



ALPHA – User Guide



WARNING

To reduce the risk of injury, before using or servicing tool, read and understand the following information.
The features and descriptions of our products are subject to change without prior notice.





Revision history

<i>Issue</i>	<i>Date</i>	<i>Description</i>	<i>Firmware version</i>	<i>Minimum DeltaQC version</i>
01	10 January 2012	First issue.	1.0x	2.0.x
02	28 August 2012	Curves added.	1.0x	2.1.x
03	14 November 2012	DeltaQC installation updated, overload management updated, transducer information and report added, default values updated.	1.2x	2.2.x
04	16 May 2013	Settings updated (par.10).	1.3x	2.4.x
05	16 April 2014	Battery added	2.0x	2.5.x
06	4 December 2014	Manual update	2.0x	2.5.x
07	29 May 2015	Manual update	2.1x	3.2.x
08	15 September 2015	General User Guide review, Cutoff frequency (Fcut) added (par. 8.1.5)	2.2x	3.2.x
09	13 May 2016	Specifications – System requirements updated (par. 1.2), Presentation updated (par. 2.1), Software installation updated (par. 4.1)	2.2x	3.5.x
10	29 June 2018	Software Installation updated (par. 4.1), Menu list updated (par. 4.2.1), Database backup added (par. 4.5)	2.2x	4.0.x
11	30 October 2018	Alpha transducer information updated (par. 0), Language updated (par. 10.1), Date – time updated (par. 10.2), Alpha name updated (par. 10.4), Result confirmation option updated (par. 10.5)	2.2x	4.1.x
12	19 September 2022	Specifications: Torque range correction	2.2x	4.1.x
13	6 February 2023	Online mode added (par. 4.2.4), Transfer online data to the database added (par. 4.2.4.1)	2.2x	4.3.36



NOTE: The programming software DeltaQC may be updated with no changes regarding the Alpha functionalities.

The minimum version indicated here is required for the reference firmware version.



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SAFETY INFORMATION



WARNING: PLEASE CAREFULLY READ THE ALPHA SAFETY INFORMATION (No. 6159920600) PRIOR TO USE THE PRODUCT AND PAY ATTENTION TO THE SAFETY INSTRUCTIONS PROVIDED.

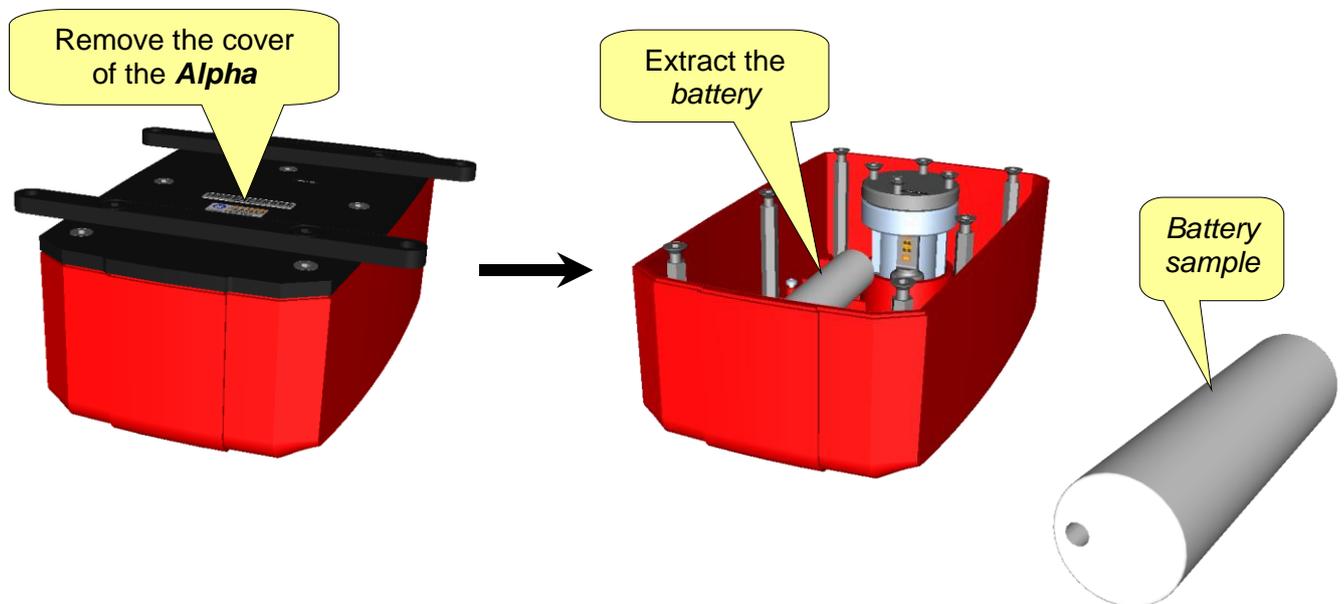


BATTERY INFORMATION ACCORDING TO EUROPEAN REGULATION 2006/66/EC

BATTERY SPECIFICATION

TYPE: Lithium-ion, 3.6 V, 2.9 Ah
CELL WEIGHT: 50 g

The battery is installed inside the Alpha (refer to the picture below):



NOTE: Once removed, the wasted batteries must be dismissed according to local regulations.



1 INTRODUCTION

1.1 About this Document

This document is a User Guide for the Alpha.

The Alpha is described in general in the first two chapters of this User Guide.

The document is divided into the main following parts:

Part	Name	Description
Chapter 1	Introduction	This part introduces this user manual and details the Alpha technical specifications.
Chapter 2	System Overview	This part introduces the Alpha with its models and accessories.
Chapter 3	User Interfaces	This part provides an overview of the user interfaces available on the Alpha (LEDs, display, keyboard, etc.).
Chapter 4	Working with DeltaQC	This part introduces the operations of the Alpha management software.
Chapter 5	Getting started with Alpha	This part guides the operator in starting to use the Alpha.
Chapters 6, 7, 8 and 9	Testing click-wrenches, testing nutrunners, peak detection test, testing pulse tools	These chapters explain in detail how to conduct a test on the various tools types.
Chapter 10	Alpha settings	This part covers the instrument settings.
Chapters 11 and 12	Results viewer and Curves viewer	These chapters explain how to retrieve results and curves from the Alpha.
Chapters 13 and 14	Maintenance and Troubleshooting guide	These chapters are dedicated to the instrument maintenance and troubleshooting
Chapter 15	Abbreviations	Table of the abbreviation used in this manual.



1.2 Specifications

TECHNICAL

- Torque range:
 - Alpha D1 : 0.1 ÷ 1 Nm
 - Alpha D5 : 0.5 ÷ 5 Nm
 - Alpha D16 : 1.6 ÷ 16 Nm
- Torque static accuracy: ±1% of the applied torque (between 10% and 100% of the FSD)
- Torque overload capacity: 25% of FSD
- Stability of zero offset with temperature: ± 0.1% of FSD/°C
- Results memory capacity: 1000
- Curves memory capacity: 10 curves (30 sec / maximum length)
- Unit of measurement supported: N·m, kgf·m, kgf·cm, lbf·ft, lbf·in, ozf·ft, ozf·in, kp·m, dN·m
- Sampling frequency:
 - Free mode (track and peak): 1 kHz
 - Click-wrench test: 2 kHz
 - Nutrunner test: 4 kHz
 - Peak test: 1 kHz
 - Pulse tool test: 4 kHz

INTERNAL BATTERY

- Battery power supply: Rechargeable battery, Li-ion 3.6 V 2.9 Ah
- Endurance: 12 hours minimum in operating mode
- Recharge time: 4 hours (the battery is charged even if the Alpha is switched off)



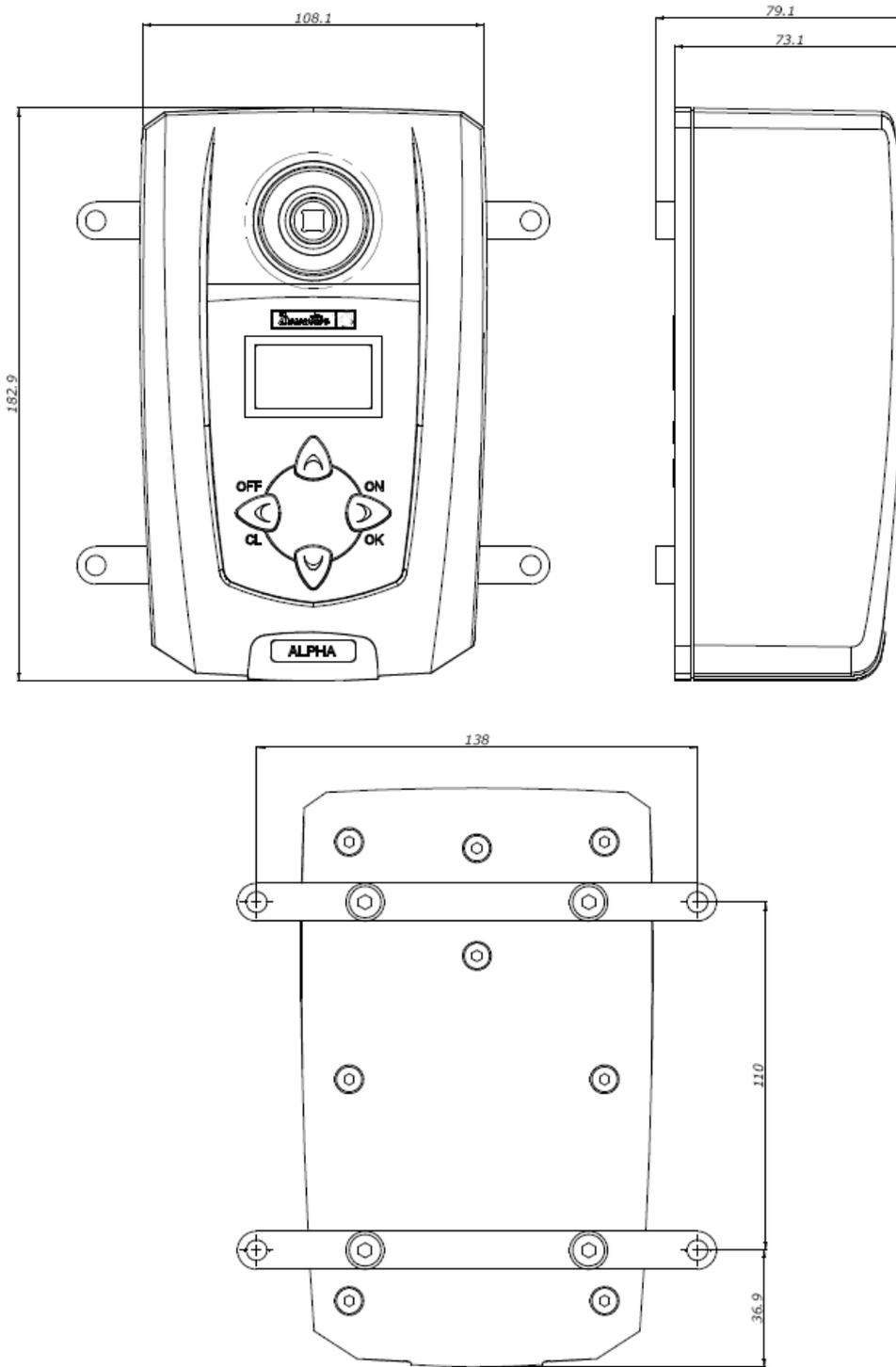
NOTE: The battery is internal and cannot be removed. The external power supply works also as battery charger.

EXTERNAL POWER SUPPLY

- Input power: 100 ÷ 240 V AC, 50 ÷ 60 Hz
- AC Power Consumption: 21 W maximum
- Output: 6V DC, max 2.2A



DIMENSIONS AND WEIGHT



Dimensions are in mm

Weight: 950 g



NOTE: Alpha D1 / D5 / D16 are characterized by the same dimensions and weight. They differ only for the Torque range.



ENVIRONMENTAL

The following conditions must be observed during operation:

- Internal Use only
- Environmental Class: II
- IP Grade according to EN IEC 60529: IP40
- Ambient Temperature: 5 to 40°C
- Atmospheric humidity: 95% (non-condensing)
- Altitude: up to 2000m

INTERFACES

- MiniUSB 2.0 port

SYSTEM REQUIREMENTS

The following are the PC minimum requirements for installation of the management software DeltaQC:

- Processor: 800 MHz or above
- Memory: 256 MB or above
- Hard disk space: 10 GB
- Display: 800 x 600, 256 colors (1024 x 768, High Color (16-bit) recommended)
- Operating Systems: Windows XP, Windows 7, Windows 8, Windows 8.1, Windows 10
- Internet Explorer 5.01 or later (required for installation of the .NET Framework)
- Windows Installer 3.1
- Microsoft Excel (required to view the exported file with the tightening results)



NOTE: A system should meet these or the minimum requirements for the operating system, whichever is higher.

CALIBRATION CERTIFICATE

Alpha is provided with a Desoutter factory calibration certificate.



1.3 EC Declaration of Conformity

The Alpha is in conformity with the requirements of the council Directives on 06/22/1998 on the approximation of the laws of the Member States relating:

- 2004/108/EC EMC Directive – Electromagnetic Compatibility
- 2011/65/EC ROHS Directive – Risk Of Hazardous Substances

The Alpha complies with the following regulation:

- EN61010-1:2010 Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use – Part 1: General Requirements.

The Alpha is marked with the following symbol:





2 ALPHA OVERVIEW



Alpha D1 / D5 / D16 are instruments designed for optimal operations in:

- **Tools testing:** The Alpha offers a set of tests for evaluating click-wrenches, slip-wrenches, nutrunners and pulse tools, measuring the torque values and producing results with statistical parameters. This makes possible to keep the quality of the tightening operations on a production line under control. The test results can be retrieved by the Alpha management software (DeltaQC), and exported then in an Excel file.



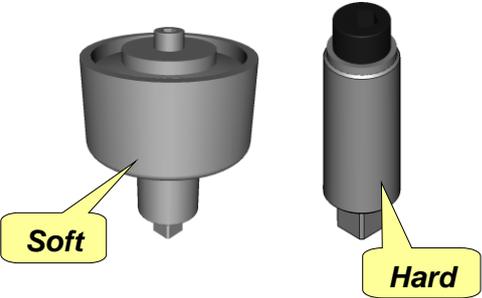
NOTE: The caption “D1, D5 and D16” indicates the maximum instrument torque capacity:

- D1 → 1 Nm
- D5 → 5 Nm
- D16 → 16 Nm



2.1 Presentation

The Alpha is composed by the following parts:

	<p style="text-align: center;">Alpha D1 / D5 / D16</p> <p>The main part that contains the hardware, firmware and battery.</p>
	<p style="text-align: center;">Power Supply/Battery Charger</p> <p>External power supply for battery recharge.</p>
	<p style="text-align: center;">DeltaQC software</p> <p>The Alpha management software. It allows Alpha configuration and retrieving results and curves from the instrument.</p>
	<p style="text-align: center;">Mechanical joint simulators</p> <p>Two joint simulators are provided with the Alpha: one to simulate a soft joint and one a hard joint.</p>
	<p style="text-align: center;">Supports</p> <p>The supports are useful to fix the Alpha to a table. The screws are included with the package.</p>



2.2 Models



The Alpha models available are listed in the following table:

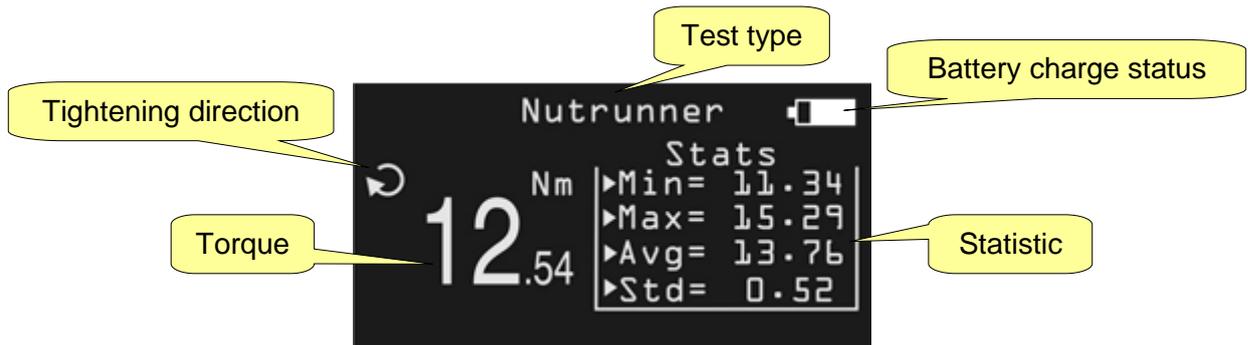
- Alpha D1 *P/N 6159351400*
- Alpha D5 *P/N 6159351410*
- Alpha D16 *P/N 6159351420*



3 USER INTERFACES

3.1 Display

The Alpha display explores the menus and monitors the torque during the tightening operation:



Test type	It indicates the test type.
Battery charge status	It indicates the battery charge level.
Tightening directions	It indicates whether tightening must be executed in the clockwise or counterclockwise direction.
Torque	It indicates the current measurements.
Statistics	It indicates the minimum and maximum and average values, and standard deviation. For the <i>pulse tools</i> , also the frequency of the pulses is shown. They are reset when exit the test window.

The display background color changes according to the tightening phase and result:

White	Default color for all the menus and settings.
Blue	When a test starts, the display is backlight in blue.
Green	During the test execution, the display turns green when the result is OK.
Red	Color used to indicate error. During the test execution, the red color is used to indicate that torque value exceeds the maximum limit.

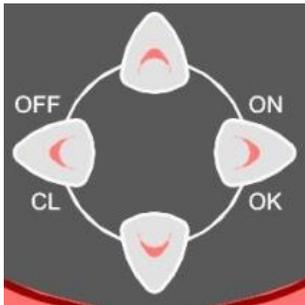


NOTE: For better printing contrast, and for black/white printing, in this User Guide the display figures are always shown in black/white.



3.2 Keyboard

Use the keyboard to browse the Alpha menu:



Icon	Name	Description
	ON, OK	Switch on the Alpha, enter menu and confirm.
	OFF, CL	Switch off the Alpha, exit menu.
	UP	Up (browse menu), increase value in settings menus.
	DOWN	Down (browse menu), decrease value in settings menus.

3.3 Transducer



The Alpha is characterized by a torque static transducer installed on the unit. Simply select the test menu on the display and operate the tool on the transducer.

The transducer maximum capacity is:

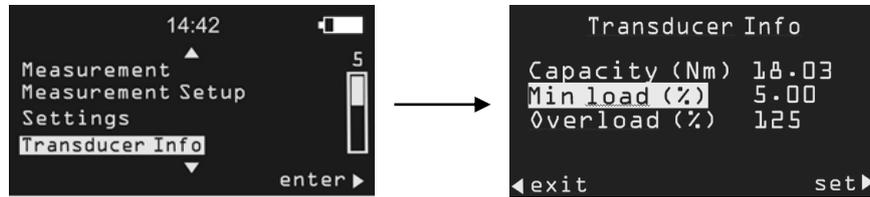
- **Alpha D1** → **1 Nm**
- **Alpha D5** → **5 Nm**
- **Alpha D16** → **16 Nm**



The transducer data can be viewed/set from the menu.

Switch on the Alpha by pressing the **ON** button.

Scroll the main menu using the **Up/Down** keys and select the **Transducer Info** menu:

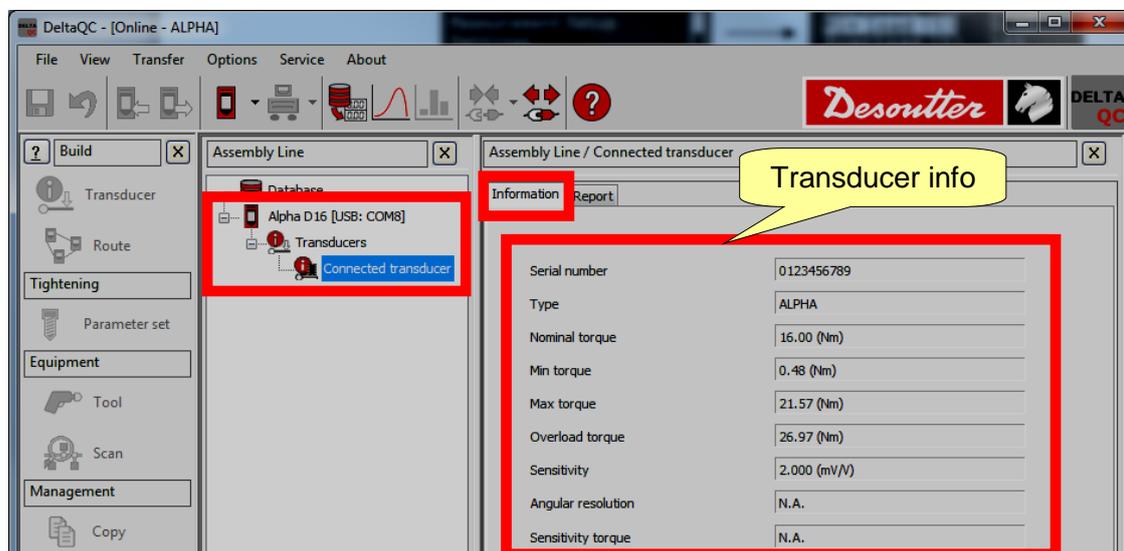


Min load (%) and **Overload (%)** are editable parameters. To edit them, press the **OK** button on the parameter to change, adjust the value by pressing the **Up/Down** keys, and click on **OK** to save (or **CL** to exit).

Capacity (Nm)	Torque capacity of the Alpha, that is normally slightly different from the nominal capacity marked on the Alpha label. This value cannot be modified.
Min Load (%)	Minimum torque value for the <i>Cycle start</i> parameter set for the various tests, defined in the <i>Measurement Setup</i> menus (refer to the paragraph “Getting started with Alpha” or further details). It can be set from 1% to 5%.
Overload (%)	This parameter specifies the maximum torque applicable to the transducer as percentage of the Capacity value. It can be set from 90% to 125%. If the torque goes over the overload value, a warning message on the Alpha display alerts the user, and it is shown again each time the Alpha is switched on; to reset the overload event, the Alpha must be recalibrated.

Information and report about the Alpha transducer can be viewed from the DeltaQC software (refer to the “Working with “Delta QC” Software” for software installation and usage details).

Connect the DeltaQC to the Alpha and select the **Connected transducer** in the **Assembly Line** area:

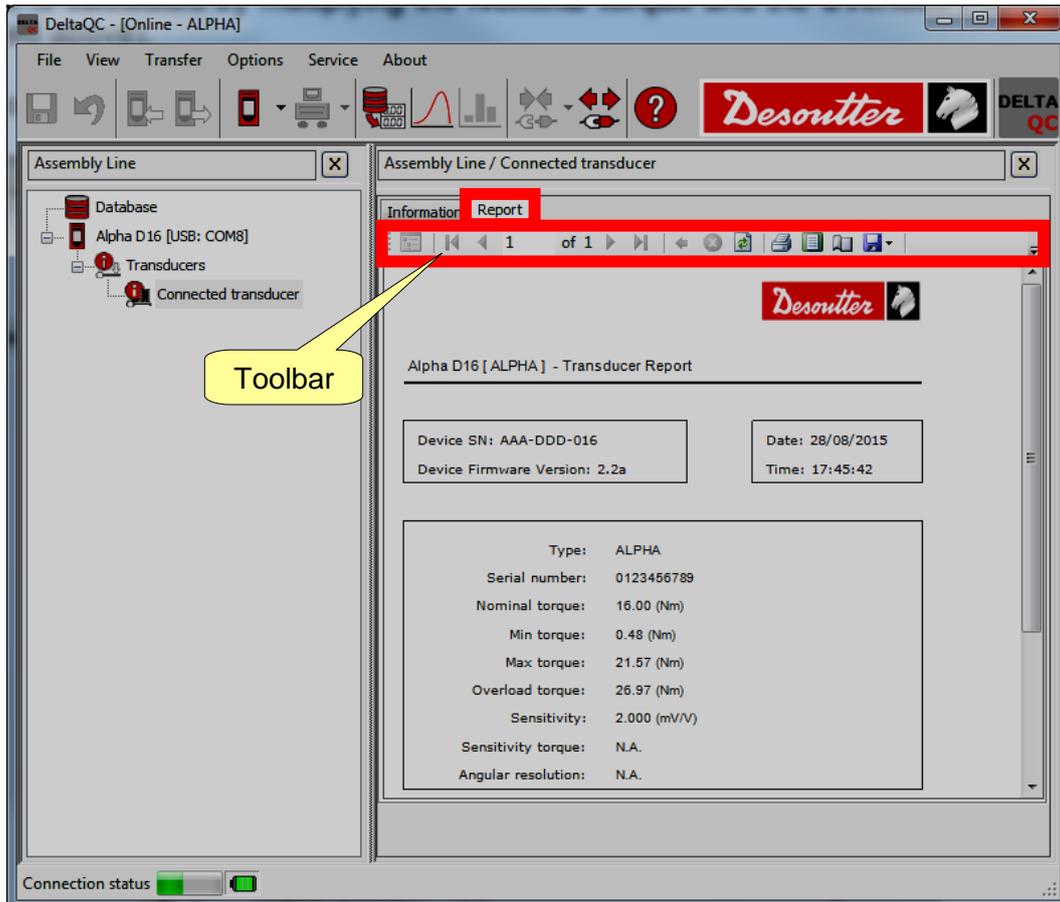




The **Min Torque** is calculated by multiplying the **Nominal torque** and the **Min Load (%)** set in the Alpha (as explained above).

The **Overload torque** is calculated by multiplying the **Nominal torque** and the **Overload (%)** set in the Alpha (as explained above).

By selecting the **Report** page it is possible to view the report (refer to the screen below):



The **toolbar** placed in the area above the report provides function to print or export the report into an Excel or PDF file.

3.4 Buzzer

Along with the onboard LEDs, the Alpha has also a buzzer, to give more indications on the result of the current operation. A high tone is emitted in case of **OK** result, while a lower tone is emitted in case of test **Not OK**.



NOTE: For further details, refer to the specific chapters for various tests available on the Alpha.



3.5 Mini USB port



The USB port is available for programming the Alpha by means of *DeltaQC* Software.

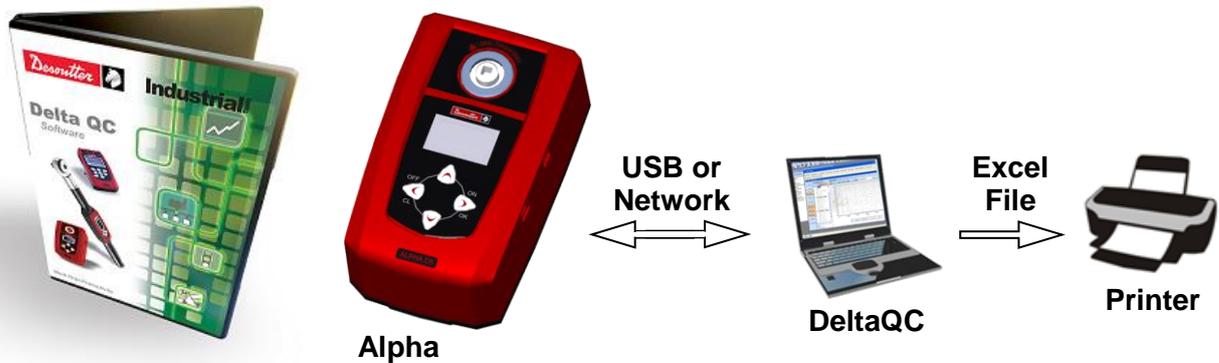


NOTE: Refer to the paragraph “*Connecting to the Alpha*” for further details.

It allows also firmware upgrade (*this feature is reserved for Desoutter Service Personnel*).



4 WORKING WITH “DELTA QC” SOFTWARE



DeltaQC is a PC software package developed to manage the Alpha.

It offers easy user-friendly programming and real time monitoring of the instrument.

DeltaQC serves as an interface between the user and the Alpha. With DeltaQC, users can configure the Alpha, and receives the results and curves.

The main features that characterize the interaction between DeltaQC and Alpha are as follows:

- Review of results from the Alpha
- Review of curves from the Alpha
- Settings of the Alpha



NOTE: DeltaQC saves the tightening programs, results and curves in a local database.

4.1 Software Installation



NOTE: Do not install the software from a shared folder/drive. Install the software from the supplied CD/USB key; if the CD/USB key content is copied into a PC folder, it must be a PC local folder.



NOTE: If a version equal to 3.9.0 (or previous) is upgraded to a version equal to 4.0.0 (or later), it is recommended to perform the migration of data from SQL Server database to SQLite database before launching DeltaQC.



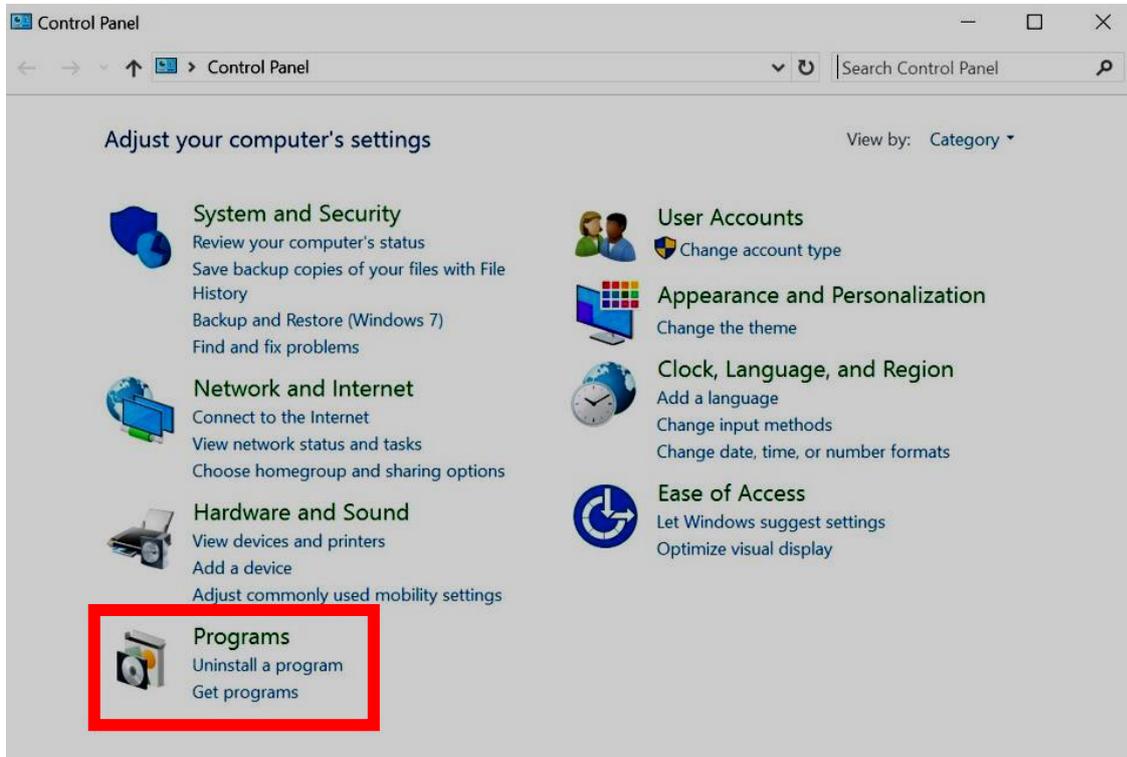
NOTE: Make sure to read the Installation Instructions contained in the **ReadMe** file before starting DeltaQC installation.



