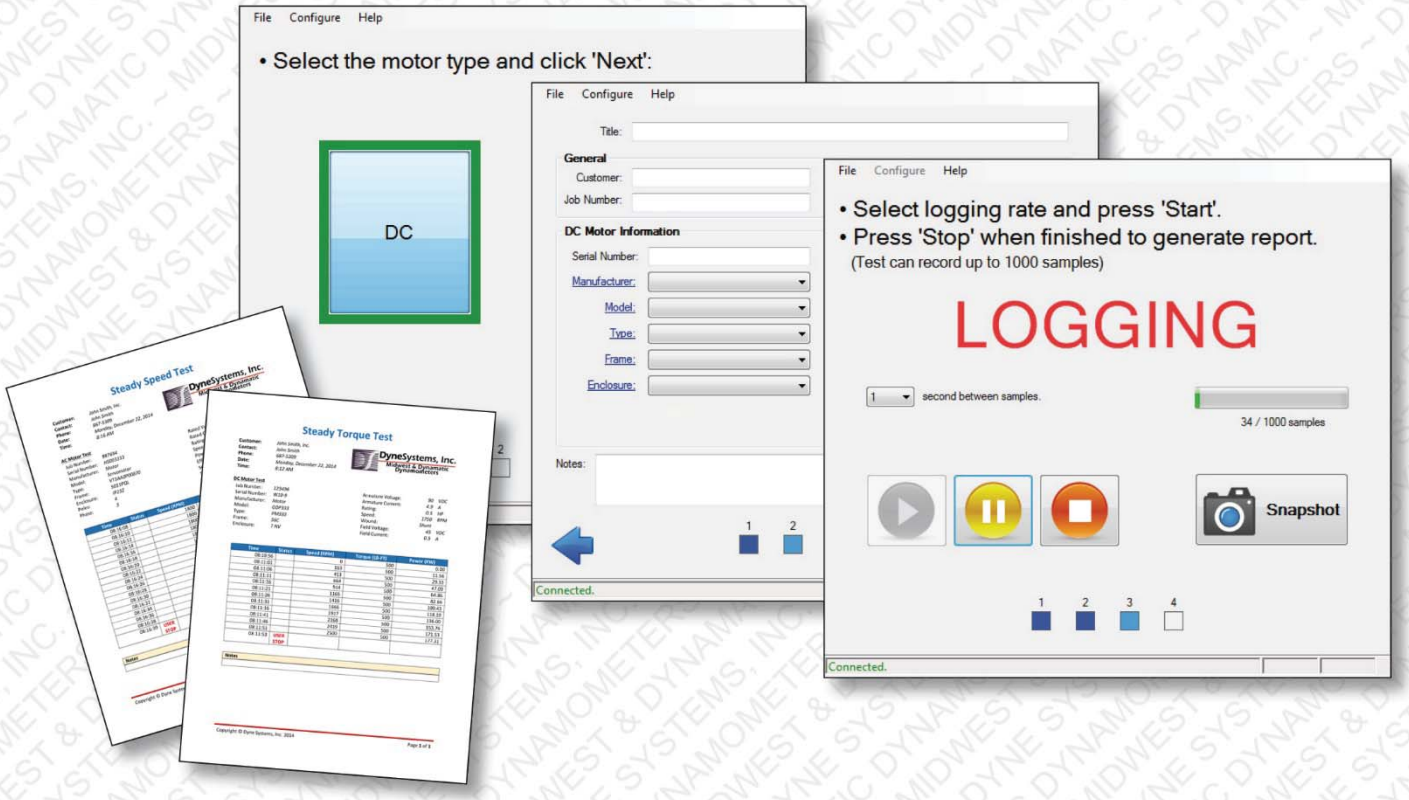
DyneSystems, Inc.

Midwest & Dynamatic Dynamometers



Data Assistant

- Electric Motor Service Industry -

USER MANUAL

FROM DYNE SYSTEMS, INC.

The Data Assistant – Electric Motor Service Industry software supplied by Dyne Systems, Inc. (DSI) is intended to provide users a method of gathering and reporting speed, torque and power measurements during load tests.

