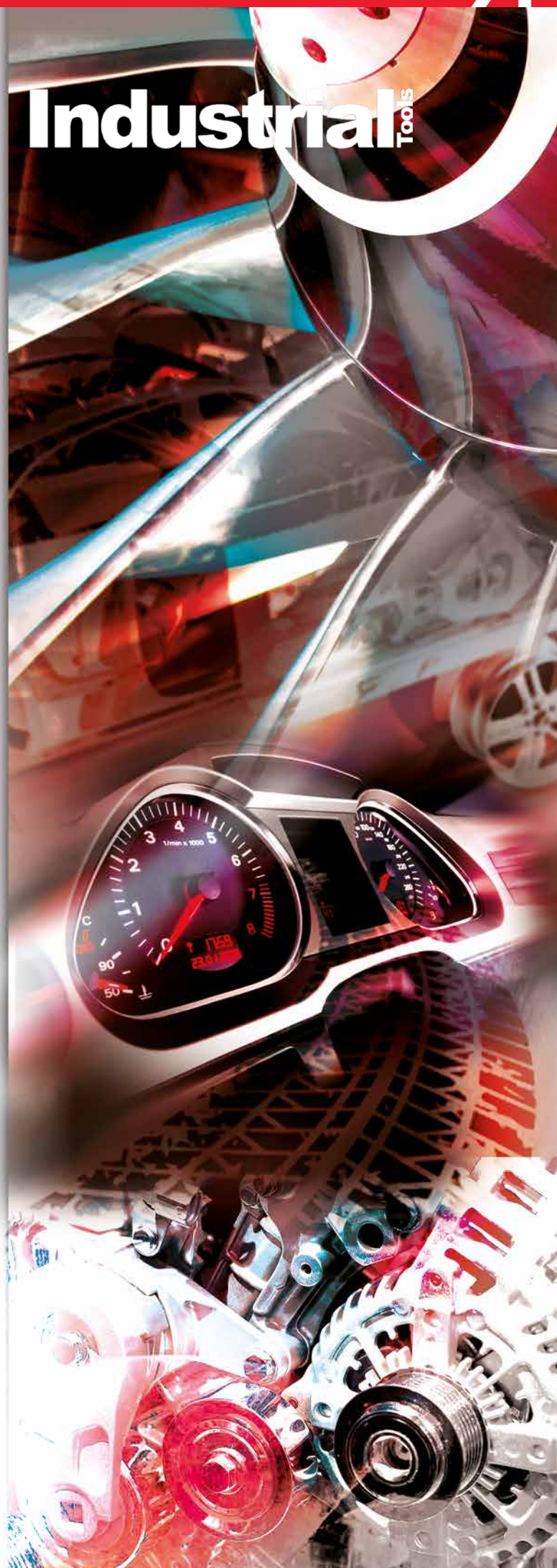


**Desoutter**

## Delta Quality Control Measurement Systems

*Optimize Tool Performance  
Reduce Quality Cost  
Full Data Traceability  
Integrated Software Solution*

**More Than Productivity**

**Industrial Tools**

# Data Analyzer

This generation of Delta analyzer is the compact portable solution to monitor all types of production tools at just 500g. Combined with standard Desoutter DRT or DST transducers it's capable of calibrating pulse tools, electric nutrunners or torque wrenches. Divided into three models for Torque measurement only (DELTA 1D), Torque & Angle (Delta 6D) and capable of residual torque check and production strategy with DWTA wrench (Delta 7D).

- Display Large color screen shows clear test results, Torque&Angle curves. Real time statistics, Tools description and Routes.

## >> MAIN FUNCTION

| TRANSDUCER                         | DELTA 1D                                | DELTA 6D                      | DELTA 7D                            |
|------------------------------------|-----------------------------------------|-------------------------------|-------------------------------------|
| Connection to DRT4, DRT5, DST      | ✓                                       | ✓                             | ✓                                   |
| Connection to CMD, GSE transducers | ✓                                       | ✓                             | ✓                                   |
|                                    | Through optional analog/digital adapter |                               |                                     |
| Connection to DWTA wrenches        |                                         |                               | ✓                                   |
| ON BOARD FUNCTIONALITY             | DELTA 1D                                | DELTA 6D                      | DELTA 7D                            |
| Wrench Test                        | ✓                                       | ✓                             | ✓                                   |
| Nutrunner Test                     | ✓                                       | ✓                             | ✓                                   |
| Pulse Tool Test                    | ✓                                       | ✓                             | ✓                                   |
| Tools                              | 1                                       | 1000                          | 1000                                |
| PSet                               |                                         | 1000                          | 1000                                |
| Integrated Statistic               | Min, Max Avg                            | Cm, Cmk                       | Cm, Cmk                             |
|                                    |                                         | (ISO, NF and CNOMO standards) | (ISO, NF and CNOMO standards) + SPC |
| Angle                              |                                         | ✓                             | ✓                                   |
| Residual Check Strategy            |                                         |                               | ✓                                   |
| Production Strategy                |                                         |                               | ✓                                   |
| Results                            | 1000                                    | 5000                          | 5000                                |
| Curve                              | 10                                      | 10                            | 10                                  |
| CVI autocalibration                |                                         | ✓                             | ✓                                   |
| External Barcode connectivity      |                                         | ✓                             | ✓                                   |
| Embedded Barcode                   |                                         |                               | ✓                                   |



## >>> DELTA > MAIN FUNCTION

### ■ Connectivity

Ethernet and USB port for Delta QC software communication and RS232 for CVI II, CVIC II and CVI3 calibration or barcode reader.



### ■ Transducer

Standard Desoutter connector for digital transducers. Analog CMD and GSE transducers connection through an adapter.



### ■ Power



Li-Ion high capacity battery of 16 hours of autonomy or external power supply.



### ■ Barcode (Delta 7D)

Embedded Barcode for automatic Pset selection or VIN traceability

## Delta 1D



DELTA 1D is a torque measurement ideal for torque wrench or pulse tool test together with DRT or DST transducers. Delta 1D doesn't require any programming, it's ready to test the selected tool showing in real time Mins, Max and Average. Complete results and XLS reports are available to be exported from Delta QC Free version software.

## Delta 6D



DELTA 6D reads Angle from DRT transducer, ideal to test advanced electric nutrunner T&A strategies. DELTA 6D introduces Tool and PSet and definition with Route management, Statistic (ISO, CNOMO or NF standards), Curve and serial communication to CVI controller or Barcode. SPC analysis, curve overlay and off-line programming are available in combination with Delta QC Licensed version.

## Delta 7D



DELTA 7D combines all DELTA 6D features with DWTA wrench communication for Residual Torque check and production available with Torque plus Angle strategy. Thanks to the new joint analysis strategy the Delta 7D in combination with DWTA becomes the perfect measurement instrument to characterise the real joint in the line, a key feature to:

- find real joint yield point
- set the production tightening tool with the correct torque and angle values increasing the quality in the overall production process.

| DELTA D  | PART NUMBER   | BATTERY hours | CHARGER volts | DEPTH |      | WIDTH |      | HEIGHT |      | WEIGHT |      |
|----------|---------------|---------------|---------------|-------|------|-------|------|--------|------|--------|------|
|          |               |               |               | mm    | in   | mm    | in   | mm     | in   | kg     | lb   |
| Delta 1D | 615 935 101 0 | 16            | 110/240V      | 45    | 1.77 | 95    | 3.74 | 192    | 7.56 | 0.5    | 1.10 |
| Delta 6D | 615 935 102 0 | 16            | 110/240V      | 45    | 1.77 | 95    | 3.74 | 192    | 7.56 | 0.5    | 1.10 |
| Delta 7D | 615 935 147 0 | 16            | 110/240V      | 45    | 1.77 | 95    | 3.74 | 192    | 7.56 | 0.5    | 1.10 |

### >> ACCESSORIES

|                                 |               |
|---------------------------------|---------------|
| Delta Battery                   | 615 936 142 0 |
| Universal Power Supplier        | 615 936 143 0 |
| Rubber Protection               | 615 936 141 0 |
| Delta Demo Case (Empty)         | 615 936 140 0 |
| Digital 10 pins Cable 2m        | 615 917 430 0 |
| Digital 10 pins Spiral Cable 2m | 615 917 432 0 |
| Digital 10 pins Cable 5m        | 615 917 433 0 |

### >> SOFTWARE

|                          |               |
|--------------------------|---------------|
| DeltaQC Licensed 1 User  | 615 927 651 0 |
| DeltaQC Licensed 5 Users | 615 927 652 0 |

### >> ADAPTERS

|                        |               |
|------------------------|---------------|
| CMD & ST 4000 Adapter  | 615 917 671 0 |
| CMD 5000 Adapter       | 615 917 672 0 |
| RS232 Adapter          | 615 917 670 0 |
| GSE 2500 Adapter       | 615 917 674 0 |
| GSE 8500T Adapter      | 615 917 675 0 |
| GSE 8500T/A Adapter    | 615 917 676 0 |
| ANALOG 19 PINS Adapter | 615 935 175 0 |

### >> SOFTWARE

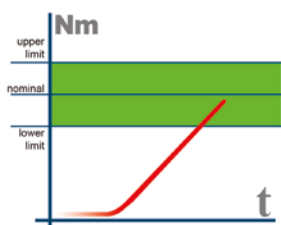
|                          |               |
|--------------------------|---------------|
| DeltaQC Advanced 1 User  | 615 927 653 0 |
| DeltaQC Advanced 5 Users | 615 927 654 0 |



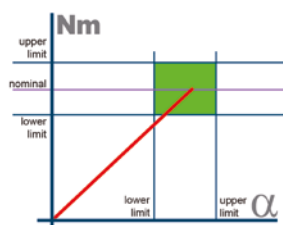


# Digital Wrench for Torque & Angle Measurement

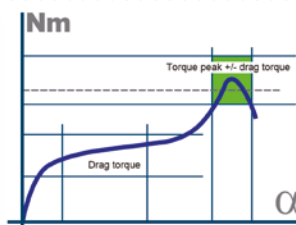
**PRODUCTION & QUALITY STRATEGIES:** In combination with Delta 7D, the torque and angle wrench for residual automatic torque check and Joint analysis with Yield point detection.



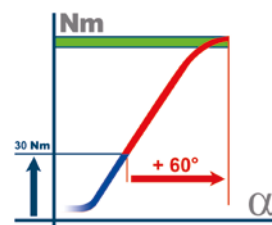
Tightening within torque limits



Tightening within torque and angle limits (tightening to a window)



Prevailing torque automatic compensation



Tightening with torque and additional angle rotation (torque + angle)



- Non Length Dependent Transducer thanks to double bridge strain gauge. To guarantee a tightening result independent from operator hand position
- +/- 1% of torque reading (from 10% to 100% of torque range)
- Buzzer feedback

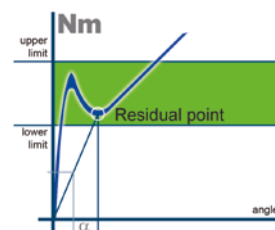


■ Delta7D

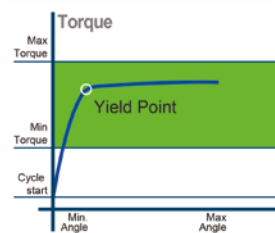
- Military connector for standard transducer cable



- Gyroscope for angle measurement.



Automatic Residual torque check



Joint analysis

| DWTA     | PART NUMBER   | RANGE  |             | ANGLE | DRIVE |           | INCLUDED RATCHET | LENGTH |       | WEIGHT |     |
|----------|---------------|--------|-------------|-------|-------|-----------|------------------|--------|-------|--------|-----|
|          |               | Nm     | ft lb       |       | mm    | in.       |                  | mm     | in.   | kg     | lb  |
| DWTA 30  | 615 165 760 0 | 3-30   | 2.21-22.1   | ✓     | 9x12  | 0.35x0.47 | 3/8              | 402    | 15.83 | 0.7    | 1.5 |
| DWTA 150 | 615 165 761 0 | 15-150 | 11.06-110.6 | ✓     | 14x18 | 0.55x0.71 | 1/2              | 418    | 24.60 | 1.6    | 3.6 |
| DWTA 400 | 615 165 762 0 | 40-400 | 29.50-295.0 | ✓     | 14x18 | 0.55x0.71 | 3/4              | 1026   | 40.40 | 2.6    | 5.8 |

# DRT - Digital Rotary Transducer

The DRT4 rotary transducer series are designed to measure torque output (Only) of any non-impact assembly tool, directly on your application in dynamic mode.