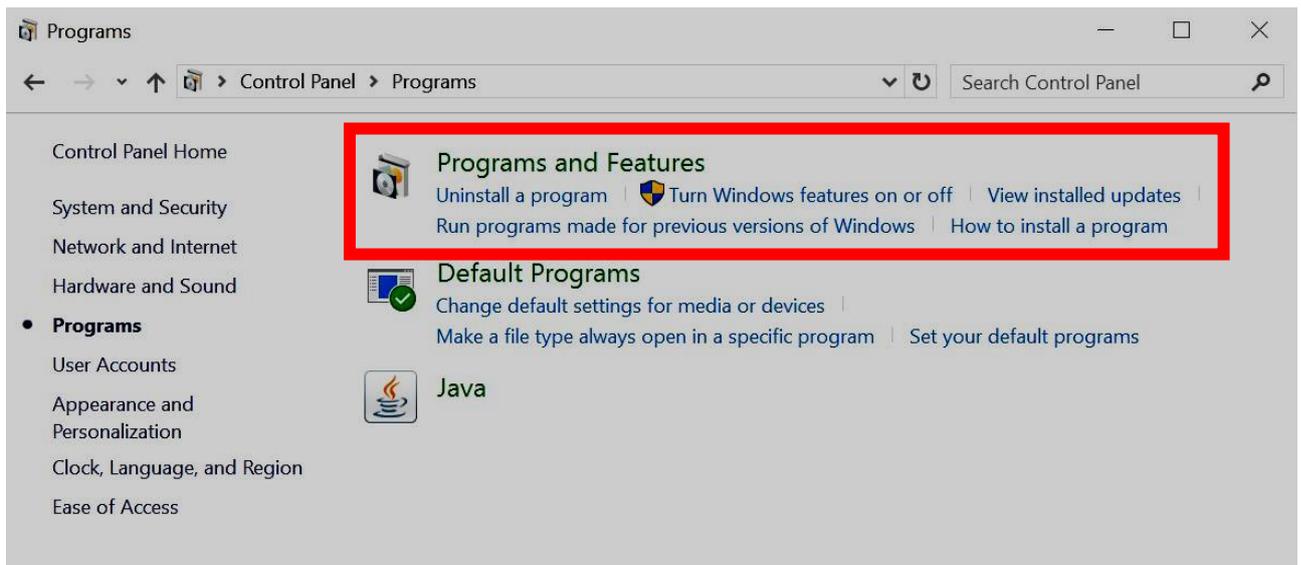
If DeltaQC is already installed on the PC and it is characterized by a version equal to 3.9.0 (or previous), it is MANDATORY to uninstall it BEFORE executing the new setup.

To uninstall previous versions, act on the control panel as explained in the following procedure:

- Open the “**Control Panel**” and click on “**Programs**”:

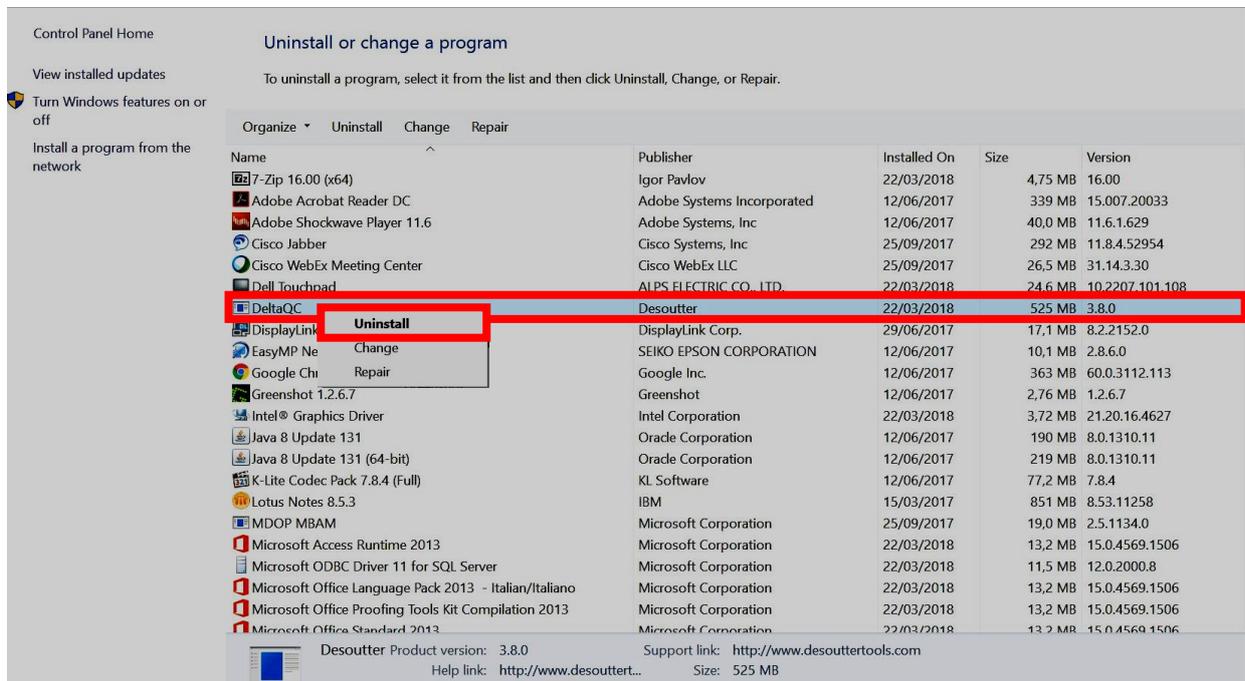


The following screen is shown:





- To uninstall (or change) programs on the PC, click on “**Programs and Features**” (refer to the above screen). The following screen is displayed:



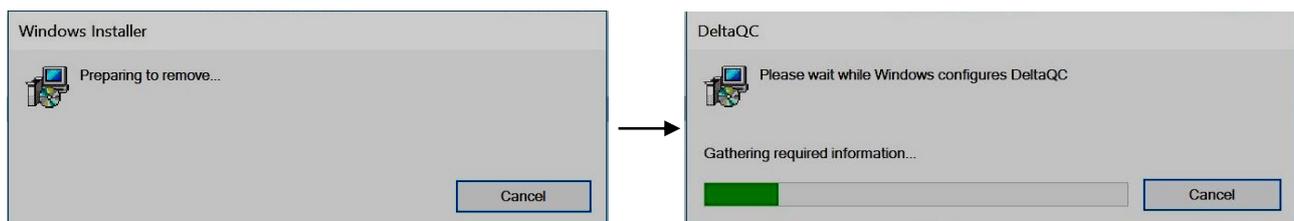
Select “DeltaQC” from the list. Click on the right button of the mouse and finally select “Uninstall” in order to uninstall DeltaQC from the PC.

- After clicking on “Uninstall”, the following pop-up is shown:



Click on Yes to confirm uninstalling the DeltaQC.

- After clicking on Yes (refer to the above pop-up), *Windows Installer* is preparing to remove DeltaQC. The following pop-up are shown until DeltaQC is completely removed:





If DeltaQC is either not installed, or already installed on the PC and it is characterized by a version equal to 4.0.0 (or higher), execute the new setup.



NOTE: For the operating systems *Windows 7*, *Windows 8*, *Windows 8.1* and *Windows 10*, run the executable file by clicking on the right button of the mouse and selecting “*Run as administrator*”.

To install DeltaQC Software, insert either the *CD* or the *USB key* in the PC.

If the CD is inserted in the PC, the following pop-up is shown (according to *Autoplay Settings* set on the PC):



Click on “*Run DesoutterAutorun.vbs*” and wait for the following window:





If a *USB key* (refer to the figure on the right) is inserted in the PC, the following pop-up is shown (according to *Autoplay Settings* set on the PC):



Double-click on “**Open folder to view files**”. The following folder is shown:

Name	Date modified	Type	Size
DatabaseMigrationTool	22/03/2018 12:30	File folder	
Documentation	22/03/2018 12:30	File folder	
Installer	22/03/2018 12:30	File folder	
Autorun.inf	14/03/2018 10:17	Setup Information	1 KB
DesoutterAutorun.exe	22/03/2018 10:24	Application	281 KB
DesoutterAutorun.exe.config	14/03/2018 10:11	CONFIG File	1 KB
DesoutterAutorun.vbs	14/03/2018 11:04	VBScript Script File	2 KB
DesoutterLogo.bmp	14/03/2018 10:11	BMP File	4 KB

Double-click on “**DesoutterAutorun.vbs**” and wait for the following window:





Install DeltaQC Software

Firstly, click and read the **ReadMe** file containing information about the installation.

Then, click on the button **Install Driver (ADMIN)** to start the device driver installation.

Click on the **Install Software** button to start DeltaQC installation.

Finally, click on the **DB Migration** button to start the database migration.

View User Manual

Open the **Alpha User Guide** in PDF.

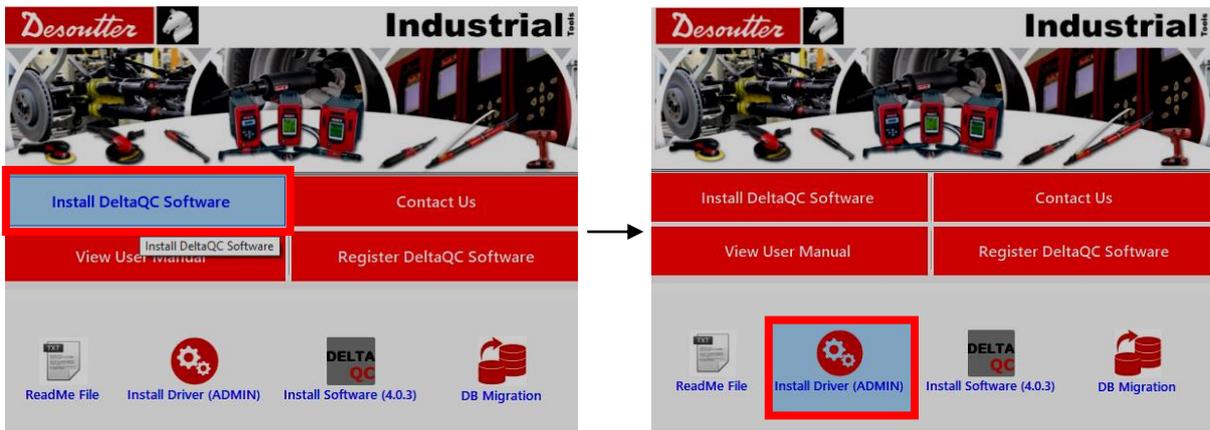
Contact Us

It provides the website link to Desoutter contact details.



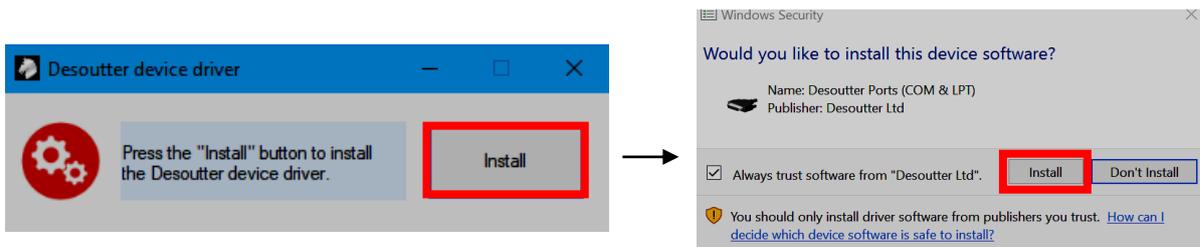
<p>Register DeltaQC Software</p>	<p>Install DeltaQC Software</p>	<p>Contact Us</p>
	<p>View User Manual</p>	<p>Register DeltaQC Software</p>
<p>http://licences.desouttertools.com/auth/login</p>		
<p>It provides the website link to register the DeltaQC Software. Registration must be executed after the installation. Refer to the paragraph "Software registration" for further details.</p>		

To start the device driver installation, click on the **Install Driver (ADMIN)** button and follow the steps described below:



NOTE: If the device driver installation is executed on a PC without administrator rights, a dialog box for the "User Account Control" opens. Enter the administrator username and password in the related fields to continue.

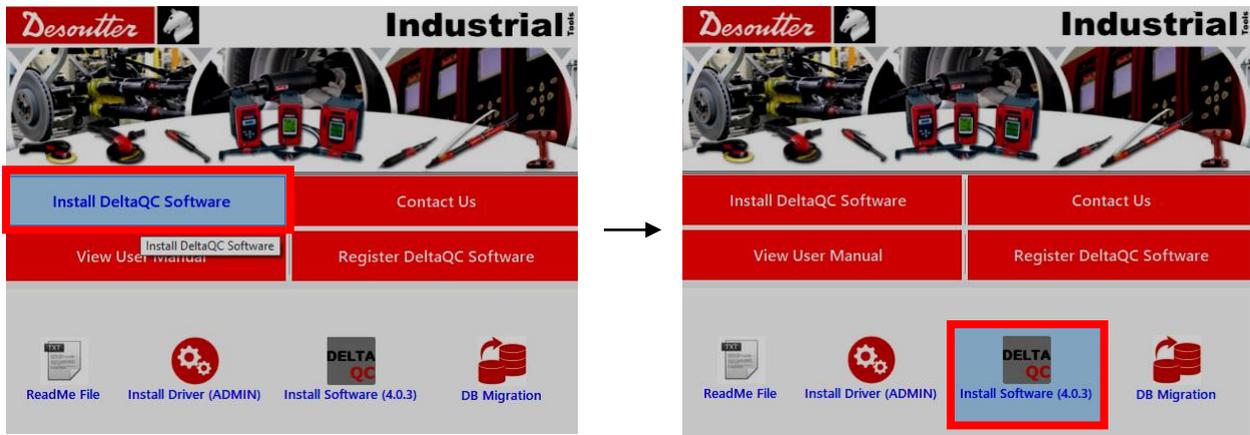
Click on the **Install** button (refer to the figures below):



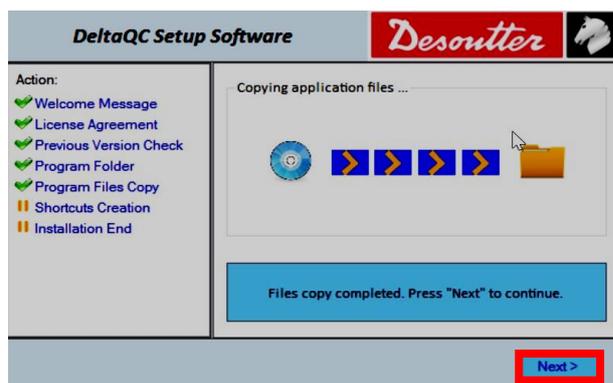
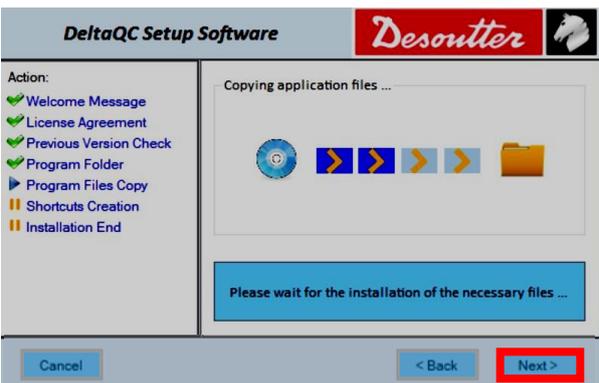
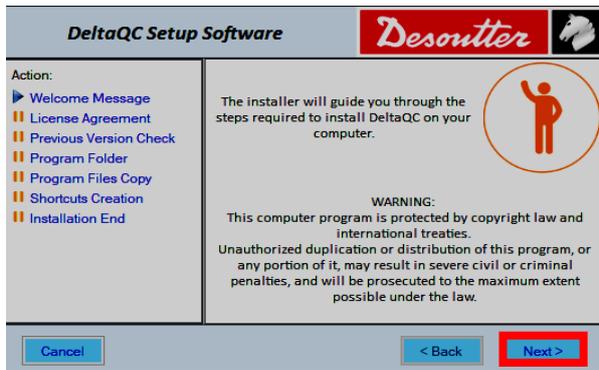
At the end of the process a message confirms that the device driver are installed with success.



To install DeltaQC Software, click on the button **Install Software** (refer to the following figures):



Then, follow the installation steps described below:





After installing DeltaQC Software, the program is automatically added to **Start Menu** → **Desoutter** → **DeltaQC** and to **Start Menu** → **Control Panel** → **DeltaQC**.

If not deselected during the installation procedure, a Desktop shortcut will be created by default too.



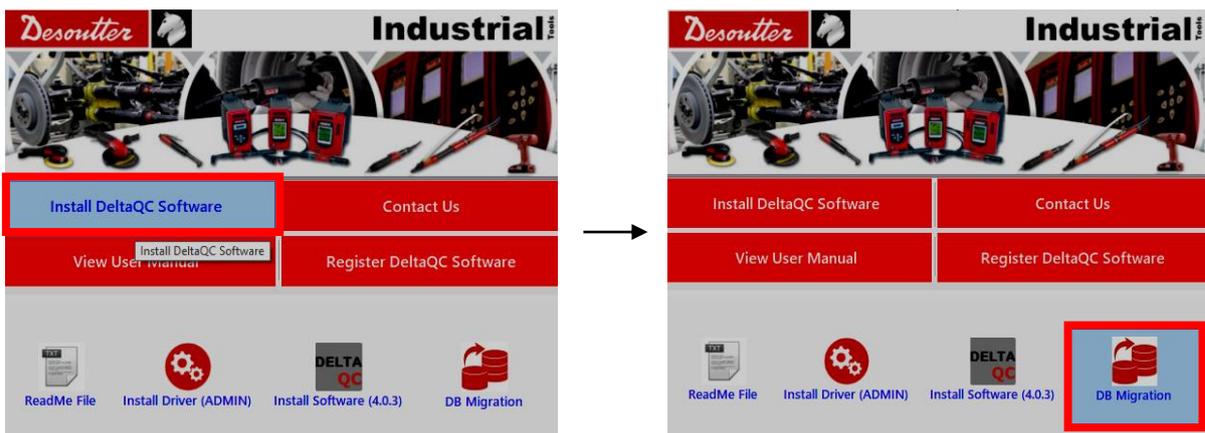
NOTE: The first time DeltaQC Software is executed, it is MANDATORY to register it (refer to the paragraph “Software registration” for further details).

If a version equal to 3.9.0 (or previous) is upgraded to a version equal to 4.0.0 (or later), it is recommended to perform the migration of saved data from SQL Server database to SQLite database.



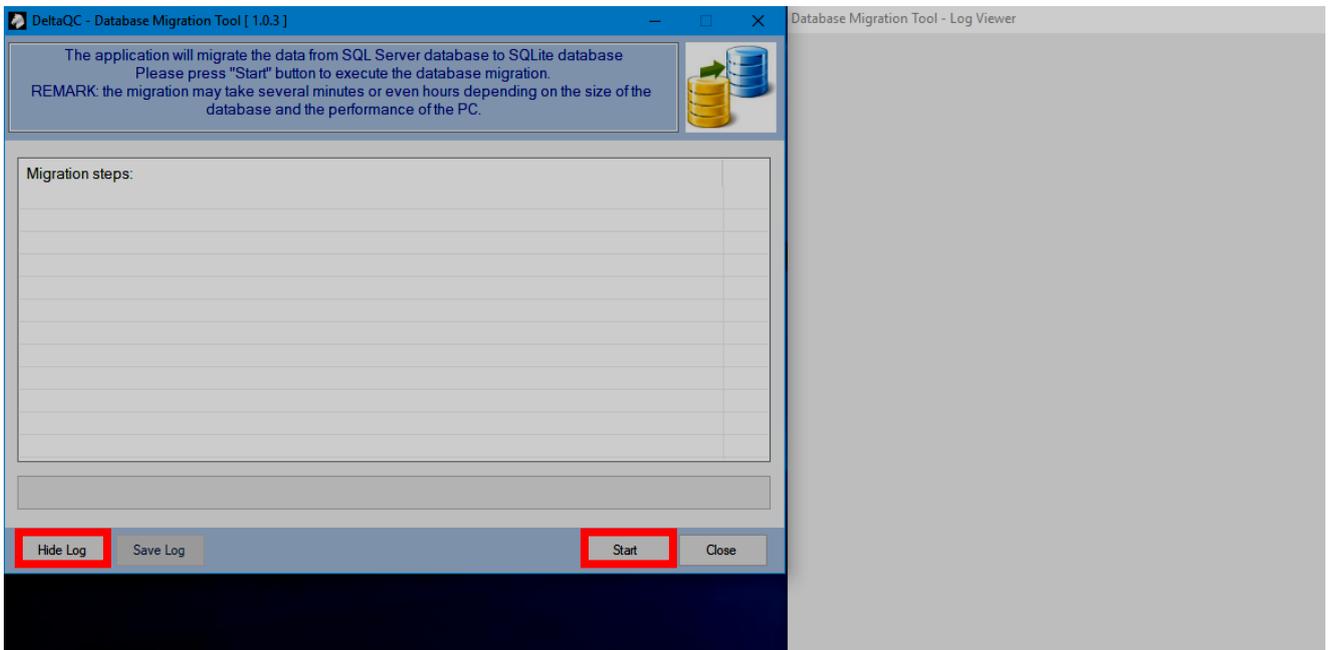
NOTE: If the database migration is not performed before launching DeltaQC, data possibly present in the new database are deleted.

To start the database migration, click on the button **DB Migration** (refer to the following figures):





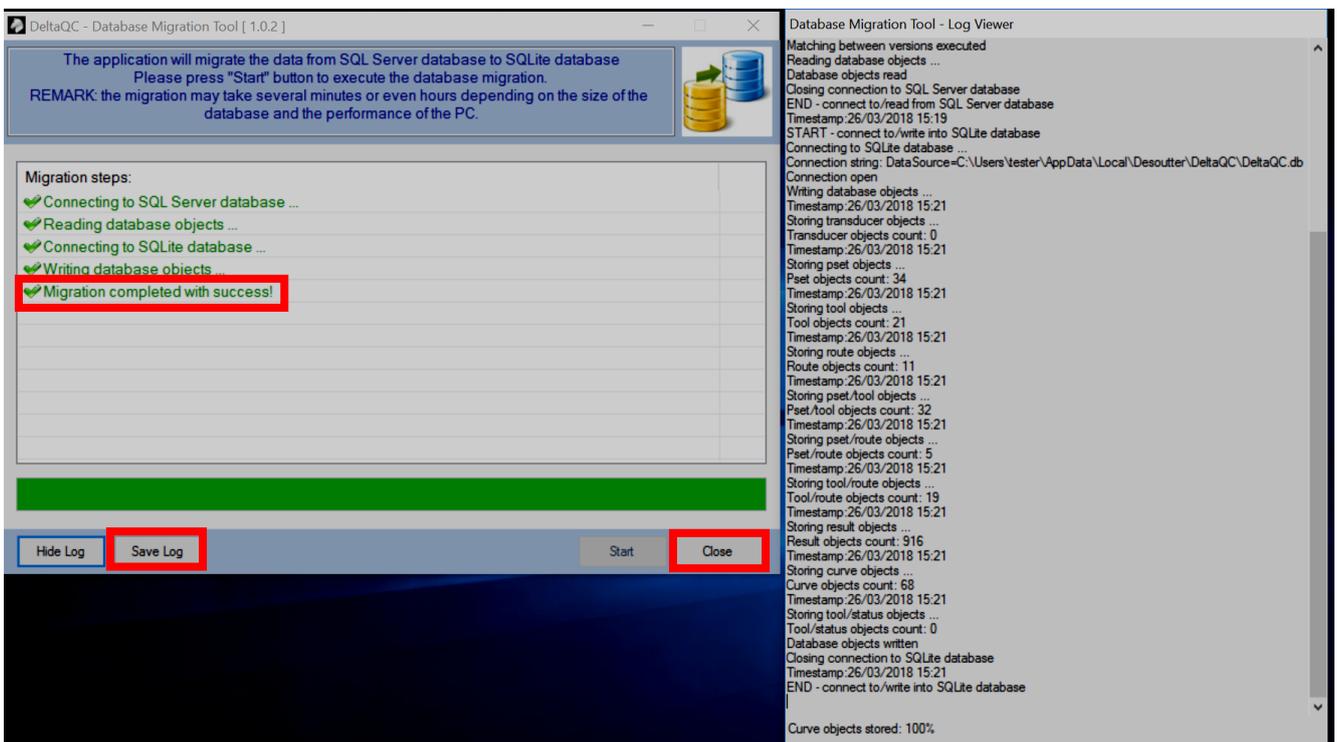
The following windows are shown:



Click on **Start** to execute the database migration (the operation may take a few minutes, depending on the size of the database).

Click on **Hide Log** to hide the *Database Migration Tool – Log viewer* window.

At the end of the process, the message “**Migration completed with success!**” is shown (refer to the figure below):

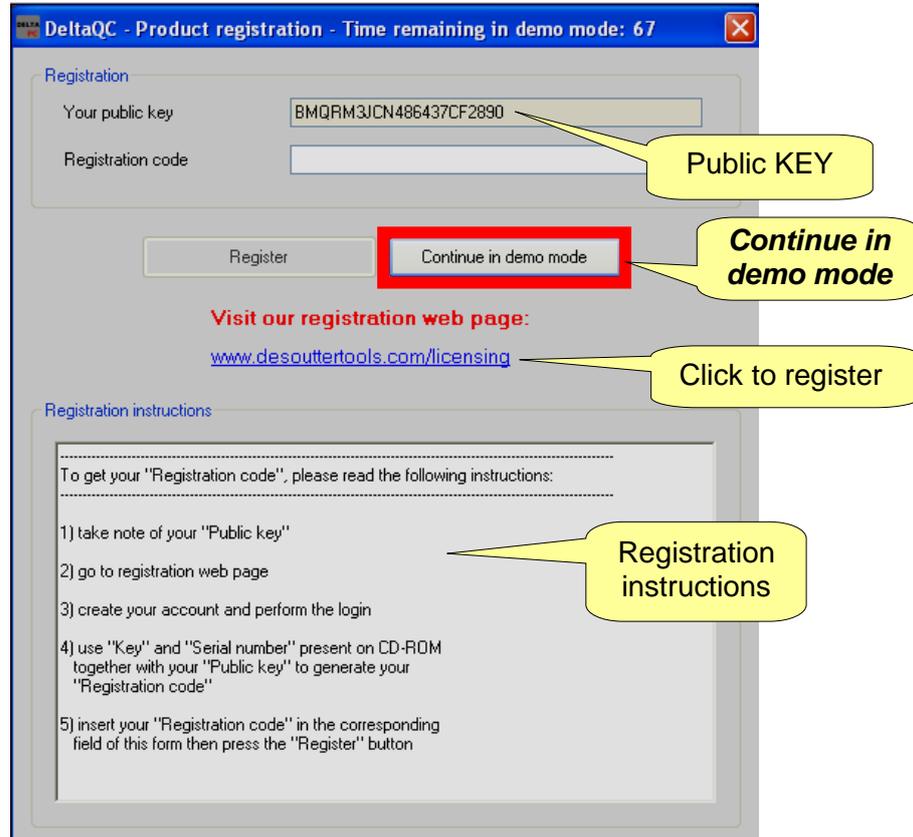


Click on **Save Log** to save the log before closing, otherwise click on **Close**.



4.1.1 Software registration

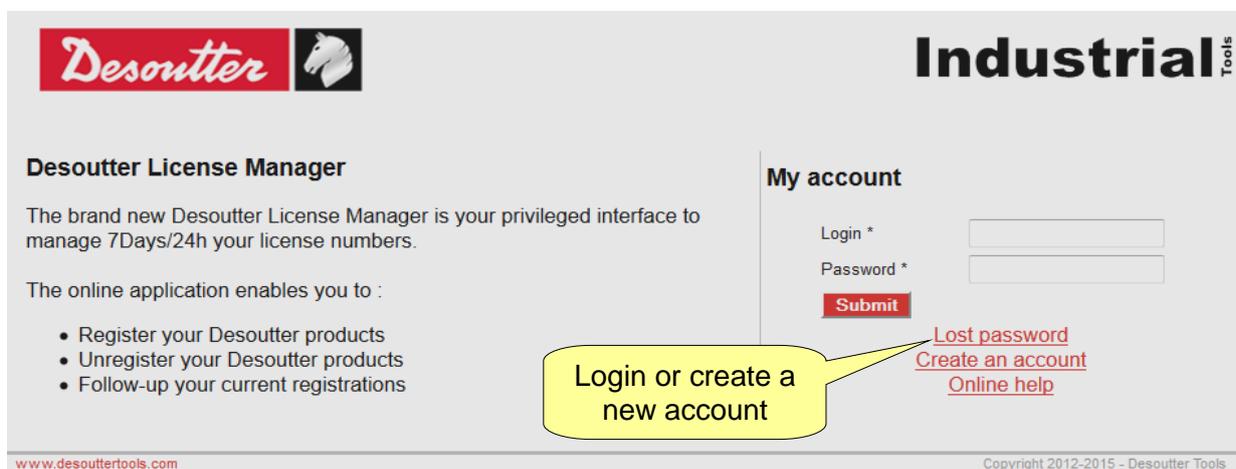
The first time DeltaQC Software is executed, the following window is shown:



Click on **Continue in demo mode** to skip the registration and working in demo mode (the registration can be done later).

To proceed with the registration, take note of the **Public KEY** given in the form above, and click on the link www.desouttertools.com/licensing

The following window is shown:





Create a new account, if it is not created yet:

Desoutter **Industrial** Tools

Create account

Account information

Login * carminepacente Password *
Mail * nte@desouttertools.com Confirm password *

Contact information

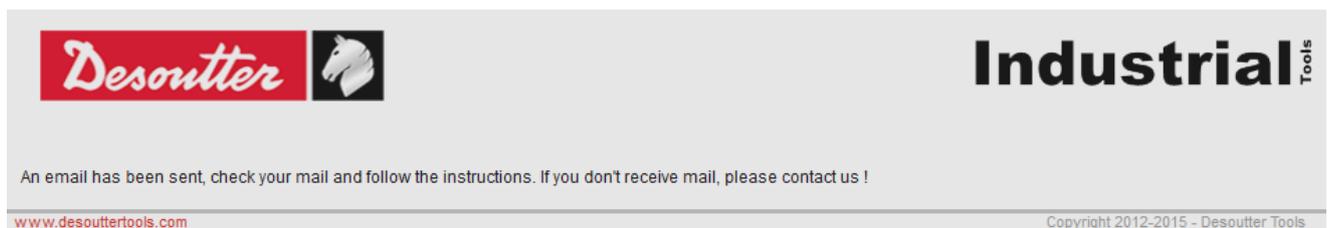
First name * carmine Last name * pacente
Company * Desoutter Sector (GI) AEROSPACE
Address * via Procaccini 35 Zip code * 20145
City * Milano
Country * France
Phone number * +39025689147 Fax +390256455656

User Preferences

Language of interface * ENGLISH Spoken languages ENGLISH, FRANCAIS, DEUTSCH, CHINESE
Timezone GMT, Paris Madrid

Submit **Submit**

Enter the own information and click on **Submit**. The following confirmation message is shown:



On the email address given in the account above, a link is sent. Click on the link provided.





Click on "**home**"; now it is possible to login:

Desoutter License Manager

The brand new Desoutter License Manager is your privileged interface to manage 7Days/24h your license numbers.

The online application enables you to :

- Register your Desoutter products
- Unregister your Desoutter products
- Follow-up your current registrations

My account

Login *

Password *

Submit

[Lost password](#)
[Create an account](#)
[Online help](#)

[www.desouttertools.com](#) Copyright 2012-2015 - Desoutter Tools

On the following window, select **License Management** (from the same window it is possible either to edit the profile information or to open the Desoutter contact form):

Desoutter License Manager

Welcome carmine pacente

License Management | My profile | Contact Form | Disconnection

License management

The brand new Desoutter License Manager is your privileged interface to manage 7Days/24h your license numbers.

The online application enables you to :

- Register your Desoutter products
- Unregister your Desoutter products
- Follow-up your current registrations

[www.desouttertools.com](#) Copyright 2012-2015 - Desoutter Tools

Enter the **Serial number** and the **Key (License number)** provided on the installation CD:

License management

Add a new license

Serial number

License number

Submit

Serial number written on the CD

Key (License number) written on the CD

02/202 [www.desouttertools.com](#) Copyright 2012-2015 - Desoutter Tools 32 (96)



Click on **Submit** and the following window is shown:

Type	Serial number	License Number	PC name	User	Install date	
6159276530	12000026530	4FA4-UUVZ-I8SR-JCF1-DHU9-Q4LZ-3177-7HU2		Installs remaining: 1		Add Delete

Click either on **Add** to proceed with the registration or on **Delete** to delete the serial number and key already entered.

After clicking on **Add**, the following screen is shown:

License card

License type

Part number 6159276530
Software designation DeltaQC Adv 1 user
Installs 1

License

Serial number 12000026530
License Number 4FA4-UUVZ-I8SR-JCF1-DHU9-Q4LZ-3177-7HU2
Date manufacturing 02-08-2012 10:39:21
Installs remaining 1
Features

Software install

Public key * PC name * [Submit](#)



Enter the **Public key** generated by the DeltaQC Software registration form and the **PC name** (choose any name) and click on **Submit** to get the registration code:

The screenshot shows the 'Industrial Tools' website interface. At the top, there is a navigation bar with 'Welcome carmine pacente', 'License Management', 'My profile', 'Contact Form', and 'Disconnection'. Below this, the 'Install' section is displayed. It contains two main areas: 'License card' and 'Install'.

