Discover the Freedom

SCS Concept Group
About Us

SCS Concept was founded in 2005, with Head Quarters in Milan, Italy. It is a young and innovative company, developing and manufacturing advanced quality control and production equipment, with over 150 persons worldwide.

In 2007, in partnership with Q-Direct GmbH, attained DKD accreditation (Dakks) according to DIN EN ISO/IEC 17025:2005

After, SCS Concept introduced first SCS developed electronic Torque & Angle wrenches.

Offering customers today – a wide range of torque/angle wrenches for production, quality & lab, data collector / analyzers, rotary & static transducers, test benches, software, calibration and service, including customized solutions.

Operating globally in all prime vertical markets Automotive Industry, Aerospace, General Industry.

Our Mission

• Expand the brand SCS globally.
• Sell, market and service best in class production and quality control products, solutions and consultancy fastening / tightening techniques to all market verticals.
• Create value and make a difference to all of our customers.

Our Vision

• To be the prime brand of choice within our market verticals and segments by the year 2020.
• People - offering an environment where our people are inspired to the best they can be. Passion, creativity, optimism and fun.
• Our partners - create mutual and enduring value for our customers, nurture a winning channel / distribution network and suppliers.
• Meet and exceed the expectations of our customers with our evolving products, solutions and services.
• Productivity - be a highly effective, innovative, lean and fast paced organization.
• Profit - maximize long term returns to our shareowners, invest in our growth and being aware of our overall responsibilities to our company.
• Planet - be responsible owners of our environment that make a difference by developing, educating and supporting sustainable communities.
Markets

Broad Range of Industries to Serve & Develop

- Many diverse industries served
- All pursuing hi-caliber business resources in the world of Quality Control & Production
- Lessons learned shared amongst industries
- Strong Quality System drives value

“We Offer our Customers Independent & Unbiased Systems & Solutions for Validating & Calibrating their Power Tools & Wrenches”
Portfolio of Torque Measurement Products

Torque Wrenches
- Freedom
- EWW + FWEPL TA
- Freedom
- Click Wrenches

Data Analyzers
- DataTouch
- EasyTouch
- MTC-P Multichannel

Transducers
- Torque & Torque/Angle Rotary
- Torque & Torque/Angle Rotary Bluetooth
- Torque Static
- Torque Static Bluetooth
- FWE and FWE TA
- RGT
- FSE

Positioning System
- FPS Freedom Positioning System

Accessories
- Open End
- Ring Insert
- Open Ring
- Reversible Ratchet
- Weld-On
- Torque Multipliers

Software
- SQnet+ (Quality Manager)
- VPG+ (Visual Production Guide)
- Data.Pro (Torque/Angle Acquisition)
- SCS Explorer (Program and download data from SCS instruments)

Services
- Calibration
- Training & Analytics

www.scsconcept.com
Torque Wrenches

- Advanced tightening and quality control strategies
- Joint analysis
- Operator independent
- Radio/USB connectivity
- Data traceability
- Programmable by remote device/software
- Result database
- Reports and statistics

Freedom³

- Torque/Angle tightening
- Different tightening strategies
- WiFi connectivity

Freedom¹

- Basic torque control

Click Wrenches
Freedom³ Torque/Angle Digital Wrench

Freedom³ wrench, equipped with torque transducer and gyroscope, is an advanced tool for production tightening, joint analysis and quality control test.

- Production Tightening
  - Fastening torque driven
  - Fastening torque/angle
  - Fastening yield
  - Fastening yield/angle

- Joint Analysis

- Quality Control
  - Smart breakaway
  - Breakaway peak
  - Breakaway angle
  - Loosen/tighten
  - Minimum torque
  - Loose torque

- Radio communication with external programs and databases
  - VPG-+
  - SQnet-+
  - Custom applications

- Automatic tool recognition for tightening control and torque/angle correction
  - Tool number and correction coefficients

- Integrated Barcode Scanner

- Color Touchscreen Display
**Freedom³**

**Torque/Angle Digital Wrench**

**Features**

- Quality control and joint analysis
- Tightening strategies
- Remote software programming
- Wide color touchscreen display
- Optional radio (WiFi, Bluetooth or 868 MHz)
- Automatic end-fitting tool recognition
- VIN (vehicle identification number) scan
- Torque/time and torque/angle traces
- Onboard trace analysis
- Statistical Process Control (Cp-Cpk, X/R charts)
- Sequential work out horizontal or vertical
- Digital signature
- Error codes management

**Benefits**

- Operator guidance
- Error proofed assembly/rework procedures
- Error proofed tightening
- Operator independent
- Full traceability with 1D or 2D barcode scanner
- Three operational modes: Lab, Quality and Production
- Supports many industry protocols

**Technical Data**

- **Torque range for Freedom³ family**
  - 1.5 N·m ÷ 1200 N·m
- **Torque measurement accuracy**
  - 0.5% of the reading
- **Angle measurement accuracy**
  - 1° over 360°
- **Max angular speed**
  - 300 °/s
- **Memory capacity**
  - 1000 tightening programs
  - 20000 results
  - 20000 curves
- **Battery endurance**
  - 9 hours
**Freedom³**

Torque/Angle Digital Wrench

<table>
<thead>
<tr>
<th>Code</th>
<th>Model</th>
<th>Capacity</th>
<th>Drive</th>
<th>L1</th>
<th>L2</th>
<th>Weight (without end fitting)</th>
<th>Code</th>
<th>Model</th>
<th>Capacity</th>
<th>Drive</th>
<th>L1</th>
<th>L2</th>
<th>Weight (without end fitting)</th>
</tr>
</thead>
<tbody>
<tr>
<td>113 16-0015</td>
<td>Freedom³ 15</td>
<td>15</td>
<td>9 x 12</td>
<td>375</td>
<td>393</td>
<td>0.8</td>
<td>197 14 0013</td>
<td>Tool recognition programing unit</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>113 16-0030</td>
<td>Freedom³ 30</td>
<td>30</td>
<td>9 x 12</td>
<td>375</td>
<td>393</td>
<td>0.86</td>
<td>197 14 0025</td>
<td>External battery charger for 1 battery with [21</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>113 16-0070</td>
<td>Freedom³ 70</td>
<td>70</td>
<td>9 x 12</td>
<td>476</td>
<td>494</td>
<td>0.93</td>
<td>197 98 0001</td>
<td>Case wood and aluminium for Freedom³ 15 - 100 Nm 60x26 h15 cm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>113 16-0100</td>
<td>Freedom³ 100</td>
<td>100</td>
<td>9 x 12</td>
<td>476</td>
<td>494</td>
<td>0.93</td>
<td>197 98 0002</td>
<td>Case wood and aluminium for Freedom³ 200 - 400 Nm 84x26 h15 cm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>113 16-0200</td>
<td>Freedom³ 200</td>
<td>200</td>
<td>14 x 18</td>
<td>604</td>
<td>629</td>
<td>1.5</td>
<td>197 98 0003</td>
<td>Case wood and aluminium for Freedom³ 500 Nm 115x26 h15 cm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>113 16-0300</td>
<td>Freedom³ 300</td>
<td>300</td>
<td>14 x 18</td>
<td>754</td>
<td>779</td>
<td>1.86</td>
<td>197 98 0010</td>
<td>Case wood and aluminium for Freedom³ 800 - 1200 Nm 168x26 h15 cm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>113 16-0400</td>
<td>Freedom³ 400</td>
<td>400</td>
<td>14 x 18</td>
<td>854</td>
<td>879</td>
<td>1.86</td>
<td>197 99 0008</td>
<td>USB cable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>113 16-0600</td>
<td>Freedom³ 600</td>
<td>600</td>
<td>14 x 18</td>
<td>1032</td>
<td>1057</td>
<td>3.65</td>
<td>313 21 0042</td>
<td>Additional battery</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>113 16-0800</td>
<td>Freedom³ 800</td>
<td>800</td>
<td>Ø 20</td>
<td>1432</td>
<td>1516</td>
<td>5.1</td>
<td>313 11 0030</td>
<td>Rubber protection with display protection</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>113 16-1000</td>
<td>Freedom³ 1000</td>
<td>1000</td>
<td>Ø 20</td>
<td>1499</td>
<td>1567</td>
<td>6.25</td>
<td>323 19 0011</td>
<td>Rubber protection</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>113 16-1200</td>
<td>Freedom³ 1200</td>
<td>1200</td>
<td>Ø 30</td>
<td>1576</td>
<td>1730</td>
<td>7</td>
<td>353 31 0001</td>
<td>Plastic case for wrenches max 15 - 100 Nm 54x33 h11 cm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>353 31 0002</td>
<td>Plastic case for wrenches max 200 - 300 Nm 78x25 h11 cm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>353 31 0003</td>
<td>Plastic case for wrenches max 400 - 600 Nm 122x25 h11 cm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Optionals**

