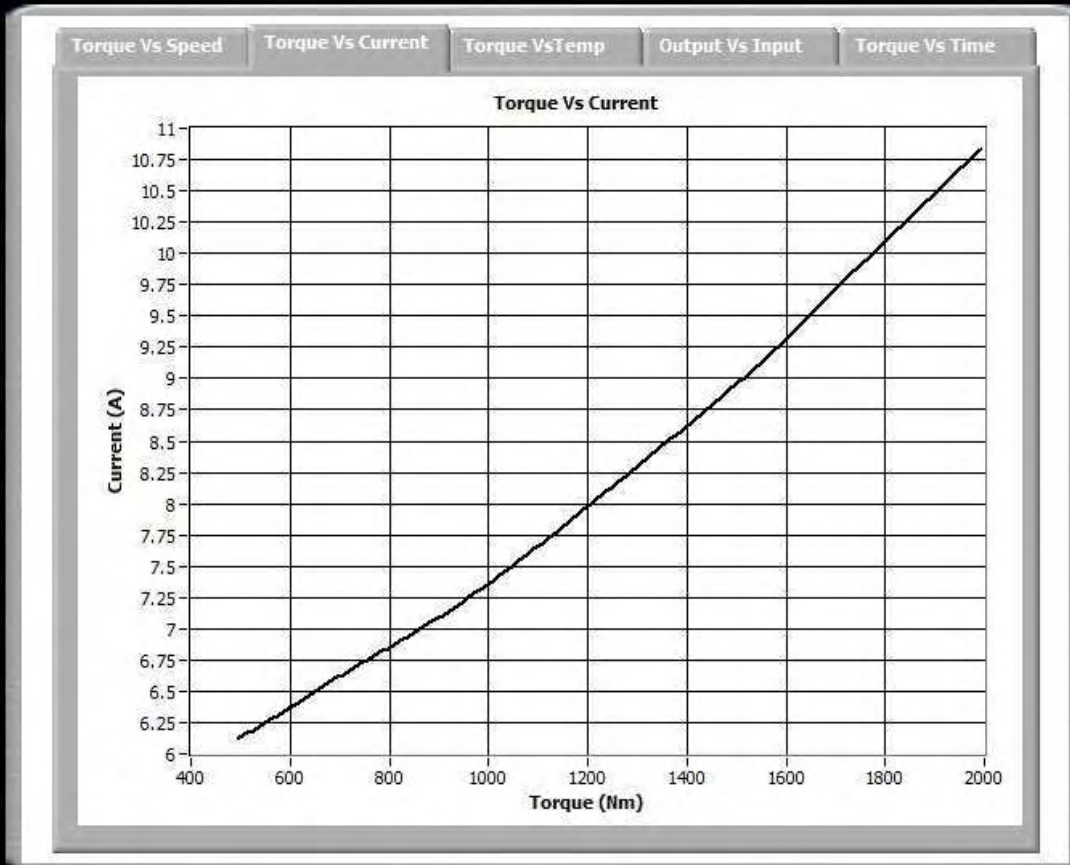
POWER BUILD LIMITED

Profile Mode

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ab



Step # **1**

Remaining Settling Time **00:00** (m m: s s)

Step #	Torque Nm	Settling Time m m: s s
1	500.0	00:20
2	1000.0	00:20
3	1500.0	00:20
4	2000.0	00:20
0	0.0	00:00

Control ON/OFF Start Test Emergency

Capture Data Clear Report

Data Graphs Controls

- Outlet Water Temp OK
- Motor Body Temp OK
- Motor Coil Temp OK
- Gear Oil Temp OK
- Gear Bearing Temp OK
- Motor Current OK

Test Setup Manufactured by



Control



Settings




Reports



Exit

Efficiency – Output V/s Input Curve

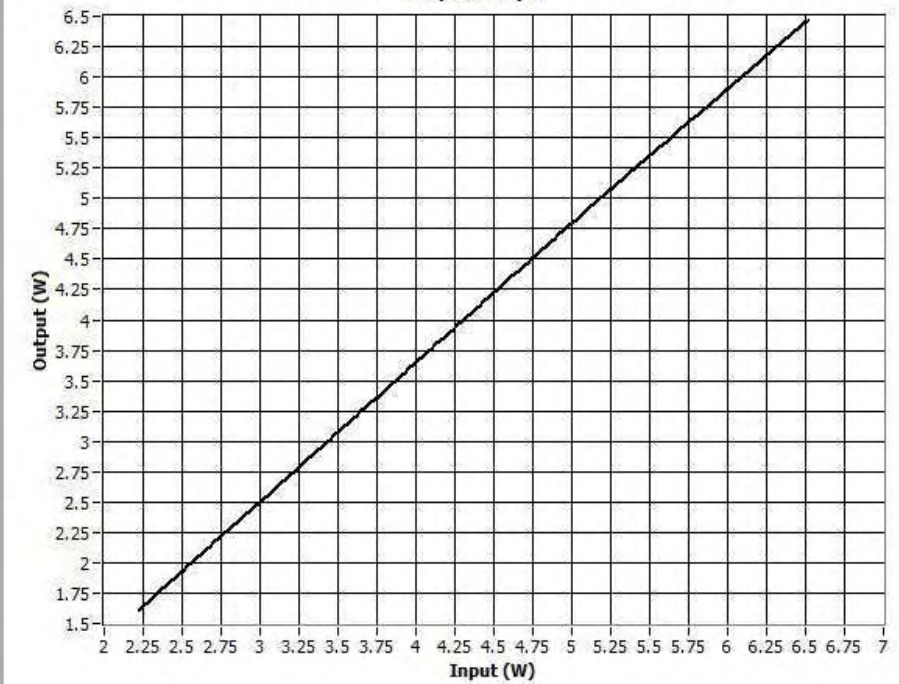
Gear Box Test Setup

POWER BUILD LIMITED
Profile Mode

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Torque Vs Speed
Torque Vs Current
Torque VsTemp
Output Vs Input
Torque Vs Time

Output Vs Input



Step # 1

Remaining Settling Time m m: s s
00 00





Step #	Torque Nm	Settling Time m m: s s
1	500.0	0 0: 2 0
2	1000.0	0 0: 2 0
3	1500.0	0 0: 2 0
4	2000.0	0 0: 2 0
0	0.0	0 0: 0 0

Control ON/OFF
Start Test
Emergency

Capture Data
Clear Report

Data
Graphs
Controls

- Outlet Water Temp OK
- Motor Body Temp OK
- Motor Coil Temp OK
- Gear Oil Temp OK
- Gear Bearing Temp OK
- Motor Current OK

 Control
 Settings
 Reports
 Exit

Test Setup Manufactured by

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