



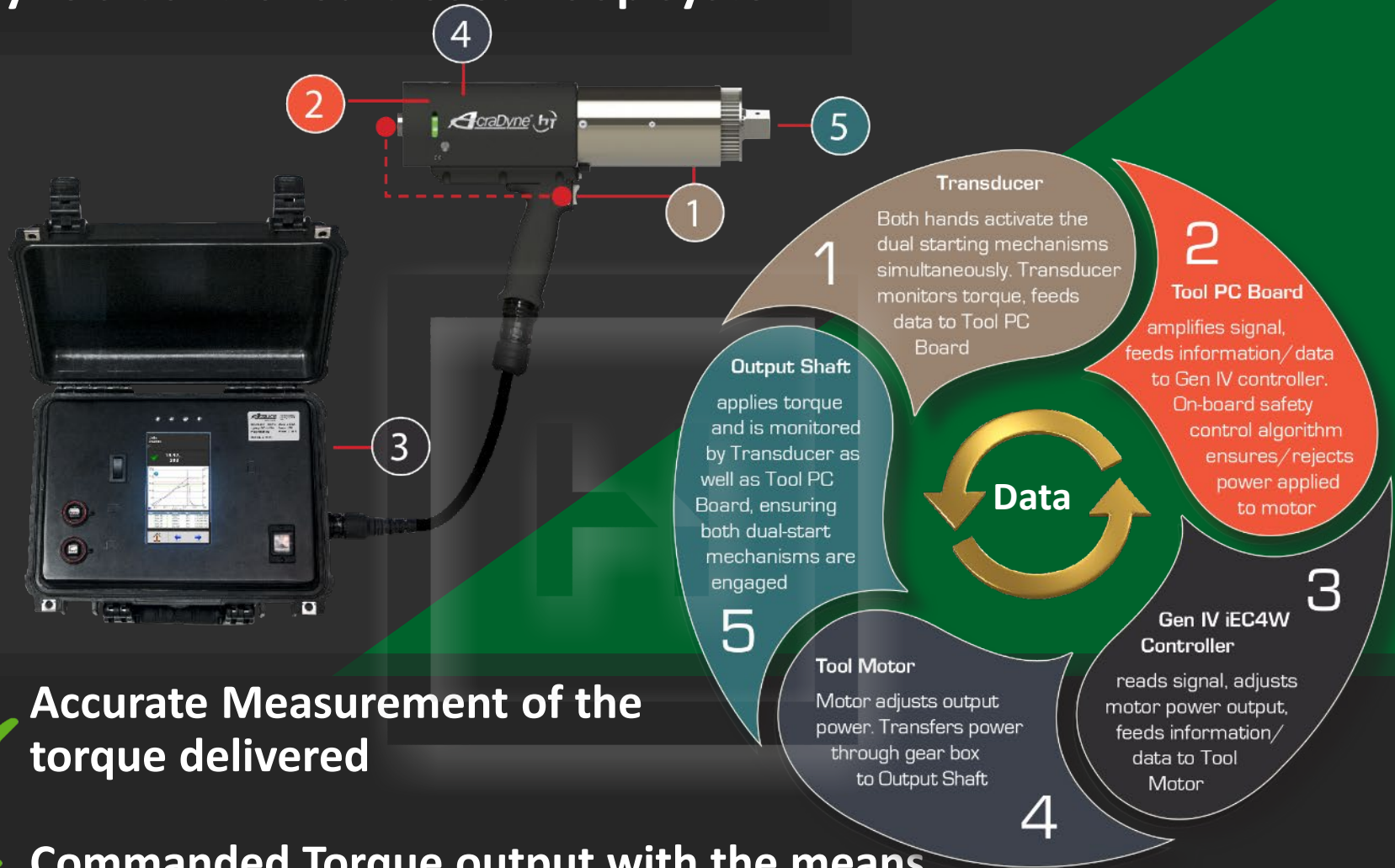
AcraDyne HT Series

HIGH CAPABILITY DC
PRODUCTS



DESIGNED + ASSEMBLED IN THE USA

AcraDyne's Controlled Closed Loop system



✓ **Accurate Measurement of the torque delivered**

✓ **Commanded Torque output with the means of the tool – Over programming not allowed**