License card

License type	
Part number	6159276530
Software designation	DeltaQC Adv 1 user
Installs	1

License

Serial number	12000026530
License Number	4FA4-UUVZ-I8SR-JCF1-DHU9-Q4LZ-3177-7HU2
Manufacturing date	02-08-2012 10:39:21
Installs remaining	0
Features	

Install

User	Carmine Pacente	+390256689147
Public key	CN736040BC02WP	
Registration code	8ZBDDHYD5RQGC	
Install date	2012-02-08 10:47:21	

A yellow callout bubble points to the registration code '8ZBDDHYD5RQGC' with the text 'Registration code'. The footer of the page includes 'www.desouttertools.com' and 'Copyright 2012-2015 - Desoutter Tools'.

Copy the above **Registration code** in the DeltaQC registration form and click on **"Register"** to complete the registration:

The screenshot shows the 'DeltaQC - Product registration' window. The title bar indicates 'Time remaining in demo mode: 62'. The form has two input fields: 'Your public key' (containing 'CN736040BC02WP') and 'Registration code' (containing 'XXXXXXXXXX'). A yellow callout bubble points to the 'Registration code' field with the text 'Enter the Registration code'. Below the input fields are two buttons: 'Register' (highlighted with a red box) and 'Continue in demo mode'. A yellow callout bubble points to the 'Register' button with the text 'Click on Register'. Below the buttons, there is a link: 'Visit our registration web page: <https://licensing.desouttertools.com/>'. At the bottom, there is a section for 'Registration instructions' with a list of steps:

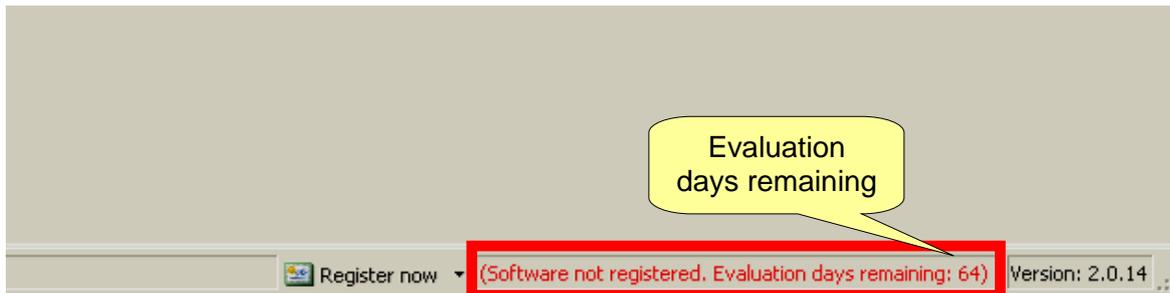
- 1) take note of your "public key"
- 2) go to registration web page
- 3) create your account and do the login
- 4) use your "public key" together with the CD "registration key" to generate your "registration code"
- 5) insert your "registration code" in the corresponding field of this form then press the "Register" button



4.1.2 DeltaQC “Evaluation version”

If DeltaQC Software is not registered after the installation, it works as *Evaluation* for 90 days; the *Evaluation* version provides all the functionalities of the registered version. When the trial period expires, the software turns into *Free* version.

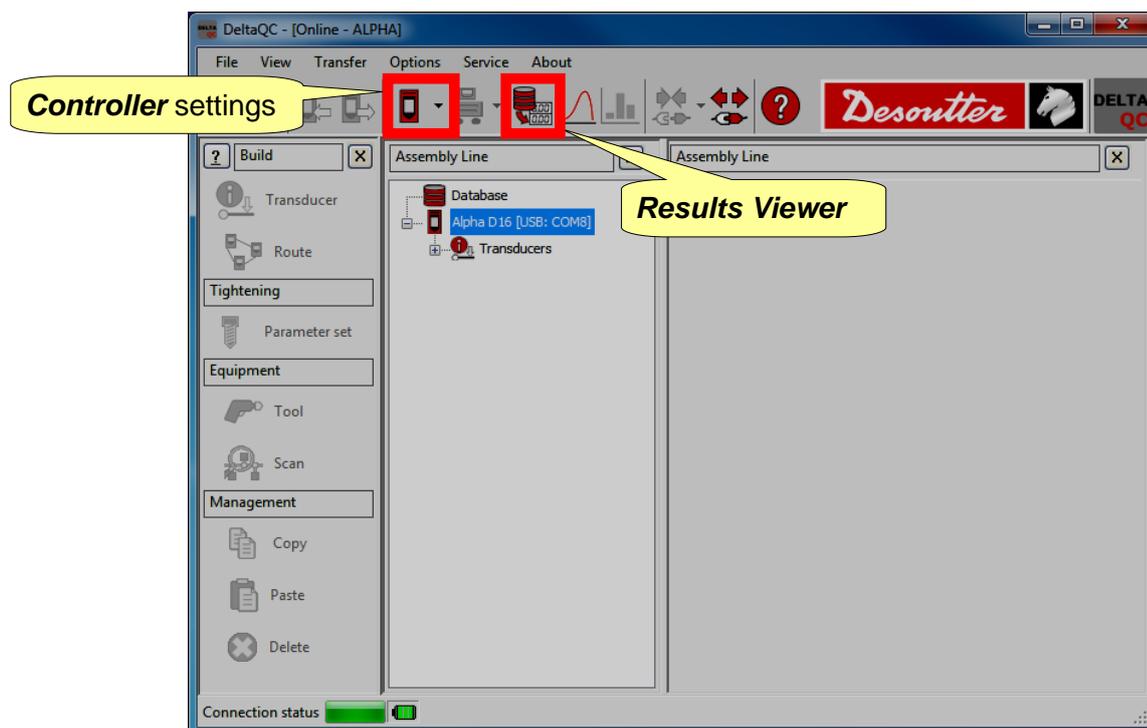
The number of days that remain for the trial period is shown on the bottom part of the DeltaQC Software page (refer to the picture below):



4.1.3 DeltaQC “Free version”

When the trial period expires, the software turns from “*Demo*” into “*Free*” version.

The *Free* version has a limited set of function. It is possible only to define tightening programs (Pset), review the results from the Alpha (exporting them in an Excel file) and define the settings of the instrument; all the other features are not available.





4.1.4 DeltaQC *Licensed* and *Advanced* versions

It is possible to register DeltaQC Software in two different versions: *Licensed* or *Advanced*.

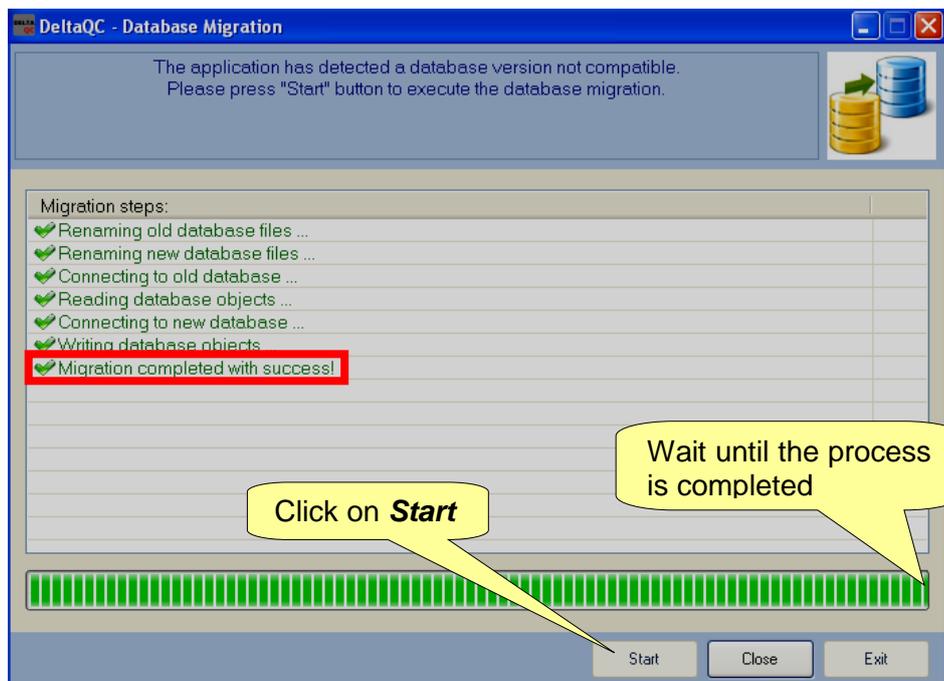
The *Advanced* version, compared to the *Licensed* version, can save the results and curves on the database; on the *Licensed* versions the results and curves can be viewed online only when the software is connected to the Alpha.

4.1.5 DeltaQC software upgrade

In case a new version of the DeltaQC Software is available, the new installation wizard automatically overwrites and upgrades the previous one.

In case of the new version features a new database structure, the first time the new version is launched a database migration wizard is automatically started.

Click on **Start** and wait until the process is completed:



Ensure that the message "***Migration completed with success!***" is shown in the window above; then click on **Close**.

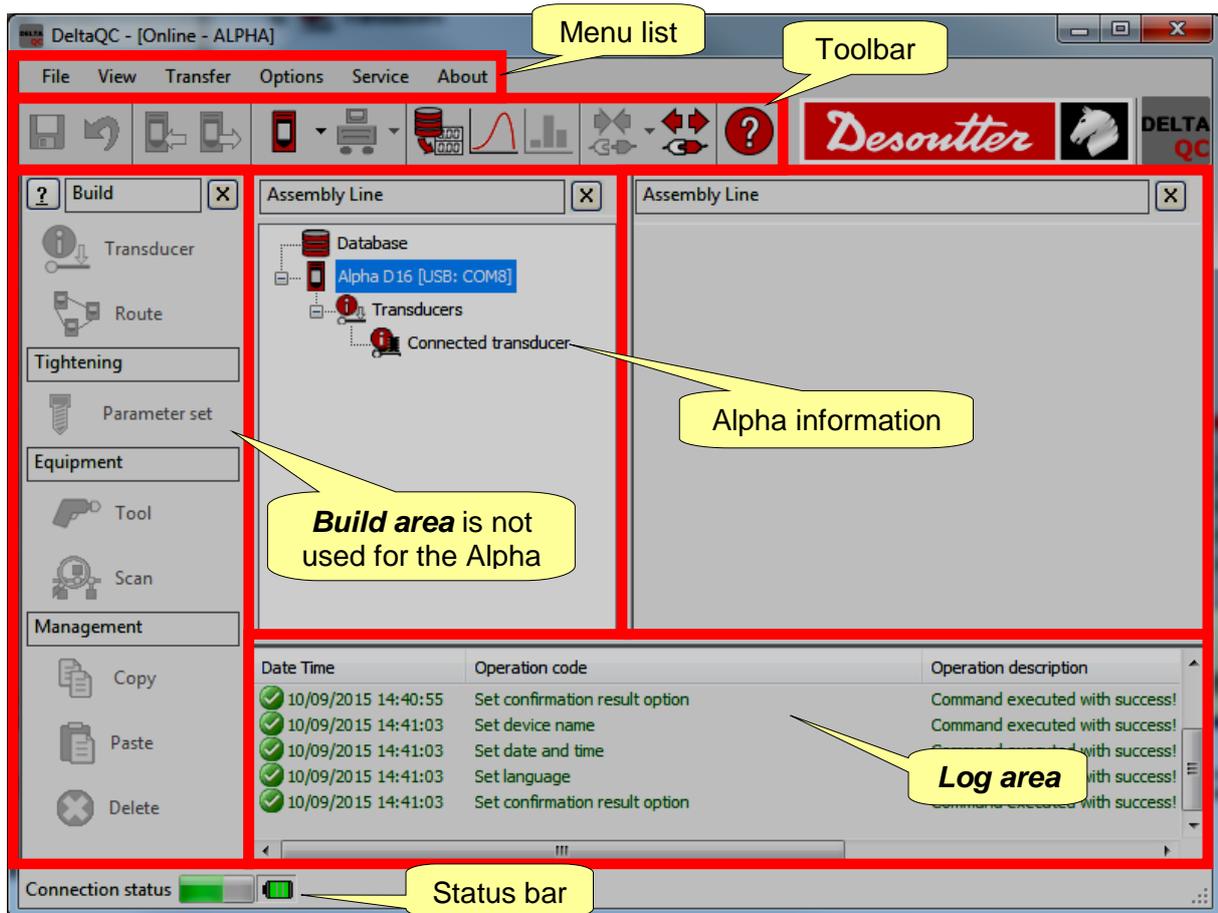


4.2 DeltaQC Overview



Click on the DeltaQC icon to launch the software.

The following main menu is shown:

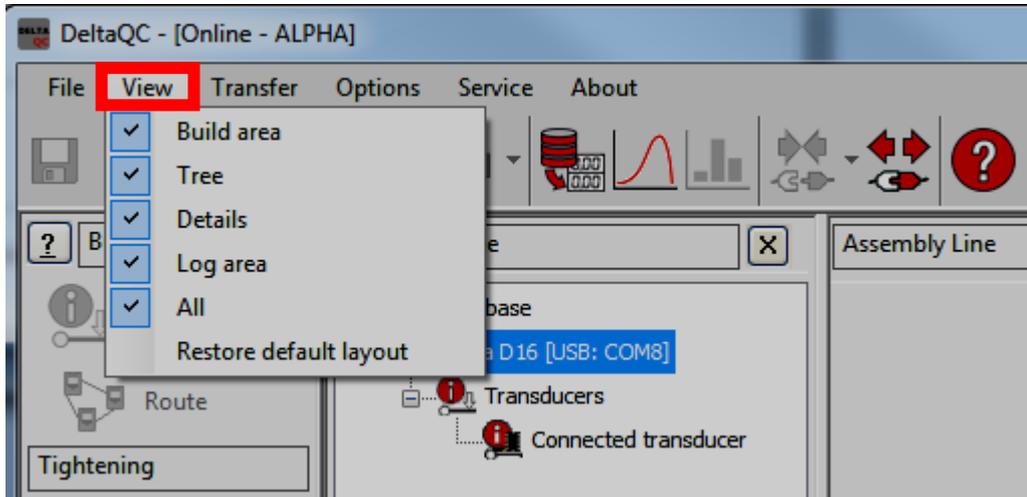


Once DeltaQC software works by means of the Alpha, only few commands are available:

- *Alpha settings* (settable by clicking on the arrow close to the **Controller** icon)
- *Results viewer* (settable by clicking on the **Results viewer** icon)
- *Curves viewer* (settable by clicking on the **Curves viewer** icon)



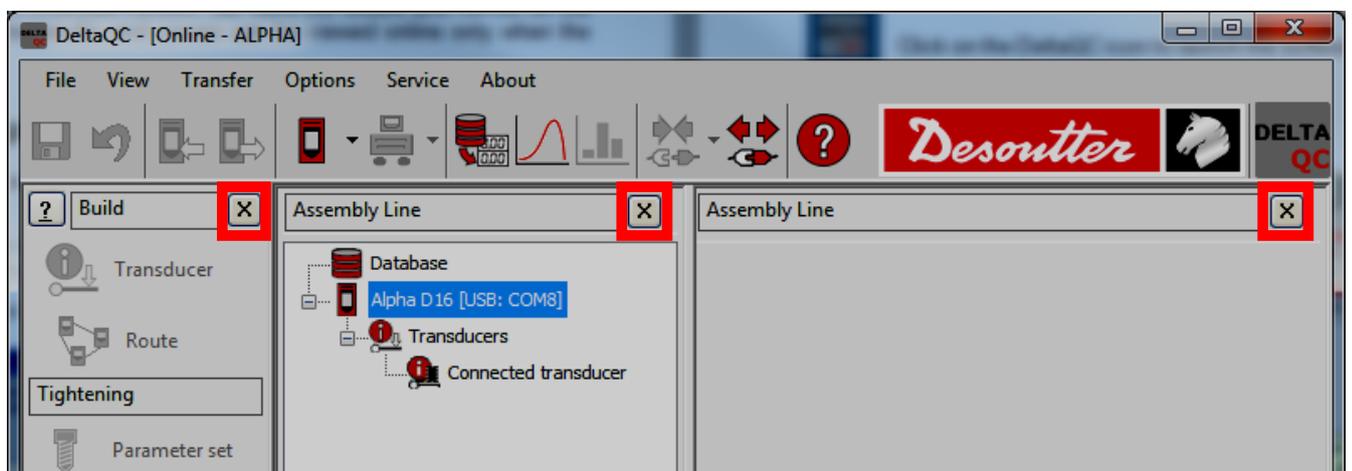
The *areas* shown in the main menu (refer to the above picture) can be customized; select **View** to define which areas enable or disable:



The *areas* listed in “**View**” are as follow:

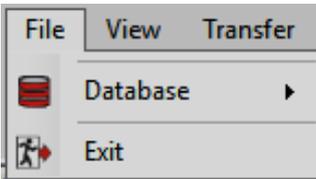
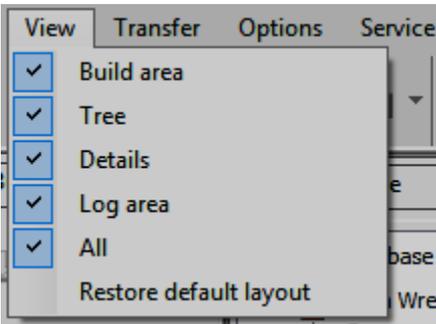
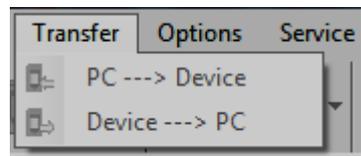
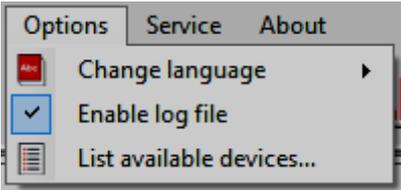
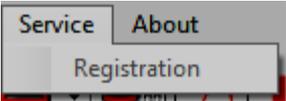
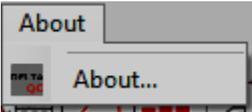
Build area	Enable/disable the <i>Build</i> area. It is not used for the Alpha.
Tree	Enable/disable the <i>Assembly line</i> area.
Details	Enable/disable the <i>Assembly line details</i> area. It details the items selected in the <i>Assembly line</i> area.
Log area	Enable/disable the <i>Log</i> area that lists the list of the log messages.
All	Enable/disable all the possible items in the main menu.
Restore default layout	Restore the default layout that enables all the items except the <i>Log</i> area.

To hide one *area* directly from the main menu, click on the  icon (refer to the picture below):



4.2.1 Menu list

The following options are available in the *DeltaQC Menu list*.

Illustration	Name	Description
	File	The <i>File</i> option allows to: <ul style="list-style-type: none"> - create and restore a database backup file (see paragraph "<i>Database backup</i>"). - exit from the DeltaQC software.
	View	The <i>View</i> option selects the areas to show/hide in the main menu.
	Transfer	The <i>Transfer</i> option is not used for the Alpha.
	Options	The <i>Options</i> tab sets the DeltaQC language and enables/disables the log file. Furthermore, a list of available devices can be viewed.
	Service	The <i>Service</i> option allows to register the software.
	About	The <i>About</i> tab gives software information, including registration details.



4.2.2 Toolbar

The toolbar icons are shortcuts to the basic functions in DeltaQC.

Icon	Icon name	Description
	Save	<i>This icon is not applicable for the Alpha operations.</i>
	Undo	<i>This icon is not applicable for the Alpha operations.</i>
	Transfer PC → Device	<i>This icon is not applicable for the Alpha operations.</i>
	Transfer Device → PC	<i>This icon is not applicable for the Alpha operations.</i>
	Controller	Click on the arrow of this icon to open the Controller programming menu. <i>Controller icon contains information and settings for Alpha.</i> Refer to the paragraph “ <i>Alpha Settings</i> ” for further details.
	Bench programming	This icon is reserved for the use of the DeltaQC with the Delta Cart; thus it is not used for the Alpha.
	Results Viewer	This icon opens the Results Viewer page. Refer to the paragraph “ <i>Results Viewer</i> ” for further details.
	Curves Viewer	This icon opens the <i>Curves Viewer</i> page. Refer to the paragraph “ <i>Curves Viewer</i> ” for further details.
	Statistics	This icon is not applicable for the Alpha operations.
	Connect	This icon establishes the connection between the Alpha and the PC (the icon is disabled when the device is already connected). Refer to the paragraph “ <i>Connecting to the Alpha</i> ” for further details.
	Disconnect	Once a connection is established, this icon gets active. Click to disconnect the PC from the Alpha.
	Help	This icon opens the <i>Help</i> section (<i>not active in this software version</i>).



4.2.3 Status bar

The status bar shows the connection status between the Alpha and the DeltaQC.



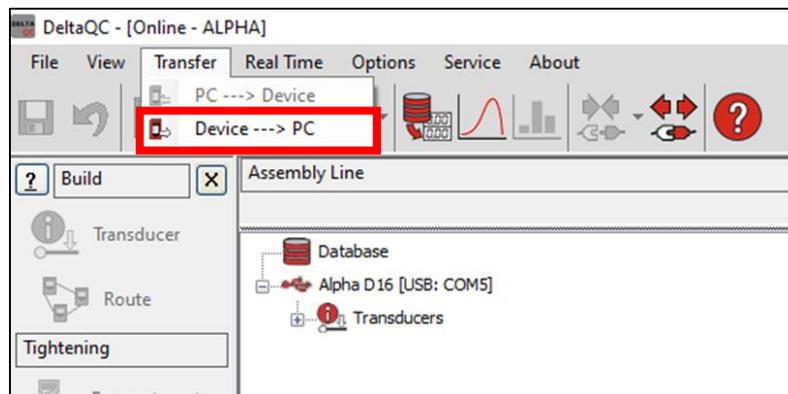
4.2.4 Online mode



NOTE: The *DeltaQC Online mode* is active only when an Alpha is connected to the PC.

4.2.4.1 Transfer online data to the database

Results and curves defined online can be saved in the local database file by selecting **Transfer** → **Device** → **PC** in the toolbar of the main DeltaQC screen:

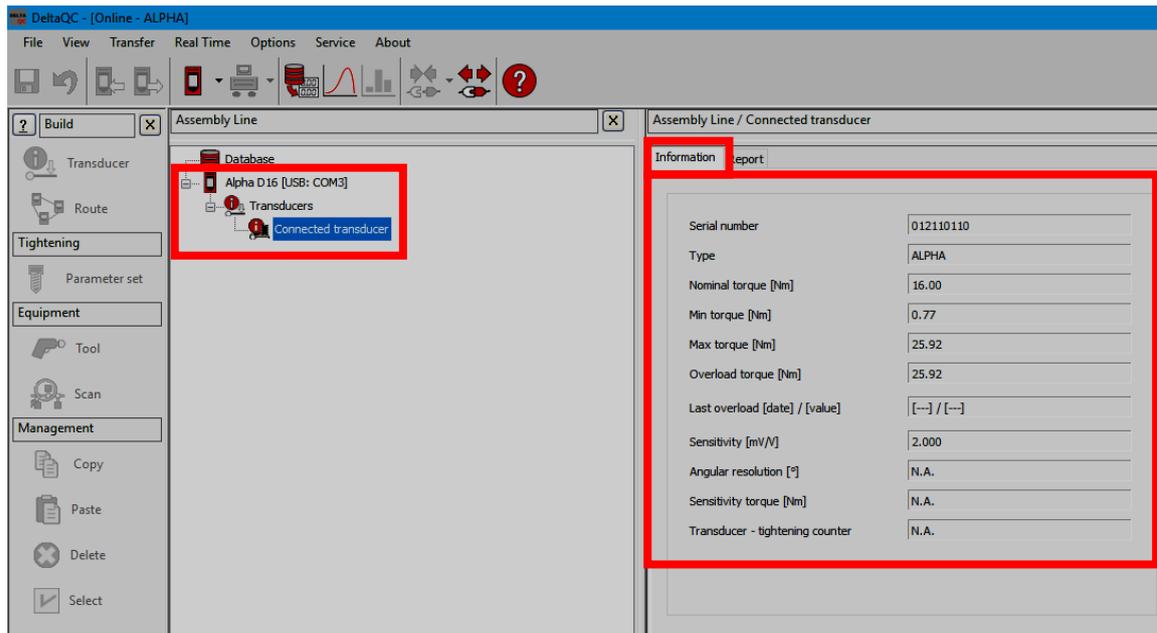


On the dialog box, select the items (*Results* and/or *Curves*) to be transferred from the Alpha to the local database (on the PC) and click **Save** to confirm.



4.3 Alpha transducer information

In the **Transducer** → **Connected transducer** menu it is possible to view the details of the Alpha transducers:



The following data are available in the above **Information** page:

Serial number	Transducer serial number (in general different from the Alpha serial number).
Type	Alpha type.
Nominal torque	This value is the capacity value written on the Alpha. Generally, it differs slightly from the real capacity of the Alpha (specified in the Max. Torque).
Min. Torque	Minimum load of the Alpha, that is equal to the 1% of the <i>Max torque</i> .
Max. Torque	Torque capacity of the Alpha.
Overload torque	Maximum torque applicable to the Alpha without producing damages.
Last overload	Date, time, and value of the last torque overload detected by the connected transducer. <i>This option is not available for the Alpha.</i>
Sensitivity	Sensitivity value of the torque transducer.
Angular resolution	<i>This option is not available for the Alpha.</i>
Sensitivity torque	<i>This option is not available for the Alpha.</i>



In the **Report** area it is possible to see and print a report:

Alpha D16 [ALPHA] - Transducer Report

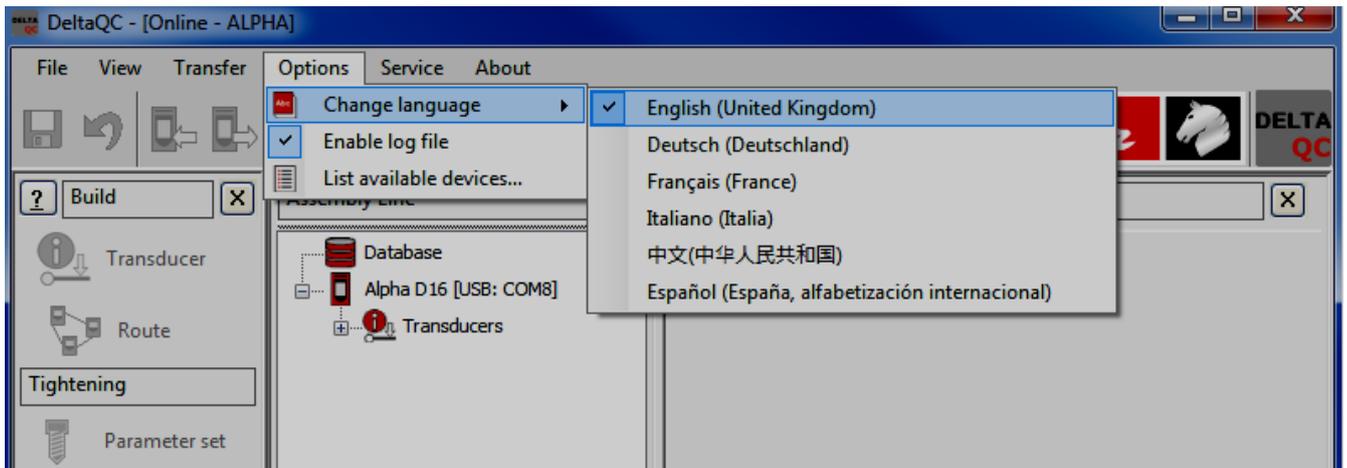
Device SN: AAA-DDD-016	Date: 10/09/2015
Device Firmware Version: 2.2a	Time: 15:54:37

Type:	ALPHA
Serial number:	0123456789
Nominal torque:	16.00 (Nm)
Min torque:	0.64 (Nm)
Max torque:	21.57 (Nm)
Overload torque:	26.97 (Nm)
Sensitivity:	2.000 (mV/V)
Sensitivity torque:	N.A.
Angular resolution:	N.A.

The toolbar in the upper area of the *Report* provides functions to print the report, or export it in Excel or PDF file.

4.4 Settings in DeltaQC

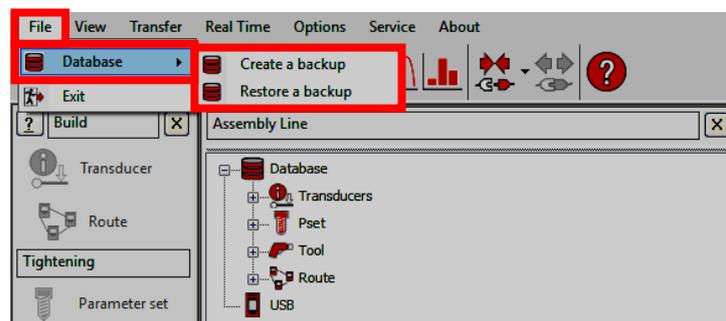
It is possible to set the language from the **Options** → **Change language** menu:



NOTE: After changing the language, restart the software to make the change effective.

4.5 Database backup

From the **File** tab it is possible to create and restore a database backup.



To create a database backup file, click on the tab **File** → **Database** → **Create a backup**.
 From the dialog box that opens (see the figure below):

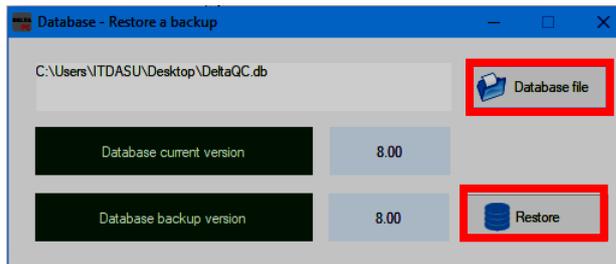
1. Click on the **Folder** button to select the destination folder.
2. Click on the **Create** button.



At the end of the process, a confirmation message informs that the database backup file is created with success.

To restore a database backup, click on the tab **File** → **Database** → **Restore a backup**.
 From the dialog box that opens (see the figure below):

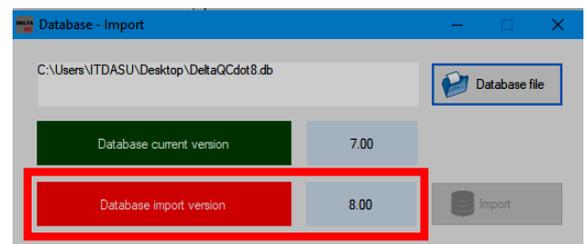
1. Click on the **Database file** button to select the database to import.
2. Click on the **Restore** button.



At the end of the process, a confirmation message informs that the database backup file is restored with success.



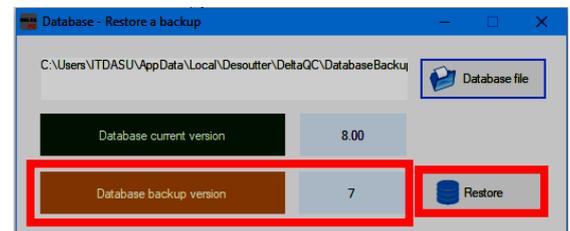
NOTE: If the database to restore is characterized by a version higher than the destination database, it is marked in red and it is not possible to restore it (see the figure on the right):



Upgrade DeltaQC Software to the latest version in order to complete the operation. For further information, refer to the paragraph "*DeltaQC software upgrade*".



NOTE: If the database to restore is characterized by a version lower than the database current version, it is marked in yellow (see the figure on the right):



Click on the **Restore** button, and then on **Yes** in the dialog box that opens.

From the *DeltaQC - Database Migration* window, click on **Start** to execute the database migration and wait until the process is completed.