## >> FEATURES

- Torque range from 0,2 to 10000 Nm (0.15 to 7375 ft.lb).
- Strain gauges transducer: - sensitivity 2mV/V
- Built-in smart chip memory with calibration features: - type of transducer - sensitivity nominal load - serial number.

## >> BENEFITS

- Automatic recognition thanks to internal memory chip storing main data values eliminating any setting mistakes and time losses.
- High reliability due to immunity from external noise thanks to digital communication.
- Communication to data analyzer not sensitive to the cable length.
- Long life durability thanks to industrial design from transducer to housing.

## >> TORQUE

| DRT4           | PART NUMBER   | TORQUE RANGE |                | OUTPUT  | accuracy Nm |
|----------------|---------------|--------------|----------------|---------|-------------|
|                |               | Nm           | ft. lb         |         |             |
| DRT 4 H 2      | 615 165 209 0 | 0.2 - 2      | 0.15 - 1.5     | Hex ¼"  | 0.007       |
| DRT 4 H 5      | 615 165 210 0 | 0.5 - 5      | 0.37 - 3.7     | Hex ¼"  | 0.0175      |
| DRT 4 H 20     | 615 165 211 0 | 2 - 20       | 1.47 - 14.7    | Hex ¼"  | 0.07        |
| DRT 4 Sq 20    | 615 165 212 0 | 2 - 20       | 1.47 - 14.7    | Sq ¼"   | 0.07        |
| DRT 4 Sq 25    | 615 165 213 0 | 2.5 - 25     | 1.84 - 18.4    | Sq ⅜"   | 0.0875      |
| DRT 4 Sq 75    | 615 165 214 0 | 7.5 - 75     | 5.53 - 55.3    | Sq ⅜"   | 0.2625      |
| DRT 4 Sq 180   | 615 165 215 0 | 18 - 180     | 13.2 - 132     | Sq ½"   | 0.63        |
| DRT 4 Sq 500   | 615 165 216 0 | 50 - 500     | 36.8 - 368     | Sq ¾"   | 1.75        |
| DRT 4 Sq 1400  | 615 165 217 0 | 140 - 1400   | 103.2 - 1032   | Sq 1"   | 4.9         |
| DRT 4 Sq 3000  | 615 165 536 0 | 300 - 3000   | 221.2 - 2212   | Sq 1-½" | 10.5        |
| DRT 4 Sq 4000  | 615 935 164 0 | 400 - 4000   | 295 - 2950     | Sq 1-½" | 14          |
| DRT 4 Sq 5000  | 615 165 540 0 | 500 - 5000   | 368.7 - 3687   | Sq 1-½" | 17.5        |
| DRT 4 Sq 10000 | 615 935 164 0 | 1000 - 10000 | 737.5 - 7375.6 | Sq 1-½" | 35          |



# DRT

The DRT5 series associated with a Delta 6D or Delta 7D are including an Angle measurement encoder to allow both Torque AND Angle quality controls (preferred series in case you are using Angle strategies and/or monitoring).

The DRT shall not be used with pulse tools over 50 % of the nominal torque.



## >> TORQUE & ANGLE

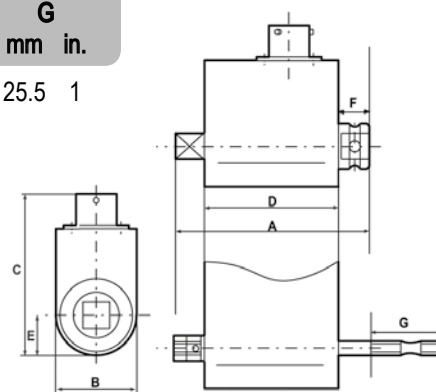
| DRT5          | PART NUMBER   | TORQUE RANGE |              | OUTPUT    | accuracy Nm |
|---------------|---------------|--------------|--------------|-----------|-------------|
|               |               | Nm           | ft. lb       |           |             |
| DRT 5 H 2     | 615 165 218 0 | 0.2 - 2      | 0.15 - 1.5   | Hex 1/4"  | 0.007       |
| DRT 5 H 5     | 615 165 219 0 | 0.5 - 5      | 0.37 - 3.7   | Hex 1/4"  | 0.0175      |
| DRT 5 H 20    | 615 165 220 0 | 2 - 20       | 1.47 - 14.7  | Hex 1/4"  | 0.07        |
| DRT 5 Sq 20   | 615 165 221 0 | 2 - 20       | 1.47 - 14.7  | Sq 1/4"   | 0.07        |
| DRT 5 Sq 25   | 615 165 222 0 | 2.5 - 25     | 1.84 - 18.4  | Sq 3/8"   | 0.0875      |
| DRT 5 Sq 75   | 615 165 223 0 | 7.5 - 75     | 5.53 - 55.3  | Sq 3/8"   | 0.2625      |
| DRT 5 Sq 180  | 615 165 224 0 | 18 - 180     | 13.2 - 132   | Sq 1/2"   | 0.63        |
| DRT 5 Sq 500  | 615 165 225 0 | 50 - 500     | 36.8 - 368   | Sq 3/4"   | 1.75        |
| DRT 5 Sq 1400 | 615 165 226 0 | 140 - 1400   | 103.2 - 1032 | Sq 1"     | 4.9         |
| DRT 5 Sq 5000 | 615 165 780 0 | 500 - 5000   | 368.5 - 3685 | Sq 1-1/2" | 17.5        |

## >> FEATURES

- Torque range from 0.2 to 5000 Nm (0.15 to 3685 ft.lb).
- Angle counting system 0.5° resolution.
- Strain gauges transducer:  
- sensitivity 2mV/V
- Built-in smart chip memory with calibration features:  
- type of transducer - sensitivity nominal load - serial number.

### Same size for torque or torque & angle transducer

| OUTPUT    | A    |      | B   |      | C     |      | E  |      | H    |      | F    |      | G    |     |
|-----------|------|------|-----|------|-------|------|----|------|------|------|------|------|------|-----|
|           | mm   | in.  | mm  | in.  | mm    | in.  | mm | in.  | mm   | in.  | mm   | in.  | mm   | in. |
| Hex 1/4"  | 116  | 4.56 | 31  | 1.22 | 71.9  | 2.83 | 56 | 2.2  | 15.5 | 0.61 | 39   | 1.53 | 25.5 | 1   |
| Sq 1/4"   | 71.5 | 2.81 | 31  | 1.22 | 71.9  | 2.83 | 56 | 2.2  | 15.5 | 0.61 | 6    | 0.24 |      |     |
| Sq 3/8"   | 77   | 3.03 | 31  | 1.22 | 71.9  | 2.83 | 56 | 2.2  | 15.5 | 0.61 | 8    | 0.31 |      |     |
| Sq 1/2"   | 87   | 3.42 | 42  | 1.65 | 82.9  | 3.26 | 58 | 2.28 | 21   | 0.83 | 12   | 0.47 |      |     |
| Sq 3/4"   | 106  | 4.17 | 52  | 2.05 | 92.9  | 3.66 | 66 | 2.60 | 26   | 1.02 | 21   | 0.83 |      |     |
| Sq 1      | 125  | 4.92 | 65  | 2.56 | 104.9 | 4.13 | 73 | 2.87 | 32.5 | 1.28 | 29   | 1.14 |      |     |
| Sq 1-1/2" | 165  | 6.5  | 106 | 4.17 | 148.5 | 5.85 | 88 | 3.46 | 53   | 2.09 | 35.2 | 1.39 |      |     |

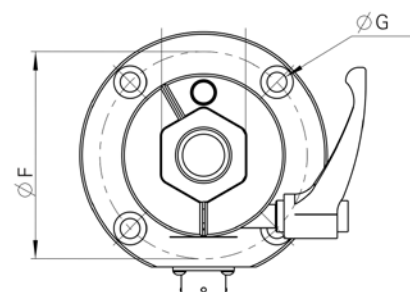
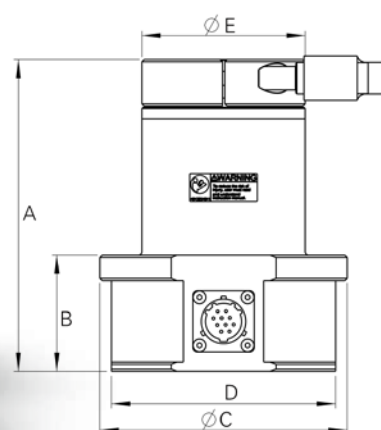
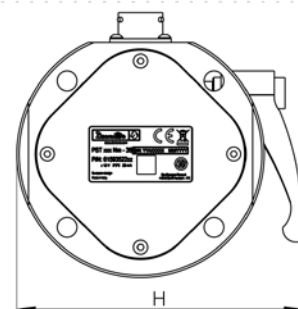


| TRANSDUCER CABLES<br>Description | DATA COLLECTOR<br>type | FOR TRANSDUCER          | LENGTH                  | PART<br>NUMBER |
|----------------------------------|------------------------|-------------------------|-------------------------|----------------|
| Digital 10 pins                  | All types of Delta     | All digital transducers | 2m (78.7") long         | 615 917 430 0  |
| Digital 10 pins                  | All types of Delta     | All digital transducers | 2m (78.7") long, spiral | 615 917 432 0  |
| Digital 10 pins                  | All types of Delta     | All digital transducers | 5m (196.8") long        | 615 917 433 0  |

# PST - Pulse Static Transducer

Designed for testing hand wrenches, click wrenches, Pneumatic Pulse tools and electric nutrunners, the Pulse Static Transducer is the ideal solution to provide a periodic and static mean of control for audit at the station and will cover all your assembly tools in the production area.

(reminder: the joint simulator is required accessory in the case of a shut-off pulse or nutrunner tool test).



## >> FEATURES

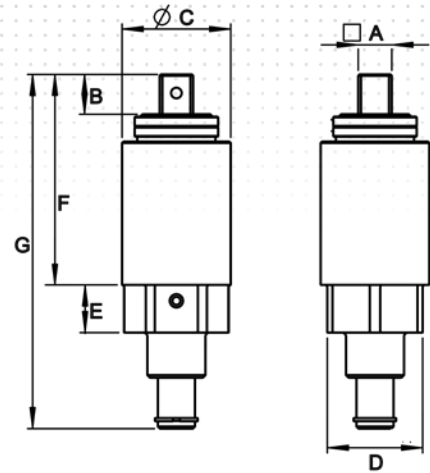
- Built-in smart chip memory with calibration features: - type of transducer - sensitivity nominal load - serial number.
- Torque Accuracy : +/-0,35% of FSD (Full Scale Deviation)
- Lever to clamp the Joint simulator firmly for impulse tools
- Recommended for Pulse tools