✓ **Verification of torque sensor integrity at start command – Sensor must be functional for tool to run**

AcraDyne HT Series

OPTIMAL ERGONOMICS WITH MULTIPLE HANDLE CONFIGURATIONS



Pistol Lever Handle
AEP Series



Fixtured Lever Handle
AEF series



Straight Lever Handle
AES Series



Rear Mounted Lever Handle
AED Series



Dual J-Handle
AEJ4U Series

U.S. Patent D968491



J-Handle
AEJ Series



Angle
AEN Series



AcraDyne HT Series

ROBUST DESIGN



- Advanced gearbox design with Aerospace Materials and Heat Treating
- 2-5 times stronger than competition



- Spline reaction bar design
- Transducerized at the output – Measures actual torque



- Green light for tactical feedback



- Thick rear cover plate



- Modular handle design
- Multiple handle configurations available



- Molded connector insert – cable cannot be inserted improperly and bend pins



- Dual Lever option provides additional safety by avoiding accidental tool start



AcraDyne iEC4WF Field Controller

Advanced Tool Control and Data Collection

- Multiple fastening strategies
- Real-time curve viewing
- Optional tool fan kit keeps tool from overheating



- Compact design weighs less than 20 pounds
- Integrated ground clamp
- Rugged weatherproof case
- Curve storage: 20,000
- Rundown storage: 1,000,000



PRODUCTIVITY

- Replace multiple conventional tools with one flexible controlled system
- Quick and easy setup
- Fan kit reduces downtime due to tool overheating



ERGONOMICS

- Compact, rugged case with easy carry handle makes field use easy and convenient
- Lightweight for operator comfort



RELIABILITY

- Weatherproof rugged case
- Industrial touch screen



QUALITY

- Controlled tightening and consistent torque control improves quality
- Process controls reduce human error, and ensure no missed fasteners, stripped threads, rehits, or damaged threads
- No premature shut-off

Gen IV Software for Programming, Analysis, and Diagnostics

- Provided Free of Charge
- Web-Browser Based – Connect Controller with Computer, Tablet, or Smart Device
- Advanced Networking Capabilities

Data Driven Accuracy
The Gen IV Controller's advanced data capabilities allow comprehensive programming, analysis, and diagnostics. Accuracy and traceability are assured from the first fastening to the last.

Job:01 PSet03

- ✓ Job: 01 -
- ✓ PSet: 01 [9.28Nm_11.6Nm_Unfasten] - (2)
 - ✓ 11.63Nm 220°
 - ✓ 11.70Nm 223°
- ✓ PSet: 02 [13.92Nm_17.4Nm] - (1)
 - ✓ 17.87Nm 335°
- ✓ PSet: 03 [18Nm_18.56Nm_ERGO Stop] - (4)
 - ✓ 19.41Nm 379°
 - ✓ 19.54Nm 372°
 - ✓ 19.50Nm 369°
 - ✓ 19.27Nm 367°

Add and Edit Parameter Sets and Jobs

Job: PSet01

18.92 Nm
393°

Time (in Cycle)

ID	Torque	Angle	ID
3	18.92 Nm	393°	049000027624
3	18.97 Nm	402°	049000027624
3	18.88 Nm	373°	049000027624
3	18.83 Nm	368°	049000027624
3	18.93 Nm	376°	049000027624

View Curve Results in Real Time

Live Tool View

Torque: 3.0v
2.0v
0.0v
Maximum 2.104v
Torque Transducer 2.037v

Hall Signals

Hall A
Hall B
Hall C

Throttle 3.9%

MFB 24.9%

Tool Speed (RPM) 0

View Diagnostics for Repair, Calibration, and Troubleshooting

Productivity

SPEED & EFFICIENCY













	AcraDyne DC	Hydraulic
Fast speed	✓	✗
Custom Engineered Solution	✓	✗
Broad Torque Range (Low to High)	✓	✗
Multi-Handle Design	✓	✗
Horizontal, Vertical, Angle, Low Clearance Bolt Access	✓	✗
Multiple Tightening Strategies	✓	✗