FEATURES SUMMARY:

- Compatible with Windows® XP (or greater) based computers
- Simple stand-alone application
- Interfaces seamlessly with Dyne Systems current dynamometer controllers
- Ethernet or serial port communications supported
- AC or DC motor data entry selections
- Reports include customer information, job number, and motor serial number
- Editable drop down list boxes simplifies data entry
- Snap-shot or timed logging of dynamometer data
- Report format in editable .docx file format
- Report can include company logos

NOTE: This manual is intended for use by qualified personnel only.

Thank you for purchasing this product from Dyne Systems. Our staff is at your disposal, should you need information or support that is not found in this manual.

VERSION INFORMATION

Identifier:	Revision:	Effective Date:
N/A	**v1.0**	**3/12/15**
Document Catalog Number: **v1.0**		
Author: **Nick Quatsoe**		

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DOCUMENT HISTORY

REVISION HISTORY

Revision Number	Revision Date	Summary of Changes	Author
1.0	03/12/2015	Initial Release	Nick Quatsoe

DISTRIBUTION

This document has been distributed to:

Name	Title

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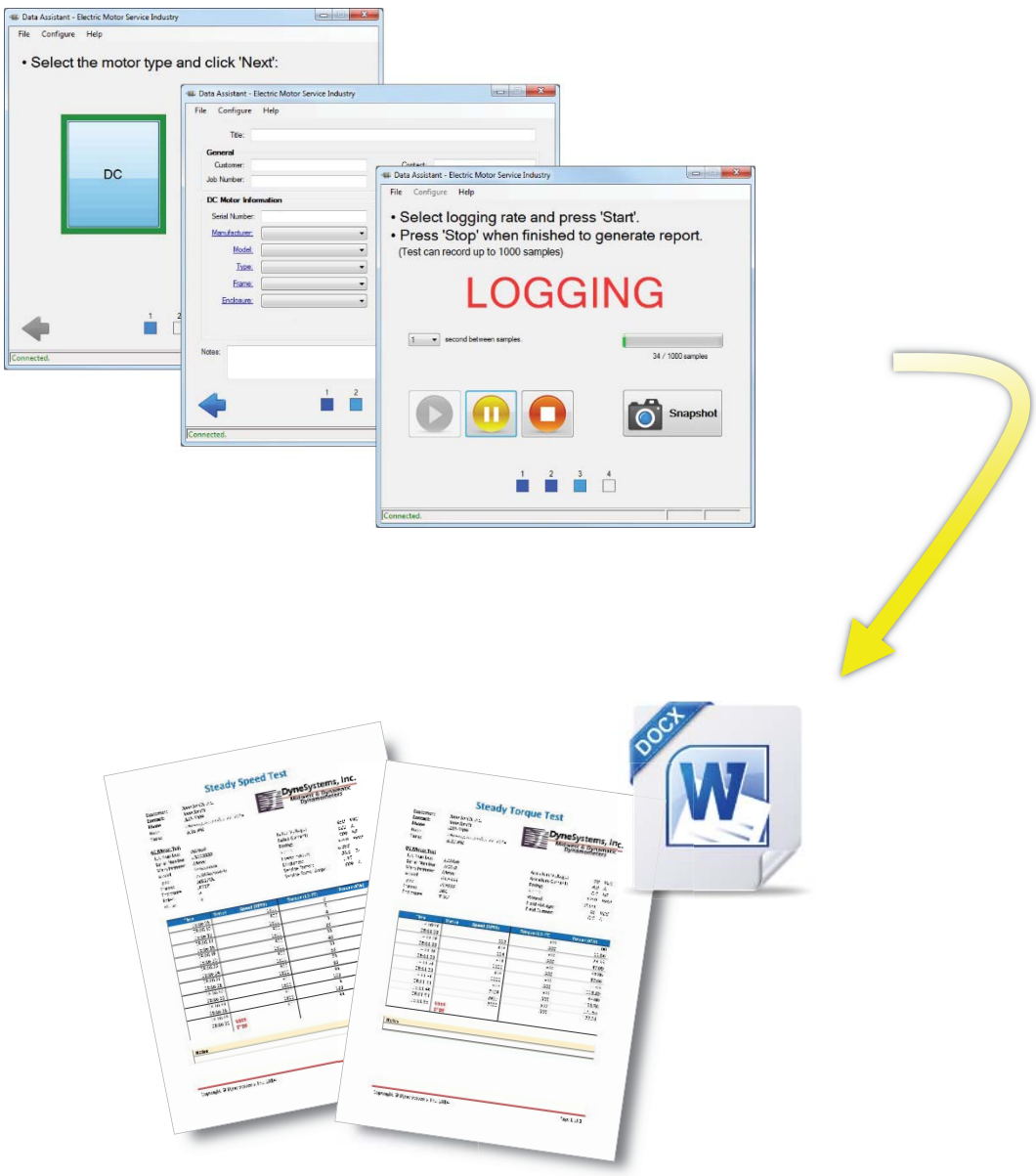
1 INTRODUCTION

