



Aferidores de Torque

Torquímetros Digitais



Data Analyzer

Delta 1D / Delta 6D / Delta 7D

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)

MAIN FEATURES

- Display: Large color screen shows clear test results, Torque & Angle curves. Real time statistics, Tools description and Routes
- Connectivity: Ethernet and USB port for Delta QC software communication and RS232 for CVI II, CVIC II and CVI3 calibration or barcode reader
- Power: Li-Ion high capacity battery of 16 hours of autonomy or external power supply
- Transducer: Standard Desoutter connector for digital transducers. Analog CMD and GSE transducer connection through an adapter
- Barcode (Delta 7D): Embeddeb Barcode for automatic Pset selection or VIN traceability



Measurement Unit

Delta 1D / Delta 6D / Delta 7D



MAIN FEATURES	DELTA 1D	DELTA 6D	DELTA 7D
Transducer			
Connection to DRT4, DRT5, DST	✓	✓	✓
Connection to DWT, DWTA			✓
Connection to CMD, GSE or general 19 pins analog transducer	✓	✓	✓
	Through optional analog/digital adapter		
On board functionality			
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		
Residual Check Strategy			✓
Production Strategy			✓
Results	1000	5000	5000
Curve	10	10	10
CVI autocalibration		✓	✓
External Barcode connectivity		✓	✓
Embedded Barcode			✓

MODEL	PART NUMBER	POWER REQUIREMENTS		DIMENSIONS						WEIGHT	
		BATTERY LIFE	CHARGER	DEPTH		WIDTH		HEIGHT		kg	lb
		hours	Volt	mm	in.	mm	in.	mm	in.		
Delta 1D	615 935 101 0	16	110/240	45	1.77	95	3.74	192	7.56	0.5	1.1
Delta 6D	615 935 102 0	16	110/240	45	1.77	95	3.74	192	7.56	0.5	1.1
Delta 7D	615 935 147 0	16	110/240	45	1.77	95	3.74	192	7.56	0.5	1.1

All models are supplied with box including Battery, Power Supplier and Delta QC Free Version

ACCESSORIES INCLUDED

	PART NO.
• Delta Battery	615 936 142 0
• Universal Power Supplier	615 936 143 0



OPTIONAL ACCESSORIES

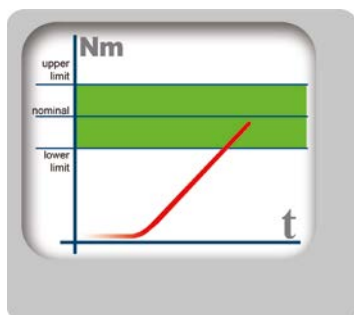
ITEM		PART NO.
1	Rubber Protection	615 936 141 0
•	CMD & ST 4000 Adapter	615 917 671 0
•	CMD 5000 Adapter	615 917 672 0
•	RS232 Adapter	615 917 670 0
•	GSE 2500 Adapter	615 917 674 0
•	GSE 8500T Adapter	615 917 675 0
•	GSE 8500T/A Adapter	615 917 676 0
•	Analog 19 pins Adapter	615 935 175 0
2	Delta Demo Case (Empty)	615 936 140 0
•	Delta QC Licensed - 1 user	615 927 651 0
•	Delta QC Licensed - 5 user	615 927 652 0
•	Delta QC Advanced 1 user	615 927 653 0
•	Delta QC Advanced 5 user	615 927 654 0

see not included Transducer cables p.137

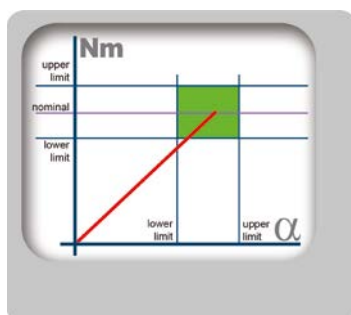
DWTA

Digital Wrench for Torque and Angle Measurement

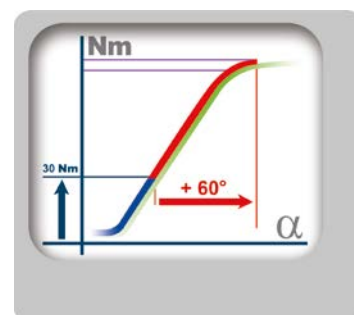
PRODUCTION AND QUALITY strategies: In combination with Delta 7D, the torque and angle wrench for residual automatic torque check and Joint analysis with Yield point detection.



Tightening within torque limits



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



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



■ DWTA

■ 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)



■ Delta7D

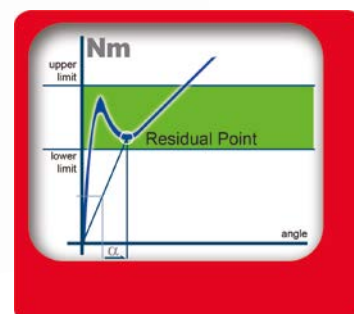


■ DWTA

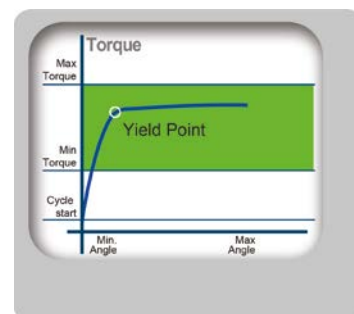
■ Military connector for standard transducer cable



■ Gyroscope for angle measurement.