Ergonomics/Safety









SAFETY OF THE WORKER

	AcraDyne DC	Hydraulic
Minimal Noise		
Safety Algorithm		
Custom Engineered Solution/ Design		
Less Worker Fatigue	 <ul style="list-style-type: none"> • Multiple Ergonomic Handle Options • Lighter Weight (Under 50 lbs) 	 <ul style="list-style-type: none"> • Heavy • Attached Pump may be Difficult to Move
Worker Protection	 <ul style="list-style-type: none"> • Dual Trigger Prevents Accidental Tool Start • Clean Operation 	 <ul style="list-style-type: none"> • Pinch Points • Slip Hazards from Leaked Fluids • Very High Pressure Operation (10,000 PSI) • Ratchet Design

Reliability



















REDUCED REPAIR AND MAINTENANCE COSTS

	AcraDyne DC	Hydraulic
Delivers Consistent Power		 Dependent on: <ul style="list-style-type: none"> • Temperature • Viscosity • Pressure • Pump Operation • Oil Life
Durability		
Fewer Points of Failure	 Accessories Required: <ul style="list-style-type: none"> • Tool Cable 	 Accessories Required: <ul style="list-style-type: none"> • Air Compressor • Hydraulic Fluid Hose • Air Fittings and Adapters

Quality



MEETING ENGINEERING REQUIREMENTS

	AcraDyne DC	Hydraulic
Highly Accurate	 <ul style="list-style-type: none"> • Transducerized Closed-Loop System 	 Accuracy Dependent on: <ul style="list-style-type: none"> • Fluid Dynamics • Temperature
Data Collection and Traceability		
Torque/Angle/Yield Control		
Torque Curve Viewing and Graph Storage		
Tightening Strategies (Including Counter-Clockwise)		
Network Capability		
Password Protection		
Field Calibration		

Safety is #1



AcraDyne Enhances Safe Tool Operation, Protecting Tool Operators from Injuries to Fingers, Hands, Wrists, and Backs

U.S. Bureau of Labor & Statistics:



\$6,000

Average Hand injury Claim
Individual workers' compensation claims nearing \$7500



30,000

Bolts Tightened/Year in Construction



110,000

Lost-Time Hand Injuries Annually



1,000,000

Emergency Room Visits/Year Due to Work Related Hand Injuries



\$400,000,000

Construction Industry Annual Cost of Hand Cuts & Punctures

Safety is #1

*HT Dual-Lever Nutrunners: **SAFETY** is **VITAL** in Critical Bolting*

AcraDyne's Nutrunners are designed with ultimate operator safety in mind. The optional dual-lever design helps prevent:



Injuries from Accidental Tool Start

Two-hand operation with no tie-down feature requires the operator to use both hands on the trigger simultaneously. This eliminates the possibility of accidental tool start and keeps both of the operator's hands out of harm's way.



Strain Caused by Awkward Tool Operation

Multiple handle styles ensure the safest, most ergonomic tool for your specific application.



Hand and Finger Trauma

Significantly reduce the risk of crushed or mutilated fingers from unintended tool start.

Protect your most valuable asset – your tool operator.



AcraDyne HT Dual-Lever Series

SAFETY IN MIND

Features & Benefits

- Additional safety when using a tool with a reaction bar / nose extension
- Requires both hands to start the tool, keeping hands clear of application
- Helps avoid accidental starting of the tool
- Available in
 - Handle Bar (F) Style
 - Straight (S) Style
 - Pistol (P) Style
 - J-Handle (J) Style
 - D-Handle (D) Style
 - Angle (N) Style



AEP Type



AEN Type



AEJ Type



AEF Type



AED Type



AES Type

AcraDyne® HTXD™



AcraDyne HTXD

FOR EXTREME DUTY
APPLICATIONS



DESIGNED + ASSEMBLED IN THE USA

EXTREME DUTY

8,000 - 17,000 Nm



Pistol



J-Handle



Dual J-Handle



Angle



Straight

EXTREME DUTY

8,000 - 17,000 Nm

- Extreme Duty technology meant for near continuous duty cycles
- Why is this technology not used across all AcraDyne high torque (HT) models?
 - Weight / Space
 - In order to provide near continuous use without heat generation, the electric motor must be larger and of additional mass
 - Many applications and use conditions do not require near continuous use and therefor smaller, less mass motors are perfectly suited
 - Speed
 - Free speed of the HTXD series is slower than HT Series
 - Speed under load is actually **faster** with the HTXD than the HT Series

AcraDyne[®] XT
A Division of AIMCO



NEW
AcraDyne
XT Cordless Series

AcraDyne XT Cordless Series

Features / Benefits

- Built-in transducer for measurement and traceability
- Torque overload limit function removes responsibility from the operator
- Ultimate flexibility for your application with 3 selectable tightening strategies:
 - Torque Control
 - Torque Control and Angle Monitoring
 - Torque Control PLUS Angle Monitoring
- Temperature monitoring sensor helps prevent overheating
- High-efficiency brushless motor provides longer motor life and increased efficiency
- Monitor and review reliable data with results stored on tool log
- User friendly digital adjustment and display of wrench status provides quick operating feedback

Case Studies



Customer Need

- Siemens was searching for DC Controlled Tooling to replace Hydraulic tools for improved quality and data traceability
- Competition was disqualified because it could not meet project specifications accurately with traceable data

AcraDyne Solution

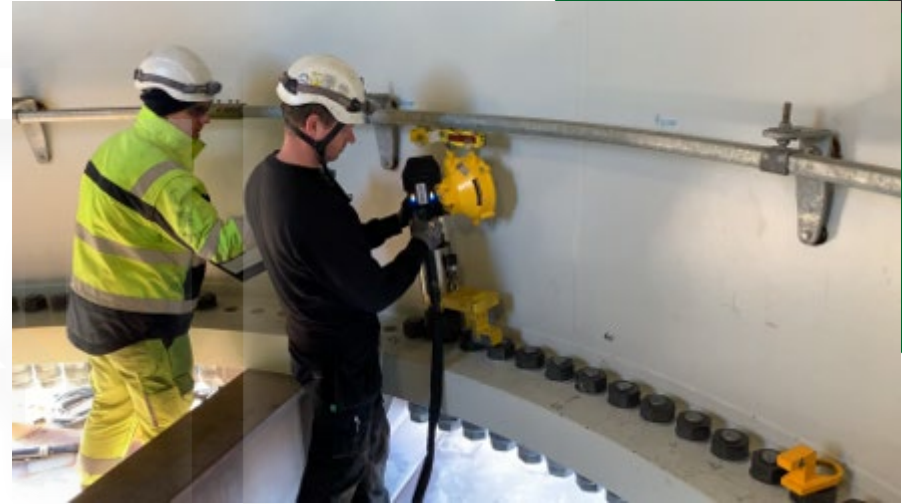
- **Accuracy**
 - AcraDyne provided DC Controlled HT tools that accurately measured and traceable data
 - Only company that had the transducer at the sq. drive

Customer Need Continued

- Siemens satisfied, asked to develop a very robust 12,000NM System for offshore towers
- Three suppliers invited to participate at test site in Esbjerg, Denmark:
 - AIMCO
 - RAD
 - Plarad