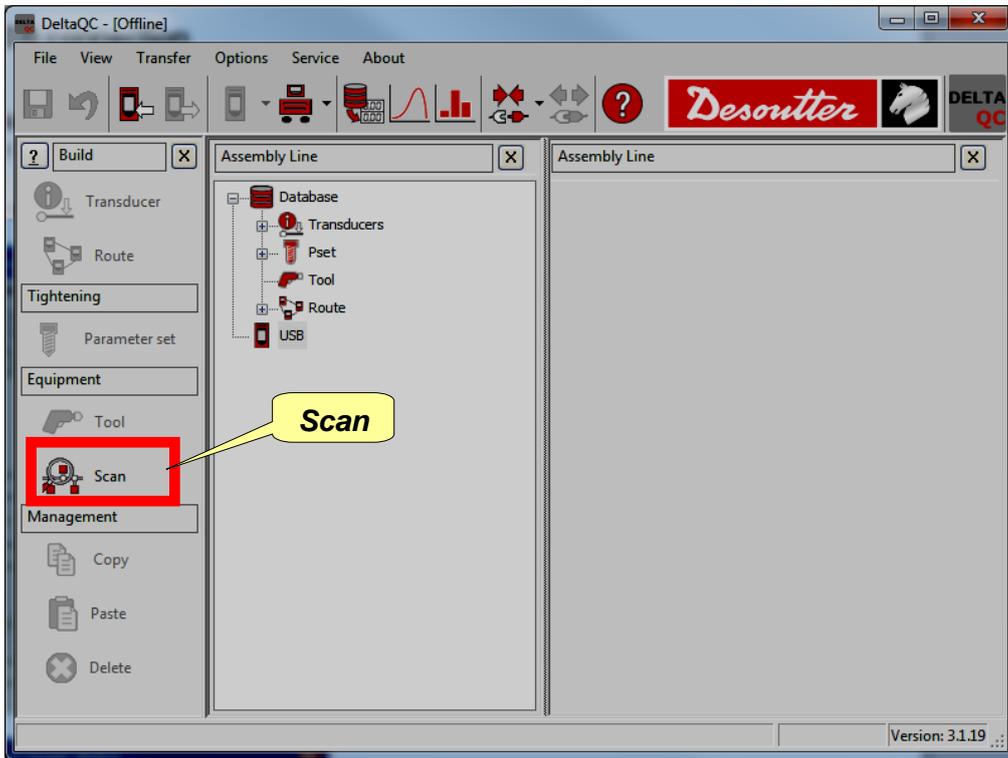
The operation may take a few minutes, depending on the size of the database; a green progress bar indicates the status of the operation.

At the end of the process, the message "**Migration completed with success!**" is shown in the window.

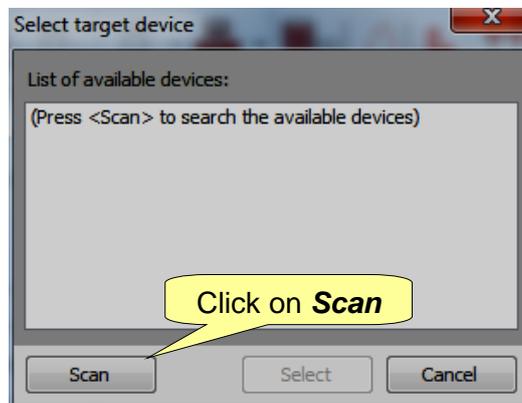
4.6 Connecting to the Alpha

The connection between the DeltaQC and the Alpha is performed via USB cable.

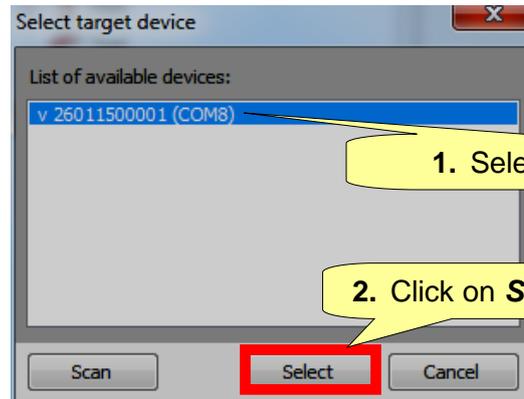
After connecting the Alpha to the PC with the DeltaQC software for the first time, select **Scan** (refer to the screen below):



After selecting **Scan**, the following screen is shown:



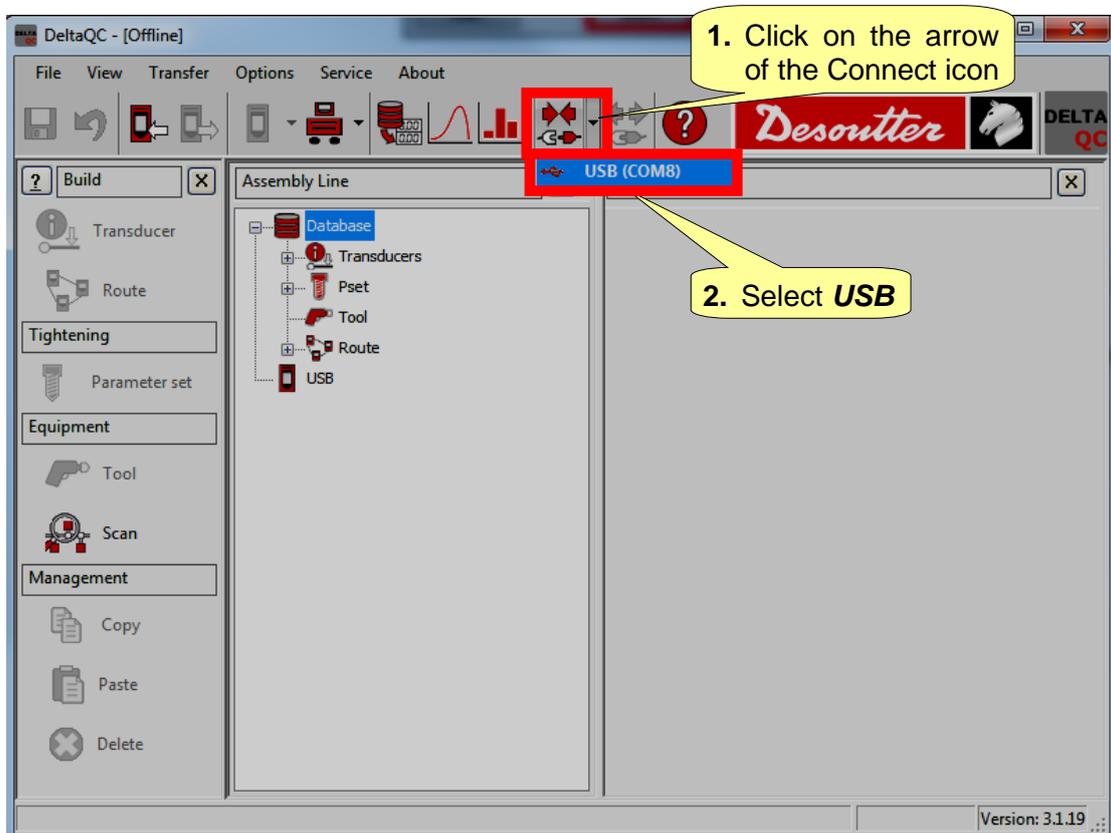
After clicking on **Scan**, select the available Alpha from the list; then click on **Select**.



NOTE: This operation is necessary only once.

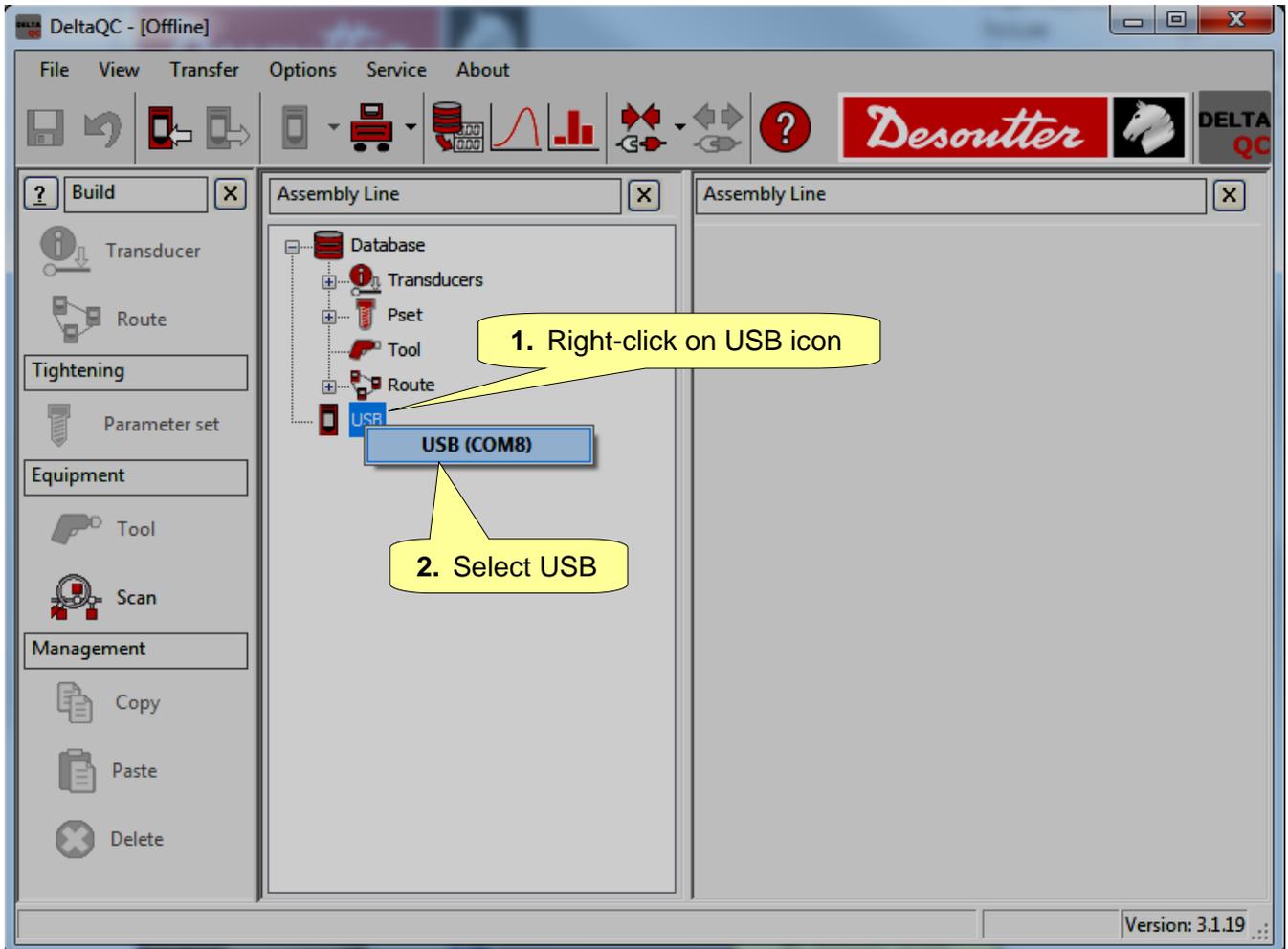
After the first time, perform the following steps:

- Launch the DeltaQC software.
- Turn on the Alpha and wait for its startup (the main menu is shown on the display).
- Connect the Alpha to the PC through USB cable (with the Alpha already turned on).
- Click on the arrow of the **Connect** icon placed on the main toolbar and select USB to establishes the connection between the Alpha and the PC:

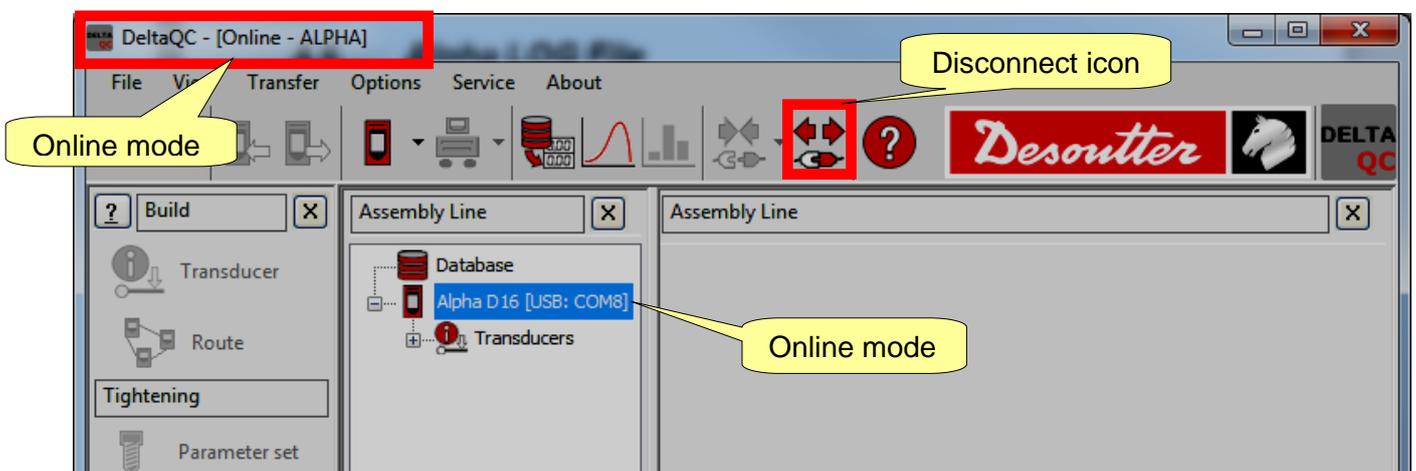




NOTE: To establish the connection between the Alpha and the PC, it is also possible to right-click on *USB* icon in the *Assembly Line* area (refer to the screen below):



When the Alpha is connected, the **Connect** icon is disabled and the **Disconnect** icon is active:

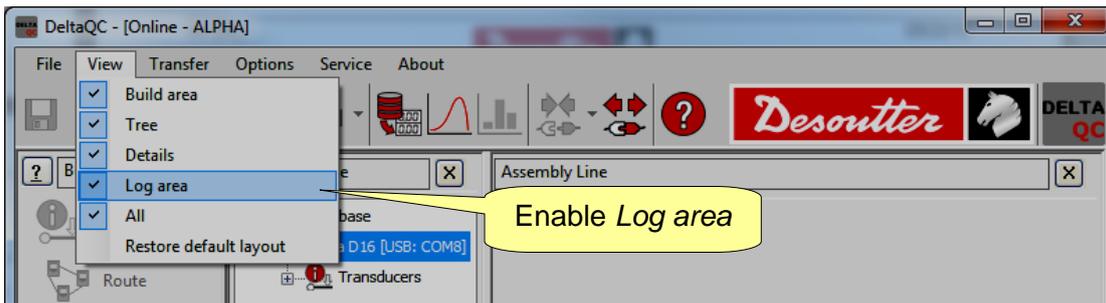




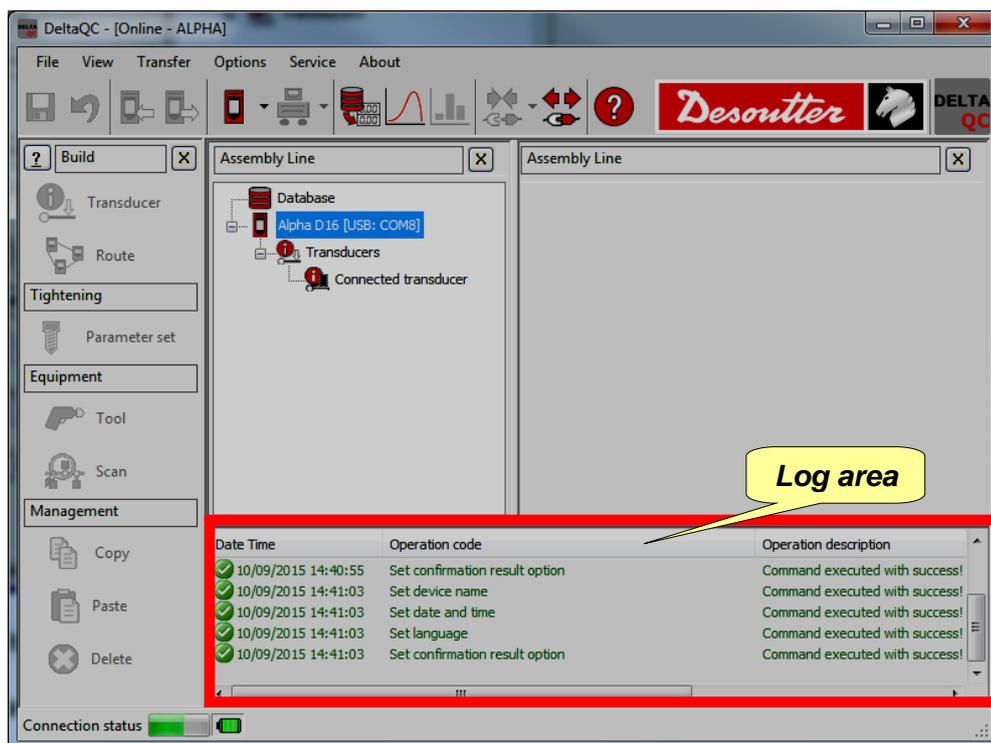
4.7 Alpha LOG Viewer

The **Log viewer** function allows to obtain information about the Alpha – DeltaQC communication. However, this function is more helpful when working with devices that create tightening programs from the software and transfer them to the online device.

To enable the **Log area** click on “Log area” command placed in *View* option of the toolbar (refer to the paragraph “Menu list” for further details):



The messages related to Alpha – DeltaQC communication are displayed in the log area:



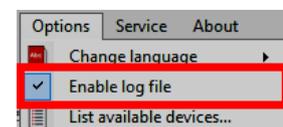
A “Log file” is automatically created in a subfolder of the installation directory of the DeltaQC (typically: **C:\Program Files\Desoutter\DeltaQC\Log**).



NOTE: A new file is created each day the software is used; the old files can be deleted.



NOTE: The “Log file(s)” option can be enabled or disabled in the menu **Options** → **Enable log file**.





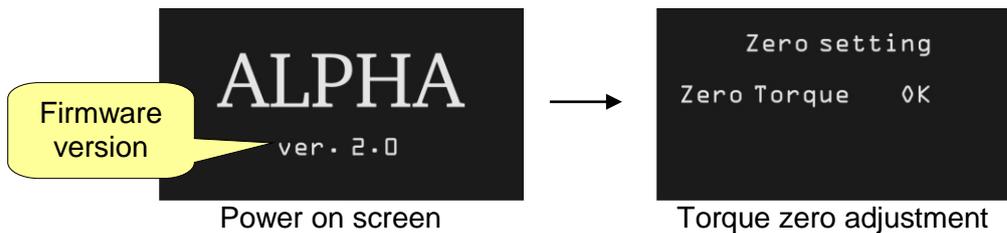
5 GETTING STARTED WITH ALPHA

The Alpha is powered by the internal battery.



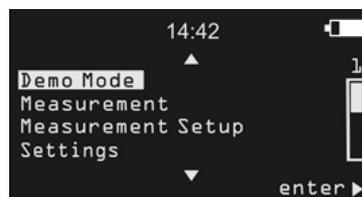
NOTE: Connect the external power supply when the battery level is low.

To turn on the Alpha, press the **ON** button placed on the Alpha keyboard; to turn it off, press the **OFF** button (even placed on the Alpha keyboard) and hold it down for few seconds. The power on screen is shown for few seconds, followed by the torque zero adjustment. Thus, the firmware version is displayed:



NOTE: Do not apply any torque to the transducer during the power on phase, due to the fact that the instrument needs to execute a zero procedure for proper operations.

After the power on sequence, the main menu is shown on the display:



Main menu

- **Demo Mode** This option enters the demo mode (Track and Peak functions).
- **Measurement** This menu manages a test on a tool.
- **Measurement Setup** This option defines the setup parameters for the click-wrenches test, nutrunners test, pulse tools and peak test.
- **Settings** This menu customizes the Alpha settings.
- **Transducer Info** This option gives information about the Alpha capacity, minimum load and overload capacity. The minimum load and the overload value can be set from this menu.



NOTE: After 90 seconds of inactivity, the Alpha enters the Power Save Mode, reducing the display brightness. Press any button on the keyboard to exit the Power Save Mode.



5.1 Executing a Demo Test

The *Demo Mode* executes a test (track or peak mode) by accessing the Alpha from the keyboard without the need to set the test.



NOTE: In this mode the results are not saved in the Alpha memory.

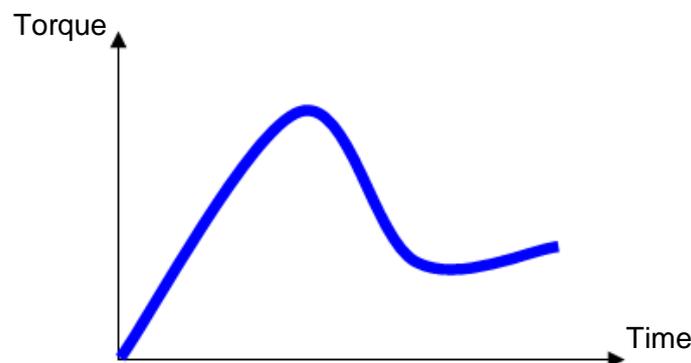
To execute a *Demo Test*, select **Demo Mode** from the main menu:



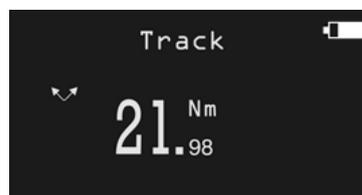
NOTE: The Demo Mode measurement unit can be set in the **Settings** menu of the Alpha.

5.1.1 Track

Track mode can be used to execute a very simple tightening operation in which the operator tightens the screw at the desired torque, monitoring the torque applied on the Alpha display.



In **Track** mode, the Alpha displays the applied torque in real time.



Torque can be applied in either the clockwise (positive torque) or counterclockwise (negative torque) direction.

By clicking on the **OK** button on the keyboard the Alpha executes a torque zero adjustment.



NOTE: The zero adjustment is applied only for this test; it is not applied as a global zero reference for the Alpha.



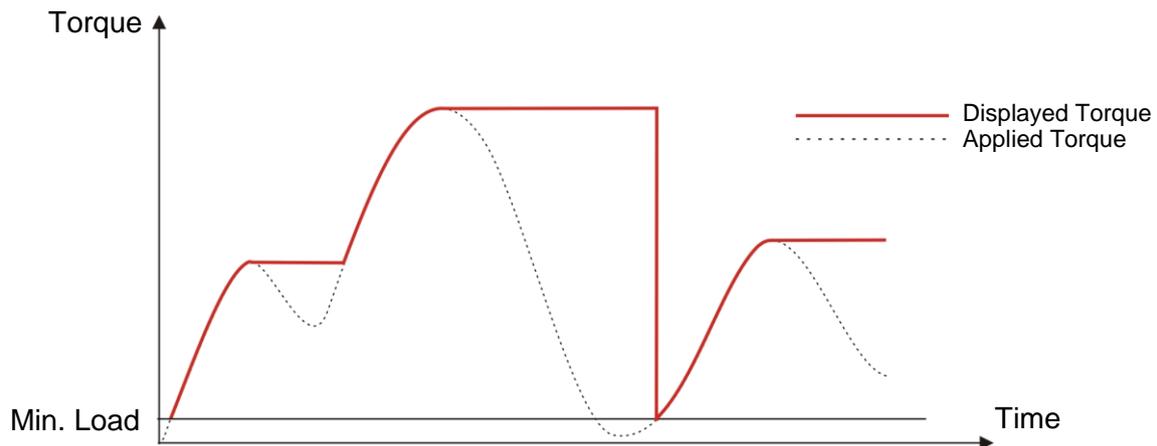
NOTE: The cutoff frequency for the **Track** test is 100 Hz.



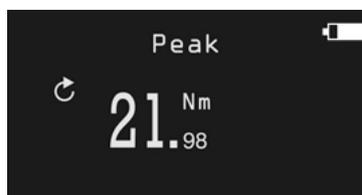
5.1.2 Peak

As for **Track** mode, **Peak** mode can be used to perform a very simple tightening operation in which the operator tightens the screw at the desired torque, monitoring the torque applied on the Alpha display.

In **Peak** mode, the maximum value reached during tightening remains frozen on the Alpha display.



The Alpha displays torque in real time, starting from the *Min. Load* value, and the peak value (measured on the torque) is frozen on the display:



A new cycle starts when the applied torque is released, and applied again over the *Min. Load* of the Alpha.

By clicking on the **OK** button on the Alpha keyboard the torque value is reset.

The torque must be applied in the clockwise direction.



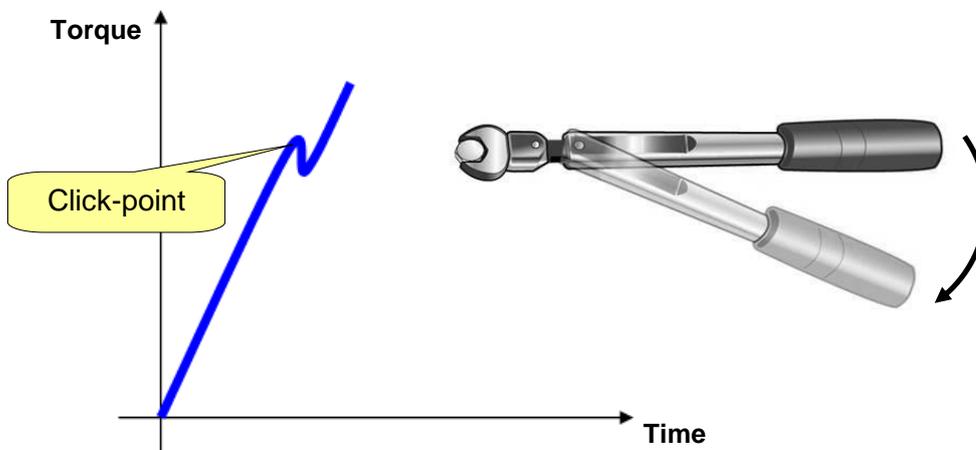
NOTE: The cutoff frequency for the **Peak** test is 100 Hz.



6 TESTING CLICK-WRENCHES



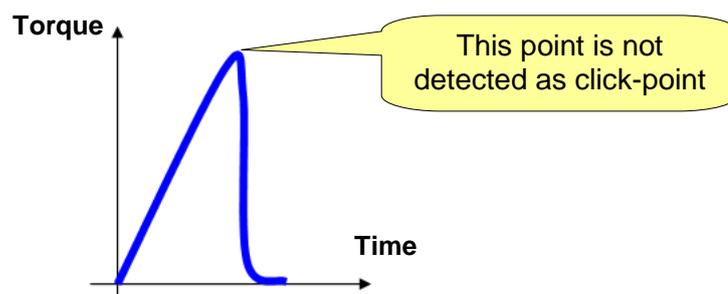
The goal of the “*Click-wrench Test*” is to detect the “*click-point*” of the wrench:



The click-point is detected when the torque drops down and then increases again, producing the typical shape of the “*click*” phenomenon (refer to the following examples):



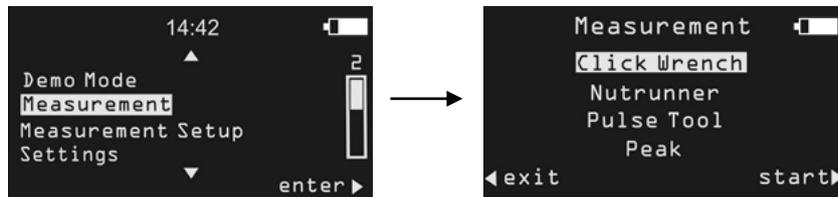
If the torque only drops down to zero (without increasing again) after a peak-point (as shown in the figure below), the click-point is not detected. For this reason, slip-wrenches cannot be tested with this method (slip-wrenches should be tested with the *peak-wrench* function):



If the test ends and the click-point is not detected, the message “*not detected*” is shown on the display. In this case the result is the “*torque absolute peak*”.



To perform the “Click-wrench Test”, select **Measurement** → **Click Wrench** from the main menu:



During the “Click-wrench Test”, the torque result and statistics are displayed:



The display background color changes according to the tightening phase and result:

Blue	Default color used for Pset execution.
Green	The display turns green if the click-point is detected.
Red	Click-point not detected or torque over the overload value.

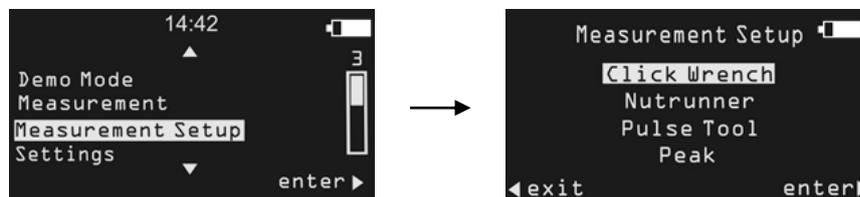
The buzzer is activated as follows:

Buzzer	Three high tones are emitted if the click-point is detected. A lower tone is emitted if the click-point is not detected.
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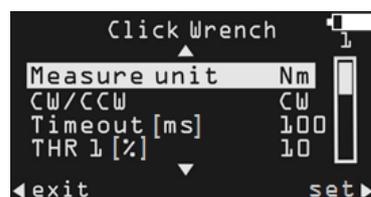
6.1 Test Setup for Click-wrenches

The regulation of the click-wrench test parameters is important to adjust and customize the test process.

Select the **Measurement Setup** → **Click Wrench** from the main menu:



The following screen is displayed:



Scroll the parameters by means of the **UP/DOWN** buttons (placed on the Alpha keyboard) and press **OK** to edit. Finally, press **OK** again to confirm the new value or **CL** to quit without saving.



6.1.1 Measurement unit

The “**Measurement unit**” area allows the user to select the desired measurement unit between the following: *Nm, dNm, kpm, Ozfin, Ozfft, Lbfin, Lbfft, kgfcm, kgfm*.

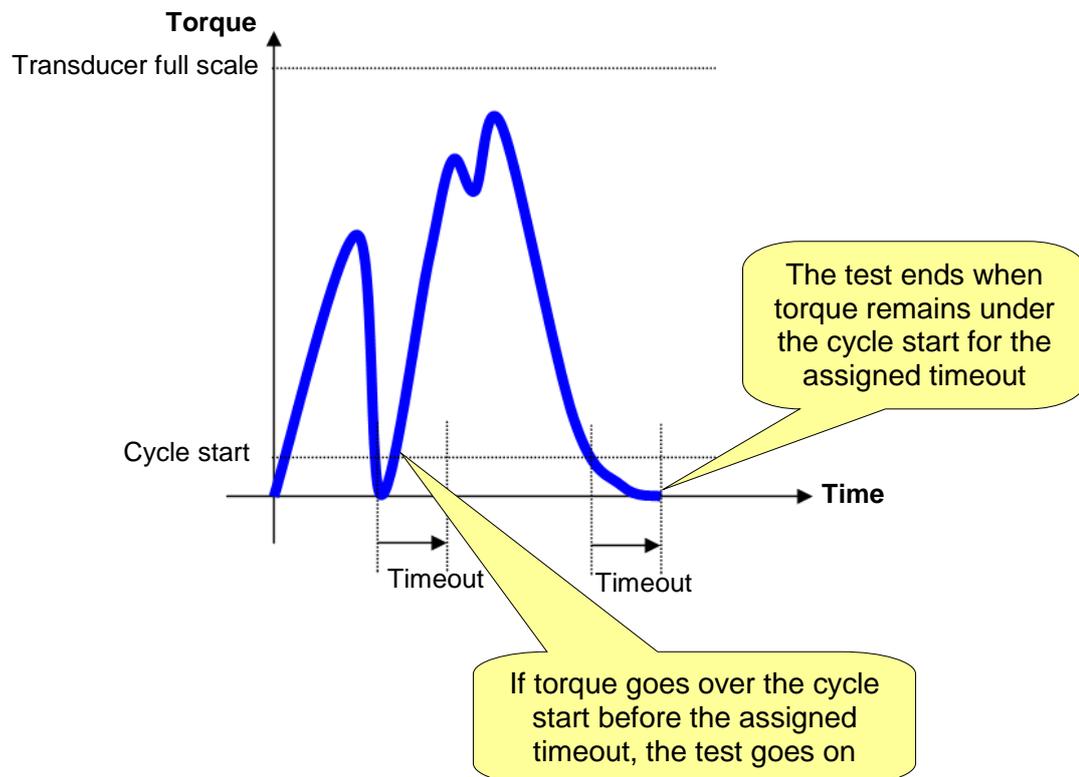
6.1.2 Tightening direction

The “**Tightening direction**” area allows the user to select one of the following options:

- **CW**: The test must be executed in the clockwise direction.
- **CCW**: The test must be executed in the counterclockwise direction.
- **CW&CCW**: The test can be executed in both the directions. When the torque goes over the minimum load, the test starts and considers positive the direction of the torque applied.

6.1.3 Timeout

The “**Timeout**” area defines the end of the test. When the torque is below the cycle start for the assigned timeout, the test ends.



NOTE: The “**Timeout**” can be set from *100 ms* up to *2000 ms*. The default value is *100 ms*.