| PST              | PART NUMBER   | TORQUE RANGE |            | A   | B  | C   | D   | E   | F   | G        | H   | INPUT         | WEIGHT | accuracy Nm |
|------------------|---------------|--------------|------------|-----|----|-----|-----|-----|-----|----------|-----|---------------|--------|-------------|
|                  |               | Nm           | ft.lb      |     |    |     |     |     |     |          |     |               |        |             |
| PST 2 Nm - 13    | 615 935 220 0 | 0.2-2        | 0.15-1.5   | 83  | 39 | 80  | 69  | 45  | 64  | 4x Ø 6.5 | /   | Sq 1/2 ▾ 11.5 | 1.4    | 0.007       |
| PST 5 Nm - 13    | 615 935 221 0 | 0.5-5        | 0.37-3.7   | 83  | 39 | 80  | 69  | 45  | 64  | 4x Ø 6.5 | /   | Sq 1/2 ▾ 11.5 | 1.4    | 0.0175      |
| PST 10 Nm - 13   | 615 935 222 0 | 1-10         | 0.74-7.4   | 83  | 39 | 80  | 69  | 45  | 64  | 4x Ø 6.5 | /   | Sq 1/2 ▾ 11.5 | 1.4    | 0.035       |
| PST 25 Nm - 36   | 615 935 223 0 | 2.5-25       | 1.8-18     | 134 | 50 | 106 | 96  | 70  | 89  | 4x Ø 8.5 | 123 | Hex 36 ▾ 16.5 | 4      | 0.0875      |
| PST 50 Nm - 36   | 615 935 224 0 | 5-50         | 3.7-37     | 134 | 50 | 106 | 96  | 70  | 89  | 4x Ø 8.5 | 123 | Hex 36 ▾ 16.5 | 4      | 0.175       |
| PST 100 Nm - 36  | 615 935 225 0 | 10-100       | 7.4-74     | 134 | 50 | 106 | 96  | 70  | 89  | 4x Ø 8.5 | 123 | Hex 36 ▾ 16.5 | 4      | 0.35        |
| PST 250 Nm - 36  | 615 935 226 0 | 25-250       | 18.4-184   | 134 | 50 | 106 | 96  | 70  | 89  | 4x Ø 8.5 | 123 | Hex 36 ▾ 16.5 | 4      | 0.875       |
| PST 500 Nm - 50  | 615 935 227 0 | 50-500       | 36.9-369   | 170 | 50 | 148 | 136 | 108 | 125 | 6x Ø 8.5 | 180 | Hex 50 ▾ 22.5 | 10.1   | 1.75        |
| PST 1000 Nm - 50 | 615 935 228 0 | 100-1000     | 73.8-738   | 170 | 50 | 148 | 136 | 108 | 125 | 6x Ø 8.5 | 180 | Hex 50 ▾ 22.5 | 10.1   | 3.5         |
| PST 2000 Nm - 50 | 615 935 229 0 | 200-2000     | 147.5-1475 | 170 | 50 | 148 | 136 | 108 | 125 | 6x Ø 8.5 | 180 | Hex 50 ▾ 22.5 | 10.1   | 7           |

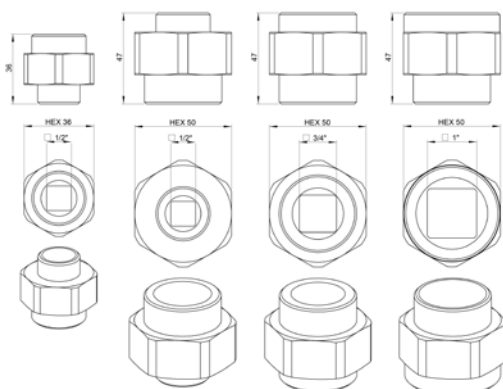


# Joint Simulator

A wide range of mechanical joint simulators are available to reproduce the joint behavior; installing the joint simulator on a transducer allows you to test a tool in the same repeatable working conditions. Each joint simulator reproduces a specific stiffness as described in its torque/angle characteristics. For each capacity, there are two versions: one reproducing a softer joint and one reproducing a harder joint.



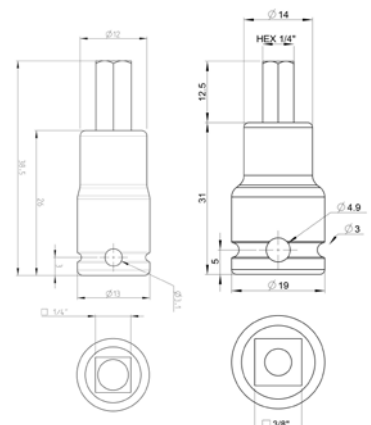
|                               | PART NUMBER | COLOR    | A        | B  | C  | D        | E    | F   | G     |
|-------------------------------|-------------|----------|----------|----|----|----------|------|-----|-------|
| DJS FOR DST AND PST 2 Nm SOFT | 6151655290  | YW – YW  | HEX 1/4" | 14 | 24 | Sq. 1/2" | 8    | 50  | 71,5  |
| DJS FOR DST AND PST 2 Nm HARD | 6151655300  | YW – BK  | HEX 1/4" | 14 | 24 | Sq. 1/2" | 8    | 50  | 71,5  |
| DJS FOR DST AND PST 5 Nm SOFT | 6151655310  | GR – YW  | HEX 1/4" | 14 | 24 | Sq. 1/2" | 8    | 50  | 71,5  |
| DJS FOR DST AND PST 5 Nm HARD | 6151655710  | GR – BK  | HEX 1/4" | 14 | 24 | Sq. 1/2" | 8    | 50  | 71,5  |
| DJS FOR PST 10 Nm SOFT        | 6159363770  | RD - YW  | HEX 1/4" | 14 | 24 | Sq. 1/2" | 8    | 50  | 71,5  |
| DJS FOR PST 10 Nm HARD        | 6159363780  | RD - BK  | HEX 1/4" | 14 | 24 | Sq. 1/2" | 8    | 50  | 71,5  |
| DJS FOR PST 25 Nm SOFT        | 6159363790  | RD – YW  | Sq. 3/8" | 11 | 34 | HEX 36   | 16,5 | 70  | 120,5 |
| DJS FOR PST 25 Nm HARD        | 6159363800  | RD – BK  | Sq. 3/8" | 11 | 34 | HEX 36   | 16,5 | 70  | 120,5 |
| DJS FOR PST 50 Nm SOFT        | 6159363810  | BL – YW  | Sq. 1/2" | 15 | 41 | HEX 36   | 18   | 84  | 133,5 |
| DJS FOR PST 50 Nm HARD        | 6159363820  | BL – BK  | Sq. 1/2" | 15 | 41 | HEX 36   | 18   | 84  | 133,5 |
| DJS FOR PST 100 Nm SOFT       | 6159363650  | VL – YW  | Sq. 1/2" | 15 | 41 | HEX 36   | 18   | 84  | 133,5 |
| DJS FOR PST 100 Nm HARD       | 6159363660  | VL – BK  | Sq. 1/2" | 15 | 41 | HEX 36   | 18   | 84  | 133,5 |
| DJS FOR PST 250 Nm SOFT       | 6159363840  | GY – YW  | Sq. 1/2" | 15 | 41 | HEX 36   | 18   | 84  | 133,5 |
| DJS FOR PST 250 Nm HARD       | 6159363850  | GY – BK  | Sq. 1/2" | 15 | 41 | HEX 36   | 18   | 84  | 133,5 |
| DJS FOR PST 500 Nm SOFT       | 6159363690  | BK – YW  | Sq. 3/4" | 22 | 59 | HEX 50   | 30   | 141 | 224   |
| DJS FOR PST 500 Nm HARD       | 6159363700  | BK – BK  | Sq. 3/4" | 22 | 59 | HEX 50   | 30   | 141 | 224   |
| DJS FOR PST 1000 Nm           | 6159363860  | no color | Sq. 1"   | 28 | 90 | HEX 50   | 30   | 179 | 273   |
| DJS FOR PST 2000 Nm           | 6159363930  | no color | Sq. 1"   | 28 | 90 | HEX 50   | 30   | 179 | 273   |



## >> SOCKETS

### PART NUMBER

|                   |               |
|-------------------|---------------|
| HEX 36 M-1/2" F   | 615 936 399 0 |
| HEX 50 M-1/2" F   | 615 936 431 0 |
| HEX 50 M-3/4" F   | 615 936 432 0 |
| HEX 50 M-1" F     | 615 936 433 0 |
| HEX 1/4" M-1/4" F | 615 936 118 0 |
| HEX 1/4" M-3/8" F | 615 936 119 0 |



# DST - Digital Static Transducer

DST Static Transducer series fit all assembly tools except impact and impulse tools. These are mainly recommended for continuous drive electric tools and hand wrenches.

(reminder: for impulse tools refer to PST - Pulse Static Transducer series).

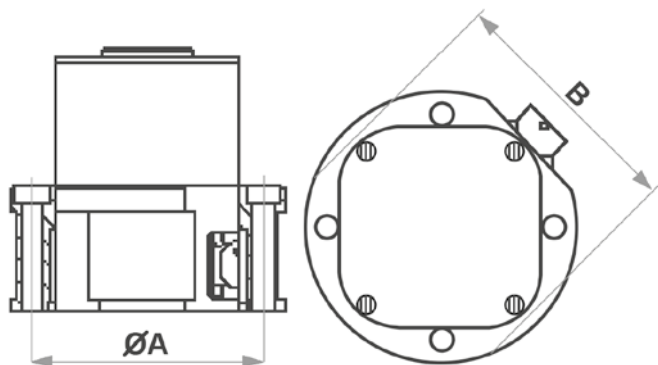
## >> FEATURES

- Built-in smart chip memory twith calibration features:
  - type of transducer
  - sensitivity nominal load
  - serial number.
- Torque Accuracy :
  - +/-0,35% of FSD
  - (Full Scale Deviation)



## >> DST

| STATIC<br>TRANSDUCERS | PART<br>NUMBER | TORQUE<br>RANGE |            | SQUARE<br>DRIVE | DIMENSIONS |      |     |      | WEIGHT |      | accuracy<br>Nm |
|-----------------------|----------------|-----------------|------------|-----------------|------------|------|-----|------|--------|------|----------------|
|                       |                | Nm              | ft.lb      |                 | A          | B    |     |      | kg     | lb   |                |
| DST 0,5 Nm - 13       | 615 165 537 0  | 0.05-0.5        | 0.04-0.4   | 1/2             | 81         | 3.19 | 91  | 3.58 | 2.2    | 5.1  | 0.00175        |
| DST 2 Nm - 13         | 615 165 532 0  | 0.2-2           | 0.15-1.5   | 1/2             | 81         | 3.19 | 91  | 3.58 | 2.2    | 5.1  | 0.007          |
| DST 5 Nm - 13         | 615 165 533 0  | 0.5-5           | 0.37-3.7   | 1/2             | 81         | 3.19 | 91  | 3.58 | 2.3    | 5.1  | 0.0175         |
| DST 10 Nm - 20        | 615 165 534 0  | 1-10            | 0.74-7.4   | 3/4             | 86         | 3.38 | 93  | 3.66 | 3.1    | 6.8  | 0.035          |
| DST 30 Nm - 20        | 615 165 535 0  | 3-30            | 2.21-22    | 3/4             | 89         | 3.50 | 96  | 3.78 | 3.4    | 7.5  | 0.105          |
| DST 80 Nm - 25        | 615 165 538 0  | 8-80            | 5.89-59    | 1               | 108        | 4.25 | 116 | 4.57 | 5.8    | 12.8 | 0.28           |
| DST 200 Nm - 25       | 615 165 539 0  | 20-200          | 14.7-147   | 1               | 108        | 4.25 | 116 | 4.57 | 5.8    | 12.8 | 0.7            |
| DST 500 Nm - 32       | 615 165 541 0  | 50-500          | 36.8-368   | 1-1/4           | 133        | 5.24 | 144 | 5.67 | 11.8   | 26.0 | 1.75           |
| DST 1000 Nm - 32      | 615 165 542 0  | 100-1000        | 73.7-737   | 1-1/4           | 133        | 5.24 | 144 | 5.67 | 11.9   | 26.2 | 3.5            |
| DST 2000 Nm - 32      | 615 165 543 0  | 200-2000        | 147.4-1474 | 1-1/2           | 133        | 5.24 | 144 | 5.67 | 12.0   | 26.4 | 7              |



# Joint Simulator



These Joint simulators - specific to DST series - are available to reproduce the joint behavior; installing these joint simulators on a DST transducer allows you to test a tool in the same repeatable hard or soft joint working conditions.