Automatic Residual torque check



Joint analysis

MODEL	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	□	9x12	0.35x0.47	3/8	402	15.8	0.9	2.0
DWTA 150	615 165 761 0	15-150	11.06-110.6	□	14x18	0.55x0.71	1/2	625	24.6	1.8	4.0
DWTA 400	615 165 762 0	40-400	29.5-295	□	14x18	0.55x0.71	3/4	1026	40.4	2.8	6.2

no TAG feature available for DWTA

Delta Wrench

Digital Wrench for Torque & Angle Measurement

The digital wrench integrates is a unique device and flexible solution for both production and quality strategy in tightening. Delta Wrench provides high accuracy solution for torque controlled joints tightening. Delta Wrench ensures perfect tightening operator independent thanks to automatic PSet selection and double bridge transducer, also introduces a quality strategy with angle measurement and traceability for a perfect quality audit.



Delta Wrench



MODEL	PART NUMBER	RANGE		ANGLE	DRIVE		INCLUDED RATCHET	LENGTH		WEIGHT	
		Nm	ft lb		mm	in.		mm	in.	kg	lb
Delta Wrench 30	615 165 771 0	3-30	2.21	✗	9x12	0.35x0.47	3/8	402	15.8	0.9	2.0
Delta Wrench 150	615 165 772 0	15-150	11.06-110.6	✗	14x18	0.55x0.71	1/2	625	24.6	1.8	4.0
Delta Wrench 400	615 165 773 0	40-400	29.5-295	✗	14x18	0.55x0.71	3/4	1026	40.4	2.8	6.2
Delta Wrench 800	615 165 774 0	80-800	59-590	✗	Ø28	Ø1.1	1	1309	51.5	4.7	10.4
Delta Wrench 30-A	615 165 775 0	3-30	2.21	✓	9x12	0.35x0.47	3/8	402	15.8	0.9	2.0
Delta Wrench 150-A	615 165 776 0	15-150	11.06-110.6	✓	14x18	0.55x0.71	1/2	625	24.6	1.8	4.0
Delta Wrench 150-A Short	615 165 767 0	15-150	11.06-110.6	✓	14x18	0.55x0.71	1/2	418	16.5	1.0	2.2
Delta Wrench 200-A	615 165 797 0	20-200	14.75-147.5	✓	14x18	0.55x0.71	1/2	625	24.6	2	4.4
Delta Wrench 400-A	615 165 777 0	40-400	29.5-295	✓	14x18	0.55x0.71	3/4	1026	40.4	2.8	6.2
Delta Wrench 800-A	615 165 778 0	80-800	59.0-590	✓	Ø 28	Ø 1.1	1	1309	51.5	4.7	10.4

All models are supplied with box including reverseable ratchet with TAG and Delta QC Free Version



■ Li-Ion Battery and battery charge



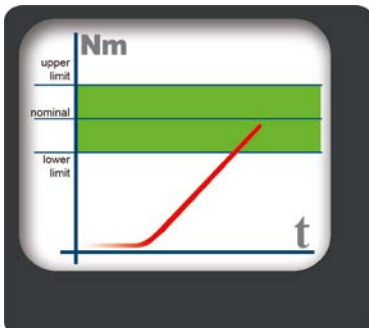
MODEL	PART NUMBER	HEIGHT		LENGTH		WIDTH		WEIGHT	
		mm	in	mm	in	mm	in	gr	lb
Delta Wrench Battery	615 936 150 0	-	-	110	4.33	Ø 22	Ø 8,86	80	0.18
Delta Wrench Battery Charger	615 936 151 0	60	2.36	140	5.51	80	3.15	240	0.53

DELTAQC SOFTWARE	FREE	LICENSED	ADVANCED
PSet programming	☐	☐	☐
Result viewer	☐	☐	☐
Result excel export	☐	☐	☐
Curve viewer		☐	☐
Result Database			☐

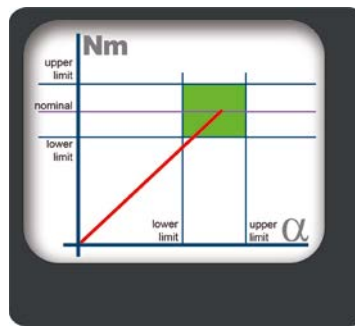
MODEL	PART NUMBER
DeltaQC Licensed 1 user	615 927 651 0
DeltaQC Licensed 5 users	615 927 652 0
DeltaQC Advanced 1 user	615 927 653 0
DeltaQC Advanced 5 users	615 927 654 0



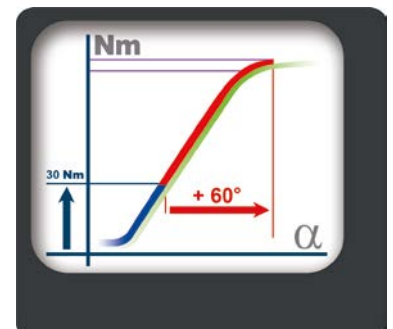
Production Strategies



Tightening within torque limits



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



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



BENEFITS

- Accuracy for critical tightenings
- Wide torque range to replace click wrenches
- Production data traceability
- Repair station fastening capability
- Difficult access joints tightening
- Re-hit detection
- Low calibration cost
- Back up tool