- 197 14 0001 Bluetooth module integrated
- 197 14 0002 Wi-Fi module integrated
- 197 14 0003 868 MHz module integrated
- 197 14 0005 Barcode reader integrated
- 197 14 0028 2D Barcode reader integrated
- 197 14 0011 Automatical recognition of the inserted socket

**Accessories**

- 197 14 0013 Tool recognition programing unit
- 197 14 0025 External battery charger for 1 battery with [21
- 197 98 0001 Case wood and aluminium for Freedom³ 15 - 100 Nm 60x26 h15 cm
- 197 98 0002 Case wood and aluminium for Freedom³ 200 - 400 Nm 84x26 h15 cm
- 197 98 0003 Case wood and aluminium for Freedom³ 500 Nm 115x26 h15 cm
- 197 98 0010 Case wood and aluminium for Freedom³ 800 - 1200 Nm 168x26 h15 cm
- 197 99 0008 USB cable
- 313 21 0042 Additional battery
- 313 11 0030 Rubber protection with display protection
- 323 19 0011 Rubber protection
- 353 31 0001 Plastic case for wrenches max 15 - 100 Nm 54x33 h11 cm
- 353 31 0002 Plastic case for wrenches max 200 - 300 Nm 78x25 h11 cm
- 353 31 0003 Plastic case for wrenches max 400 - 600 Nm 122x25 h11 cm
LAB
Laboratory
- Joint analysis
- Prototype
- Material studies
- Pre-series
- Onboard results analysis
- Onboard traces
- Results and traces analysis on PC with Explorer software

SPC
Quality Control
- Residual torque check on a production line
- Route and job management via software (SQnet+ or QS Torque)
- Wireless programming
- Data traceability
- VIN management

Test Strategies
- Joint analysis (LAB only)
- Breakaway peak
- Breakaway angle
- Smart breakaway
- Loosen/tighten
- Loose torque
- Minimum torque
PRW
Production

- Production tightening with different strategies
- Programming via VPG+ (visual production guide)
- Wireless programming
- Data traceability
- VIN management

Tightening strategies

- Tightening torque
- Tightening torque and angle
- Tightening torque + angle
- Tightening to yield point
- Tightening to yield point + angle
**EWW³ + FWEPL TA**  
Digital Torque Wrench for Production

---

**Features**
- All features of Freedom³ (Production version)
- End-fitting tool recognition
- LEDs
- Vibration device
- Ring for wrench suspension system
- Supplied with interchangeable end-fitting

**Benefits**
- Small
- Light weight

---

**Table:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Model</th>
<th>Capacity</th>
<th>Drive</th>
<th>L</th>
<th>L1</th>
<th>L2</th>
<th>Ø</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>113 28 0015</td>
<td>Freedom FWEPL TA 15</td>
<td>15</td>
<td>9 x 12</td>
<td>253</td>
<td>314</td>
<td>332</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>113 28 0030</td>
<td>Freedom FWEPL TA 30</td>
<td>30</td>
<td>9 x 12</td>
<td>253</td>
<td>314</td>
<td>332</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>113 28 0070</td>
<td>Freedom FWEPL TA 70</td>
<td>70</td>
<td>9 x 12</td>
<td>302</td>
<td>364</td>
<td>382</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>113 28 0100</td>
<td>Freedom FWEPL TA 100</td>
<td>100</td>
<td>9 x 12</td>
<td>302</td>
<td>364</td>
<td>382</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>113 28 0200</td>
<td>Freedom FWEPL TA 200</td>
<td>200</td>
<td>14 x 18</td>
<td>430</td>
<td>490</td>
<td>515</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>113 28 0300</td>
<td>Freedom FWEPL TA 300</td>
<td>300</td>
<td>14 x 18</td>
<td>580</td>
<td>640</td>
<td>665</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>113 28 0400</td>
<td>Freedom FWEPL TA 400</td>
<td>400</td>
<td>14 x 18</td>
<td>680</td>
<td>740</td>
<td>765</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>113 28 0600</td>
<td>Freedom FWEPL TA 600</td>
<td>600</td>
<td>14 x 18</td>
<td>860</td>
<td>920</td>
<td>945</td>
<td>34</td>
<td></td>
</tr>
</tbody>
</table>

**Accessories**
- 163 10 0005 EWW³ Box - Freedom FWW³ EP - Panel electronic external power supply
- 313 21 0056 Wrench suspension and rotation till 100 N·m
- 313 21 0057 Wrench suspension and rotation from 200 N·m to 60 N·m
- 333 41 0023 FWE cable (only to order as spare part)
Freedom

With compact design and WiFi connectivity, it is an optimized wrench for tightening operations.

**Functions**

- Tightening operations with various strategies with torque and angle control
- Anti-grip function for automatic joint problem detection
- VPG+ interface via WiFi
- Support the SCS Concept positioning system for position detection of the wrench on the assembly station (with VPG+)
- Input/Out optional module, to interface with customer systems (select the tightening program, receive results)
- LED ring for immediate result indication
- Statistical computation
- Rechargeable battery in the wrench handle

**Benefits**

- Accurate tightening operations
- Industry 4.0 compliance: Integration with SCS Concept and customer software systems
- Error proof assembly procedure with VPG+

**Technical Data**

- Torque range: from 1 N·m to 1200 N·m
- Torque measurement accuracy: 1% of the reading
- Angle measurement accuracy: 1° over 360°
- Memory capacity: 30 tightening programs, 900 results
- Maximum angular speed: 320 °/s
- Display: 132x32 pixel backlight
- Rechargeable Li-on battery

Table:

<table>
<thead>
<tr>
<th>Code</th>
<th>Model</th>
<th>Capacity</th>
<th>Drive</th>
<th>L1</th>
<th>L2</th>
<th>Weight (no ratchet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>113 34 0050</td>
<td>Freedom1</td>
<td>50</td>
<td>9 x 12</td>
<td>389</td>
<td>46</td>
<td>0.80</td>
</tr>
<tr>
<td>113 35 0050</td>
<td>Freedom1 WiFi</td>
<td>100</td>
<td>14 x 18</td>
<td>506</td>
<td>46</td>
<td>1.25</td>
</tr>
<tr>
<td>113 34 0100</td>
<td>Freedom1</td>
<td>350</td>
<td>14 x 18</td>
<td>604</td>
<td>46</td>
<td>1.44</td>
</tr>
<tr>
<td>113 35 0100</td>
<td>Freedom1 WiFi</td>
<td>600</td>
<td>14 x 18</td>
<td>960</td>
<td>46</td>
<td>3.30</td>
</tr>
<tr>
<td>113 34 0200</td>
<td>Freedom1</td>
<td>800</td>
<td>3/4&quot; Ratchet</td>
<td>1094</td>
<td>70  (ratchet head)</td>
<td>4.40</td>
</tr>
<tr>
<td>113 35 0200</td>
<td>Freedom1 WiFi</td>
<td>1000</td>
<td>1&quot; Ratchet</td>
<td>1334</td>
<td>70  (ratchet head)</td>
<td>6.60</td>
</tr>
<tr>
<td>113 34 0350</td>
<td>Freedom1</td>
<td>1200</td>
<td>1&quot; Ratchet</td>
<td>1583</td>
<td>70  (ratchet head)</td>
<td>7.50</td>
</tr>
</tbody>
</table>

**EasyReport software**

- Download data from Freedom1

**Light WiFi - Freedom1 Management software**

- Rechargeable Li-on Battery
- Battery Charger
Click Wrenches
Interchangeable Standard Preset Click Wrench, Click 20°

**Features**
- Pre-set torque (via a torque analyzer), ideal for production 20 degrees click
- Clockwise operation
- Compact and robust
- Automatic reset
- Precision ± 3%, over the requirements of the UNI EN ISO 6789
- Traceable calibration certificate from accredited laboratory

<table>
<thead>
<tr>
<th>Model</th>
<th>Capacity</th>
<th>Click (degrees)</th>
<th>Length</th>
<th>Drive</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>113 41 2025</td>
<td>5 – 25</td>
<td>20</td>
<td>240</td>
<td>9 x 12</td>
<td>0.65</td>
</tr>
<tr>
<td>113 41 2060</td>
<td>10 – 60</td>
<td>20</td>
<td>360</td>
<td>9 x 12</td>
<td>0.87</td>
</tr>
<tr>
<td>113 41 2120</td>
<td>20 – 120</td>
<td>20</td>
<td>415</td>
<td>9 x 12</td>
<td>1.20</td>
</tr>
</tbody>
</table>

Breaking Torque Wrench - 20 Degrees of release
The torque increases at the growing of the applied force. At the achievement of the set torque - threshold “set torque” - the wrench breaks and for 20° it doesn’t exercise any torque, gap wider than the previous one, as shown in the graphic. The operator has more margin to stop to apply the force, preventing the overcoming of the set torque.