## >> DJS

| MODEL                      | PART NUMBER   | TORQUE<br>MAX |       | COLOUR<br>INSIDE OUTSIDE |    | SQUARE<br>DRIVE |         | WEIGHT |       |
|----------------------------|---------------|---------------|-------|--------------------------|----|-----------------|---------|--------|-------|
|                            |               | Nm            | ft.lb |                          |    | in              | out     | kg     | lb    |
| DJS for DST AND PST 2 Soft | 615 165 529 0 | 2             | 1.5   | YW                       | YW | 1/2             | Hex1/4  | 0.12   | 0.26  |
| DJS for DST AND PST 2 Hard | 615 165 530 0 | 2             | 1.5   | YW                       | BK | 1/2             | Hex 1/4 | 0.12   | 0.26  |
| DJS for DST AND PST 5 Soft | 615 165 531 0 | 5             | 3.7   | GR                       | YW | 1/2             | Hex 1/4 | 0.12   | 0.26  |
| DJS for DST AND PST 5 Hard | 615 165 571 0 | 5             | 3.7   | GR                       | BK | 1/2             | Hex 1/4 | 0.12   | 0.26  |
| DJS for DST 10 Soft        | 615 165 574 0 | 10            | 7.4   | RD                       | YW | 3/4             | 3/8     | 0.64   | 1.41  |
| DJS for DST 10 Hard        | 615 165 575 0 | 10            | 7.4   | RD                       | BK | 3/4             | 3/8     | 0.64   | 1.41  |
| DJS for DST 30 Soft        | 615 165 577 0 | 30            | 22    | BL                       | YW | 3/4             | 3/8     | 0.65   | 1.43  |
| DJS for DST 30 Hard        | 615 165 579 0 | 30            | 22    | BL                       | BK | 3/4             | 3/8     | 0.65   | 1.43  |
| DJS for DST 80 Soft        | 615 165 584 0 | 80            | 59    | VL                       | YW | 1               | 1/2     | 2.50   | 5.51  |
| DJS for DST 80 Hard        | 615 165 587 0 | 80            | 59    | VL                       | BK | 1               | 1/2     | 2.50   | 5.51  |
| DJS for DST 200 Soft       | 615 165 588 0 | 200           | 147   | GY                       | YW | 1               | 1/2     | 2.60   | 5.73  |
| DJS for DST 200 Hard       | 615 165 589 0 | 200           | 147   | GY                       | BK | 1               | 1/2     | 2.60   | 5.73  |
| DJS for DST 500 Soft       | 615 165 590 0 | 500           | 369   | BK                       | YW | 1-1/4           | 3/4     | 5.00   | 11.02 |
| DJS for DST 500 Hard       | 615 165 591 0 | 500           | 369   | BK                       | BK | 1-1/4           | 3/4     | 5.00   | 11.02 |
| DJS for DST 1000           | 615 165 572 0 | 1000          | 737   | no color                 |    | 1-1/4           | 1       | 10.30  | 22.70 |
| DJS for DST 2000           | 615 936 137 0 | 2000          | 1475  | no color                 |    | 1-1/2           | 1       | 14.08  | 28.83 |

## >> ADAPTERS

| PART NUMBER     |               | PART NUMBER     |               | PART NUMBER       |               |
|-----------------|---------------|-----------------|---------------|-------------------|---------------|
| 3/4" M-1/4" F   | 615 397 205 0 | 1/2" M-3/8" F   | 615 936 111 0 | 3/4" F-1/2" F     | 615 936 130 0 |
| 3/4" M-3/8" F   | 615 397 206 0 | 1/2" F-3/8" F   | 615 936 112 0 | 1" 1/2 F-1" 1/2 F | 615 936 131 0 |
| 1" M-1/2" F     | 615 397 207 0 | 1/2" M-1/4" F   | 615 936 113 0 | 1/2" F-1/2" F     | 615 165 573 0 |
| 1" 1/4 M-1/2" F | 615 397 208 0 | 1" 1/4 M-3/4" F | 615 936 114 0 | 3/4" F-3/4" F     | 615 165 576 0 |
| 1" 1/4 M-3/4" F | 615 397 209 0 | 1/4" F-3/8" F   | 615 936 115 0 | 1" 1/2 F-1" 1/2 F | 615 936 436 0 |
| 1/4" F-1/4" F   | 615 397 210 0 | 1" 1/4 M-1" F   | 615 936 116 0 | 1" 1/2 F-1" F     | 615 936 437 0 |
| 3/8" F-3/8" F   | 615 397 211 0 | 1" F-1" F       | 615 936 117 0 | HEX 1/4" F-1/4" F | 615 936 435 0 |
| 1" M-3/4" F     | 615 936 110 0 | 1" F-3/4" F     | 615 936 126 0 |                   |               |



# Alpha Low Torque Analyzer

Dedicated torque analyzers for the setting and static test checks of low torque screwdrivers, either pneumatic or electric.



■ Embedded Transducer & Battery

## >> TECHNICAL SPECIFICATION

|                     |                                                           |                    |                                                        |
|---------------------|-----------------------------------------------------------|--------------------|--------------------------------------------------------|
| - Torque Transducer | Embedded                                                  | - Multi-units      | N•m, Kg•m, Kg•cm, Oz•in, Lb•in, Lb•ft, N•cm            |
| - Torque Accuracy   | +/- 1% of reading between 10% and 100 % of nominal torque | - Display          | Red, Green, Blue backlight                             |
| - Tools Testing     | Torque Wrench, Nutrunner or Pulse Tools                   | - Power Supply     | Embedded Battery External power supply                 |
| - Statistic         | Min. Max, Average, Standard Deviation                     | - Battery Autonomy | Up to 12 hours                                         |
| - Results Storage   | 1000 + 10 curves with DeltaQC Licensed                    | - Languages        | French, English, Spanish, Italian, Deutsch, Portuguese |
|                     |                                                           | - Software         | Free Delta QC Software to export results by USB        |

## >> MAIN FEATURES

- Alpha D Series is designed to monitor and collect torque check results from screwdrivers, torque wrenches or click wrenches.
- Ideal to tune the tools thanks to real time statistics on color display and high capacity torque results storage.
- Traceability with included software result acquisition with time stamp, including PDF or XLS reports.
- Three models with embedded transducer to cover torque range from 0,1 to 16 Nm. All models are provided with two included joint simulators to test nutrunner according to different joint stiffness condition.

■ Backlight RGB color display with acoustic buzzer

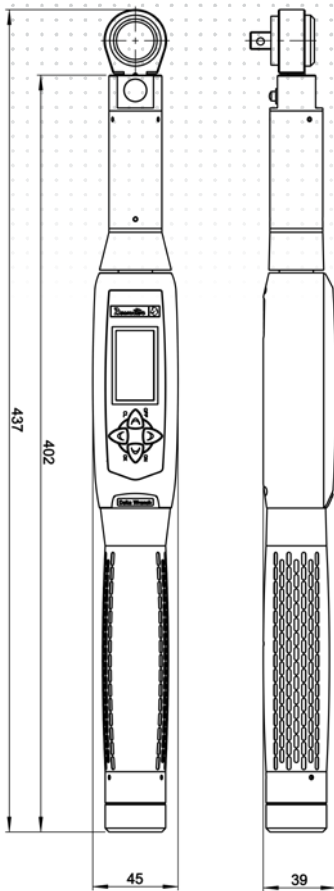
■ Hard & Soft Joint Simulator

| DJS - Alpha              | PART NUMBER   |
|--------------------------|---------------|
| DJS for Alpha_D1 Soft    | 615 936 120 0 |
| DJS for Alpha_D1 Hard    | 615 936 121 0 |
| DJS for Alpha_D5 Soft    | 615 936 122 0 |
| DJS for Alpha_D5 Hard    | 615 936 123 0 |
| DJS for Alpha_D16 Soft   | 615 936 124 0 |
| DJS for Alpha_D16 Hard   | 615 936 125 0 |
| Universal Power Supplier | 615 936 143 0 |

| ALPHA     | PART NUMBER   | P. CHARGER volts | TORQUE RANGE |              | DEPTH    | WIDTH    |         | HEIGHT |        | WEIGHT |    |
|-----------|---------------|------------------|--------------|--------------|----------|----------|---------|--------|--------|--------|----|
|           |               |                  | Nm           | in. - lb     | mm in.   | mm in.   | mm in.  | mm in. | mm in. | kg     | lb |
| Alpha D1  | 615 935 140 0 | 110/240V         | 0.1 - 1      | 0.88 - 8.85  | 106 4.17 | 180 7.09 | 70 2.76 | 0.95   | 2.1    |        |    |
| Alpha D5  | 615 935 141 0 | 110/240V         | 0.5 - 5      | 4.42 - 44.25 | 106 4.17 | 180 7.09 | 70 2.76 | 0.95   | 2.1    |        |    |
| Alpha D16 | 615 935 142 0 | 110/240V         | 1.6 - 16     | 14.1 - 141.6 | 106 4.17 | 180 7.09 | 70 2.76 | 0.95   | 2.1    |        |    |

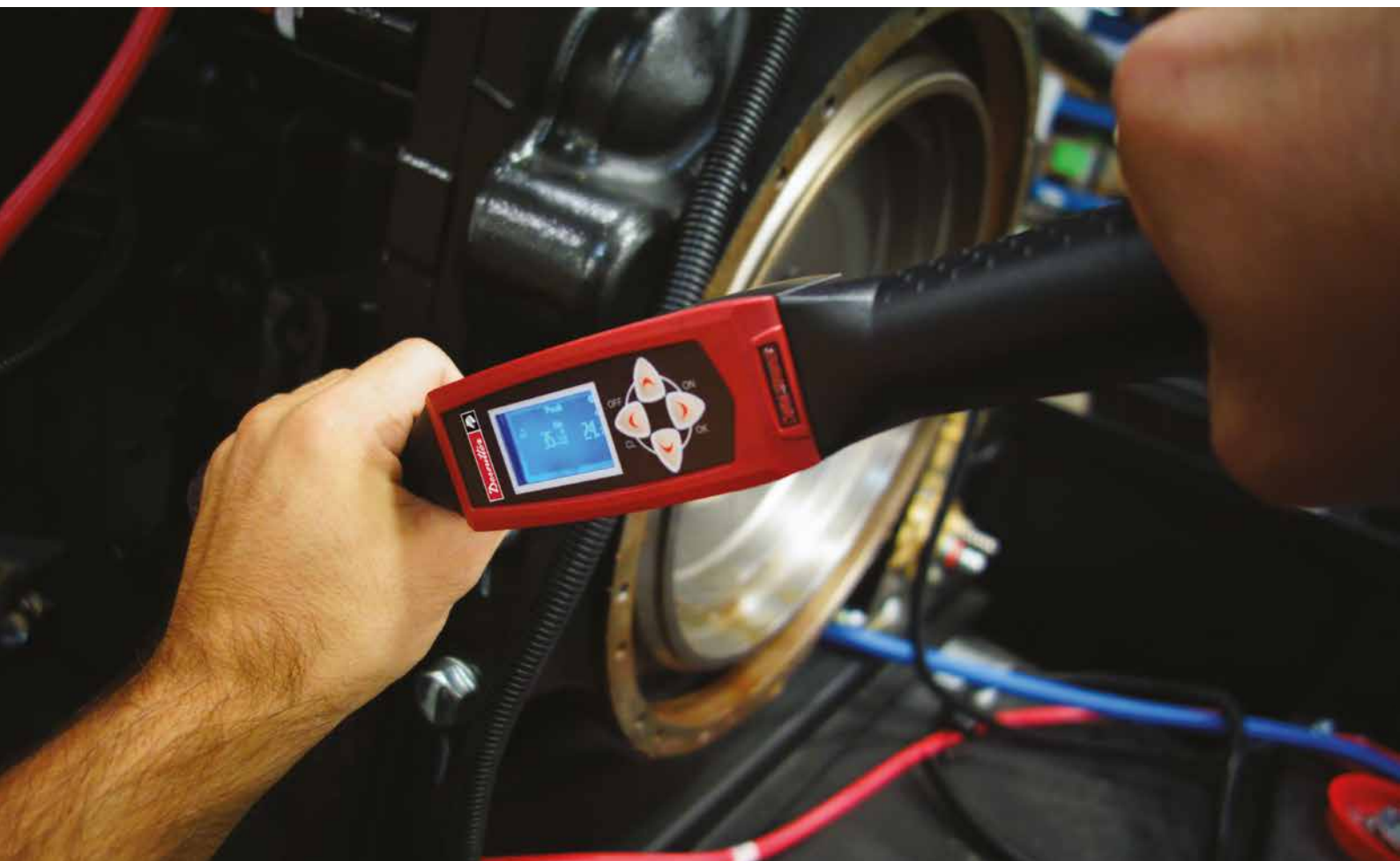
All models are supplied with external power supply, suitable hard and soft joint simulators and Delta QC Software USB Stick

# Digital Wrench For Torque & Angle Measurement



The digital wrench is a unique device and flexible solution for both production and quality strategy in tightening. Delta Wrench provides high accuracy solution for both torque and angle controlled joints tightening.