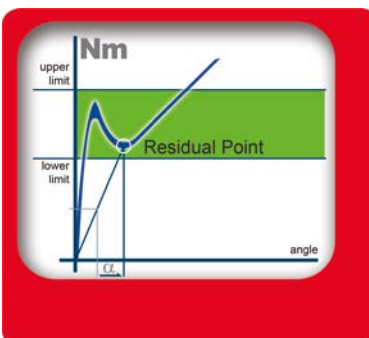
Extension Application

TECHNICAL SPECIFICATION

200 predefined Pset	Pset with T/A limits defined by Delta QC Software
Batch Count	Up to 99
Production Strategies	Torque/Time, Torque & Angle, Torque + Angle CW/CCW Tightenings
Quality Audit Strategy	Peak Torque, Torque plus Angle Automatic residual detection CW/CCW Tightenings
Torque Accuracy	1 % of torque reading +/- 1 digit
Angle Accuracy	+/- 1 %
Battery	Li-Ion Battery
Power Autonomy	up to 8h for stand alone, 5h for wireless communication
USB Communication	Bi-directional communication to Delta QC Software
Results	1000 + 25 curves with Delta Licensed QC
RGB Display	Red Green or Blue backlight
Buzzer	Extension Torque and Angle bending correction
Multi-units	N•m, N•cm, Kg•cm, Kg•m, Oz•in, Lb•in, Lb•ft
Languages	French, English, Spanish, Italian, Deutsch, Portuguese
Software	Free Delta QC software to define Pset and downloads results

Quality Strategies

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

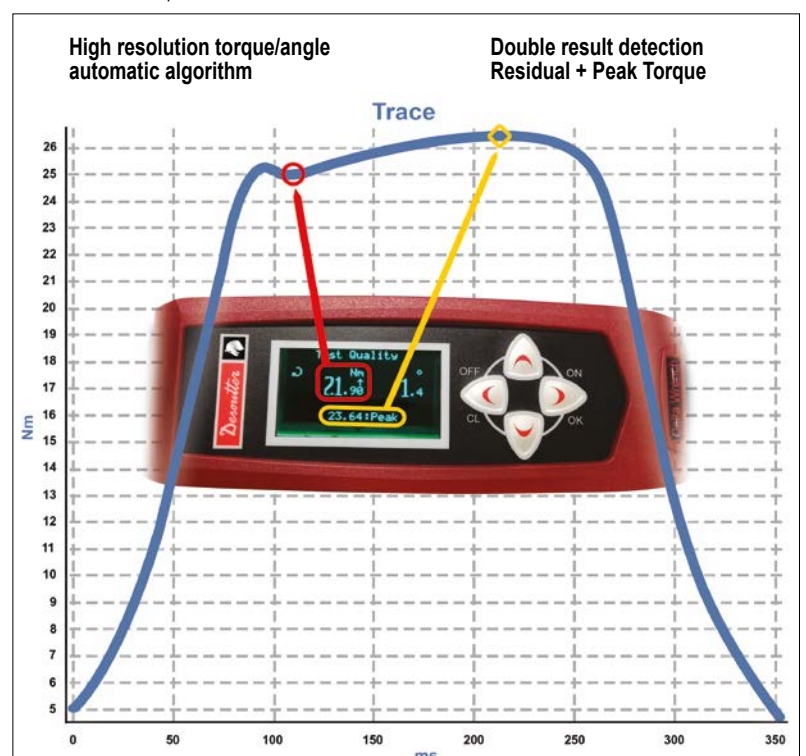


Automatic residual point detection



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



Delta Wrench WLAN

Plant Network



Customer
Software
Application

Access Point



Dual Band
WLAN 2.4 & 5 GHz
Infrastructure mode



Main available
Command

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



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.



CVI3 communication



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
- CVI3 communication (PSET Selection, result management)
- CVINET WEB communication through Open Protocol Adapter

MODEL	PART NUMBER	RANGE		ANGLE	DRIVE		INCLUDED RATCHET	LENGTH		WEIGHT	
		Nm	ft lb		mm	in.		mm	in.	kg	lb
Delta Wrench 30 Wlan	615 165 781 0	3-30	2.21	✗	9x12	0.35x0.47	3/8	402	15.83	0.9	2.0
Delta Wrench 150 Wlan	615 165 782 0	15-150	11.06-110.6	✗	14x18	0.55x0.71	1/2	625	24.60	1.8	4.0
Delta Wrench 400 Wlan	615 165 783 0	40-400	29.50-295.0	✗	14x18	0.55x0.71	3/4	1026	40.40	2.8	6.2
Delta Wrench 800 Wlan	615 165 784 0	80-800	59.00-590.0	✗	Ø28	Ø1.1	1	1309	51.54	4.7	10.4
Delta Wrench 30-A Wlan	615 165 785 0	3-30	2.21	✓	9x12	0.35x0.47	3/8	402	15.83	0.9	2.0
Delta Wrench 150-A Wlan	615 165 786 0	15-150	11.06-110.6	✓	14x18	0.55x0.71	1/2	625	24.60	1.8	4.0
Delta Wrench 150-A Wlan Short	615 165 789 0	15-150	11.06-110.6	✓	14x18	0.55x0.71	1/2	418	16.46	1.0	2.2
Delta Wrench 200-A Wlan	615 165 769 0	20-200	14.75 - 147.5	✓	14x18	0.55x0.71	1/2	625	24.6	2	4.4
Delta Wrench 400-A Wlan	615 165 787 0	40-400	29.50-295.0	✓	14x18	0.55x0.71	3/4	1026	40.40	2.8	6.2
Delta Wrench 800-A Wlan	615 165 788 0	80-800	59.00-590.0	✓	Ø28	Ø1.1	1	1309	51.54	4.7	10.4

All models are supplied with box including reverseable ratchet with TAG and Delta QC Free Version

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 Wifi7 802.11N - H	615 811 420 5
Access Point Wifi7 802.11N - A	615 811 650 5
Access Point Power Cord UK	615 917 202 0



E-LIT BOX



FOCUS

1. Wireless communication
2. Fast to connect
3. Safe report
4. Visual feedback



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
 - Possibility to lock if memory full
- 4 Visual feedback**
 - Feedback directly on Wrench display
 - Wireless communication
 - Tightening OK / NOK



Gyroscope for angle measurement.

WIRELESS SYSTEM

802-15-4 Standard



8 available outputs including:

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

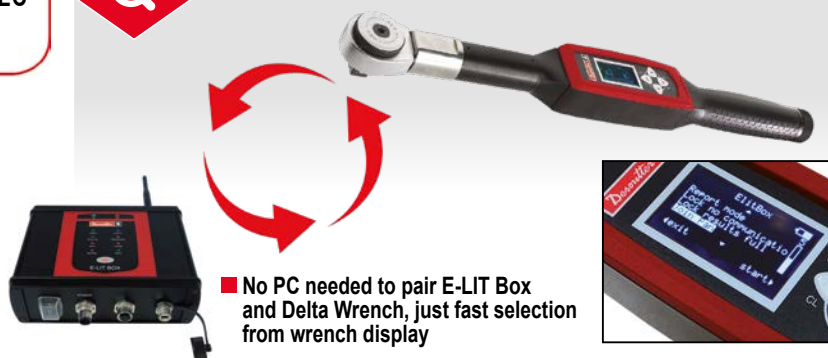
4 available inputs including:

- Lock tool
- Unlock tool
- Unlock tool and reset

Delta Wrench ZigBee



EASY PAIRING PROCESS



MODEL	PART NUMBER	RANGE		ANGLE	DRIVE		INCLUDED RATCHET	LENGTH		WEIGHT	
		Nm	ft lb		mm	in.		mm	in.	kg	lb
Delta Wrench 30 ZigBee	615 165 800 0	3-30	2.21	✗	9x12	0.35x0.47	3/8	402	15.83	0.9	2.0
Delta Wrench 150 Zigbee	615 165 801 0	15-150	11.06-110.6	✗	14x18	0.55x0.71	1/2	625	24.60	1.8	4.0
Delta Wrench 400 ZigBee	615 165 802 0	40-400	29.50-295.0	✗	14x18	0.55x0.71	3/4	1026	40.40	2.8	6.2
Delta Wrench 800 ZigBee	615 165 803 0	80-800	59.00-590.0	✗	Ø28	Ø1.1	1	1309	51.54	4.7	10.4
Delta Wrench 30-A Zigbee	615 165 805 0	3-30	2.21	□	9x12	0.35x0.47	3/8	402	15.83	0.9	2.0
Delta Wrench 150-A Zigbee	615 165 806 0	15-150	11.06-110.6	□	14x18	0.55x0.71	1/2	625	24.60	1.8	4.0
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	1.0	2.2
Delta Wrench 400-A ZigBee	615 165 807 0	40-400	29.50-295.0	□	14x18	0.55x0.71	3/4	1026	40.40	2.8	6.2
Delta Wrench 800-A ZigBee	615 165 808 0	80-800	59.00-590.0	□	Ø28	Ø1.1	1	1309	51.54	4.7	10.4

All models are supplied with box including reverseable ratchet with TAG and Delta QC Free Version

ACCESSORIES FOR ELC TOOLS

	PART NO.
• E-LIT BOX-V2	615 936 310 0
• Power supply E-LIT BOX	615 927 053 0

Delta Wrench Accessories

End Fittings with embedded RFID TAG*



OPEN END TAG - metric	PART NO.
Drive 9x12 Open End 7 mm TAG	615 936 152 0
Drive 9x12 Open End 8 mm TAG	615 936 153 0
Drive 9x12 Open End 9 mm TAG	615 936 154 0
Drive 9x12 Open End 10 mm TAG	615 936 155 0
Drive 9x12 Open End 11 mm TAG	615 936 156 0
Drive 9x12 Open End 12 mm TAG	615 936 157 0
Drive 9x12 Open End 13 mm TAG	615 936 158 0
Drive 9x12 Open End 14 mm TAG	615 936 159 0
Drive 9x12 Open End 15 mm TAG	615 936 160 0
Drive 9x12 Open End 16 mm TAG	615 936 161 0
Drive 9x12 Open End 17 mm TAG	615 936 162 0
Drive 9x12 Open End 18 mm TAG	615 936 163 0
Drive 9x12 Open End 19 mm TAG	615 936 164 0

RING BOX END TAG - metric	PART NO.
Drive 9x12 Ring Box End 7 mm TAG	615 936 165 0
Drive 9x12 Ring Box End 8 mm TAG	615 936 166 0
Drive 9x12 Ring Box End 10 mm TAG	615 936 167 0
Drive 9x12 Ring Box End 11 mm TAG	615 936 168 0
Drive 9x12 Ring Box End 12 mm TAG	615 936 169 0
Drive 9x12 Ring Box End 13 mm TAG	615 936 170 0
Drive 9x12 Ring Box End 14 mm TAG	615 936 171 0
Drive 9x12 Ring Box End 15 mm TAG	615 936 172 0
Drive 9x12 Ring Box End 16 mm TAG	615 936 173 0
Drive 9x12 Ring Box End 17 mm TAG	615 936 174 0
Drive 9x12 Ring Box End 18 mm TAG	615 936 175 0
Drive 9x12 Ring Box End 19 mm TAG	615 936 176 0
Drive 9x12 Ring Box End 21 mm TAG	615 936 177 0
Drive 9x12 Ring Box End 22 mm TAG	615 936 178 0

FLARED END TAG - metric	PART NO.
Drive 9x12 Flared End 10 mm TAG	615 936 179 0
Drive 9x12 Flared End 11 mm TAG	615 936 180 0
Drive 9x12 Flared End 12 mm TAG	615 936 181 0
Drive 9x12 Flared End 13 mm TAG	615 936 182 0
Drive 9x12 Flared End 14 mm TAG	615 936 183 0
Drive 9x12 Flared End 16 mm TAG	615 936 184 0
Drive 9x12 Flared End 17 mm TAG	615 936 185 0
Drive 9x12 Flared End 18 mm TAG	615 936 186 0
Drive 9x12 Flared End 19 mm TAG	615 936 187 0
Drive 9x12 Flared End 21 mm TAG	615 936 188 0
Drive 9x12 Flared End 22 mm TAG	615 936 189 0
Drive 9x12 Flared End 24 mm TAG	615 936 190 0

OPEN END TAG - inches	PART NO.
Drive 9x12 Open End 1/4" TAG	615 936 229 0
Drive 9x12 Open End 5/16" TAG	615 936 230 0
Drive 9x12 Open End 3/8" TAG	615 936 231 0
Drive 9x12 Open End 7/16" TAG	615 936 232 0
Drive 9x12 Open End 1/2" TAG	615 936 233 0
Drive 9x12 Open End 9/16" TAG	615 936 234 0
Drive 9x12 Open End 5/8" TAG	615 936 235 0
Drive 9x12 Open End 11/16" TAG	615 936 236 0
Drive 9x12 Open End 3/4" TAG	615 936 237 0

RING BOX END TAG - inches	PART NO.
Drive 9x12 Ring Box End 1/4"	615 936 238 0
Drive 9x12 Ring Box End 5/16"	615 936 239 0
Drive 9x12 Ring Box End 3/8"	615 936 240 0
Drive 9x12 Ring Box End 7/16"	615 936 241 0
Drive 9x12 Ring Box End 1/2"	615 936 242 0
Drive 9x12 Ring Box End 9/16"	615 936 243 0
Drive 9x12 Ring Box End 5/8"	615 936 244 0
Drive 9x12 Ring Box End 11/16"	615 936 245 0
Drive 9x12 Ring Box End 3/4"	615 936 246 0
Drive 9x12 Ring Box End 13/16"	615 936 247 0
Drive 9x12 Ring Box End 7/8"	615 936 248 0

FLARED END TAG - inches	PART NO.
Drive 9x12 Flared End 3/8" TAG	615 221 001 0
Drive 9x12 Flared End 7/16" TAG	615 221 002 0
Drive 9x12 Flared End 1/2" TAG	615 221 003 0
Drive 9x12 Flared End 9/16" TAG	615 221 004 0
Drive 9x12 Flared End 5/8" TAG	615 221 005 0
Drive 9x12 Flared End 11/16" TAG	615 221 006 0
Drive 9x12 Flared End 3/4" TAG	615 221 007 0



REVERSIBLE RATCHET TAG	PART NO.
Drive 9x12 Reversible ratchet 1/4" TAG	615 936 191 0
Drive 9x12 Reversible ratchet 3/8" TAG	615 936 192 0
Drive 9x12 Reversible ratchet 1/2" TAG	615 936 193 0

BITS HOLDER TAG	PART NO.
Drive 9x12 Bits Holder 1/4" TAG	615 221 028 0
Drive 9x12 Bits Holder 5/16" TAG	615 221 029 0

BLANK END TAG	PART NO.
Drive 9x12 Blank End TAG	615 936 228 0

Delta Wrench Accessories

*End Fittings with embedded RFID TAG**



OPEN END TAG - metric	PART NO.
Drive 14x18 Open End 13 mm TAG	615 936 194 0
Drive 14x18 Open End 14 mm TAG	615 936 195 0
Drive 14x18 Open End 15 mm TAG	615 936 196 0
Drive 14x18 Open End 16 mm TAG	615 936 197 0
Drive 14x18 Open End 17 mm TAG	615 936 198 0
Drive 14x18 Open End 18 mm TAG	615 936 199 0
Drive 14x18 Open End 19 mm TAG	615 936 200 0
Drive 14x18 Open End 21 mm TAG	615 936 201 0
Drive 14x18 Open End 22 mm TAG	615 936 202 0
Drive 14x18 Open End 24 mm TAG	615 936 203 0
Drive 14x18 Open End 27 mm TAG	615 936 204 0
Drive 14x18 Open End 30 mm TAG	615 936 205 0
Drive 14x18 Open End 32 mm TAG	615 936 206 0
Drive 14x18 Open End 34 mm TAG	615 936 207 0
Drive 14x18 Open End 36 mm TAG	615 936 371 0
14x18 Open End 41 mm TAG	615 936 389 0

RING BOX END TAG - metric	PART NO.
Drive 14x18 Ring Box End 13 mm TAG	615 936 208 0
Drive 14x18 Ring Box End 14 mm TAG	615 936 209 0
Drive 14x18 Ring Box End 15 mm TAG	615 936 210 0
Drive 14x18 Ring Box End 16 mm TAG	615 936 211 0
Drive 14x18 Ring Box End 17 mm TAG	615 936 212 0
Drive 14x18 Ring Box End 18 mm TAG	615 936 213 0
Drive 14x18 Ring Box End 19 mm TAG	615 936 214 0
Drive 14x18 Ring Box End 21 mm TAG	615 936 2150
Drive 14x18 Ring Box End 22 mm TAG	615 936 216 0
Drive 14x18 Ring Box End 24 mm TAG	615 936 217 0
Drive 14x18 Ring Box End 27 mm TAG	615 936 218 0
Drive 14x18 Ring Box End 30 mm TAG	615 936 219 0
Drive 14x18 Ring Box End 32 mm TAG	615 936 220 0
Drive 14x18 Ring Box End 34 mm TAG	615 936 2210
Drive 14x18 Ring Box End 36 mm TAG	615 936 222 0
Drive 14x18 Ring Box End 41 mm TAG	615 936 223 0