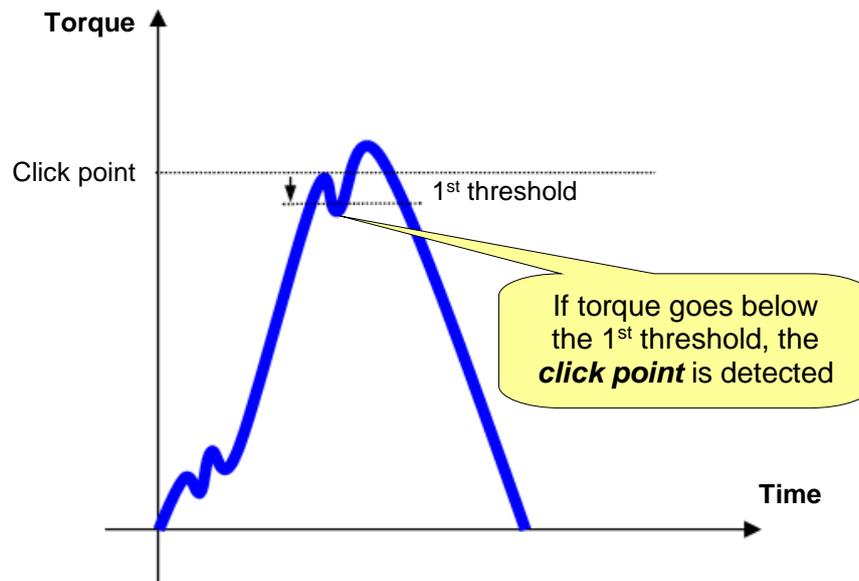


6.1.4 1st threshold (THR 1)

The “**1st threshold**” is used to detect the click point of the wrench.

The torque must continuously decrease from the measured peak at least for the specified value, in order that it can be considered the **click point**.

The **1st threshold** default value is 5%, and it is calculated on the relative torque peak value reached during the test:

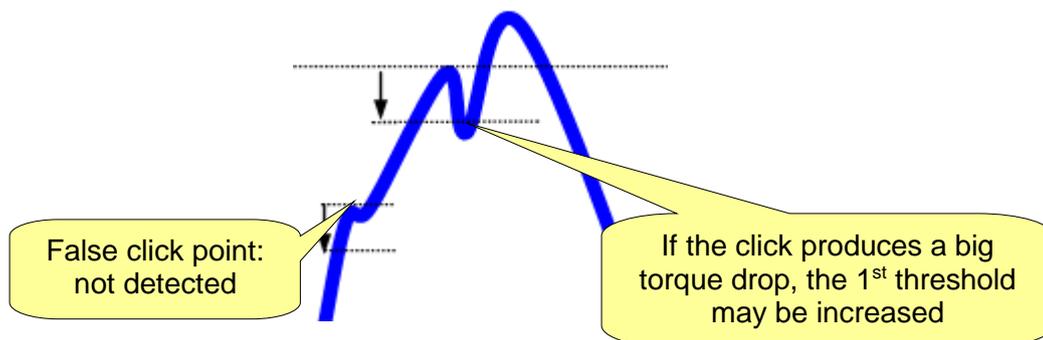


For instance, if the peak is 100 Nm and the **1st threshold** is set to 5%, the torque must go under 95 Nm, in order that it can be considered the **click point**.

The default value suits many of the click-wrenches.

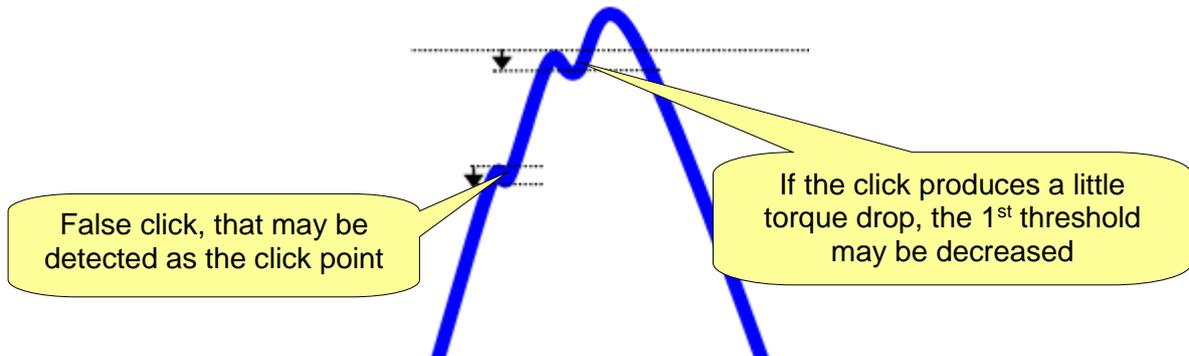
However, it might be necessary to adjust it according to the specific wrench that is testing.

For example, if the **click point** produces a big drop in the torque, the **1st threshold** may be increased, in order to avoid detecting false **click points** at lower torque values (refer to the following figure):





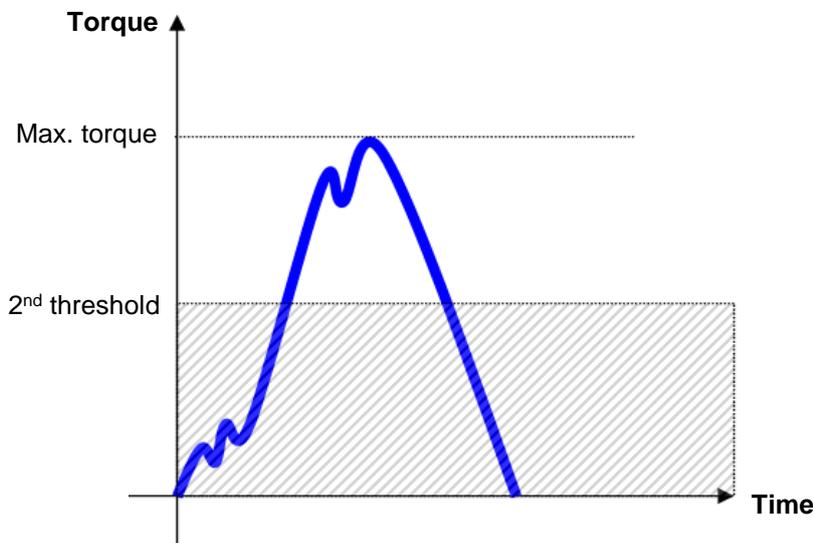
On the other side, if the **click point** produces only a little drop in the torque, the **1st threshold** may be decreased in order to detect the **click point**.



NOTE: By decreasing the threshold, the risk to detect false **click points** increases.

To summarize, the **1st threshold** must be set neither too low (in order to avoid the detection of false click) nor too high (in order to detect the real click point).

6.1.5 2nd threshold (THR 2)



The "**2nd threshold**" is used to exclude all the part of the curve below a certain value from the analysis, where false click may occur if the operator movement is not enough steady.

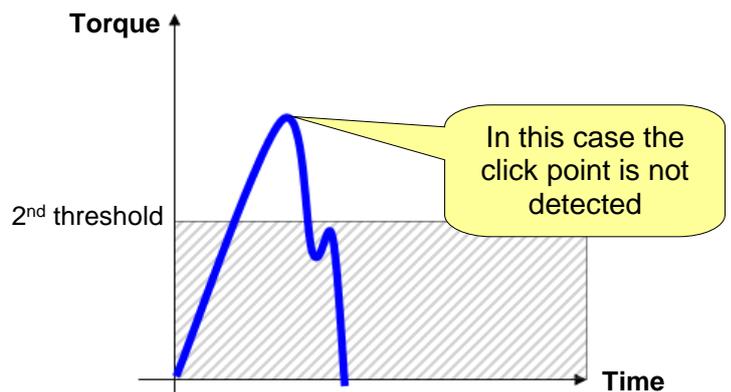
The **2nd threshold** default value is 70% and it is calculated on the maximum torque value reached during the test.

Under the specified threshold the torque is not considered by the Alpha.



NOTE: All the "click" phenomena, including the point when the torque starts increasing again after the "click", must be over the **2nd threshold**.

If not, the **click point** is not detected:





6.1.6 Cutoff frequency (F_{cut})

The “**Cutoff frequency**” can be set to 100, 200, 500 or 1000 Hz: this is applied to the samples measured by the torque transducer in order to filter the noise.

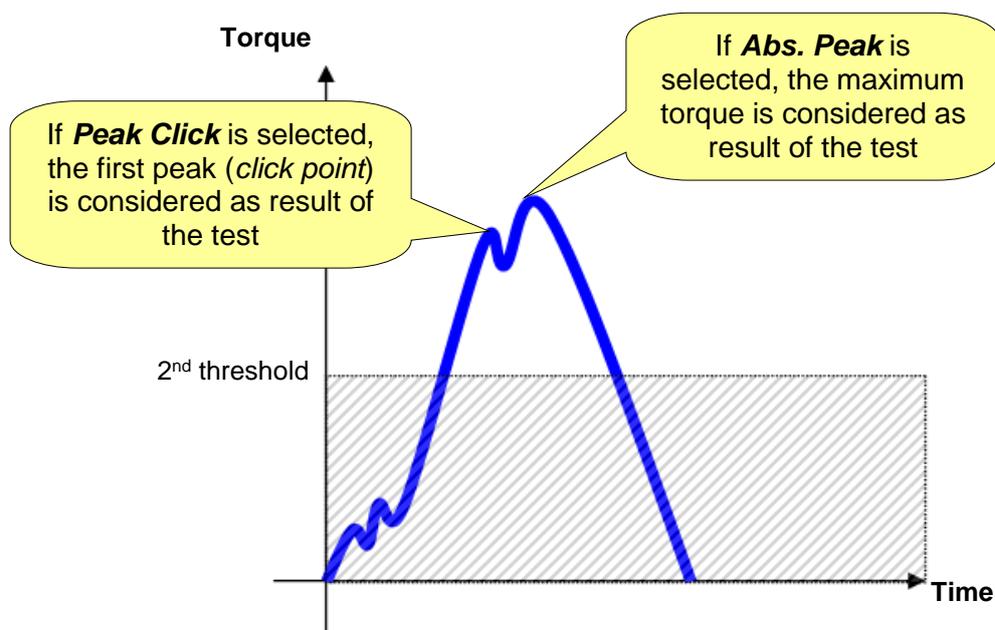
The default value is 100Hz, that is a convenient value for most of the click-wrenches. However, it may be necessary to increase this value (for the tools where the default value does not suit the specific tool characteristics).

6.1.7 Result

The “**Result**” area defines which peak must be regarded as *torque result*.

If **Peak Click** is selected, the first peak (*click point*) is considered as result of the test (refer to the figure below).

If **Abs. Peak** is selected, the maximum torque is considered as result of the test (refer to the figure below).



6.1.8 Cycle start

The “**Cycle start**” area defines the torque level where the test starts and (after the *timeout*) ends.

It is expressed in percentage (%) in comparison with the Alpha capacity. Furthermore, it can range from the Minimum Load (defined in the Transducer Info – refer to the paragraph “*Transducer*” for further details) to the Alpha capacity.

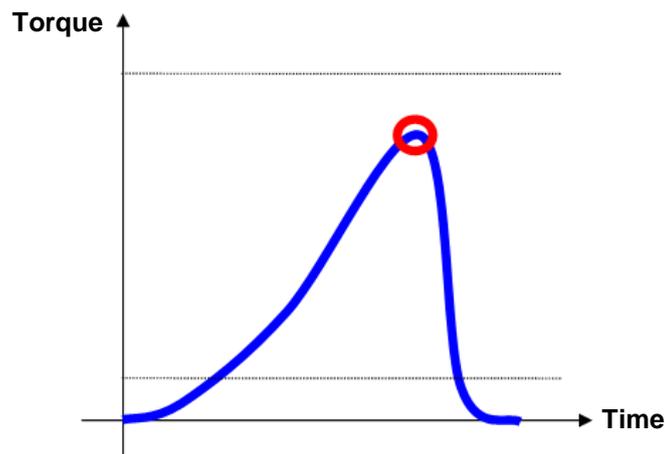


7 TESTING NUTRUNNERS

The “**Nutrunners**” are those tools that provide real torque to the joint (for example *battery tools*, *pneumatic tools (not impulse)* and *electronic controlled tools*).



During “*nutrunner test*”, the torque result shown by the Alpha is the peak value measured during the test.



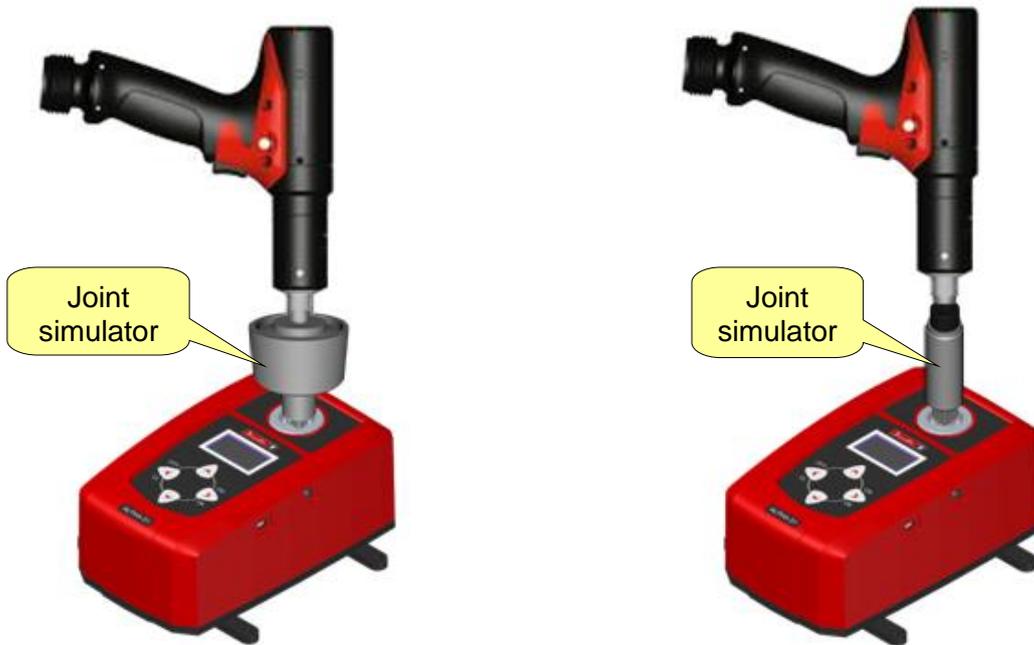
NOTE: In case of multiple peaks, the result is the first peak.



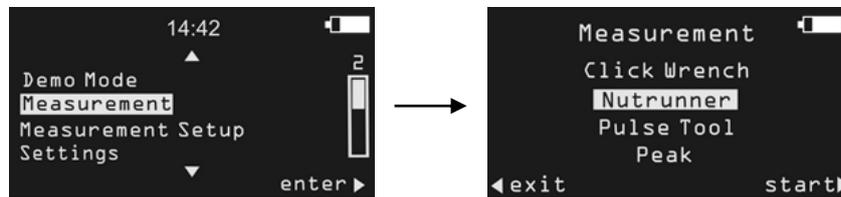
NOTE: It is MANDATORY that the peak must satisfy the two thresholds specified (refer to the paragraph “*1st threshold and 2nd threshold (THR 1 and THR 2)*” for further details).



To test a power tool on the Alpha, a mechanical joint simulator must be used in order to let the tool rotating (refer to the figures below):



To perform the “Nutrunner Test”, select **Measurement** → **Nutrunner** from the main menu:



During the “Nutrunner Test”, the torque result and statistics are displayed:



The display background color changes according to the tightening phase and result:

Blue	Default color used for Pset execution.
Green	The display turns green if the peak-point is detected.
Red	Peak-point not detected or torque over the overload value.

The buzzer is activated as follows:

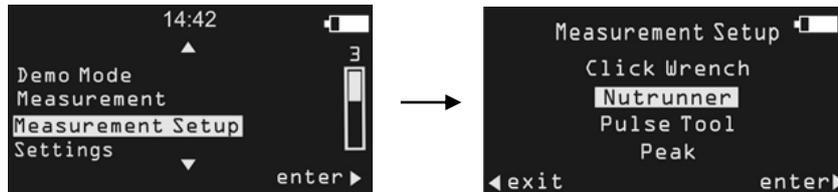
Buzzer	Three high tones are emitted if the peak-point is detected. A lower tone is emitted if the peak-point is not detected.
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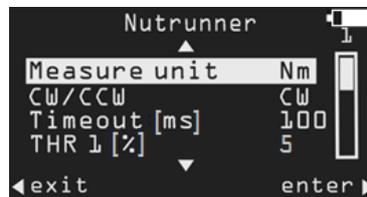
7.1 Test Setup for Nutrunner Test

The regulation of the nutrunner test parameters is important to adjust and customize the test process.

Select the **Measurement Setup** → **Nutrunner** from the main menu:



The following screen is displayed:



Scroll the parameters by means of the **UP/DOWN** buttons (placed on the Alpha keyboard) and press **OK** to edit. Finally, press **OK** again to confirm the new value or **CL** to quit without saving.

7.1.1 Measurement unit

The “**Measurement unit**” area allows the user to select the desired measurement unit between the following: *Nm, dNm, kpm, Ozfin, Ozfft, Lbfin, Lbfft, kgfcm, kgfm*.

7.1.2 Tightening direction

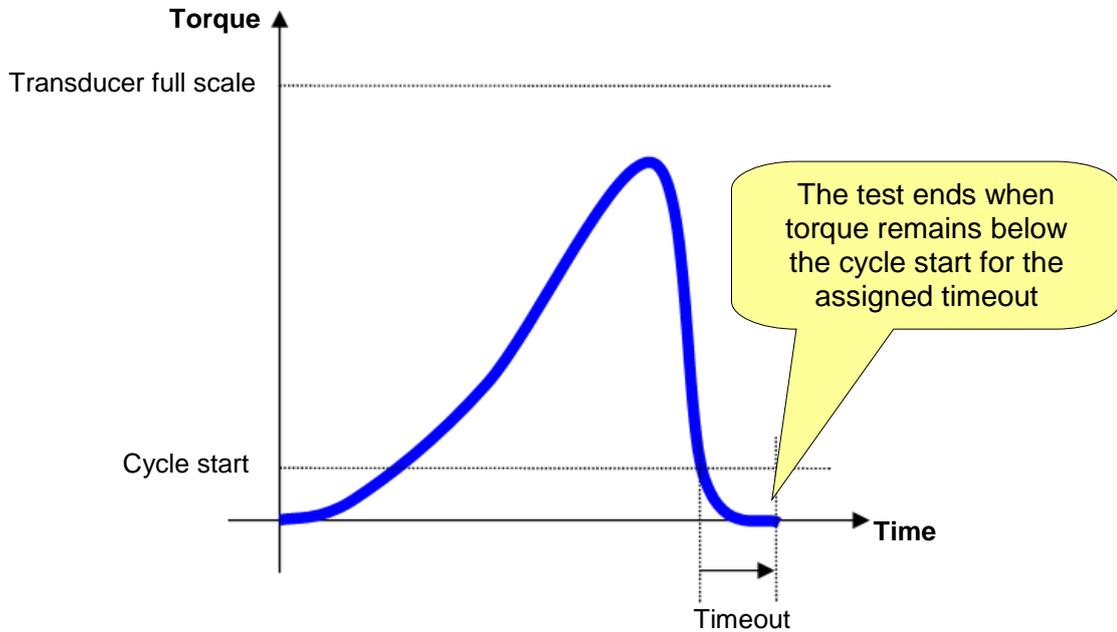
The “**Tightening direction**” area allows the user to select one of the following options:

- **CW** : The test must be executed in the clockwise direction.
- **CCW** : The test must be executed in the counterclockwise direction.
- **CW&CCW**: The test can be executed in both the directions. When the torque goes over the minimum load, the test starts and considers positive the direction of the torque applied.

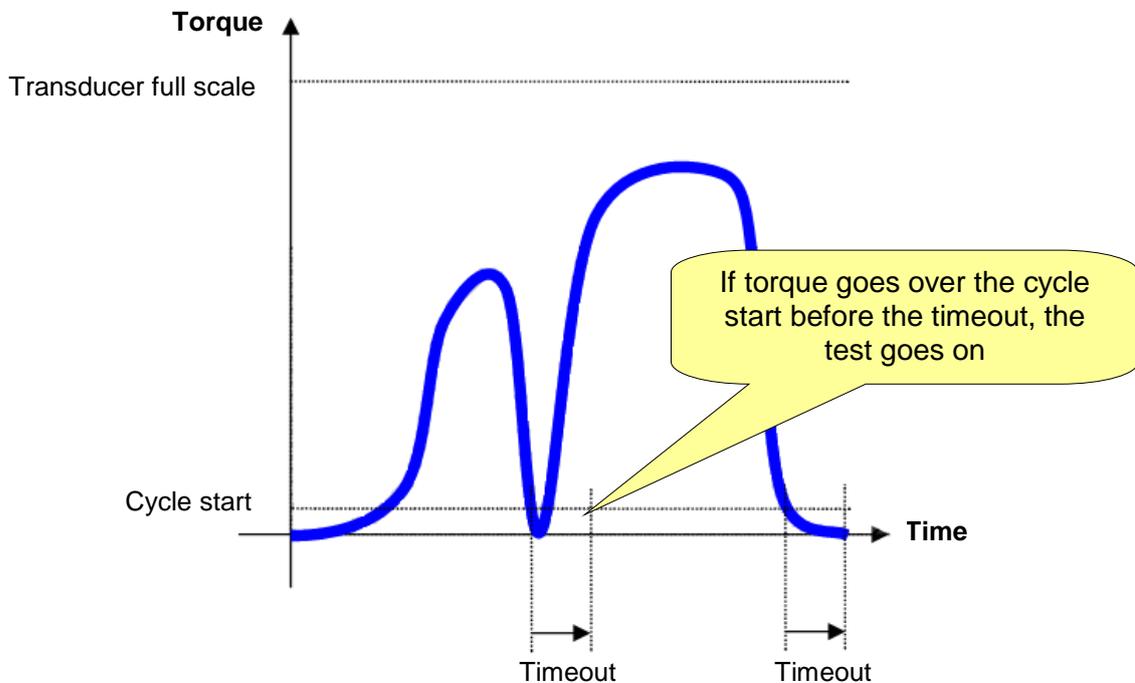


7.1.3 Timeout

The “**Timeout**” area defines the end of the test. When the torque is below the cycle start for the assigned timeout, the test ends.



For two-steps tools, it allows the tool to switch between the two steps without ending the test.



NOTE: The “**Timeout**” can be set from 100 ms up to 2000 ms. The default value is 100 ms.



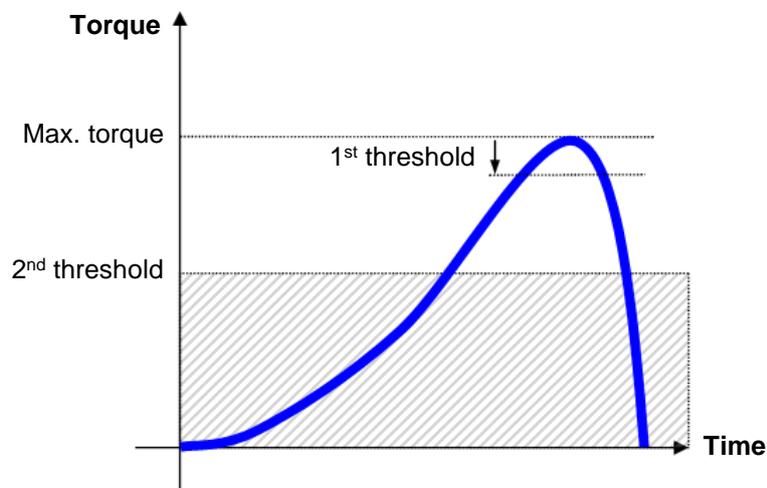
7.1.4 1st threshold and 2nd threshold (THR 1 and THR 2)

The two thresholds are used to setup the test for the type of tool under test.

The “**1st threshold**” is used to detect the peak value of the torque. The torque must continuously decrease from the measured peak at least for the specified value.

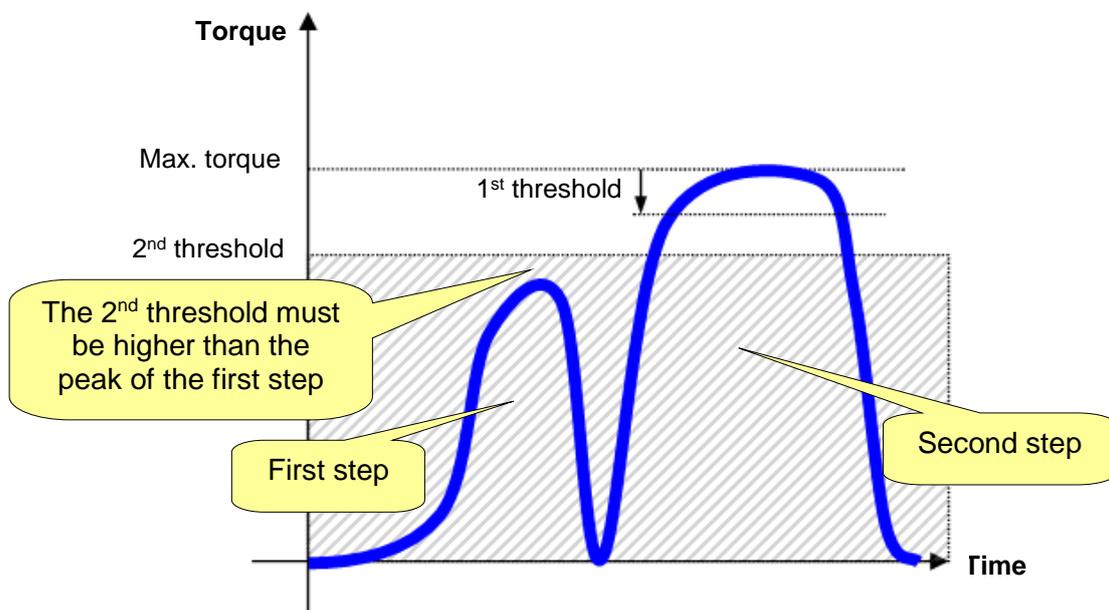
The **1st threshold** default value is 5%, and it is calculated on the relative torque peak value reached during the test.

The “**2nd threshold**” is used to exclude from the analysis all the parts of the curve below a certain value, where there may be noise. The **2nd threshold** default value is 80%, and it is calculated on the maximum torque value reached during the test. Under the specified threshold the torque is not considered by the Alpha.



For instance, if the peak is 100 Nm and the **1st threshold** is set to 5%, the torque must go under 95 Nm.

For a generic nutrunner these settings should be not critical and the default value should suit almost all of the tools. For quickstep or two-steps tools, the **2nd threshold** is used to exclude the first step from the measurement; if it is not set properly, the peak of the first step is considered as result of the test:





7.1.5 Cutoff frequency (Fcut)

The “**Cutoff frequency**” can be set to 100, 200, 500 or 1000 Hz: this is applied to the samples measured by the torque transducer in order to filter the noise.

The default value is 500Hz. However, it may be necessary to increase/decrease this value (for the tools where the default value does not suit the specific tool characteristics).

7.1.6 Cycle start

The “**Cycle start**” area defines the torque level where the test starts and (after the *timeout*) ends.

It is expressed in percentage (%) in comparison with the Alpha capacity. Furthermore, it can range from the Minimum Load (defined in the Transducer Info – refer to the paragraph “*Transducer*” for further details) to the Alpha capacity.



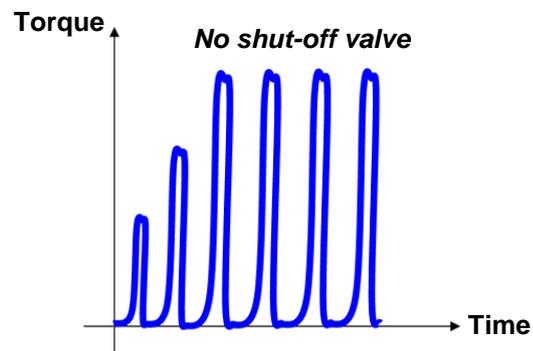
8 TESTING PULSE TOOLS

The “**Pulse Tools**” provide a set of pulses to tighten the joint.

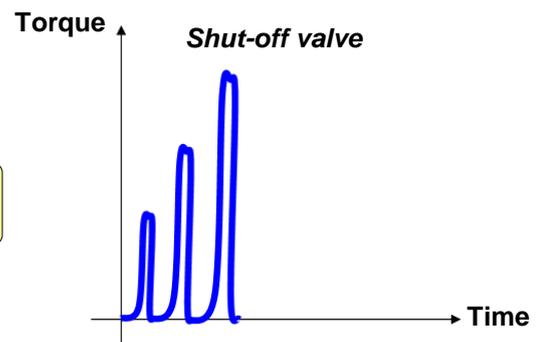
A *Pulse Tool* can be tested on the Alpha.



NOTE: If the *Pulse Tool* has the shut-off valve, one of the two mechanical joint simulators provided with the Alpha must be used:



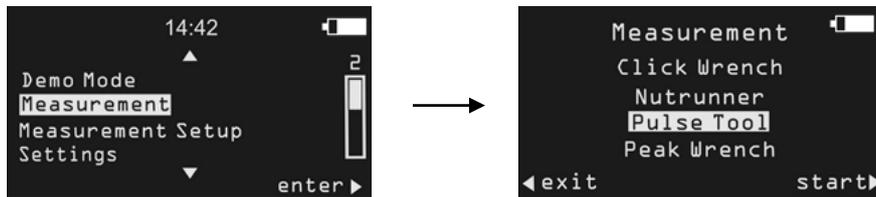
Joint simulator



WARNING: Impact tools cannot be tested on the Alpha.



To perform the “Pulse Tool Test”, select **Measurement** → **Pulse Tool** from the main menu:



During the “Pulse Tool Test”, the torque result, statistics and pulse tool frequency are displayed:



The display background color changes according to the tightening phase and result:

Blue	Default color used for Pset execution.
Green	The display turns green if the result is within the transducer overload.
Red	Torque over the overload value.

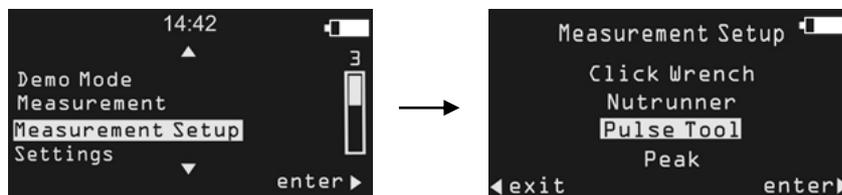
The buzzer is activated as follows:

Buzzer	Three high tones are emitted if the peak-point is detected.
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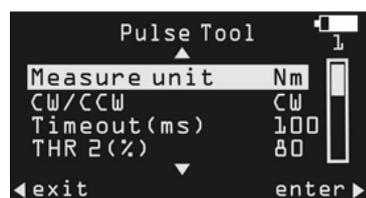
8.1 Test Setup for Pulse Tool Test

The regulation of the pulse tool test parameters is important to adjust and customize the test process.

Select the **Measurement Setup** → **Pulse Tool** from the main menu:



The following screen is displayed:



Scroll the parameters by means of the **UP/DOWN** buttons (placed on the Alpha keyboard) and press **OK** to edit. Finally, press **OK** again to confirm the new value or **CL** to quit without saving.



8.1.1 Measurement unit

The “**Measurement unit**” area allows the user to select the desired measurement unit between the following: *Nm, dNm, kpm, Ozfin, Ozfft, Lbfin, Lbfft, kgfcm, kgfm*.

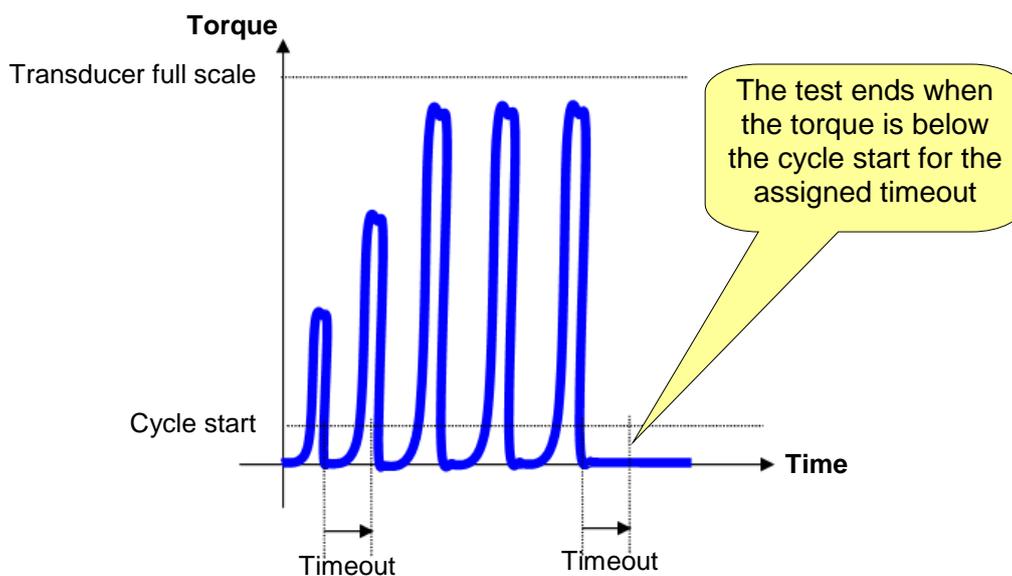
8.1.2 Tightening direction

The “**Tightening direction**” area allows the user to select one of the following options:

- **CW**: The test must be executed in the clockwise direction.
- **CCW**: The test must be executed in the counterclockwise direction.
- **CW&CCW**: The test can be executed in both the directions. When the torque goes over the minimum load, the test starts and considers positive the direction of the torque applied.