This range ensures perfect operator independent tightenings thanks to a double bridge transducer, and error-proofing thanks to automatic pre-defined Pset selection. It also includes residual torque measurement. Quality strategies and traceability for a perfect quality audit with predefined routes.





- A visual Backlight RGB colour display AND a complementary vibrating sensation system for an optimal operator guidance.

- Standard interchangeable heads and reversible ratchets

- Intelligent RFID-TAG for PSet automatic selection
- Optional Wireless Communication
- Ergonomic keyboard to recall the predefined PSet
- Double Bridge Transducer
- USB Port for DELTA QC free software communication for programming 200 predefined PSet or to Export result in XLS report.
- Gyroscope for angle measurement



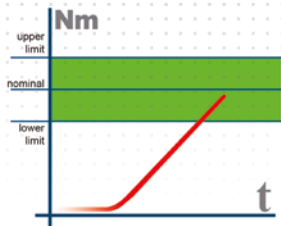
- Li-Ion Battery and Battery charger



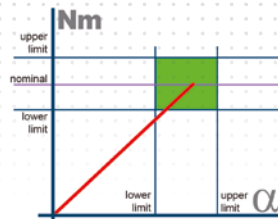
Non Length Dependent Transducer thanks to double bridge strain gauge. To guarantee a tightening result independent from operator hand position. 1% of torque accuracy across the range



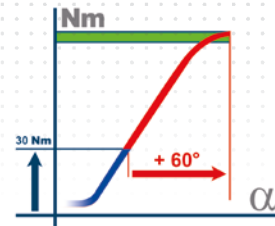
# Production Strategies



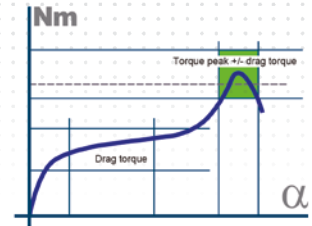
Tightening within torque limits



Tightening within torque and angle limits (tightening to a window)



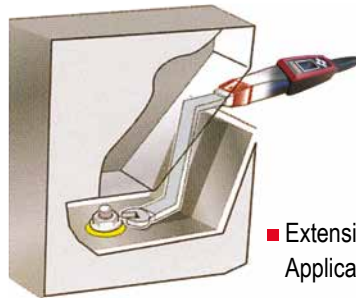
Tightening with torque and additional angle rotation (torque + angle)



Prevailing torque automatic compensation

## >> BENEFITS

- Accuracy for critical tightenings
- Wide torque range to replace click wrenches on multi Psets jobs
- Production data traceability
- Repair/rework station fastening capability
- Difficult access joints tightening
- Re-hit detection
- Low calibration cost
- Back up tool for safety & quality critical applications



■ Extension Application



■ Open End Application

## >> TECHNICAL SPECIFICATION

### 200 predefined Pset

#### Batch Count

#### Production Strategies

#### Quality Audit Strategy

#### Torque Accuracy

#### Angle Accuracy

#### Battery

#### Power Autonomy

#### USB Communication

#### Results

#### RGB Display

#### Extension Management

#### Multi-units

#### Languages

#### Software

Pset with T/A limits defined through Delta QC Software

Up to 99

Torque/Time, Torque & Angle, Torque + Angle CW/CCW Tightenings

Peak Torque, Torque plus Angle Automatic residual detection CW/CCW Tightenings

+/-1% of torque reading +/- 1 digit

+/-1,5% from 15°/sec to 30°/sec.

Li-Ion Battery

up to 8 hours for stand alone, 5 hours for wireless 2,4GHz

Bi-directional communication to Delta QC Software

1000 + 25 curves with Delta Licensed QC. Last 99 results are accessible directly on the wrench (FIFO) without an external PC or software

Red Green or Blue backlight

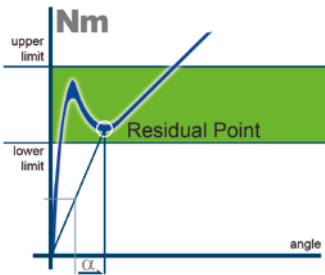
Torque and Angle bending correction

N•m, N•cm, Kg•cm, Kg•m, Oz•in, Lbf•in, Lbf•ft

French, English, Spanish, Italian, Deutsch, Portuguese

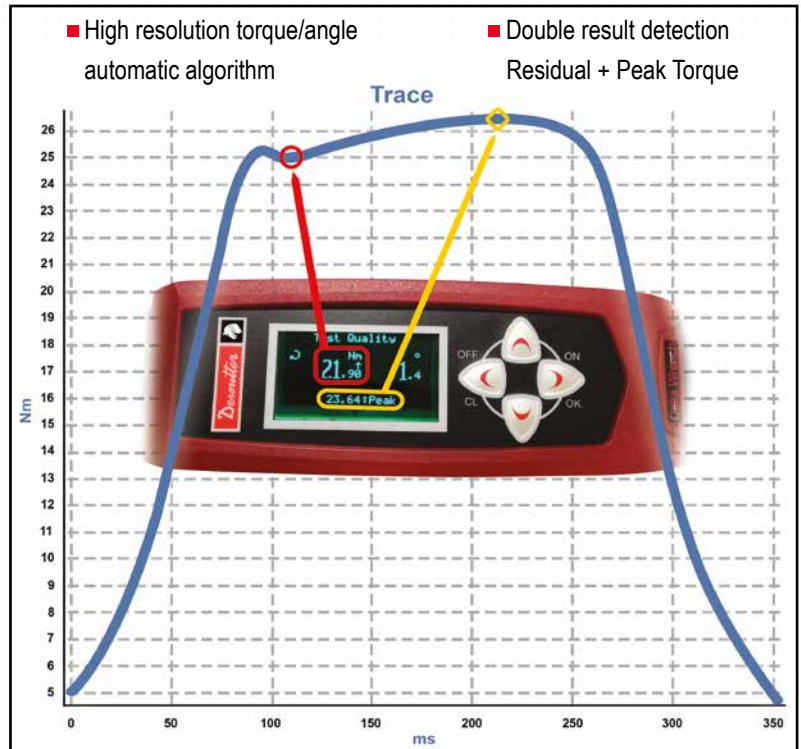
Free Delta QC software to define Pset

# Quality Strategies



Automatic residual point detection

Perfect for joint inspection and auditing Delta Wrench detects automatically the real residual torque of the fastener.

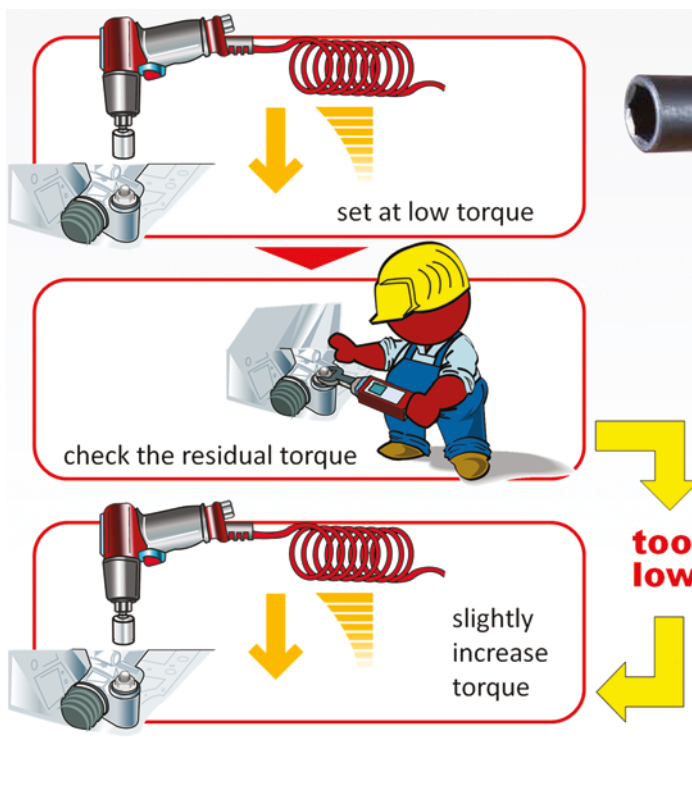


## >> BENEFITS

- Real residual torque value without any special programming or setting from operator
- Save time no PC setting are required
- No risk to release an over loaded fastener as mean value is saved
- Residual value operator independent
- Export data for quality & statistic analysis
- Perfect for fast & accurate pulse tools setting



## >> IDEAL FOR E-PULSE SETTING > (or any pulse tools model)





# Delta Wrench Vibrating



In order to provide a clear guidance to the operator during tightening, the vibrating wrench is configurable to give you an immediate feedback even in a loud environment of work.

|                           | PART NUMBER   | RANGE  |             | ANGLE | DRIVE |           | RATCHET | LENGTH |      | WEIGHT |     |
|---------------------------|---------------|--------|-------------|-------|-------|-----------|---------|--------|------|--------|-----|
|                           |               | Nm     | ft lb       |       | mm    | inc.      |         | mm     | in.  | kg     | lb  |
| Delta Wrench 30-AV        | 615 935 230 0 | 3-30   | 2.21-22.13  | ✓     | 9x12  | 0.35x0.47 | in 3/8  | 402    | 15.8 | 0.7    | 1.5 |
| Delta Wrench 150-AV Short | 615 935 231 0 | 15-150 | 11.06-110.6 | ✓     | 14x18 | 0.55x0.71 | in 1/2  | 418    | 16.5 | 0.8    | 1.7 |
| Delta Wrench 200-AV       | 615 935 232 0 | 20-200 | 14.75-147.5 | ✓     | 14X18 | 0.55x0.71 | in 1/2  | 627    | 24.7 | 1.6    | 3.6 |
| Delta Wrench 400-AV       | 615 935 233 0 | 40-400 | 29.50-295.0 | ✓     | 14x18 | 0.55x0.71 | in 3/4  | 1026   | 40.4 | 2.6    | 5.8 |
| Delta Wrench 500-AV       | 615 935 234 0 | 50-500 | 36.88-368.8 | ✓     | 21X26 | 0.82X1.02 | in 3/4  | 1137   | 44.8 | 4.2    | 9.2 |
| Delta Wrench 800-AV       | 615 935 235 0 | 80-800 | 59.00-590.0 | ✓     | Ø 28  | Ø 1.1     | in 1    | 1305   | 51.4 | 4.7    | 9.8 |

| ACCESSORIES                  | PART NUMBER   | HEIGHT |      | LENGTH |      | WIDTH |        | WEIGHT |      |
|------------------------------|---------------|--------|------|--------|------|-------|--------|--------|------|
|                              |               | mm     | in   | mm     | in   | mm    | in     | gr     | lb   |
| Delta Wrench Battery         | 615 936 150 0 | -      | -    | 110    | 4.33 | Ø 22  | Ø 8,86 | 80     | 0.18 |
| Delta Wrench Battery Charger | 615 936 151 0 | 60     | 2.36 | 140    | 5.51 | 80    | 3.15   | 240    | 0.53 |

| DeltaQC Software    | FREE | LICENSED | ADVANCED | SOFTWARE                 | PART NUMBER   |
|---------------------|------|----------|----------|--------------------------|---------------|
| PSet programming    | ✓    | ✓        | ✓        | DeltaQC Licensed 1 user  | 615 927 651 0 |
| Result viewer       | ✓    | ✓        | ✓        | DeltaQC Licensed 5 users | 615 927 652 0 |
| Result excel export | ✓    | ✓        | ✓        | DeltaQC Advanced 1 user  | 615 927 653 0 |
| Curve viewer        |      | ✓        | ✓        | DeltaQC Advanced 5 users | 615 927 654 0 |
| Result Database     |      |          | ✓        |                          |               |

# Delta Wrench WLAN

Thanks to simple bidirectional communication protocol, DeltaWrench Wlan (TCP Client), can be easily interfaced to custom applications (TCP Server), by developing a communication bridge software.