OPEN END TAG - inches	PART NO.
Drive 14x18 Open End 7/16" TAG	615 221 008 0
Drive 14x18 Open End 1/2" TAG	615 221 009 0
Drive 14x18 Open End 9/16" TAG	615 221 010 0
Drive 14x18 Open End 5/8" TAG	615 221 011 0
Drive 14x18 Open End 11/16" TAG	615 221 012 0
Drive 14x18 Open End 3/4" TAG	615 221 013 0
Drive 14x18 Open End 13/16" TAG	615 221 014 0
Drive 14x18 Open End 7/8" TAG	615 221 015 0
Drive 14x18 Open End 15/16" TAG	615 221 016 0
Drive 14x18 Open End 1" TAG	615 221 017 0
Drive 14x18 Open End 1-1/8" TAG	615 221 018 0

RING BOX END TAG - inches	PART NO.
Drive 14x18 Box End 1/2" TAG	615 221 019 0
Drive 14x18 Box End 9/16" TAG	615 221 020 0
Drive 14x18 Box End 5/8" TAG	615 221 021 0
Drive 14x18 Box End 11/16" TAG	615 221 022 0
Drive 14x18 Box End 3/4" TAG	615 221 023 0
Drive 14x18 Box End 13/16" TAG	615 221 024 0
Drive 14x18 Box End 7/8" TAG	615 221 025 0
Drive 14x18 Box End 15/16" TAG	615 221 026 0
Drive 14x18 Box End 1" TAG	615 221 027 0



BITS HOLDER TAG	PART NO.
Drive 14x18 Bits Holder 5/16" TAG	615 221 030 0

BITS END TAG	PART NO.
Drive 14x18 Blank End TAG	615 936 226 0

REVERSIBLE RATCHET TAG	PART NO.
Drive 14x18 Reversible ratchet 1/2" TAG	615 936 224 0
Drive 14x18 Reversible ratchet 3/4" TAG	615 936 225 0
Drive Ø 28 Reversible ratchet 1" TAG	615 936 227 0

Low Torque Analyzer



■ Embedded Transducer & Battery



TECHNICAL SPECIFICATION

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



Alpha Low Torque Analyzer



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

MODEL	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

MODEL	PART NUMBER	P. CHARGER	TORQUE RANGE		DEPTH		WIDTH		HEIGHT		WEIGHT	
		volts	Nm	in. - lb	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



Digital Rotary Transducers

Torque

TORQUE ROTARY TRANSDUCER :

The Rotary Torque Transducer DRT4 is designed to measure the torque output of any non-impact assembly tool. The transducer is suitable for use with impulse type assembly tools brushes with minimal maintenance requirements.



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.



FEATURES

- Torque range from 0,2 to 10000 Nm (0.15 to 7375 ft.lb).
- Strain gauges transducer : - sensitivity 2mV/V - accuracy +/-0.35% of torque reading.
- Built-in smart chip memory with calibration features : - type of transducer - sensitivity nominal load - serial number.

MODEL	PART NUMBER	TORQUE RANGE		OUTPUT
		Nm	ft lb	
DRT4				
DRT 4 H 2	615 165 209 0	0.2 - 2	0.15 - 1.5	Hex ¼"
DRT 4 H 5	615 165 210 0	0.5 - 5	0.37 - 3.7	Hex ¼"
DRT 4 H 20	615 165 211 0	2 - 20	1.47 - 14.7	Hex ¼"
DRT 4 Sq 20	615 165 212 0	2 - 20	1.47 - 14.7	Sq ¼"
DRT 4 Sq 25	615 165 213 0	2.5 - 25	1.84 - 18.4	Sq ⅜"
DRT 4 Sq 75	615 165 214 0	7.5 - 75	5.53 - 55.3	Sq ⅜"
DRT 4 Sq 180	615 165 215 0	18 - 180	13.2 - 132	Sq ½"
DRT 4 Sq 500	615 165 216 0	50 - 500	36.8 - 368	Sq ¾"
DRT 4 Sq 1400	615 165 217 0	140 - 1400	103.2 - 1032	Sq 1"
DRT 4 Sq 3000	615 165 536 0	300 - 3000	221.1 - 2211	Sq 1-½"
DRT 4 Sq 5000	615 165 540 0	500 - 5000	368.5 - 3685	Sq 1-½"
DRT4 Sq 10000	615 935 164 0	1000 - 10000	736.6 - 7375	Sq 1-½"

*Note: for pulse tool test - due to pulse peak overtorque - DRT max torque range is 30 % lower than nominal.

Digital Rotary Transducers & Accessories

Torque & Angle

A version DRT5 is available with an angle measurement encoder which allows with a DELTA 6D or DELTA 7D, the measurement of the angle of rotation in addition to torque.



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

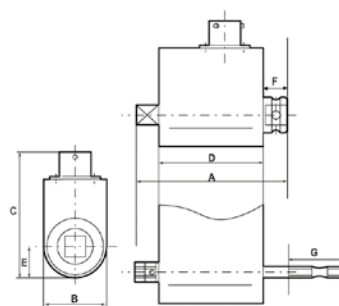
*Note: for pulse tool test - due to pulse peak overtorque - DRT max torque range is 30 % lower than nominal.



FEATURES

- Torque range from 0.2 to 5000 Nm (0.15 to 3685 ft.lb).
- Angle counting system 0.35° resolution.
- Strain gauges transducer: - sensitivity 2mV/V - accuracy +/-0.35% of torque reading.
- 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 ¼"	116	4.56	31	1.22	71.9	2.83	56	2.2	15.5	0.61	39	1.53	25.5	1
Sq ¼"	71.5	2.81	31	1.22	71.9	2.83	56	2.2	15.5	0.61	6	0.24		
Sq ⅜"	77	3.03	31	1.22	71.9	2.83	56	2.2	15.5	0.61	8	0.31		
Sq ½"	87	3.42	42	1.65	82.9	3.26	58	2.28	21	0.83	12	0.47		
Sq ¾"	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 1-½"	165	6.5	106	4.17	148.5	5.85	88	3.46	53	2.09	35.2	1.39		

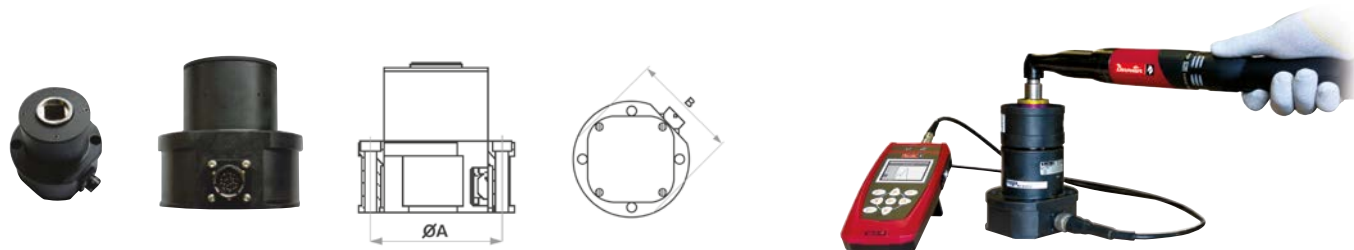


TRANSDUCER CABLES

MODEL	PART NUMBER	DESCRIPTION
2m (78.7") - 10 pins	615 917 430 0	for DST/DRT - All Delta models
2m (78.7") spiral - 10 pins	615 917 432 0	for DST/DRT - All Delta models
5m (196.8") - 10 pins	615 917 433 0	for DST/DRT - All Delta models

DST - Digital Static Transducers

Designed for testing wrenches, click wrenches or for tightening tools where rotary action is not desired during measurement. In the case of a Shut-Off tool test a joint simulator as an accessory is required. Torque Accuracy : 0.35 % of Torque Reading.



MODEL	PART NUMBER	TORQUE RANGE		SQUARE DRIVE	DIMENSIONS				WEIGHT	
		Nm	lb		Ø A		Ø B		kg	lb
					mm	in	mm	in		
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
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
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
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
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
DST 80 Nm - 25	615 165 538 0	8-80	5.89-59	1	108	4.25	116	4.57	5.8	12.8
DST 200 Nm - 25	615 165 539 0	20-200	14.7-147	1	108	4.25	116	4.57	5.8	12.8
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
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
DST 2000 Nm - 32	615 165 543 0	200-2000	147.4-1474	1-1/2	133	5.24	144	5.57	12.0	26.4

DSA - DELTA STATIC TRANSDUCERS ACCESSORIES

MODEL	PART NO.
3/4" M-1/4" F	615 397 205 0
3/4" M-3/8" F	615 397 206 0
1" M-1/2" F	615 397 207 0
1 1/4" M-1/2" F	615 397 208 0
1 1/4" M-3/4" F	615 397 209 0
1/4" F-1/4" F	615 397 210 0
3/8" F-3/8" F	615 397 211 0
1" M-3/4" F	615 936 110 0

MODEL	PART NO.
1/2" M-3/8" F	615 936 111 0
1/2" F-3/8" F	615 936 112 0
1/2" M-1/2" F	615 936 113 0
1 1/4" M-3/4" F	615 936 114 0
1/4" F-3/8" F	615 936 115 0
1" 1/4" M-1" F	615 936 116 0
1" F-1" F	615 936 117 0

MODEL	PART NO.
HEX 1/4" M-1/4" F	615 936 118 0
HEX 1/4" M-3/8" F	615 936 119 0
1" F-3/4" F	615 936 126 0
3/4" F-1/2" F	615 936 130 0
1" 1/2" F-1" 1/2" F	615 936 131 0
1/2" F-1/2" F	615 165 573 0
3/4" F-3/4" F	615 165 576 0



DJS - Digital 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 real 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.



MODEL	PART NUMBER	TORQUE RANGE		SQUARE DRIVE		COLOUR		WEIGHT	
		Nm	lb	in	in	INSIDE	OUTSIDE	kg	lb
DJS for DST 2 Soft	615 165 529 0	2	1.5	1/2	Hex 1/4	Yellow	Yellow	0.12	0.26
DJS for DST 2 Hard	615 165 530 0	2	1.5	1/2	Hex 1/4	Yellow	Black	0.12	0.26
DJS for DST 5 Soft	615 165 531 0	5	3.7	1/2	Hex 1/4	Green	Yellow	0.12	0.26
DJS for DST 5 Hard	615 165 571 0	5	3.7	1/2	Hex 1/4	Green	Black	0.12	0.26
DJS for DST 10 Soft	615 165 574 0	10	7.4	3/4	3/8	Red	Yellow	0.64	1.41
DJS for DST 10 Hard	615 165 575 0	10	7.4	3/4	3/8	Red	Black	0.64	1.41
DJS for DST 30 Soft	615 165 577 0	30	22	3/4	3/8	Blue	Yellow	0.65	1.43
DJS for DST 30 Hard	615 165 579 0	30	22	3/4	3/8	Blue	Black	0.65	1.43
DJS for DST 80 Soft	615 165 584 0	80	59	1	1/2	Purple	Yellow	2.50	5.51
DJS for DST 80 Hard	615 165 587 0	80	59	1	1/2	Purple	Black	2.50	5.51
DJS for DST 200 Soft	615 165 588 0	200	147	1	1/2	Grey	Yellow	2.60	5.73
DJS for DST 200 Hard	615 165 589 0	200	147	1	1/2	Grey	Black	2.60	5.73
DJS for DST 500 Soft	615 165 590 0	500	369	1-1/4	3/4	Black	Yellow	5.00	11.0
DJS for DST 500 Hard	615 165 591 0	500	369	1-1/4	3/4	Black	Black	5.00	11.0
DJS for DST 1000	615 165 572 0	1000	737	1-1/4	1			10.3	22.7
DJS for DST 2000	615 936 137 0	2000	1475	1-1/2	1			14.1	28.8

Calibration Bench

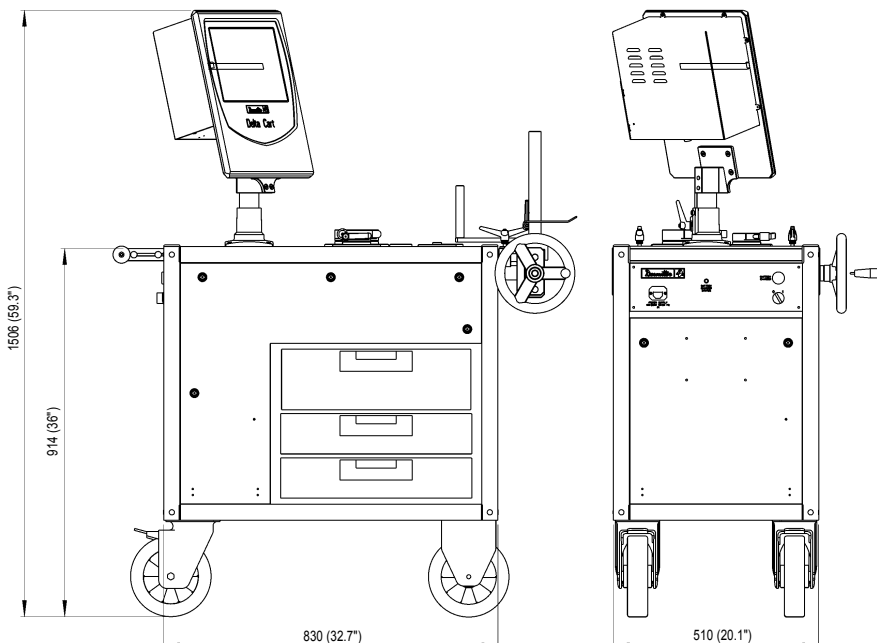
EMBEDDED TRANSDUCERS:

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.

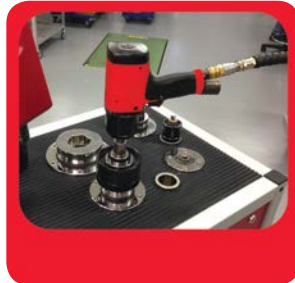
Delta Cart Tool Calibration

EMBEDDED TRANSDUCERS:

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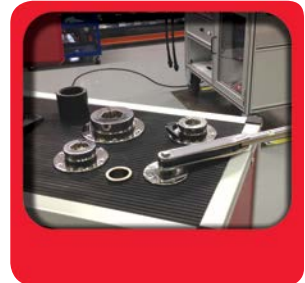
Electric and Pneumatic Nutrunner



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 2000Nm
- Torque reaction bar and joint simulator included
- External DRT communication for in-line calibration
- Angle Strategy with external DRT5
- CVI2 and CVI3 autocalibration
- Double reading calibration with automatic deviation check

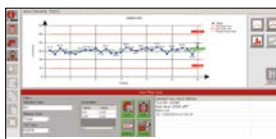


Embedded Software with local tool DB (SQL Server) containing all Tool of the line including:

■ Calibration STATUS



■ Cm/Cmk Reports



■ Next Calibration



■ X/R Charts

- 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

ROUTE MANAGEMENT

- Send to Delta Cart just the Tool to be tested

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 30000 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 Delta Cart PC software

Certificate export to 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 LICENSED

The Delta QC software is the common software platform for all Delta QC measurement equipment. Included features are programming, results and curve viewer ensuring production data traceability. Statistical machine capability tool or SPC are also ensured thanks to local database available in the Advanced version.



Result and Curve Viewer, Excel
EXPORT and PRINTING

Licensed version for on-
line device programming
and online result export

MAIN FUNCTIONS			
	FREE	LICENSED	ADVANCED
Delta D			
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			✓

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

Delta QC Advanced

Advanced version provides a local result database and offline programming. All results, curves and statistics are available for review, export and reporting in both on line and off line mode. All Tools, Status and Pset are always available in the local SQL DB.



Local
Database

STATISTIC
MANAGEMENT

MAIN FUNCTIONS			
	FREE	LICENSED	ADVANCED
Delta Wrench			
Pset programming	✓	✓	✓
Result viewer	✓	✓	✓
Result excel export	✓	✓	✓
PSet Database		✓	✓
Curve viewer		✓	✓
Result Database			✓
Delta Cart			
Pset programming			✓
Pset Database			✓
Result viewer			✓
Result excel export			✓
Result Database			✓
Offline statistic			✓

Delta QC FreeVersion

Delta Wrench 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 D, download results, export to excel and print.

MAIN FUNCTIONS			
	FREE	LICENSED	ADVANCED
ALPHA D			
Result viewer	✓	✓	✓
Result excel export	✓	✓	✓
Curve viewer		✓	✓