Test In Progress



Test Results

- **Reliability**

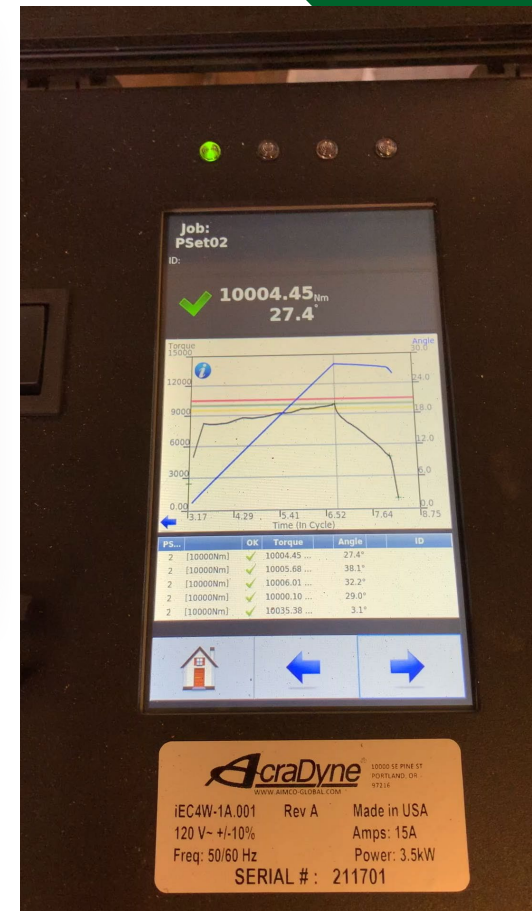
- The three AcraDyne systems performed all levels of the tests with zero issues
- Siemens requested and used AcraDyne tool to pre-tighten and loosen bolts for the test with Plarad
- RAD's tool failed several times during their test due to heat and other reported faults

- **Speed**

- 3X Faster than Hydraulic tools

- **Safety**

- Only option to meet safety requirement with dual lever handle and alternative handle designs



Phase II AcraDyne Vs Hydraulic

December 2018

- Quality and reliability test of AcraDyne
- Offshore installation at a Wind Tower at a Siemens Gamesa construction site in Scotland
 - AcraDyne 12000 Nm tension tool (extreme duty model)
- Half of the tower was done with a Plarad hydraulic torque tool
- Other half with the AcraDyne HT Series Tool

Stage 1 Test

- First stage was completed with zero problems
 - **Hydraulic:** 1 min 23 seconds
 - **AcraDyne:** 25 – 27 seconds

Stage 2 Test

- First stage was completed with zero problems
- Time Per Bolt
 - **Hydraulic:** 30 – 45 seconds
 - **AcraDyne:** 7 seconds





High Torque Solutions for ALL Your Toughest Bolting Jobs

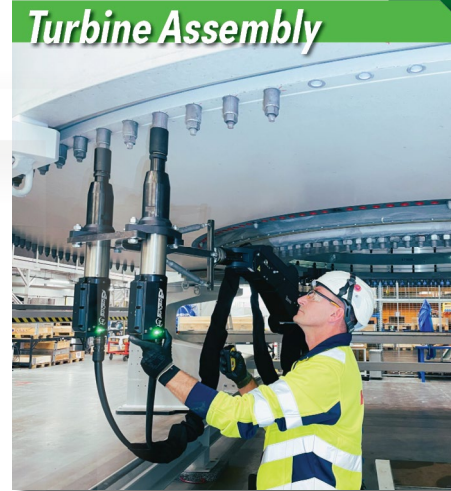
Wind Service



Wheel Assembly



Turbine Assembly



Flange Work



Gearbox Assembly



Mining

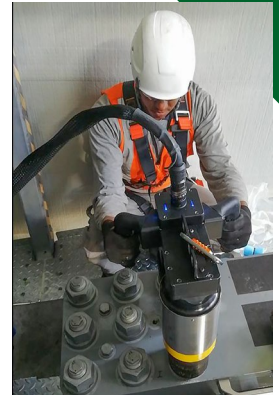


Custom Tool Solutions for Your Unique Applications



The *only* Reason to use Hydraulics for Bolt Tightening Today:

- Bolt Access
- High Torque Requirements over 17,000 Nm



AcraDyne High Torque DC Tools

WELCOME TO THE 21ST CENTURY OF BOLT TIGHTENING!



Thank You

 www.aimco-global.com

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