Data Assistant – Electric Motor Service Industry (EMSI) is a stand-alone software application that was developed specifically for the electric motor service industry. It functions as a data gathering and reporting application that makes it easy for the user to provide load test data to their customers.

Data Assistant - EMSI interfaces seamlessly with Dyne Systems' Dyn-Loc V and Inter-Loc V dynamometer controllers to specifically gather speed, torque, and power measurements during load tests. This data is used to create a report in the form of a Microsoft Word document (.docx).



2 INSTALLATION

2.1 OPERATING SYSTEM REQUIREMENTS

Data Assistant – EMSI is compatible with Windows® XP (or greater) based computers.

2.2 HARDWARE REQUIREMENTS

Data Assistant – EMSI will run on any personal computer running any of the previous listed operating systems. Also, a Dyne Systems, Inc. dynamometer controller, either a Dyn-Loc V or Inter-Loc V, is required to log data.

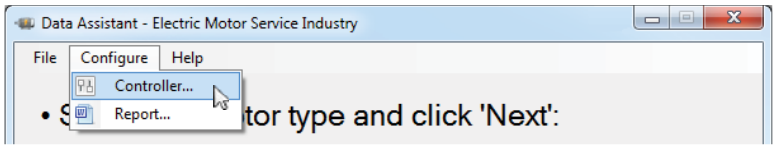
2.3 INSTALLATION OF DATA ASSISTANT – EMSI

Simply run **Install-DataAssistant_EMSI-*x.x.x.x*.exe** and follow the prompts. Installation takes less than a minute.

Launching the program for the first time will cause additional folders to be created. You will receive prompts indicating that new files are being modified. This is normal.

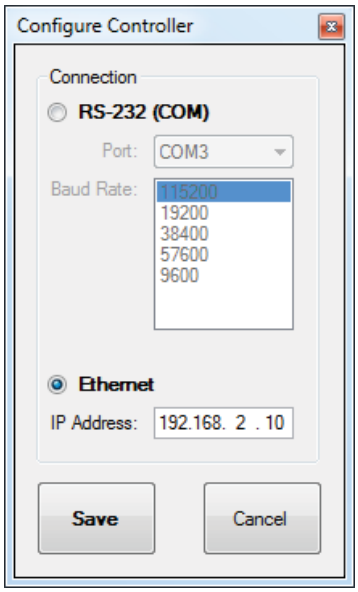
3 DEVICE SETUP

There are two ways to connect Data Assistant – EMSI: Serial and Ethernet. To configure the connection click **Configure > Controller…**

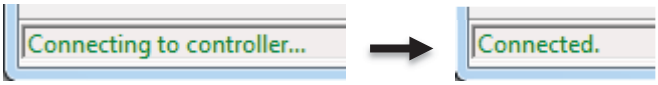


Select *RS-232 (COM)* for a Serial connection. You will need to select both the *Port* and the *Baud Rate*.

Ethernet is selected by default for first use. The default IP Address (192.168.2.10) is also provided for first time use. NOTE: Any changes made here need to be made in the Dyn-Loc V/Inter-Loc V as well (e.g., using a different IP Address or Baud Rate).



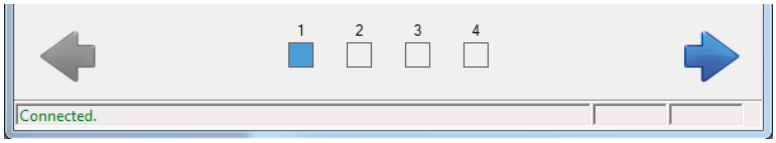
Click the **Save** button to immediately apply the changes. Click **Cancel** to disregard any changes that were made. As shown below, Data Assistant – EMSI will indicate in the lower left corner if the device is connected to the Dyn-Loc V/Inter-Loc V.