Classic Torque Wrench - Limited Degrees of release
The torque increases at the growing of the applied force. At the achievement of the set torque - threshold “set torque” - the wrench breaks and for 3°/6° it doesn’t exercise any torque. If the operator doesn’t stop to apply force during this gap, the torque begins again to grow, overcoming the set torque.

<table>
<thead>
<tr>
<th>Model</th>
<th>Capacity</th>
<th>Click (degrees)</th>
<th>Length</th>
<th>Drive</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>113 41 0020</td>
<td>2 – 20</td>
<td>3</td>
<td>189</td>
<td>9 x 12</td>
<td>0.35</td>
</tr>
<tr>
<td>113 41 0050</td>
<td>5 – 50</td>
<td>3</td>
<td>265</td>
<td>9 x 12</td>
<td>0.55</td>
</tr>
<tr>
<td>113 41 0100</td>
<td>10 – 100</td>
<td>3</td>
<td>350</td>
<td>9 x 12</td>
<td>0.65</td>
</tr>
<tr>
<td>113 41 0200</td>
<td>20 – 200</td>
<td>3</td>
<td>400</td>
<td>14 x 18</td>
<td>0.95</td>
</tr>
<tr>
<td>113 41 0340</td>
<td>30 – 340</td>
<td>3</td>
<td>680</td>
<td>14 x 18</td>
<td>1.50</td>
</tr>
</tbody>
</table>
Data Analyzers

**MTC-P Multichannel**
- Multi spindle test capability, up to 12 channels
- Programming from a remote PC
- Full traceability
- Results database
- Statistics

**DataTouch**
- Power tool test
- Joint analysis
- Quality control test
- Data traceability
- Programmable by remote device/software
- Radio module for wireless transducer
- Result database
- Reports and Statistics

**EasyTouch**
- Basic power tool test
- Radio module for wireless transducer
- Optional printer radio interface
- Onboard results and statistics
DataTouch³ makes quality control efficient, fast and easy.
The perfect solution for dynamic tool tests and residual torque measurement.

Color Touchscreen Display

Integrated Barcode Scanner

Supports third party mV/V Transducers

USB communication with external programs and databases

SQnet+
DataTouch³
Data Analyzer

- Automatic SCS transducer recognition
- Connectivity to transducers wireless or via cable
- Connectivity to FWE for residual torque test
- Joint analysis
- Cm-Cmk, Cp-Cpk statistics
- Standalone programming or program with SQnet+ quality management software
- Housing for extra spare battery

Features

- Quality control of power tools on the production line
- Process control through residual torque test
- Part recognition or operation initiation via barcode scanner
- Two operational modes: Lab and Quality
- Supports many industry protocols

Benefits

<table>
<thead>
<tr>
<th>Code</th>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>168 10 0002</td>
<td>DataTouch³</td>
<td>Data Analyzer for quality control</td>
</tr>
<tr>
<td>197 14 0001</td>
<td>Freedom³-BT</td>
<td>Bluetooth module</td>
</tr>
<tr>
<td>197 14 0008</td>
<td>Freedom³-BR</td>
<td>Integrated barcode reader</td>
</tr>
<tr>
<td>197 14 0025</td>
<td>Freedom³-EC1</td>
<td>External battery charger</td>
</tr>
<tr>
<td>197 99 0008</td>
<td>Freedom³-USB</td>
<td>USB cable</td>
</tr>
<tr>
<td>313 21 0042</td>
<td>Freedom³-BA</td>
<td>Battery</td>
</tr>
<tr>
<td>333 51 0003</td>
<td>Freedom³-CR</td>
<td>Direct battery charger</td>
</tr>
</tbody>
</table>
Test Strategies

Joint test

- Joint analysis (LAB only)
- Breakaway peak
- Breakaway angle
- Smart breakaway
- Loosen/Tighten
- Loose torque
- Minimum torque

Power tool and torque wrench

- Torque test
- Torque/angle test
- Rivet test

Tightening (LAB only)

- Tightening torque
- Tightening torque and angle
- Tightening torque + angle
- Tightening to yield
- Tightening to yield + angle

LAB
Laboratory

- Joint analysis
- Prototype
- Material studies
- Pre-series
- Check and verification of performances of power tools and wrenches
- Results analysis
- Traces on display
- Results and traces analysis on PC software Explorer

SPC
Quality control

- Power tools and wrenches test on production line
- Residual torque check on production line
- Route/job from remote software (SQnet+ or QS Torque)
- Wireless programming
- Data traceability
- VIN management
EasyTouch
Data Analyzer
An easy analyzer to keep under control all kind of power tools and torque wrenches on the assembly lines

Code Model
163 10 0020 EasyTouch-A Data Analyzer - Advanced version with Bluetooth module integrated
163 10 0021 EasyTouch-B Data Analyzer - Basic version
343 91 0020 Bluetooth printer

Features
• Automatic SCS transducer recognition
• Connectivity to transducers wireless or via cable
• Cm-Cmk, Cp-Cpk statistics
• Optional radio module for wireless transducers or printer
• Powered by internal rechargeable battery

Benefits
• Quick, easy onboard programming
• Economical solution
- Torque
- Torque/Angle

- Power tool
- Torque wrench
- Pulse tool

- Bluetooth printer

- Results analysis on PC software Explorer

- Color Display
  - Touchscreen

- Connection to SCS transducers

  - Bluetooth
  - Cable

  - SMC BT - SMCI BT
  - RMC BT - RMC TA BT
  - SMC - SMCI
  - RMC - RMC TA

- Torque/Time and Torque/Angle analysis
MTC-P
Multi-Spindle Tester
Equipped with user friendly Data.Pro software, run on a PC connected to MTC-P, can measure up to 12 channels with real time results.

MTC-P
MTC-P is a multichannel Torque/Angle Analyzer for multi-spindle test

- Rotary transducers RMC and RMC TA
- Static transducers SMC and SMCI
- Third party, mV/V torque and torque/angle (encoder) transducers
- Third party, amplified transducers

Connectivity to:
- Multichannel torque/angle acquisition
- Save multi-spindle test setup
- Real time results
- Statistics
- Test and traces storage
- Traces view with overlapping function

Features

Benefits
- Quick and efficient test for multi-spindle tools
- Compact rack design easy to move
- User friendly software
- Store test configurations
Single and compared traces

Optional "Trigger" input per for angle synchronization

Storage of the Multichannel test configurations

Statistics Data traceability
Results database
Test Benches

FTY
Power Tool and Wrench Dynamic Tester

AWT
Automatic Wrench Tester

FMS Multistation
Online Rework, Backup, Pilot/Beta Build, Repair Station

MSB
Wrench and Tool Static Tester

FTA
Automatic Torque/Angle Dynamic Wrench Tester
FTY
Power Tool and Wrench Dynamic Tester

• Tool test: wrenches (electronic/digital, click), pneumatic, electric and battery tools, pulse tools (except impact wrenches)
• Statistical Process Control: Measurement of machine capability (Cm, Cmk) and X, R charts
• Test according to ISO 6789 and ISO 5393
• Fast and easy setup
• Click point auto detection feature for click wrenches
• Comparative test capability
• Mechanical wrench loader for torque wrenches
• External transducer connectivity for special tests
• Standalone programming or program with SQnet+ quality management software
• Joint editor for non-linear joints “multistep simulation”

"First test bench able to simulate the fastener in all conditions"
**Benefits**

- Enter the test parameters & run 40% faster than any other comparable bench on the market, today
- FTY reproduces real joint behavior
- Easy to service - “plug and play” brakes
- Fully customized in hardware, transducers configuration, statistical reports
- Robust design with minor maintenance compared to competitors

**Technical Data**

- **Torque range**: 0.2 N·m - 2000 N·m maximum (the range depends from the transducers configuration)
- **Torque measurement accuracy**: 0.5% of the reading
- **Max tool speed**: 1100 rpm
- **Angle measurement accuracy**: 1° over 360°
- **Joint simulation range**: 15° to 360° (angle measured from 50% to 100% of the target torque)

**Example of parametrization of a fastener to be simulated**

- **A** = Engage
- **B** = Drawdown
- **C** = Joint Stiffness

<table>
<thead>
<tr>
<th>Simulation of fastener</th>
<th>Simulation on the bench</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simulation of fastener completely loosed</td>
<td></td>
</tr>
<tr>
<td>Simulation of fastener pre-tightened</td>
<td></td>
</tr>
<tr>
<td>Simulation of fastener pre-tightened with untighten/tighten strategy</td>
<td></td>
</tr>
</tbody>
</table>

**Mechanical Wrench Loader**
**Compared test:**
Bench results are compared with tool results. Automatic communication or manual results entry.

ISO 6789 test (torque wrench) and ISO 5393 (power tools) for and extended test on the whole range of the tool under test.

Statistical process control (Cm-Cmk and control charts) with SQnet+ software.
FTY
Power Tool and Wrench Dynamic Tester

- Tilt
- Up/down spindle support
- Motorized wheel
- External brake
MSB
Wrench and Tool Static Tester

**Features**
- Test, pulse tools and direct driven rotary power tools with mechanical joint simulator. Torque wrenches (electronic/digital, click)
- Statistical Process Control: Measurement of machine capability (Cm, Cmk) and X, R charts
- Test according to ISO 6789
- Automatic detection of the click point of click wrenches
- Comparative test capability
- Mechanical wrench loader for torque wrenches
- External transducers connectivity for special tests
- Standalone programming or program with SQnet+ quality management software

**Benefits**
- Easy test setup
- Easy to service - “plug & play” transducers
- Fully customized in hardware, transducers configuration, statistical reports
- Robust design with minor maintenance compared to competitors

**Technical Data**
- **Torque range**: 0.2 N·m ÷ 2500 N·m maximum (the range depends from the transducers configuration)
- **Torque measurement accuracy**: 0.5% of the reading

---

SCS Concept Group
AWT
Automatic torque wrench test according to ISO 6789

Features
- Dynamically driven transducer for automated wrench testing
- Test according to ISO 6789
- Automatic detection of the click point of click wrenches
- Comparative test capability
- Clockwise and counterclockwise test
- Standalone programming or program with SQnet+ quality management software

Benefits
- Lower total cost of ownership (TCO)
- Eliminate operator influence
- Productive, high thru put of wrenches
- Robust design with minor maintenance

Technical Data
- Torque range: 0.3 N·m ÷ 1600 N·m maximum (the range depends from the transducers configuration)
- Torque measurement accuracy: 0.5% of the reading
- Angle measurement accuracy: 1° over 360°
**Compared test:**
Bench results are compared with tool results. Automatic communication or manual results entry.

**Automatic recognition** of the wrench click.

**ISO 6789** test for an extended test on the whole range of the torque wrench.

**Statistical process control** (Cm-Cmk and control charts) with SQnet+ software.
FTA
Automatic Torque/Angle Wrench test according to VDI/VDE 2645 and 2647

Features
• Automatic test of digital wrenches according to VDI/VDE 2645 part 2 and VDI/VDE 2647
• Comparative test capability
• Test wrenches with extension
• Clockwise or counter clockwise test
• Automatic detection of the click point of click wrenches
• Standalone programming or program with SQnet+ quality management software

Benefits
• Conforms to VDI/VDE norms and exceeds
• Lower total cost of ownership (TCO)
• Eliminate operator influence
• Productive, high thru put of wrenches
• Robust design with minor maintenance

Technical Data
Torque range 1.5 N·m ÷ 1200 N·m
Torque measurement accuracy 0.5% of the reading
Angle measurement accuracy 1° over 360°
**Compared test:**
Bench results are compared with tool results. Automatic communication or manual results entry.

**Test of torque wrenches with extensions:**
The **FTA** transducer can be lowered turning the wheel. This makes possible to test the wrench with its extensions, evaluating how the extension bending affects the angle measurement.

**Test of dial wrenches,** click wrenches with automatic recognition of the click point.

**ISO 6789** test for an extended test on the whole range of the torque wrench.

**Statistical process control** (Cm-Cmk and control charts) with SQnet+ software.
FMS Multistation
Online Rework, Backup, Pilot/Beta Build, Repair Station

Features
• Flexible and modular production system
• Error-proofed procedures to work parts along the production line
• Temporary replacement of a failed power tool, minimizing downtime
• Operates with SCS Freedom® wrenches and third party DC power tools controllers
• Custom plugins communication capabilities
• Ability to work with multiple tools in parallel
• Several types of operations supported: tightening (torque and torque/angle), logical, barcode, generic
• VIN scanning
• Reports and statistics
• AC Power Supply with PC backup unit

Benefits
• Flexible
• Modular
• Efficient
• Error proofing capabilities
• Economic
Repair

**FMS** can reproduce and production station. In case of a repair of a production item, FMS guides the operator in each phase of the rework procedure, with same quality and data traceability of the production line.

Back-up tool

**FMS** can be used as a back up for tools used on the production line. Due to its flexibility, FMS can be easily moved along the production line and substitute the whole defecting unit, with a very short stop of the production.

Beta pilot (pre-series) or small production

**FMS** is a perfect instrument for small production or for pre-series, where the tightening tools are not yet defined. It can store all the assembly operations of the production station.

Connection to power tools

**FMS**, with VPG+ software, can communicate directly with SCS Concept wrenches and most of the power tools controllers on the marked, using the industrial protocols.

Barcode scanner for part recognition and traceability
Transducers

**Features**
- Memory chip for automatic recognition
- Calibration data stored inside the memory chip
- Cable or Bluetooth interface
- Robust design

**Benefits**
- Test all power tools and wrenches
- Quick connectivity
- Flexibility
- Durable, lower cost of ownership
Torque & Torque/Angle Rotary

RMC Torque Rotary Transducers

<table>
<thead>
<tr>
<th>Code</th>
<th>Model</th>
<th>Capacity</th>
<th>Drive</th>
</tr>
</thead>
<tbody>
<tr>
<td>123 21 9001</td>
<td>Freedom RMC 2 HEX</td>
<td>2 N·m</td>
<td>1 ft·lb</td>
</tr>
<tr>
<td>123 21 9002</td>
<td>Freedom RMC 5 HEX</td>
<td>5 N·m</td>
<td>4 ft·lb</td>
</tr>
<tr>
<td>123 21 9016</td>
<td>Freedom RMC 10 HEX</td>
<td>10 N·m</td>
<td>4 ft·lb</td>
</tr>
<tr>
<td>123 21 9003</td>
<td>Freedom RMC 10</td>
<td>10 N·m</td>
<td>7 1/4&quot;</td>
</tr>
<tr>
<td>123 21 9004</td>
<td>Freedom RMC 20 HEX</td>
<td>20 N·m</td>
<td>15 1/4&quot;</td>
</tr>
<tr>
<td>123 21 9006</td>
<td>Freedom RMC 25</td>
<td>25 N·m</td>
<td>19 3/8&quot;</td>
</tr>
<tr>
<td>123 21 9007</td>
<td>Freedom RMC 75</td>
<td>75 N·m</td>
<td>56 3/8&quot;</td>
</tr>
<tr>
<td>123 21 9008</td>
<td>Freedom RMC 180</td>
<td>180 N·m</td>
<td>133 1/2&quot;</td>
</tr>
<tr>
<td>123 21 9009</td>
<td>Freedom RMC 250</td>
<td>250 N·m</td>
<td>185 3/4&quot;</td>
</tr>
<tr>
<td>123 21 9010</td>
<td>Freedom RMC 500</td>
<td>500 N·m</td>
<td>370 3/4&quot;</td>
</tr>
<tr>
<td>123 21 9014</td>
<td>Freedom RMC 750</td>
<td>750 N·m</td>
<td>553.2 1”</td>
</tr>
<tr>
<td>123 21 9011</td>
<td>Freedom RMC 1400</td>
<td>1400 N·m</td>
<td>1036 1&quot;</td>
</tr>
<tr>
<td>123 21 9012</td>
<td>Freedom RMC 3000</td>
<td>3000 N·m</td>
<td>2200 11/2&quot;</td>
</tr>
<tr>
<td>123 21 9013</td>
<td>Freedom RMC 5000</td>
<td>5000 N·m</td>
<td>3700 11/2&quot;</td>
</tr>
</tbody>
</table>

RMC Torque Rotary Transducers Bluetooth

<table>
<thead>
<tr>
<th>Code</th>
<th>Model</th>
<th>Capacity</th>
<th>Drive</th>
</tr>
</thead>
<tbody>
<tr>
<td>123 23 0001</td>
<td>Freedom RMC 2 BT HEX</td>
<td>2 N·m</td>
<td>1 ft·lb</td>
</tr>
<tr>
<td>123 23 0002</td>
<td>Freedom RMC 5 BT HEX</td>
<td>5 N·m</td>
<td>4 ft·lb</td>
</tr>
<tr>
<td>123 23 0016</td>
<td>Freedom RMC 10 BT HEX</td>
<td>10 N·m</td>
<td>4 ft·lb</td>
</tr>
<tr>
<td>123 23 0003</td>
<td>Freedom RMC 10 BT</td>
<td>10 N·m</td>
<td>7 1/4&quot;</td>
</tr>
<tr>
<td>123 23 0004</td>
<td>Freedom RMC 20 BT HEX</td>
<td>20 N·m</td>
<td>15 1/4&quot;</td>
</tr>
<tr>
<td>123 23 0005</td>
<td>Freedom RMC 20 BT</td>
<td>20 N·m</td>
<td>15 1/4&quot;</td>
</tr>
<tr>
<td>123 23 0006</td>
<td>Freedom RMC 25 BT</td>
<td>25 N·m</td>
<td>19 3/8&quot;</td>
</tr>
<tr>
<td>123 23 0007</td>
<td>Freedom RMC 75 BT</td>
<td>75 N·m</td>
<td>56 3/8&quot;</td>
</tr>
<tr>
<td>123 23 0008</td>
<td>Freedom RMC 180 BT</td>
<td>180 N·m</td>
<td>133 1/2&quot;</td>
</tr>
<tr>
<td>123 23 0009</td>
<td>Freedom RMC 250 BT</td>
<td>250 N·m</td>
<td>185 3/4&quot;</td>
</tr>
<tr>
<td>123 23 0010</td>
<td>Freedom RMC 500 BT</td>
<td>500 N·m</td>
<td>370 3/4&quot;</td>
</tr>
<tr>
<td>123 23 0014</td>
<td>Freedom RMC 750 BT</td>
<td>750 N·m</td>
<td>553.2 1”</td>
</tr>
<tr>
<td>123 23 0011</td>
<td>Freedom RMC 1400 BT</td>
<td>1400 N·m</td>
<td>1036 1&quot;</td>
</tr>
<tr>
<td>123 23 0012</td>
<td>Freedom RMC 3000 BT</td>
<td>3000 N·m</td>
<td>2200 11/2&quot;</td>
</tr>
<tr>
<td>123 23 0013</td>
<td>Freedom RMC 5000 BT</td>
<td>5000 N·m</td>
<td>3700 11/2&quot;</td>
</tr>
</tbody>
</table>

RMCTA Torque/Angle Rotary Transducers

<table>
<thead>
<tr>
<th>Code</th>
<th>Model</th>
<th>Capacity</th>
<th>Drive</th>
</tr>
</thead>
<tbody>
<tr>
<td>123 22 9001</td>
<td>Freedom RMCTA 2 HEX</td>
<td>2 N·m</td>
<td>1 ft·lb</td>
</tr>
<tr>
<td>123 22 9002</td>
<td>Freedom RMCTA 5 HEX</td>
<td>5 N·m</td>
<td>4 ft·lb</td>
</tr>
<tr>
<td>123 22 9016</td>
<td>Freedom RMCTA 10 HEX</td>
<td>10 N·m</td>
<td>4 ft·lb</td>
</tr>
<tr>
<td>123 22 9011</td>
<td>Freedom RMCTA 10</td>
<td>10 N·m</td>
<td>7 1/4&quot;</td>
</tr>
<tr>
<td>123 22 9016</td>
<td>Freedom RMCTA 20 HEX</td>
<td>20 N·m</td>
<td>15 1/4&quot;</td>
</tr>
<tr>
<td>123 22 9006</td>
<td>Freedom RMCTA 25</td>
<td>25 N·m</td>
<td>19 3/8&quot;</td>
</tr>
<tr>
<td>123 22 9007</td>
<td>Freedom RMCTA 75</td>
<td>75 N·m</td>
<td>56 3/8&quot;</td>
</tr>
<tr>
<td>123 22 9008</td>
<td>Freedom RMCTA 180</td>
<td>180 N·m</td>
<td>133 1/2&quot;</td>
</tr>
<tr>
<td>123 22 9009</td>
<td>Freedom RMCTA 250</td>
<td>250 N·m</td>
<td>185 3/4&quot;</td>
</tr>
<tr>
<td>123 22 9010</td>
<td>Freedom RMCTA 500</td>
<td>500 N·m</td>
<td>370 3/4&quot;</td>
</tr>
<tr>
<td>123 22 9014</td>
<td>Freedom RMCTA 750</td>
<td>750 N·m</td>
<td>553.2 1”</td>
</tr>
<tr>
<td>123 22 9011</td>
<td>Freedom RMCTA 1400</td>
<td>1400 N·m</td>
<td>1036 1&quot;</td>
</tr>
<tr>
<td>123 22 9012</td>
<td>Freedom RMCTA 3000</td>
<td>3000 N·m</td>
<td>2200 11/2&quot;</td>
</tr>
<tr>
<td>123 22 9013</td>
<td>Freedom RMCTA 5000</td>
<td>5000 N·m</td>
<td>3700 11/2&quot;</td>
</tr>
</tbody>
</table>

RMCTA Torque/Angle Rotary Transducers Bluetooth

<table>
<thead>
<tr>
<th>Code</th>
<th>Model</th>
<th>Capacity</th>
<th>Drive</th>
</tr>
</thead>
<tbody>
<tr>
<td>123 24 0001</td>
<td>Freedom RMCTA 2 BT HEX</td>
<td>2 N·m</td>
<td>1 ft·lb</td>
</tr>
<tr>
<td>123 24 0002</td>
<td>Freedom RMCTA 5 BT HEX</td>
<td>5 N·m</td>
<td>4 ft·lb</td>
</tr>
<tr>
<td>123 24 0016</td>
<td>Freedom RMCTA 10 BT HEX</td>
<td>10 N·m</td>
<td>4 ft·lb</td>
</tr>
<tr>
<td>123 24 0003</td>
<td>Freedom RMCTA 10 BT</td>
<td>10 N·m</td>
<td>7 1/4&quot;</td>
</tr>
<tr>
<td>123 24 0004</td>
<td>Freedom RMCTA 20 BT HEX</td>
<td>20 N·m</td>
<td>15 1/4&quot;</td>
</tr>
<tr>
<td>123 24 0005</td>
<td>Freedom RMCTA 20 BT</td>
<td>20 N·m</td>
<td>15 1/4&quot;</td>
</tr>
<tr>
<td>123 24 0006</td>
<td>Freedom RMCTA 25 BT</td>
<td>25 N·m</td>
<td>19 3/8&quot;</td>
</tr>
<tr>
<td>123 24 0007</td>
<td>Freedom RMCTA 75 BT</td>
<td>75 N·m</td>
<td>56 3/8&quot;</td>
</tr>
<tr>
<td>123 24 0008</td>
<td>Freedom RMCTA 180 BT</td>
<td>180 N·m</td>
<td>133 1/2&quot;</td>
</tr>
<tr>
<td>123 24 0009</td>
<td>Freedom RMCTA 250 BT</td>
<td>250 N·m</td>
<td>185 3/4&quot;</td>
</tr>
<tr>
<td>123 24 0010</td>
<td>Freedom RMCTA 500 BT</td>
<td>500 N·m</td>
<td>370 3/4&quot;</td>
</tr>
<tr>
<td>123 24 0014</td>
<td>Freedom RMCTA 750 BT</td>
<td>750 N·m</td>
<td>553.2 1”</td>
</tr>
<tr>
<td>123 24 0011</td>
<td>Freedom RMCTA 1400 BT</td>
<td>1400 N·m</td>
<td>1036 1&quot;</td>
</tr>
<tr>
<td>123 24 0012</td>
<td>Freedom RMCTA 3000 BT</td>
<td>3000 N·m</td>
<td>2200 11/2&quot;</td>
</tr>
<tr>
<td>123 24 0013</td>
<td>Freedom RMCTA 5000 BT</td>
<td>5000 N·m</td>
<td>3700 11/2&quot;</td>
</tr>
</tbody>
</table>

RMC Cable - Torque Cable to connect RMC to Datacollector

RMCTA Cable - Torque/Angle Cable to connect RMCTA to Datacollector
Torque Static

Torque Static Transducers Connected by Cable

<table>
<thead>
<tr>
<th>Code</th>
<th>Model</th>
<th>Capacity</th>
<th>Drive</th>
</tr>
</thead>
<tbody>
<tr>
<td>123 25 0002</td>
<td>Freedom SMC 2</td>
<td>2</td>
<td>1/4&quot;</td>
</tr>
<tr>
<td>123 25 0010</td>
<td>Freedom SMC 10</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>123 25 0020</td>
<td>Freedom SMC 20</td>
<td>20</td>
<td>15</td>
</tr>
<tr>
<td>123 25 0050</td>
<td>Freedom SMC 50</td>
<td>50</td>
<td>37</td>
</tr>
<tr>
<td>123 25 0100</td>
<td>Freedom SMC 100</td>
<td>100</td>
<td>74</td>
</tr>
<tr>
<td>123 25 0250</td>
<td>Freedom SMC 250</td>
<td>250</td>
<td>185</td>
</tr>
<tr>
<td>123 25 0500</td>
<td>Freedom SMC 500</td>
<td>500</td>
<td>370</td>
</tr>
<tr>
<td>197 99 0007</td>
<td>SMC Cable - Torque Cable to connect Static Transducer to Datacollector</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Torque Static Transducers Connected by Cable for Hydraulic Pulse Tools

<table>
<thead>
<tr>
<th>Code</th>
<th>Model</th>
<th>Capacity</th>
<th>Drive</th>
</tr>
</thead>
<tbody>
<tr>
<td>123 26 0002</td>
<td>Freedom SMI 2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>123 26 0010</td>
<td>Freedom SMI 10</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>123 26 0020</td>
<td>Freedom SMI 20</td>
<td>20</td>
<td>15</td>
</tr>
<tr>
<td>123 26 0050</td>
<td>Freedom SMI 50</td>
<td>50</td>
<td>37</td>
</tr>
<tr>
<td>123 26 0100</td>
<td>Freedom SMI 100</td>
<td>100</td>
<td>74</td>
</tr>
<tr>
<td>123 26 0250</td>
<td>Freedom SMI 250</td>
<td>250</td>
<td>185</td>
</tr>
<tr>
<td>123 26 0500</td>
<td>Freedom SMI 500</td>
<td>500</td>
<td>370</td>
</tr>
</tbody>
</table>

Torque Static Bluetooth

Torque Static Transducers Connected by Bluetooth

<table>
<thead>
<tr>
<th>Code</th>
<th>Model</th>
<th>Capacity</th>
<th>Drive</th>
</tr>
</thead>
<tbody>
<tr>
<td>123 11 0002</td>
<td>Freedom SMC 2 BT</td>
<td>2</td>
<td>1/4&quot;</td>
</tr>
<tr>
<td>123 11 0010</td>
<td>Freedom SMC 10 BT</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>123 11 0020</td>
<td>Freedom SMC 20 BT</td>
<td>20</td>
<td>15</td>
</tr>
<tr>
<td>123 11 0050</td>
<td>Freedom SMC 50 BT</td>
<td>50</td>
<td>37</td>
</tr>
<tr>
<td>123 11 0100</td>
<td>Freedom SMC 100 BT</td>
<td>100</td>
<td>74</td>
</tr>
<tr>
<td>123 11 0250</td>
<td>Freedom SMC 250 BT</td>
<td>250</td>
<td>185</td>
</tr>
<tr>
<td>123 11 0500</td>
<td>Freedom SMC 500 BT</td>
<td>500</td>
<td>370</td>
</tr>
</tbody>
</table>

Torque Static Transducers Bluetooth for Hydraulic Pulse Tools

<table>
<thead>
<tr>
<th>Code</th>
<th>Model</th>
<th>Capacity</th>
<th>Drive</th>
</tr>
</thead>
<tbody>
<tr>
<td>123 13 0002</td>
<td>Freedom SMI 2 BT</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>123 13 0010</td>
<td>Freedom SMI 10 BT</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>123 13 0020</td>
<td>Freedom SMI 20 BT</td>
<td>20</td>
<td>15</td>
</tr>
<tr>
<td>123 13 0050</td>
<td>Freedom SMI 50 BT</td>
<td>50</td>
<td>37</td>
</tr>
<tr>
<td>123 13 0100</td>
<td>Freedom SMI 100 BT</td>
<td>100</td>
<td>74</td>
</tr>
<tr>
<td>123 13 0250</td>
<td>Freedom SMI 250 BT</td>
<td>250</td>
<td>185</td>
</tr>
<tr>
<td>123 13 0500</td>
<td>Freedom SMI 500 BT</td>
<td>500</td>
<td>370</td>
</tr>
</tbody>
</table>

SA = Special adapter

www.scsconcept.com
FWE and FWE TA

FWE - Torque Wrench for DataTouch

<table>
<thead>
<tr>
<th>Code</th>
<th>Model</th>
<th>Capacity</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>113 20 0005</td>
<td>Freedom FWE 5</td>
<td>5</td>
<td>3.7</td>
<td>**</td>
<td></td>
</tr>
<tr>
<td>113 20 0010</td>
<td>Freedom FWE 10</td>
<td>10</td>
<td>7.4</td>
<td>**</td>
<td></td>
</tr>
<tr>
<td>113 20 0015</td>
<td>Freedom FWE 15</td>
<td>15</td>
<td>11</td>
<td>9 x 12</td>
<td></td>
</tr>
<tr>
<td>113 20 0030</td>
<td>Freedom FWE 30</td>
<td>30</td>
<td>22</td>
<td>9 x 12</td>
<td></td>
</tr>
<tr>
<td>113 20 0070</td>
<td>Freedom FWE 70</td>
<td>70</td>
<td>52</td>
<td>9 x 12</td>
<td></td>
</tr>
<tr>
<td>113 20 0100</td>
<td>Freedom FWE 100</td>
<td>100</td>
<td>74</td>
<td>9 x 12</td>
<td></td>
</tr>
<tr>
<td>113 20 0200</td>
<td>Freedom FWE 200</td>
<td>200</td>
<td>148</td>
<td>14 x 18</td>
<td></td>
</tr>
<tr>
<td>113 20 0300</td>
<td>Freedom FWE 300</td>
<td>300</td>
<td>222</td>
<td>14 x 18</td>
<td></td>
</tr>
<tr>
<td>113 20 0400</td>
<td>Freedom FWE 400</td>
<td>400</td>
<td>296</td>
<td>14 x 18</td>
<td></td>
</tr>
<tr>
<td>113 20 0600</td>
<td>Freedom FWE 600</td>
<td>600</td>
<td>444</td>
<td>14 x 18</td>
<td></td>
</tr>
<tr>
<td>113 20 0800</td>
<td>Freedom FWE 800</td>
<td>800</td>
<td>592</td>
<td>Ø 20</td>
<td></td>
</tr>
<tr>
<td>113 20 1000</td>
<td>Freedom FWE 1000</td>
<td>1000</td>
<td>740</td>
<td>Ø 20</td>
<td></td>
</tr>
</tbody>
</table>

FWE TA - Torque/Angle Wrench for DataTouch

<table>
<thead>
<tr>
<th>Code</th>
<th>Model</th>
<th>Capacity</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>113 20 0005</td>
<td>Freedom FWE TA 5</td>
<td>5</td>
<td>3.7</td>
<td>**</td>
<td></td>
</tr>
<tr>
<td>113 20 0010</td>
<td>Freedom FWE TA 10</td>
<td>10</td>
<td>7.4</td>
<td>**</td>
<td></td>
</tr>
<tr>
<td>113 20 0015</td>
<td>Freedom FWE TA 15</td>
<td>15</td>
<td>11</td>
<td>9 x 12</td>
<td></td>
</tr>
<tr>
<td>113 21 0030</td>
<td>Freedom FWE TA 30</td>
<td>30</td>
<td>22</td>
<td>9 x 12</td>
<td></td>
</tr>
<tr>
<td>113 21 0070</td>
<td>Freedom FWE TA 70</td>
<td>70</td>
<td>52</td>
<td>9 x 12</td>
<td></td>
</tr>
<tr>
<td>113 21 0100</td>
<td>Freedom FWE TA 100</td>
<td>100</td>
<td>74</td>
<td>9 x 12</td>
<td></td>
</tr>
<tr>
<td>113 21 0200</td>
<td>Freedom FWE TA 200</td>
<td>200</td>
<td>148</td>
<td>14 x 18</td>
<td></td>
</tr>
<tr>
<td>113 21 0300</td>
<td>Freedom FWE TA 300</td>
<td>300</td>
<td>222</td>
<td>14 x 18</td>
<td></td>
</tr>
<tr>
<td>113 21 0400</td>
<td>Freedom FWE TA 400</td>
<td>400</td>
<td>296</td>
<td>14 x 18</td>
<td></td>
</tr>
<tr>
<td>113 21 0600</td>
<td>Freedom FWE TA 600</td>
<td>600</td>
<td>444</td>
<td>14 x 18</td>
<td></td>
</tr>
<tr>
<td>113 21 0800</td>
<td>Freedom FWE TA 800</td>
<td>800</td>
<td>592</td>
<td>Ø 20</td>
<td></td>
</tr>
<tr>
<td>113 21 1000</td>
<td>Freedom FWE TA 1000</td>
<td>1000</td>
<td>740</td>
<td>Ø 20</td>
<td></td>
</tr>
</tbody>
</table>

RGT

Rivet Nut Gun Tester

<table>
<thead>
<tr>
<th>Code</th>
<th>Model</th>
<th>Capacity</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>123 99 0001</td>
<td>Freedom RGT 20</td>
<td>20 kN</td>
<td>211.5</td>
<td>129</td>
<td>115</td>
</tr>
<tr>
<td>123 99 0002</td>
<td>Freedom RGT 50</td>
<td>50 kN</td>
<td>211.5</td>
<td>129</td>
<td>115</td>
</tr>
</tbody>
</table>

FSE

Torque Screwdriver

<table>
<thead>
<tr>
<th>Code</th>
<th>Model</th>
<th>Capacity</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>123 30 1001</td>
<td>FSE 2</td>
<td>2</td>
<td>1.48</td>
<td>HEX N’</td>
<td></td>
</tr>
<tr>
<td>123 30 1002</td>
<td>FSE 5</td>
<td>5</td>
<td>3.69</td>
<td>HEX N’</td>
<td></td>
</tr>
<tr>
<td>123 30 1003</td>
<td>FSE 10</td>
<td>10</td>
<td>7.38</td>
<td>HEX N’</td>
<td></td>
</tr>
<tr>
<td>113 21 0015</td>
<td>Cable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Positioning System

FP System

- Auto-learning of the working positions
- 3D coordinates used in ATC or VPG+
- Positioning System with 5CS Concept wrenches
- MIWI system for power tools
FPS Freedom Positioning System

Ultrasonic systems with transmitters and receivers that identify the position of the tool on an assembly station.

**Functions**

- Detection of the position of the tool on x, y, z axes
- Automatic cycle start or cycle end from the tool position
- Kit for SCS Concept Freedom wrenches
- Kit for power tools
- ATC software
- Interface with VPG+ (visual production guide)
- Flexible configuration of the receivers position to suit the working area
- Auto-learning of the working position for system configuration

**Benefits**

- Operator guidance
- Industry 4.0 compliance: Integration with SCS Concept and customer software systems
- Error proof assembly procedure with VPG+

**Technical Data**

- Spatial resolution: 1 cm
- Range: 10 m
- Maximum receivers number: 16

The 3D coordinates of the tool are used by ATC or VPG+ software to locate the tool and guide the operator in the correct assembly operation.
Positioning System with SCS Concept wrenches

- Transmitter is connected with the wrench electronic board, and communicates directly to VPG+ or ATC software.
- VPG+ and ATC takes actions based from the wrench position on the assembly station.
- If the wrench cradle is also a working position, when the operator put the wrench on it the software can recognize the end cycle.

MiWi system for power tools

- Transmitter mounted on the tool, from which it takes the power supply
- Transmitter communicates to the system via WiFi
- The positioning system provides the spatial coordinated to the SCS software or to the customer system, which can take actions based from the tool position
Accessories

- Open Ring
- Reversible Ratchet
- Open End
- Weld-On
- Ring Insert
- Torque Multipliers
**Open Ring**

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th>Width</th>
<th>Height</th>
<th>Center to Edge</th>
<th>Weight</th>
<th>Insert</th>
</tr>
</thead>
<tbody>
<tr>
<td>197 17 0126</td>
<td>10</td>
<td>21.2</td>
<td>12</td>
<td>17.5</td>
<td>57</td>
<td>9 x 12</td>
</tr>
<tr>
<td>197 17 0127</td>
<td>11</td>
<td>22.6</td>
<td>12</td>
<td>17.5</td>
<td>55</td>
<td>9 x 12</td>
</tr>
<tr>
<td>197 17 0128</td>
<td>12</td>
<td>24.1</td>
<td>12</td>
<td>17.5</td>
<td>59</td>
<td>9 x 12</td>
</tr>
<tr>
<td>197 17 0129</td>
<td>13</td>
<td>25.2</td>
<td>12</td>
<td>17.5</td>
<td>55</td>
<td>9 x 12</td>
</tr>
<tr>
<td>197 17 0130</td>
<td>14</td>
<td>27.3</td>
<td>13</td>
<td>17.5</td>
<td>60</td>
<td>9 x 12</td>
</tr>
<tr>
<td>197 17 0131</td>
<td>16</td>
<td>30.1</td>
<td>13</td>
<td>17.5</td>
<td>65</td>
<td>9 x 12</td>
</tr>
<tr>
<td>197 17 0132</td>
<td>17</td>
<td>31.6</td>
<td>13</td>
<td>17.5</td>
<td>64</td>
<td>9 x 12</td>
</tr>
<tr>
<td>197 17 0133</td>
<td>18</td>
<td>33.3</td>
<td>15</td>
<td>17.5</td>
<td>74</td>
<td>9 x 12</td>
</tr>
<tr>
<td>197 17 0134</td>
<td>19</td>
<td>34.6</td>
<td>15</td>
<td>17.5</td>
<td>80</td>
<td>9 x 12</td>
</tr>
<tr>
<td>197 17 0135</td>
<td>21</td>
<td>37.7</td>
<td>15</td>
<td>17.5</td>
<td>88</td>
<td>9 x 12</td>
</tr>
<tr>
<td>197 17 0136</td>
<td>22</td>
<td>39.3</td>
<td>15</td>
<td>17.5</td>
<td>92</td>
<td>9 x 12</td>
</tr>
</tbody>
</table>

197 17 0*** = standard  
197 17 9*** = with tool recognition chip

**Reversible Ratchet**

<table>
<thead>
<tr>
<th>Code</th>
<th>Teeth</th>
<th>Width</th>
<th>Height</th>
<th>Center to Edge</th>
<th>Weight</th>
<th>Insert</th>
</tr>
</thead>
<tbody>
<tr>
<td>197 17 0201</td>
<td>52</td>
<td>25</td>
<td>23</td>
<td>17.5</td>
<td>69</td>
<td>9 x 12</td>
</tr>
<tr>
<td>197 17 0202</td>
<td>52</td>
<td>34</td>
<td>33</td>
<td>17.5</td>
<td>143</td>
<td>9 x 12</td>
</tr>
<tr>
<td>197 17 0203</td>
<td>52</td>
<td>34</td>
<td>38</td>
<td>17.5</td>
<td>154</td>
<td>9 x 12</td>
</tr>
<tr>
<td>197 17 0205</td>
<td>52</td>
<td>41</td>
<td>43</td>
<td>25</td>
<td>300</td>
<td>14 x 18</td>
</tr>
<tr>
<td>197 17 0206</td>
<td>52</td>
<td>41</td>
<td>51</td>
<td>25</td>
<td>338</td>
<td>14 x 18</td>
</tr>
<tr>
<td>197 17 0007</td>
<td>36</td>
<td>70</td>
<td>60</td>
<td>75</td>
<td>1685</td>
<td>Ø 20</td>
</tr>
<tr>
<td>197 17 0008</td>
<td>36</td>
<td>70</td>
<td>60</td>
<td>152</td>
<td>2500</td>
<td>Ø 30</td>
</tr>
</tbody>
</table>

197 17 0*** = standard  
197 17 9*** = with tool recognition chip

**Weld-On**

<table>
<thead>
<tr>
<th>Code</th>
<th>Width</th>
<th>Height</th>
<th>Weight</th>
<th>Insert</th>
</tr>
</thead>
<tbody>
<tr>
<td>197 17 0146</td>
<td>17.4</td>
<td>14.5</td>
<td>28</td>
<td>9 x 12</td>
</tr>
<tr>
<td>197 17 0147</td>
<td>26.3</td>
<td>22</td>
<td>94</td>
<td>14 x 18</td>
</tr>
</tbody>
</table>

197 17 0*** = standard  
197 17 5*** = with tool recognition chip

**Torque Multipliers**

<table>
<thead>
<tr>
<th>Code</th>
<th>Square Drive</th>
<th>Torque Ratio</th>
<th>Gear Ratio</th>
<th>Max Input</th>
<th>Max Output</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>197 41 0001</td>
<td>1/2&quot; F x 3/4&quot; M</td>
<td>1:3.5</td>
<td>1:4</td>
<td>285</td>
<td>1.000</td>
<td>3.8</td>
</tr>
<tr>
<td>197 41 0002</td>
<td>1/2&quot; F x 3/4&quot; M</td>
<td>1:3.8</td>
<td>1:4.3</td>
<td>395</td>
<td>1.500</td>
<td>3.9</td>
</tr>
<tr>
<td>197 41 0003</td>
<td>1/2&quot; F x 1&quot;   M</td>
<td>1:12.5</td>
<td>1:16</td>
<td>215</td>
<td>2.700</td>
<td>8.3</td>
</tr>
<tr>
<td>197 41 0004</td>
<td>3/4&quot; F x 1&quot;   M</td>
<td>1:13.8</td>
<td>1:4</td>
<td>347</td>
<td>2.700</td>
<td>7.5</td>
</tr>
<tr>
<td>197 41 0005</td>
<td>3/4&quot; F x 1 1/2&quot; M</td>
<td>1:14.8</td>
<td>1:5.5</td>
<td>433</td>
<td>4.500</td>
<td>12.3</td>
</tr>
<tr>
<td>197 41 0006</td>
<td>1/2&quot; F x 1 1/2&quot; M</td>
<td>1:16.3</td>
<td>1:22</td>
<td>437</td>
<td>6.000</td>
<td>20</td>
</tr>
<tr>
<td>197 41 0007</td>
<td>1/2&quot; F x 1 1/2&quot; M</td>
<td>1:13.1</td>
<td>1:30.25</td>
<td>543</td>
<td>8.000</td>
<td>32</td>
</tr>
<tr>
<td>197 41 0008</td>
<td>3/4&quot; F x 1 1/2&quot; M</td>
<td>1:13.1</td>
<td>1:30.25</td>
<td>987</td>
<td>10.000</td>
<td>35.8</td>
</tr>
<tr>
<td>197 41 0009</td>
<td>1/2&quot; F x 1 1/2&quot; M</td>
<td>1:11.8</td>
<td>1:22</td>
<td>275</td>
<td>4.500</td>
<td>13.6</td>
</tr>
</tbody>
</table>

197 41 0001 = standard  
197 41 0005 = with tool recognition chip

**Accessories**

- Torque Wrenches
- Data Analyzers
- Test Benches
- Transducers
- Positioning System
- Software
- Services
Software

SQnet+
Quality process manager for production line

Data.Pro
Torque/Angle Acquisition Software

VPG+
Visual production guide

SCS Explorer
Program and download data from SCS instruments
SQnet+
Quality process manager for production line

Tools Test
- 1 or 2 steps tool
- Pulse tool
- Click wrench
- Dial wrench
- ISO 6789
- ISO 5393

Quality Control
- Smart Breakaway
- Breakaway angle
- Breakaway peak
- Loosen/Tighten
- Minimum torque
- Loose torque

Benefits
- Production line quality improvement
- Reports and statistics
- Structured data and traceability
- Connectivity with all SCS reporting capable products
- Custom functions per customer need

Miscellaneous
- User management
- Tools archives
- Joint archive
- Test scheduling
- Route of tests for control instruments
- Data traceability with VIN management

Software
- www.scsconcept.com

Local PC database
Network database
Local bench database
Customized reports

Customizable functions on customer needs
Compared test definitions and reports
Control Instruments
- SCS Instruments Programming

SCS Concept Group

Power tools and Wrenches Management
- Tools archive
- Test definition
- Test scheduling
- Cm-Cmk and X, R charts

Operations (joints) Management
- Operations archive
- Residual torque test definition
- Test scheduling
- Cp-Cpk and X, R charts

Analysis
- Results, Traces, Statistics

SCS benches

DataTouch

Freedom

Software

www.scsconcept.com
VPG+
Visual production guide

Features
- Operator guidance during the assembly and rework processes
- Error proof procedures
- Automatic selection of the correct tightening program and the associated tool for the operation
- Visual instructions for the operator
- Real time status
- Manual or automatic mode for rework or assembly procedures
- Data traceability with VIN management

Benefits
- Zero fault assembly
- Rework process capabilities
- Cost effective solution for rework and assembly process
- Improve quality
- Operator guidance
- Structured data and traceability
- Connectivity with all SCS reporting capable products
- Custom functions per customer need

Can be installed on FMS Freedom Multistation. It communicates with SCS wrenches and most of the power tools controlled available on the market.

Data Traceability
- with VIN management
- check after the assembly with the VIN

Manual or automatic mode for rework or assembly procedures

- Real time torque rate check
- Results and traces analysis
- Visual procedure
Procedure selection directly from the part

Open protocol / Full protocol interface for external tool controllers

Handling of other operations than tightening: logical operations, positioning, liquid level check, distance measurement, ...

Can work offline and download data to database when connected again to the network
Data.Pro
Torque/Angle Acquisition Software

Features
- Power tool test
- Bluetooth communication with SCS Concept transducers
- Real time results
- Test and traces storage
- Traces view with overlapping function
- User friendly

Benefits
- Cost effective solution

The SCS Concept transducer is connected to the PC with Data.Pro
The test is programmed from the PC with the following test strategies:
- Power tool
- Pulse tool
- Click wrench
- Dial wrench
- Dial torque/angle wrench

Same software installed on SCS Concept benches, for a coordinated product line
Data.Pro can be installed on any Windows PC

- **Multilanguage software with customizable dictionary**
- **Results and traces archive on local database**
- **User management**
SCS Explorer

Program and download data from SCS Concept instruments: Freedom® and DataTouch® in “LAB” mode, EasyTouch.

Functions

- Test definitions
- Instrument programming (PC synchronization)
- Test programs edit on the instrument or from PC
- Results download
- Traces download
- Traces comparison
- Export data to Excel

Benefits

- Full data traceability on a non-expensive application
- Single application connecting to more instruments

Software

- USB
- Instrument Programming
- Results and traces download
Calibration

Measuring equipment has to be calibrated, according to DIN EN ISO 9001ff, ISO/TS 16949. With our accredited laboratory (according to DIN ISO IEC EN 17025), we can offer you a multi-supplier calibration for torque and angle. Professional, equitable and independent!

Torque Calibration

• 0,1 - 2000 N·m
• Test benches for power tools
• Test devices for click-wrenches and electronic torque wrenches
• Static and rotary torque transducers
• Mechanical torque wrenches

According to the procedures:
• DIN 51309
• DKD-R 3-7
• DKD-R 3-8
• Machine capability test and internal accredited procedure according ISO 6789: 2003-10

Angle Calibration

Which instruments can we calibrate:
• Test benches and systems for power tools with angle simulation
• Torque/Angle wrenches
• Torque/Angle rotary transducers

According to the procedure:
• VDI/VDE 2648, page 1 and 2

Other Services

• Electronical calibration of measurement amplifier
• Safety Check (VDE)
• Adjustment of measurement devices
• Optimization of functionality
• Help and support
Training & Analytics

SCS Concept Academy

Team

Our training experts for you

SCS Concept Academy, as an official learning service provider, is certified according to ISO 29990. The team of trainer consists of top educated and certified trainers. Individual training concepts, theoretically and practically realized assessments of training achievements guarantee the training success of all participants. The whole team succeeds in teaching complex technologies, processes and branch-specific quality requirements in a joyful and comprehensible way. The complex, technical causal relations will be taught with easiness and will always be carried out close to practical relevance.

Knowledge

Together. We know more.

Standards, guidelines and laws are an indispensable fundament of technical acting world-wide. For years, our experts actively help shaping the main technical rules. In our training and consultancy service we offer you exactly this expertise and the skills for implementation. Theoretical, technical set of regulations according to the current status of science and technology, productivity, highest quality standards and practical implementability – Our knowledge management for you.
Qualification
The key to success.

We’ve developed a vast set of theoretical education modules and practical trainings for threaded joints, assembly processes and the respective quality assurance. Based on approx. 300 different training sequences and experiments, we’ve created a standardized training, divided in basic, advanced or expert level sequences. Our courses for qualification are always target-group-specific: from the assembly line to management level, from construction to quality assurance, from the planning department to laboratory technology – the right training course for everybody. Well established international Managementsystems (ISO 9001, IATF 16949, ISO/TS 22163, ISO 9100 etc.) require organisations to determine the necessary competence of their employees and to ensure this competence through effective and verified training.

Location
Wherever you want.

Learning is a holistic process. Free from day-to-day duties, effective and efficient learning will be stimulated. For this aim we are happy to offer a suitable surrounding. The central training center of the SCS Academy is located in the middle of Europe. More than 1500 m², including professional seminar rooms, training and laboratory equipment, will be at your disposal. Our certified trainer are based in our world-wide subsidiaries, close to you as well. For inhouse training, we are perfectly equipped with presentation tools, assembly and laboratory equipment.