8.1.3 Timeout

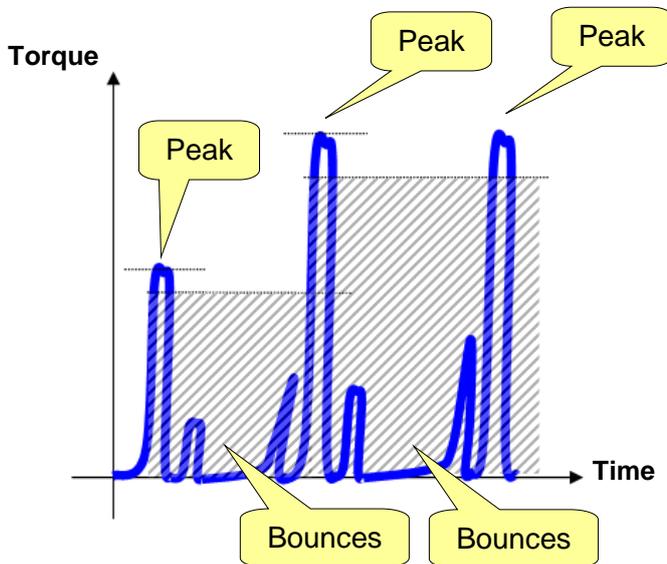
The “**Timeout**” area defines the end of the test. When the torque is below the cycle start for the assigned timeout, the test ends.



NOTE: The “**Timeout**” can be set from 100 ms up to 2000 ms. The default value is 100 ms.



8.1.4 Threshold (THR 2)



The “**Threshold**” area is used in order to filter the curve for proper peak detection: this is useful for the frequency calculation. Once detecting every peak, all the values under the threshold are discarded. This action filters all the bounces always present in a pulse tightening.

The “**Threshold**” default value is 80%.

8.1.5 Cutoff frequency (Fcut)

The “**Cutoff frequency**” can be set to 100, 200, 500, 1000 or 2000 Hz: this is applied to the samples measured by the torque transducer in order to filter the noise.

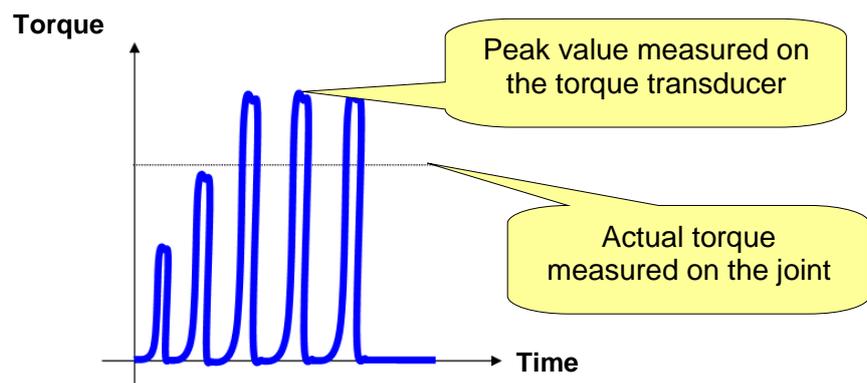
The default value is 2000Hz. However, it may be necessary to decrease this value (for the tools where the default value does not suit the specific tool characteristics).

8.1.6 Torque coefficient (K tuning)

Pulse Tools do not provide a continuous torque output; they generate a single high energy pulse with very short duration ($\approx 1\text{ms}$). This set of pulses results in the tightening of a fastener. The final torque reached cannot be measured directly (as for real torque tools), due to the physical characteristics of the tool. The reason is that the *Pulse Tools* provide a very high torque for such a short time that only a part of these peaks is translated into the tightening of the fastener (generating more clamping force). This depends on many factors such as the bolt mass, friction, the stiffness of the joint, etc...

The torque coefficient is used to align the torque measured by the transducer with the real torque produced on the joint.

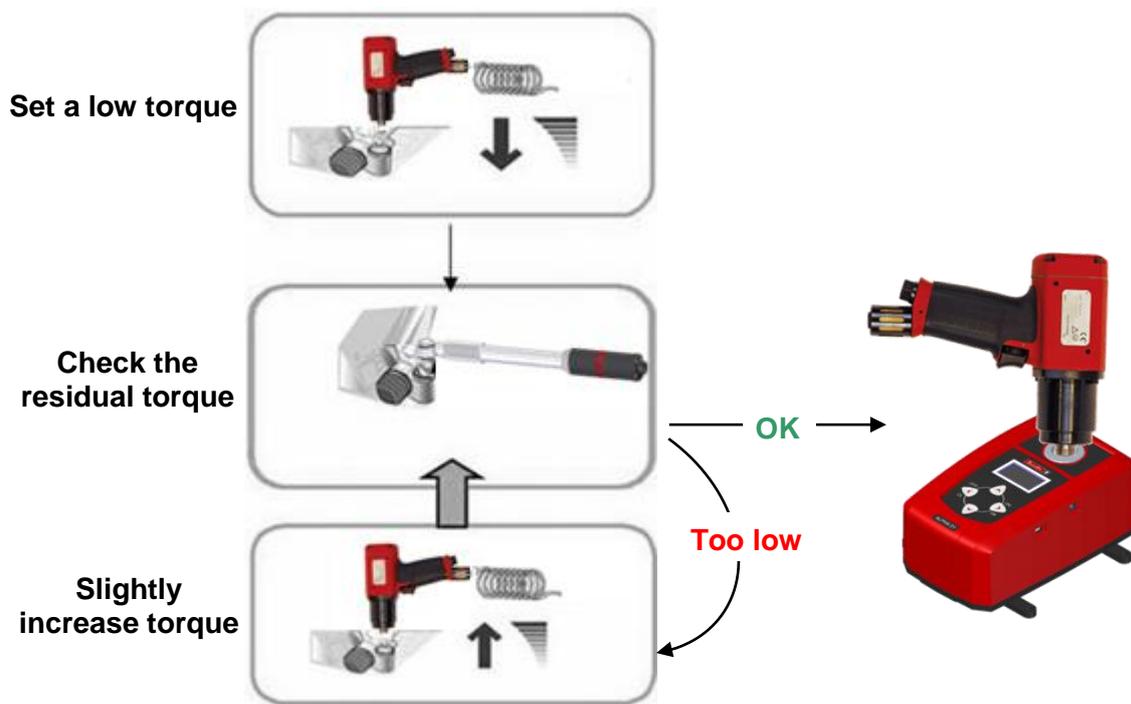
The torque produced on the real joint is always lower (*ideally equal*) than the peak torque measured on the transducer. Therefore, this coefficient can be set to values between 100 and 10000 (the value is entered in thousandths, thus 500 corresponds to 0.500 and 1000 correspond to 1.000).





The only way to evaluate the actual torque is to make a residual torque check on the real joint. The relation between the peak torque measured on the transducer and the actual torque on the joint is affected by all the components: the *Pulse Tools*, the adapters, the transducer and the joint itself. If any of these components is changed, the relation peak torque – actual torque must be recalculated.

The following process must be used to regulate the *Pulse Tool* in order to provide the desired torque on the real joint and to calculate the proper coefficient K:



For instance, consider a target torque for the joint equal to 100 Nm. Once the tool regulation is made, the residual torque check is equal to 100 Nm.

If the torque measured on the transducer is equal to 120 Nm, the coefficient K corresponds to $100/120 = 0.83$; due to the fact that the value is entered in thousandths, the coefficient K is equal to 830.

8.1.7 Cycle start

The “**Cycle start**” area defines the torque level where the test starts and (after the *timeout*) ends.

It is expressed in percentage (%) in comparison with the Alpha capacity. Furthermore, it can range from the Minimum Load (defined in the Transducer Info – refer to the paragraph “*Transducer*” for further details) to the Alpha capacity.



9 PEAK TEST

The “**Peak Test**” provides the maximum torque measured during the test.

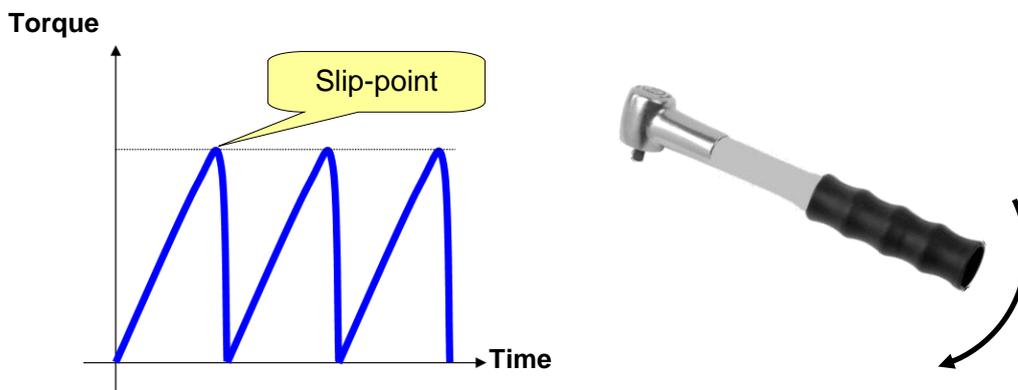


NOTE: The typical application of this method is the test of **Slip-wrenches** (refer to the next paragraph “**Testing Slip-wrenches**” for further details).

9.1 Testing Slip-wrenches

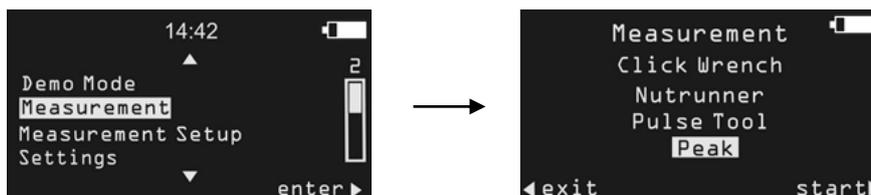


The “**slip-point**” point is the peak value of the curve.



The *torque result* is the peak value measured during the test.

To perform the “**Peak Test**”, select **Measurement** → **Peak** from the main menu:





During the “Peak Test”, the torque result and statistics are displayed:



The display background color changes according to the tightening phase and result:

Blue	Default color used for Pset execution.
Green	The display turns green if the test ends within the transducer overload.
Red	Torque over the overload value.

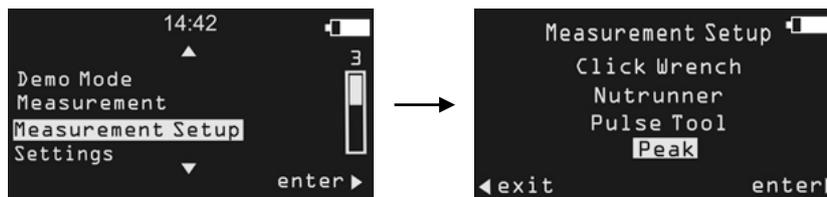
The buzzer is activated as follows:

Buzzer	Three high tones are emitted to advice the user about the end of the test.
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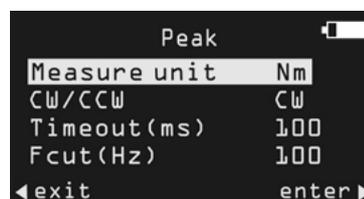
9.2 Test Setup for Peak Test

The regulation of the peak test parameters is important to adjust and customize the test process.

Select the **Measurement Setup** → **Peak** from the main menu:



The following screen is displayed:



Scroll the parameters by means of the **UP/DOWN** buttons (placed on the Alpha keyboard) and press **OK** to edit. Finally, press **OK** again to confirm the new value or **CL** to quit without saving.

9.2.1 Measurement unit

The “**Measurement unit**” area allows the user to select the desired measurement unit between the following: *Nm, dNm, kpm, Ozfin, Ozfft, Lbfin, Lbfft, kgfcm, kgfm*.



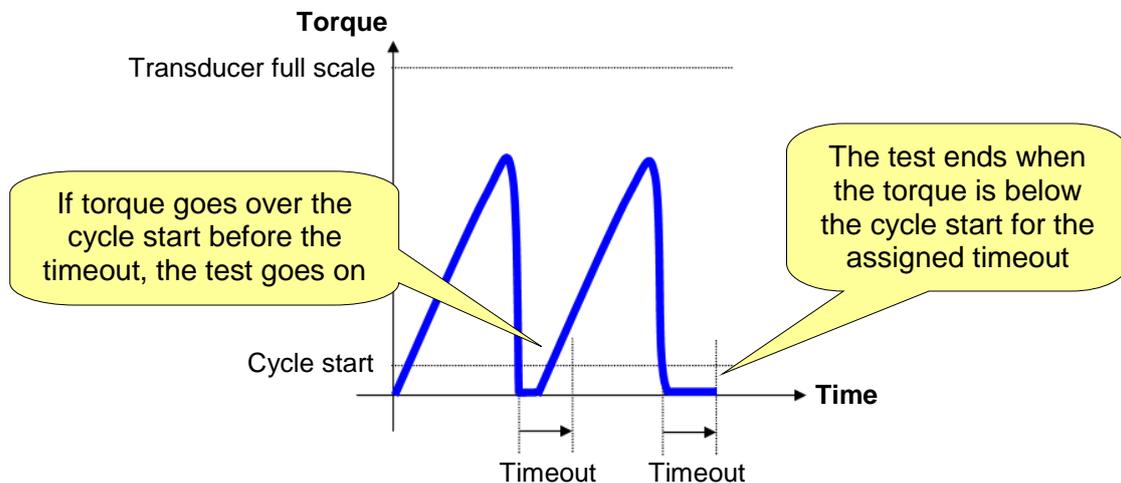
9.2.2 Tightening direction

The “**Tightening direction**” area allows the user to select one of the following options:

- **CW** : The test must be executed in the clockwise direction.
- **CCW** : The test must be executed in the counterclockwise direction.
- **CW&CCW**: The test can be executed in both the directions. When the torque goes over the minimum load, the test starts and considers positive the direction of the torque applied.

9.2.3 Timeout

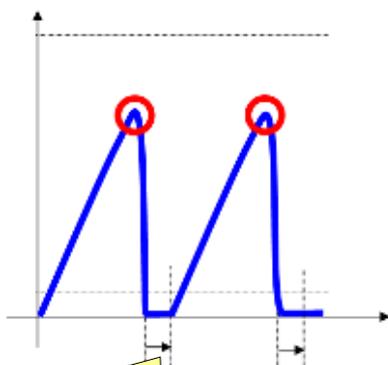
The “**Timeout**” area defines the end of the test. When the torque is below the cycle start for the assigned timeout, the test ends.



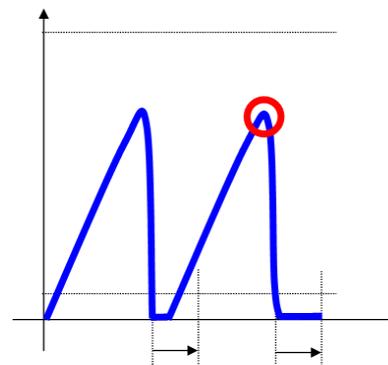
NOTE: The “**Timeout**” can be set from *100 ms* up to *2000 ms*. The default value is *100 ms*.



NOTE: For *Slip-wrenches*, the operator has to operate the wrench until the *slip-point* is reached; then, he has to stop the wrench rotation. When the timeout default value is set, if the operator continues to rotate the wrench producing more *slip-points*, each of them will produce a test result:



With a default **short** timeout, both of the two slip-points will produce a result



Setting a **longer** timeout, only the higher of the two points will produce a result



9.2.4 Cutoff frequency (Fcut)

The “**Cutoff frequency**” can be set to 100, 200 or 500 Hz: this is applied to the samples measured by the torque transducer in order to filter the noise.

The default value is 100Hz. However, it may be necessary to increase this value (for the tools where the default value does not suit the specific tool characteristics).

9.2.5 Cycle start

The “**Cycle start**” area defines the torque level where the test starts and (after the *timeout*) ends.

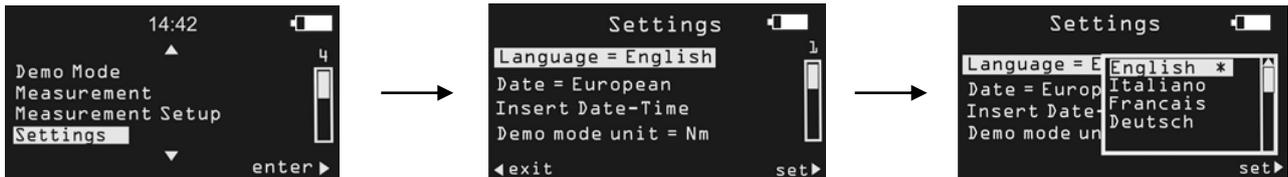
It is expressed in percentage (%) in comparison with the Alpha capacity. Furthermore, it can range from the Minimum Load (defined in the Transducer Info – refer to the paragraph “*Transducer*” for further details) to the Alpha capacity.



10 ALPHA SETTINGS

10.1 Language

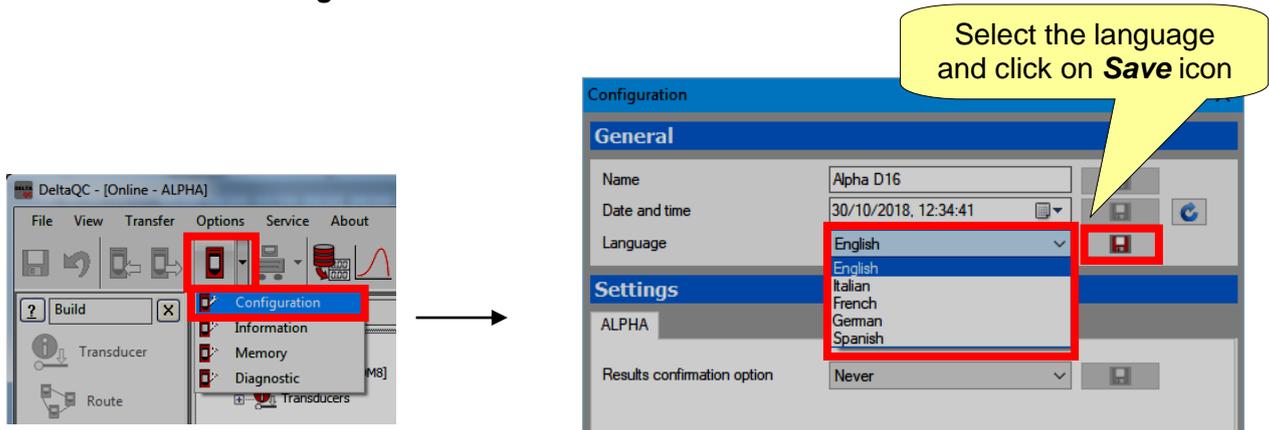
To set the Alpha display language, select **Settings** → **Language** from the Alpha main menu:



Select the language and confirm with the **OK** button on the keyboard.

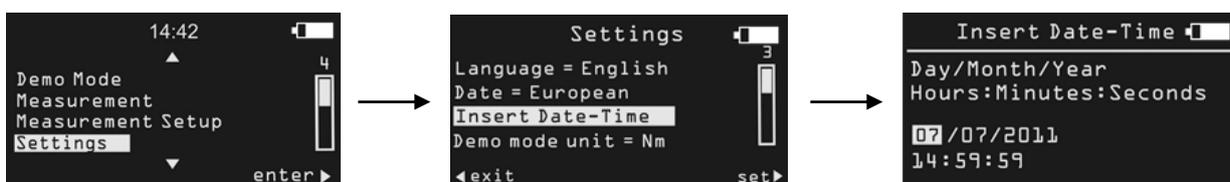


NOTE: It is possible to set the language also by means of the DeltaQC software, by selecting the **Controller** → **Configuration** menu:



10.2 Date - Time

To set the Alpha date and time, select **Settings** → **Insert Date – Time** from the Alpha main menu:



Use the right/left arrows on the keyboard to choose the field to edit, and use the up/down arrows to increase/decrease the selected field.



NOTE: To select either *European* or *American* date format, select **Settings** → **Date** menu.



NOTE: It is possible to set the date and time also by means of the DeltaQC software, by selecting the **Controller** → **Configuration** menu:

Click on the **Refresh** icon to set the date and time of the PC on the Alpha

Select the date and time; then click on the **Save** icon

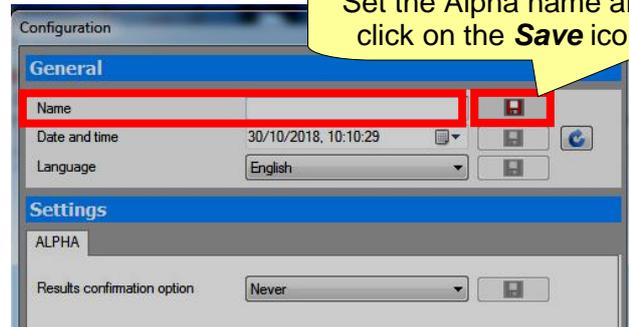
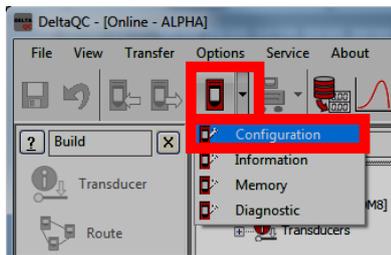
10.3 Demo mode unit

To set the Alpha unit of measurement for the Demo Mode select **Settings** → **Demo Mode unit** from the Alpha main menu:

Select the measurement unit to be used in the Demo Mode menu, and confirm with the **OK** button placed on the keyboard.

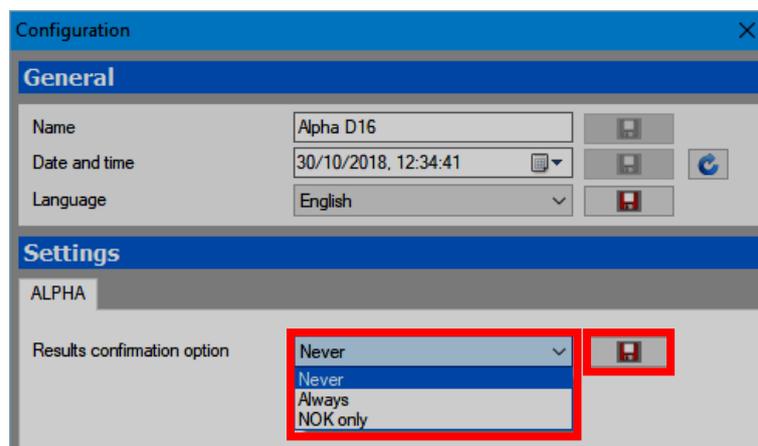
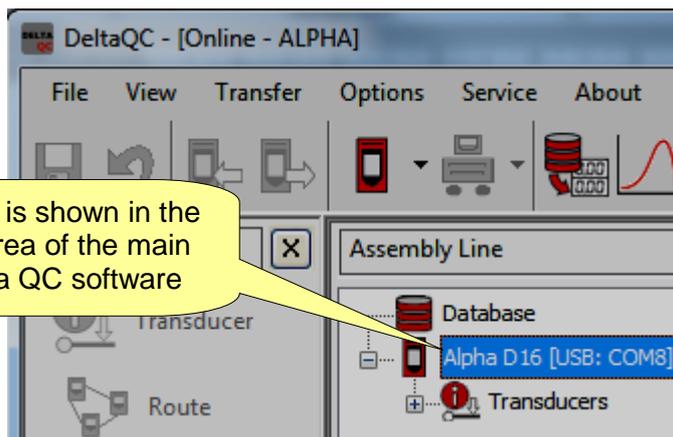
10.4 Alpha Name

The name shown on the software can be set by means of the DeltaQC software, by selecting the **Controller** → **Configuration** menu:



10.5 Result confirmation option

By enabling the “**Result confirmation option**”, the Alpha can manage the results (according to the setting selected). Thus, select the **Controller** → **Configuration** menu:



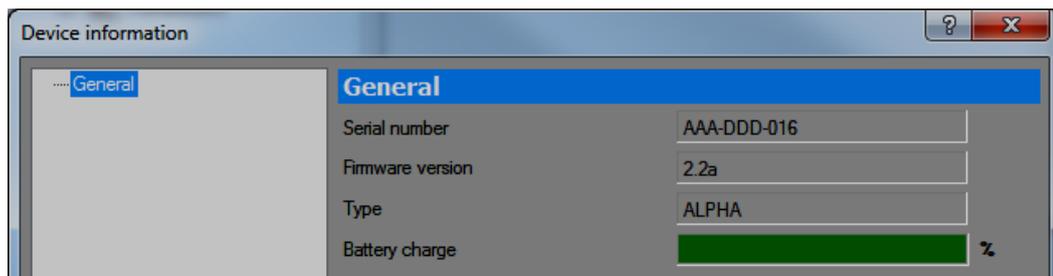
The possible settings are as follow:

- **Never**: Function disabled: each test result is saved in the Alpha memory.
- **Always**: After each test, the Alpha asks the user to accept / discard the result.
- **NOK only**: Only after a test with *Not OK* result, the Alpha asks the user to accept / discard the result.



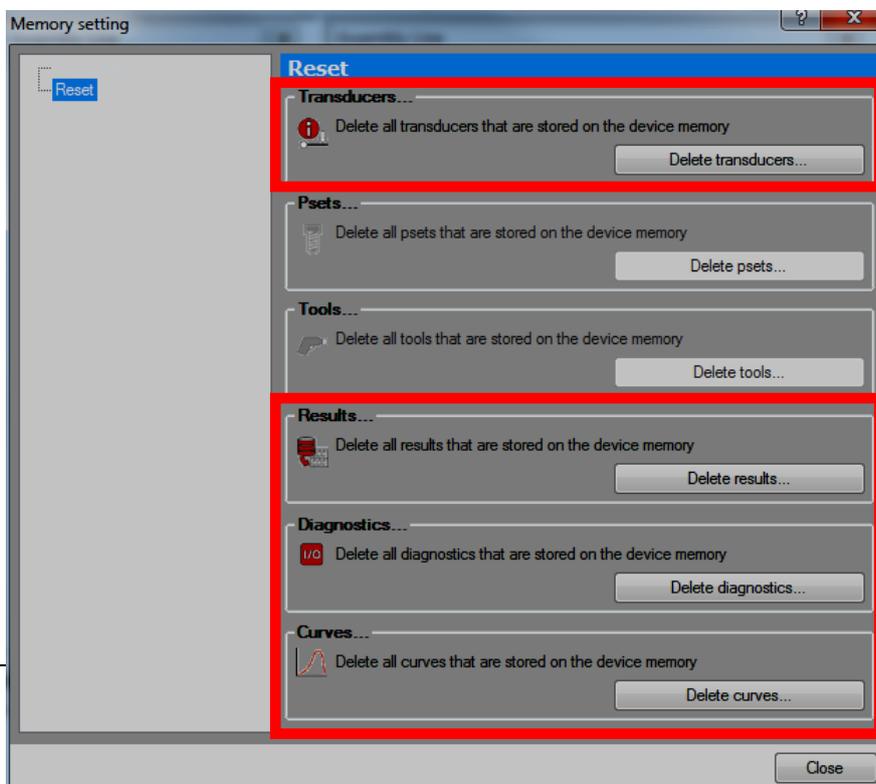
10.6 Information

This window provides some general information about serial number, the firmware version, the Type and the Battery charge status:



10.7 Memory

From the **Controller** → **Memory** menu it is possible to delete the Transducers, the Results, the Diagnostics and the Curves stored into the Alpha memory:







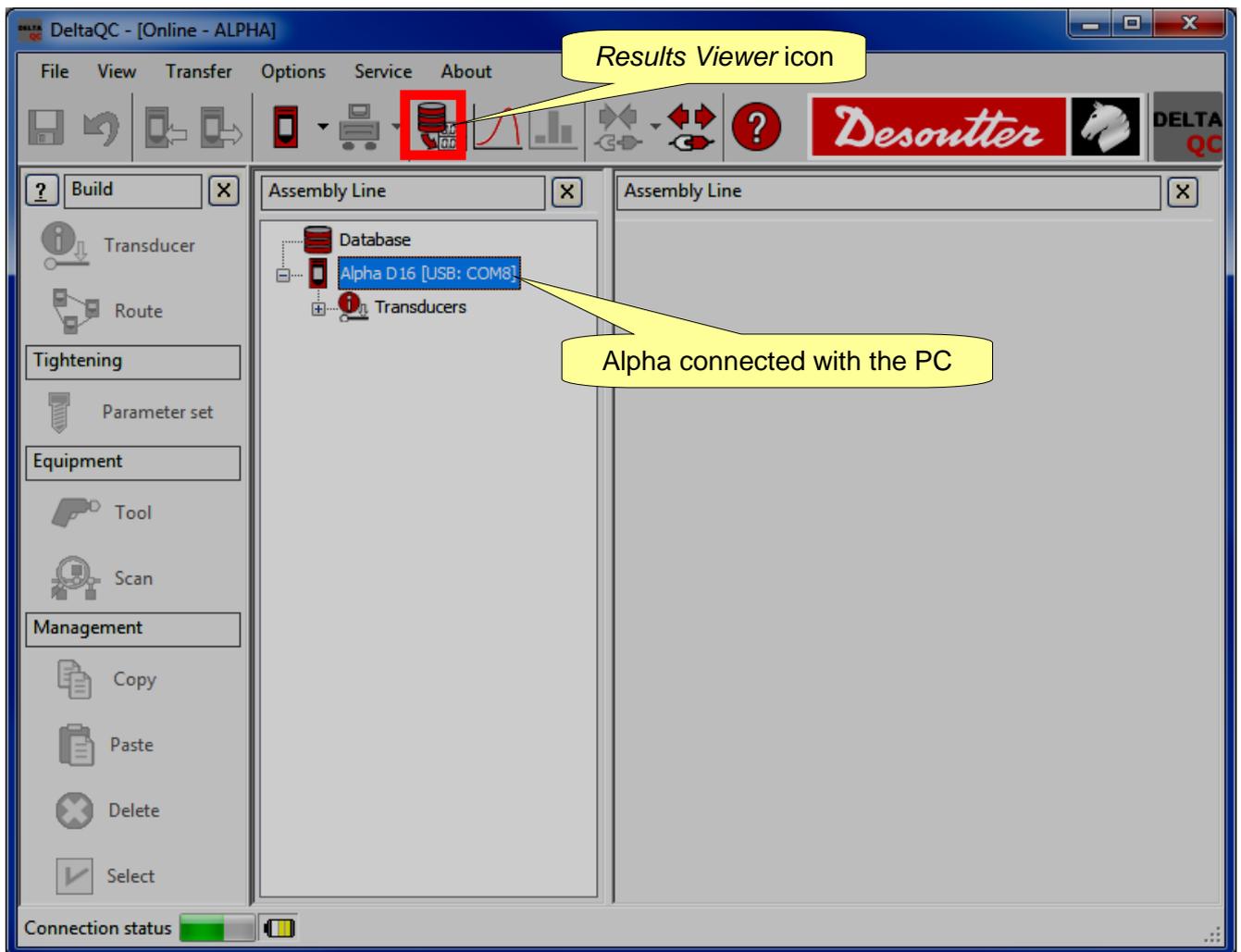
11 RESULTS VIEWER



The **Results viewer** function allows the user to retrieve the results from the Alpha.