4 WALKTHROUGH

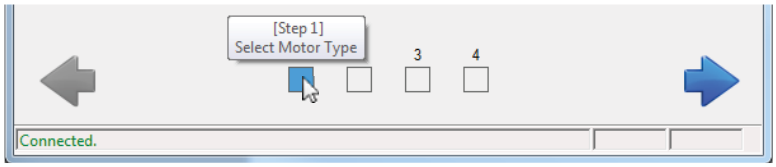
4.1 TEST STEP PROCESS

Using Data Assistant - EMSI is broken down into four individual steps. These steps are clearly labeled at the bottom of the application at all times. The left and right arrows are used to move forward and backward (when applicable) between test steps.

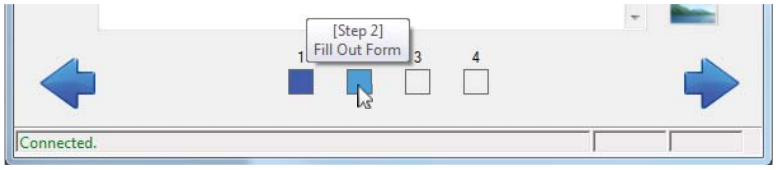


Hover the mouse over any of the steps to see a short description. Also, the steps will be filled in with color as you move throughout the test to show where you are in the process. See below:

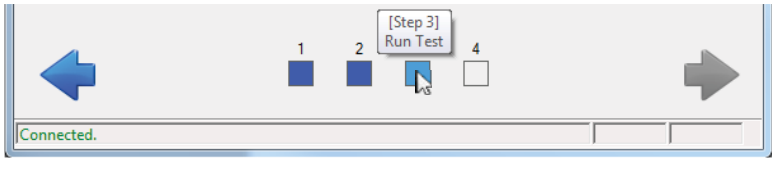
Step One



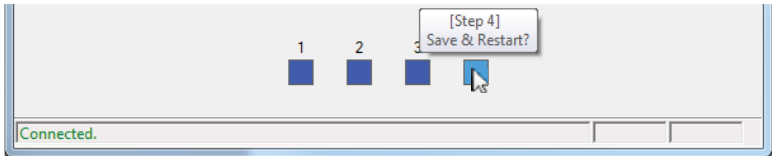
Step Two



Step Three



Step Four



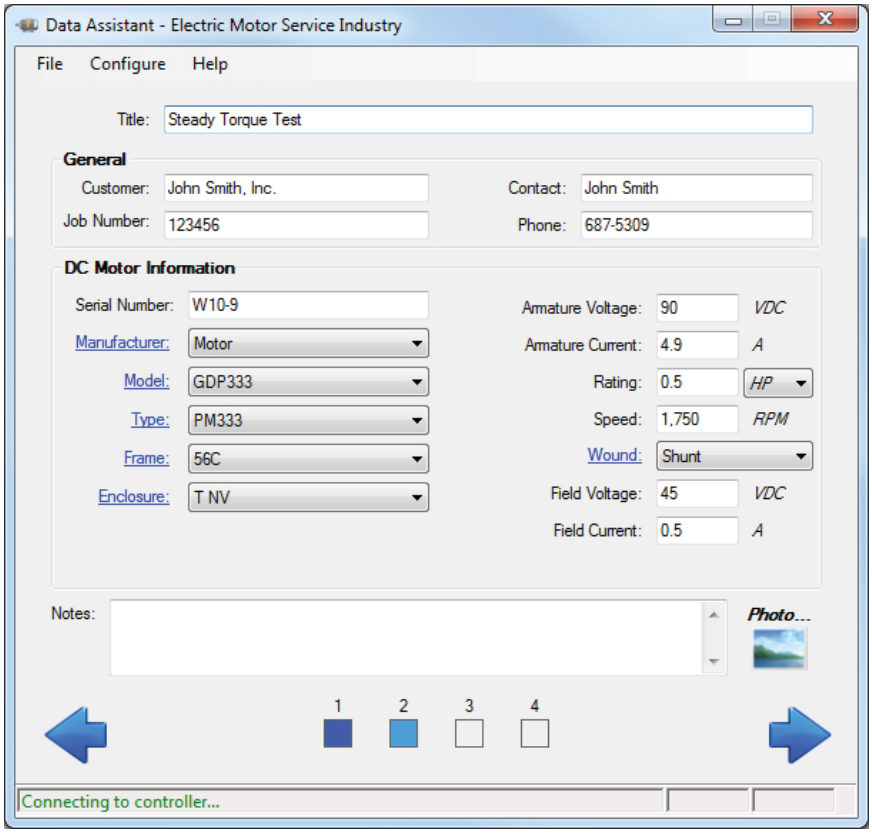
STEP 1: MOTOR TYPE

Select the motor type: AC or DC. The current selection will be indicated by a pulsing green box. Each motor type will provide a slightly different informational form to fill out.

When ready, click the **Next** arrow to move to Step 2.

STEP 2: TESTING INFORMATION

Fill out as much information as desired. Information is broken into general and motor-specific sections. Labels that are hyperlinks (e.g. Manufacturer) can be clicked to add custom entries. These entries will persist until removed through the same interface.



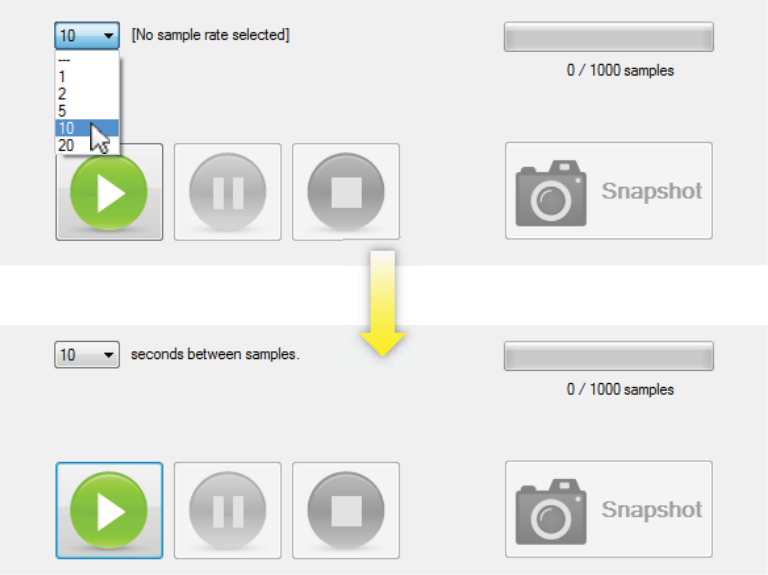
Optionally, a picture of the nameplate, or motor itself, can be inserted into the report immediately following the entered information. Click the **Photo…** icon to select the picture, if any. Allowable picture types are .bmp, .gif, .jpg, .jpeg, and .png. The picture will automatically be scaled to fit on the first page of the report while maintaining aspect ratio.

When ready, click the **Next** arrow to move to Step 3. You can also click the **Back** arrow to change the selected motor type. Entered information will persist while moving back and forth between steps.

STEP 3: DATA LOGGING

START LOGGING

Data logging can only be initiated if the device is connected. If connected, set the desired logging interval and/or press the **Start** button. See below:



NOTE: Logging can be started without selecting a logging interval. In this case, data will not be recorded until an interval is selected or the **Snapshot** button is clicked. The interval can be changed, a snapshot taken, or the logging paused, at any point during logging.

SNAPSHOT BUTTON

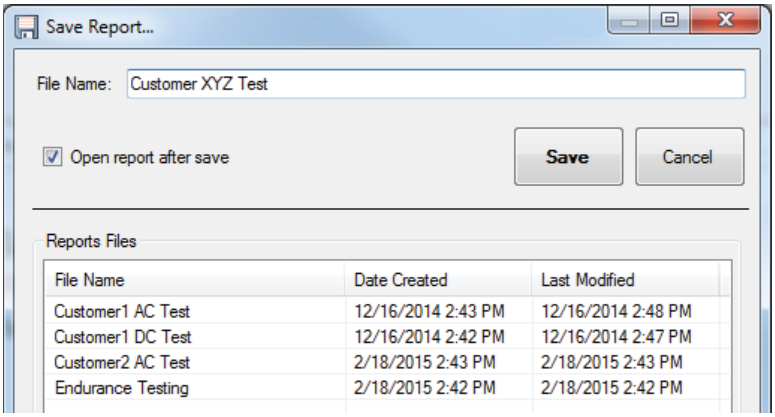
The snapshot functionality logs data the moment the button is pressed. This can be done while logging data at a given interval. The final report will denote a snapshot by displaying a small camera icon in the *Status* column for the given data row.

STOP LOGGING

To stop data logging, simply click the **Stop** button. A prompt will appear to confirm this action. If not stopped, the logging will automatically stop after 1000 logging samples are taken. The number of collected samples are displayed above the **Snapshot** button and will update each time a sample is taken.

STEP 4: SAVING THE REPORT

Save the report with the desired name. Previously saved reports will be shown below. They can be single-clicked in order to auto-populate their name into the new file name field. This makes for quick overwriting or appending a number to the end (e.g., MyVeryLongTestTitle → MyVeryLongTestTitle2).



"Open report after save" checkbox provides the option of having the report automatically launched via Microsoft Word after it is generated and saved. Once set, this preference will be remembered for each additional report save.

Previously created files can be sorted based on File Name, Date Created, or Last Modified date.

After saving (or cancelling the save), the tool can be restarted for another test or simply closed.

5 DATA BACKUP, REPORT MANAGEMENT, ADDING A LOGO

5.1 BACKING UP DATA

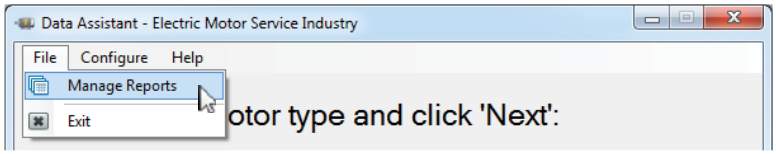
Create a copy of the following folder in order to backup form configurable data and generated reports:

Root Drive\Data Assistant – Electric Motor Service Industry\

NOTE: *Root Drive* is usually *C:*\. Nothing outside of the above folder structure will be copied (e.g., company logo, although the path will be retained).

5.2 MANAGING REPORTS

Previously created reports can be managed by clicking **File > Manage Reports**.

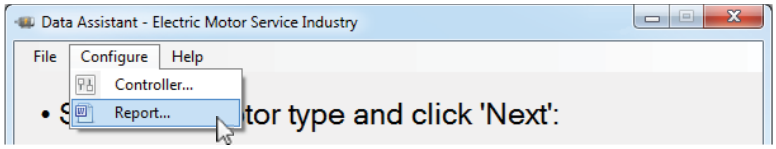


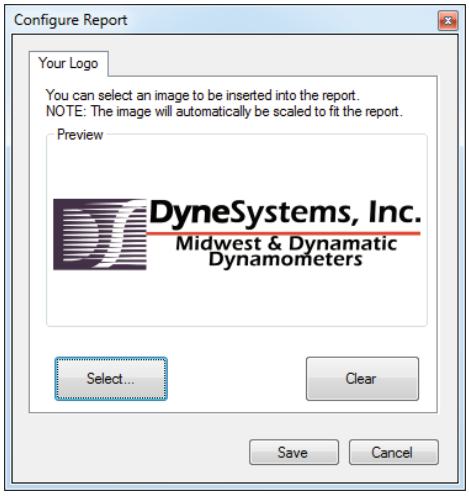
The previously created reports will be displayed in alphabetical order. They can also be sorted by Date Created, Last Modified date, or the File Size.

From this screen, previously created reports can be opened, renamed, and even deleted.

5.3 ADDING A COMPANY LOGO

You can select a company logo to be used in the finished report. This image will be used for further reports unless modified. To configure the logo click **Configure > Report…**





6 APPENDIX

6.1 TEST DURATIONS

See the table below for the approximate length of data logging per given sample rate:

Sample Rate (seconds)	Test Duration
---	Until 1000 snapshots have been taken
1	0 hr. 16 min. 36 sec.
2	0 hr. 33 min. 18 sec.
5	1 hr. 23 min. 18 sec.
10	2 hr. 46 min. 36 sec.
20	5 hr. 33 min. 18 sec.

6.2 SAMPLE REPORTS

The following pages contain samples of typical reports. Both AC and DC examples are shown. Each report utilizes a company logo (in this case, Dyne Systems, Inc.). The last example shows a report which includes a picture of the nameplate. The subsequent page of that report contains the recorded data.

Any information that was supplied during Step 2 can be directly modified in the report. All other data is locked to ensure test legitimacy.

Steady Speed Test

Customer: *John Smith, Inc.*
Contact: *John Smith*
Phone: *867-5309*
Date: *Monday, December 22, 2014*
Time: *8:16 AM*

DyneSystems, Inc.
Midwest & Dynamatic Dynamometers

AC Motor Test

Job Number:	*987654*	Rated Voltage:	*450*	*VAC*
Serial Number:	*HS003333*	Rated Current:	*582*	*A*
Manufacturer:	*Motor*	Rating:	*509*	*HP*
Model:	*Servomotor*	Speed:	*1750*	*RPM*
Type:	*VT3AA0P00870*	Power Factor:	*0.858*	
Frame:	*5011PQL*	Efficiency:	*96.5*	*%*
Enclosure:	*IP23Z*	Service Factor:	*1.15*	
Poles:	*4*	Service Factor Amps:	*669*	*A*
Phase:	*3*			

Time	Status	Speed (RPM)	Torque (LB-FT)	Power (KW)
08:16:08		1800	0	0.00
08:16:10		1800	0	0.00
08:16:12		1800	4	0.94
08:16:14		1800	13	3.33
08:16:16		1800	23	5.87
08:16:18		1800	33	8.43
08:16:20		1800	43	10.99
08:16:22		1800	53	13.55
08:16:24		1800	63	16.11
08:16:26		1800	73	18.67
08:16:28		1800	83	21.24
08:16:30		1800	93	23.79
08:16:32		1800	103	26.36
08:16:34		1800	113	28.91
08:16:36		1800	123	31.48
08:16:38		1800	133	34.03
08:16:39	USER STOP			

Notes

Steady Torque Test

Customer: *John Smith, Inc.*
Contact: *John Smith*
Phone: *687-5309*
Date: *Monday, December 22, 2014*
Time: *8:12 AM*

DyneSystems, Inc.
Midwest & Dynamatic Dynamometers

DC Motor Test

Job Number:	*123456*	Armature Voltage:	*90*	*VDC*
Serial Number:	*W10-9*	Armature Current:	*4.9*	*A*
Manufacturer:	*Motor*	Rating:	*0.5*	*HP*
Model:	*GDP333*	Speed:	*1750*	*RPM*
Type:	*PM333*	Wound:	*Shunt*	
Frame:	*56C*	Field Voltage:	*45*	*VDC*
Enclosure:	*T NV*	Field Current:	*0.5*	*A*

Time	Status	Speed (RPM)	Torque (LB-FT)	Power (KW)
08:10:56		0	500	0.00
08:11:01		163	500	11.56
08:11:06		413	500	29.33
08:11:11		664	500	47.09
08:11:16		914	500	64.86
08:11:21		1165	500	82.66
08:11:26		1416	500	100.43
08:11:31		1666	500	118.19
08:11:36		1917	500	136.00
08:11:41		2168	500	153.76
08:11:46		2419	500	171.53
08:11:51		2500	500	177.31
08:11:53	USER STOP			

Notes

TEST USING NAMEPLATE IMAGE – SAMPLE REPORT

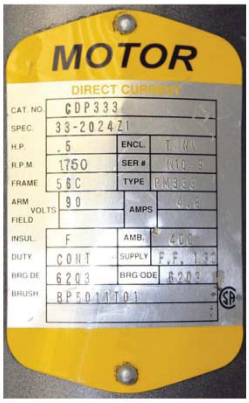
Steady Torque Test

Customer: *John Smith, Inc.*
Contact: *John Smith*
Phone: *687-5309*
Date: *Monday, December 22, 2014*
Time: *8:12 AM*

DyneSystems, Inc.
Midwest & Dynamatic Dynamometers

DC Motor Test

Job Number:	*123456*	Armature Voltage:	*90*	*VDC*
Serial Number:	*W10-9*	Armature Current:	*4.9*	*A*
Manufacturer:	*Motor*	Rating:	*0.5*	*HP*
Model:	*GDP333*	Speed:	*1750*	*RPM*
Type:	*PM333*	Wound:	*Shunt*	
Frame:	*56C*	Field Voltage:	*45*	*VDC*
Enclosure:	*T NV*	Field Current:	*0.5*	*A*



Time	Status	Speed (RPM)	Torque (LB-FT)	Power (KW)
08:10:56		0	500	0.00
08:11:01		163	500	11.56
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08:11:26		1416	500	100.43
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08:11:41		2168	500	153.76
08:11:46		2419	500	171.53
08:11:51		2500	500	177.31
08:11:53	USER STOP			

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