Customer Software Application

Plant Network

Access Point

■ Dual Band  
WLAN 2.4 & 5 GHz  
Infrastructure mode

■ Remote PSet Setup & Selection  
■ Remote Enable/Disable Wrench  
■ Real Time Torque/Angle Results

■ Main available Command

## >> BENEFITS

- Real Time communication
- Open Protocol or Desoutter Protocol (ASCII format) fully available for easy custom integration
- Dual Band Wlan Module fully configurable by DeltaQC Software

### MODEL

### PART NUMBER

Access point Wifi 802.11N - US 615 811 417 5

Access point Wifi 802.11N - Europe 615 811 419 5



### MODEL

### PART NUMBER

Access Point Wifi 802.11N - C 615 811 4205

Access Point Wifi 802.11N - N 615 811 650 5

Access Point Power Cord UK 615 917 202 0



## >> WITH WLAN

|                                | PART<br>NUMBER | RANGE  |             | ANGLE | DRIVE |           | RACHET<br>included | LENGTH |      | WEIGHT |     |
|--------------------------------|----------------|--------|-------------|-------|-------|-----------|--------------------|--------|------|--------|-----|
|                                |                | Nm     | ft lb       |       | mm    | inc.      |                    | mm     | in.  | kg     | lb  |
| Delta Wrench 30-AV WLAN        | 615 935 236 0  | 3-30   | 2.21-22.13  | ✓     | 9x12  | 0.35x0.47 | in 3/8             | 402    | 15.8 | 0.7    | 1.5 |
| Delta Wrench 150-AV WLAN Short | 615 935 237 0  | 15-150 | 11.06-110.6 | ✓     | 14x18 | 0.55x0.71 | in 1/2             | 418    | 16.5 | 0.8    | 1.7 |
| Delta Wrench 200-AV WLAN       | 615 935 238 0  | 20-200 | 14.75-147.5 | ✓     | 14x18 | 0.55x0.71 | in 1/2             | 627    | 24.7 | 1.6    | 3.6 |
| Delta Wrench 400-AV WLAN       | 615 935 239 0  | 40-400 | 29.50-295.0 | ✓     | 14x18 | 0.55x0.71 | in 3/4             | 1026   | 40.4 | 2.6    | 5.8 |
| Delta Wrench 500-AV WLAN       | 615 935 240 0  | 50-500 | 36.88-368.8 | ✓     | 21X26 | 0.82x1.02 | in 3/4             | 1137   | 44.8 | 4.2    | 9.2 |
| Delta Wrench 800-AV WLAN       | 615 935 241 0  | 80-800 | 59.00-590.0 | ✓     | Ø 28  | Ø 1.1     | in 1               | 1305   | 51.4 | 4.7    | 9.8 |

# E-LIT box

## >> FOCUS

1. Wireless communication
2. Fast to connect
3. Safe report
4. Visual feedback
5. Batch count to avoid forgotten bolts



## >> CHARACTERISTICS

### 1. Wireless communication

- Low consumption
- Fast connection
- Long range communication
- Industrial wireless communication system (with 802-15-4 Technology)

### 2. Fast to connect

- Automatic free channel search
- Easy pairing process

### 3. Safe report

- Memorize up to 25 OK/NOK reports if lost communication
- Possibly to lock if memory full

### 4. Visual feedback

- Feedback directly on Wrench display
- Wireless communication
- Tightening OK / NOK

### 5. Buzzer feedback





# Delta Wrench ZigBee



## 8 available outputs including:

- ✓ OK
- ✓ NOK
- ✓ Tool ready
- ✓ Tool disable
- ✓ Batch complete

## 4 available inputs including:

- ✓ Lock tool
- ✓ Unlock tool
- ✓ Unlock tool and reset

## >> EASY Pairing Process



| WRENCH - ZIGBEE                 | PART<br>NUMBER | RANGE  |             | ANGLE | DRIVE |           | INCLUDED<br>RATCHET |      | LENGTH |      | WEIGHT |  |
|---------------------------------|----------------|--------|-------------|-------|-------|-----------|---------------------|------|--------|------|--------|--|
|                                 |                | Nm     | ft lb       |       | mm    | in.       | in                  | mm   | in.    | kg   | lb     |  |
|                                 |                |        |             |       |       |           |                     |      |        |      |        |  |
| Delta Wrench 30-A Zigbee        | 615 165 805 0  | 3-30   | 2.21-22.13  | ✓     | 9x12  | 0.35x0.47 | 3/8                 | 402  | 15.83  | 0.7  | 1.5    |  |
| Delta Wrench 150-A Zigbee Short | 615 165 810 0  | 15-150 | 11.06-110.6 | ✓     | 14x18 | 0.55x0.71 | 1/2                 | 418  | 16.46  | 0.75 | 1.6    |  |
| Delta Wrench 150-A Zigbee       | 615 165 806 0  | 15-150 | 11.06-110.6 | ✓     | 14x18 | 0.55x0.71 | 1/2                 | 625  | 24.60  | 1.6  | 3.5    |  |
| Delta Wrench 400-A ZigBee       | 615 165 807 0  | 40-400 | 29.50-295.0 | ✓     | 14x18 | 0.55x0.71 | 3/4                 | 1026 | 40.40  | 2.6  | 5.8    |  |
| Delta Wrench 800-A ZigBee       | 615 165 808 0  | 80-800 | 59.00-590.0 | ✓     | Ø28   | Ø1.1      | 1                   | 1309 | 51.54  | 4.4  | 9.8    |  |

| ACCESSORIES MODEL | PART NUMBER   | ELC TOOLS |
|-------------------|---------------|-----------|
| E-LIT BOX-V2      | 615 936 310 0 | ✓         |

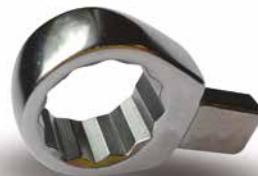
| ACCESSORIES MODEL      | PART NUMBER   | ELC TOOLS |
|------------------------|---------------|-----------|
| Power supply E-LIT BOX | 615 927 053 0 | ✓         |

# Delta Wrench Accessories

End Fittings with embedded RFID TAG\* and NO TAG



| OPEN END metric             | TAG        | NO TAG     |
|-----------------------------|------------|------------|
| Drive 9x12 Open End 7 mm.   | 6159361520 | 6153970550 |
| Drive 9x12 Open End 8 mm.   | 6159361530 | 6153970560 |
| Drive 9x12 Open End 9 mm.   | 6159361540 | 6153970570 |
| Drive 9x12 Open End 10 mm.  | 6159361550 | 6153970580 |
| Drive 9x12 Open End 11 mm.  | 6159361560 | 6153970590 |
| Drive 9x12 Open End 12 mm.  | 6159361570 | 6153970600 |
| Drive 9x12 Open End 13 mm.  | 6159361580 | 6153970610 |
| Drive 9x12 Open End 14 mm.  | 6159361590 | 6153970620 |
| Drive 9x12 Open End 15 mm.  | 6159361600 | 6153970630 |
| Drive 9x12 Open End 16 mm.  | 6159361610 | 6153970640 |
| Drive 9x12 Open End 17 mm.  | 6159361620 | 6153970650 |
| Drive 9x12 Open End 18 mm.  | 6159361630 | 6153970660 |
| Drive 9x12 Open End 19 mm.  | 6159361640 | 6153970670 |
| Drive 14x18 Open End 13 mm. | 6159361940 | 6153971310 |
| Drive 14x18 Open End 14 mm. | 6159361950 | 6153971320 |
| Drive 14x18 Open End 15 mm. | 6159361960 | 6153971330 |
| Drive 14x18 Open End 16 mm. | 6159361970 | 6153971340 |
| Drive 14x18 Open End 17 mm. | 6159361980 | 6153971350 |
| Drive 14x18 Open End 18 mm. | 6159361990 | 6153971360 |
| Drive 14x18 Open End 19 mm. | 6159362000 | 6153971370 |
| Drive 14x18 Open End 21 mm. | 6159362010 | 6153971380 |
| Drive 14x18 Open End 22 mm. | 6159362020 | 6153971390 |
| Drive 14x18 Open End 24 mm. | 6159362030 | 6153971400 |
| Drive 14x18 Open End 27 mm. | 6159362040 | 6153971410 |
| Drive 14x18 Open End 30 mm. | 6159362050 | 6153971420 |
| Drive 14x18 Open End 32 mm. | 6159362060 | 6153971430 |
| Drive 14x18 Open End 34 mm. | 6159362070 | 6153971440 |



| RING BOX END metric             | TAG        | NO TAG     |
|---------------------------------|------------|------------|
| Drive 9x12 Ring Box End 7 mm.   | 6159361650 | 6153970780 |
| Drive 9x12 Ring Box End 8 mm.   | 6159361660 | 6153970790 |
| Drive 9x12 Ring Box End 10 mm.  | 6159361670 | 6153970800 |
| Drive 9x12 Ring Box End 11 mm.  | 6159361680 | 6153970810 |
| Drive 9x12 Ring Box End 12 mm.  | 6159361690 | 6153970820 |
| Drive 9x12 Ring Box End 13 mm.  | 6159361700 | 6153970830 |
| Drive 9x12 Ring Box End 14 mm.  | 6159361710 | 6153970840 |
| Drive 9x12 Ring Box End 15 mm.  | 6159361720 | 6153970850 |
| Drive 9x12 Ring Box End 16 mm.  | 6159361730 | 6153970860 |
| Drive 9x12 Ring Box End 17 mm.  | 6159361740 | 6153970870 |
| Drive 9x12 Ring Box End 18 mm.  | 6159361750 | 6153970880 |
| Drive 9x12 Ring Box End 19 mm.  | 6159361760 | 6153970890 |
| Drive 9x12 Ring Box End 21 mm.  | 6159361770 | 6153970900 |
| Drive 9x12 Ring Box End 22 mm.  | 6159361780 | 6153970910 |
| Drive 14x18 Ring Box End 13 mm. | 6159362080 | 6153971730 |
| Drive 14x18 Ring Box End 14 mm. | 6159362090 | 6153971740 |
| Drive 14x18 Ring Box End 15 mm. | 6159362100 | 6153971750 |
| Drive 14x18 Ring Box End 16 mm. | 6159362110 | 6153971760 |
| Drive 14x18 Ring Box End 17 mm. | 6159362120 | 6153971770 |
| Drive 14x18 Ring Box End 18 mm. | 6159362130 | 6153971780 |
| Drive 14x18 Ring Box End 19 mm. | 6159362140 | 6153971790 |
| Drive 14x18 Ring Box End 21 mm. | 6159362150 | 6153971800 |
| Drive 14x18 Ring Box End 22 mm. | 6159362160 | 6153971810 |
| Drive 14x18 Ring Box End 24 mm. | 6159362170 | 6153971820 |
| Drive 14x18 Ring Box End 27 mm. | 6159362180 | 6153971830 |
| Drive 14x18 Ring Box End 30 mm. | 6159362190 | 6153971840 |
| Drive 14x18 Ring Box End 32 mm. | 6159362200 | 6153971850 |
| Drive 14x18 Ring Box End 34 mm. | 6159362210 | 6153971860 |
| Drive 14x18 Ring Box End 36 mm. | 6159362220 | 6153971870 |
| Drive 14x18 Ring Box End 41 mm. | 6159362230 | 6153971880 |