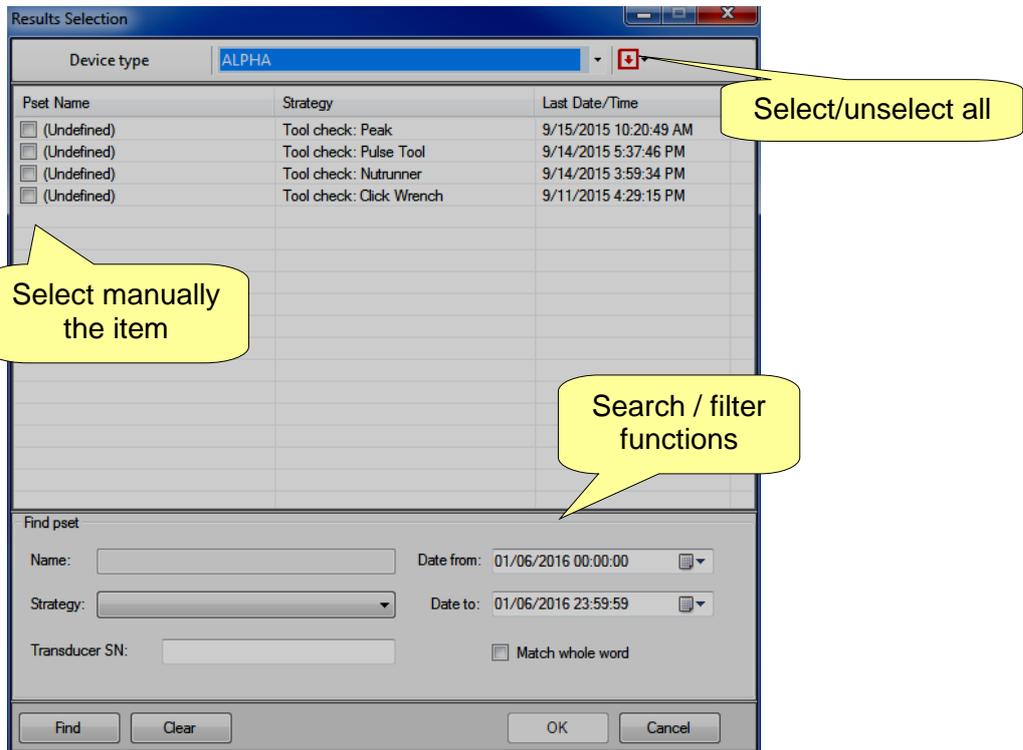
The Alpha can store up to 1000 results; when the memory is full the new results overwrite the oldest results stored.

To view the results stored on the Alpha, connect the instrument to the DeltaQC and click on the *Result Viewer* icon:



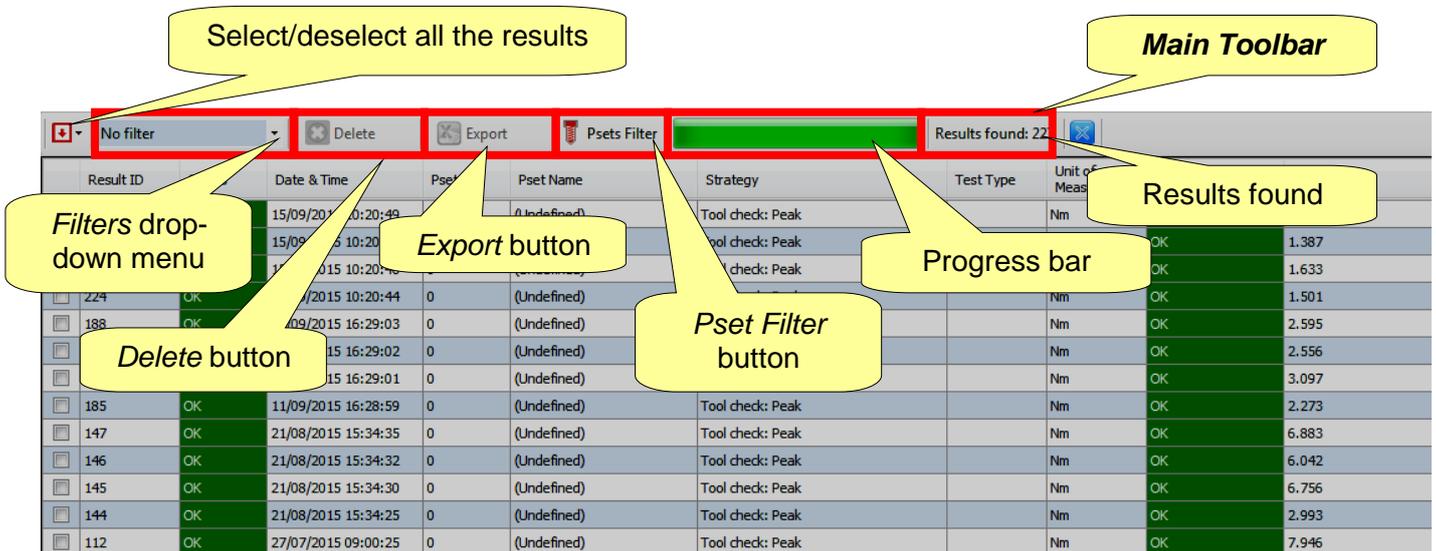


When clicking on the **Result Viewer** icon, the following screen is shown:



Select the test(s) to be reviewed and finally click on **OK**.

The following “**Results Viewer page**” is shown:



Click on a column heading in order to organize the results according to the column selected.

All the information related to the tightening operation is displayed in the whole set of columns.

If an item has been deleted after the test execution, the related rows with the results are marked as “**deleted**”.

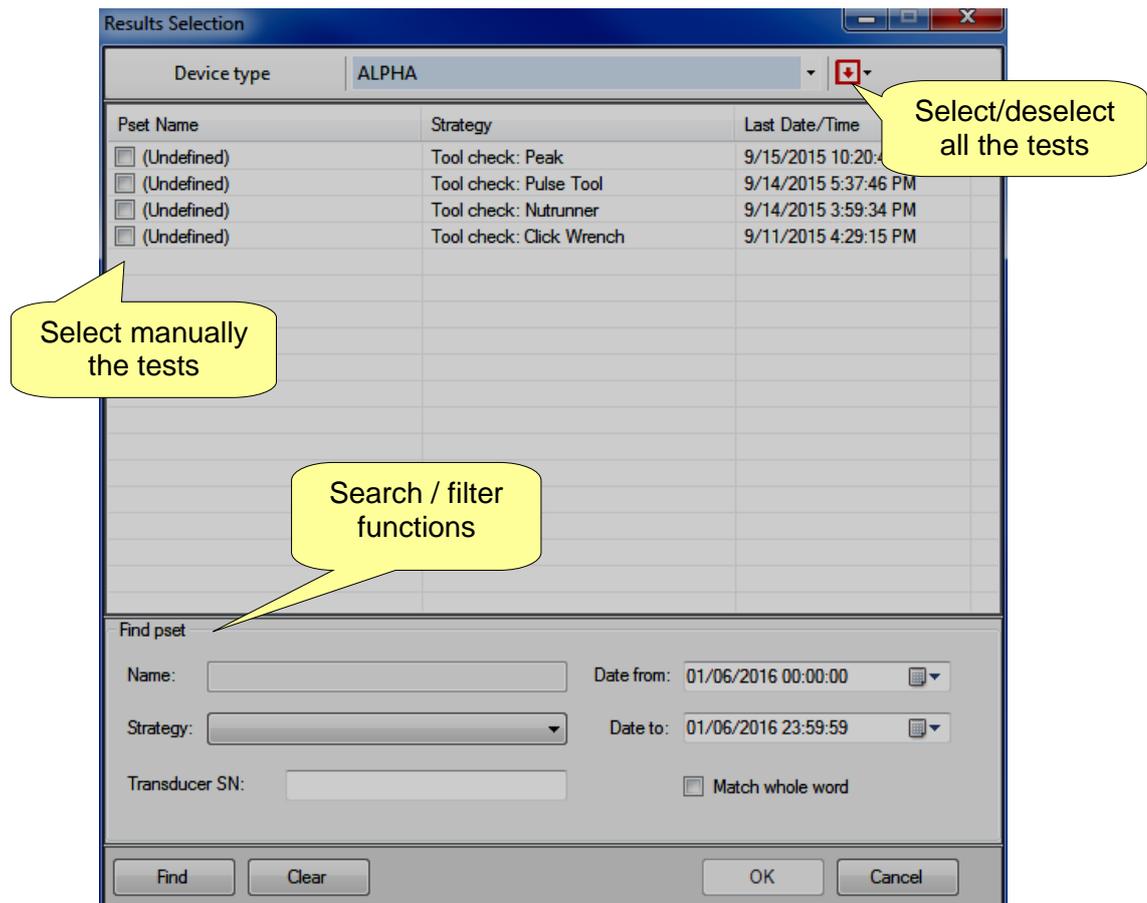


The *Main Toolbar* (refer to the above screen) allows the user to customize the **Results Viewer** page. Furthermore, it provides important data.

The “*Filters drop-down menu*” (refer to the above screen), filters the results according to customer needs. It is possible to display the results after selecting among the following options: **No Filter**, **Status OK**, **Status KO**, **Torque status OK**, **Torque status KO**, **Angle status OK**, **Angle status KO**.

The “*Pset Filter*” button (refer to the above screen), allows the user to filter the results according to the test that made them.

After clicking on “*Pset Filter*” button, the following pop-up is shown:



Select the test to be reviewed and click on **OK**.

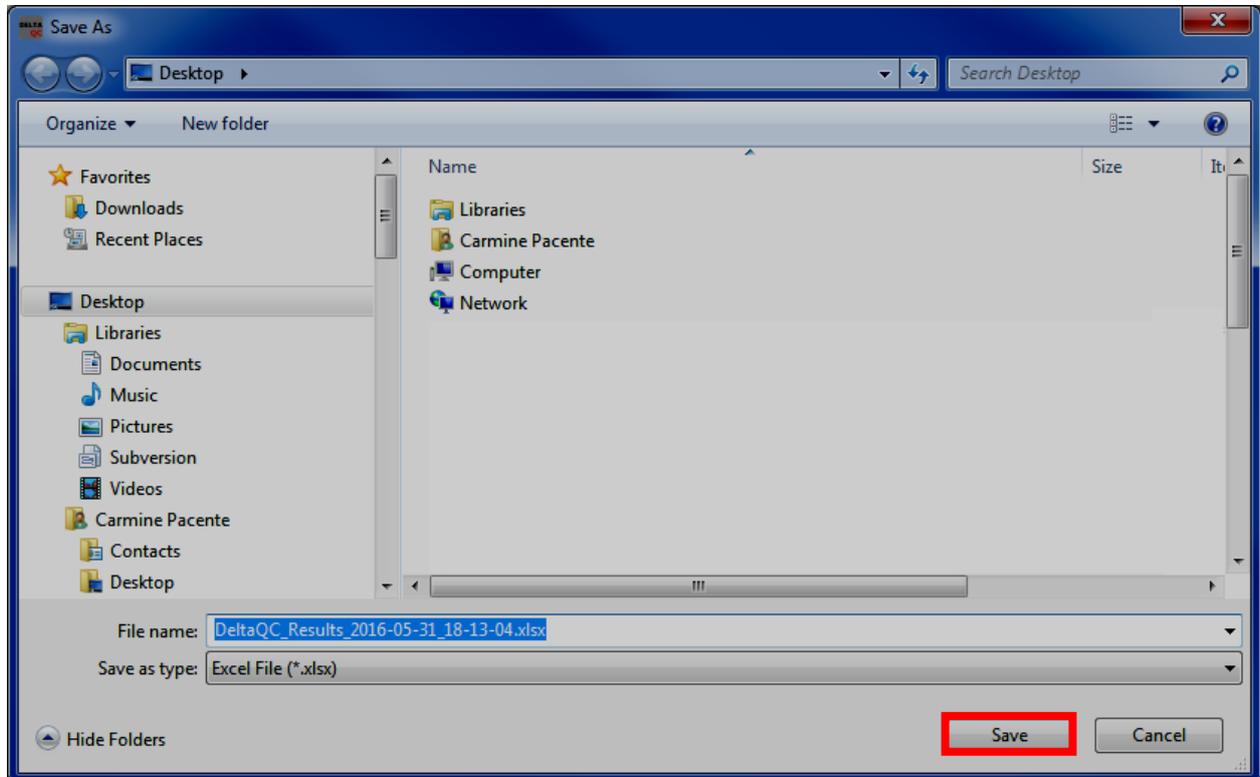
The “*Progress bar*” and the “*Results found*” options provide important data related to the results.

The “*Progress bar*” (refer to the above screen) is a graphical control element used to visualize the progression of the results downloaded: when it is totally green, all the results are downloaded.

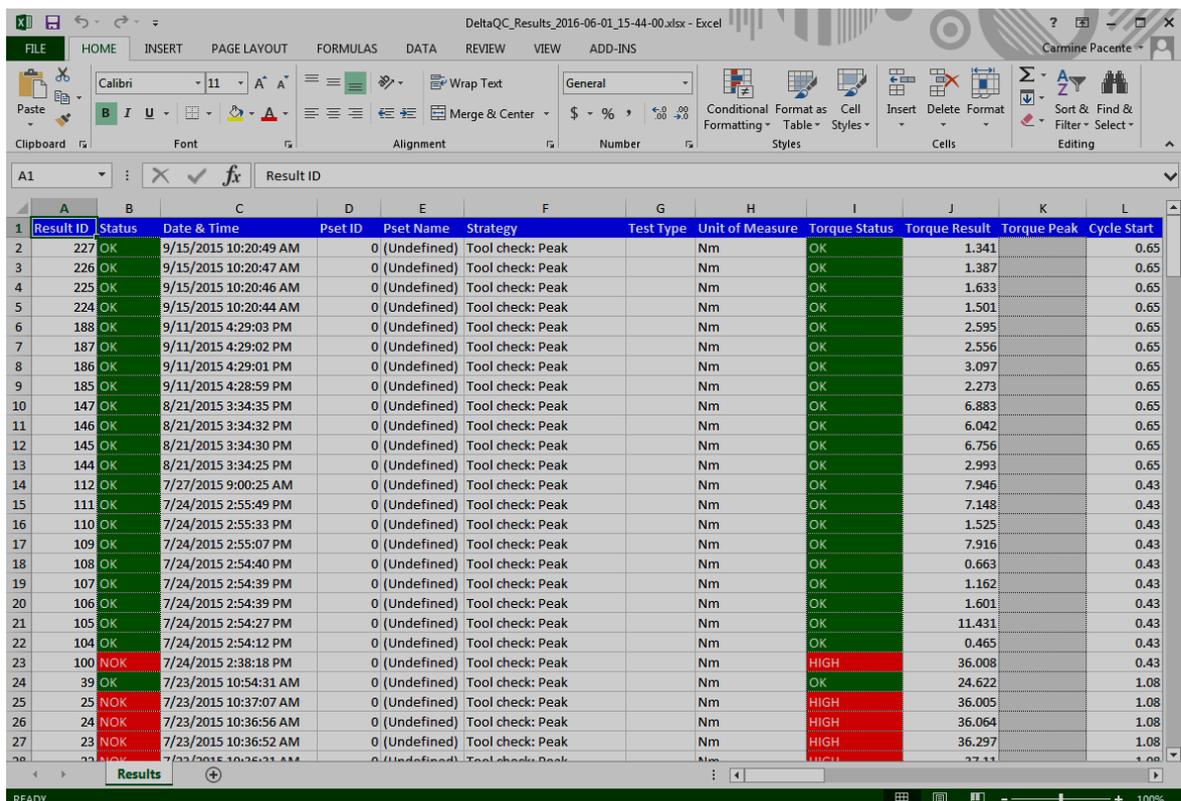
The “*Results found*” option (refer to the above screen) indicates the number of results either performed (*Online mode*) or stored into the database (*Offline mode*).

The “*Delete*” button (refer to the above screen) is not available.

The “Export” button (refer to the above screen) allows the user to save the results list in an Excel (.xlsx) file. Manually select the result(s) to be saved. Then click on “Export” button; the following window is shown:



The File name is automatically assigned, even if it is editable according to customer needs. Select the Destination Folder and click on **Save**. The Excel file is automatically open:



Result ID	Status	Date & Time	Pset ID	Pset Name	Strategy	Test Type	Unit of Measure	Torque Status	Torque Result	Torque Peak	Cycle Start
227	OK	9/15/2015 10:20:49 AM	0 (Undefined)		Tool check: Peak		Nm	OK	1.341		0.65
226	OK	9/15/2015 10:20:47 AM	0 (Undefined)		Tool check: Peak		Nm	OK	1.387		0.65
225	OK	9/15/2015 10:20:46 AM	0 (Undefined)		Tool check: Peak		Nm	OK	1.633		0.65
224	OK	9/15/2015 10:20:44 AM	0 (Undefined)		Tool check: Peak		Nm	OK	1.501		0.65
188	OK	9/11/2015 4:29:03 PM	0 (Undefined)		Tool check: Peak		Nm	OK	2.595		0.65
187	OK	9/11/2015 4:29:02 PM	0 (Undefined)		Tool check: Peak		Nm	OK	2.556		0.65
186	OK	9/11/2015 4:29:01 PM	0 (Undefined)		Tool check: Peak		Nm	OK	3.097		0.65
185	OK	9/11/2015 4:28:59 PM	0 (Undefined)		Tool check: Peak		Nm	OK	2.273		0.65
147	OK	8/21/2015 3:34:35 PM	0 (Undefined)		Tool check: Peak		Nm	OK	6.883		0.65
146	OK	8/21/2015 3:34:32 PM	0 (Undefined)		Tool check: Peak		Nm	OK	6.042		0.65
145	OK	8/21/2015 3:34:30 PM	0 (Undefined)		Tool check: Peak		Nm	OK	6.756		0.65
144	OK	8/21/2015 3:34:25 PM	0 (Undefined)		Tool check: Peak		Nm	OK	2.993		0.65
112	OK	7/27/2015 9:00:25 AM	0 (Undefined)		Tool check: Peak		Nm	OK	7.946		0.43
111	OK	7/24/2015 2:55:49 PM	0 (Undefined)		Tool check: Peak		Nm	OK	7.148		0.43
110	OK	7/24/2015 2:55:33 PM	0 (Undefined)		Tool check: Peak		Nm	OK	1.525		0.43
109	OK	7/24/2015 2:55:07 PM	0 (Undefined)		Tool check: Peak		Nm	OK	7.916		0.43
108	OK	7/24/2015 2:54:40 PM	0 (Undefined)		Tool check: Peak		Nm	OK	0.663		0.43
107	OK	7/24/2015 2:54:39 PM	0 (Undefined)		Tool check: Peak		Nm	OK	1.162		0.43
106	OK	7/24/2015 2:54:39 PM	0 (Undefined)		Tool check: Peak		Nm	OK	1.601		0.43
105	OK	7/24/2015 2:54:27 PM	0 (Undefined)		Tool check: Peak		Nm	OK	11.431		0.43
104	OK	7/24/2015 2:54:12 PM	0 (Undefined)		Tool check: Peak		Nm	OK	0.465		0.43
100	NOK	7/24/2015 2:38:18 PM	0 (Undefined)		Tool check: Peak		Nm	HIGH	36.008		0.43
39	OK	7/23/2015 10:54:31 AM	0 (Undefined)		Tool check: Peak		Nm	OK	24.622		1.08
25	NOK	7/23/2015 10:37:07 AM	0 (Undefined)		Tool check: Peak		Nm	HIGH	36.005		1.08
24	NOK	7/23/2015 10:36:56 AM	0 (Undefined)		Tool check: Peak		Nm	HIGH	36.064		1.08
23	NOK	7/23/2015 10:36:52 AM	0 (Undefined)		Tool check: Peak		Nm	HIGH	36.297		1.08



The **Results Viewer** page shows a group of records (organized in columns) that meet the search criteria set by the customer.

The most important columns are summarized in the following table:

Status	This is the global status of the test. It is <i>OK</i> when the result has been detected according to the thresholds and limits specified, and if the torque does not exceed the maximum transducer overload.
Torque Status	These fields indicate the result for the torque. If the result is within the torque limits, the status is <i>OK</i> . If the torque goes over the maximum transducer overload the result is marked as <i>HIGH</i> .
Result number	Progressive number automatically assigned by the Alpha to every tightening result. Min value: 1 Max value: 1000 When 1000 results are stored in the Alphas memory, the new results overwrite the oldest starting from result number 1 .
Torque result	Torque values measured by the Alpha.
Date / Time	Fields indicating the date and time of the tightening operation. Date and time are taken from the date and time set on the Alpha.
Unit of Measurement	Unit of measurement.
Result detailed	This field explains the reason for a <i>Not OK</i> test (for example, click-point not detected for a <i>Click-wrench test</i>).



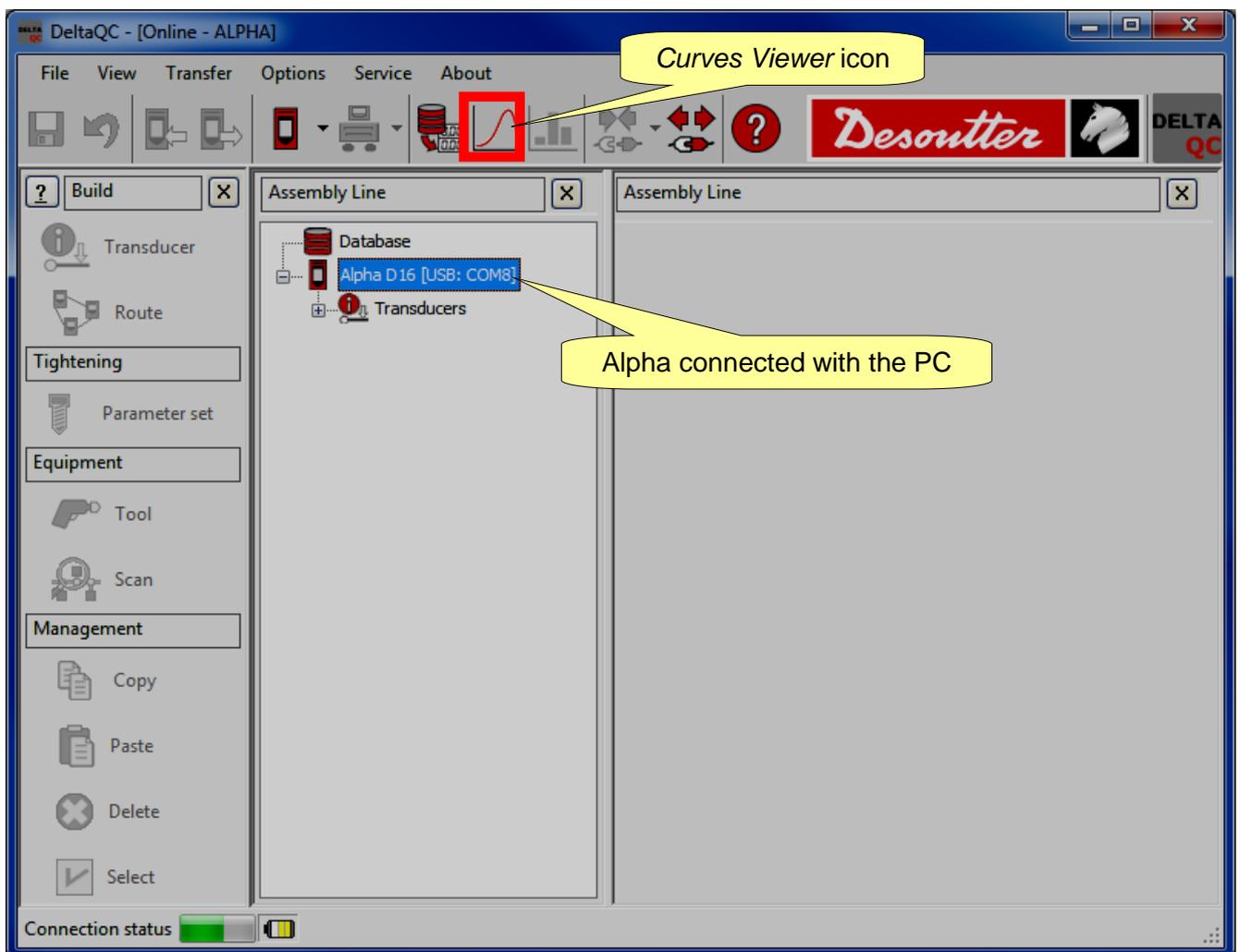
12 CURVES VIEWER



Click on the **Curves viewer** icon to retrieve the curve from the Alpha.

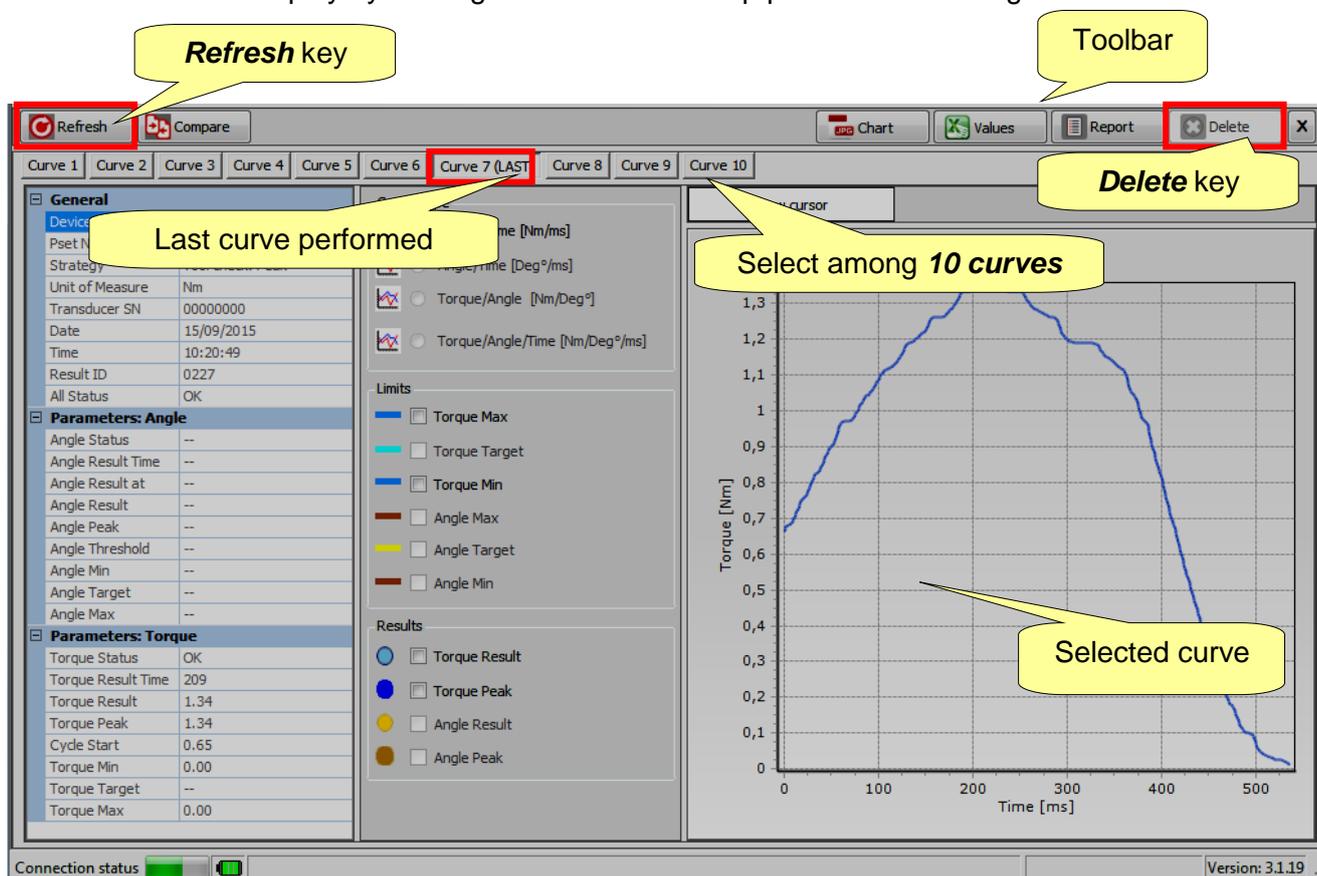
The *Alpha* can store up to **10 curves** (the maximum time length allowed per each curve is equal to 30 seconds); when the memory is full, the new curves overwrite the oldest ones stored.

To view the curves stored on the *Alpha*, connect the instrument to the DeltaQC and select the *Curves Viewer* icon (refer to the screen below):



12.1 View One Curve

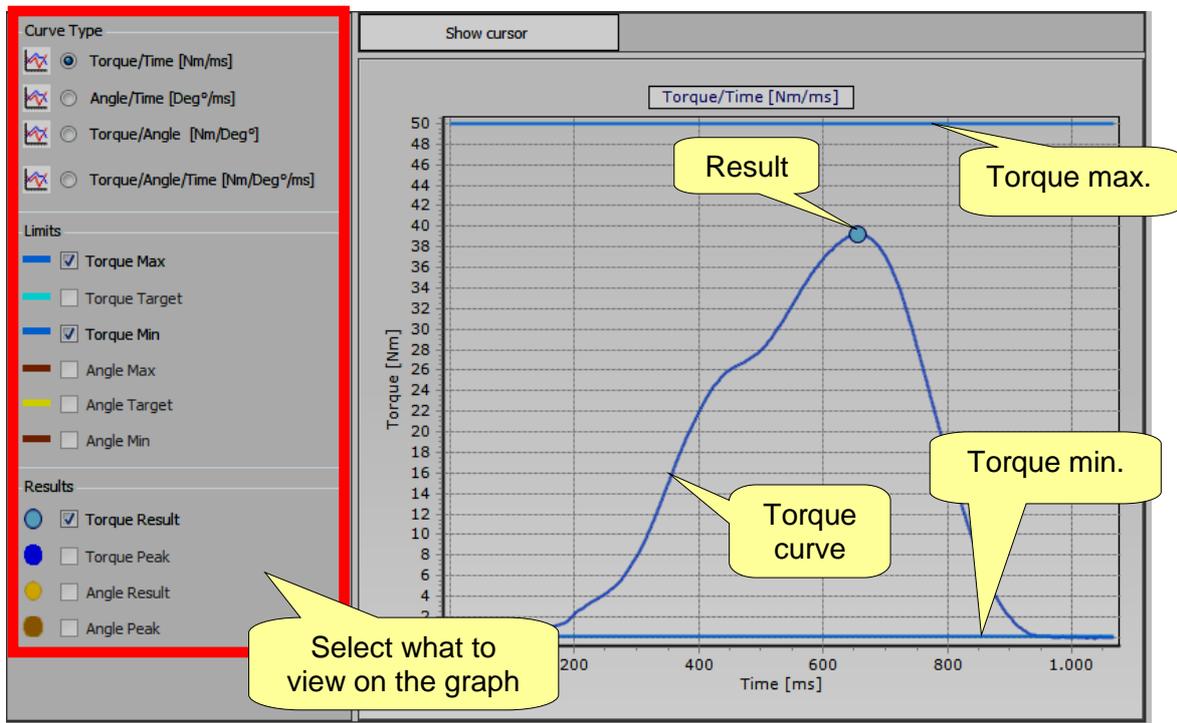
Select the curve to display by clicking on the bar at the top part of the following screen:



The last curve performed can be recognized due to the “**(LAST)**” placed close to the *curve number*. The **Refresh** key (placed on the left upper corner of the above screen) refreshes the window in case a new curve is available.



In the **Curve Type**, **Limits** and **Results** areas it is possible to select what to display on the graph:



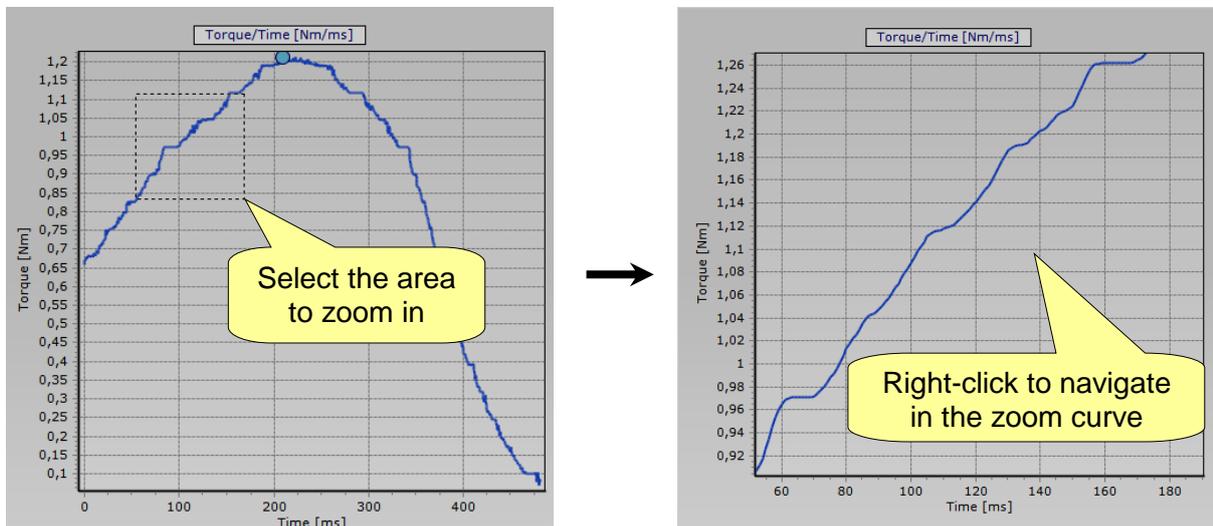
It is possible to select the *Torque curve*, *Angle curve*, *Torque/Angle curve* or both *Torque* and *Angle curve* on the same graph.