| FLARED END metric            | TAG        | NO TAG     |
|------------------------------|------------|------------|
| Drive 9x12 Flared End 10 mm. | 6159361790 | 6153971030 |
| Drive 9x12 Flared End 11 mm. | 6159361800 | 6153971040 |
| Drive 9x12 Flared End 12 mm. | 6159361810 | 6153971050 |
| Drive 9x12 Flared End 13 mm. | 6159361820 | 6153971060 |
| Drive 9x12 Flared End 14 mm. | 6159361830 | 6153971070 |
| Drive 9x12 Flared End 16 mm. | 6159361840 | 6153971080 |
| Drive 9x12 Flared End 17 mm. | 6159361850 | 6153971090 |
| Drive 9x12 Flared End 18 mm. | 6159361860 | 6153971100 |
| Drive 9x12 Flared End 19 mm. | 6159361870 | 6153971110 |
| Drive 9x12 Flared End 21 mm. | 6159361880 | 6153971120 |
| Drive 9x12 Flared End 22 mm. | 6159361890 | 6153971130 |
| Drive 9x12 Flared End 24 mm. | 6159361900 | 6153971140 |



| BLANK END             | TAG        | NO TAG     |
|-----------------------|------------|------------|
| Drive 9x12 Blank End  | 6159362280 | 6153971300 |
| Drive 14x18 Blank End | 6159362260 | 6153972030 |
| Drive 21x26 Blank End | 6159364440 | 6159364430 |



| OPEN END inches              | TAG        | NO TAG     |
|------------------------------|------------|------------|
| Drive 9x12 Open End 1/4"     | 6159362290 | 6153970690 |
| Drive 9x12 Open End 5/16"    | 6159362300 | 6153970700 |
| Drive 9x12 Open End 3/8"     | 6159362310 | 6153970710 |
| Drive 9x12 Open End 7/16"    | 6159362320 | 6153970720 |
| Drive 9x12 Open End 1/2"     | 6159362330 | 6153970730 |
| Drive 9x12 Open End 9/16"    | 6159362340 | 6153970740 |
| Drive 9x12 Open End 5/8"     | 6159362350 | 6153970750 |
| Drive 9x12 Open End 11/16"   | 6159362360 | 6153970760 |
| Drive 9x12 Open End 3/4"     | 6159362370 | 6153970770 |
| Drive 14x18 Open End 7/16"   | 6152210080 | 6153971450 |
| Drive 14x18 Open End 1/2"    | 6152210090 | 6153971460 |
| Drive 14x18 Open End 9/16"   | 6152210100 | 6153971470 |
| Drive 14x18 Open End 5/8"    | 6152210110 | 6153971480 |
| Drive 14x18 Open End 11/16"  | 6152210120 | 6153971490 |
| Drive 14x18 Open End 3/4"    | 6152210130 | 6153971500 |
| Drive 14x18 Open End 13/16"  | 6152210140 | 6153971510 |
| Drive 14x18 Open End 7/8"    | 6152210150 | 6153971520 |
| Drive 14x18 Open End 15/16"  | 6152210160 | 6153971530 |
| Drive 14x18 Open End 1"      | 6152210170 | 6153971540 |
| Drive 14x18 Open End 1, 1/8" | 6152210180 | 6153971720 |

| RING BOX END inches            | TAG        | NO TAG     |
|--------------------------------|------------|------------|
| Drive 9x12 Ring Box End 1/4"   | 6159362380 | 6153970920 |
| Drive 9x12 Ring Box End 5/16"  | 6159362390 | 6153970930 |
| Drive 9x12 Ring Box End 3/8"   | 6159362400 | 6153970940 |
| Drive 9x12 Ring Box End 7/16"  | 6159362410 | 6153970950 |
| Drive 9x12 Ring Box End 1/2"   | 6159362420 | 6153970960 |
| Drive 9x12 Ring Box End 9/16"  | 6159362430 | 6153970970 |
| Drive 9x12 Ring Box End 5/8"   | 6159362440 | 6153970980 |
| Drive 9x12 Ring Box End 11/16" | 6159362450 | 6153970990 |
| Drive 9x12 Ring Box End 3/4"   | 6159362460 | 6153971000 |
| Drive 9x12 Ring Box End 13/16" | 6159362470 | 6153971010 |
| Drive 9x12 Ring Box End 7/8"   | 6159362480 | 6153971020 |
| Drive 14x18 Box End 1/2"       | 6152210190 | 6153971890 |
| Drive 14x18 Box End 9/16"      | 6152210200 | 6153971900 |
| Drive 14x18 Box End 5/8"       | 6152210210 | 6153971910 |
| Drive 14x18 Box End 11/16"     | 6152210220 | 6153971920 |
| Drive 14x18 Box End 3/4"       | 6152210230 | 6153971930 |
| Drive 14x18 Box End 13/16"     | 6152210240 | 6153971940 |
| Drive 14x18 Box End 7/8"       | 6152210250 | 6153971950 |
| Drive 14x18 Box End 15/16"     | 6152210260 | 6153971960 |
| Drive 14x18 Box End 1"         | 6152210270 | 6153971970 |



| FLARED END inches            | TAG        | NO TAG     |
|------------------------------|------------|------------|
| Drive 9x12 Flared End 3/8"   | 6152210010 | 6153971150 |
| Drive 9x12 Flared End 7/16"  | 6152210020 | 6153971160 |
| Drive 9x12 Flared End 1/2"   | 6152210030 | 6153971170 |
| Drive 9x12 Flared End 9/16"  | 6152210040 | 6153971180 |
| Drive 9x12 Flared End 5/8"   | 6152210050 | 6153971190 |
| Drive 9x12 Flared End 11/16" | 6152210060 | 6153971200 |
| Drive 9x12 Flared End 3/4"   | 6152210070 | 6153971210 |



| REVERSIBLE RATCHET                     | TAG        | NO TAG     |
|----------------------------------------|------------|------------|
| Drive 9x12 Reversible ratchet 1/4"     | 6159361910 | 6153971250 |
| Drive 9x12 Reversible ratchet 3/8"     | 6159361920 | 6153971260 |
| Drive 9x12 Reversible ratchet 1/2"     | 6159361930 | 6153971270 |
| Drive 14x18 Reversible ratchet 1/2"    | 6159362240 | 6153972000 |
| Drive 14x18 Reversible ratchet Hd 3/4" | 6159364400 | 6159364390 |
| Drive 21x26 Reversible ratchet 3/4"    | 6159364420 | 6159364410 |
| Drive Ø 28 Reversible ratchet 1"       | 6159362270 | 6153972040 |



| BITS HOLDER                   | TAG        | NO TAG     |
|-------------------------------|------------|------------|
| Drive 9x12 Bits Holder 1/4"   | 6152210280 | 6153971280 |
| Drive 9x12 Bits Holder 5/16"  | 6152210290 | 6153971290 |
| Drive 14x18 Bits Holder 5/16" | 6152210300 | 6153972020 |



| FIXED SQUARE DRIVE                  | NO TAG     |
|-------------------------------------|------------|
| Drive 9x12 Fixed Square Drive 1/4"  | 6153971220 |
| Drive 9x12 Fixed Square Drive 3/8"  | 6153971230 |
| Drive 9x12 Fixed Square Drive 1/2"  | 6153971240 |
| Drive 14x18 Fixed Square Drive 1/2" | 6153971980 |
| Drive 14x18 Fixed Square Drive 3/4" | 6153971990 |



# Calibration Bench

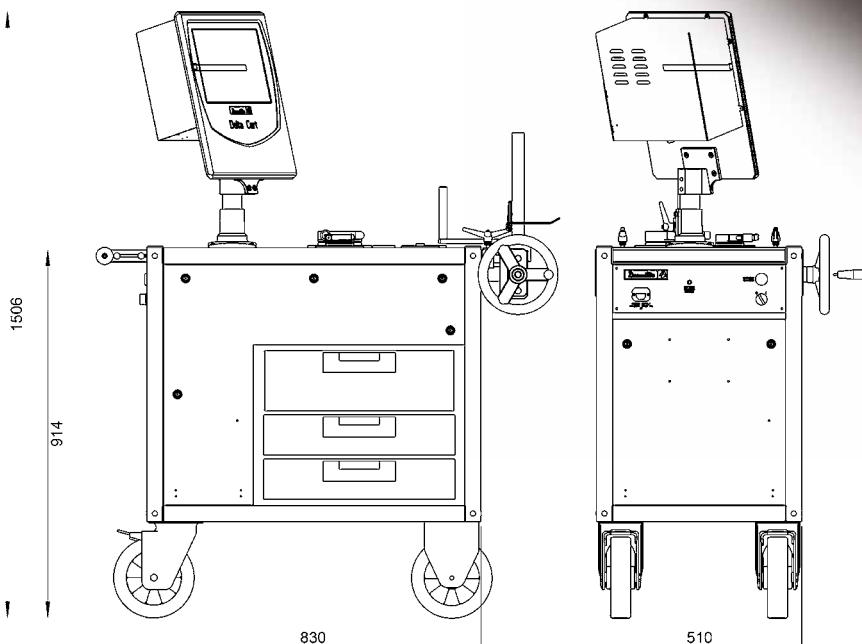
## EMBEDDED TRANSDUCERS:

Assembly tools calibration process requires a flexible and versatile solution, high quality performance even in production lines. Desoutter Tools is proud to present the Delta Cart, an ergonomic and attractive solution to improve quality in assembly processes.

■ Delta Cart offers a wide torque range since it can be configured up to 4 static transducers to cover from 0.2 Nm to 1 000 Nm (0.15 to 738 ft.lb) in a very compact dimensions (510mm width), making the Delta Cart the ideal solution for tool testing in assembly production lines.



■ Embedded PC equipped with wide 12" color touch screen lets operators to start tool testing in a few seconds and few steps.



■ Delta Cart includes all adapters, reaction bars and suitable joint simulators. Optional ISO RIG for torque wrench to eliminate operator influence during calibration, reducing efforts for high torque range.

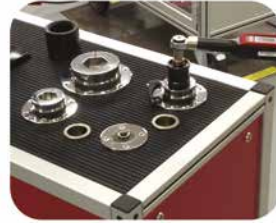
# Delta Cart Tool Calibration



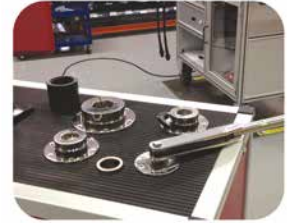
Electric and Pneumatic Nutrunner



Shut off and non shut off Pulse Tool



Torque wrench



Click wrench

The Delta Cart is able to follow your tools during the complete life span: by performing capacity test (Cm/Cmk) before tool is introduced into production, or monitoring tool performance during production assembly process by performing Statistic Process Control (SPC) test.



## >> TECHNICAL FEATURES

- Configurable torque range from 1 Nm to 1000Nm
- Torque reaction bar and joint simulator included
- External DRT communication for in-line calibration
- Angle Strategy with external DRT5
- Auto Calibration CVI2 & CVI3
- Double reading bench / controller with automatic verification of a drift.



# Delta Cart Tool Calibration

Embedded Software with local tool DB (SQL Server)  
containing all Tool of the line including:

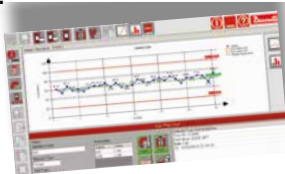
- Overview of your tools inventory with a calibration status.



- Next Calibration



- Cm / Cmk Reports



- X/R Charts X/R Charts for SPC reports



- Automatic Calibrations with CVi2 and CVi3 controllers

- PST High accuracy static transducers with locking system specially designed for pulse tool calibration

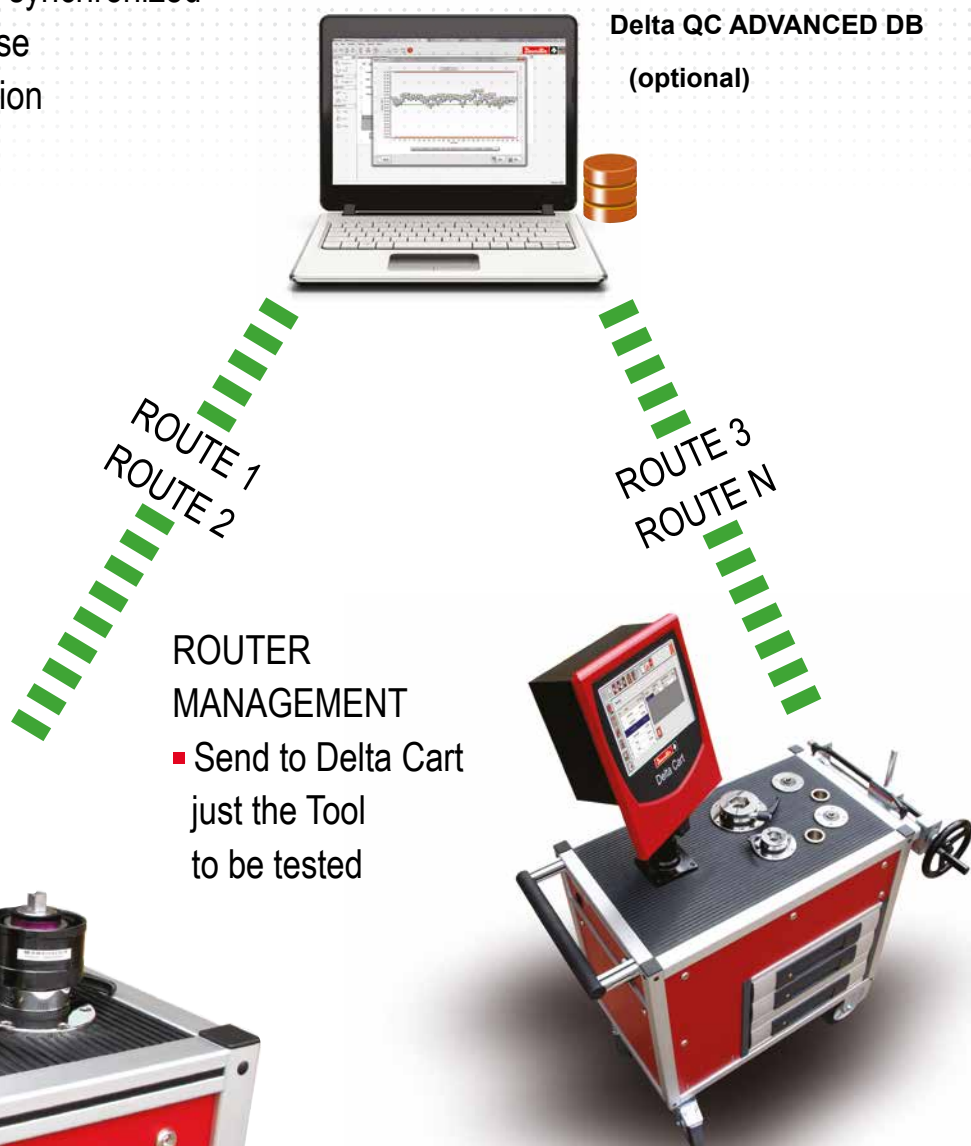


- ISO RIG  
System for torque wrench calibration



## CLIENT - SERVER Architecture

- Ideal for >1 cart management
- All Calibration data always synchronized with unique Server database
- Fast Ethernet communication



## >> SOFTWARE FEATURES

**Torque Wrench, Electric or Pneumatic**

**Nutrunner Test, Pulse Test**

**Cm/Cmk - ISO 3534**

**ISO 6789 - ISO 5393**

**Statistic Control - ISO 8258**

**Print**

**Export**

**Curve**

**Barcode**

**Configurable for each test**

**Languages**

Local Test Database up to 30.000 Tests - Setting: Nominal Min Max Torque, unit of measure, Test ID, Test Description, Transducer number, Timeout setting

Cm/Cmk, min, max, average, sigma

Automatic test report

X/R Charts for trend control

Direct printing from Cart PC

Certificate export PDF or XLS

Torque/Time or Torque/Angle with external DRT5

External USB

N•m - gf•cm - Kgf•cm - kgf•m - ozf•in - lbf•in - lbf•ft

English, French, Italian, German, Russian

# Delta QC Software

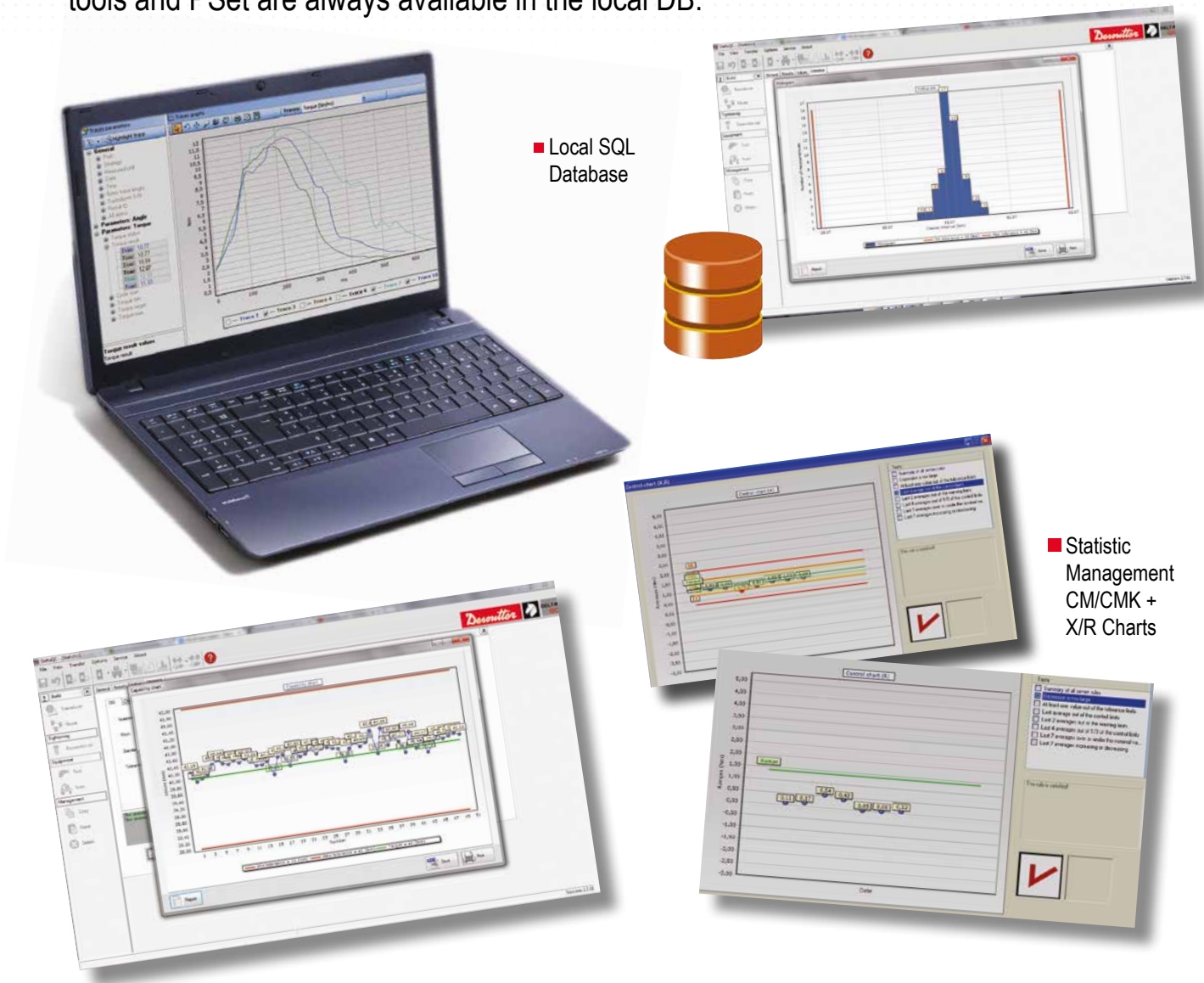
The Delta QC software is the common software platform for all Delta QC measurement equipments. Included features are programming, results and trace viewer ensuring production data traceability. Statistic machine capability tool or SPC are also ensured thanks to local database available in the Advanced version, suitable to keep always updated the status of all tools in the line.

| PART NUMBER   | MODEL                     | PART NUMBER   | MODEL                     |
|---------------|---------------------------|---------------|---------------------------|
| 615 927 651 0 | Delta QC Licensed 1 User  | 615 927 653 0 | Delta QC Advanced 1 User  |
| 615 927 652 0 | Delta QC Licensed 5 Users | 615 927 654 0 | Delta QC Advanced 5 Users |



# Advanced

Advanced version provides a local result database and offline programming. All results, traces and statistics are available for review, export and reporting in both on line and off line mode. All tools and PSet are always available in the local DB.



■ Local SQL Database

■ Statistic Management  
CM/CMK +  
X/R Charts

Embedded Tool DB (SQL Server) containing all Tool of the line including:

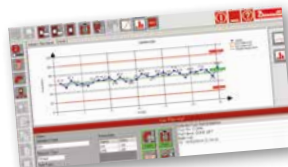
■ Overview of your tools inventory with a calibration status.



■ Next Calibration



■ Cm / Cmk Reports



■ X/R Charts for SPC reports





# Delta Qc Software

## Licensed

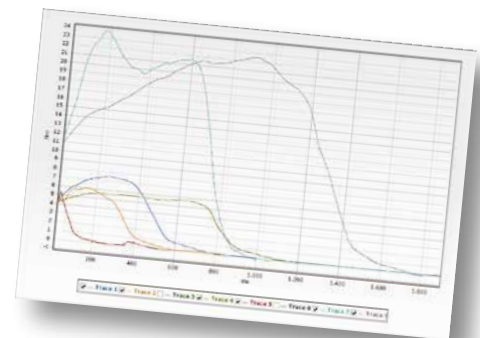
- Licensed version for online device programming and online result export



- PSet, Tool programming



- Result and Trace Viewer, Excel EXPORT and PRINTING



## Free Version

Delta Wrench Delta and Alpha D product range are supplied with the Delta QC software. Without any registration the Delta QC is able to program Delta Wrench, Delta D and Alpha, download results, export to excel and print.

## >> MAIN FUNCTION >> Delta D

|                          | FREE | LICENSED | ADVANCED |
|--------------------------|------|----------|----------|
| Pset programming         | ✓    | ✓        | ✓        |
| Tool Definition          | ✓    | ✓        | ✓        |
| Route Definition         |      | ✓        | ✓        |
| Transducer Definition    | ✓    | ✓        | ✓        |
| Pset Database            |      | ✓        | ✓        |
| Tool Database            |      | ✓        | ✓        |
| Route Database           |      | ✓        | ✓        |
| Statistic (online only)  |      | ✓        | ✓        |
| Result viewer            | ✓    | ✓        | ✓        |
| Result excel export      | ✓    | ✓        | ✓        |
| Curve viewer             |      | ✓        | ✓        |
| Curve excel, JPEG export |      | ✓        | ✓        |
| Curve comparison         |      | ✓        | ✓        |
| RESULT Database          |      |          | ✓        |
| Curve Database           |      |          | ✓        |
| Offline statistic        |      |          | ✓        |

## >> MAIN FUNCTION >> Delta Wrench

|                     | FREE | LICENSED | ADVANCED |
|---------------------|------|----------|----------|
| Pset programming    | ✓    | ✓        | ✓        |
| Result viewer       | ✓    | ✓        | ✓        |
| Result excel export | ✓    | ✓        | ✓        |
| PSet DataBase       |      | ✓        | ✓        |
| Curve viewer        |      | ✓        | ✓        |
| Result Database     |      |          | ✓        |

## >> MAIN FUNCTION >> Alpha D

|                     | FREE | LICENSED | ADVANCED |
|---------------------|------|----------|----------|
| Result viewer       | ✓    | ✓        | ✓        |
| Result excel export | ✓    | ✓        | ✓        |
| Curve viewer        |      | ✓        | ✓        |

## >> MAIN FUNCTION >> Delta Cart

|                     | FREE | LICENSED | ADVANCED |
|---------------------|------|----------|----------|
| Pset programming    |      |          | ✓        |
| Pset Database       |      |          | ✓        |
| Result viewer       |      |          | ✓        |
| Result excel report |      |          | ✓        |
| Result Database     |      |          | ✓        |
| Offline statistic   |      |          | ✓        |



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