If limits and results are enabled, they are shown in the graph.

The **Result** indicates (on the curve) the point where the result is taken. If the result is *Not OK*, it will be marked with a red X (refer to the example below):

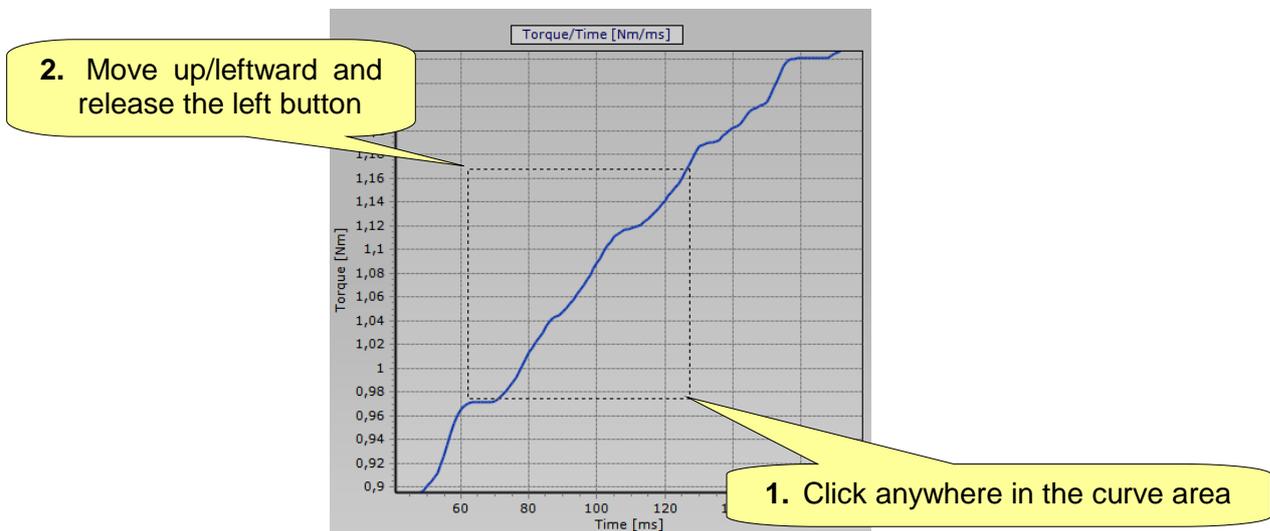


To zoom in on a section of the curve, simply select the desired area with the mouse:



While zoom in, to navigate the graph right-click on the curve and move the mouse pointer on the graph.

To zoom out to the whole curve, press the left button on the mouse, move the cursor up/leftward, and release the left button:



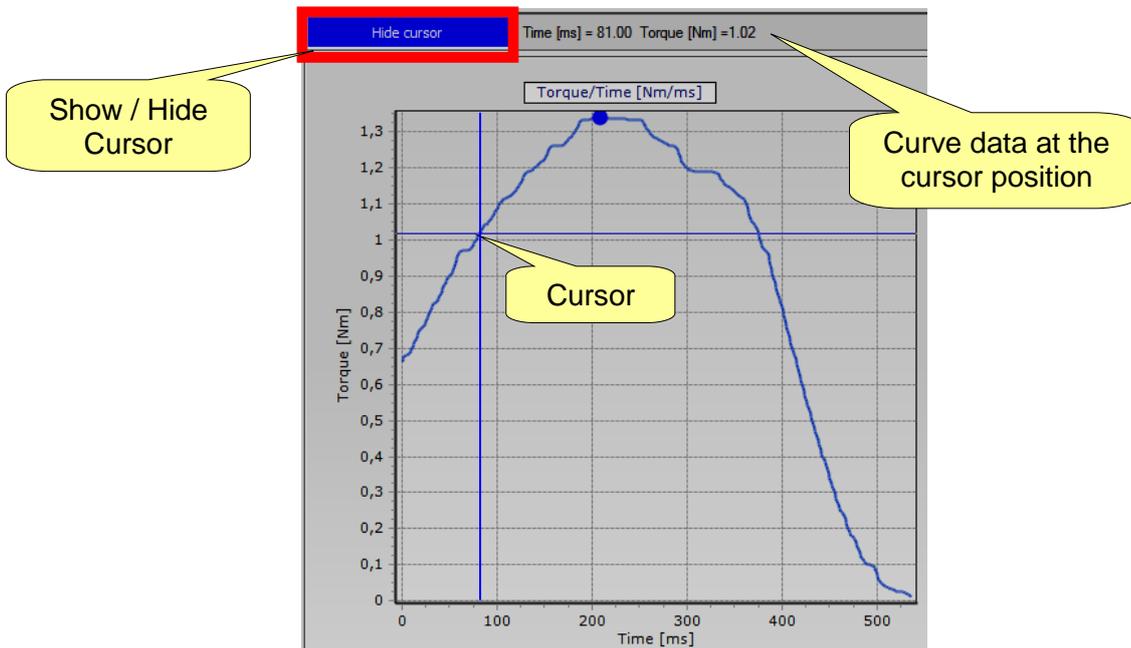
The curve parameters window displays detailed information on the curve. They are shown on the left side:

General	
Device Type	ALPHA
Pset Name	
Strategy	Tool check: Peak
Unit of Measure	Nm
Transducer SN	00000000
Date	15/09/2015
Time	10:20:49
Result ID	0227
All Status	OK
Parameters: Angle	
Angle Status	--
Angle Result Time	--
Angle Result at	--
Angle Result	--
Angle Peak	--
Angle Threshold	--
Angle Min	--
Angle Target	--
Angle Max	--
Parameters: Torque	
Torque Status	OK
Torque Result Time	209
Torque Result	1.34
Torque Peak	1.34
Cycle Start	0.65
Torque Min	0.00
Torque Target	--
Torque Max	0.00

A yellow callout box labeled "Curve parameters" points to the table.



To evaluate the curve in details, click on **Show cursor** to activate the cursor on the graph.



12.2 Export a Curve

Some useful keys are available in the toolbar:

	<p>This key exports the curve values in a Excel file.</p>
	<p>This key creates a <i>Report</i> (refer to the figure on the right):</p> <p>The <i>Report</i> can be printer or exported into Excel / PDF by means of the commands placed in the report toolbar.</p>



This key creates a .jpg file of the curve:

12.3 Curves Comparison

This feature overlaps the curves for a comparison of the tightening operations. Click on **Compare** to open the “comparison screen”:

The screenshot shows the software interface with the following elements:

- Compare button:** Located at the top left, highlighted with a red box.
- Curves list:** A tree view on the left side containing 10 curves, all checked.
- Curve Type:** A dropdown menu set to "Torque/Time [Nm/ms]".
- Curves parameters:** A tree view at the bottom left showing parameters for each curve, such as "Torque Status" (all OK), "Torque Result Time", "Torque Result", "Torque Peak", "Cycle Start", "Torque Min", "Torque Target", and "Torque Max".
- Main Graph:** A plot of Torque [Nm] vs Time [ms] showing 10 overlapping curves of different colors.

Select on the left side of the screen (in the **Curves list**) the curves to compare.

Select the type of graph (*Torque/Time*, *Angle/Time*, or *Torque/Angle*) by means of the **Curve Type** scroll window.

In the **Curves parameters** window all of the parameters and results of the curves are displayed. Click on the + or – icons to expand or collapse the nodes.



13 MAINTENANCE

13.1 Yearly calibration

The Alpha needs to be recalibrated every year. Contact the Customer Center for calibration.

13.2 Cleaning

Keep the Alpha clean.

After use, remove any curves of oil, grease and dust from the Alpha, especially from the display, the keyboard, the connectors and the transducer.
Avoid using harsh detergents to clean the Alpha.



14 TROUBLESHOOTING GUIDE

Hereunder is a quick *Troubleshooting Guide* for the Alpha.

If a problem is shown, before taking any action (replacing parts or contacting customer support), be sure to check that the Alpha is being used properly; improper operation can cause defeats even if the system is in good working order.

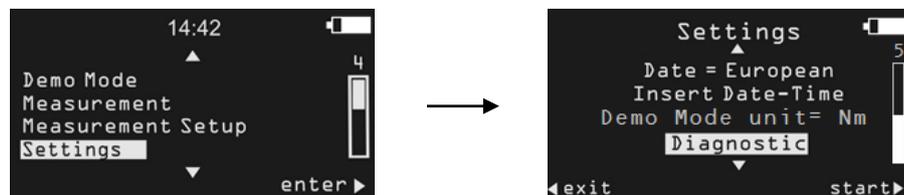
In case of issues, the log file can provide information about the problem (refer to the paragraph “*Alpha LOG Viewer*” for further details).

Symptom	Possible cause	Solution
Test result is always <i>Not OK</i> when testing a tool, or the click-point of a wrench is never detected	- Ensure to use proper setup	- Check and eventually modify the test setup parameters (the thresholds are the most critical parameters)
The overload message is shown even if the torque is below the capacity	- Overload set below 100%	- Check the setting of the overload parameter in the Transducer Info from the main menu (refer to the paragraph “ <i>Transducer</i> ” for further details)
The test takes too long time to complete	- Timeout set to high value	- Check the timeout value in the <i>Measurement Setup</i> from the main menu
Test on pulse tools does not give correct results	- K tuning coefficient not set properly	- Check the K tuning coefficient value in the <i>Measurement Setup</i> → <i>Pulse Tool</i> menu

14.1 Alpha Diagnostic

The diagnostic menu can be used to perform a check of the Alpha hardware.

Select ***Diagnostic*** from the ***Settings*** menu and press the ***OK*** button to start the diagnostic procedure:



The diagnostic procedure leads the user to check all the Alpha hardware.

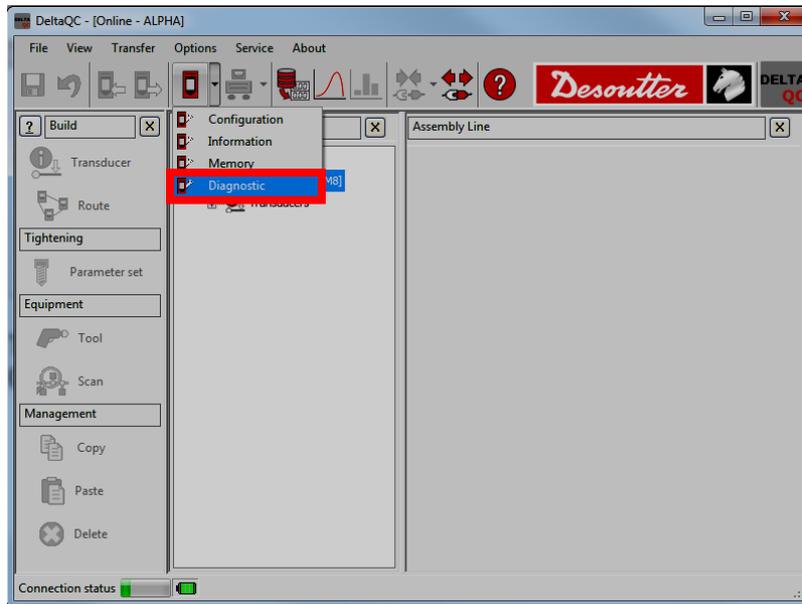
The diagnostic procedure is interactive: simply follow the instructions given on the Alpha display to complete the diagnostic; if a component gives a *Not OK* result during the test, it should be repaired or replaced.



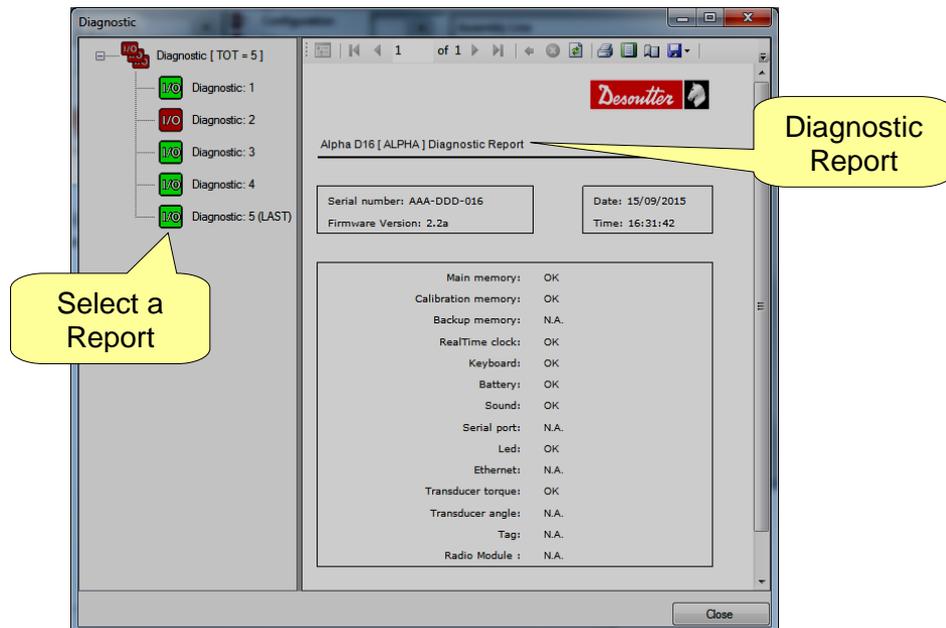
NOTE: If the test on some buttons of the Alpha keyboard gives *Not OK* result, all the following tests requiring the operator to use that button to confirm the test result will not be performed, and will be marked as *N.A.* (Not Applicable).



The last ten diagnostic reports are saved in the Alpha memory and can be retrieved by the DeltaQC. Connect the Alpha to the DeltaQC and select the **Controller** → **Diagnostic** menu:



The following screen is shown:



Each report is marked (in the left column) either in green if all of the test are *OK* (or not applicable) or in red if at least one test gives a *Not OK (NOK)* result.

The last report is marked as **LAST**.

The toolbar in the upper area of the *Diagnostic Report* provides functions to print the report or export it to Excel or PDF file.



15 ABBREVIATIONS

Abbreviation	Description	Abbreviation	Description
A	Ampere	n	Numbers (of values)
AC	Alternating current	N.A.	Not Applicable
Avg	Average	Nm	Newton meter
CCW	Counter clockwise	Nr.	Number
CW	Clockwise	OK	Approved (test)
dBm	Decibel referred to milliwatt	NOK	Not approved (test)
DC	Direct current	PC	Personal Computer
EMC	Electromagnetic Compatibility	Std	Standard deviation
EMI	Electromagnetic Interference	SW	Software
ESC	Exit	USB	Universal Serial Bus
Hz	Hertz (measurement unit of frequency)	V	Volt
Max	Maximum	VIN	Vehicle Identification Number
Min	Minimum	WEEE	Waste Electrical and Electronic Equipment
ms	millisecond		

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- (2) **We:**
(Fr) *Nous*
Desoutter Ltd
Zodiac – Unit 4
Boundary Way
Hemel Hempstead
Herts – UK
HP2 7SJ
- (3) Technical file available from EU headquarter.
(Fr) *Dossier technique disponible auprès du siège social*
Nicolas Lebreton, R&D Manager
CP
38 rue Bobby Sands – BP 10273
44818 Saint Herblain – France

- (4) **Declare that the product(s):** **Alpha**
(Fr) *déclarons que les produits* *Alpha*

(5) **Machine type(s):**
(Fr) *type(s)*

Model (Modèle)	Part Number (Référence)	Serial Number (N° série)
ANY	ANY	ANY

- (6) Origin of the product: Italy
(Fr) *Origine du produit*
- (7) **Is in conformity with the requirements of the council Directives on the approximation of the laws of the Member States relating:**
(Fr) *est (sont) en conformité avec les exigences de la Directive du conseil, concernant les législations des états membres relatives:*
- (8) **To “Risk of Hazardous Substances (ROHS)” 2011/65/EC (21/07/2011)**
(Fr) *aux “Risque de substances dangereuses (ROHS)” 2011/65/EC (21/07/2011)*
- (9) **To “Electromagnetic Compatibility” 2004/108/EC (15/12/2004)**
(Fr) *aux “Compatibilité électro-magnétique” 2004/108/EC (15/12/2004)*

(11) **Applicable harmonised standard(s):**
(Fr) *Norme(s) harmonisée(s) applicable(s):*

EN 61010-1:2010	→	Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use – Part 1: General Requirements
EN 61326-1:2013	→	Electrical Equipment for Measurement, Control and Laboratory Use – EMC Requirements

- (12) **NAME and POSITION of issuer:**
(Fr) *NOM et FONCTION de l'émetteur :*

Nicolas LEBRETON
(R&D Manager)



- (13) **Place & date: Saint Herblain XX/XX/20XX**
(Fr) *Place et dat*



DEUTSCH (GERMAN) (1) **EG-KONFORMITÄTSEKTLÄRUNG** - (2) Wir, **DESOUTTER** - (3) Technische Datei beim EU - (4) erklären hiermit, daß das (die) Produkt(e) : - (5) Typ(en): - (6) Produkt herkunft - (7) den Anforderungen der EG-Richtlinie zur Angleichung der Rechtsvorschriften der Mitgliedsstaaten - (8) für **"Maschinen" 2006/42/EG** (17/05/06) - (9) für **"Elektromagnetische Störfreiheit" 2004/108/EG** (15/12/04) - (10) für **"Niederspannung" 2006/95/EG** (12/12/06) - entspricht (entsprechen). - (11) geltende harmonisierte Norme(n) - (12) NAME und EIGENSCHAFT des Ausstellers: - (13) Datum:

NEDERLANDS (DUTCH) (1) **E.G.-VERKLARING VAN OVEREENSTEMMING** - (2) De firma : **DESOUTTER** - (3) Technisch bestand verkrijgbaar - (4) verklaart hierbij dat het (de) produkt(en): - (5) type: - (6) Herkomst van het product - (7) in overeenstemming is (zijn) met de vereisten van de richtlijn van de Raad inzake de onderlinge aanpassing van de wetgevingen van de lidstaten betreffende: - (8) **"machines" 2006/42/CEE** (17/05/06) - (9) **"elektromagnetische compatibiliteit" 2004/108/EG** (15/12/04) - (10) **"laagspanning" 2006/95/EG** (12/12/06) - (11) geldige geharmoniseerde norm(en) - (12) NAAM en FUNCTIE van de opsteller: - (13) Datum:

SVENSKA (SWEDISH) (1) **EG-DEKLARATION OM ÖVERENSSTÄMMELSE** - (2) Vi **DESOUTTER** - (3) Teknisk fil tillgänglig från - (4) Förklarar att maskinen: - (5) Maskintyp: - (6) Produktens ursprung - (7) För vilken denna deklARATION gäller, överensstämmer med kraven i Ministerrådets direktiv om harmonisering av medlemsstaternas lagar rörande - (8) **"maskiner" 2006/42/EEG** (17/05/06) - (9) **"elektromagnetisk kompatibilitet" 2004/108/EEG** (15/12/04) - (10) **"lågspänning" 2006/95/EEG** (12/12/06) - (11) Harmoniserade standarder som tillämpats: - (12) Utfärdarens namn och befattning: - (13) Datum:

NORSK (NORWEGIAN) (1) **EF ERKLÆRING OM OVERENSSTEMMELSE** - (2) Vi **DESOUTTER** - (3) Teknisk dokument tilgjengelig - (4) Erklærer at produktet/produktene: - (5) av type: - (6) Produktets opprinnelse - (7) er i overensstemmelse med de krav som finnes i Ministerrådets direktiver om tilnærming av Medlemsstatenes lover vedrørende: - (8) **"maskiner" 2006/42/EF** (17/05/06) - (9) **"elektromagnetisk kompatibilitet" 2004/108/EF** (15/12/04) - (10) **"lavspenning" 2006/95/EF** (12/12/06) - (11) Harmoniserende standarder som er anvendt: - (12) Utsteders navn og stilling: - (13) Dato:

DANSK (DANISH) (1) **EF OVERENSSTEMMELSESEKTLÆRING** - (2) Vi **DESOUTTER** - (3) Teknisk dokument kan fås på - (4) erklærer at produktet(erne): - (5) type: - (6) Produktets oprindelse - (7) er i overensstemmelse med kravene i Rådets Direktiv vedr. Tilnærmelse mellem medlemslandenes love for - (8) **"maskiner" 2006/42/EF** (17/05/06) - (9) **"elektromagnetisk kompatibilitet" 2004/108/EF** (15/12/04) - (10) **"lavspænding" 2006/95/EF** (12/12/06) - (11) Gældende harmoniserede standarder: - (12) Udsteder, navn og stilling: - (13) Dato:

SUOMI (FINNISH) (1) **ILMOITUS YHDENMUKAISUUDESTA EY** - (2) Me **Toiminimi DESOUTTER** - (3) Tekniset tiedot saa EU:n - (4) vakuutamme, että tuote / tuotteet: - (5) tyyppi(-pit): - (6) Tekniset tiedot saa EU:n - (7) on / ovat yhdenmukainen(-sia) neuvoston jäsenmaiden lainsäädäntöä koskevien direktiivien vaatimusten kanssa, jotka koskevat: - (8) **"koneita" 2006/42/EY** (17/05/06) - (9) **"elektromagneettista yhteensopivuutta" 2004/108/EY** (15/12/04) - (10) **"matalajännitteitä" 2006/95/EY** (12/12/06) - (11) yhdenmukaistettu(-tut) soveltuva(t) standardi(t): - (12) ilmoituksen antajan NIMI ja ASEMA: - (13) Päiväys:

ESPAÑOL (SPANISH) (1) **DECLARACION DE CONFORMIDAD CE** - (2) Nosotros **DESOUTTER** - (3) Archivo técnico disponible en - (4) declaramos que el producto: - (5) tipo de máquina: - (6) Origen del producto - (7) es conforme a los requisitos de la Directiva del Consejo sobre la aproximación de las leyes de los Estados Miembros con relación - (8) a la **"maquinaria" 2006/42/CE** (17/05/06) - (9) a la **"compatibilidad electromecánica" 2004/108/CE** (15/12/04) - (10) a la **"baja tensión" 2006/95/CE** (12/12/06) - (11) normas armonizadas aplicadas: - (12) Nombre y cargo del expedidor: - (13) Fecha:

PORTUGUÊS (PORTUGUESE) (1) **DECLARAÇÃO DE CONFORMIDADE CE** - (2) Nós **DESOUTTER** - (3) Ficheiro técnico disponível na - (4) declaramos que o produto: - (5) tipo de máquina: - (6) Origem do produto - (7) está em conformidade com os requisitos da Directiva do Conselho, referente às legislações dos Estados-membros relacionados com: - (8) **"maquinaria" 2006/42/CE** (17/05/06) - (9) **"compatibilidade electromagnética" 2004/108/CE** (15/12/04) - (10) **"baixa tensão" 2006/95/CE** (12/12/06) - (11) Normas harmonizadas aplicáveis: - (12) Nome e cargo do emissor: - (13) Data:

ITALIANO (ITALIAN) (1) **DICHIARAZIONE DI CONFORMITÀ CE** - (2) La Società : **DESOUTTER** - (3) File tecnico disponibile dal - (4) dichiara che il(i) prodotto(i): - (5) tipo: - (6) Origine del prodotto - (7) è (sono) in conformità con le esigenze previste dalla Direttiva del Consiglio, sulle legislazioni degli Stati membri relative: - (8) alle **"restrizioni dell'uso di sostanze pericolose (ROHS)" 2011/65/CE** (21/07/11) - (9) alla **"compatibilità elettromagnetica" 2004/108/CE** (15/12/04) - (10) N/A - (11) norma(e) armonizzata(e) applicabile(i): - (12) NOME e FUNZIONE del dichiarante: - (13) Data:

ΕΛΛΗΝΙΚΑ (GREEK) (1) **_ΗΛ ΣΗ ΠΙΣΤΟΤΗΤΑΣ ΕΚ** - (2) Η εταιρεία : **DESOUTTER** - (3) Τεχνικός φάκελος διαθέσιμος - (4) δηλώνει υπεύθυνα ότι το(τα) προϊόν(-ντα): - (5) τύπου(-ων): - (6) Προέλευση προϊόντος - (7) είναι σύμφωνο(-α) προς τις απαιτήσεις της Οδηγίας του Συμβουλίου που αφορά την προσέγγιση των νομοθεσιών των κρατών μελών τις σχετικές με: - (8) τα **"μηχανήματα" 2006/42/EOK** (17/05/06) - (9) την **"ηλεκτρομαγνητική συμβατότητα" 2004/108/EOK** (15/12/04) - (10) τη **"χαμηλή τάση" 2006/95/EOK** (12/12/06) - (11) εφαρμοστέο(-α) εναρμονισμένο(-α) πρότυπο(-α): - (12) ΟΝΟΜΑ και ΑΡΜΟΙΟΤΗΤΑ του δηλούντος: - (13) Ημερομηνία:

ČESKY (CZECH) (1) **PROHLÁŠENÍ O SOULADU S PŘEDPISY ES** - (2) My, firma **DESOUTTER** - (3) Technický soubor, dostupný - (4) prohlašujeme, že výrobek (výrobky): - (5) typ přístroje (přístrojů): - (6) Původ výrobku - (7) je v souladu s požadavky směrnice Rady EU o aproximaci práva členských států EU, a to v těchto oblastech: - (8) „**přístroje**“ **2006/42/EC** (17/05/06) - (9) „**Elektromagnetická kompatibilita**“ **2004/108/EC** (15/12/04) - (10) „**Nízké napětí**“ **2006/95/EC** (12/12/06) - (11) *relevantní harmonizované normy*. - (12) Jméno a funkce osoby, která prohlášení vystavila - (13) Datum:

MAGYAR (HUNGARIAN) (1) **CE MEGFELELÉSÉGI NYILATKOZAT** - (2) Mi, az: **DESOUTTER** - (3) kijelentjük, hogy a termék(ek) - (4) géptípus(ok): - hogy a termék(ek): - (5) géptípus(ok): - (6) A műszaki leírás az EU-s - (7) megfelel(nek) a tagországok törvényeiben megfogalmazott, alábbiakban szereplő tanácsi Irányelvek követelményeinek: - (8) **"Gépek, berendezések" 2006/42/EC** (17/05/06) - (9) **"Elektromágneses kompatibilitás" 2004/108/EC** (15/12/04) - (10) **"Alacsony feszültségű szabványok" 2006/95/EC** (12/12/06) - (11) alkalmazható harmonizált szabvány(ok): - (12) Kibocsátó neve és adatai: - (13) Dátum:



LIETUVIŠKAI (LITHUANIAN) (1) **EB ATITIKTIES DEKLARACIJA** - (2) Mes: **DESOUTTER** - (3) Techninius duomenis galite - (4) pareiškiami, kad gaminys(-iai): - (5) mašinos tipas(-ai): - (6) Produkto kilmė - (7) atitinka Europos Tarybos Direktyvų reikalavimus dėl valstybių narių įstatymų, susijusių: - (8) su „mašinomis“ **2006/42/EB** (17/05/06) - (9) su „**Elektromagnetiniu suderinamumu**“ **2004/108/EB** (15/12/04) - (10) su „**Žema įtampa**“ **2006/95/EB** (12/12/06), suderinimo - (11) *taikomi harmonizuoti standartai*: - (12) išdavusio asmens pavardė ir pareigos: - (13) Data:

SLOVENŠČINA (SLOVENIAN) (1) **IZJAVA ES O SKLADNOSTI** - (2) Mi: **DESOUTTER** - (3) Tehnična kartoteka je na voljo - (4) izjavljamo, da je izdelek (oziroma izdelki): - (5) vrsta stroja (oziroma vrste): - (6) Izvor izdelka - (7) v skladu z zahtevami direktiv Sveta Evrope o približevanju zakonodaje držav članic glede: - (8) "**strojev**" **2006/42/ES** (17/05/06) - (9) "**Elektromagnetne združljivosti**" **2004/108/ES** (15/12/04) - (10) "**Nizke napetosti**" **2006/95/ES** (12/12/06) - (11) *veljavnih harmoniziranih standardov*: - (12) Ime in funkcija izdajatelja - (13) Datum:

POLSKI (POLISH) (1) **UE –DEKLARACJA ZGODNOŚCI** - (2) My, firma **DESOUTTER** - (3) Plik techniczny jest dostępny w - (4) oświadczamy, że produkt (produkty): - (5) urządzenie typu (typów): - (6) Pochodzenie produktu - (7) jest (są) zgodne z wymogami Dyrektywy Rady, odpowiadającej ustawodawstwu krajów członkowskich i dotyczącej: - (8) "**maszyn i urządzeń**" **2006/42/UE** (17/05/06) - (9) "**Zgodności elektromagnetycznej**" **2004/108/UE** (15/12/04) - (10) "**niskich napięć**" **2006/95/UE** (12/12/06) - (11) *stosowanych norm, wzajemnie zgodnych*: - (12) Nazwisko i stanowisko wydającego deklarację: - (13) Data:

SLOVENSKY (SLOVAK) (1) **DEKLARÁCIA ER O SÚHLASE** - (2) My: **DESOUTTER** - (3) Technický súbor k dispozícii z - (4) prehlasujeme, že výrobok (y): - (5) strojový typ(y): - (6) Pôvod produktu alebo výrobku - (7) zodpovedá požiadavkom Smerníc rady, týkajúcich sa aproximácie zákonov členských štátov, pre: - (8) "**strojné zariadenia**" **2006/42/EC** (17/05/06) - (9) po "**Elektromagnetickú kompatibilitu**" **2004/108/EC** (15/12/04) - (10) po "**Nízke napätie**" **2006/95/EC** (12/12/06) - (11) *zodpovedajúce harmonizačné normy*: - (12) Meno a funkcia vystavovateľa dokladu: - (13) Dátum:

LATVISKI (LATVIAN) (1) **EK ATBILSTĪBAS DEKLARĀCIJA** - (2) Mēs, kompānija **DESOUTTER** - (3) Tehniskais fails pieejams ES - (4) deklarējam, ka šis (-ie) izstrādājums (-i): - (5) ierīces tips (-i): - (6) Izstrādājuma izcelsme - (7) atbilst Padomes Direktīvu prasībām par dalībvalstu likumu piemērošanu, kas attiecas uz: - (8) "**mehānismiem**" **2006/42/EK** (17/05/06) - (9) "**elektromagnētisko savietojamību**" **2004/108/EK** (15/12/04) - (10) "**zemspriegumu**" **2006/95/EK** (12/12/06) - (11) *spēkā esošajam (-iem) saskaņotajam (-iem) standartam (-iem)*: - (12) Pietieicēja vārds un amats: - (13) Datums:

中文 (CHINESE) (1) **EC 一致性声明** - (2) 我们: **DESOUTTER** - (3) 技术参数资料可以从EU总部获得。 - (4) 声明其产品: - (5) 机器类型: - (6) 产品原产地 - (7) 符合会员国立法会议“决定”的相关要求: - (8) "**机械**" **2006/42/EC** (17/05/06) - (9) "**电磁相容性**" **2004/108/EC** (15/12/04) - (10) "**低电压**" **2006/95/EC** (12/12/06) - (11) 适用协调标准: - (12) 发行者名称和地点: - (13) 日期:

РУССКИЙ (RUSSIAN) (1) **ДЕКЛАРАЦИЯ СООТВЕТСТВИЯ** - (2) Мы: **DESOUTTER** - (3) Технический файл можно - (4) заявляем, что продукция: - (5) тип оборудования: - (6) Происхождение продукта - (7) соответствует требованиям директивы европейского совета относительно законодательств стран-участниц по: - (8) "**Машинному оборудованию**" **2006/42/EC** (17/05/06) - (9) по "**Электромагнитной совместимости**" **2004/108/EC** (15/12/04) - (10) по "**Низкому напряжению**" **2006/95/EC** (12/12/06) - (11) *применяемые согласованные нормы*: - (12) Фамилия и должность составителя: - (13) Дата: